

Supplementary Table 4. Gene-set differential expression analysis of TK1 resistance sample (R2) versus pre-TK1 sample (R1) using RNASeq exon expression data.

| gset.id                                                                          | gset.gene.list                                                                                                                                                                                                                                                              | gset.rati | perm.pval |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|
|                                                                                  |                                                                                                                                                                                                                                                                             | 0         |           |
| JONES_TCOF1_TARGETS                                                              | CCNG1   PERP   PMAIP1   ZMAT3                                                                                                                                                                                                                                               | 4.3       | 0.125     |
| MYLLKANGAS_AMPLIFICATION_HOT_SPOT_13                                             | GPC3   MTCP1   NONO   SEPT6                                                                                                                                                                                                                                                 | 3.5       | 0.125     |
| MODULE_150                                                                       | EEF1A1   EEF1A2   EEF1B2   EEF1D   EEF1G   EEF2   EIF2S3   RPLP0   RPLP1   RPLP2   SRP9   TCEB1   TCEB2   TUFM                                                                                                                                                              | 3.3       | 0.125     |
| GTCTGATC_MIR-369-5P                                                              | DHX15   ID4   MACF1   RNF111                                                                                                                                                                                                                                                | 3.2       | 0.125     |
| MODULE_115                                                                       | BZW1   EEF1A1   EEF1A2   EEF1B2   EEF1D   EEF1G   EEF2   EIF1   EIF4A1   EIF4A2   EIF4B   EIF4EBP1   EIF4EBP2   EIF4G2   EIF5A   HSPB1   PABPC1                                                                                                                             | 3.2       | 0.125     |
| REACTOME_IRAK2_MEDIATED_ACTIVATION_OF_TAK1_COMPLEX_UPON_TLR7_8_OR_9_STIMULATION  | MAP3K7   RPS27A   TRAF6   UBA52                                                                                                                                                                                                                                             | 3.0       | 0.125     |
| HOFFMAN_CLOCK_TARGETS_UP                                                         | ANTXR1   ANXA1   CD36   HOXA7   JUN   MIF   TNFRSF11B   UGT2B15   UGT2B17                                                                                                                                                                                                   | 2.9       | 0.125     |
| THILLAINADESAN_ZNF217_TARGETS_DN                                                 | ABCA12   CDKN2B   EFNB2   FAM63A   MAN1A1   THYN1   VAV3                                                                                                                                                                                                                    | 2.9       | 0.125     |
| LUI_THYROID_CANCER_CLUSTER_3                                                     | ATP5A1   ATXN10   CLDN7   ERGIC3   FBL   HINT1   HSP90A81   HSPA8   ITM2B   LITAF   PSMD8   RPL10A   RPL17   RPL18   RPL18A   RPL21   RPS12   RPS2   RPS5   RTN4   SARS   TMEM147   UBE2E3                                                                                  | 2.9       | 0.125     |
| MODULE_133                                                                       | AARS   CAR5   DARS   EPRS   GARS   HARS   IARS   KARS   NARS   QARS   SARS   TARS   VARS   YARS                                                                                                                                                                             | 2.9       | 0.125     |
| CASORELLI_APL_SECONDARY_VS_DE_NOVO_DN                                            | EEF1D   JAM3   RBM38   RIOK3   RPL14   RPL27A   RPL38   RPLP2   RPS19                                                                                                                                                                                                       | 2.9       | 0.125     |
| MIZUKAMI_HYPOXIA_DN                                                              | ANGPT1   FGF2   IL8   LRP1   PDGFB                                                                                                                                                                                                                                          | 2.8       | 0.125     |
| MODULE_429                                                                       | AMH   EEF1A1   EPO   ERBB3   LDHB   RPL27   RPL32   RPL37   RPL5   RPLP2   RPS21   SMARCA2   TMEM109                                                                                                                                                                        | 2.7       | 0.125     |
| MYLLKANGAS_AMPLIFICATION_HOT_SPOT_30                                             | BCL7A   BTG1   NACA   PTPN11                                                                                                                                                                                                                                                | 2.7       | 0.125     |
| CAFFAREL_RESPONSE_TO_THC_24HR_3_UP                                               | CCNG1   CNBP   LRRFIP1   RPS2   SEC61A1                                                                                                                                                                                                                                     | 2.6       | 0.125     |
| MOOTHA_ROS                                                                       | GPX1   GPX4   PRDX3   PRDX6   SOD2   ZNF338                                                                                                                                                                                                                                 | 2.6       | 0.125     |
| NEBEN_AML_WITH_FLT3_OR_NRAS_DN                                                   | CCT8   CDC14A   CYP2J2   HSPA5   KIF23   LDHB   PKMYT1   RAC2   RPL28   RPS3   SERPINH1   WEE1                                                                                                                                                                              | 2.6       | 0.125     |
| TUOMISTO_TUMOR_SUPPRESSION_BY_COL13A1_UP                                         | ARNTL   HLA-DMA   HLA-DMB   HLA-DQA1   ITGA8   LAMA3   MT2A   PAIP1   PGLYRP1   RPL14   XK                                                                                                                                                                                  | 2.6       | 0.125     |
| VANLOO_SP3_TARGETS_UP                                                            | DMC1   ITGA4   NUPR1   PNLIIPR2   SERPINB2   TCFL5   TRIB3                                                                                                                                                                                                                  | 2.6       | 0.375     |
| CALCIUM_ION_TRANSMEMBRANE_TRANSPORTER_ACTIVITY                                   | ATP1A2   ATP2A2   ATP2B3   ATP2B1   ATP2B3   ATP2B4   ATP2C1   ITPR1   ITPR2   ITPR3   SLC8A1                                                                                                                                                                               | 2.5       | 0.125     |
| HEDENFALK_BREAST_CANCER_BRACX_UP                                                 | ADNP   APOBEC3B   ATP5B   CHPF   COL6A2   CYP1A1   JUNB   MCF2   PNOC   RPL15   RPL19   RPL31   RPP30   RPS13   RPS4X   RPS5   SPRY1   TANK   UBA52                                                                                                                         | 2.5       | 0.125     |
| chr7p                                                                            | AEBP1   GPNMB   KDELR2                                                                                                                                                                                                                                                      | 2.5       | 0.25      |
| REACTOME_ASSOCIATION_OF_LICENSING_FACTORS_WITH_THE_PRE_REPLICATIVE_COMPLEX       | CDC6   CDT1   E2F1   E2F2   E2F3   GMNN   RPS27A   UBA52                                                                                                                                                                                                                    | 2.5       | 0.375     |
| REACTOME_FORMATION_OF_TUBULIN_FOLDING_INTERMEDIATES_BY_CCT_TRIC                  | CCT2   CCT3   CCT4   CCT5   CCT6A   CCT7   CCT8   TCP1   TUBB1   TUBB2A   TUBB2B   TUBB3   TUBB6                                                                                                                                                                            | 2.5       | 0.125     |
| REACTOME_MITOCHONDRIAL_TRNA_AMINOACYLATION                                       | DARS2   FARS2   GARS   IARS2   KARS   LARS2   NARS2   PPA2   QARS   SARS2   WARS2   YARS2                                                                                                                                                                                   | 2.5       | 0.125     |
| LIGASE_ACTIVITY_FORMING_CARBON_OXYGEN_BONDS                                      | DARS   FARS2   GARS   KARS   MARS   NARS   QARS   SARS   SARS2   VARS   YARS                                                                                                                                                                                                | 2.5       | 0.125     |
| REACTOME_SIGNALING_BY_FGFR1_FUSION_MUTANTS                                       | BCK   CPSF6   FGFRI0P   GAB2   GRB2   MYO18A   PIK3CA   PIK3R1   PLCG1   STAT1   STAT3   STAT5A   STAT5B   TRIM24   ZMYM2                                                                                                                                                   | 2.4       | 0.125     |
| MODULE_160                                                                       | AARS   CAR5   EPRS   GARS   HARS   IARS   KARS   KHSRP   NARS   QARS   SARS   TARS   VARS   YARS                                                                                                                                                                            | 2.4       | 0.125     |
| SPECIFIC_TRANSCRIPTIONAL_REPRESSOR_ACTIVITY                                      | BMPS2   HDAC5   HDAC6   HDAC9   NKRF   PHB2   UBP1   ZBTB16                                                                                                                                                                                                                 | 2.4       | 0.125     |
| REACTOME_TRAFFICKING_AND_PROCESSING_OF_ENDOSOMAL_TLR                             | CTSB   CTSK   CTSS   HSP90B1   LGMN   TLR3   TLR7   TLR8   UNC93B1                                                                                                                                                                                                          | 2.4       | 0.25      |
| REACTOME_APOBEC3G_MEDIATED_RESISTANCE_TO_HIV1_INFECTION                          | APOBEC3G   BANF1   HMGAI1   PPIA   PSIP1                                                                                                                                                                                                                                    | 2.4       | 0.125     |
| RIBOSOMAL_SUBUNIT                                                                | MRPL12   MRPL23   MRPL41   MRPL42   MRPL52   MRPS11   MRPS15   MRPS16   MRPS18A   MRPS18C   MRPS22   MRPS28   MRPS35   RPL13A                                                                                                                                               | 2.4       | 0.125     |
| ZHAN_EARLY_DIFFERENTIATION_GENES_UP                                              | BM11   CASP10   IRF4   ITGA6   PECAM1   XBP1                                                                                                                                                                                                                                | 2.4       | 0.125     |
| WILSON_PROTEASES_AT_TUMOR_BONE_INTERFACE_DN                                      | ADAMTS7   CTSB   CTSE   CTSH   SERPINI2                                                                                                                                                                                                                                     | 2.3       | 0.375     |
| MIKHAYLOVA_OXIDATIVE_STRESS_RESPONSE_VIA_VHL_UP                                  | ATP5B   CLIC1   DCTN2   EIF5A   HYOU1   VIM                                                                                                                                                                                                                                 | 2.3       | 0.125     |
| REACTOME_NFKB_IS_ACTIVATED_AND_SIGNALS_SURVIVAL                                  | IKKB   IRAK1   NFKBIA   NGRF   RELA   RPS27A   SQSTM1   TRAF6   UBA52                                                                                                                                                                                                       | 2.3       | 0.25      |
| MODULE_457                                                                       | KPNA2   MYB   NCL   NOLC1   NPM1   SNRPD1   UNG   ZNF146                                                                                                                                                                                                                    | 2.3       | 0.125     |
| OLIGOSACCHARYL_TRANSFERASE_COMPLEX                                               | DAD1   DDOST   RPN1   RPN2   STT3A   TUSC3                                                                                                                                                                                                                                  | 2.3       | 0.125     |
| GOERING_BLOOD_HDL_CHOLESTEROL_QTL_CIS                                            | GSTM1   HLA-DRB5   IKZF1   LGALS2   PPA2   RPL14   RPS26   TIMM10   UBA52   UTS2                                                                                                                                                                                            | 2.3       | 0.125     |
| REACTOME_SMAAD2_SMAAD3_SMAAD4_HETEROTRIMER_REGULATES_TRANSCRIPTION               | CCNC   CCNT1   CCNT2   CDK8   CDK9   CDKN2B   E2F4   E2F5   HDAC1   JUNB   MEN1   MYC   RPS27A   SERPINE1   SMAD2   SMAD3   SMAD4   SMAD7   SP1   TDFP1   TGIF2   UBA52   WWTR1                                                                                             | 2.3       | 0.125     |
| PID_MYC_PATHWAY                                                                  | ACTL6A   AXIN1   CDKN2A   FBXW7   GSK3B   HBP1   MAX   MYC   PAK2   PIN1   PML   PPP2CA   PPP2R5A   RUVBL1   RUVBL2   SKP2   SUPT3H   SUPT7L   TAF10   TAF12   TAF9   TRRAP   ZBTB17                                                                                        | 2.3       | 0.125     |
| FU_INTERACT_WITH_ALKBH8                                                          | CCT2   CCT3   CCT4   CCT5   CCT6A   CCT7   CCT8   DBI   ECSIT   HSP90AA1   TCP1                                                                                                                                                                                             | 2.2       | 0.125     |
| REACTOME_ELEVATION_OF_CYTOSOLIC_CA2_LEVELS                                       | ITPR2   ITPR3   P2RX1   STIM1   TRPC3   TRPC6   TRPC7                                                                                                                                                                                                                       | 2.2       | 0.125     |
| INOSITOL_OR_PHOSPHATIDYLINOSITOL_PHOSPHATASE_ACTIVITY                            | IMP1A   IMPA2   INPP1   INPP4B   INPP5D   INPP5E   MTMR2   OCRL   PTEN   SYNJ1                                                                                                                                                                                              | 2.2       | 0.125     |
| chr5q                                                                            | CRHBP   GFPT2   IQGAP2   KCNN2   MATR3   PAM                                                                                                                                                                                                                                | 2.2       | 0.25      |
| KORKOLA_CHORIOCARCINOMA_UP                                                       | CD9   GAPDH   PHB2   SLC2A3   TPI1                                                                                                                                                                                                                                          | 2.2       | 0.125     |
| RIBOSOME_BIOGENESIS_AND_ASSEMBLY                                                 | DKC1   EXOSC2   EXOSC7   FBL   GEMIN4   NOLC1   NPM1   POP4   RPS14   SDAD1                                                                                                                                                                                                 | 2.2       | 0.125     |
| CHROMATIN_ASSEMBLY                                                               | ASF1A   CHAF1A   CHAF1B   HDAC5   HELLS   NAP1L1   NAP1L2   NAP1L3   NAP1L4   RSF1   SET   SIRT1   SIRT4   SIRT5   SMARCA5   TNP1                                                                                                                                           | 2.2       | 0.25      |
| PUJANA_BREAST_CANCER_WITH_BRCA1_MUTATED_DN                                       | BUB3   CD47   PAXIP1   SSBP2   TBCA   TOP1   ZNF330                                                                                                                                                                                                                         | 2.2       | 0.125     |
| VISALA_AGING_LYMPHOCYTE_UP                                                       | COIL   CSF1R   CYP1B1   GNLY   LNPEP   TAF15   TMSB4X                                                                                                                                                                                                                       | 2.2       | 0.125     |
| NUCLEOSOME_ASSEMBLY                                                              | ASF1A   CHAF1A   CHAF1B   NAP1L1   NAP1L2   NAP1L3   NAP1L4   RSF1   SET   SMARCA5                                                                                                                                                                                          | 2.2       | 0.25      |
| GCM_HDAC1                                                                        | AIP   ANP32B   ANXA6   APEX1   ARHGEF1   ATP5F1   CBF8   DBB2   DRAP1   EIF4B   ESD   GPSM3   HDAC1   HMGN1   ILF2   LMNB2   MEN1   NASP   NCL   NONO   PPN1   PRKAG1   PRMT1   PSME1   RPL21   SET   SLC25A3   TCEA1   TIMM17A                                             | 2.2       | 0.125     |
| REACTOME_ENDOSOMAL_SORTING_COMPLEX_REQUIRED_FOR_TRANSPORT_ESCRT                  | CHMP2A   CHMP2B   CHMP4A   CHMP5   CHMP6   CHMP7   HGS   RPS27A   SNF8   STAM   STAM2   TSG101   UBA52   VPS28   VPS37B   VPS37C   VPS4A   VPS4B                                                                                                                            | 2.2       | 0.125     |
| RAMPON_ENRICHED_LEARNING_ENVIRONMENT_EARLY_DN                                    | BAX   CASP6   CIT   DNAJB6   MT3   NRGN   PAFAH1B1   PREP   RXRA   SPTBN1                                                                                                                                                                                                   | 2.2       | 0.375     |
| REACTOME_APC_C_CDC20_MEDIATED_DEGRADATION_OF_CYCLIN_B                            | ANAPC1   ANAPC10   ANAPC2   ANAPC5   CCNB1   CDC16   CDC20   CDC23   CDC27   RPS27A   UBA52   UBE2C   UBE2O1   UBE2E1                                                                                                                                                       | 2.2       | 0.125     |
| REACTOME_NRF1_SIGNALS_CELL_DEATH_FROM_THE_NUCLEUS                                | APH1A   APH1B   ITGB3BP   MAPK8   NCSTN   NGRF   PSEN1   PSEN2   PSENEN   RPS27A   SQSTM1   TRAF6   UBA52                                                                                                                                                                   | 2.2       | 0.25      |
| MODULE_103                                                                       | COX4I1   COX5A   COX5B   COX6A1   COX6B1   COX6C   COX7A1   COX7A2   COX7B   COX7C   COX8A   SURF1                                                                                                                                                                          | 2.2       | 0.25      |
| N_TERMINAL_PROTEIN_AMINO_ACID_MODIFICATION                                       | <b>CREBBP</b>   EP300   METAP1   METAP2   PDF                                                                                                                                                                                                                               | 2.2       | 0.125     |
| KOBAYASHI_EGFR_SIGNALING_6HR_UP                                                  | AQP3   CCNG2   CEP68   KLNH24   METTL7A   PDCD4   PELI1                                                                                                                                                                                                                     | 2.2       | 0.25      |
| LANDIS_ERBB2_BREAST_TUMORS_65_UP                                                 | ATP6V1A   BAG2   C19orf10   CD9   CMAS   CRADD   DAP   DSG2   DUSP6   FOLR1   GOLPH3   IGF2R   ITPR2   LXN   NDST1   PDIA4   PERP   SERP1   TPDS2L1   WSB2                                                                                                                  | 2.2       | 0.125     |
| REACTOME_APC_CDC20_MEDIATED_DEGRADATION_OF_NEK2A                                 | ANAPC1   ANAPC10   ANAPC2   ANAPC5   BUB1B   BUB3   CDC16   CDC20   CDC23   CDC27   MAD2L1   NEK2   RPS27A   UBA52   UBE2C   UBE2D1   UBE2E1                                                                                                                                | 2.2       | 0.125     |
| REACTOME_MEMBRANE_BINDING_AND_TARGETING_OF_GAG_PROTEINS                          | NMT2   RPS27A   TSG101   UBA52   VPS28   VPS37B   VPS37C                                                                                                                                                                                                                    | 2.2       | 0.125     |
| REACTOME_TGF_BETA_RECEPTOR_SIGNALING_IN_EMT_EPITHELIAL_TO_MESENCHYMAL_TRANSITION | ARHGEF18   F11R   FKBP1A   PARO3   PARO6A   PRKCZ   RHOA   RPS27A   SMURF1   TGFB1   TGFB1R1   TGFB2R2   UBA52                                                                                                                                                              | 2.2       | 0.125     |
| ON                                                                               |                                                                                                                                                                                                                                                                             |           |           |
| ZHENG_RESPONSE_TO_ARSENITE_DN                                                    | ADAMTS1   CEBPD   CENPE   CCKR4   IL1A   INSIG1   JAK1   MMP13   MMP3   MYC   PTPN11   TFAP4   TPR   WNT5A                                                                                                                                                                  | 2.1       | 0.375     |
| TURJANSKI_MAPK11_TARGETS                                                         | ATF2   ELK1   FOS   MEF2A   MEF2C                                                                                                                                                                                                                                           | 2.1       | 0.125     |
| REACTOME_IL_7_SIGNALING                                                          | HGF   IL2RG   IL7   IL7R   JAK1   JAK3   PIK3R1   PIK3R2   PIK3R3   STAT5A   STAT5B                                                                                                                                                                                         | 2.1       | 0.125     |
| chr3p13                                                                          | CD96   MGLL   SHQ1   TXNRD3   ZBED2                                                                                                                                                                                                                                         | 2.1       | 0.125     |
| REACTOME_INTEGRATION_OF_PROVIRUS                                                 | BANF1   HMGAI1   LIG4   PPIA   PSIP1   XRC4   XRC5   XRC6                                                                                                                                                                                                                   | 2.1       | 0.125     |
| chr1q44                                                                          | AHCTF1   CEP170   EFCAB2   KIF26B   SCCPDH   SMDY3   TFB2M   TRIM58   ZNF124   ZNF238   ZNF669   ZNF672   ZNF692   ZNF695                                                                                                                                                   | 2.1       | 0.125     |
| CASTELLANO_HRAS_AND_NRAS_TARGETS_DN                                              | ANKRD1   CALCLR   FHL1   NRAS   RBPMS                                                                                                                                                                                                                                       | 2.1       | 0.25      |
| KEGG_SULFUR_METABOLISM                                                           | BPN1A   CHST11   CHST12   PAPSS1   PAPSS2   SULT1A1   SULT1A2   SULT1A3   SULT1A4   SULT1E1   SULT2B1   SUOX                                                                                                                                                                | 2.1       | 0.125     |
| BIOCARTA_SET_PATHWAY                                                             | ANP32A   APEX1   <b>CREBBP</b>   DFFA   DFFB   GZMA   GZMB   HMG82   NME1   PRF1   SET                                                                                                                                                                                      | 2.1       | 0.125     |
| MEISSNER_NPC_ICP_WITH_H3K4ME3                                                    | ATP6V1G2   FAM3A   LRRC48   LSG1   MPI   NOSIP   PRPF31   RAB13   RBM4   RPL19   STOML1   TBC1D22B   TLR2                                                                                                                                                                   | 2.1       | 0.125     |
| SCHAEFFER_PROSTATE_DEVELOPMENT_AND_CANCER_BOX5_DN                                | CST1   LGALS3   MED4   SOX9   TLE1   TMEM45A   TSPAN8                                                                                                                                                                                                                       | 2.1       | 0.125     |
| REACTOME_RNA_POL_III_TRANSCRIPTION_INITIATION_FROM_TYPE_2_PROMOTER               | BRF1   GTF3C2   GTF3C3   GTF3C4   GTF3C5   LZT51   POLR1C   POLR1D   POLR2E   POLR2F   POLR2H   POLR2K   POLR2L   POLR3B   POLR3C   POLR3D   POLR3E   POLR3F   POLR3K   TBP                                                                                                 | 2.1       | 0.125     |
| DARWICHE_PAPILLOMA_RISK_HIGH_VS_LOW_UP                                           | EML4   GLT8D1   ICAM1   PCGF3   TRAF2   VHL                                                                                                                                                                                                                                 | 2.1       | 0.125     |
| MITOCHONDRIAL_RIBOSOME                                                           | MRPL12   MRPL23   MRPL40   MRPL41   MRPL42   MRPL52   MRPS10   MRPS11   MRPS12   MRPS15   MRPS16   MRPS18A   MRPS18C   MRPS22   MRPS28   MRPS35                                                                                                                             | 2.1       | 0.125     |
| ORGANELLAR_RIBOSOME                                                              | MRPL12   MRPL23   MRPL40   MRPL41   MRPL42   MRPL52   MRPS10   MRPS11   MRPS12   MRPS15   MRPS16   MRPS18A   MRPS18C   MRPS22   MRPS28   MRPS35                                                                                                                             | 2.1       | 0.125     |
| LIANG_HEMATOPOIESIS_STEM_CELL_NUMBER_QTL                                         | APLP2   C19orf42   FADS1   FCER1A   GF11B   GTF3A   LXN   MAPK8   MYBBP1A   NPTX1   PTTG1   RASGRP2   S100A11   S100A6                                                                                                                                                      | 2.1       | 0.125     |
| HEIDENBLAD_AMPLIFIED_IN_PANCREATIC_CANCER                                        | AKT2   BCAT1   CDCD91   DLL3   ECH1   ERGIC2   ETNK1   FBL   ITPR2   METTL2A   MRPS12   PAF1   PAK4   PPFI8P1   PSMC4   RASSF8   SAMD48   SSPN   SUPT5H   TLK2   TM75F3   ZNF780A                                                                                           | 2.1       | 0.125     |
| REACTOME_VIRAL_MESSENGER_RNA_SYNTHESIS                                           | GTF2F1   GTF2F2   POLR2A   POLR2B   POLR2C   POLR2D   POLR2E   POLR2F   POLR2G   POLR2H   POLR2I   POLR2J   POLR2K   POLR2L                                                                                                                                                 | 2.1       | 0.125     |
| KEGG_RNA_POLYMERASE                                                              | POLR1B   POLR1C   POLR1D   POLR1E   POLR2A   POLR2B   POLR2C   POLR2D   POLR2E   POLR2F   POLR2G   POLR2H   POLR2I   POLR2J   POLR2K   POLR2L   POLR2M   POLR2N   POLR2O   POLR2P   POLR2Q   POLR2R   POLR2S   POLR2T   POLR2U   POLR2V   POLR2W   POLR2X   POLR2Y   POLR2Z | 2.1       | 0.125     |
| DNA_REPLICATION_INITIATION                                                       | CDC6   CDT1   MCM3   NBN   PURA   RAD17   RAD9A   RPA4   TIPIN   WRNIP1                                                                                                                                                                                                     | 2.1       | 0.375     |
| SCHRAMM_INHBA_TARGETS_UP                                                         | BAX   CCND1   CXCR4   DUSP4   LMO4   TGFBI   VIP                                                                                                                                                                                                                            | 2.1       | 0.125     |
| SCHAEFFER_PROSTATE_DEVELOPMENT_AND_CANCER_BOX1_DN                                | AFB3   B2M   CALR   CLDN1D   SART1   SDRP   SERINC3   SYT13                                                                                                                                                                                                                 | 2.1       | 0.375     |

|                                                                               |                                                                                                                                           |     |       |
|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| CATION_TRANSPORTING_ATPASE_ACTIVITY                                           | ATP2A1   ATP2A2   ATP2A3   ATP2B1   ATP2B3   ATP2B4   ATP2C1   ATP6VOC   ATP6V1B2   ATP6V1C1                                              | 2.1 | 0.125 |
| GNF2_CBF8                                                                     | CBF8   CNOT7   CSK   DOCK2   FAM111A   FNBP1   HDAC1   HNRPDL   IFI16   INPP5D   KHDRBS1   LCP1   PSMA1   PSME1   MFNG   NONO   POLR2G    | 2.1 | 0.125 |
| DISTECHE_ESCAPED_FROM_X_INACTIVATION                                          | CBF8   CNOT7   CSK   DOCK2   FAM111A   FNBP1   HDAC1   HNRPDL   IFI16   INPP5D   KHDRBS1   LCP1   PSMA1   PSME1   MFNG   NONO   POLR2G    | 2.1 | 0.125 |
| GOLGI_STACK                                                                   | DDX3X   EIF1AX   EIF2S3   PRKX   RPS4X   STS   TBL1X   TMSB4X   USP9X   ZFX                                                               | 2.1 | 0.25  |
| TESAR_ALK_TARGETS_HUMAN_ES_4D_DN                                              | AP4M1   B4GALT1   CLN3   GOLGA5   GOLGB1   OCRL   RAB14   RAB30   TRAPP64                                                                 | 2.1 | 0.125 |
| SCHAEFFER_PROSTATE_DEVELOPMENT_AND_CANCER_BOX2_DN                             | LEFTY1   LEFTY2   MYC   NANOG   TDGF1                                                                                                     | 2.1 | 0.25  |
| NEGATIVE_REGULATION_OF_PHOSPHATE_METABOLIC_PROCESS                            | CAST   FAP   SOX9   TLE1   TRIM8   YWHAE                                                                                                  | 2.1 | 0.125 |
| DAZARD_UV_RESPONSE_CLUSTER_G5                                                 | CDKN1A   CDKN1B   CDKN2A   CDKN2B   CDKN2C   CDKN2D   IGFBP3   INHA   INHBA   NF2   PP2R4   SOCS1                                         | 2.0 | 0.25  |
| CAFFAREL_RESPONSE_TO_THC_24HR_S_UP                                            | AC02   GNB2L1   GPI   H2AFX   HIST1H2BF   NUCB1   RALY   RPS2   SLURP1   TOM1                                                             | 2.0 | 0.125 |
| REACTOME_FORMATION_OF_ATP_BY_CHEMIOSMOTIC_COUPLING                            | ATP5G3   CNA2   CKS2   CNBP   DDB1   EXOSC4   FNTA   GAL   IARS   KHSRP   UUG4   MYL6B   NCOA4   NUCB2   PCNA   PSMA2   RAB5A             | 2.0 | 0.125 |
| REACTOME_SPRY_REGULATION_OF_FGF_SIGNALING                                     | RBX1   RNF10   RPS2   SEPP1   SLC29A1   TFRC   TUBB   TXNRD1   VAV3   ZFP36L1                                                             | 2.0 | 0.125 |
| CASTELLANO_HRAS_AND_NRAS_TARGETS_UP                                           | ATP5A1   ATP5B   ATP5C1   ATP5D   ATP5E   ATP5F1   ATP5G1   ATP5H   ATP5I   ATP5J   ATP5J2   ATP5L   ATP5O                                | 2.0 | 0.5   |
| MICROBODAL_PART                                                               | BRAF   CBL   GRB2   MAPK1   MAPK3   MNK1   PPP2CA   PPP2CB   PPP2R1A   RPS27A   SPRY2   SRC   UBA52                                       | 2.0 | 0.125 |
| PEROXISOMAL_PART                                                              | CCNG1   CFH   CRABP2   PRDX2                                                                                                              | 2.0 | 0.125 |
| WHITESIDE_CISPLATIN_RESISTANCE_DN                                             | ABCD3   FIS1   PEX1   PEX11A   PEX12   PEX13   PEX14   PEX16   PEX19   PEX3   PXMP4   SLC27A2                                             | 2.0 | 0.125 |
| SMIRNOV_CIRCULATING_ENDOTHELIOCYTES_IN_CANCER_DN                              | ABCD3   FIS1   PEX1   PEX11A   PEX12   PEX13   PEX14   PEX16   PEX19   PEX3   PXMP4   SLC27A2                                             | 2.0 | 0.125 |
| EUKARYOTIC_TRANSLATION_INITIATION_FACTOR_3_COMPLEX                            | ACTB   IFI6   JUND   KRT19   LRRC17   RPL13A   RPS16   RPS21   RPS5   RPS9   SOD1   TIMP1   TRIM22                                        | 2.0 | 0.125 |
| REACTOME_ACTIVATION_OF_CHAPERONE_GENES_BY_ATF6_ALPHA                          | ANGPTL4   CD34   OLR1   RPS27A   SELE                                                                                                     | 2.0 | 0.125 |
| REACTOME_PREFOLDING_MEDIATED_TRANSFER_OF_SUBSTRATE_TO_CCT_TRIC                | COP55                                                                                                                                     | 2.0 | 0.25  |
| KEGG_AMINOACYL_TRNA_BIOSYNTHESIS                                              | ATF4   ATF6   CALR   DDIT3   HSP90B1   HSPA5   NFYA   NYF8   XBP1                                                                         | 2.0 | 0.125 |
| STEROID_HORMONE_RECEPTOR_BINDING                                              | AC02   CCT2   CCT3   CCT4   CCT5   CCT6A   CCT7   CCT8   PFDN1   PFDN2   PFDN4   PFDN5   PFDN6   TCP1   TUBB1   TUBB2A   TUBB2B           | 2.0 | 0.125 |
| BIOCARTA_SARS_PATHWAY                                                         | TUBB3   TUBB6   VBP1                                                                                                                      | 2.0 | 0.125 |
| REACTOME_CYTOSOLIC_TRNA_AMINOACYLATION                                        | AARS   CARS   DARS   DARS2   EPRS   FARS2   GARS   HARS   IARS   IARS2   KARS   LARS   LARS2   MARS   NARS   NARS2   QARS   RARS          | 2.0 | 0.125 |
| MODULE_25                                                                     | SARS   SARS2   TARS   VARS   WARS   WARS2   YARS   YARS2                                                                                  | 2.0 | 0.125 |
| XU_RESPONSE_TO_TRETINOIN_AND_NSC682994_DN                                     | DAXX   DDX54   NCOA6   NRIP1   NSD1   PRPF6   TGFBI1   YWHAH                                                                              | 2.0 | 0.125 |
| POSITIVE_REGULATION_OF_TRANSCRIPTION_FACTOR_ACTIVITY                          | ANPEP   CKM   EIF4E   FBL   GPT   LDHA   LDHB   LDHC   MAPK14   NCL                                                                       | 2.0 | 0.125 |
| REACTOME_PURINE_SALVAGE                                                       | AARS   CARS   DARS   EEF1E1   EPRS   GARS   HARS   IARS   KARS   LARS   MARS   NARS   PPA1   QARS   RARS   SARS   TARS   VARS   WARS      | 2.0 | 0.125 |
| MODULE_110                                                                    | YARS                                                                                                                                      | 2.0 | 0.125 |
| TERAMOTO_OPN_TARGETS_CLUSTER_5                                                | NDUF83   NDUF85   NDUF88   NDUF91   NDUF92   NDUF93   NDUF94   NDUF95   NDUF96   NDUF98   NDUF9V1   NDUF9V2   UQCRCB                      | 2.0 | 0.125 |
| REGULATION_OF_TRANSLATIONAL_INITIATION                                        | ABCE1   CSE1L   DDX10   DDX18   EIF4E   EIF4EBP1   GRB10   MYC   PPM1G   PRMT1   RABGGTB   RUVBL2                                         | 2.0 | 0.125 |
| ER_GOLGI_INTERMEDIATE_COMPARTMENT                                             | BCL10   CAMK2A   CEBPG   EDA   EDA2R   EP300   ERC1   IKKB   MAP3K13   NPM1   PRDX3   PRKCQ   PYCARD   RELA   TNF   UBE2N                 | 2.0 | 0.125 |
| BIOCARTA_ARENF2_PATHWAY                                                       | UBE2V1                                                                                                                                    | 2.0 | 0.125 |
| MYLYKANGAS_AMPLIFICATION_HOT_SPOT_11                                          | ADA   ADK   AMPD1   AMPD2   AMPD3   APRT   DCK   DGUOK   GMPR   GMPR2   HPRT1                                                             | 2.0 | 0.125 |
| REACTOME_RNA_POL_III_CHAIN_ELONGATION                                         | AARS   CARS   EPRS   GARS   HARS   IARS   KARS   IARS2   QARS   SARS   VARS   YARS                                                        | 2.0 | 0.125 |
| HYDROLASE_ACTIVITY_ACTING_ON CARBON_NITROGEN_NOT PEPTIDEBONDSIN_LINEAR_AMIDES | CCDC53   GON4L   STAB1                                                                                                                    | 2.0 | 0.125 |
| CHROMATIN_REMODELING_COMPLEX                                                  | DAZ1   DAZL   EIF1   EIF1B   EIF2AK3   EIF2B2   EIF2B3   EIF2C1   EIF4A2   EIF4B   EIF4G2   EIF4G3   EIF5   EIF5A   HSPB1   MTIF2         | 2.0 | 0.125 |
| IIZUKA_LIVER_CANCER_PROGRESSION_L1_G1_DN                                      | ANPEP   ERGIC2   ERGIC3   FN1   GOLGB1   KDELR1   MAN1A1   NUCB1   NUCB2   PAHB   PDIA6   SEC23IP   SERPINH1   TMED10   TMED2             | 2.0 | 0.125 |
| RNA_ELONGATION                                                                | TMED5   TMED9   YIF1A                                                                                                                     | 2.0 | 0.125 |
| REACTOME_NEGATIVE_REGULATORS_OF_RIG_I_MDA5_SIGNALING                          | CREB1   FOS   FYXD2   JUN   KEAP1   MAFF   MAFK   MAFK   MAPK1   MAPK14   MAPK8   PRKCA                                                   | 2.0 | 0.125 |
| MITOCHONDRIAL_RESPIRATORY_CHAIN_COMPLEX_I                                     | CND1   MEN1   NUMA1                                                                                                                       | 2.0 | 0.25  |
| NADH_DEHYDROGENASE_COMPLEX                                                    | LZTS1   POLR1C   POLR1D   POLR2E   POLR2F   POLR2H   POLR2K   POLR2L   POLR3B   POLR3C   POLR3D   POLR3E   POLR3F   POLR3K                | 2.0 | 0.125 |
| RESPIRATORY_CHAIN_COMPLEX_I                                                   | ACR   ACY1   AGA   ASPA   ASRGL1   DARS   FAH   GLS2   HDAC1   HDAC11   HDAC2   HDAC3   HDAC5   HDAC6   PDF   SIRT2   UPB1                | 2.0 | 0.125 |
| REACTOME_TRNA_AMINOACYLATION                                                  | ACTL68   ARID1A   ASF1A   CHAF1A   CHAF1B   NAP1L1   NAP1L2   NAP1L3   NAP1L4   NCR1   RSF1   SMARCA5   SMARCB1   SMARCC1                 | 2.0 | 0.125 |
| PID_IL5_PATHWAY                                                               | SMARCC2   SMARCD1                                                                                                                         | 2.0 | 0.125 |
| PROTEIN_TARGETING_TO_MEMBRANE                                                 | ATOX1   ATP6V1E1   CAMKK2   DRAP1   GOLGA3   ILF2   MT4   RNF103   SNRNP   TBCE   UFD1L                                                   | 2.0 | 0.125 |
| GNF2_BUB3                                                                     | ADRM1   CDK9   ELL   ELL2   ELL3   ERCC6   GTF2F2   SUPT4H1   SUPTSH   TCEB2                                                              | 2.0 | 0.125 |
| REACTOME_PLATELET_CALCIUM_HOMEOSTASIS                                         | ATG12   ATG5   CYLD   DDX58   HERC5   IFIH1   IKKBE   IRF3   ISG15   PCBP2   PIN1   RNF125   RPS27A   TAX1BP1   TBK1   TNFAIP3   TRAF3    | 2.0 | 0.25  |
| REGULATION_OF_VIRAL_REPRODUCTION                                              | TRIM25   UBA52   UBE2D1   UBE2D2   UBE2D3   UBE2L6                                                                                        | 2.0 | 0.125 |
| REACTOME_TRAF6_MEDIATED_INDUCION_OF_TAK1_COMPLEX                              | NDUFA1   NDUFA13   NDUFA2   NDUFA6   NDUFA9   NDUFAB1   NDUFB6   NDUFS1   NDUFS2   NDUFS3   NDUFS4   NDUFS7   NDUFS8                      | 2.0 | 0.125 |
| MYLYKANGAS_AMPLIFICATION_HOT_SPOT_14                                          | NDUFV1                                                                                                                                    | 2.0 | 0.125 |
| MODULE_35                                                                     | NDUFA1   NDUFA13   NDUFA2   NDUFA6   NDUFA9   NDUFAB1   NDUFB6   NDUFS1   NDUFS2   NDUFS3   NDUFS4   NDUFS7   NDUFS8                      | 2.0 | 0.125 |
| REACTOME_DOWNREGULATION_OF_SMAD2_3_SMAD4_TRANSCRIPTIONAL_ACTIVITY             | NDUFV1                                                                                                                                    | 2.0 | 0.125 |
| ACETYLALACETOSAMINYLTRANSFERASE_ACTIVITY                                      | NDUFA1   NDUFA13   NDUFA2   NDUFA6   NDUFA9   NDUFAB1   NDUFB6   NDUFS1   NDUFS2   NDUFS3   NDUFS4   NDUFS7   NDUFS8                      | 2.0 | 0.125 |
| KEGG_GLYCOSAMINOGLYCAN_BIOSYNTHESIS_CHONDROITIN_SULFATE                       | NDUFA1   NDUFA13   NDUFA2   NDUFA6   NDUFA9   NDUFAB1   NDUFB6   NDUFS1   NDUFS2   NDUFS3   NDUFS4   NDUFS7   NDUFS8                      | 2.0 | 0.125 |
| MODULE_539                                                                    | NDUFA1   NDUFA13   NDUFA2   NDUFA6   NDUFA9   NDUFAB1   NDUFB6   NDUFS1   NDUFS2   NDUFS3   NDUFS4   NDUFS7   NDUFS8                      | 2.0 | 0.125 |
| BOYERINAS_ONCOFETAL_TARGETS_OF_LET7A1                                         | AARS   CARS   DARS   DARS2   EEF1E1   EPRS   FARS2   GARS   HARS   IARS   IARS2   KARS   LARS   LARS2   MARS   NARS   NARS2   PPA1        | 2.0 | 0.125 |
| NADERLI_BREAST_CANCER_PROGNOSIS_DN                                            | PPA2   QARS   RARS   SARS   SARS2   TARS   VARS   WARS   WARS2   YARS   YARS2                                                             | 2.0 | 0.125 |
| NF_KAPPAB_BINDING                                                             | C15H   C16H   C17H   C18H   C19H   C20H   C21H   C22H   C23H   C24H   C25H   C26H   C27H   C28H   C29H   C30H   C31H   C32H   C33H   C34H | 1.9 | 0.125 |
| POSITIVE_REGULATION_OF_BINDING                                                | C15H   C16H   C17H   C18H   C19H   C20H   C21H   C22H   C23H   C24H   C25H   C26H   C27H   C28H   C29H   C30H   C31H   C32H   C33H   C34H | 1.9 | 0.125 |
| POSITIVE_REGULATION_OF_DNA_BINDING                                            | C15H   C16H   C17H   C18H   C19H   C20H   C21H   C22H   C23H   C24H   C25H   C26H   C27H   C28H   C29H   C30H   C31H   C32H   C33H   C34H | 1.9 | 0.125 |
| RUNNE_GENDER_EFFECT_UP                                                        | BCL10   CAMK2A   CEBPG   EDA   EDA2R   EDF1   EP300   ERC1   IKKB   MAP3K13   NME1   NPM1   PRDX3   PRKCQ   PYCARD   RELA   TNF           | 1.9 | 0.125 |
| PROTEIN_AMINO_ACID_O_LINKED_GLYCOSYLATION                                     | UBE2N   UBE2V1                                                                                                                            | 1.9 | 0.125 |
| RODRIGUES_OCC_TARGETS_UP                                                      | DDX3X   EIF1AY   PRKY   RPS4Y1   USP9V   UTY   ZFY                                                                                        | 1.9 | 0.125 |
| NUCLEAR_CHROMATIN                                                             | AGNT   DPM1   DPM2   DPM3   GALNT1   GALNT2   GALNT6   GALNT7   GCNT1   GCNT2   GCNT4   GYPC   LDLR   OGT   POFUT1                        | 1.9 | 0.125 |
| WILLIAMS_ESR2_TARGETS_DN                                                      | POMGN1   POMT1   TRAK1                                                                                                                    | 1.9 | 0.125 |
| REACTOME_METABOLISM_OF_PORPHYRINS                                             | C4BPB   CD55   INHBB   SLC2A1   SNX5                                                                                                      | 1.9 | 0.375 |
| NIKOLSKY_BREAST_CANCER_10Q22_AMPUCON                                          | ATRX   CBX1   CBX5   H2AFY1   H2AFY2   KLHDC3   NUFIP1   PAM   RCC1   TIMELESS   TIPIN                                                    | 1.9 | 0.125 |
| PROTEIN_DEACETYLASE_ACTIVITY                                                  | ADM   CBX5   EDN1   MRPS16   PANK2   RPL21   S100A6   TBL1XR1                                                                             | 1.9 | 0.125 |
| BUDHU_LIVER_CANCER_METASTASIS_DN                                              | ALAD   ALAS1   ALAS2   BLVRA   BLVRB   CPOX   FECH   HMBS   HMOX1   HMOX2   PPOX   UGT1A1   UROD   UROS                                   | 1.9 | 0.125 |
| MICROBODY_MEMBRANE                                                            | DLG5   KCNMA1   PPIF   RPS24                                                                                                              | 1.9 | 0.125 |
| PEROXISOMAL_MEMBRANE                                                          | HDAC1   HDAC11   HDAC2   HDAC3   HDAC5   HDAC6   SIRT2                                                                                    | 1.9 | 0.125 |
| SEIKE_LUNG_CANCER_POOR_SURVIVAL                                               | IFNG   IL12A   IL12B   IL1A   IL1B   IL2   TNF                                                                                            | 1.9 | 0.125 |
| REACTOME_ELONGATION_ARREST_AND_RECOVERY                                       | ABCD3   FIS1   PEX1   PEX11A   PEX12   PEX13   PEX14   PEX16   PEX19   PEX3   PXMP4                                                       | 1.9 | 0.125 |
| REACTOME_RESOLUTION_OF_AP_SITES_VIA_THE_SINGLE_NUCLEOTIDE_REPLACEMENT_PATHWAY | ABCD3   FIS1   PEX1   PEX11A   PEX12   PEX13   PEX14   PEX16   PEX19   PEX3   PXMP4                                                       | 1.9 | 0.125 |
| GRAHAM_CML_DIVIDING_VS_NORMAL_DIVIDING_DN                                     | CSF1   IFNG   IL10   IL12A   IL15   IL1A   IL1B   IL2   IL8   TNF                                                                         | 1.9 | 0.125 |
| MITOCHONDRIAL_SMALL_RIBOSOMAL_SUBUNIT                                         | CNT1   CNT2   CDK9   COBRA1   CTDP1   ELL   GTF2F1   GTF2F2   POLR2A   POLR2B   POLR2C   POLR2D   POLR2E   POLR2F   POLR2G                | 1.9 | 0.125 |
| ORGANELLA_SMALL_RIBOSOMAL_SUBUNIT                                             | POLR2H   POLR2I   POLR2J   POLR2K   POLR2L   RDBP   SSRP1   SUPT16H   SUPT4H1   SUPT5H   TCEA1   TCEB1   TCEB2   TCEB3   TH1L             | 1.9 | 0.125 |
| SMALL_RIBOSOMAL_SUBUNIT                                                       | WHSC2                                                                                                                                     | 1.9 | 0.125 |
| chr4p13                                                                       | APEX1   UG3   MBD4   MPG   MUTYH   NTHL1   OGG1   POLB   SMUG1   TDG   XRCC1                                                              | 1.9 | 0.125 |
| chr2p15                                                                       | C3orf14   CRHBP   GZMB   HLA-DQA1   HLA-DQB1   IIG   LTB   PCDH9   PROM1   TM4SF1                                                         | 1.9 | 0.25  |
| REACTOME_ABORTIVE_ELONGATION_OF_HIV1_TRANSCRIPT_IN_THE_ABSENCE_OF_TAT         | MRPL42   MRPS11   MRPS15   MRPS16   MRPS18A   MRPS18C   MRPS22   MRPS28   MRPS35                                                          | 1.9 | 0.25  |
| SANDERSON_PPARA_TARGETS                                                       | MRPL42   MRPS11   MRPS15   MRPS16   MRPS18A   MRPS18C   MRPS22   MRPS28   MRPS35                                                          | 1.9 | 0.25  |
| BIOCARTA_AHSP_PATHWAY                                                         | MRPL42   MRPS11   MRPS15   MRPS16   MRPS18A   MRPS18C   MRPS22   MRPS28   MRPS35                                                          | 1.9 | 0.25  |
| CENTROSOME_CYCLE                                                              | APBB2   CORIN   GUF1   RHOF   RPL9                                                                                                        | 1.9 | 0.125 |
| POS_RESPONSE_TO_HISTAMINE_UP                                                  | B3GN72   CCT4   COMMD1   EHBP1   SERTAD2   SLC14A                                                                                         | 1.9 | 0.125 |
| chr9p                                                                         | COBRA1   CTDP1   GTF2F1   GTF2F2   NCBP1   NCBP2   POLR2A   POLR2B   POLR2C   POLR2D   POLR2E   POLR2F   POLR2G   POLR2H                  | 1.9 | 0.125 |
| CASTELLANO_HRAS_TARGETS_UP                                                    | POLR2I   POLR2J   POLR2K   POLR2L   RDBP   SUPT4H1   SUPT5H   TH1L   WHSC2                                                                | 1.9 | 0.125 |
|                                                                               | ACADM   ACOT8   ALDH3A2   CD36   CPT1B   CPT2   DECR1   DECR2   EHHADH   ETFDH   FGF21   G0S2   HMGCS2   HSD17B4                          | 1.9 | 0.125 |
|                                                                               | ALAD   ALAS1   ALAS2   CPOX   FECH   GATA1   HBA1   HBA2   HBB   HMBS   UROD   UROS                                                       | 1.9 | 0.375 |
|                                                                               | BRCA2   CEP250   CETN1   CETN3   NDE1   NPM1   SAC3D1                                                                                     | 1.9 | 0.125 |
|                                                                               | BLNLS   FRYL   H2AFY1   HMG20B   IGF2R   ODF1   PFN2   SNX27   UPF3B                                                                      | 1.9 | 0.125 |
|                                                                               | CD72   DNAJB5   RNF38                                                                                                                     | 1.9 | 0.125 |
|                                                                               | GERF   GN81   HOXC8   NNAT   PRDX2                                                                                                        | 1.9 | 0.25  |

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| FOURNIER_ACINAR_DEVELOPMENT_EARLY_UP                                                                                                 | BNP13L   CEP57   EFEMP1   EGR1   EIF4B   FKBP1B   FOSL2   GOLPH3L   GSN   IGFBP2   LEPR   PPL   RAB40B   SRCAP   SRD5A1   SUCLG2   ZNF277                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.9 | 0.125 |
| DEACETYLASE_ACTIVITY                                                                                                                 | AADAC   HDAC1   HDAC11   HDAC2   HDAC3   HDACS   HDAC6   SIRT2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.9 | 0.125 |
| MODULE_530                                                                                                                           | ATOX1   CAT   CD01   DUSP1   G0T1   GPX1   GPX2   GPX3   GPX4   MPO   NUDT1   PDLM1   PRDX6   SDS   SEPP1   SOD1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.9 | 0.125 |
| SCHURINGA_STAT5A_TARGETS_UP                                                                                                          | ANK1   AQP3   CD36   CISH   FOSB   GYPB   HBE1   HBZ   LEPR   LIF   MAOA   PDAP1   PIM1   RAC3   RHAG   SOS2   TRAF4   XK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.9 | 0.125 |
| GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_MAGENTA_DN                                                                             | AGGF1   DBR1   DIDO1   IMP3   IRAK1BP1   RANBP6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1.9 | 0.125 |
| RNA_POLYMERASE_ACTIVITY                                                                                                              | CTDP1   POLR1C   POLR2D   POLR2E   POLR2J   POLR2J2   POLR2L   POLR2C   POLR3G   POLR3K   POLRMT   PRIM1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1.9 | 0.125 |
| MODULE_377                                                                                                                           | ALAS1   ENO1   ENO2   GGT1   GLYAT   HK2   LDHA   NAT1   NAT2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1.9 | 0.25  |
| REGULATION_OF_DEFENSE_RESPONSE                                                                                                       | AHSG   APOBEC3F   APOBEC3G   CD13   CHRNA7   CRTAM   CX3CL1   EREG   GHSR   IL12A   IL12B   NCR1   TARBP2   TLR8   TNFRSF1A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1.9 | 0.125 |
| NIKOLSKY_BREAST_CANCER_Z0Q11_AMPICON                                                                                                 | C20orf4   CEP250   CPNE1   DLGAP4   DYNLRB1   EDEM2   EPB41L1   ERGIC3   GDF5   GSS   MMP24   MYH7B   NCOA6   NFS1   PHF20   PROCR   RBM12   RBM39   SCAND1   SPAG4   TRPC4AP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1.9 | 0.125 |
| GENTILE_UV_RESPONSE_CLUSTER_D9                                                                                                       | ACVR1B   ADM   AGTR1   CCNA2   CCGN1   CD2AP   CITED2   DNAJB1   DYRK2   HOXB6   IDI1   KIAA0232   KLF9   MET   NAP1L1   PALM2-AKAP2   RRS1   SWAP70   TMEM97   TRIM32                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.9 | 0.125 |
| MODULE_77                                                                                                                            | NDUFA1   NDUFA2   NDUFA3   NDUFA4   NDUFA5   NDUFA7   NDUFA9   NDUFAF1   NDUFB1   NDUFB3   NDUFB5   NDUFB7   NDUFB8   NDUFC1   NDUFS2   NDUFS3   NDUFS4   NDUFS5   NDUFS6   NDUFS8   NDUFV1   NDUFV2   PRMT1   UQCRR   UQCRC1   UQCRC2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.9 | 0.125 |
| HEME_BIOSYNTHETIC_PROCESS                                                                                                            | ALAD   ALAS1   ALAS2   COX10   COX15   CPOX   FECH   NFE2L1   PPOX   TSP0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.8 | 0.125 |
| ISHIDA_TARGETS_OF_SYT_SX5_FUSIONS                                                                                                    | B4GALT1   BAX   DDIT3   GDF15   HYOU1   NUPR1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1.8 | 0.125 |
| REACTOME_FORMATION_OF_TRANSCRIPTION_COUPLED_NER_TC_NER_REPAIR_COMPLEX                                                                | CCNH   CDK7   ERCC1   ERCC2   ERCC3   ERCC4   ERCC5   ERCC6   ERCC8   GTF2H1   GTF2H2   GTF2H3   GTF2H4   MNAT1   POLR2A   POLR2B   POLR2C   POLR2D   POLR2E   POLR2F   POLR2G   POLR2H   POLR2I   POLR2J   POLR2K   POLR2L   TCEA1   XAB2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.8 | 0.125 |
| REACTOME_INHIBITION_OF_THE_PROTEOLYTIC_ACTIVITY_OF_APC_C_REQUIRED_FOR_THE_ONSET_OF_ANAPHASE_BY_MITOTIC_SPINDLE_CHECKPOINT_COMPONENTS | ANAPC1   ANAPC10   ANAPC2   ANAPCS   BUBB1B   BUB3   CDC16   CDC20   CDC23   CDC27   MAD2L1   UBE2C   UBE2D1   UBE2E1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1.8 | 0.125 |
| PID_IL3_PATHWAY                                                                                                                      | BCL2L1   CEBPB   CISH   CNKSR1   CSF2RB   GAB2   GRB2   HDAC1   ID1   IL13   IL3RA   INPP5D   JAK2   OSM   PIK3CA   PIK3R1   PIM1   PRKACA   PRKACB   PRKACG   PTPN11   SHC1   SRP9   STAT5A   STAT5B   YWHAZ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1.8 | 0.125 |
| REACTOME_RNA_POL_III_TRANSCRIPTION_INITIATION_FROM_TYPE_3_PROMOTER                                                                   | BRF2   LZTSL1   POLR1C   POLR1D   POLR2E   POLR2F   POLR2H   POLR2K   POLR2L   POLR3B   POLR3C   POLR3D   POLR3E   POLR3F   POLR3K   POLR2F1   SNAPC1   SNAPC2   SNAPC3   SNAPC4   SNAPCS   POU2F1   POLR2C   POLR2D   POLR2E   POLR2F   POLR2G   POLR2H   POLR2I   POLR2J   POLR2K   POLR2L   POLR2M   POLR2N   POLR2O   POLR2P   POLR2Q   POLR2R   POLR2S   POLR2T   POLR2U   POLR2V   POLR2W   POLR2X   POLR2Y   POLR2Z   POLR2AA   POLR2AB   POLR2AC   POLR2AD   POLR2AE   POLR2AF   POLR2AG   POLR2AH   POLR2AI   POLR2AJ   POLR2AK   POLR2AL   POLR2AM   POLR2AN   POLR2AO   POLR2AP   POLR2AQ   POLR2AR   POLR2AS   POLR2AT   POLR2AU   POLR2AV   POLR2AW   POLR2AX   POLR2AY   POLR2AZ   POLR2BA   POLR2BB   POLR2BC   POLR2BD   POLR2BE   POLR2BF   POLR2BG   POLR2BH   POLR2BI   POLR2BJ   POLR2BK   POLR2BL   POLR2BM   POLR2BN   POLR2BO   POLR2BP   POLR2BQ   POLR2BR   POLR2BS   POLR2BT   POLR2BU   POLR2BV   POLR2BW   POLR2BX   POLR2BY   POLR2BZ   POLR2CA   POLR2CB   POLR2CC   POLR2CD   POLR2CE   POLR2CF   POLR2CG   POLR2CH   POLR2CI   POLR2CJ   POLR2CK   POLR2CL   POLR2CM   POLR2CN   POLR2CO   POLR2CP   POLR2CQ   POLR2CR   POLR2CS   POLR2CT   POLR2CU   POLR2CV   POLR2CW   POLR2CX   POLR2CY   POLR2CZ   POLR2DA   POLR2DB   POLR2DC   POLR2DD   POLR2DE   POLR2DF   POLR2DG   POLR2DH   POLR2DI   POLR2DJ   POLR2DK   POLR2DL   POLR2DM   POLR2DN   POLR2DO   POLR2DP   POLR2DQ   POLR2DR   POLR2DS   POLR2DT   POLR2DU   POLR2DV   POLR2DW   POLR2DX   POLR2DY   POLR2DZ   POLR2EA   POLR2EB   POLR2EC   POLR2ED   POLR2EE   POLR2EF   POLR2EG   POLR2EH   POLR2EI   POLR2EJ   POLR2EK   POLR2EL   POLR2EM   POLR2EN   POLR2EO   POLR2EP   POLR2EQ   POLR2ER   POLR2ES   POLR2ET   POLR2EU   POLR2EV   POLR2EW   POLR2EX   POLR2EY   POLR2EZ   POLR2FA   POLR2FB   POLR2FC   POLR2FD   POLR2FE   POLR2FF   POLR2FG   POLR2FH   POLR2FI   POLR2FJ   POLR2FK   POLR2FL   POLR2FM   POLR2FN   POLR2FO   POLR2FP   POLR2FQ   POLR2FR   POLR2FS   POLR2FT   POLR2FU   POLR2FV   POLR2FW   POLR2FX   POLR2FY   POLR2FZ   POLR2GA   POLR2GB   POLR2GC   POLR2GD   POLR2GE   POLR2GF   POLR2GG   POLR2GH   POLR2GI   POLR2GJ   POLR2GK   POLR2GL   POLR2GM   POLR2GN   POLR2GO   POLR2GP   POLR2GQ   POLR2GR   POLR2GS   POLR2GT   POLR2GU   POLR2GV   POLR2GW   POLR2GX   POLR2GY   POLR2GZ   POLR2HA   POLR2HB   POLR2HC   POLR2HD   POLR2HE   POLR2HF   POLR2HG   POLR2HH   POLR2HI   POLR2HJ   POLR2HK   POLR2HL   POLR2HM   POLR2HN   POLR2HO   POLR2HP   POLR2HQ   POLR2HR   POLR2HS   POLR2HT   POLR2HU   POLR2HV   POLR2HW   POLR2HX   POLR2HY   POLR2HZ   POLR2IA   POLR2IB   POLR2IC   POLR2ID   POLR2IE   POLR2IF   POLR2IG   POLR2IH   POLR2II   POLR2IJ   POLR2IK   POLR2IL   POLR2IM   POLR2IN   POLR2IO   POLR2IP   POLR2IQ   POLR2IR   POLR2IS   POLR2IT   POLR2IU   POLR2IV   POLR2IW   POLR2IX   POLR2IY   POLR2IZ   POLR2JA   POLR2JB   POLR2JC   POLR2JD   POLR2JE   POLR2JF   POLR2JG   POLR2JH   POLR2JI   POLR2JJ   POLR2JK   POLR2JL   POLR2JM   POLR2JN   POLR2JO   POLR2JP   POLR2JQ   POLR2JR   POLR2JS   POLR2JT   POLR2JU   POLR2JV   POLR2JW   POLR2JX   POLR2JY   POLR2JZ   POLR2KA   POLR2KB   POLR2KC   POLR2KD   POLR2KE   POLR2KF   POLR2KG   POLR2KH   POLR2KI   POLR2KJ   POLR2KL   POLR2KM   POLR2KN   POLR2KO   POLR2KP   POLR2KQ   POLR2KR   POLR2KS   POLR2KT   POLR2KU   POLR2KV   POLR2KW   POLR2KX   POLR2KY   POLR2KZ   POLR2LA   POLR2LB   POLR2LC   POLR2LD   POLR2LE   POLR2LF   POLR2LG   POLR2LH   POLR2LI   POLR2LJ   POLR2LK   POLR2LL   POLR2LM   POLR2LN   POLR2LO   POLR2LP   POLR2LQ   POLR2LR   POLR2LS   POLR2LT   POLR2LU   POLR2LV   POLR2LW   POLR2LX   POLR2LY   POLR2LZ   POLR2MA   POLR2MB   POLR2MC   POLR2MD   POLR2ME   POLR2MF   POLR2MG   POLR2MH   POLR2MI   POLR2MJ   POLR2MK   POLR2ML   POLR2MN   POLR2MO   POLR2MP   POLR2MQ   POLR2MR   POLR2MS   POLR2MT   POLR2MU   POLR2MV   POLR2MW   POLR2MX   POLR2MY   POLR2MZ   POLR2NA   POLR2NB   POLR2NC   POLR2ND   POLR2NE   POLR2NF   POLR2NG   POLR2NH   POLR2NI   POLR2NJ   POLR2NK   POLR2NL   POLR2NM   POLR2NO   POLR2NP   POLR2NQ   POLR2NR   POLR2NS   POLR2NT   POLR2NU   POLR2NV   POLR2NW   POLR2NX   POLR2NY   POLR2NZ   POLR2OA   POLR2OB   POLR2OC   POLR2OD   POLR2OE   POLR2OF   POLR2OG   POLR2OH   POLR2OI   POLR2OJ   POLR2OK   POLR2OL   POLR2OM   POLR2ON   POLR2OO   POLR2OP   POLR2OQ   POLR2OR   POLR2OS   POLR2OT   POLR2OU   POLR2OV   POLR2OW   POLR2OX   POLR2OY   POLR2OZ   POLR2PA   POLR2PB   POLR2PC   POLR2PD   POLR2PE   POLR2PF   POLR2PG   POLR2PH   POLR2PI   POLR2PJ   POLR2PK   POLR2PL   POLR2PM   POLR2PN   POLR2PO   POLR2PP   POLR2PQ   POLR2PR   POLR2PS   POLR2PT   POLR2PU   POLR2PV   POLR2PW   POLR2PX   POLR2PY   POLR2PZ   POLR2QA   POLR2QB   POLR2QC   POLR2QD   POLR2QE   POLR2QF   POLR2QG   POLR2QH   POLR2QI   POLR2QJ   POLR2QK   POLR2QL   POLR2QM   POLR2QN   POLR2QO   POLR2QP   POLR2QQ   POLR2QR   POLR2QS   POLR2QT   POLR2QU   POLR2QV   POLR2QW   POLR2QX   POLR2QY   POLR2QZ   POLR2RA   POLR2RB   POLR2RC   POLR2RD   POLR2RE   POLR2RF   POLR2RG   POLR2RH   POLR2RI   POLR2RJ   POLR2RK   POLR2RL   POLR2RM   POLR2RN   POLR2RO   POLR2RP   POLR2RQ   POLR2RR   POLR2RS   POLR2RT   POLR2RU   POLR2RV   POLR2RW   POLR2RX   POLR2RY   POLR2RZ   POLR2SA   POLR2SB   POLR2SC   POLR2SD   POLR2SE   POLR2SF   POLR2SH   POLR2SI   POLR2SJ   POLR2SK   POLR2SL   POLR2SM   POLR2SN   POLR2SO   POLR2SP   POLR2SQ   POLR2SR   POLR2SS   POLR2ST   POLR2SU   POLR2SV   POLR2SW   POLR2SX   POLR2SY   POLR2SZ   POLR2TA   POLR2TB   POLR2TC   POLR2TD   POLR2TE   POLR2TF   POLR2TG   POLR2TH   POLR2TI   POLR2TJ   POLR2TK   POLR2TL   POLR2TM   POLR2TN   POLR2TO   POLR2TP   POLR2TQ   POLR2TR   POLR2TS   POLR2TT   POLR2TU   POLR2TV   POLR2TW   POLR2TX   POLR2TY   POLR2TZ   POLR2UA   POLR2UB   POLR2UC   POLR2UD   POLR2UE   POLR2UF   POLR2UG   POLR2UH   POLR2UI   POLR2UJ   POLR2UK   POLR2UL   POLR2UM   POLR2UN   POLR2UO   POLR2UP   POLR2UQ   POLR2UR   POLR2US   POLR2UT   POLR2UU   POLR2UV   POLR2UW   POLR2UX   POLR2UY   POLR2UZ   POLR2VA   POLR2VB   POLR2VC   POLR2VD   POLR2VE   POLR2VF   POLR2VG   POLR2VH   POLR2VI   POLR2VJ   POLR2VK   POLR2VL   POLR2VM   POLR2VN   POLR2VO   POLR2VP   POLR2VQ   POLR2VR   POLR2VS   POLR2VT   POLR2VU   POLR2VV   POLR2VW   POLR2VX   POLR2VY   POLR2VZ   POLR2WA   POLR2WB   POLR2WC   POLR2WD   POLR2WE   POLR2WF   POLR2WG   POLR2WH   POLR2WI   POLR2WJ   POLR2WK   POLR2WL   POLR2WM   POLR2WN   POLR2WO   POLR2WP   POLR2WQ   POLR2WR   POLR2WS   POLR2WT   POLR2WU   POLR2WV   POLR2WW   POLR2WX   POLR2WY   POLR2WZ   POLR2XA   POLR2XB   POLR2XC   POLR2XD   POLR2XE   POLR2XF   POLR2XG   POLR2XH   POLR2XI   POLR2XJ   POLR2XK   POLR2XL   POLR2XM   POLR2XN   POLR2XO   POLR2XP   POLR2XQ   POLR2XR   POLR2XS   POLR2XT   POLR2XU   POLR2XV   POLR2XW   POLR2XX   POLR2XY   POLR2XZ   POLR2YA   POLR2YB   POLR2YC   POLR2YD   POLR2YE   POLR2YF   POLR2YG   POLR2YH   POLR2YI   POLR2YJ   POLR2YK   POLR2YL   POLR2YM   POLR2YN   POLR2YO   POLR2YP   POLR2YQ   POLR2YR   POLR2YS   POLR2YT   POLR2YU   POLR2YV   POLR2YW   POLR2YX   POLR2YY   POLR2YZ   POLR2ZA   POLR2ZB   POLR2ZC   POLR2ZD   POLR2ZE   POLR2ZF   POLR2ZG   POLR2ZH   POLR2ZI   POLR2ZJ   POLR2ZK   POLR2ZL   POLR2ZM   POLR2ZN   POLR2ZO   POLR2ZP   POLR2ZQ   POLR2ZR   POLR2ZS   POLR2ZT   POLR2ZU   POLR2ZV   POLR2ZW   POLR2ZX   POLR2ZY   POLR2ZZ | 1.8 | 0.125 |
| GRAHAM_CML_QUIESCENCE_VS_CML_DIVIDING_UP                                                                                             | ANXAS   CCL19   CCL20   CCL8   CRHBP   CXCL1   CXCL3   CXCL2   CXCL3   CXCL5   CXCL6   EMP1   HIST1H2AC   IL1B   IL8   JUN   NFAT5   PCDH9   RGS1   SOD2   TNFSF4   ZBTB10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.8 | 0.125 |
| TRANSLATION_INITIATION_FACTOR_ACTIVITY                                                                                               | COP55   EIF2B1   EIF2B2   EIF2B3   EIF2B4   EIF2B5   EIF2C1   EIF2F1   EIF2F2   EIF2F3   EIF4A2   EIF4B   EIF4E   EIF4G1   EIF4G2   EIF5A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.8 | 0.125 |
| ROETH_TERT_TARGETS_DN                                                                                                                | CCR1   CCR2   CCR5   CLEC2B   CRIM1   CXCR6   GZMK   SPTBN1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1.8 | 0.125 |
| HEME_METABOLIC_PROCESS                                                                                                               | ALAD   ALAS1   ALAS2   BLVRA   COX10   COX15   CPOX   FECH   NFE2L1   PPOX   TSP0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.8 | 0.125 |
| WILENSKY_RESPONSE_TO_DARAPLADIB                                                                                                      | ARRB2   BIN2   CCL5   CCR1   CCR2   CD4   CD48   CD68   CH3L1   CTSS   CXCR3   CYBB   DENND2D   EVI2A   EVI2B   GM2A   HLA-DMA   HMOX1   IL1A   LAIR1   LTBR   MMP9   NCF1   NPL   PLA2G7   PLAUR   PTAFR   UCP2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.8 | 0.25  |
| REACTOME_FORMATION_OF_THE_HIV1_EARLY_ELONGATION_COMPLEX                                                                              | CNNH   CDK7   COBRRA1   CTDP1   ERCC2   ERCC3   GTF2F1   GTF2F2   GTF2H1   GTF2H2   GTF2H3   GTF2H4   MNAT1   NCBP1   NCBP2   POLR2A   POLR2B   POLR2C   POLR2D   POLR2E   POLR2F   POLR2G   POLR2H   POLR2I   POLR2J   POLR2K   POLR2L   POLR2M   POLR2N   POLR2O   POLR2P   POLR2Q   POLR2R   POLR2S   POLR2T   POLR2U   POLR2V   POLR2W   POLR2X   POLR2Y   POLR2Z   POLR2AA   POLR2AB   POLR2AC   POLR2AD   POLR2AE   POLR2AF   POLR2AG   POLR2AH   POLR2AI   POLR2AJ   POLR2AK   POLR2AL   POLR2AM   POLR2AN   POLR2AO   POLR2AP   POLR2AQ   POLR2AR   POLR2AS   POLR2AT   POLR2AU   POLR2AV   POLR2AW   POLR2AX   POLR2AY   POLR2AZ   POLR2BA   POLR2BB   POLR2BC   POLR2BD   POLR2BE   POLR2BF   POLR2BG   POLR2BH   POLR2BI   POLR2BJ   POLR2BK   POLR2BL   POLR2BM   POLR2BN   POLR2BO   POLR2BP   POLR2BQ   POLR2BR   POLR2BS   POLR2BT   POLR2BU   POLR2BV   POLR2BW   POLR2BX   POLR2BY   POLR2BZ   POLR2CA   POLR2CB   POLR2CC   POLR2CD   POLR2CE   POLR2CF   POLR2CG   POLR2CH   POLR2CI   POLR2CJ   POLR2CK   POLR2CL   POLR2CM   POLR2CN   POLR2CO   POLR2CP   POLR2CQ   POLR2CR   POLR2CS   POLR2CT   POLR2CU   POLR2CV   POLR2CW   POLR2CX   POLR2CY   POLR2CZ   POLR2DA   POLR2DB   POLR2DC   POLR2DD   POLR2DE   POLR2DF   POLR2DG   POLR2DH   POLR2DI   POLR2DJ   POLR2DK   POLR2DL   POLR2DM   POLR2DN   POLR2DO   POLR2DP   POLR2DQ   POLR2DR   POLR2DS   POLR2DT   POLR2DU   POLR2DV   POLR2DW   POLR2DX   POLR2DY   POLR2DZ   POLR2EA   POLR2EB   POLR2EC   POLR2ED   POLR2EE   POLR2EF   POLR2EG   POLR2EH   POLR2EI   POLR2EJ   POLR2EK   POLR2EL   POLR2EM   POLR2EN   POLR2EO   POLR2EP   POLR2EQ   POLR2ER   POLR2ES   POLR2ET   POLR2EU   POLR2EV   POLR2EW   POLR2EX   POLR2EY   POLR2EZ   POLR2FA   POLR2FB   POLR2FC   POLR2FD   POLR2FE   POLR2FG   POLR2FH   POLR2FI   POLR2FJ   POLR2FK   POLR2FL   POLR2FM   POLR2FN   POLR2FO   POLR2FP   POLR2FQ   POLR2FR   POLR2FS   POLR2FT   POLR2FU   POLR2FV   POLR2FW   POLR2FX   POLR2FY   POLR2FZ   POLR2GA   POLR2GB   POLR2GC   POLR2GD   POLR2GE   POLR2GF   POLR2GG   POLR2GH   POLR2GI   POLR2GJ   POLR2GK   POLR2GL   POLR2GM   POLR2GN   POLR2GO   POLR2GP   POLR2GQ   POLR2GR   POLR2GS   POLR2GT   POLR2GU   POLR2GV   POLR2GW   POLR2GX   POLR2GY   POLR2GZ   POLR2HA   POLR2HB   POLR2HC   POLR2HD   POLR2HE   POLR2HF   POLR2HG   POLR2HH   POLR2HI   POLR2HJ   POLR2HK   POLR2HL   POLR2HM   POLR2HN   POLR2HO   POLR2HP   POLR2HQ   POLR2HR   POLR2HS   POLR2HT   POLR2HU   POLR2HV   POLR2HW   POLR2HX   POLR2HY   POLR2HZ   POLR2IA   POLR2IB   POLR2IC   POLR2ID   POLR2IE   POLR2IF   POLR2IG   POLR2IH   POLR2II   POLR2IJ   POLR2IK   POLR2IL   POLR2IM   POLR2IN   POLR2IO   POLR2IP   POLR2IQ   POLR2IR   POLR2IS   POLR2IT   POLR2IU   POLR2IV   POLR2IW   POLR2IX   POLR2IY   POLR2IZ   POLR2JA   POLR2JB   POLR2JC   POLR2JD   POLR2JE   POLR2JF   POLR2JG   POLR2JH   POLR2JI   POLR2JJ   POLR2JK   POLR2JL   POLR2JM   POLR2JN   POLR2JO   POLR2JP   POLR2JQ   POLR2JR   POLR2JS   POLR2JT   POLR2JU   POLR2JV   POLR2JW   POLR2JX   POLR2JY   POLR2JZ   POLR2KA   POLR2KB   POLR2KC   POLR2KD   POLR2KE   POLR2KF   POLR2KG   POLR2KH   POLR2KI   POLR2KJ   POLR2KL   POLR2KM   POLR2KN   POLR2KO   POLR2KP   POLR2KQ   POLR2KR   POLR2KS   POLR2KT   POLR2KU   POLR2KV   POLR2KW   POLR2KX   POLR2KY   POLR2KZ   POLR2LA   POLR2LB   POLR2LC   POLR2LD   POLR2LE   POLR2LF   POLR2LG   POLR2LH   POLR2LI   POLR2LJ   POLR2LK   POLR2LL   POLR2LM   POLR2LN   POLR2LO   POLR2LP   POLR2LQ   POLR2LR   POLR2LS   POLR2LT   POLR2LU   POLR2LV   POLR2LW   POLR2LX   POLR2LY   POLR2LZ   POLR2MA   POLR2MB   POLR2MC   POLR2MD   POLR2ME   POLR2MF   POLR2MG   POLR2MH   POLR2MI   POLR2MJ   POLR2MK   POLR2ML   POLR2MN   POLR2MO   POLR2MP   POLR2MQ   POLR2MR   POLR2MS   POLR2MT   POLR2MU   POLR2MV   POLR2MW   POLR2MX   POLR2MY   POLR2MZ   POLR2NA   POLR2NB   POLR2NC   POLR2ND   POLR2NE   POLR2NF   POLR2NG   POLR2NH   POLR2NI   POLR2NJ   POLR2NK   POLR2NL   POLR2NM   POLR2NO   POLR2NP   POLR2NQ   POLR2NR   POLR2NS   POLR2NT   POLR2NU   POLR2NV   POLR2NW   POLR2NX   POLR2NY   POLR2NZ   POLR2OA   POLR2OB   POLR2OC   POLR2OD   POLR2OE   POLR2OF   POLR2OG   POLR2OH   POLR2OI   POLR2OJ   POLR2OK   POLR2OL   POLR2OM   POLR2ON   POLR2OO   POLR2OP   POLR2OQ   POLR2OR   POLR2OS   POLR2OT   POLR2OU   POLR2OV   POLR2OW   POLR2OX   POLR2OY   POLR2OZ   POLR2PA   POLR2PB   POLR2PC   POLR2PD   POLR2PE   POLR2PF   POLR2PG   POLR2PH   POLR2PI   POLR2PJ   POLR2PK   POLR2PL   POLR2PM   POLR2PN   POLR2PO   POLR2PP   POLR2PQ   POLR2PR   POLR2PS   POLR2PT   POLR2PU   POLR2PV   POLR2PW   POLR2PX   POLR2PY   POLR2PZ   POLR2QA   POLR2QB   POLR2QC   POLR2QD   POLR2QE   POLR2QF   POLR2QG   POLR2QH   POLR2QI   POLR2QJ   POLR2QK   POLR2QL   POLR2QM   POLR2QN   POLR2QO   POLR2QP   POLR2QQ   POLR2QR   POLR2QS   POLR2QT   POLR2QU   POLR2QV   POLR2QW   POLR2QX   POLR2QY   POLR2QZ   POLR2RA   POLR2RB   POLR2RC   POLR2RD   POLR2RE   POLR2RF   POLR2RG   POLR2RH   POLR2RI   POLR2RJ   POLR2RK   POLR2RL   POLR2RM   POLR2RN   POLR2RO   POLR2RP   POLR2RQ   POLR2RR   POLR2RS   POLR2RT   POLR2RU   POLR2RV   POLR2RW   POLR2RX   POLR2RY   POLR2RZ   POLR2SA   POLR2SB   POLR2SC   POLR2SD   POLR2SE   POLR2SF   POLR2SH   POLR2SI   POLR2SJ   POLR2SK   POLR2SL   POLR2SM   POLR2SN   POLR2SO   POLR2SP   POLR2SQ   POLR2SR   POLR2SS   POLR2ST   POLR2SU   POLR2SV   POLR2SW   POLR2SX   POLR2SY   POLR2SZ   POLR2TA   POLR2TB   POLR2TC   POLR2TD   POLR2TE   POLR2TF   POLR2TG   POLR2TH   POLR2TI   POLR2TJ   POLR2TK   POLR2TL   POLR2TM   POLR2TN   POLR2TO   POLR2TP   POLR2TQ   POLR2TR   POLR2TS   POLR2TT   POLR2TU   POLR2TV   POLR2TW   POLR2TX   POLR2TY   POLR2TZ   POLR2UA   POLR2UB   POLR2UC   POLR2UD   POLR2UE   POLR2UF   POLR2UG   POLR2UH   POLR2UI   POLR2UJ   POLR2UK   POLR2UL   POLR2UM   POLR2UN   POLR2UO   POLR2UP   POLR2UQ   POLR2UR   POLR2US   POLR2UT   POLR2UU   POLR2UV   POLR2UW   POLR2UX   POLR2UY   POLR2UZ   POLR2VA   POLR2VB   POLR2VC   POLR2VD   POLR2VE   POLR2VF   POLR2VG   POLR2VH   POLR2VI   POLR2VJ   POLR2VK   POLR2VL   POLR2VM   POLR2VN   POLR2VO   POLR2VP   POLR2VQ   POLR2VR   POLR2VS   POLR2VT   POLR2VU   POLR2VV   POLR2VW   POLR2VX   POLR2VY   POLR2VZ   POLR2WA   POLR2WB   POLR2WC   POLR2WD   POLR2WE   POLR2WF   POLR2WG   POLR2WH   POLR2WI   POLR2WJ   POLR2WK   POLR2WL   POLR2WM   POLR2WN   POLR2WO   POLR2WP   POLR2WQ   POLR2WR   POLR2WS   POLR2WT   POLR2WU   POLR2WV   POLR2WW   POLR2WX   POLR2WY   POLR2WZ   POLR2XA   POLR2XB   POLR2XC   POLR2XD   POLR2XE   POLR2XF   POLR2XG   POLR2XH   POLR2XI   POLR2XJ   POLR2XK   POLR2XL   POLR2XM   POLR2XN   POLR2XO   POLR2XP   POLR2XQ   POLR2XR   POLR2XS   POLR2XT   POLR2XU   POLR2XV   POLR2XW   POLR2XX   POLR2XY   POLR2XZ   POLR2YA   POLR2YB   POLR2YC   POLR2YD   POLR2YE   POLR2YF   POLR2YG   POLR2YH   POLR2YI   POLR2YJ   POLR2YK   POLR2YL   POLR2YM   POLR2YN   POLR2YO   POLR2YP   POLR2YQ   POLR2YR   POLR2YS   POLR2YT   POLR2YU   POLR2YV   POLR2YW   POLR2YX   POLR2YY   POLR2YZ   POLR2ZA   POLR2ZB   POLR2ZC   POLR2ZD   POLR2ZE   POLR2ZF   POLR2ZG   POLR2ZH   POLR2ZI   POLR2ZJ   POLR2ZK   POLR2ZL   POLR2ZM   POLR2ZN   POLR2ZO   POLR2ZP   POLR2ZQ   POLR2ZR   POLR2ZS   POLR2ZT   POLR2ZU   POLR2ZV   POLR2ZW   POLR2ZX   POLR2ZY   POLR2ZZ                                                                | 1.8 | 0.125 |
| ACTIVATION_OF_NF_KAPPA_B_TRANSCRIPTION_FACTOR                                                                                        | BCL10   CAMK2A   EDA   EDA2R   ERC1   IKKBK   MAP3K13   NPM1   PRDX3   PRKCG   PYCARD   RELA   TNF   UBE2N   UBE2V1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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| BANDRES_RESPONSE_TO_CARMUSTIN_MGMT_24HR_UP                                                                                           | ECM2   FNTA   GDI1   SMARCD1   SMPD2   SNAPC1   SNAPC3   SNRPB2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| CHESLER_BRAIN_D6MIT150_QTL_CIS                                                                                                       | A2M   APOBEC1   ITPR1   OGG1   PHC1   RHO   SLC6A1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| REACTOME_MRNA_DECAY_BY_3_TO_5_EXORIBONUCLEASE                                                                                        | DCPS   EXOSC1   EXOSC2   EXOSC4   EXOSC5   EXOSC7   EXOSC8   EXOSC9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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| HISTONE_DEACETYLASE_BINDING                                                                                                          | BCOR   HDAC6   RAD9A   SIRT2   TOP2A   TOP2B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.8 | 0.125 |
| CHEN_ETV5_TARGETS_SERTOLI                                                                                                            | ANGPTL2   ARID3B   ARSB   C1QB   CCL7   CD36   CD53   CLEC7A   CXCL12   CXCL6   FCGR2A   FCGR2B   GCG   GGNMB   IL6   KIAA1199   MMP12   PLEK   THBD   XIST                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| TURJANSKI_MAPK7_TARGETS                                                                                                              | CREB1   ELK4   ETS1   FOS   FOSL1   MEFA2   MEFC2   MYC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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| REACTOME_MTORC1_MEDIATED_SIGNALLING                                                                                                  | EIF4B   EIF4E   EIF4EBP1   EIF4G1   RHEB   RPS6   RPS6KB1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| BIOCARTA_AKAP95_PATHWAY                                                                                                              | AKAP8   CCN81   DDX5   PPP1CA   PPP2CA   PRKACB   PRKACG   PRKAG1   PRKAR2A   PRKAR2B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1.8 | 0.375 |
| MITOCHONDRIAL_RESPIRATORY_CHAIN                                                                                                      | BCSL1   COX15   NDUFA1   NDUFA13   NDUFA2   NDUFA6   NDUFA9   NDUFAF1   NDUFB6   NDUFS1   NDUFS2   NDUFS3   NDUFS4   NDUFS7   NDUFS8   NDUFV1   NNT   OXA1L   SDHA   SURF1   UQCRR   UQCRC1   UQCRRH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| MODULE_56                                                                                                                            | ADA   ADK   APRT   GART   GMPs   HPRT1   IMPDH2   PAICS   PRPS1   PRPS2   TYMS   UMPs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| KEGG_GLYCOSAMINOGLYCAN_BIOSYNTHESIS_KERATAN_SULFATE                                                                                  | B3GNT1   B3GNT2   B4GALT1   B4GALT2   B4GALT3   B4GALT4   CHST1   CHST2   CHST4   FUT8   ST3GAL1   ST3GAL2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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| REACTOME_BASE_FREE_SUGAR_PHOSPHATE_REMOVAL_VIA_THE_SINGLE_NUCLEOTIDE_REPLACE                                                         | APEX1   MBD4   MFG   MUTYH   NTHL1   OGG1   POLB   SMUG1   TDG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| MENT_PATHWAY                                                                                                                         | AFM   AFP   CHIC2   DCUN1D4   FIP1L1   KDR   KIT   SPP1   SRP72   ST13   STATH   USP46                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.8 | 0.375 |
| chr4q11                                                                                                                              | ADAM10   AES   APC   APH1A   APH1B   AXIN1   CCND1   CREBBP   CSNK1A1   CSNK2A1   CTBP1   CTNNB1   DKK1   DKK2   DVL1   FBXW11   FOS   FRAT1   FZD1   GSK3B   HDAC1   JUN   KREMEN2   LRP6   MAP3K7   MAPK1   MAPK3   MYC   NCSTN   NEDD4   NLK   NOTCH1   PPARD   PPP2R5D   PSEN1   PSENEN   TLE1   WIF1   WNT1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| REACTOME_P75NTR_SIGNALS_VIA_NFKB                                                                                                     | IKKBK   IRAK1   MYD88   NFKBIA   NGFR   PRKCI   RELA   RIPK2   RPS27A   SQSTM1   TRAF6   UBA52                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| ATGCACG_MIR-517B                                                                                                                     | CAMK2G   ERCC2   LEMD3   MEIS2   MORF4L1   MORF4L2   NR4A3   NRXN1   PHF20   PRDM8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| REACTOME_PURINE_METABOLISM                                                                                                           | ADA   ADK   ADSL   ADSS   AMPD1   AMPD2   AMPD3   APRT   ATIC   CAT   DCK   DGUOK   GART   GMPR   GMPR2   GMPs   GPX1   HPRT1   IMPDH1   IMPDH2   NTS1   NTS2   NTSE   PAICS   PFAS   PPAT   XDH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.8 | 0.125 |
| ZHENG_FOXP3_TARGETS_DN                                                                                                               | GPD2   PDE3B   SPTBN1   TBC1D4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.8 | 0.125 |
| MODULE_42                                                                                                                            | NDUFA1   NDUFA2   NDUFA3   NDUFA4   NDUFA5   NDUFA6   NDUFA7   NDUFA9   NDUFAF1   NDUFB1   NDUFB3   NDUFB5   NDUFB7   NDUFB8   NDUFB9   NDUFS1   NDUFS2   NDUFS3   NDUFS4   NDUFS5   NDUFS6   NDUFS8   NDUFV1   NDUFV2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.8 | 0.125 |
| BIOCARTA_MTA3_PATHWAY                                                                                                                | ALDOA   CDH1   CTSD   ESR1   GAPDH   HDAC1   HSPB1   HSPB2   MBD3   MTA1   PDZK1   SNAI1   SNAI2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.8 | 0.125 |
| CHEOK_RESPONSE_TO_MERCAPTOPYRIMIDINE_AND_HD_MTX_UP                                                                                   | PIK3R3   PLS1   POLR3C   PTPRG   TERF1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.8 | 0.125 |
| IKEDA_MIR133_TARGETS_DN                                                                                                              | ASPH   BTBD3   MEFC2   PPP1R3A   PRKX1   PUM2   RB1CC1   USP32                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.8 | 0.125 |
| AGTGGT_MIR-521                                                                                                                       | H0XB6   NCDN   TNRC6B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1.8 | 0.125 |
| ER_TO_GOLGI_VESICLE_MEDIATED_TRANSPORT                                                                                               | BET1   ERGIC2   ERGIC3   GOSR2   LMAN1   LMAN2L   NRBP1   SEC22A   SEC22B   STX18   YKT6   ZW10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1.8 | 0.125 |
| WANG_RESPONSE_TO_BEX                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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|                                                                             |                                                                                                                                                                                                                                                                                                                                          |     |       |
|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| PHESSE_TARGETS_OF_APC_AND_MBD2_UP                                           | AMIGO2   ATP5A1   CACNA2D1   CCL24   CLUNT1   HLA-DRA   ITPR2   PYCARD   RAF1                                                                                                                                                                                                                                                            | 1.8 | 0.125 |
| PROTEIN_PHOSPHATASE_TYPE_2A_REGULATOR_ACTIVITY                              | EIF2AK2   IGBP1   PPM1E   PPP2R1A   PPP2R2A   PPP2R2B   PPP2R3A   PPP2R3B   PPP2R4   PPP2R5A   PPP2R5B   PPP2R5D   PPP2R5E   SET                                                                                                                                                                                                         | 1.8 | 0.125 |
| REACTOME_PURINE_CATABOLISM                                                  | CAT   GPX1   NT5C   NT5C2   NT5E   XDH                                                                                                                                                                                                                                                                                                   | 1.8 | 0.25  |
| BIOCARTA_IL5_PATHWAY                                                        | CCL11   CCR3   CD4   HLA-DRA   HLA-DRB1   IL1B   IL4   IL5   IL5RA   IL6                                                                                                                                                                                                                                                                 | 1.8 | 0.25  |
| CARDOSO_RESPONSE_TO_GAMMA_RADIATION_AND_3AB                                 | ANKX3   ARHGAP17   BNIIP2   C14orf2   COLQ   CSAD   CSNK1A1   DDX3V   DENND4C   DPAGT1   FEN1   GSTT2   MED31   MPG   SATB1                                                                                                                                                                                                              | 1.8 | 0.25  |
| HAEGERSTRAND_RESPONSE_TO_IMATINIB                                           | AEBP1   COL15A1   COL1A1   CREB1   CXCL12   FXYP1   ITGA8   PDGFRB   PTGFR                                                                                                                                                                                                                                                               | 1.8 | 0.125 |
| chr3q12                                                                     | ABI3BP   CAG   CD200   CLDN1   CPDX   DCBLD2   FAM55C   IMPG2   LOC285359   NIT2   NR112   PCNP   RPL24   SENP7   ST3GAL6   TMEM45A   TOMM70A   ZBTB11                                                                                                                                                                                   | 1.8 | 0.375 |
| REACTOME_RNA_POL_III_TRANSCRIPTION_TERMINATION                              | LZT51   NFIB   POLR1C   POLR1B   POLR2E   POLR2F   POLR2H   POLR2K   POLR2L   POLR3B   POLR3C   POLR3D   POLR3E   POLR3F   POLR3K   SSB                                                                                                                                                                                                  | 1.8 | 0.125 |
| MYLLYKANGAS_AMPLIFICATION_HOT_SPOT_9                                        | COX6C   FGFR1   PCM1   PLAG1   TCEA1   WHSC1L1   WRN                                                                                                                                                                                                                                                                                     | 1.8 | 0.125 |
| OZEN_MIR125B1_TARGETS                                                       | ABCC4   ATXN1   CASC3   CBF8   EIF4EBP1   GTPBP2   KCNS3   LYPLA2   MKNK2   PLEKHA8   PPAT   SEL1L   SLC7A1   SLC7A6   SMARCD2   STAT3                                                                                                                                                                                                   | 1.7 | 0.125 |
| PID_DNAPK_PATHWAY                                                           | APTX   CSNK2A1   CSNK2A2   CSNK2B   DCLRE1C   DNNT   LIG4   NHEJ1   PNKP   POLL   POLM   PRKDC   XRCXA   XRCX5   XRCX6                                                                                                                                                                                                                   | 1.7 | 0.125 |
| chr5p12                                                                     | CSorf28   FBXO4   NNT   PAIP1   PRKAA1   ZNF131                                                                                                                                                                                                                                                                                          | 1.7 | 0.125 |
| BIOPOLYMER_BIOSYNTHETIC_PROCESS                                             | DYRK2   EEF1A1   GCK   GYG2   GYS2   TSFM   TUFM                                                                                                                                                                                                                                                                                         | 1.7 | 0.125 |
| PID_P38ALPHABETADOWNSTREAMPATHWAY                                           | ATF1   ATF2   ATF6   CREB8   CREB1   CSNK2A1   CSNK2A2   CSNK2B   DDIT3   EIF4E   EIF4EBP1   ELK4   ESR1   GDI1   HBP1   HSPB1   JUN   KRT19   KRT8   MAPK11   MAPK14   MAPKAPK2   MAPKAPK3   MAPKAPK5   ME2A   ME2C   MITF   MNKN1   PLA2GAA   PPARGC1A   PTGS2   RAB5A   RPS6KA4   RPS6KA5   SLC9A1   TP53                             | 1.7 | 0.25  |
| MEISSNER_ES_ICP_WITH_H3K4ME3                                                | ATP6V1G2   CAPN1   COL6A2   EPPK1   FAM3A   GDAPI1L1   KCNIP2   LRRC48   LSG1   MPI   NOSIP   PAK6   PRPF31   RAB13   RBM4   RPL19   SHANK2   STOML1   TBC1D22B   TLR2                                                                                                                                                                   | 1.7 | 0.125 |
| OXIDOREDUCTASE_ACTIVITY_ACTING_ON_PEROXIDE_AS_ACCEPTOR                      | CAT   EPX   GPX2   GPX3   GPX4   GSTZ1   MGST3   MPO   PRDX2   PRDX4                                                                                                                                                                                                                                                                     | 1.7 | 0.125 |
| TURIJANSKI_MAPK8_AND_MAPK9_TARGETS                                          | ATF2   ELK1   ELK3   HSF1   JUN   JUND   NFATC3   TP53                                                                                                                                                                                                                                                                                   | 1.7 | 0.25  |
| BIOCARTA_PITX2_PATHWAY                                                      | APC   AXIN1   CREBBP   CTNNB1   DVL1   EP300   FZD1   GSK3B   HDAC1   LD81   LEF1   PITX2   TRRAP   WNT1                                                                                                                                                                                                                                 | 1.7 | 0.125 |
| ZAIDI_OSTEOBLAST_TRANSCRIPTION_FACTORS                                      | ATF4   CTNNB1   DLX5   FOS   FOSL2   JUN   JUND   MSK1   MSX2   NFATC1   RUNX2                                                                                                                                                                                                                                                           | 1.7 | 0.5   |
| BIOCARTA_GLEEVEC_PATHWAY                                                    | AKT1   BAD   BCR   CRKL   FOS   GRB2   HRAS   JAK2   JUN   MAP2K1   MAP2K4   MAP3K1   MAPK3   MAPK8   MYC   PIK3CA   PIK3CG   PIK3R1   RAF1   SOS1   STAT1   STAT5A   STAT5B                                                                                                                                                             | 1.7 | 0.125 |
| REACTOME_P75NTR_RECRUITS_SIGNALING_COMPLEXES                                | IKKB8   IRAK1   MYD88   NGRF   PRK1   RIPK2   RPS27A   SQSTM1   TRAF6   UBA52                                                                                                                                                                                                                                                            | 1.7 | 0.125 |
| PID_INSULIN_PATHWAY                                                         | AKT1   AKT2   CAV1   CBL   CRK   CDK1   EIF4EBP1   EXOC1   EXOC2   EXOC3   EXOC4   EXOC5   EXOC7   F2RL2   GRB10   GRB14   GRB2   HRAS   INPP5D   INS   INSR   IRS1   NCK1   NCK2   PARDA6   PDPK1   PIK3CA   PIK3R1   PRKCI   PRKC2   PTPN1   PTPN11   PTPRA   RAPGEF1   RASA1   RHOQ   RPS6KB1   SH2B2   SHC1   SORBS1   SOS1   TRIP10 | 1.7 | 0.125 |
| REACTOME_CALNEXIN_CALRETICULIN_CYCLE                                        | CALR   CANX   EDEM1   EDEM2   EDEM3   GANAB   MAN1B1   PDIA3   PRKCSH                                                                                                                                                                                                                                                                    | 1.7 | 0.125 |
| REACTOME_N_GLYCAN_TRIMMING_IN_THE_ER_AND_CALNEXIN_CALRETICULIN_CYCLE        | CALR   CANX   EDEM1   EDEM2   EDEM3   GANAB   MAN1B1   PDIA3   PRKCSH                                                                                                                                                                                                                                                                    | 1.7 | 0.125 |
| REACTOME_KERATAN_SULFATE_BIOSYNTHESIS                                       | B3GNT1   B3GNT2   B3GNT3   B3GNT4   B4GALT1   B4GALT2   B4GALT3   B4GALT4   B4GALT5   B4GALT6   CHST1   CHST2   CHST5   FMOD   KERA   LUM   OGN   OMD   PRELP   ST3GAL1   ST3GAL2   ST3GAL6                                                                                                                                              | 1.7 | 0.125 |
| MODULE_82                                                                   | CYB561D2   SUMO1   TSG101   UBA2   UBE2A   UBE2B   UBE2D1   UBE2D2   UBE2D3   UBE2E1   UBE2G1   UBE2H   UBE2I   UBE2L6   UBE2M   UBE2N   UBE2S   UBE2V1   UBE2V2   UBE3C   UBE4A   UBL4A                                                                                                                                                 | 1.7 | 0.25  |
| CHEN_HOXAS_TARGETS_6HR_DN                                                   | CD24   FDX1   NPTXR   PRPF31                                                                                                                                                                                                                                                                                                             | 1.7 | 0.25  |
| GCM_FANCL                                                                   | ANKRD17   CRNKL1   DMTF1   FANCL   IKKBAP   KIAA0907   LARS   NAB1   REPIN1   SS18L1   ZMYM2                                                                                                                                                                                                                                             | 1.7 | 0.125 |
| CALVET_IRINOTECAN_SENSITIVE_VS_RESISTANT_DN                                 | CASP10   CDH2   IGFBP2   TFG                                                                                                                                                                                                                                                                                                             | 1.7 | 0.375 |
| HAHTOLA_MYCOSIS_FUNGOIDES_UP                                                | CA2   GOS2   HBD   HIST1H2BK   HIST1H3H   HIST2H2BE   IL1RA5   MMP9   S100P   SEC14L1   SNCA   SOD2   STAT1   TMEM111   TMEM140   TOP1   TSC22D1   YWHAE                                                                                                                                                                                 | 1.7 | 0.25  |
| PHOSPHOINOSITIDE_BIOSYNTHETIC_PROCESS                                       | CD81   DPM1   DPM2   DPM3   GPA1   IMPA1   PIGA   PIGB   PIGC   PIGF   PIGG   PIGH   PIGK   PIGO   PIGT   PIGV   PIGZ   PIK3C2A                                                                                                                                                                                                          | 1.7 | 0.125 |
| ZHANG_GATA6_TARGETS_UP                                                      | AQP4   CD36   DSC2   FABP4   FUT9   GSTO1   MAOB   METTL7A   POF1B   RPL17   TESC                                                                                                                                                                                                                                                        | 1.7 | 0.125 |
| REACTOME_ACTIVATION_OF_THE_AP1_FAMILY_OF_TRANSCRIPTION_FACTORS              | ATF2   FOS   JUN   MAPK1   MAPK10   MAPK11   MAPK14   MAPK3   MAPK8   MAPK9                                                                                                                                                                                                                                                              | 1.7 | 0.125 |
| INTEGRAL_TO_ENDOPLASMIC_RETICULUM_MEMBRANE                                  | AMFR   BNIIP1   BSLC2   CLN3   DERL1   DERL2   DHRS9   DOLPP1   DPM3   EDEM1   ERN1   EXT1   GPA1   PIGK   PIGT   RTN1   RTN4   SPC51   STIM1                                                                                                                                                                                            | 1.7 | 0.125 |
| INTRINSIC_TO_ENDOPLASMIC_RETICULUM_MEMBRANE                                 | AMFR   BNIIP1   BSLC2   CLN3   DERL1   DERL2   DHRS9   DOLPP1   DPM3   EDEM1   ERN1   EXT1   GPA1   PIGK   PIGT   RTN1   RTN4   SPC51   STIM1                                                                                                                                                                                            | 1.7 | 0.125 |
| chr4q12                                                                     | CENPC1   CEP135   CLOCK   CXCL5   EXOC1   GC   HTN1   HTN3   IGFBP7   KIT   NMU   PDGFRA   PF4   PF4V1   POLR2B   PPAT   PPBP   RASL11B   REST   SGC8   SPINK2   TMEM165   USP46                                                                                                                                                         | 1.7 | 0.125 |
| REACTOME_CONVERSION_FROM_APC_C_CD20_TO_APC_C_CDH1_IN_LATE_ANAPHASE          | ANAPC1   ANAPC10   ANAPC2   ANAPC5   CDC14A   CDC16   CDC20   CDC23   CDC27   UBE2C   UBE2D1   UBE2E1                                                                                                                                                                                                                                    | 1.7 | 0.125 |
| MOSERLE_IFNA_RESPONSE                                                       | CXCL10   DD5X8   GBP1   HERCS   IFI16   IFI44   IFI44L   IFI1H1   IFIT1   IFIT2   IFIT3   IFIT5   IFITM1   MX1   OAS1   OAS2   OASL   RSAD2   RTP4   SAMD9   STAT1   TNFSF10   TRIM22   USP18   ZC3HAV1                                                                                                                                  | 1.7 | 0.5   |
| HOLLEMAN_DAUNORUBICIN_ALL_UP                                                | CHD4   DUSP2   EIF2B4   ICAM4   KCNN4   MTX2   SLC11A1                                                                                                                                                                                                                                                                                   | 1.7 | 0.125 |
| GNF2_PRDX2                                                                  | ADD2   ALAD   AMMECR1   ANK1   BLVRB   CA1   CA2   CTSE   GATA1   GLCM   GLRX5   GYPC   HBD   HBQ1   HDGF   HEBP1   HMBS   KEL   KLF1   MINPP1   PPOX   PRDX2   RHAG   SPTB   TAL1   TFRC   UROD   XK                                                                                                                                    | 1.7 | 0.375 |
| CAFFAREL_RESPONSE_TO_THC_UP                                                 | ASNS   CDKN1B   EMP1   EXOC2   FNTA   HERPUD1   HIST1H2AC   IMPA1   IPO7   KCMF1   MCCC1   MYC   NUCB2   RAB5A   RPS2   SERINC1   SHMT2   SLC3A2   TFRC   TGF83   USP3   YY1AP1   ZFP36L1   ZNF451                                                                                                                                       | 1.7 | 0.125 |
| REACTOME_BRANCHED_CHAIN_AMINO_ACID_CATABOLISM                               | ACAD8   ACADS8   ACAT1   ALDH6A1   AUH   BCAT1   BCAT2   BCKDHA   BCKDHB   DBT   DLD   HIBADH   HIBCH   IVD   MCCC1   MCCC2                                                                                                                                                                                                              | 1.7 | 0.125 |
| OXFORD_RALA_AND_RALB_TARGETS_DN                                             | CLU   COL4A1   COL5A1   HCFIC1R1   HSPG2   IGFBP3   RABGAP1L   SH3BGR1   TGFBI                                                                                                                                                                                                                                                           | 1.7 | 0.125 |
| HESSON_TUMOR_SUPPRESSOR_CLUSTER_3P21_3                                      | CACNA2D2   CYB561D2   HYAL2   RASSF1   TMEM115   ZMYND10                                                                                                                                                                                                                                                                                 | 1.7 | 0.375 |
| REACTOME_REGULATORY_RNA_PATHWAYS                                            | DGCR8   DICER1   EIF2C1   EIF2C2   EIF2C3   EIF2C4   POLR2A   POLR2B   POLR2C   POLR2D   POLR2E   POLR2F   POLR2G   POLR2H   POLR2I   POLR2J   POLR2K   POLR2L   RAN   TARBP2   TNRC6B                                                                                                                                                   | 1.7 | 0.125 |
| REACTOME_ASSOCIATION_OF_TRIC_CCT_WITH_TARGET_PROTEINS_DURING_BIOSYNTHESIS   | ARGFE2   CCT2   CCT3   CCT4   CCT5   CCT6A   CCT7   CCT8   FBXL5   FBXO4   FBXW2   FBXW4   FBXW7   FKBP9   KIF13A   KIFC3   SPHK1   TCP1   USP11                                                                                                                                                                                         | 1.7 | 0.125 |
| BIERIE_INFLAMMATORY_RESPONSE_TGFB1                                          | CCL20   CXCL1   CXCL6   MYC   PTGS2                                                                                                                                                                                                                                                                                                      | 1.7 | 0.375 |
| chr19p                                                                      | AZU1   DNMT2   RPS15   ZNF44                                                                                                                                                                                                                                                                                                             | 1.7 | 0.125 |
| POSITIVE_REGULATION_OF_CELL_ADHESION                                        | ALOX12   AZU1   CD47   CDH13   CDK6   CX3CL1   IL12A   IL12B   PRSS2   SAA1   SIRPG   TGM2   TSC1                                                                                                                                                                                                                                        | 1.7 | 0.125 |
| TURIJANSKI_MAPK14_TARGETS                                                   | ATF2   DDIT3   ELK1   ELK4   FOS   ME2FA   ME2FC   STAT4   TP53   TP73                                                                                                                                                                                                                                                                   | 1.7 | 0.25  |
| FATTY_ACID_OXIDATION                                                        | ACADM   ACADS   ACADVL   ADIPOR1   ADIPOR2   ALOX12   BDN2   CPT1A   CPT1B   ECH1   ECHS1   HADHB   HAO1   HAO2   PPARA   PPARD   PPARGC1A                                                                                                                                                                                               | 1.7 | 0.125 |
| TCGATGG_MIR-213                                                             | AGPAT4   APP   GANAB   MAX   SATB2                                                                                                                                                                                                                                                                                                       | 1.7 | 0.125 |
| DOUBLE_STRANDED_RNA_BINDING                                                 | ADARB2   APTX   DICER1   EIF2AK2   ILF2   ILF3   LRRFIP1   MBNL1   OASL   STAU1   STAU2   TARBP2   TLR3   TLR7   TLR8                                                                                                                                                                                                                    | 1.7 | 0.125 |
| NAGY_TFT_COMPONENTS_HUMAN                                                   | ADA   ATXN7   CDCD101   SAP130   SUPT3H   SUPT7L   TAF10   TAF12   TAF2   TAF4   TAF5   TAFSL   TAF6   TAF6L   TAF9   TRRAP                                                                                                                                                                                                              | 1.7 | 0.125 |
| OVULATION_CYCLE                                                             | BMP1R1B   EIF2B2   EIF2B4   EIF2B5   EREG   FOXL2   SOD1   SPRR2B   SPRR2C                                                                                                                                                                                                                                                               | 1.7 | 0.125 |
| WU_APOPTOSIS_BY_CDKN1A_NOT_VIA_TP53                                         | CDC5   CENPF   CYR61   F9   HSPA1B   MYBL2   SMPD4   SPAG5   SSPN   VEZT   ZNF629                                                                                                                                                                                                                                                        | 1.7 | 0.375 |
| PHOSPHOLIPID_BIOSYNTHETIC_PROCESS                                           | AGPAT1   AGPAT2   APOA1   CD81   CHPT1   DGKE   DPM1   DPM2   DPM3   ETKN1   FADS1   GPA1   IMPA1   LCAT   PCYT1B   PCYT2   PEMT   PG51   PIGA   PIGB   PIGC   PIGF   PIGH   PIGK   PIGO   PIGT   PIGV   PIGZ   PIK3C2A                                                                                                                  | 1.7 | 0.125 |
| REACTOME_SYNTHESIS_OF_PA                                                    | AGPAT1   AGPAT2   AGPAT3   AGPAT4   AGPAT5   GNPAT   GPD1   GPD1L   PLA2G10   PLA2G12A   PLA2G1B   PLA2G2A   PLA2G2D   PLA2G2E   PLA2G2F   PLA2G4A   PLA2G5   PLD1   PLD2                                                                                                                                                                | 1.7 | 0.125 |
| DEFENSE_RESPONSE_TO_VIRUS                                                   | APOBEC3F   APOBEC3G   BCL2   BNIIP3   BNIP3L   PTPRC   RSAD2   TARBP2   TLR7   TLR8                                                                                                                                                                                                                                                      | 1.7 | 0.125 |
| GLYCEROPHOSPHOLIPID_BIOSYNTHETIC_PROCESS                                    | AGPAT1   AGPAT2   APOA1   CD81   DPM1   DPM2   DPM3   GPA1   IMPA1   LCAT   PCYT1B   PEMT   PIGA   PIGB   PIGC   PIGF   PIGG   PIGH   PIGK   PIGO   PIGT   PIGV   PIGZ   PIK3C2A                                                                                                                                                         | 1.7 | 0.125 |
| SH3_DOMAIN_BINDING                                                          | AB1   ADAM15   ADAM9   CD2AP   CD3E   ELMO1   EVL   GPX1   MAPT   MICAL1   PTPN12   RAD9A                                                                                                                                                                                                                                                | 1.7 | 0.25  |
| GALACTOSYLTRANSFERASE_ACTIVITY                                              | AGALT   B3GALT1   B3GALT2   B3GALT4   B3GALT5   B4GALT1   B4GALT2   B4GALT3   B4GALT4   B4GALT5   B4GALT6   B4GALT7   C1GALT1   ITGA2B   UGT8                                                                                                                                                                                            | 1.7 | 0.125 |
| WAESCH_ANAPHASE_PROMOTING_COMPLEX                                           | ANAPC1   ANAPC5   APC2   CDC16   CDC20   CDC23   CDC27   CDH1   CDK2AP1                                                                                                                                                                                                                                                                  | 1.7 | 0.125 |
| ONGUSAHA_BRCA1_TARGETS_DN                                                   | ANKRD1   ARHGAP5   CCL7   CDK8   DUSP12   LYLPA1   MAPKAPK2   SCEL   SMARCA5   TPR   VAMP3   ZNF638                                                                                                                                                                                                                                      | 1.7 | 0.25  |
| SIALYLTRANSFERASE_ACTIVITY                                                  | ST3GAL1   ST3GAL2   ST3GAL4   ST3GAL5   ST3GAL6   ST6GAL1   ST8SIA2                                                                                                                                                                                                                                                                      | 1.7 | 0.25  |
| BIOCARTA_RARRXR_PATHWAY                                                     | ERC3   GTF2A1   GTF2B   GTF2E1   GTF2F1   HDAC3   NCOA1   NCOA2   NCOA3   NCOR2   POLR2A   RARA   RXRA   TBP                                                                                                                                                                                                                             | 1.7 | 0.125 |
| MODULE_81                                                                   | BZM1   EIF1   EIF4A1   EIF4A2   EIF4B   EIF4EBP1   EIF4G1   EIF4G2   EIF5A   HSPB1                                                                                                                                                                                                                                                       | 1.7 | 0.125 |
| chr3p26                                                                     | ARL8B   BRP1   CHL1   CNTN6   CRBN   EDEM1   GRM7   IL5RA   ITPR1   LMC1D1   OGG1   SETMAR   SLC6A6                                                                                                                                                                                                                                      | 1.7 | 0.25  |
| REACTOME_POST_TRANSLATIONAL_MODIFICATION_SYNTHESIS_OF_GPI_ANCHORED_PROTEINS | PLM1   DPM2   DPM3   GPA1   PGA1   PIGA   PIGB   PIGC   PIGF   PIGG   PIGH   PIGK   PIGL   PIGN   PIGO   PIGP   PIGQ   PIGT   PIGV   PIGW   SEMA6D                                                                                                                                                                                       | 1.7 | 0.125 |
| PROTEIN_IMPORT_INTO_NUCLEUS_TRANLOCATION                                    | AKT1   BCL3   BCL6   CEP57   F2   F2R   GLI3   KPNB1   TNF   TNPO1   ZFYVE9                                                                                                                                                                                                                                                              | 1.7 | 0.125 |
| BILANGES_SERUM_SENSITIVE_VIA_TSC1                                           | DOB1   DUSP4   EGR1   GNAI1   GRB14   GREM2   JUNB   KCTD15   KRT84   MEKX1   MFAP4   NNAT   PHLDA1   RND3   SLC22A6   TAC1   TBL2   UTP6                                                                                                                                                                                                | 1.7 | 0.125 |
| FATTY_ACID_BETA_OXIDATION                                                   | ACADM   ACADS   ACADVL   BDH2   CPT1A   CPT1B   ECH1   ECHS1   HADHB   PPARA   PPARD                                                                                                                                                                                                                                                     | 1.7 | 0.125 |
| DAMAGED_DNA_BINDING                                                         | APTX   DDB1   DDB2   ERCC1   ERCC4   FANCG   FEN1   MPG   MSH2   MSH3   MSH6   OGG1   POLH   POLQ   TDG   XPA   XPC                                                                                                                                                                                                                      | 1.7 | 0.125 |
| REACTOME_SYNTHESIS_OF_BILE_ACIDS_AND_BILE_SALTS_VIA_24_HYDROXYCHOLESTEROL   | AKR1C4   AKR1D1   AMACR   CYP27A1   CYP39A1   CYP46A1   SLC27A2   SLC27A5                                                                                                                                                                                                                                                                | 1.7 | 0.25  |
| MYLLYKANGAS_AMPLIFICATION_HOT_SPOT_27                                       | ACSL6   APC   ARHGAP26   FLT4   LIFR   NPM1   NSD1   PDGFRB   RANBP17   TLX3                                                                                                                                                                                                                                                             | 1.7 | 0.125 |
| PEROXISOME_ORGANIZATION_AND_BIOGENESIS                                      | ABCD3   AGKT   FIS1   PEX1   PEX12   PEX13   PEX14   PEX19   PEX26   PEX3   PEX6   PEX7   VP54B                                                                                                                                                                                                                                          | 1.7 | 0.125 |
| MARIAADASON_RESPONSE_TO_CURCUMIN_SUUNDAC_5                                  | ACADS   ADK   ATF4   BTF3   CKS1B   DNAJA4   EIF2C2   FUS   IFT1   INPP5A   LAD1   MBTD1   ME1   MLH1   PCBP2   PSMB5   SMPD1   STC2   TARS   XBP1   XPOT                                                                                                                                                                                | 1.7 | 0.25  |
| KEGG_PROANOATE_METABOLISM                                                   | ABAT   ACACA   ACACB   ACADM   ACAT1   ACAT2   ALDH1B1   ALDH2   ALDH3A2   ALDH6A1   ALDH7A1   ALDH9A1   ECHS1   EHHA1   HADHA   HIBCH   LDHA   LDHAL6B   LDHB   LDHC   MLYCD   MUT   PCCA   PCEB   SLC12A2   SLC12A3   SLC12G                                                                                                           | 1.7 | 0.125 |
| BANDRES_RESPONSE_TO_CARMUSTIN_WITHOUT_MGMT_24HR_UP                          | AVPR1A   CD80   ECM2   EEF1G   EIF2B1   GDI1   GNAHRH   SMARCD1   SMPD2   SNAPC1   SNAPC3   SNRPB2   STS                                                                                                                                                                                                                                 | 1.7 | 0.25  |
| BYSTRYKH_SCP2_QTL                                                           | KIF1C   MPO   PSMB6                                                                                                                                                                                                                                                                                                                      | 1.7 | 0.125 |

|                                                                                 |                                                                                                                                                                                                                               |     |       |
|---------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| HEDENFALK_BREAST_CANCER_BRACK_DN                                                | ARHGEF7   BANP   CASD1   CEPT1   DLEU2   EHD1   EP300   EVIS   FKBP8   FTCD   HP55   METAP2   MLLT4   NAP1L1   PRPF6   SVIL   SYNCRIP                                                                                         | 1.7 | 0.125 |
| TRANSCRIPTION_INITIATION                                                        | BRF1   CDK7   CDK9   E2F2   E2F3   GTF2E1   GTF2E2   GTF2F1   GTF2F2   GTF2I   GTF3C4   MAZ   MED12   MED4   NCOA6   PPARGC1A   PTRF   R5F1   SMARCA5   SNAPC5   TAF2   TAF5   TBP   THRAP3                                   | 1.7 | 0.125 |
| BIOCARTA_MTOR_PATHWAY                                                           | AKT1   EIF4A1   EIF4A2   EIF4B   EIF4E   EIF4EBP1   EIF4G1   EIF4G2   EIF4G3   FKBP1A   MKNK1   PKD2   PDPK1   PIK3CA   PIK3R1   PPP2CA   PTEN   RPS6   RPS6KB1   TSC1   TSC2                                                 | 1.7 | 0.125 |
| NIKOLSKY_BREAST_CANCER_19Q13.4_AMPLICON chr6p25                                 | NDUFA3   PRPF31   TFPT                                                                                                                                                                                                        | 1.7 | 0.125 |
| REACTOME_NFKB_ACTIVATION_THROUGH_FADD_RIP1_PATHWAY_MEDIATED_BY_CASPASE_8_AN D10 | BPHL   C6orf145   CDYL   DUSP22   EXOC2   FAR52   FOXF2   GMD5   IRF4   NEDD9   NQO2   NRN1   RIPK1   RPP40   RREB1   SERPINB1   SERPINB6   SERPINB9   TMEM14B   TUBB2A   TUBB2B   WRNIP1                                     | 1.7 | 0.25  |
| CLAUS_PGR_POSITIVE_MENINGIOMA_UP chr9p22                                        | CASP10   CASP8   CHUK   DDX58   FADD   IFIH1   IKKB   IKKG   RIPK1   TRIM25                                                                                                                                                   | 1.7 | 0.5   |
| PIEPOLI_LG1_TARGETS_DN                                                          | FAT4   KIAA1109   NDUFA6   PEX11A   SERPINB1   SLC24A3   SNRPD3                                                                                                                                                               | 1.7 | 0.125 |
| KEGG_FOLATE_BIOSYNTHESIS                                                        | BNC2   C9orf150   DENND4C   GLDC   IFNA1   IFNA10   IFNA13   IFNA14   IFNA16   IFNA17   IFNA2   IFNA21   IFNA4   IFNA5   IFNA6   IFNA7   IFNA8   IFNB1   IFNW1   KHLH9   MLLT3   PSIP1   SH3GL2   SLC24A2   SNAPC3   TOPORS   | 1.7 | 0.25  |
| REACTOME_MICRORNA_MIRNA_BIOGENESIS                                              | CHRNA6   CTAG2   FUT4   HSD11B1   ID2   IL13RA2   ITSN1   MMP3   SIM2   TNN13   ZIC3   ZNF266   ZNF415                                                                                                                        | 1.7 | 0.25  |
| BIOCARTA_IL10_PATHWAY                                                           | ALPI   ALPL   ALPP   ALPPL2   DHFR   FPG5   GCH1   GGH   PTS   QDPR   SPR                                                                                                                                                     | 1.7 | 0.125 |
|                                                                                 | DGCR8   DICER1   EIF2C1   EIF2C2   EIF2C3   EIF2C4   POLR2A   POLR2B   POLR2C   POLR2D   POLR2E   POLR2F   POLR2G   POLR2H   POLR2I   POLR2J   POLR2K   POLR2L   RAN   TARBP2                                                 | 1.7 | 0.125 |
|                                                                                 | BLVR4   BLVRB   HMOX1   IL10   IL10RA   IL10RB   IL1A   IL6   JAK1   STAT1   STAT2   STAT3   STAT4   STAT5A   STAT5B   STAT6   TNF                                                                                            | 1.7 | 0.375 |
| BIOCARTA_RELA_PATHWAY                                                           | CHUK   CREBBP   EP300   FADD   HDAC3   IKKB   IKKG   NFKB1   NFKBIA   RELA   RIPK1   TNF   TNFRSF1A   TNFRSF1B   TRADD   TRAF6                                                                                                | 1.7 | 0.125 |
| GRAHAM_CML_QUIESCENT_VS_NORMAL_DIVIDING_DN                                      | AIF1   C3orf14   GZMB   HLA-DQA1   HLA-DQB1   IGI   MPO   PLS3   PROM1   SORL1   SPINK2                                                                                                                                       | 1.7 | 0.25  |
| FRASOR_TAMOXIFEN_RESPONSE_DN                                                    | ABAT   DNAJC12   EHD4   GALNT6   GCSH   MEGF9   MYLIP   NAT9   PDCD4   SOX9   STS                                                                                                                                             | 1.7 | 0.125 |
| MEISSNER_BRAIN_ICP_WITH_H3K4ME3                                                 | ATPVG1G2   CAPN1   COL6A2   CORO1A   FAM3A   GDAP1L1   KNP12   LRRCA4   LSG1   MPI   NOSIP   PAK6   PAK7   PRPF31   RAB13   RBM4   RPL19   SHANK2   STOML1   TBC1D22B                                                         | 1.7 | 0.125 |
| HISTONE_DEACETYLASE_COMPLEX                                                     | GATAD2A   HDAC1   HDAC11   HDAC2   HDAC3   HDAC4   HDAC5   HDAC6   HDAC9   PHF21A   SAP18   SAP30   TAF6L                                                                                                                     | 1.7 | 0.125 |
| GCM_DEAF1                                                                       | DCUN1D4   DDHD2   DEAF1   DNAJB14   FBXO9   FBXW11   FOXJ2   G3BP2   GPR107   GPR153   HERC2   KIAA1109   MAPKBIP3   MOAP1   NAGP   RAB14   RAPGEF2   TMEM30A   TRIM44   UBQLN2   USP33                                       | 1.7 | 0.125 |
| NAGY_PCAF_COMPONENTS_HUMAN                                                      | SUPT3H   TAF10   TAF12   TAF5L   TAF6L   TAF9   TRRAP                                                                                                                                                                         | 1.7 | 0.25  |
| STONER_ESOPHAGEAL_CARCINOGENESIS_DN                                             | C21orf33   HMMR   PALD1   RAB1F   RBBP6   SRRM1                                                                                                                                                                               | 1.7 | 0.125 |
| REACTOME_PLATELET_SENSITIZATION_BY_LDL                                          | APOB   FGR   LRP8   MAPK14   PECAM1   PLA2G4A   PPP2CA   PPP2CB   PPP2R1A   PPP2R1B   PPP2R5A   PPP2R5B   PPP2R5C   PPP2R5D   PPP2R5E   PTPN6                                                                                 | 1.7 | 0.25  |
| MODULE_360                                                                      | DNASE1   DNASE1L1   DNASE1L3   FEN1   NTHL1   OGG1   PPP1R8   RNASE1   RNASE2   RNASE3   RNASE4   RNASE6   RNASEH1   RNASEH2A                                                                                                 | 1.7 | 0.25  |
| VERNELL_RETINOBLASTOMA_PATHWAY_DN                                               | CCND1   CITED2   CPA4   CTGF   DCTN4   DYNLRB1   EHD3   FAM86B1   GPRC5A   HIST2H2BE   ITGB8   NMD3   PPF1B1   SERPINE1   SH3BP4   TOB2   ZNF614                                                                              | 1.7 | 0.25  |
| WENDT_COHESIN_TARGETS_UP                                                        | AGTPBP1   AKAP2   ALCAM   ASPH   ATG5   CAST   ELF2   FUT8   GOLGA8A   JMD1C   MEF2A   MKLN1   OXR1   PFDN4   PIK3R3   PLEKHA5   PTK2   RND3   STK3   TLK2   TNPO1   TOP2B   USP25   YOD1                                     | 1.7 | 0.125 |
| PID_ANTHRAXPATHWAY                                                              | ANTXR1   CASP1   IL18   IL1B   MAP2K1   MAP2K2   MAP2K3   MAP2K4   MAP2K6   MAP2K7   MAPK1   MAPK3   PGR   TNF   VCAM1                                                                                                        | 1.7 | 0.125 |
| PID_IL2_STAT5PATHWAY                                                            | BCL2   BCL2L1   CCNA2   CCND2   CCND3   CDK6   ELF1   FASLG   FOXP3   GAB2   GRB2   IL2   IL2RA   IL2RB   IL2RG   IL4   JAK1   JAK3   LCK   LTA   MYC   PIK3CA   PIK3R1   PRF1   PTPN11   SHC1   SOS1   SP1   STAT5A   STAT5B | 1.6 | 0.125 |
| MEINHOLD_OVARIAN_CANCER_LOW_GRADE_UP                                            | BTBD2   C16orf45   CAST   CDKN1A   CLDN10   CTNNA1   EIF3   KIF13B   MUC5B   PARP4   PLXNB2   RIMBP2   RPL19   S100A10   STGALNAC2   TPT1   TSPAN3                                                                            | 1.6 | 0.25  |
| AMINOPEPTIDASE_ACTIVITY                                                         | ANPEP   BLMH   C9orf3   ENPEP   LNPEP   METAP1   METAP2   NPEPPS   TPP1   TRHDE   XPNPEP1                                                                                                                                     | 1.6 | 0.125 |
| GOUYER_TATI_TARGETS_UP                                                          | ANPEP   CCL2   ID2   IL8   LCN2   PLD1   PRKCA   TFF3   TNF   ZBTB16                                                                                                                                                          | 1.6 | 0.125 |
| BIOCARTA_IL2_PATHWAY                                                            | CSNK2A1   ELK1   FOS   GRB2   HRAS   IL2   IL2RA   IL2RB   IL2RG   JAK1   JAK3   JUN   LCK   MAP2K1   MAPK3   MAPK8   RAF1   SHC1   SOS1   STAT5A   STAT5B   SYK                                                              | 1.6 | 0.125 |
| chr2p14                                                                         | AAK1   AFTPH   CEP68   EMX1   GCA   KBTBD10   MEI5   NRXN1   PEX13   R3HDM1   RAB1A   RTN4   SPR   SPRED2   STAM2   UGP2                                                                                                      | 1.6 | 0.25  |
| TRANSCRIPTION_INITIATION_FROM_RNA_POLYMERASE_II_PROMOTER                        | CDK7   CDK9   E2F2   E2F3   GTF2E1   GTF2E2   GTF2F1   GTF2F2   GTF2I   MAZ   MED12   MED4   NCOA6   PPARGC1A   TAF2   TAF5   TBP   THRAP3                                                                                    | 1.6 | 0.125 |
| VIRAL_GENOME_REPLICATION                                                        | POBEC3F   APOBEC3G   CCL2   CCL3   CCL4   CTBP1   CTBP2   CXCR6   DEK   EIF5A   HBXIP   HTATSF1   IL8   OPRK1   PPIA   SMARCB1   TARBP2   TNIP1   TOP2A   UBP1   VAPB                                                         | 1.6 | 0.125 |
| FUNG_IL2_TARGETS_WITH_STAT5_BINDING_SITES_T1                                    | CCL3   CCR6   IL13   IL5   IL9   IRF4   MYC   TNFRSF11B   ZBED2                                                                                                                                                               | 1.6 | 0.25  |
| HINATA_NFKB_MATRIX                                                              | ARGHDIA   C9   FN1   KRT7   MMP1   MMP14   RAC1   RND3   SERPINB2   SERPINE1                                                                                                                                                  | 1.6 | 0.375 |
| NEGATIVE_REGULATION_OF_HYDROLASE_ACTIVITY                                       | ANGPTL3   ANGPTL4   APOA2   ATP1F1   BIRC5   CDKN2D   DHC24   DNAJB6   GPX1   HBXIP   IFI6   PPP2R4   SFN   TNNT2                                                                                                             | 1.6 | 0.375 |
| REACTOME_ACTIVATED_TAK1_MEDIATES_P38_MAPK_ACTIVATION                            | IKBK6   IRAK1   MAP2K3   MAP2K6   MAP3K7   MAPK11   MAPK14   MAPKAPK2   MAPKAPK3   RIPK2   TRAF6                                                                                                                              | 1.6 | 0.125 |
| MODULE_4                                                                        | CYB5D12   SUMO1   UBE2A   UBE2B   UBE2D1   UBE2D2   UBE2D3   UBE2E1   UBE2G1   UBE2H   UBE2I   UBE2L6   UBE2M   UBE2N   UBE2S   UBE2V1   UBE2V2   UBE4A   UBL4A                                                               | 1.6 | 0.25  |
| BUDHU_LIVER_CANCER_METASTASIS_UP                                                | ANXA1   CSF1   HLA-DPA1   HLA-DRA   IL10   IL15   IL4   IL5   IL8                                                                                                                                                             | 1.6 | 0.25  |
| CAFFAREL_RESPONSE_TO_THC_8HR_3_DN                                               | ACTR1A   CHD4   ENO1   POLA2   PRP51   PSMD1   RANGAP1   TRAP1                                                                                                                                                                | 1.6 | 0.125 |
| GRADE_COLON_CANCER_DN                                                           | ADAMT51   ATXN2L   CASA   CCR7   CD177   CD36   CNTNAP1   ELK1   EPM2AIP1   GSTCD   HELZ   METTL7A   M5A412   MX1   PLOD2   RNMDSA   SEPP1   SLC4A4   SRP9   SRPX   UNG   USP22                                               | 1.6 | 0.125 |
| KYNG_RESPONSE_TO_H2O2_VIA_ERCC6                                                 | CD34   CKMT2   CRYAB   CTSS   DNAJB1   FLOT2   OAZ2   PLXNA1   RCC1   RPL21   RPL31   RPL7A   TCF3   UNG                                                                                                                      | 1.6 | 0.125 |
| REACTOME_REGULATED_PROTEOLYSIS_OF_P75NTR                                        | ADAM17   APH1A   APH1B   NCSTN   NGFR   PSEN1   PSEN2   PSENEN   RELB   TRAF6                                                                                                                                                 | 1.6 | 0.25  |
| REGULATION_OF_PROTEIN_SECRETION                                                 | ACHE   AGL   APOA1   APOA2   ARFP1   CARD8   CIDEA   CRTAM   DNAJC1   FOXP3   GLMN   INS   PYCARD   SERGEF                                                                                                                    | 1.6 | 0.125 |
| PAL_PRMT5_TARGETS_DN                                                            | CANX   CERNAL   CXB   CNR1   CYR61   EFNB3   FABP4   GATA4   GZMA   IL1A   KLF10   KRT17   LCN2   METTL3   MLLT11   MYT1L   NUPR1   PGK2   PPIE   PVALB   SEL1L   SERPINE1   TCF15   THBD   TOB1   VCAM1                      | 1.6 | 0.375 |
| MATZUK_FERTILIZATION                                                            | BSG   CD81   CD9   PIGA   PLCB1   ZP2   ZP3                                                                                                                                                                                   | 1.6 | 0.375 |
| AMIT_EGF_RESPONSE_240_MCF10A                                                    | AKAP12   B3GNT2   BMP2   DUSP4   EHD4   HERPUD1   INSIG1   ITSN1   MICAL2   PCDH7   PLAU   PTAFR   PTHLH   SLC7A11   SOCS2   STK17A   TGFA   TNFRSF12A                                                                        | 1.6 | 0.375 |
| JU_AGING_TERC_TARGETS_DN                                                        | CCL5   DPP4   IL7   KITLG   PF4                                                                                                                                                                                               | 1.6 | 0.125 |
| REACTOME_REGULATION_OF_HYPOXIA_INDUCIBLE_FACTOR_HIF_BY_OXYGEN                   | ARNT   CA9   CREBBP   CUL2   EGLN1   EGLN2   EGLN3   EP300   EPAS1   EPO   HIF1A   HIF1AN   HIF3A   RBX1   RPS27A   TCEB1   TCEB2   UBA52   UBE2D1   UBE2D2   UBE2D3   VHL                                                    | 1.6 | 0.25  |
| chr3q23                                                                         | BPES1   CLSTN2   COPB2   CP   FAIM   FOXL2   MRPS22   PLS1   PLSCR1   SLC25A36   TFDP2   WWT1   ZBTB38                                                                                                                        | 1.6 | 0.25  |
| GLYCOPROTEIN_CATABOLIC_PROCESS                                                  | ABCG1   ADAMTS9   AGA   APH1A   CLN3   MAN2B1   MGEA5   NCSTN   NGLY1   PSEN1   PSEN2   PSENEH                                                                                                                                | 1.6 | 0.125 |
| HERNANDEZ_MITOTIC_ARREST_BY_DOCETAXEL_2_DN                                      | A2M   CDH1   CDH13   EGLF7   EGR1   FYXO3   GALNT3   ITGB8   MST1R   SCD   SPRY1   TAT   TGFBR3   TNN13K   ZNF232                                                                                                             | 1.6 | 0.125 |
| ATP_DEPENDENT_DNA_HELICASE_ACTIVITY                                             | CHD1   CHD2   CHD3   CHD4   DHX9   RECQL   RUVBL2   XRCC5   XRCC6                                                                                                                                                             | 1.6 | 0.125 |
| REACTOME_ZINC_TRANSPORTERS                                                      | SLC30A1   SLC30A3   SLC30A5   SLC39A1   SLC39A2   SLC39A4   SLC39A6   SLC39A7   SLC39A8                                                                                                                                       | 1.6 | 0.125 |
| MCCABE_HOXG6_TARGETS_CANCER_DN                                                  | AP1M2   ARH1   GTF2H3   IGFBP3   MKK5   MRPL52   OGFOD1   PAK2   PAWR   PLCB3   PSEN1   RAB9A   SPTLC2   SRP14   TBC1D9   TSEN34                                                                                              | 1.6 | 0.125 |
| SAMOLS_TARGETS_OF_KHSV_MIRNAS_UP                                                | CDH11   COCH   GAL   GALNT3   SLC31A1   SOX11   ZNF93                                                                                                                                                                         | 1.6 | 0.125 |
| REACTOME_ERK5_ARE_INACTIVATED                                                   | DUSP3   DUSP4   DUSP6   DUSP7   MAPK1   MAPK3   MAPK7   PPP2CA   PPP2CB   PPP2R1A   PPP2R1B   PPP2R5D                                                                                                                         | 1.6 | 0.25  |
| BIOCARTA_IL7_PATHWAY                                                            | BCL2   CREBBP   EP300   FYN   IL2RG   IL7   IL7R   JAK1   JAK3   LCK   NMI   PIK3CA   PIK3CG   PIK3R1   PTK2B   STAT5A   STAT5B                                                                                               | 1.6 | 0.125 |
| ACUTE_INFLAMMATORY_RESPONSE                                                     | AHSG   APC5   C2   CEBPB   CFHR1   KRT1   LBP   MBL2   ORM1   ORM2   SIGIRR                                                                                                                                                   | 1.6 | 0.25  |
| TRANSCRIPTION_FACTOR_TFID_COMPLEX                                               | EDF1   TAF1   TAF10   TAF11   TAF12   TAF13   TAF2   TAF4   TAF5   TAF6   TAF7   TAF9   TBP                                                                                                                                   | 1.6 | 0.125 |
| GLUTAMINE_FAMILY_AMINO_ACID_METABOLIC_PROCESS                                   | ALDH1B1   ALDH4A1   ARG1   ASL   ASRGL1   DDAH1   DDAH2   GAD1   GAD2   GCLC   GCLM   GLUD1   GLUD2   PYCR1                                                                                                                   | 1.6 | 0.125 |
| PROTEIN_SERINE_THREONINE_PHOSPHATASE_COMPLEX                                    | CYCS   PPP2CA   PPP2CB   PPP2R1A   PPP2R2A   PPP2R3A   PPP2R3B   PPP2R4   PPP3CB                                                                                                                                              | 1.6 | 0.125 |
| REACTOME_NOTCH_HLH_TRANSCRIPTION_PATHWAY                                        | CREBBP   MAML1   MAML3   NOTCH2   NOTCH3   NOTCH4   SNW1                                                                                                                                                                      | 1.6 | 0.25  |
| PROTEOGLYCAN_BIOSYNTHETIC_PROCESS                                               | CHST11   CHST12   CHST3   CHST7   CHST8   EXT1   GLCE   H3S23B1   H5G5T1   NDST1                                                                                                                                              | 1.6 | 0.125 |
| CYTOCHROME_C_OXIDASE_ACTIVITY                                                   | COX10   COX11   COX15   COX4I1   COX5A   COX5B   COX7A1   COX7A2   COX7B   COX8A   CYB5A   SURF1                                                                                                                              | 1.6 | 0.125 |
| REACTOME_P38MAPK_EVENTS                                                         | HRAS   KRAS   MAPK11   MAPK12   MAPK13   MAPK14   MAPKAPK2   MAPKAPK3   NRAS   RALA   RALB   RALGDS   SRC                                                                                                                     | 1.6 | 0.375 |
| GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_GREEN_DN                          | ANKRD11   ART4   ASTE1   BAGALT5   CLUAP1   DUSL2   DYRK2   EHMT2   H1FO   MKD3   NAV1   NFYA   NSD1   NUMA1   PSRC1   RPP25   SERPINB9                                                                                       | 1.6 | 0.125 |
| MOTAMED_RESPONSE_TO_ANDROGEN_DN                                                 | ACHE   ASH1L   BACH2   STIM1                                                                                                                                                                                                  | 1.6 | 0.125 |
| GCM_MAX                                                                         | ABT1   BANF1   CLK4   COPS2   CRBN   CSDE1   DCUN1D1   LARP7   LEMD3   LSM14A   MAX   MYCBP2   NOL11   PCF11   PRPF40A   RBM25   RNFI38   SNAO2   SMG1   STAG2   TARDBP   TCEG1   USPL1                                       | 1.6 | 0.25  |
| NIELSEN_GIST_AND_SYNOVIAL_SARCOMA_DN                                            | ANXA1   C2   CD163   CD4   CSF1R   CTSD   CXCL1   FOLR2   GPNMB   IL10RA   ITGB2   MFAP5   NCF4   NNMT   PLAU   RNASE1   SFRP4   TNAIP6   TYROBP                                                                              | 1.6 | 0.25  |
| chr20p12                                                                        | BMP2   BTBD3   C20orf103   C20orf30   C20orf7   DSTN   GHRH   HAO1   JAG1   MKK5   NXT1   OTOR   PAK7   PLCB1   PLCB4   RNF24   RRPB1   SNAP25   SNRPB2   TASP1                                                               | 1.6 | 0.125 |
| RIBONUCLEASE_ACTIVITY                                                           | ANG   APEX1   DBR1   DICER1   EXO1   EXOSC2   EXOSC7   FEN1   ISG20   POP1   POP4   POP7   PPP1R8   RNASE1   RNASE2   RNASE3   RNASE5   RNASEH1   RNASEH2A   RPP30   RPP38   RPP40                                            | 1.6 | 0.375 |
| SABATES_COLORECTAL_ADENOMA_SIZE_DN                                              | BNIP1   CYSLTR1   GNPTAB   MAOA   MMP28   PDE4D   SYT17   TBX10                                                                                                                                                               | 1.6 | 0.25  |
| MARKS_HDAC_TARGETS_DN                                                           | BCL2   BCL2L1   BIRC5   CCNA2   CCND1   CFLAR   HIF1A   IFNG   IL1B   IL6   STAT5A   TNF   TYMS                                                                                                                               | 1.6 | 0.25  |
| BASE_EXCISION_REPAIR                                                            | APX1   ERC6   HMG81   HMG82   MPG   MSH2   MSH3   MSH6   NTHL1   OGG1   POLG   SMUG1   TDG   TP53   UNG                                                                                                                       | 1.6 | 0.125 |
| REACTOME_THROMBIN_SIGNALLING_THROUGH_PROTEINASE_ACTIVATED_RECEPTORS_PARS        | ARRB1   ARRB2   F2   F2R   F2RL2   GNA11   GNA12   GNA13   GNA14   GNA15   GNAQ   GNB1   GNB2   GNB3   GNB5   GNG10   GNG11   GNG12   GNG13   GNG3   GNG4   GNG5   GNG7   GNGT1   GNGT2   MAPK1   MAPK3   SRC                 | 1.6 | 0.125 |
| KEGG_GLYCOSYLPHOSPHATIDYLINOSITOL_GPI_ANCHOR_BIOSYNTHESIS                       | DPM2   GPA1   GPLD1   PGAP1   PIGA   PIGB   PIGC   PIGF   PIGG   PIGH   PIGK   PIGL   PIGN   PIGO   PIGP   PIGQ   PIGT   PIGV   PIGZ                                                                                          | 1.6 | 0.125 |
| RODRIGUES_THYROID_CARCINOMA_UP                                                  | COPS8   FKBP11   GNAI1   PHYH   RPS23   SDF2L1   SLC16A6                                                                                                                                                                      | 1.6 | 0.25  |



|                                                                           |                                                                                                                                                                                                                                                                                                                                                        |     |       |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| chr14q13                                                                  | CTAGE5   KIAA0391   MBIP   MIA2   NFKBIA   NKX2-8   PSMA6   RPL10L   SAV1   SEC23A   SLC25A21   SNX6   SRP54   SSTR1   STRN3                                                                                                                                                                                                                           | 1.6 | 0.25  |
| KORKOLA_TERATOMA_UP                                                       | A2M   ARHGD1B   CCND2   CLEC2B   CLEC7A   EMP1   ETV6   ITFG2   MGP   PHB2   PTMS   RECQL   SLC2A3   TAPBP1   TNFRSF1A                                                                                                                                                                                                                                 | 1.6 | 0.25  |
| chr6p11                                                                   | ENPP4   HCRTR2   RAB23   ZNF451                                                                                                                                                                                                                                                                                                                        | 1.6 | 0.375 |
| REACTOME_FORMATION_OF_INCISION_COMPLEX_IN_GG_NER                          | CCNH   CDK7   DDB1   DDB2   ERC1   ERCC2   ERCC3   ERCCA   ERCC5   GTF2H1   GTF2H2   GTF2H3   GTF2H4   MNAT1   RAD23B   RPA1   RPA2   RPA3   XPA   XPC                                                                                                                                                                                                 | 1.6 | 0.125 |
| RIBONUCLEOPROTEIN_BINDING                                                 | ETF1   MTIF2   PRPF31   RPS21   SRP9   SRP9   TIMM50                                                                                                                                                                                                                                                                                                   | 1.6 | 0.125 |
| MGOWAN_RSP6_TARGETS_DN                                                    | DIDO1   FBXO38   KIAA1324   SUPT4H1                                                                                                                                                                                                                                                                                                                    | 1.6 | 0.5   |
| BIOCARTA_HCMV_PATHWAY                                                     | AKT1   CREB1   MAP2K1   MAP2K2   MAP2K3   MAP2K6   MAP3K1   MAPK1   MAPK14   MAPK3   NFKB1   PIK3CA   PIK3CG   PIK3R1   RB1   RELA   SP1                                                                                                                                                                                                               | 1.6 | 0.125 |
| GCM_MSIN                                                                  | ABCC1   ARHGAP4   ARHGD1B   ARHGEF1   DDX5   DHX9   DRAP1   EEF1B2   GPSM3   HMGN1   MAPRE1   MSN   PCBP1   PFN1   PSME1   PTGES3   RHOA   SET   SF1   SMARCC1   SPN   TAF9   TRAM1   YWHAZ                                                                                                                                                            | 1.6 | 0.25  |
| GENERAL_RNA_POLYMERASE_II_TRANSCRIPTION_FACTOR_ACTIVITY                   | ABT1   CNOT2   GTF2A1   GTF2B   GTF2F1   GTF2F2   GTF2H1   GTF2I   MED12   MED4   PPARGC1A   TAF11   TAF12   TAF13   TAF1A   TAF1C   TAF4   TAF6   TAF7   TAF9   TBP   TCEA1   THRAP3                                                                                                                                                                  | 1.6 | 0.25  |
| REACTOME_REGULATION_OF_PYRUVATE_DEHYDROGENASE_PDH_COMPLEX                 | DLAT   DLD   PDHA1   PDHB   PDHX   PDK1   PDK2   PDK3   PDK4   PDP1R                                                                                                                                                                                                                                                                                   | 1.6 | 0.125 |
| NUCLEAR_CHROMOSOME_PART                                                   | ACD   ATRX   CBX1   CBX5   ERCC1   ERCC4   H2AFY   H2AFY2   KLHDC3   MCM3   MCM7   NUFIP1   PAM   PURA   RCC1   REPIN1   RPA1   RPA2   RPA3   RPA4   STAG3   TIMELESS   TIPIN   UBE2I                                                                                                                                                                  | 1.6 | 0.125 |
| ONE_CARBON_COMPOUND_METABOLIC_PROCESS                                     | ATF7IP   ATRX   CARM1   DNMT1   DNMT3A   DNMT3B   EHM71   FOS   GATA2AD4   HELLS   ICMT   LCMT1   MAT2B   MPST   NSD1   PCMT1   PICK1   PRMT1   PRMT2   PRMT5   PRMT7   PRMT8   TST   WHSC1L1                                                                                                                                                          | 1.6 | 0.125 |
| COFACTOR_BIOSYNTHETIC_PROCESS                                             | ALAD   ALAS1   ALAS2   COASY   COQ2   COQ3   COQ7   COX10   COX15   CPXO   FECH   GLCL   GLCM   ME1   MOCS2   NFE2L1   PDSS1   PDSS2   PPOX   TSP0   UROS                                                                                                                                                                                              | 1.6 | 0.125 |
| BCAT_BILD_ET_AL_UP                                                        | ACTN4   B4GALT1   BMP4   CALR   CASP4   CD151   CD2BP2   CNOT3   CTSD   CYP24A1   DACH1   DTX2   EEF2   HMG81   ICAM5   M1TCH2   MYL9   NDRG4   PALMD   RPL27A   RPL37A   RP56KA1   SCAMP4   SIRPA   SLC27A2   SLC35C2   ST6GALNAC2   STXB2P   TAGLN   TCF3   WIPI1                                                                                    | 1.6 | 0.125 |
| PHONG_TNF_TARGETS_DN                                                      | HE51   HEY1   HOXA9   ID1   ID2   IVNS1ABP   SNCA   ZNF131                                                                                                                                                                                                                                                                                             | 1.6 | 0.125 |
| CENTROSOME_ORGANIZATION_AND_BIOGENESIS                                    | BBS4   BRCA2   CEP250   CETN1   CETN3   CKAP5   CROCC   NDE1   NPM1   SAC3D1   UXT                                                                                                                                                                                                                                                                     | 1.6 | 0.125 |
| PROTEIN_SECRETION                                                         | ABCA1   ACHB   ANG   APOA1   APOA2   ARFGAP3   ARFIP1   ARL4D   BACE2   CANX   CARD8   CIDEA   CRTAM   DNAJC1   FOXP3   GLMN   INS   LTBP2   PDIA4   PPY   PYCARD   SCG2   SERGEF                                                                                                                                                                      | 1.6 | 0.125 |
| GHO_ATF5_TARGETS_DN                                                       | ACTN4   BTN3A2   CND3   DUSP1   ID1   ITGA2   ITGAS   KIF20A   RND3   RPN1   RRAS   SLC2A1   TMED9   TRIP13   YWHAH                                                                                                                                                                                                                                    | 1.6 | 0.375 |
| RNA_HELICASE_ACTIVITY                                                     | DDX1   DDX10   DDX17   DDX18   DDX21   DDX23   DDX25   DDX3X   DDX43   DDX54   DDX56   DDX6   DHX15   DHX16   DHX38   DHX8   DHX9   RAD54B   SKIV2L   UPF1                                                                                                                                                                                             | 1.6 | 0.125 |
| BIOCARTA_ETS_PATHWAY                                                      | CSF1   CSF1R   E2F1   E2F4   ETS1   ETS2   ETV3   FOS   HDAC2   HDAC5   HRAS   JUN   NCOR2   RBL2   SIN3B                                                                                                                                                                                                                                              | 1.6 | 0.125 |
| YUAN_ZNF143_PARTNERS                                                      | BRD2   CHD8   CREBBP   EDF1   ELP4   EP300   GTF3A1   HAT1   NCOA3   SRCAP   TAF1   TAF5                                                                                                                                                                                                                                                               | 1.6 | 0.5   |
| AGING                                                                     | CDKN2A   KL   LIM51   LDXL2   MORF4   NOX4   NPM1   PDCD4   SOD1   TBX2   TBX3   TP53                                                                                                                                                                                                                                                                  | 1.6 | 0.375 |
| PID_TNFPATHWAY                                                            | ADAM17   BAG4   BIRC2   BIRC3   CASP8   CAV1   CHUK   CYLD   FADD   GNB2L1   IKKBK   IKKBG   MADD   MAP2K3   MAP2K7   MAP3K1   MAP3K3   MAP3K5   MAP3K7   MAP4K2   MAP4K3   MAP4K4   MAP4K5   NFKB1   NSMAF   PRKC1   PRKC2   RELA   RIPK1   SMPD1   SMPD2   SQSTM1   STAT1   TNF   TNFAIP3   TNFRSF1A   TNFRSF1B   TNK1   TRADD   TRAF1   TRAF2   TXN | 1.6 | 0.125 |
| REACTOME_RNA_POL_II_TRANSCRIPTION_INITIATION                              | CCNH   CDK7   EHM72   ERCC2   ERCC3   ERCC6   GTF2H1   GTF2H2   GTF2H3   GTF2H4   MNAT1   POLR1B   POLR1C   POLR1D   POLR2H   POLR2K   RRN3   TAF1A   TAF1B   TAF1C   UBTFF                                                                                                                                                                            | 1.6 | 0.125 |
| TAVOR_CEBPA_TARGETS_DN                                                    | A2M   AKR1B1   CRADD   FXR2   GAL   GATA2   GJA1   GP9   H1FX   ICAM2   IFI27   IFI6   ISG15   ITGB5   KLK11   LYL1   MAP1B   MC1R   MMRN1   MYC   OAS2   PFN2   PLOD2   RIN1   SERPINB1   TBXA51   THBD   TNFSF10                                                                                                                                     | 1.6 | 0.25  |
| BOYALT_LIVER_CANCER_SUBCLASS_G6_DN                                        | CDH1   CMTM6   EIF2C2   GATA6   HE51   INPP1   LDLR   LSR   NUP98   OSBP1   RAB27A   RRBP1   SDC4   SLC20A1   SYT17   TNFSF10   TN51   TRIM15                                                                                                                                                                                                          | 1.6 | 0.125 |
| FARMER_BREAST_CANCER_CLUSTER_6                                            | CYB5E1   DHX40   FTSJ3   MTMR4   POLG2   PPM1D   RAD51C   RNFA43   RP56KB1   SMARCD2   SUPT4H1   TRIM37   TUBD1                                                                                                                                                                                                                                        | 1.6 | 0.125 |
| HISTONE_ACETYLTRANSFERASE_ACTIVITY                                        | BRCA2   CREBBP   EDF1   ELP4   EP300   GTF3A1   HAT1   NCOA3   SRCAP   TAF1   TAF5                                                                                                                                                                                                                                                                     | 1.6 | 0.25  |
| PID_SMDAD_3PATHWAY                                                        | CTDSP1   CTDSP2   CTDSP1   KPN2   KPNB1   MAP3K1   MAPK1   MAPK3   NUP153   NUP214   PIAS4   PPM1A   SMD2   SMD3   SMD4   TGFBRAP1   UBE2I                                                                                                                                                                                                             | 1.6 | 0.25  |
| KEGG_BIOSYNTHESIS_OF_UNSATURATED_FATTY_ACIDS                              | ACAA1   ACOT1   ACOT2   ACOT7   ACOX1   ACOX3   BAAT   ELOVL2   ELOVL5   ELOVL6   FADS1   FADS2   HADHA   HSD17B12   PECR   PTPLA   PTPLB   SCD   SCD5   YOD1                                                                                                                                                                                          | 1.6 | 0.125 |
| MURAKAMI_UV_RESPONSE_1HR_UP                                               | CASP10   CD9   DAPK1   DSG1   KRT1   KRT10   KRT13   KRT14   KRT6B   MAP3K14   MMP17   NME1   NME2   PFDN5   PTPRF   RPSA                                                                                                                                                                                                                              | 1.6 | 0.375 |
| DACOSTA_LOW_DOSE_UV_RESPONSE_VIA_ERCC3_XPCS_DN                            | ACTB   DUSP5   EIF4A1   GAPDH   HSP90AB1   ID1   ID3   SERPINE1                                                                                                                                                                                                                                                                                        | 1.6 | 0.125 |
| LOPEZ_MESOTHELIOMA_SURVIVAL_WORST_VS_BEST_DN                              | CADP52   CF1   CH3L1   FAM117A   HP   RARRES1   STGGAL1                                                                                                                                                                                                                                                                                                | 1.6 | 0.375 |
| REACTOME_DEADENYLATION_OF_MRNA                                            | CNOT2   CNOT3   CNOT4   CNOT6   CNOT7   CNOT8   EIF4A1   EIF4A2   EIF4B   EIF4E   EIF4G1   PABPC1   PAIP1   PARN   RQC1                                                                                                                                                                                                                                | 1.6 | 0.125 |
| BIOCARTA_PTEIN_PATHWAY                                                    | AKT1   CDKN1B   FASLG   GRB2   ILK   ITGB1   MAPK1   MAPK3   PDK2   PDK1   PIK3CA   PIK3R1   PTEN   PTK2   SHC1   SOS1                                                                                                                                                                                                                                 | 1.6 | 0.125 |
| BIOCARTA_ACH_PATHWAY                                                      | AKT1   BAD   CHRN1B   CHRG   FASLG   MUSK   PIK3CA   PIK3CG   PIK3R1   PTK2   PTK2B   RAP5N   SRC   TERT   YWHAH                                                                                                                                                                                                                                       | 1.6 | 0.125 |
| MITOTIC_SISTER_CHROMATID_SEGREGATION                                      | CD23   CENPE   DDX11   ESLP1   KIF25   NUSAP1   PAM   SMC1A   SMC4   ZW10   ZWINT                                                                                                                                                                                                                                                                      | 1.6 | 0.375 |
| CAFFAREL_RESPONSE_TO_THC_8HR_5_UP                                         | BNIP3   C20orf111   CDKN1B   GARS   GOLGB1   ID2   IPO7   JUND   SRRM2   STX5   TES   USP3   ZFP36L1                                                                                                                                                                                                                                                   | 1.6 | 0.25  |
| DNA_DIRECTED_RNA_POLYMERASE_COMPLEX                                       | C19orf7   HCL51   POLR1C   POLR2A   POLR2B   POLR2D   POLR2E   POLR2J   POLR2L   POLR3C   POLR3G   POLR3K   PPARGC1A   ZNF148   ZNF281                                                                                                                                                                                                                 | 1.6 | 0.125 |
| NUCLEAR_DNA_DIRECTED_RNA_POLYMERASE_COMPLEX                               | C19orf2   HCL51   POLR1C   POLR2A   POLR2B   POLR2D   POLR2E   POLR2J   POLR2L   POLR3C   POLR3G   POLR3K   PPARGC1A   ZNF148   ZNF281                                                                                                                                                                                                                 | 1.6 | 0.25  |
| RNA_POLYMERASE_COMPLEX                                                    | C19orf2   HCL51   POLR1C   POLR2A   POLR2B   POLR2D   POLR2E   POLR2J   POLR2L   POLR3C   POLR3G   POLR3K   PPARGC1A   ZNF148   ZNF281                                                                                                                                                                                                                 | 1.6 | 0.25  |
| REACTOME_EARLY_PHASE_OF_HIV_LIFE_CYCLE                                    | BANF1   CCR5   CD4   CXCR4   FEN1   HMGGA1   LIG1   LIG4   PPIA   PSIP1   XRCC4   XRCC5   XRCC6                                                                                                                                                                                                                                                        | 1.6 | 0.125 |
| REACTOME_HORMONE_SENSITIVE_LIPASE_HSL_MEDIATED_TRIACYLGLYCEROL_HYDROLYSIS | ABHD5   CAV1   FABP4   LIPE   MGLL   PPP1CA   PPP1CB   PPP1CC   PRKACA   PRKACB   PRKACG                                                                                                                                                                                                                                                               | 1.6 | 0.125 |
| INTERLEUKIN_1_SECRETION                                                   | ABCA1   APOA1   CARD8   PYCARD                                                                                                                                                                                                                                                                                                                         | 1.6 | 0.125 |
| chr13q31                                                                  | ABCCA   CLDN10   MBNL2   POU4F1   RBM26   SLITRK5   SOX21   STK24                                                                                                                                                                                                                                                                                      | 1.6 | 0.125 |
| BIOCARTA_AKAPCENTROSOME_PATHWAY                                           | AKAP9   MAP2   NUP85   PONT   PKN1   PPP1CA   PPP2CA   PRKACB   PRKACG   PRKAG1   PRKAR2A   PRKAR2B   PRKCE   RHOA                                                                                                                                                                                                                                     | 1.6 | 0.25  |
| BIOCARTA_TALL1_PATHWAY                                                    | CHUK   MAP3K14   MAPK14   MAPK8   NFKB1   RELA   TNFRSF13B   TNFRSF17   TNFSF13   TRAF2   TRAF3   TRAF5   TRAF6                                                                                                                                                                                                                                        | 1.6 | 0.125 |
| DEBOSSCHER_NFKB_TARGETS_REPRESSED_BY_GLUCCORTICOIDS                       | CLL1   CLL13   CLL3   CLL5   EDN1   ICAM1   IL11   IL12A   IL13   IL18   IL1B   IL2   IL3   IL4   IL5   IL6   IL8   IL9   KITLG   PTGS2   SELE   TNF   VCAM1                                                                                                                                                                                           | 1.6 | 0.375 |
| EMBRYONIC_MORPHOGENESIS                                                   | BCL10   CELSR1   CEP290   FTO   GLI2   LMO4   MBNL1   SHH   SOD1   TBX1   TBX3   TBX5   ZIC1                                                                                                                                                                                                                                                           | 1.6 | 0.125 |
| NUCLEAR_SPECK                                                             | DYRK1A   NUAKE2   PRPF31   TIP11   TIMM50   TOPORS   ZBTB16                                                                                                                                                                                                                                                                                            | 1.6 | 0.25  |
| CTACTAG_MIR-325                                                           | ANKRD28   ATP1B1   BAAT   CRK   CSNK1A1   GLRA2   RIMBP2   TMCC1   ZNF654                                                                                                                                                                                                                                                                              | 1.6 | 0.375 |
| BIOCARTA_PS1_PATHWAY                                                      | ADAM17   APC   AXIN1   BTRC   CTNNB1   DVL1   FZD1   GSK3B   NOTCH1   PSEN1   WNT1                                                                                                                                                                                                                                                                     | 1.6 | 0.25  |
| SIGNAL_SEQUENCE_BINDING                                                   | BRE   KDELR1   KDELR2   KPN1A   KPN2   KPN3   KPNB1   NFKBIA   PEX7   SSR1   SSR2   SSR3   TNPO1   TNPO2   TOMM34                                                                                                                                                                                                                                      | 1.6 | 0.125 |
| chr6p                                                                     | BMP5   CDC5L   KIFC1   MOC51   NFYA   POLH   SRF   ZNF323                                                                                                                                                                                                                                                                                              | 1.6 | 0.125 |
| NAGY_STAGA_COMPONENTS_HUMAN                                               | ATXN7   CDC101   SAP130   SUPT3H   SUPT7L   TAF10   TAF12   TAF5L   TAF6L   TAF9   TRRAP                                                                                                                                                                                                                                                               | 1.6 | 0.25  |
| KEGG_O_GLYCAN_BIOSYNTHESIS                                                | B4GALT5   C1GALT1   C1GALT1C1   GALNT1   GALNT10   GALNT11   GALNT12   GALNT14   GALNT2   GALNT3   GALNT4   GALNT6   GALNT7   GALNT8   GCNT1   GCNT3   GCNT4   ST3GAL1   ST3GAL2                                                                                                                                                                       | 1.6 | 0.125 |
| MOOTHA_FFA_OXYDATION                                                      | ACAA2   ACADL   ACADM   ACADS   ACADSB   ACADVL   ACAT1   ACSL1   AMACR   CPT1A   CPT2   CRAT   DECR1   ECHS1   HADHA   HADHB   NBN                                                                                                                                                                                                                    | 1.6 | 0.125 |
| ATP_DEPENDENT_HELICASE_ACTIVITY                                           | CHD1   CHD2   CHD3   CHD4   DDX18   DDX21   DDX23   DDX25   DDX3X   DDX43   DDX54   DDX56   DHX38   DHX8   DHX9   RECQL   RUVLB2   SKIV2L   UPF1   XRCC5   XRCC6                                                                                                                                                                                       | 1.6 | 0.125 |
| NIKOLSKY_OVERCONNECTED_IN_BREAST_CANCER                                   | ATF2   CRX   ETV5   HOKA4   IRF8   MEFC2   MYOD1   NFIX   NFKB1   NFYC   POU2F1   POU4F2   SOX15   STAT1   STAT4   TCF7L1   TP53   XBP1                                                                                                                                                                                                                | 1.6 | 0.125 |
| chr12q23                                                                  | ACTR6   ANKS1B   APAF1   ARL1   ATP2A2   ATXN2   C12orf48   CCDC53   CKAP4   CLTA   CRY1   DCN   ELK3   FGD6   GNPATB   HCF2   LOC643576   MYBP1   MYL2   NACA   NUA1   NUP37   PLA2G1B   PLXNC1   PMCH   PRDM4   PWP1   RASL1   RIC8B   RMST   RNF10   RPL6   SART3   SYL2   SLC25A3   SNRPF   STAB2   TRPV4   TXNRD1   UNG   UTP20                   | 1.6 | 0.375 |
| KIM_ALL_DISORDERS_DURATION_CORR_UP                                        | ANKRD11   DNAJB14   SHC3   SLC10A1   ZBTB38                                                                                                                                                                                                                                                                                                            | 1.6 | 0.375 |
| PID_HES_HEYPATHWAY                                                        | AR   ARNT   ASCL1   BGLAP   CAMK2D   CD4   CDKN1B   CREBBP   CTBP1   E2F1   EP300   GAA   GATA1   GATA4   GATA6   GHR   HDAC1   HES1   HEY1   HEY2   HIF1A   ID1   JAK2   KDR   MAML1   MYB   MYOD1   NCOA1   NCOR1   NCOR2   NEUROG3   NOTCH1   PARP1   RB1   RBBP8   RUNX2   SPEN   STAT3   TCF3   TLE1   TWIST1   YY1                               | 1.6 | 0.125 |
| GCM_PPM1D                                                                 | CEP170   ESRRG   EXOC5   LMBN1   NUOT4   PARP6   PPM1D   PPM1E   PTBP2   RBM48   SMC3   SPAST   SUV420H1   TOMM70A   VEZF1   WBP11                                                                                                                                                                                                                     | 1.6 | 0.25  |
| NICK_RESPONSE_TO_PROC_TREATMENT_UP                                        | CCDC425E1   CRELD2   ECHDC2   RPL38   ZPRP                                                                                                                                                                                                                                                                                                             | 1.6 | 0.25  |
| REACTOME_PERK_REGULATED_GENE_EXPRESSION                                   | ASNS   ATF3   ATF4   ATF6   CL2   DCP2   DITF3   EIF2AK3   EIF2S1   EXOSC1   EXOSC2   EXOSC4   EXOSC5   EXOSC7   EXOSC8   EXOSC9   HERPUD1   HSPA5   IGFBP1   IL8   KHSRP   NFYA   NFYB   PARN                                                                                                                                                         | 1.6 | 0.125 |
| PHOSPHOINOSITIDE_METABOLIC_PROCESS                                        | CD81   DPM1   DPM2   DPM3   GPAA1   IMPA1   PIGA   PIGB   PIGC   PIGF   PIGG   PIGH   PIGK   PIGO   PIGT   PIGV   PIGZ   PIK3C2A   PIK3R1   PITPNM3   PTEN   SMG1                                                                                                                                                                                      | 1.6 | 0.125 |
| WELCH_GATA1_TARGETS                                                       | ALAD   ALAS2   ANK1   BACH1   EPB49   FTL   GSTT2   HBZ   HEBP1   HMBS   KLF1   MAFG   MAFK   NFE2   PPOX   STOM   TFRC   UROD   UROS                                                                                                                                                                                                                  | 1.6 | 0.25  |
| chr17p12                                                                  | ADORA2B   CDRT4   CHRN1B   COX10   DHRS7B   DNAH9   GRAP   HS3ST3A1   HS3ST3B1   PIGL   PMP22   RPL19   SOX15   STX8   TOP3A   UBB   ZNF232                                                                                                                                                                                                            | 1.6 | 0.25  |
| MICROTUBULE_ORGANIZING_CENTER_ORGANIZATION_AND_BIOGENESIS                 | BBS4   BRCA2   CEP250   CETN1   CETN3   CKAP5   CROCC   KIF11   NDE1   NPM1   SAC3D1   UXT                                                                                                                                                                                                                                                             | 1.6 | 0.125 |
| 3_5_EXONUCLEASE_ACTIVITY                                                  | APEX1   EXOSC2   EXOSC7   ISG20   MRE11A   RAD1   RAD50   RAD9A   REXO2   TREX1   TREX2   WRN                                                                                                                                                                                                                                                          | 1.6 | 0.125 |
| CARBON_OXYGEN_LYASE_ACTIVITY                                              | AC01   ALAD   APEX1   AUH   CA1   CA11   CA12   CA14   CA2   CA3   CA4   CA5A   CASB   CA6   CA7   CA8   CA9   CBS   ECH1   ECHS1   EHADHD   ENO1   ENO2   ENO3   FH   GMD5   HADHA   HADHB   NTHL1   OGG1   PTS                                                                                                                                       | 1.6 | 0.125 |
| ABRAHAM_ALPC_VS_MULTIPLE_MYELOMA_DN                                       | CASP3   CCN1   CD47   CDC37   CDK4   CDK5   CDK9   IL6ST   MYC   PSEN1   PSEN2   PTEN   RELA   TCF3   TGFBI   TXN   UCHL1   XRCC4   XRCC5                                                                                                                                                                                                              | 1.6 | 0.375 |
| CASTELLANO_HRAS_TARGETS_DN                                                | HRAS   RPS11   SLC1A5                                                                                                                                                                                                                                                                                                                                  | 1.6 | 0.125 |

|                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                 |     |       |
|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| HOEGERKORP_CD44_TARGETS_TEMPORAL_DN                                                          | APOC3   AUH   CCNG2   CRYCG   EFNA3   ELL   FXN   GCG   HTR1A   KIAA0141   KIAA0196   LYZ   MEF2A   MNAT1   MX2   NR4A3   NUCB2   PAFAH2   PIK3R3   PLK1   PRKACA   SLC18A1   SNCA   TERF1   USP6NL                                                                                                                                                                             | 1.6 | 0.125 |
| REACTOME_PURINE_RIBONUCLEOSIDE_MONOPHOSPHATE_BIOSYNTHESIS                                    | ADSL   ADSS   ATIC   GART   GMPS   IMPDH1   IMPDH2   PAICS   PFAS   PPAT                                                                                                                                                                                                                                                                                                        | 1.6 | 0.125 |
| chr19q12                                                                                     | BCAM   C19orf2   CCNE1   DYRK18   MEGF8   NPHS1   PDCD5   POLR2I   UBA2   UQCRCF51                                                                                                                                                                                                                                                                                              | 1.6 | 0.375 |
| HOLLEMAN_PREDNISOLONE_RESISTANCE_ALL_DN                                                      | AES   CRKL   HRK   KIAA0922   MAGOH   MED28   NTAN1   OTUB1   PCBP1   PHF2   POLDIP3   SMARCB1   SUMO2   TAF5   TIMM17A   U2AF2   ZNF318                                                                                                                                                                                                                                        | 1.6 | 0.125 |
| TURJANSKI_MAPK1_AND_MAPK2_TARGETS                                                            | ELK1   ELK4   FOS   MYB   MYC   SMAD1   SMAD2   SMAD3   SMAD4   SP1   TP53                                                                                                                                                                                                                                                                                                      | 1.6 | 0.25  |
| PID_IL2_PI3KPATHWAY                                                                          | AKT1   BCL2   BCL2L1   EZF1   GAB2   GRB2   HSP90AA1   IL2   IL2RA   IL2RB   IL2RG   JAK1   JAK3   LCK   MYB   MYC   NFKB1   PIK3CA   PIK3R1   PRKC2   PTPN11   RAC1   RELA   RP56   RPS6KB1   SHC1   SMPD1   SOS1   TERT   UGCG                                                                                                                                                | 1.6 | 0.125 |
| OHM_EMBRYONIC_CARCINOMA_UP                                                                   | BRCA1   CDH1   DAPK1   GSTP1   SFRP1                                                                                                                                                                                                                                                                                                                                            | 1.6 | 0.25  |
| CHEOK_RESPONSE_TO_HD_MTX_DN                                                                  | ALDH5A1   API52   ARF4   ARFG   BNI3P1   CEP170   CNOT8   CRV2   DYRK1A   H3F3B   HIC2   KATNB1   NRXN2   NUP98   PARG   RALBP1   SEC22B   SOCS2   STRAP   TOB2   ZBTB1                                                                                                                                                                                                         | 1.6 | 0.125 |
| REGULATION_OF_GTPASE_ACTIVITY                                                                | FGD1   FGD2   FGD6   NF1   RAB3GAP1   RAB3GAP2   RALBP1   THY1   TSC1                                                                                                                                                                                                                                                                                                           | 1.6 | 0.25  |
| BIOCARTA_418B_PATHWAY                                                                        | ATF2   CHUK   IFNG   IKKB   IL2   IL4   JUN   MAP3K1   MAP3K5   MAP4K5   MAPK14   MAPK8   NFKB1   NFKBIA   RELA   TNFRSF9   TRAF2                                                                                                                                                                                                                                               | 1.6 | 0.125 |
| GEISS_RESPONSE_TO_DSRNA_DN                                                                   | CDC14A   DNMT3A   EFNB3   MEIS1   MMP1   PARG   PCK2   PLAU   PRKAR1B   STAB1   STAM   TOMM70A   TP53   TP53I3   VCAM1   WASF1                                                                                                                                                                                                                                                  | 1.6 | 0.125 |
| REACTOME_REGULATION_OF_INSULIN_SECRETION_BY_ACETYLCHOLINE                                    | GNA11   GNA14   GNA15   GNAQ   MARCKS   PLCB1   PLCB2   PLCB3   PRKCA                                                                                                                                                                                                                                                                                                           | 1.6 | 0.25  |
| chr12q11                                                                                     | ABCD2   ACVRL1   CCNT1   CNTN1   ITGA5   KRT1   KRT2   TM7SF3                                                                                                                                                                                                                                                                                                                   | 1.6 | 0.125 |
| REACTOME_ACTIVATION_OF_GENES_BY_ATF4                                                         | ASNS   ATF3   ATF4   ATF6   CCL2   DCP2   DDIT3   EXOSC1   EXOSC2   EXOSC4   EXOSC5   EXOSC7   EXOSC8   EXOSC9   HERPUD1   IGFBP1   IL8   KHSRP   NFYA   NFYB   PARN                                                                                                                                                                                                            | 1.6 | 0.125 |
| DACOSTA_UV_RESPONSE_VIA_ERCC3_XPCS_UP                                                        | ALDH1B1   CASP3   CCNT2   CDKN1C   CTH   FBXL14   FRAT2   GLS   GSTT2   IFI30   IRF1   MED6   MPDU1   PCDH9   PDCL   RAD9A   RPUSD2   SAT1   TERF2   TP53   TRIM21   WBSR22   ZKSCAN1                                                                                                                                                                                           | 1.6 | 0.375 |
| GALE_APL_WITH FLT3_MUTATED_DN                                                                | ARF1   BAD   DEGS1   DRAP1   GPR137   HLA-B   HLA-C   HLA-G   NAPG   NDUFB7   NDUFV1   OASL   P4HB   PQBP1   RABAC1   ST3GAL5                                                                                                                                                                                                                                                   | 1.6 | 0.125 |
| AIYAR_COBRA1_TARGETS_DN                                                                      | APIP   BAG1   CLDN4   COBRA1   CPD   DCP5   DCTN2   EPHB3   FGR3   GOT2   HELLS   HPRT1   HSPB1   KITLG   MCM2   METTL7A   MYOSC   PCP4   PRX3   PRX   PSMD12   SLC20A1   SOX4   SPINK5   ZNF395   ZNF532                                                                                                                                                                       | 1.6 | 0.125 |
| REACTOME_BINDING_AND_ENTRY_OF_HIV_VIRION                                                     | CCR5   CD4   CXCR4   PPIA                                                                                                                                                                                                                                                                                                                                                       | 1.6 | 0.125 |
| OZANNE_AP1_TARGETS_DN                                                                        | FN1   FSTL1   PCDHGC3   RYBP                                                                                                                                                                                                                                                                                                                                                    | 1.6 | 0.375 |
| MODULE_28                                                                                    | PSMA1   PSMA2   PSMA3   PSMA4   PSMA5   PSMA6   PSMA7   PSMB1   PSMB2   PSMB3   PSMB4   PSMB5   PSMB7   PSMC1   PSMC2   PSMC4   PSMC5   PSMC6   PSMD1   PSMD10   PSMD11   PSMD12   PSMD13   PSMD14   PSMD2   PSMD3   PSMD4   PSMD6   PSMD7   PSMD8   PSMD9   PSME1                                                                                                              | 1.6 | 0.25  |
| BIOCARTA_DREAM_PATHWAY                                                                       | CREB1   CREM   FOS   JUN   MAPK3   OPRK1   POLR2A   PRKACB   PRKACG   PRKAR1A   PRKAR1B   PRKAR2A   PRKAR2B                                                                                                                                                                                                                                                                     | 1.6 | 0.375 |
| KEGG_BASAL_TRANSCRIPTION_FACTORS                                                             | GT2A1   GT2A2   GT2F8   GT2F12   GT2F22   GT2F21   GT2F22   GT2F21   GT2F22   GT2F23   GT2F24   GT2F1   GT2F21D1   STON1   TAF1   TAF10   TAF11   TAF21   TAF3   TAF2   TAF4   TAF4B   TAF5   TAF5L   TAF6   TAF6L   TAF7   TAF7L   TAF9   TAF9B   TBP   TBP1                                                                                                                   | 1.6 | 0.125 |
| CELLULAR_RESPIRATION                                                                         | ACO2   CYCS   ME3   NDUFS1   NDUFS4   NNT   OXA1L   PDHB   PPARGC1A   SDHA   SDHB   SDHC   SDHD   SLC25A14   SURF1   UQCRCB   UQCRC1   UQCRC2   UQCRRH                                                                                                                                                                                                                          | 1.6 | 0.25  |
| PID_ARF6_TRAFFICKINGPATHWAY                                                                  | ADRB2   AGT1   ARF6   AVPR2   BIN1   CDH1   CLTC   CPE   CTNNA1   CTNNB1   CTNND1   DNM2   EDNRB   EXOC1   EXOC2   EXOC3   EXOCA   EXOC5   EXOC7   IL2RA   INS   ITGA10   ITGA2   ITGA3   ITGA4   ITGA5   ITGA6   ITGA7   ITGA8   ITGA9   ITGA9   ITGAV   ITGB1   MAPK8IP3   NME1   PIP5K1C   PLD1   PLD2   RALA   SCAMP2   SLC24A   SPAG9   TSHR   VAMP3                       | 1.6 | 0.25  |
| BIOCARTA_TGFB_PATHWAY                                                                        | APC   CDH1   CREBBP   EP300   MAP2K1   MAP3K7   MAPK3   SKIL   SMAD2   SMAD3   SMAD4   SMAD7   TGFBI   TGFBI2   TGFBI3   TGFBI4   TGFBR2   ZFYV9                                                                                                                                                                                                                                | 1.6 | 0.25  |
| PID_RETINOIC_ACID_PATHWAY                                                                    | AKT1   CCNH   CDK7   CREBBP   EP300   HDAC1   HDAC3   MAPK1   MAPK14   MAPK3   MAPK8   MNAT1   NCOA1   NCOA2   NCOA3   NCOR2   NR1P1   PRKACA   PRKCA   PRKCG   RARA   RARB   RARG   RBP1   RXRA   RXRB   RXRG   VDR                                                                                                                                                            | 1.6 | 0.125 |
| RRNA_PROCESSING                                                                              | DKC1   EXOSC2   EXOSC7   FBL   GEMIN4   NOLC1   POP4   RPS14                                                                                                                                                                                                                                                                                                                    | 1.6 | 0.125 |
| MIKKELSEN_PLURIPOTENT_STATE_DN                                                               | CAMK2D   CASP8   CBX4   CCND2   CDK6   ID3   JAK2   TGFBR2                                                                                                                                                                                                                                                                                                                      | 1.6 | 0.125 |
| WACKER_HYPOXIA_TARGETS_OF_VHL                                                                | ADM   CA9   CCND1   CP   ENO2   HK2   IGFBP3   INHBB   P4HA1   PDK1   PFKP   TGFA                                                                                                                                                                                                                                                                                               | 1.6 | 0.125 |
| MYLLKANGAS_AMPLIFICATION_HOT_SPOT_18                                                         | BCL2   MALT1   SMAD4   S518                                                                                                                                                                                                                                                                                                                                                     | 1.6 | 0.125 |
| MODULE_21                                                                                    | ADA   ADK   APRT   GART   GMPS   HPRT1   IMPDH2   PAICS   TYMS   UMPS                                                                                                                                                                                                                                                                                                           | 1.6 | 0.125 |
| SULFUR_COMPOUND_BIOSYNTHETIC_PROCESS                                                         | CD01   CHST11   CHST12   CHST3   CHST7   EXT1   GLCL   GLCM   GLCE   HS3ST3B1   HS6ST1   MAT2B   NDST1                                                                                                                                                                                                                                                                          | 1.6 | 0.125 |
| NOTCH_SIGNALING_PATHWAY                                                                      | ADAM10   APH1A   MAML1   MAML3   NCSTN   NOTCH1   PSEN1   PSEN2   PSENEN                                                                                                                                                                                                                                                                                                        | 1.6 | 0.25  |
| VSTAXCREB_02                                                                                 | ADIPOR1   ARH1   BCL11A   CAPN6   CRLF1   DIAPH1   DLK1   EEF1A1   EMP3   JAG1   LMTK2   NAB2   NOL10   PPP1R11   RAPGEF1   S100A10   SSBP3   STX12   VPRBP   ZMYM5                                                                                                                                                                                                             | 1.6 | 0.125 |
| LIPOPROTEIN_BIOSYNTHETIC_PROCESS                                                             | AIP1L   APOA1   APOA2   ATG7   CHM   DPM1   DPM2   DPM3   FNTA   FNTB   GPA1   PGGT1B   PIGA   PIGB   PIGC   PIGF   PIGG   PIGH   PIGK   PIGO   PIGT   PIGV   PIGZ                                                                                                                                                                                                              | 1.6 | 0.125 |
| PID_IGF1_PATHWAY                                                                             | AKT1   BAD   CRK   CRKL   GNB2L1   GRB10   GRB2   HRAS   IGF1   IGF1R   IRS1   IRS2   NCK2   PDPK1   PIK3CA   PIK3R1   PRKCD   PRKCZ   PRKDI   PTG2   PTPN11   PTPN12   PXN   RAF1   RPS6KB1   SHC1   SOS1   YWHAE   YWHAZ                                                                                                                                                      | 1.6 | 0.125 |
| XU_CREBBP_TARGETS_UP                                                                         | ADSL   ALK3   GNL3   HMOX1   KTN1   LGMN   LMBR1L   MCM2   NME4   NVL   PKM2   PPAN   PRMT1   PROM1   RAD1   RCN1   S100A6   TMEM159   TSTA3   XPOT                                                                                                                                                                                                                             | 1.6 | 0.125 |
| ENDODEOXYRIBONUCLEASE_ACTIVITY                                                               | APEX1   DNASE2   ERC1   ERCC4   ERCC5   EXO1   FEN1   MBD4   MRE11A   OGG1   RAD50                                                                                                                                                                                                                                                                                              | 1.6 | 0.25  |
| VALK_AML_CLUSTER_6                                                                           | ADCY2   BST2   CAT   CD74   CEP70   CORO1A   DPPA4   DPYSL3   DSC2   FOXF2   FTO   GPC4   HIGD1A   HLA-DPA1   HLA-DRA   HOXB3   LTCB1   NTSDC3   PECAM1   PLXNB1   RGS10   RSL1D1   SLC27A6   SMC4   SNCAIP   TTC27   XPA                                                                                                                                                       | 1.5 | 0.25  |
| REACTOME_RECEPTOR_LIGAND_BINDING_INITIATES_THE_SECOND_PROTEOLYTIC_CLEAVAGE_OF_NOTCH_RECEPTOR | ADAM10   ADAM17   JAG1   JAG2   NOTCH2   NOTCH3   NOTCH4   RPS27A   UBA52                                                                                                                                                                                                                                                                                                       | 1.5 | 0.25  |
| DRUG_BINDING                                                                                 | ACR   ALB   FKBP2   FKBP3   FKBP4   FKBP5   FKBP6   NFATC1   NKR1   PPIC   PPID   PPIE   PPIG   PPIH   TOP2A                                                                                                                                                                                                                                                                    | 1.5 | 0.125 |
| PROTEIN_AMINO_ACID_LIPIDATION                                                                | AIP1L   ATG7   CHM   DPM1   DPM2   DPM3   FNTA   FNTB   GPA1   PGGT1B   PIGA   PIGB   PIGC   PIGF   PIGG   PIGH   PIGK   PIGO   PIGT   PIGV   PIGZ                                                                                                                                                                                                                              | 1.5 | 0.125 |
| RAMJAUN_APOPTOSIS_BY_TGFB1_VIA_SMAD4_UP                                                      | BCL2L11   CD40   PDCD6IP   TGFB1   TNFAIP3   TRIB3                                                                                                                                                                                                                                                                                                                              | 1.5 | 0.125 |
| chr11p11                                                                                     | ACP2   AGBL2   ALX4   ARHGAP1   CD82   CHST1   CKAP5   CRV2   DGK2   F2   FOLH1   GNG3   KBTBD4   LOC283116   LOC441601   LRP4   MADD   MDK   MTH2   MYBPC3   NDUFS3   NR1H3   NUP160   PHF21A   PRDM11   PSMC3   PTPRJ   RAPSN   SLC43A1   TP53I11   TRIM49   TTC17   ZNF408                                                                                                   | 1.5 | 0.125 |
| SARTIPY_BLUNTED_BY_INSULIN_RESISTANCE_DN                                                     | ACVR1   CDCD101   CDKN1B   DBP   GADD45A   HERPUD1   MMP11   MPD2   NUPR1   PDK4   RALGDS   RARG   RERE   SESN1   TRIB3   UBE2H                                                                                                                                                                                                                                                 | 1.5 | 0.125 |
| KOBAYASHI_RESPONSE_TO_ROMIDEPSIN                                                             | ARL4D   DENND3   EFNB2   ELOVL4   FABP6   FOS   GTF2B   IL8   KLHL7   LPIN1   MERTK   MICA   NGFR   RB1CC1   SYT11   TNFAIP6                                                                                                                                                                                                                                                    | 1.5 | 0.125 |
| TRNA_METABOLIC_PROCESS                                                                       | AARS   ADAT1   DARS   FARS2   KARS   METTL1   POP1   POP4   RARS   SARS   SARS2   SSB   WARS   YARS                                                                                                                                                                                                                                                                             | 1.5 | 0.125 |
| COLLER_MYC_TARGETS_DN                                                                        | A2M   CSorf13   CDKN1A   COL3A1   CSRP1   CTGF   PDGFA   PRKCDDBP   TPM1                                                                                                                                                                                                                                                                                                        | 1.5 | 0.25  |
| WEBER_METHYLATED_HCP_IN_FIBROBLAST_UP                                                        | DMRT1   PHF7   PIAS2   SPA17   SPAG6                                                                                                                                                                                                                                                                                                                                            | 1.5 | 0.125 |
| FRASOR_RESPONSE_TO_SERM_OR_FULVESTRANT_UP                                                    | AKAP3   ASC3   ATP6V1A   C18orf1   CD302   DGCR9   DLX2   DMXL1   DUSP10   NCAM2   NR2C1   PLXNC1   RAB30   RB1CC1   RCN2   SCHIP1   SRD5A1   STXB3   TPM1                                                                                                                                                                                                                      | 1.5 | 0.25  |
| GALIE_TUMOR_ANGIOGENESIS                                                                     | ANGPT1   ANGPT2   CTGF   HGF   IGF1   PDGFA   PTGS2   TGFB1                                                                                                                                                                                                                                                                                                                     | 1.5 | 0.25  |
| NUCLEOTIDE_SUGAR_METABOLIC_PROCESS                                                           | EXTL2   GMD5   PMM2   SLC35A3   TSTA3   UAP1   UGDH   UGP2                                                                                                                                                                                                                                                                                                                      | 1.5 | 0.125 |
| PID_BETACATENIN_DEG_PATHWAY                                                                  | APC   AXIN1   CSNK1A1   CSNK1D   CSNK1E   CTNNB1   CUL1   DVL1   DVL2   DVL3   FZD5   GSK3A   GSK3B   LRP6                                                                                                                                                                                                                                                                      | 1.5 | 0.25  |
| BIOCARTA_BCELLSURVIVAL_PATHWAY                                                               | AKT1   BIRC5   CASP3   CASP7   CCT4   DPF2   FOS   ITGB1   JUND   PIK3CA   PIK3CG   PIK3R1   ZBTB7A                                                                                                                                                                                                                                                                             | 1.5 | 0.125 |
| REACTOME_PYRUVATE_METABOLISM                                                                 | B5G   DLAT   DLD   LDHA   LDHB   PDHA1   PDHB   PDHX   PDK1   PDK2   PDK3   PDK4   PDKR   SLC16A1   SLC16A3   SLC16A8                                                                                                                                                                                                                                                           | 1.5 | 0.125 |
| chr18q11                                                                                     | ABHD3   AQP4   B4GALT6   CABYR   GATA6   HRH4   IMPACT   LAMA3   MSH2   NPC1   OSBPL1A   RBBP8   RIOK3   ROCK1   SLC14A1   SNRPD1   SSI1   TAF4B                                                                                                                                                                                                                                | 1.5 | 0.125 |
| GCM_CASP2                                                                                    | BAZZA   C17orf42   CASP2   COMMMD9   CS   DDX11   DDX47   DENND4A   MLL   S100BP   SPPL2B   STAT5B   TBC1D22B   THRAP3   USP39   VRK3                                                                                                                                                                                                                                           | 1.5 | 0.125 |
| BIOCARTA_EIF_PATHWAY                                                                         | EEF2   EIF1   EIF1AX   EIF2S1   EIF2S2   EIF2S3   EIF4A1   EIF4A2   EIF4E   EIF4G1   EIF4G2   EIF4G3   EIF5                                                                                                                                                                                                                                                                     | 1.5 | 0.125 |
| TELOMERIC_DNA_BINDING                                                                        | POT1   PURA   SMG6   TERF1   TERF2   TERF2IP   TERT   TIN2                                                                                                                                                                                                                                                                                                                      | 1.5 | 0.5   |
| KORKOLA_YOLK_SAC_TUMOR_UP                                                                    | CCND2   CTN3   DDX11   DDX47   DERA   FAM60A   GAPDH   LDHB   LRP6   PHB2   PTM5   PTPN6   RECQL   SLC2A3   TEAD4   TP1   YARS2                                                                                                                                                                                                                                                 | 1.5 | 0.25  |
| chr2p13                                                                                      | ACTG2   ADD2   ADORA2B   ALMS1   ANKRD53   ANTXR1   ANXA4   ARHGAP25   ATP6V1B1   AUP1   BMP10   CID   CCT7   CD207   DCTN1   DGUOK   DOK1   DUSP11   DYF5   EGRA   FBXO41   GFTT1   GKN1   GMLC1   HK2   HTRA2   MTHFD2   MXD1   NAT8   PCGF1   PCYOX1   PELI1   PLEK   RAB11FIP5   REL   SEMA4F   SLC4A5   TACR1   TEX261   TGFA   TIA1   TLX2   TTC31   VAX2   VP54   ZNF638 | 1.5 | 0.125 |
| STEINER_ERYTHROCYTE_MEMBRANE_GENES                                                           | ACTB   ADD1   ADD2   ADD3   ANK1   EPB41   EPB42   EPB49   ERMAP   ICAM4   SPTA1   SPTB   TMOD1   TPM3                                                                                                                                                                                                                                                                          | 1.5 | 0.375 |
| chr22q                                                                                       | HP54   MTMR3   TCN2                                                                                                                                                                                                                                                                                                                                                             | 1.5 | 0.25  |
| MRNA_BINDING                                                                                 | AUH   CPSF1   EIF4A1   ELAVL2   ELAVL4   FMR1   GRSF1   HNRPD   PABPC1   PABPC3   PABPC4   PARN   RPL35   SERBP1   SLBP   SSB   TIA1   ZFP35   ZFP36L1                                                                                                                                                                                                                          | 1.5 | 0.125 |
| RNA_SPLICINGVIA_TRANSESTERIFICATION_REACTIONS                                                | CRNLK1   DBR1   DHX38   GEMIN6   GEMIN7   PRPF31   SF1   SF3A1   SF3A2   SF3A3   SNRPD1   SNRPD2   SNW1   SRPK2   TRA2A   TXNL4A   USP39                                                                                                                                                                                                                                        | 1.5 | 0.125 |
| REACTOME_HS_GAG_BIOSYNTHESIS                                                                 | EXT1   EXT2   GLCE   GPC1   GPC3   GPC4   GPC5   GPC6   HS2ST1   HS3ST1   HS3ST2   HS3ST3A1   HS3ST3B1   HS6ST1   HSPG2   NDST1   NDST2   NDST3   NDST4   SDCL   SDCL2   SDCL3   SDCL4                                                                                                                                                                                          | 1.5 | 0.125 |
| KREPEL_CD99_TARGETS_UP                                                                       | DNAJA2   FBXO9   KCMF1   MCL1   PGF                                                                                                                                                                                                                                                                                                                                             | 1.5 | 0.125 |
| WANG_ADIPOGENIC_GENES_REPRESSED_BY_SIRT1                                                     | ALDOA   CBR1   COX7A1   EGLN3   EHHADH   ENO1   ERO1L   FGF21   GAPDH   GK   GPI   HIGD1A   IGFBP4   KLF15   NDRG1   OLR1   PFKP   PGK1   RBP4   SLC2A1   TP1   TRIB3                                                                                                                                                                                                           | 1.5 | 0.125 |
| LANDIS_ERBB2_BREAST_PRENEOPLASTIC_UP                                                         | ACSLA   CD82   CHEK1   DOK1   DSG2   ETV1   GALNT3   HOMER2   ID2   KCNN4   LCN2   PQLC1   RRM2   TP5D2   WBP5                                                                                                                                                                                                                                                                  | 1.5 | 0.25  |
| REACTOME_SIGNAL_REGULATORY_PROTEIN_SIRP_FAMILY_INTERACTIONS                                  | CD47   FVB   GRB2   PTK2   PTK2B   PTPN6   SIRPA   SIRPB1   SIRPG   SRC   TYROBP                                                                                                                                                                                                                                                                                                | 1.5 | 0.125 |
| PROTEOGLYCAN_METABOLIC_PROCESS                                                               | B4GALT7   CHST11   CHST12   CHST3   CHST7   CHST8   EXT1   GLCE   HPSE   HS3ST3B1   HS6ST1   LECT1   NDST1   SGGH                                                                                                                                                                                                                                                               | 1.5 | 0.125 |
| KUROKAWA_LIVER_CANCER_EARLY_RECURRENCE_DN                                                    | HLA-A   HLA-B   IGF2R   RB1   SLFN12   VP535                                                                                                                                                                                                                                                                                                                                    | 1.5 | 0.125 |

|                                                                                       |                                                                                                                                                                                                                                                                                   |     |       |
|---------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| BIOCARTA_MYOSIN_PATHWAY                                                               | ARHGAP5   ARHGEF1   ARHGEF10   ARHGEF11   ARHGEF12   ARHGEF15   ARHGEF16   ARHGEF17   ARHGEF18   ARHGEF9   ARHGEF3   ARHGEF4   ARHGEF5   ARHGEF6   ARHGEF7   ARHGEF9   GNA12   GNA13   GNAQ   GNB1   GNGT1   MYL2   MYL7   MYLK   PKN1   PLCB1   PPP1A12B   PRKCA   ROCK1         | 1.5 | 0.125 |
| REACTOME_RESOLUTION_OF_AP_SITES_VIA_THE_MULTIPLE_NUCLEOTIDE_PATCH_REPLACEMENT_PATHWAY | APEX1   FEN1   LIG1   MBDA   MPG   MUTHY   NTHL1   OGG1   PCNA   POLB   POLD1   POLD2   POLD3   POLD4   SMUG1   TDG                                                                                                                                                               | 1.5 | 0.125 |
| HOLLEMAN_VINCISTRINE_RESISTANCE_ALL_DN                                                | ATP13A2   CD44   HMG81   INTS1   LSM7   RASGRP2   RPL10   RPL12   RPL23A   RPL31   RPLP2   RPS12   RPS15A   RPS2   RPS24   SCN1M1   TMSB10   VIM                                                                                                                                  | 1.5 | 0.25  |
| PID_EPOPATHWAY                                                                        | BCL2   BCL2L1   BTK   CBL   CRKL   EPO   EPOR   GAB1   GRB2   HRAS   INPP5D   IRS2   JAK2   LYN   MAPK14   MAPK8   NFKB1   PIK3R1   PLCG1   PLCG2   PTPN11   PTPN6   RAP1A   RAPGEF1   SH2B3   SHC1   SOCS3   SOS1   STAT1   STAT5A   STAT5B   TEC   TRPC6   VAV2                 | 1.5 | 0.125 |
| chr4q                                                                                 | CLCN3   CLTB   SPRY1   TRPC3                                                                                                                                                                                                                                                      | 1.5 | 0.25  |
| ZHENG_RESPONSE_TO_ARSENITE_UP                                                         | BCL2   DNAJB1   FOSL1   GCLM   HIST2H2BE   HMOX1   KCKN3   MT1E   MT1G   MT1H   MT1M   MT1X   MT2A   SLC30A1   TXNRD1   UAP1                                                                                                                                                      | 1.5 | 0.125 |
| BIOCARTA_ETC_PATHWAY                                                                  | ATP5A1   CYCS   GPD2   NDUF41   SDHA   SDHB   SDHC   SDHD   SLC25A4   SLC25A6   UQCRC1                                                                                                                                                                                            | 1.5 | 0.25  |
| PHOSPHATASE_BINDING                                                                   | AKAP11   DLG1   ULRB1   MAGI2   MAST2   PIK3R1   PPM1E   PPP2R4   SMG5   SMG7   SOD1                                                                                                                                                                                              | 1.5 | 0.125 |
| XIDOREDOXINACTIVITY_ACTING_ON_PULFUR_GROUP_OF_DONORS                                  | DLD   GSR   MSRA   MSRB2   SUOX   TXNRD1   TXNRD2                                                                                                                                                                                                                                 | 1.5 | 0.25  |
| IIZUKA_LIVER_CANCER_PROGRESSION_G1_G2_UP                                              | ADH1A   GABARAPL1   KCNJ4   KCNJ8   OAS2   PDLIM5   PSME1   SERINC1   STAT1   TRAFD1   UBE2L6                                                                                                                                                                                     | 1.5 | 0.375 |
| RHO_GUANYL_NUCLEOTIDE_EXCHANGE_FACTOR_ACTIVITY                                        | ARHGEF1   ARHGEF11   ARHGEF2   ARHGEF3   DOCK2   FARP1   FARP2   SOS1   TIAM1                                                                                                                                                                                                     | 1.5 | 0.125 |
| chr5q14                                                                               | APB31   ATG10   CAST   CETN3   COX7C   EDIL3   FLJ11292   GLRX   GPR98   HAPLN1   HOMER1   MEFC2C   NR2F1   PAPD4   POLR3G   RIOK2   RPS23   SERINC5   SSBP2   TBCA   WDOR1   XRCXC4                                                                                              | 1.5 | 0.125 |
| REACTOME_PKB_MEDIATED_EVENTS                                                          | AKT2   CAB39   CAB39L   EIF4B   EIF4E   EIF4EBP1   EIF4G1   PDE3B   PPM1A   PRKAA1   PRKAA2   PRKAB1   PRKAB2   PRKAG1   PRKAG2   RHEB   RPS6   RPS6KB1   STK11   TSC1   TSC2                                                                                                     | 1.5 | 0.125 |
| PID_CIRCADIANPATHWAY                                                                  | ARNTL   ATR   CHEK1   CLOCK   CRY1   CRY2   CSNK1E   NONO   NPA52   NR1D1   PER1   PER2   TIMELESS                                                                                                                                                                                | 1.5 | 0.125 |
| AEROBIC_RESPIRATION                                                                   | ACQ2   ME3   NNT   OXAL1   PDHB   SDHA   SDHB   SDHC   SDHD   SLC25A14   SURF1   UQCRCB   UQCRC1   UQCRC2   UQCRC4                                                                                                                                                                | 1.5 | 0.375 |
| REACTOME_RNA_POL_I_TRANSCRIPTION_TERMINATION                                          | CNNH   CDK7   ERCC2   ERCC3   GTF2H1   GTF2H2   GTF2H3   GTF2H4   MNAT1   POLR1B   POLR1C   POLR1D   POLR2H   POLR2K   PTRF   TAF1A   TAF1B   TAF1C   UBF1                                                                                                                        | 1.5 | 0.125 |
| CYTOKINE_SECRETION                                                                    | ABCA1   APOA1   APOA2   CARD8   CIDEA   CRTAM   FOXP3   GLMN   INS   PLYCARD                                                                                                                                                                                                      | 1.5 | 0.125 |
| SPIRA_SMOKERS_LUNG_CANCER_DN                                                          | ALMS1   ATP8B1   CDC8B1   COX5B   DCLRE1C   DUOX1   FBXW12   GTF2H3   LM04   NUCKS1   PRR11   RPL35A   SPN   TSR1   ZC3H7B   ZNF160   ZNF611                                                                                                                                      | 1.5 | 0.125 |
| PID_LYMPHANGIOGENESIS_PATHWAY                                                         | AKT1   COL1A1   COL1A2   CREB1   CRK   FIGF   FLT4   FN1   GRB2   ITGA2   ITGA4   ITGA5   ITGB1   MAP2K4   MAPK1   MAPK11   MAPK14   MAPK3   PIK3CA   PIK3R1   RPS6KA1   SHC1   SOS1   VEGFC                                                                                      | 1.5 | 0.25  |
| chr13q34                                                                              | ATP11A   ATP4B   CDC16   COL4A1   COL4A2   CUL4A   DCUN1D2   F10   F7   FGF14   GAS6   GRK1   GRTF1   ING1   IRS2   LAMP1   MCF2L   PTP1B   PROZ   RAB20   RAP2A   RASA3   SOX1   TDFP1   TMCO3   TUBGCP3   UPF3A                                                                 | 1.5 | 0.375 |
| V5ALX4_01                                                                             | COL2A1   FAMB9B   HSD11B1   IL6R   JUN   LMO3   SNAF25   SSC5A1   TCF7L2   ZNF532                                                                                                                                                                                                 | 1.5 | 0.125 |
| REACTOME_ACTIVATED_NOTCH1_TRANSMITS_SIGNAL_TO_THE_NUCLEUS                             | ADAM10   ADAM17   APM1A   APM1B   ARRB1   ARRB2   CNTN1   DLK1   DTX2   DTX4   JAG1   JAG2   NCSTN   NEURL   NUMB   PSEN1   PSEN2   PSENNEN   RPS27A   UBA52                                                                                                                      | 1.5 | 0.25  |
| KINETOCHORE                                                                           | APC   BUB1   BUB1B   BUB3   CENPC1   CENPE   CENPF   CLASP1   DCTN2   KIF22   MAD2L1   MIS12   PAFAH1B1   PMF1   PSEN1   PSEN2   SMCL1A   SUMO3   ZW10   ZWILCH   ZWINT                                                                                                           | 1.5 | 0.375 |
| PIGMENT_BIOSYNTHETIC_PROCESS                                                          | ALAD   ALAS1   ALAS2   AP3D1   COX10   COX15   CPOX   DCT   FECH   GMP5   GPR143   NFE2L1   OCA2   PAICS   PPOX   TSP0   TYR                                                                                                                                                      | 1.5 | 0.375 |
| chr21q21                                                                              | APP   ATP5I   C21orf91   CCT8   GABPA   JAM2   NCAM2   USP16                                                                                                                                                                                                                      | 1.5 | 0.25  |
| MACHLCHAN_BRCA1_TARGETS_DN                                                            | ACTB   BAK1   BAX   CENB1   CD59   CD9   COL16A1   COL8A1   FRZB   GRB2   KRT4   KRT5   PIN1   RXRB   SEMA3B   ZYX                                                                                                                                                                | 1.5 | 0.125 |
| REGULATION_OF_CHROMOSOME_ORGANIZATION_AND_BIOGENESIS                                  | ERCC1   ERCC4   PARPAGC1A   SET   TERF2   TERF2IP   TLK1   TLK2   UBE2N                                                                                                                                                                                                           | 1.5 | 0.25  |
| ANTIOXIDANT_ACTIVITY                                                                  | APOA4   CAT   EPX   GPX2   GPX3   GPX4   GSR   GSTZ1   MGST3   MPO   PRDX2   PRDX4   TXNRD1   TXNRD2                                                                                                                                                                              | 1.5 | 0.125 |
| MODULE_392                                                                            | CBX1   H2AFX   H2AFZ   HIST1H2BK   HIST1H2BL   KPNA2   MSH2   NCL   NOLC1   NPM1   RAD51   RAD51C   RPL35   SMARCC1   TCOF1   UNG   XPO1                                                                                                                                          | 1.5 | 0.125 |
| REACTOME_PRE_NOTCH_PROCESSING_IN_GOLGI                                                | ATP2A1   ATP2A2   ATP2A3   B4GALT1   FURIN   LFNG   MFNG   NOTCH2   NOTCH3   NOTCH4   RAB6A   RFNG   SEL1   ST3GAL6   TMED2                                                                                                                                                       | 1.5 | 0.125 |
| VISALA_RESPONSE_TO_HEAT_SHOCK_AND_AGING_UP                                            | ADAR   CLEC2B   DHPS   FDDT1   GRSF1   NDUF5A   PAHA1   PITX2   PRKARIA1   SLC12A4   ST13   TRPC1                                                                                                                                                                                 | 1.5 | 0.375 |
| EXTERNAL_SIDE_OF_PLASMA_MEMBRANE                                                      | ATP6A2   B4GALT1   CCR5   CD24   CD28   CD3E   CD79A   IL2RB   IL2RG   SLC2A4   STAB2   TAS2R16   THY1                                                                                                                                                                            | 1.5 | 0.125 |
| KEGG_GLYCOPHINGOLIPID_BIOSYNTHESIS_LACTO_AND_NEOLACTO_SERIES                          | ABO   B3GALT1   B3GALT2   B3GALT5   B3GNT1   B3GNT2   B3GNT3   B3GNT4   B4GALT1   B4GALT2   B4GALT3   B4GALT4   FUT1   FUT2   FUT3   FUT4   FUT5   FUT6   FUT7   FUT9   GENT2   ST3GAL4   ST3GAL6   STSIA1                                                                        | 1.5 | 0.25  |
| BIOCARTA_DNAFRAGMENT_PATHWAY                                                          | CASP3   CASP7   DFFA   DFFB   ENDOG   G2MB   HMG81   HMG82   TOP2A   TOP2B                                                                                                                                                                                                        | 1.5 | 0.125 |
| ST_GAQ_PATHWAY                                                                        | ADRBK1   AKT1   AKT2   AKT3   DAG1   DAGI   GNAQ   IKBK6   ITPKA   ITPKB   ITPR1   ITPR2   ITPR3   NFKB1   NFKB2   NFKBIA   NFKBIB   NFKBIE   NFKBIL1   PDK1   PHKA2   PIK3CB   PITX2   PLD1   PLD2   PLD3   VNN1R1                                                               | 1.5 | 0.125 |
| GNF2_MSH6                                                                             | ADSL   CCT2   CT3   CCT4   CSE1L   GMP5   GNL3   H2AFZ   IARS   ITGB3BP   UG1   LRPPRC   MAD2L1   MCM3   MLH1   MRPL42   MRPS27   MSH2   MSH6   MTHFD2   PAICS   PPP1CC   PRKDC   RAN   RANBP1   RFC3   RFC4   SNRPE   SNRPF   TCF1                                               | 1.5 | 0.375 |
| chr13q33                                                                              | ANKRD10   ARHGEF7   C13orf27   FBNB2   ITGBL1   KDELIC1   UGA   SLC10A2   SLC15A1                                                                                                                                                                                                 | 1.5 | 0.25  |
| EXONUCLEASE_ACTIVITY                                                                  | APEX1   APTX   ENPP2   ENPP3   EXO1   EXOSC2   EXOSC7   FEN1   ISG20   MRE11A   RAD1   RAD50   RAD9A   REXO2   TREX1   TREX2   WRN                                                                                                                                                | 1.5 | 0.125 |
| STEGER_ADIPOGENESIS_UP                                                                | ACSL1   ADIPOQ   CD36   CEBP4   CIDEA   CIDEC   CP   ENPP2   FABP4   FFAR2   GYG1   HP   HSD11B1   LIPE   MMD   NRIH3   PCK1   PNPLA2   PPARG   RETN   STOM                                                                                                                       | 1.5 | 0.125 |
| FERRANDO_LYL1_NEIGHBORS                                                               | APEX1   BCL2   CCND2   CD34   FE5   GPX1   HHEX   LGSAL9   LMO2   LSP1   MYCN   SELL   SOD2   TNFRSF1A   ZBTB16                                                                                                                                                                   | 1.5 | 0.125 |
| DNA_HELICASE_ACTIVITY                                                                 | ATRX   CHD1   CHD2   CHD3   CHD4   DHX9   ERCC2   ERCC3   ERCC6   ERCC8   IGHMBP2   RAD54B   RECQL   RECQL4   RUVBL1   RUVBL2   SETX   SMARCA1   SUPV3L1   WRN   XRCX5   XRCX6                                                                                                    | 1.5 | 0.125 |
| SPERMATID_DEVELOPMENT                                                                 | CEP57   CSMK2A2   DDX25   HSPA2   NME5   SPAG6   TNPI1                                                                                                                                                                                                                            | 1.5 | 0.125 |
| RAMPON_ENRICHED_LEARNING_ENVIRONMENT_LATE_UP                                          | BT3   CALB2   CALM3   CDH2   CLPP   CORO1A   CTTN   DAD1   DCTN5   DHX32   DLG4   DNPEP   MAP4   POLR2C   PSMB3   TBCA   USP21   VLDLR   XBP1   XPNPEP1   ZIC1                                                                                                                    | 1.5 | 0.125 |
| DNA_DEPENDENT_ATPASE_ACTIVITY                                                         | CHD1   CHD2   CHD3   CHD4   DHX9   ERCC6   ERCC8   RAD51   RAD54B   RBBP4   RECQL   RFC3   RUVBL2   SMARCA1   SMARCA11   TOP2A   TTF2   XRCX5   XRCX6                                                                                                                             | 1.5 | 0.125 |
| OXFORD_RALB_TARGETS_DN                                                                | DUSL2   DUSP6   GINS2   MMP1   PML   RPA1   SF3B5   SIPA1L3   USP18                                                                                                                                                                                                               | 1.5 | 0.375 |
| GCM_TINF2                                                                             | ANAPC5   ANKRD10   BAH01   C7orf43   COMMD9   DDX47   DENND4A   DHX29   ING1   MORF4L1   NF2   PRDM4   PSME3   RMND5B   S100BP1   TBC1D10B   TBC1D22B   TEX261   TINF2   TTC17   ZNF274                                                                                           | 1.5 | 0.125 |
| GTAGGCA,MIR-189                                                                       | ACTR2   ARHGEF2   BCL6   BTBD3   EZF3   FAM98A   FMR1   GPHN   KCNAB1   KPNA4   MOSPD1   MTS51   NCOA3   PPP2R5C   SCNN1A   SPRK2   TRIM14                                                                                                                                        | 1.5 | 0.125 |
| REACTOME_SIGNALING_BY_NODAL                                                           | ACVR1B   ACVR2A   ACVR2B   CER1   DRAP1   FOXH1   FURIN   GDF1   LEFTY1   LEFTY2   PCSK6   SMAD2   SMAD3   SMAD4   TGF1                                                                                                                                                           | 1.5 | 0.375 |
| KUROKAWA_LIVER_CANCER_CHEMOTHERAPY_UP                                                 | ALPK3   ANKRD10   COQ3   MM9P   OASL   PPA2   SETD8                                                                                                                                                                                                                               | 1.5 | 0.125 |
| GROSS_HIF1A_TARGETS_DN                                                                | ADM   BNIP3   ENO1   ERO1L   FST   GAPDH   GBE1   KCNAB1   LDHB   LGSAL3   PDK1   PFKL   PGK1   PGM1   RAMP3   RPL27   RPS6KC1   SDPR   SOX2   TMPRSS11D   TP1                                                                                                                    | 1.5 | 0.125 |
| chr3q11                                                                               | COL8A1   DBR1   GPR15   NSUN3   TFG                                                                                                                                                                                                                                               | 1.5 | 0.125 |
| PHOSPHATASE_REGULATOR_ACTIVITY                                                        | ANP32E   EIF2AK2   FRS2   IGBP1   IGFBRP3   LMTK2   PPM1E   PPP1R1A   PPP1R2   PPP1R7   PPP1R8   PPP2R1A   PPP2R2A   PPP2R2B   PPP2R3A   PPP2R3B   PPP2R4   PPP2R5A   PPP2R5B   PPP2R5D   PPP2R5E   PTN   SAG   SET   TESC                                                        | 1.5 | 0.125 |
| PID_IL23PATHWAY                                                                       | ALOX12B   CLC2   CD3E   CD4   CXCL1   CXCL9   IFNG   IL12B   IL12RB1   IL17A   IL18   IL18R1   IL18RAP   IL19   IL18   IL2   IL23A   IL24   IL6   ITGA3   JAK2   MPO   NFKB1   NFKBIA   PIK3CA   PIK3R1   REL4   SOCS3   STAT1   STAT3   STAT4   STAT5A   TNF   TYK2              | 1.5 | 0.125 |
| PHOSPHOLIPASE_A2_ACTIVITY                                                             | PLA2G10   PLA2G1B   PLA2G2A   PLA2G2D   PLA2G2E   PLA2G3   PLA2G4B   PLA2G4C   PLA2G5   PLA2G6   PNPLA3   PRDX6                                                                                                                                                                   | 1.5 | 0.125 |
| REACTOME_CHONDROITIN_SULFATE_BIOSYNTHESIS                                             | BCAN   BGN   CHPF   CHST11   CHST12   CHST3   CHST7   CHSY1   CSPG4   DCN                                                                                                                                                                                                         | 1.5 | 0.125 |
| GAUSSMANN_MLL_A4_FUSION_TARGETS_D_DN                                                  | APF   ALDH1A1   DUSP4   GPC1   GPC6   SLC35C2                                                                                                                                                                                                                                     | 1.5 | 0.125 |
| SISTER_CHROMATID_SEGREGATION                                                          | CD23   CENPE   DDX11   ESLP1   KIF25   LAT51   NUSAP1   PAM   SMCL1A   SMC4   ZW10   ZWINT                                                                                                                                                                                        | 1.5 | 0.375 |
| SINGH_NFE2L2_TARGETS                                                                  | ABCC1   ABCC2   G6PD   GCLC   GCLM   GRK6   GSR   GSTM4   HMOX1   ME1   NQO1   PRDX1   TXN   TXNRD1                                                                                                                                                                               | 1.5 | 0.125 |
| COFACTOR_TRANSPORTER_ACTIVITY                                                         | ABCB7   HPX   PDPN   SLC19A1   SLC22A4   SLC22A5   SLC33A1   SLC6A8                                                                                                                                                                                                               | 1.5 | 0.375 |
| BARRIER_CANCER_RELAPSE_TUMOR_SAMPLE_DN                                                | ADPRH   C21orf2   C7orf44   C9orf53   MAN2A2   REST   TRPV4   UBQLN4   UNC45A                                                                                                                                                                                                     | 1.5 | 0.125 |
| JU_AGING_TERC_TARGETS_UP                                                              | CXCL13   CXCL6   FGF2   FIGF   HGF   IL4   MMP2   MMP3                                                                                                                                                                                                                            | 1.5 | 0.125 |
| LYSOSOME_ORGANIZATION_AND_BIOGENESIS                                                  | ABCA1   ARS5   CLN3   CLN5   CLN6   GAA   HPS1   HPS4   MYO7A   NAGPA   PPT1                                                                                                                                                                                                      | 1.5 | 0.25  |
| KINASE_INHIBITOR_ACTIVITY                                                             | AGTR2   CAMK2N1   CDKN1A   CDKN1B   CDKN1C   CDKN2A   CDKN2B   CDKN2C   CDKN2D   DNAJC3   GMFB   GMFG   HEXIM1   MAPK8IP1   MBIP   PKIA   PKIG   RHOF   SFN   SH3BP5   SOCS1   SOCS3   TAOK3                                                                                      | 1.5 | 0.125 |
| MODULE_534                                                                            | C16orf58   CENPA   CENPE   DIP2C   DNAJC1   HIST1H1C   HIST1H2AE   HIST1H2BJ   HIST1H2BK   HIST1H2BL   HIST1H2A3   HIST1H2BE   HMG82   SCNN1B   SEC14L1                                                                                                                           | 1.5 | 0.25  |
| GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_LIGHTYELLOW_DN                          | CD40   CIRBP   FANCF   GIMAP4   RALGDS   RAR8   WSB1                                                                                                                                                                                                                              | 1.5 | 0.375 |
| REACTOME_A_TETRASACCHARIDE_LINKER_SEQUENCE_IS_REQUIRED_FOR_GAG_SYNTHESIS              | B3GAT1   B3GAT3   B4GALT7   BCAN   BGN   CSPG4   DCN   GPC1   GPC3   GPC4   GPC5   GPC6   HSPG2   SDC1   SDC2   SDC3   SDC4                                                                                                                                                       | 1.5 | 0.25  |
| REACTOME_MRNA_3_END_PROCESSING                                                        | CDCA0   CPF51   CSTF1   CSTF2   CSTF3   DHX38   MAGOAH   NCBP1   NCBP2   NFX1   NUDT21   PABPN1   PAPOLA   PCF11   RBM8A   RNPS1   SRRM1   UZAF1   UZAF2   UPF3B                                                                                                                  | 1.5 | 0.125 |
| REACTOME_SYNTHESIS_OF_SUBSTRATES_IN_N_GLYCAN_BIOSYTHESIS                              | ALG5   DOLP11   DPF1   DPM2   DPM3   GFPT2   GMPPA   GMPBP   MP1   PGM3   PMM1   PMM2                                                                                                                                                                                             | 1.5 | 0.125 |
| chr2p16                                                                               | ACY2P   BCL11A   EFEM1   FANCL   GPR75   MSH6   MTIF2   PAPOLG   PPP3R1   PSME4   RPS27A   SIX3   SLC3A1   SMEK2   STON1   USP34   VRK2   XPO1                                                                                                                                    | 1.5 | 0.25  |
| TYROSINE_PHOSPHORYLATION_OF_STAT_PROTEIN                                              | CLCF1   F2   F2R   HCLS1   IL12A   LYN   NF2   SOCS1   STAT1                                                                                                                                                                                                                      | 1.5 | 0.25  |
| SCHAEFFER_PROSTATE_DEVELOPMENT_AND_CANCER_BOX1_UP                                     | A2M   BSDC1   CHD4   EIF2AK2   HMGCR   NFIX   PRPF40A   PSMC6   SIN3B   SMARCA2   TLE1                                                                                                                                                                                            | 1.5 | 0.25  |
| GCM_FGCR2B                                                                            | AAMP   AANAT   AQP7   AVPR1B   BCC2   BECN1   CSN3   CYP2F1   DGCRC6   DRG2   EB13   FANCC   FCGR2B   FEV   GCGR   GRM4   GSTZ1   HMGGA2   IDUA   MADD   MAPK3   MP22   NEFL   PDE6B   PNMT   PRKAAG1   RABGGTA   RENBP   SCNN1G   SRBP1   SLC24A   SUPT4H1   TLK2   VPS72   ZNF8 | 1.5 | 0.125 |
| YIH_RESPONSE_TO_ARSENITE_C2                                                           | ABL1   ATF2   BCL2A1   CAST   FADD   GADD45A   KIT   KRT6A   MCL1   NIT1   PPP1CA   PPP1CB   RABSA   SP3   TANK   TCF12   TGF83   USP8                                                                                                                                            | 1.5 | 0.125 |



|                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |     |       |
|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| MOOTHA_PYR                                             | PDHA1   PDHA2   PDHB   PDHX   PDK1   PDK3   PDK4                                                                                                                                                                                                                                                                                                                                                                                                                    | 1.5 | 0.125 |
| ELLWOOD_MYC_TARGETS_UP                                 | BAG2   CDCDC9   CLCN1   ECE1   HSD17B12   LY6D   PIGK   RGS19   RPL37A   SPATS2   UCK2                                                                                                                                                                                                                                                                                                                                                                              | 1.5 | 0.125 |
| GLIOGENESIS                                            | AZU1   CDK6   EIF2B1   EIF2B2   EIF2B3   EIF2B4   EIF2B5   NF1   NF2   SLIT2   SOD1                                                                                                                                                                                                                                                                                                                                                                                 | 1.5 | 0.125 |
| IWANAGA_E2F1_TARGETS_INDUCED_BY_SERUM                  | ADK   C17orf53   C18orf10   CEP57   CLSPN   FAM111A   GGH   HEY1   HMGB2   MAPRE1   MKI67   MLF1P   MTMR2   MUT   PIAS2   PLK4                                                                                                                                                                                                                                                                                                                                      | 1.5 | 0.125 |
| chr13q11                                               | PSIP1   RAD51AP1   SLC30A4   SLC8A1   ZMYM2                                                                                                                                                                                                                                                                                                                                                                                                                         |     |       |
| V\$SEF1_C                                              | ATP12A   CRYL1   FGF9   PARP4   PSPC1   SACS   XP04   ZMYM2                                                                                                                                                                                                                                                                                                                                                                                                         | 1.5 | 0.125 |
| TESAR_ALK_TARGETS_HUMAN_ES_5D_DN                       | ATF2   UMK2   MEIS2   POU3F3   SLC6A7                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.5 | 0.25  |
| BERENJENO_TRANSFORMED_BY_RHOA_REVERSIBLY_DN            | LEFTY1   LEFTY2   MYC   NANOG   POU5F1   TDGF1                                                                                                                                                                                                                                                                                                                                                                                                                      | 1.5 | 0.25  |
| LIAN_NEUTROPHIL_GNANULE_CONSTITUENTS                   | ACTA1   ACTG2   ACTN4   ADM   ALCAM   CBX1   CINP   CTGF   CYR61   DUSP6   FEZ2   FHL1   IGf2   INHBA   LY75   MYC   PBX3   PTGER4   SERPINE1   SORBS1   TAGLN   THBS1   THY1   TMSB4X   TNC                                                                                                                                                                                                                                                                        | 1.5 | 0.125 |
| MODULE_421                                             | CAMP   CPA3   CTSB   CTC5   CTSO   CTSE   CTSG   CTSX   CYBB   FPR1   GUSB   ITGB2   LCN2   LTF   MAN2C1   MMP13   MMP9   MPO   PRG3   SCARB2                                                                                                                                                                                                                                                                                                                       | 1.5 | 0.25  |
|                                                        | ANXA1   ATM   C16orf58   CENPA   CENPE   CENPF   COX11   EXOSC10   H1FO   H2AFX   HIST1H1C   HIST1H2AC   HIST1H2AE   HIST1H2BJ   HIST1H2BK   HIST1H2BL   HIST2H2A3   HIST2H2BE   HMGB2   LCN2   OGT   POLR1E   SCNN1B   SEC14L1   TMEM41B   TOX                                                                                                                                                                                                                     | 1.5 | 0.375 |
| REACTOME_REGULATION_OF_AMPK_ACTIVITY_VIA_LKB1          | CAB39   CAB39L   PPM1A   PRKAA1   PRKAA2   PRKAB1   PRKAB2   PRKAG1   PRKAG2   STK11                                                                                                                                                                                                                                                                                                                                                                                | 1.5 | 0.375 |
| chr3q26                                                | ACTL6A   BCHE   CLDN11   DCUN1D1   ECT2   EHHAH   FNDC3B   GHSR   KCNAB1   KCNMB2   KCNMB3   LAMP3   LRRC31   MYNN   NLGN1   NMD3   PDCD10   PHC3   PIK3CA   PLD1   PRKCI   SERPINI1   SERPINI2   SKIL   SLC2A2   SLITRK3   SMC4   SOX2   TBL1XR1   TNFSF10   TNK1   USP13   ZMAT3                                                                                                                                                                                  | 1.5 | 0.125 |
| MODULE_514                                             | ADH1A   ADH1C   ADH7   CRY2   CRYZL1   DHR52   FASN   SORD   TP53I3                                                                                                                                                                                                                                                                                                                                                                                                 | 1.5 | 0.375 |
| POSITIVE_REGULATION_OF_PROTEIN_SECRETION               | ACHE   ANG   CARD8   CRTAM   GLMN   INS   PYCARD                                                                                                                                                                                                                                                                                                                                                                                                                    | 1.5 | 0.125 |
| WILLERT_WNT_SIGNALING                                  | CND1   CITED2   CSTF1   EDNRB   GJA1   GSTM3   GYPC   ID2   ID2B   ING1   MSX2   NCOA3   NSMAF   RPL27A   SLC2A1   SNRPA1   SRP19   TLE1   TNFRSF11B   UBE2D2                                                                                                                                                                                                                                                                                                       | 1.5 | 0.375 |
| INSULIN_LIKE_GROWTH_FACTOR_RECEPTOR_BINDING            | IGF1   IGF2   INSL4   IRS1   PIK3R1   SHC1   SOCS1   SOCS2   YWHAH                                                                                                                                                                                                                                                                                                                                                                                                  | 1.5 | 0.125 |
| BIOCARTA_STRESS_PATHWAY                                | ATF1   CASP2   CHUK   CRADD   IKKB   IKKBG   JUN   LTA   MAP2K3   MAP2K6   MAP3K1   MAP3K14   MAP4K2   MAPK14   MAPK8   NFKB1   NFKBIA   RELA   RIPK1   TANK   TNF   TNFRSF1A   TRADD   TRAF2                                                                                                                                                                                                                                                                       | 1.5 | 0.125 |
| ST_GA13_PATHWAY                                        | AKT1   AKT2   AKT3   ARHGEF11   BCL2   CDC42   CFB   DLG4   GNA13   IKKBG   LPA   MAP2K4   MAP3K1   MAP3K5   MAPK8   NFKB1   NFKB2   NFKBIA   NFKBIB   NFKBIE   NFKBIL1   PDK1   PHKA2   PI3   PIK3CB   PLD1   PLD2   PLD3   PRKDI   PTK2   RDX   ROCK1   ROCK2   SERPINA4   SRF   TBXA2R                                                                                                                                                                           | 1.5 | 0.125 |
| chr1q43                                                | AKT3   GGP51   GREM2   HEATR1   LGALS8   MAP1LC3C   MTR   NID1   OPN3   RGS7   SDCAGH   SH3BP5   ZP4                                                                                                                                                                                                                                                                                                                                                                | 1.5 | 0.125 |
| PID_SYNDECAN_2_PATHWAY                                 | BAX   CASK1   CASP3   CAV2   CSF2   EPB41   EPHB2   FN1   GNB2L1   HRAS   IL8   ITGA2   ITGA5   ITGB1   KNG1   LAMA1   LAMA3   MAPK1   MAPK3   MAPK8   MMP2   NF1   PRKACA   PRKCD   RASA1   RHOA   SDC2   SDCBP   SRC   TGFB1   TNFRSF13B   TRAPP4                                                                                                                                                                                                                 | 1.5 | 0.375 |
| MODULE_102                                             | ADA   ADK   ADSL   APRT   CTPS   DTYMK   GART   GMPS   HPRT1   IMPDH2   MTHFD1   NME1   NME2   NME4   PAICS   PRPS1   PRPS2   UMPS                                                                                                                                                                                                                                                                                                                                  | 1.5 | 0.125 |
| REACTOME_CDC6_ASSOCIATION_WITH_THE_ORC_ORIGIN_COMPLEX  | CDG6   E2F1   E2F2   E2F3                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.5 | 0.375 |
| GNF2_RPA1                                              | ANP32E   BUB3   DEK   DHX15   ELAC2   HAT1   NUP153   NUP50   PTGES3   RAD21   RBMX   RPA1   SNRPD3   SSRP1   TDG   USP1   XRC5   ZCCHC8                                                                                                                                                                                                                                                                                                                            | 1.5 | 0.125 |
| WANG_RESPONSE_TO_PACLITAXEL_VIA_MAPK8_UP               | ANXA3   CNR2   EMP1   FGFBP1   FLOT1   HIST2H2BE   LAMA3   MT1F   PLK2   PLOD2   TLE1                                                                                                                                                                                                                                                                                                                                                                               | 1.5 | 0.125 |
| PID_HIF2PATHWAY                                        | ABCG2   ADRORA2A   APEX1   ARNT   CITED2   CREBBP   EFNA1   EGLN1   EGLN2   EGLN3   ELK1   EP300   EPAS1   EPO   ETS1   FLT1   FXN   HIF1AN   KDR   MPM14   PGK1   POU5F1   SERPINE1   SIRT1   SLC11A2   SLC2A1   SP1   TCEB1   TCEB2   TWIST1   VHL                                                                                                                                                                                                                | 1.5 | 0.25  |
| SCHLINGEMANN_SKIN_CARCINOGENESIS_TPA_DN                | ACSBG1   AEBP1   ANKRD17   APOC1   C1orf63   CDC28B   CCL21   CCL27   CD247   COL1A1   COL1A2   DEAF1   ENO3   FAM70A   GMPR   GPT   GRN   HOXA7   ITM2B   MDH1   MXRA8   MYL1   PLEKHA5   SH3GLB2   SPARC   TCAP   ZBTB17                                                                                                                                                                                                                                          | 1.5 | 0.125 |
| DEOXYRIBONUCLEASE_ACTIVITY                             | APEX1   APTX   DFFA   DFFB   DNASE1L1   DNASE1L2   DNASE2   ERCC1   ERCC4   ERCS   EXO1   FEN1   ISG20   MAP1S   MBD4   MRE11A   NME1   OGG1   RAD50   TREX1   TREX2                                                                                                                                                                                                                                                                                                | 1.5 | 0.125 |
| VANDELSUIS_NORMAL_EMBRYOS_DN                           | ALAS2   BASP1   CABP1   CRTCL   HBA2   HBE1   HBG2   HBZ   HOXC10   HP1BP3   HS3ST1   IAPP   KCNH2   LDHB   MYO5C   NUDT4   OR1E2   PCOLCE   PF4   POP4   SLC39A6   TESK1   VIM                                                                                                                                                                                                                                                                                     | 1.5 | 0.25  |
| DAZARD_UV_RESPONSE_CLUSTER_G4                          | APRT   ARHGDI4   CAPNS1   CDKN1C   DUSP1   GADD45B   H1FX   HIST2H2A3   KRT34   MMP10   PFN1   PPP2R1A   PRSS3   SOX15   SULT2B1   TUBB3   XBP1   ZFP36                                                                                                                                                                                                                                                                                                             | 1.5 | 0.25  |
| MYLLYKANGAS_AMPLIFICATION_HOT_SPOT_2                   | CND2   ERC1   ETV6   KRAS   ZNF384                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.5 | 0.25  |
| chr12p11                                               | BICD1   C12orf35   CCDC91   DDX11   ERGIC2   FAM60A   FLJ13224   IP08   ITPR2   KCNJ8   LRP6   MRPS55   PKP2   SSPN   STK38L   YARS2                                                                                                                                                                                                                                                                                                                                | 1.5 | 0.25  |
| SCHAEFFER_PROSTATE_DEVELOPMENT_AND_CANCER_BOX4_UP      | FABP4   KRT19   NAV1   NCOA6   SDRP   SIN3B   WAC                                                                                                                                                                                                                                                                                                                                                                                                                   | 1.5 | 0.5   |
| NEGATIVE_REGULATION_OF_PHOSPHORYLATION                 | CDKN1A   CDKN1B   CDKN2A   CDKN2B   CDKN2C   CDKN2D   IGFBP3   INHA   INHBA   NF2   SOCS1                                                                                                                                                                                                                                                                                                                                                                           | 1.5 | 0.375 |
| NUCLEAR_UBIQUITIN_LIGASE_COMPLEX                       | ANAPCS   BARD1   BRCA1   BRCC3   BRE   BUB1B   CDC23   FZR1                                                                                                                                                                                                                                                                                                                                                                                                         | 1.5 | 0.125 |
| INTERCELLULAR_JUNCTION_ASSEMBLY_AND_MAINTENANCE        | CD9   GJA1   GJA4   GJA5   PAR6A   PARDB6   PRKCI   TJP1   TLN1   TLN2   VCL                                                                                                                                                                                                                                                                                                                                                                                        | 1.5 | 0.375 |
| chr9p21                                                | ACO1   C9orf53   C9orf82   CDKN2A   CDKN2B   DNAJA1   ELAVL2   IFT74   KIAA1797   LRRC19   MTAP   NPR2   PLAA   PTENP1   RP56   RRAGA   TEK   TOPORS   UBAP1                                                                                                                                                                                                                                                                                                        | 1.5 | 0.125 |
| HYDRO_LYASE_ACTIVITY                                   | ACO1   ALAD   AUH   CA1   CA11   CA12   CA14   CA2   CA3   CA4   CASA   CASB   CA6   CA7   CA8   CA9   CBS   ECH1   ECHS1   EHHAH   ENO1   ENO2   ENO3   FH   GMD5   HADHA   HADHB                                                                                                                                                                                                                                                                                  | 1.5 | 0.125 |
| BIOCARTA_INSULIN_PATHWAY                               | CSNK2A1   ELK1   FOS   GRB2   HRAS   INS   INSR   IRS1   JUN   MAP2K1   MAPK3   MAPK8   PIK3CA   PIK3CG   PIK3R1   PTPN11   RAF1   RASA1   SHC1   SLC2A4   SOS1   SRF                                                                                                                                                                                                                                                                                               | 1.5 | 0.125 |
| TBK1.DN.48HRS_DN                                       | ABCF1   AKAP8   ANKRD10   ATG3   ATP6V1D   BCL2   BIRC2   BIRCS   BPHL   COASY   COL4A1   CPNE3   CRY2   CTNNAL1   DCK   DLD   DUSP22   DUSP4   EGF   GALE   GNA15   GTF2A2   H2AFV   HSPA1A   IER3   IL13RA1   INPP4B   ITGB1BP1   KIAA0100   MAPK9   MSRA   PAFAH1B3   PDGFA   PDHX   PLEKHJ1   PPOX   PRKCQ   PSMB8   RAD51C   RALA   RALB   RGS2   ST3GAL5   STX1A   TERF2IP   TOR1A   TRIB3   UFM1   XBP1                                                      | 1.5 | 0.125 |
| CHROMOSOME_CONDENSATION                                | ACIN1   DFFB   NUSAP1   PAM   SMC4   TOP2A                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.5 | 0.25  |
| ZHANG_ADIPOGENESIS_BY_BMP7                             | AKT1   AKT2   GRB10   GRB14   GRB2   HRAS   IRS1   MAP3K5   MAPK3   MYO1C   PIK3C2A   PIK3R1   SH2B2                                                                                                                                                                                                                                                                                                                                                                | 1.5 | 0.125 |
| ZHOU_CELL_CYCLE_GENES_IN_IR_RESPONSE_2HR               | CENPA   E2F1   LAMB1   LYN   MCM5   SEMA3B                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.5 | 0.375 |
| REACTOME_G_BETA_GAMMA_SIGNALLING_THROUGH_PLG_BETA      | GNB1   GNB2   GNB3   GNB5   GNG10   GNG11   GNG12   GNG13   GNG3   GNG4   GNG5   GNG7   GNGT1   GNGT2   PLCB1   PLCB2   PLCB3                                                                                                                                                                                                                                                                                                                                       | 1.5 | 0.25  |
| VALK_AML_CLUSTER_9                                     | AK5   BAHCC1   CBF8   CD1C   CD59   CD81   CH3L1   CHST12   CLEC10A   COLEC12   DHR53   EMID1   FAM105A   FCGR2B   ICAM4   MGLL   MN1   MSLN   MTRM11   MYH11   NDE1   NRP1   NTSE   PAPS2   PTPRM   RP56KA2   RUNX3   SPARC   ST18   TGFBI   VSIG4                                                                                                                                                                                                                 | 1.5 | 0.125 |
| CDC42_PROTEIN_SIGNAL_TRANSDUCTION                      | ABCA1   APOA1   APOC3   APOE   FGD1   FGD2   FGD6   RALBP1                                                                                                                                                                                                                                                                                                                                                                                                          | 1.5 | 0.125 |
| REACTOME_ADP_SIGNALLING_THROUGH_P2RY1                  | GNA11   GNA14   GNA15   GNAQ   GNB1   GNB2   GNB3   GNB5   GNG10   GNG11   GNG12   GNG13   GNG3   GNG4   GNG5   GNG7   GNGT1   GNGT2   MAPK14   P2RY1   PLA2G4A   SRC                                                                                                                                                                                                                                                                                               | 1.5 | 0.125 |
| INTERACTION_WITH_HOST                                  | ACE2   ALB   C9   CD209   CD81   CLEC4M   DERL1   ITCH   RRAGA   SMAD3   TARBP2   TGFBI   VAPB   WWP1   WWP2                                                                                                                                                                                                                                                                                                                                                        | 1.5 | 0.125 |
| chr2q                                                  | AAMP   AGPS   BARD1   DARS   TRIP12                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.5 | 0.125 |
| REGULATION_OF_IMMUNE_EFFECTOR_PROCESS                  | APOBEC3F   APOBEC3G   CRTAM   FOXP3   IL12A   IL12B   MALT1   MAP3K7   NCR1   PTPRC   TARBP2   TRAF2   TRAF6                                                                                                                                                                                                                                                                                                                                                        | 1.5 | 0.125 |
| REGIONALIZATION                                        | ACVR2B   BM11   DVL2   GLI2   LMX1B   MDF1   PBX3   SMAD2   T   TBX3   TDGF1   TRIM14                                                                                                                                                                                                                                                                                                                                                                               | 1.5 | 0.125 |
| SARTIPY_BLUNTED_BY_INSULIN_RESISTANCE_UP               | CCDC86   CERK   CXCL1   JUNC8   LRRFIP1   MT2A   NAB2   NFIL3   PKD2   PPRC1   RGL1   RSAD2   SERPINE1   SKIL   SNTB2   SOCS3                                                                                                                                                                                                                                                                                                                                       | 1.5 | 0.25  |
| chr4q21                                                | ADAMTS3   AFF1   AMBN   ANKRD17   ANXA3   CCNG2   CCNI   CDKL2   CD51   COPS4   COQ2   CSN1S1   CSN2   CSN3   CXCL1   CXCL10   CXCL11   CXCL13   CXCL2   CXCL3   CXCL6   CXCL9   DMP1   D5PP   EIF4E   EREG   FGF5   FRAS1   G3BP2   GNRHR   HERC3   HPSE   IGI   KLHL2   MEPE   MRPS18C   NKX6-1   NUP54   PAQR3   PKD2   PLAC8   PPEF2   PPP3CA   PRDM8   PTPN13   RCHY1   SCARB2   SCDS   SDAD1   SLC4A4   SNCA   STA3   THAP9   UNC5C   WDFP3                   | 1.5 | 0.125 |
| DEVELOPMENT_OF_PRIMARY_SEXUAL_CHARACTERISTICS          | ANKRD7   BMPR1B   CSD1   DMRT1   EIF2B2   EIF2B4   EIF2B5   EREG   FOXL2   FSHR   HMGC   HSD17B3   LHB   LHCGR   MEA1   MKKS   NCOA4   NR0B1   NR5A1   PRKACG   SHH   SOD1   SOX15   SRD5A2   TBX3                                                                                                                                                                                                                                                                  | 1.5 | 0.375 |
| KEGG_NON_HOMOLOGOUS_END_JOINING                        | CDLREIC   DNTT   FEN1   LIG4   MRE11A   NHEJ1   POLL   POLM   PRKDC   RAD50   XRC4   XRC5   XRC6                                                                                                                                                                                                                                                                                                                                                                    | 1.5 | 0.25  |
| PID_TRAIL_PATHWAY                                      | CASP10   CASP8   CFLAR   CHUK   DAP3   FADD   IKKB   IKKBG   MAP2K4   MAP3K1   MAPK1   MAPK8   PIK3CA   PIK3CB   PIK3CD   PIK3R1   PIK3R2   PIK3R3   RIPK1   SMAD1   TNFRSF10B   TNFRSF10C   TNFRSF10D   TNFSF10   TNFSF10   TRADD   TRAF2                                                                                                                                                                                                                          | 1.5 | 0.125 |
| NUNODA_RESPONSE_TO_DASATINIB_IMATINIB_DN               | BAX   CASP10   CASP2   CDK2AP1   CDKN1A   IKKB   IKBE   STAT1   STAT5B   STAT6   TNF   TNFAIP3   XRC2                                                                                                                                                                                                                                                                                                                                                               | 1.5 | 0.5   |
| chr1q121                                               | ANKRD49   C11orf75   CEP57   CNTN5   DLG2   DYNC2H1   ENODD1   FUT4   GUCY1A2   JRKL   KIAA1731   MMP1   MMP7   MMP8   MRE11A   MTRN1B   TRPG6                                                                                                                                                                                                                                                                                                                      | 1.5 | 0.125 |
| ACTIN_FILAMENT_BUNDLE_FORMATION                        | ARGHEF10L   EPB49   FSCN1   FSCN2   LAMA1   NF2   SHROOM2   SORBS1   SORBS3   TSC1                                                                                                                                                                                                                                                                                                                                                                                  | 1.5 | 0.125 |
| chr6q25                                                | ACTA2   AGPAT4   C6orf211   C6orf35   C6orf97   DYNLT1   FBXO5   GTF2H5   IGFB2   LAT51   LOC64850   MAP3K4   MRPL18   MTRF1L   MYCT1   NOX3   PARK2   RGS17   SNX9   SOD2   SUMO4   SYNJ2   TCP1   TFB1M   TIAM2   TULP4   ULBP1   ULBP2   WTAP   ZDHHC14                                                                                                                                                                                                          | 1.5 | 0.125 |
| VERRECCHIA_RESPONSE_TO_TGFBI_C3                        | APC   CD59   IGFB2   IGFBP2   IGFBP5   ITGB5   LAMA4   MMP19   NME2   PXN   RHOA   RHOQ   RND3   ZYX                                                                                                                                                                                                                                                                                                                                                                | 1.5 | 0.125 |
| REGULATION_OF_TYROSINE_PHOSPHORYLATION_OF_STAT_PROTEIN | CLCF1   HCLS1   IL12A   LYN   NF2   SOCS1                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.5 | 0.25  |
| GUTIERREZ_CHRONIC_LYMPHOCTIC_LEUKEMIA_UP               | CD1C   CYBB   GLRX   IGI   IQSEC1   ITGA4   LPN1   MS4A1   P2RX5   PLXNC1   PRKACB                                                                                                                                                                                                                                                                                                                                                                                  | 1.5 | 0.125 |
| BIOCARTA_IGF1RTOR_PATHWAY                              | AKT1   EIF2B5   EIF251   EIF252   EIF253   EIF4E   EIF4EBP1   GSK3B   IGF1   IGF1R   INPPL1   PDK2   PDPK1   PIK3CA   PIK3R1   PPP2CA   PTEN   RP56   RPS6K1                                                                                                                                                                                                                                                                                                        | 1.5 | 0.125 |
| chr10p14                                               | DHTKD1   ECHDC3   FRMD4A   HSPA14   OPTN   PFKFB3   PTPLA   SEC61A2   SEPHS1   STAM   UPF2   ZMYND11                                                                                                                                                                                                                                                                                                                                                                | 1.5 | 0.125 |
| BIOCARTA_LONGEVITY_PATHWAY                             | AKT1   CAT   GH1   GHR   HRAS   IGF1   IGF1R   PIK3CA   PIK3CG   PIK3R1   SHC1   SOD1   SOD2   SOD3                                                                                                                                                                                                                                                                                                                                                                 | 1.5 | 0.125 |
| chr7q11                                                | ABHD11   BAZ1B   BCL7B   C7orf42   CCL24   CD36   CLDN3   CLDN4   DTX2   ELN   FGL2   FKBP6   J209   GABPA   GTF2I   GTF2IP1   GTF2IRD1   GTF2IRD2   HGF   HIP1   KCTD7   KRIT1   LAT2   LUMK1   LOC41258   LOC41259   LOC641776   LOC643862   MLXIPL   NCF1   NSUN5   PCLO   PEK1   PHTF2   PMS2L2   POLR2J   POLR2J2   POM121   POM2P3   POR   PTPN12   RABGEF1   RFC2   STX1A   STYX11   TBL2   TPST1   TYW1   UPK3B   WBSRC16   WBSRC22   ZNF117   ZNF273   ZP3 | 1.5 | 0.125 |
| CHOI_ATL_CHRONIC_VS_ACUTE_DN                           | ATP6V1A   CGGBP1   CMTM6   CTDSP2   GTF3A   HSPD1   IARS   LBN   LRRC8D   MAT2B   MDH1   NCOA3   PPP1CC   SERBP1   SPTBN1   SUMO1   UBE2E1                                                                                                                                                                                                                                                                                                                          | 1.5 | 0.125 |

|                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |       |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| PETRETTO_HEART_MASS_QTL_CIS_DN                                                      | ARHGAP24   CDS1   DCP5   ELAVL1   ENDOG   GJA1   HLA-DQA1   HLA-DQB1   HYOU1   LANCL1   NDUFAF1   NEU2   POPS   REXO4   SERPINB6   TME21   TXN2                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1.5 | 0.125 |
| EPITHELIAL_TO_MESENCHYMAL_TRANSITION                                                | BMP2   BMP7   CTNNB1   HGF   S100A4   TGFBI   TGFBI2   TGFBI3   TRIM28                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1.5 | 0.25  |
| REACTOME_SYNTHESIS_OF_GLYCOSYLPHOSPHATIDYLINOSITOL_GPI                              | DFP2   FIGA   FIGB   FIGC   FIGF   FIGH   FIGI   FIGJ   FIGK   FIGL   FIGM   FIGN   FIGO   FIGP   FIGQ   FIGR   FIGS   FIGT   FIGU   FIGV   FIGW   FIGX   FIGY   FIGZ   FIGAA   FIGAB   FIGAC   FIGAD   FIGAE   FIGAF   FIGAG   FIGAH   FIGAI   FIGAJ   FIGAK   FIGAL   FIGAM   FIGAN   FIGAO   FIGAP   FIGAQ   FIGAR   FIGAS   FIGAT   FIGAU   FIGAV   FIGAW   FIGAX   FIGAY   FIGAZ   FIGAA   FIGAB   FIGAC   FIGAD   FIGAE   FIGAF   FIGAG   FIGAH   FIGAI   FIGAJ   FIGAK   FIGAL   FIGAM   FIGAN   FIGAO   FIGAP   FIGAQ   FIGAR   FIGAS   FIGAT   FIGAU   FIGAV   FIGAW   FIGAX   FIGAY   FIGAZ | 1.5 | 0.125 |
| KIM_GERMINAL_CENTER_T_HELPER_DN                                                     | CLASP2   DHRS1   DOCK4   DUSP8   ELL2   FLJ43663   IRS2   OSBP   PER1   RORA   RPL23AP7   RYBP   SPTBN1   SVIL   USP12   ZNF331                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1.5 | 0.125 |
| REGULATION_OF_GENE_SPECIFIC_TRANSCRIPTION                                           | ARHGEF10L   ATF6   BMP2   PEX14   RORB   SCAP   SMARCA1   SPI1   TRIM28                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.5 | 0.125 |
| PID_IL8CXCR1_PATHWAY                                                                | ADRBK1   AKT1   ARRB1   ARRB2   CBL   DNMI1   FGR   GNA14   GNA15   GNA12   GNB1   HCK   IL8   LYN   PDPK1   PIK3CG   PLCB1   PLCB2   PLCB3   PLD1   PRKA   PRKE   PRKC   PRKG   RAB5A                                                                                                                                                                                                                                                                                                                                                                                                                | 1.5 | 0.25  |
| HAHTOLA_MYCOSIS_FUNGIOIDES_DN                                                       | CANX   CD160   CD37   CDC42   CFI1   FLNA   HLA-DQB1   IGI   IGLG   IKZF1   PRKCH   PRMT1   RPL31   ZBTB16   ZFP3612                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.5 | 0.125 |
| RAS_GTPASE_BINDING                                                                  | ARIF2   ARHGEF2   CDC42EP2   CSFP1   DMXL2   DOCK4   GOLGA5   IPO7   IPO8   IPO9   PAR6DA   PLCE1   RAB3GAP1   RALBP1   RANBP1   RANBP2   RANBP3   RANBP9   RARGEF6                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1.5 | 0.25  |
| MODULE_335                                                                          | ALAD   ALAS1   BAAT   COX10   DCT   DDT   FECH   GCLC   HMBS   HMOX1   HMOX2   TYR   TYRP1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1.5 | 0.375 |
| BANDRES_RESPONSE_TO_CARMUSTIN_WITHOUT_MGMT_48HR_UP                                  | BC110   CD80   ECM2   ESRRA   GCM1   GDI2   GNRHR   LAIR1   RNASE4   SLC10A1   SMARCD1   SMPD2   SNAPC1   SNAPC3   SNCG   SNRPB2   ST6GAL1   STSIA1                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1.5 | 0.125 |
| CAIRO_PML_TARGETS_BOUND_BY_MYC_UP                                                   | BAX   BCAT1   CAD   CCNB1   CCND2   CDC25A   CDK4   CUL1   DDX18   EIF4E   EMP1   ID2   NCL   NPM1   ODC1   POLR3D   PTMA   THBS1   TK1   TP53   YBX1                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.5 | 0.125 |
| PIGMENT_METABOLIC_PROCESS                                                           | ALAD   ALAS1   ALAS2   AP3D1   BLVR4   COX10   COX15   CPOX   DCT   FECH   GMP5   GPR143   NFE2L1   OCA2   PAICS   PPOX   TSP0   TYR                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.5 | 0.375 |
| ACETYLTRANSFERASE_ACTIVITY                                                          | AANAT   ACAT1   BRCA2   CREBBP   EDF1   ELP4   EP300   GTF3C4   HADHA   HAT1   NAT1   NAT2   NCOA3   SAT1   SMARCE1   SRCAP   TAF1   TAF5                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.5 | 0.125 |
| ROY_WOUND_BLOOD_VESSEL_DN                                                           | ATP1B1   ATP8B1   C1orf116   CD24   CEACAM6   DSP   EPB41L4B   ERBB3   F5   FBXO9   GABRP   HIST3H2A   KLF5   KRT14   KRT15   PROM1   RNFA3   S100P   SCGB2A2   SFRP1   SLC6A14   SOX9                                                                                                                                                                                                                                                                                                                                                                                                                | 1.5 | 0.25  |
| PROTEIN_MATURATION                                                                  | AIP   APH1A   ATP6AP2   NCSTN   PSEN1   PSEN2   PSENEN   REN   STUB1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.5 | 0.25  |
| MYLYKANGAS_AMPLIFICATION_HOT_SPOT_16                                                | COX6C   EXT1   MYC   NCOA2   PLP1G   RECQL4   RUNX1T1   TCEA1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1.5 | 0.25  |
| REACTOME_DOWNREGULATION_OF_TGF_BETA_RECEPTOR_SIGNALING                              | MTMR4   PPP1CA   PPP1C   PPP1R1A   PPP1R2   RPS27A   SMAD2   SMAD3   SMAD7   SMURF1   SMURF2   STRAP   STUB1   TGFBI   TGFBR1   TGFBR2   UBEA52   UCHL5   XP01   ZFYV9                                                                                                                                                                                                                                                                                                                                                                                                                                | 1.5 | 0.125 |
| REACTOME_SIGNALING_BY_NOTCH3                                                        | ADAM10   APH1A   APH1B   JAG1   JAG2   NCSTN   NOTCH3   PSEN1   PSEN2   PSENEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1.5 | 0.25  |
| SCHMIDT_POR_TARGETS_IN_LIMB_BUD_DN                                                  | ABCA1   ALDH1A2   CHRNA5   CPA3   JRTM1   MSX2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1.5 | 0.125 |
| UBIQUITIN_LIGASE_COMPLEX                                                            | ANAPCS   ARIH1   ATG3   BARO1   BRCA1   BRCC3   BRE   BUB1B   CAND1   CDC23   FBXL4   FBXO7   FZR1   RNFI1   SMURF2   UBE2L3   UBE4A   UBE4B   USP33   WWP2                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.5 | 0.125 |
| NLS_BEARING_SUBSTRATE_IMPORT_INTO_NUCLEUS                                           | CBLL   FVB   KPN1A   KPN2A   KPN3A   KPN4A   KPN5A   KPN6A   KPNB1   NCKIPSO   RERE   TRPS1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.5 | 0.125 |
| KEGG_GLYCOSAMINOGLYCAN_BIOSYNTHESIS_HEPARAN_SULFATE                                 | B3GAT1   B3GAT3   B4GALT7   EXT1   EXT2   EXT1L   EXT2L   EXT3L   GLCE   HS2ST1   HS3ST1   HS3ST2   HS3ST3A1   HS3ST3B1   HS6ST1   NDST1   NDST2   NDST3   NDST4   XYL2L                                                                                                                                                                                                                                                                                                                                                                                                                              | 1.5 | 0.125 |
| ZHAN_LATE_DIFFERENTIATION_GENES_DN                                                  | ADA   BCL6   BIK   CKS2   EPHX1   KLU1   LCK   LRMP   MARCKSL1   MYBL1   PKM2   RHOH   SORL1   SYK   TCEA1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1.5 | 0.25  |
| REACTOME_NEF_MEDIATED_DOWNREGULATION_OF_MHC_CLASS_I_COMPLEX_CELL_SURFACE_EXPRESSION | AP1B1   AP1G1   AP1M2   AP1S1   AP1S2   B2M   HLA-A   PACS1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.5 | 0.25  |
| PROTEIN_KINASE_INHIBITOR_ACTIVITY                                                   | AGTR2   CAMK2N1   CDKN1C   CDKN1B   CDKN1C   CDKN2A   CDKN2B   CDKN2C   CDKN2D   DNAJC3   GMEF   GMEG   HEXIM1   MAPK8IP1   MBIP   PKIA   PKIG   SFN   SH3BP5   SOCS1   SOCS3   TAOK3                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.5 | 0.375 |
| ADP_BINDING                                                                         | ABCG1   ACTA1   GCLC   ME1   MSH2   MSH6   MYH10   MYH9   MYO3A   MYO6   MYO9B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 1.5 | 0.375 |
| chr12q22                                                                            | ASCL1   BTG1   CDC41A   DUSP6   EEA1   HAL   IGF1   KITLG   LGR5   LOC642969   LTAH4   METAP2   MRPL42   NFYB   NR1H4   NR2C1   NTSDC3   PAH   TMPO   UBE2N   VEZT                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1.5 | 0.375 |
| ACTIN_FILAMENT_ORGANIZATION                                                         | ACTA1   ARHGEF10L   ARHGEF2   DBN1   DLG1   EPB49   EVL   FSCN1   FSCN2   KPTN   LIMA1   NF2   PLA2G1B   RHOF   RND1   SHROOM2   SORBS1   SORBS3   SPTA1   TSC1                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1.5 | 0.125 |
| MAHADEVAN_RESPONSE_TO_MP470_DN                                                      | ATF3   CRYAB   CTTN   CYR61   DDIT3   DUSP1   DUSP5   GADD45B   GDF15   GEM1   HSPA1A   HSPA6   KLHL24   MAFF   MYC   NFIL3   PPP1R15A   SOD2                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1.5 | 0.25  |
| AMYLOID_PRECURSOR_PROTEIN_METABOLIC_PROCESS                                         | ABCG1   ACHE   APH1A   BACE2   CLN3   NCSTN   PSEN1   PSEN2   PSENEN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.5 | 0.25  |
| REACTOME_TRYPTOPHAN_CATABOLISM                                                      | CBLL1   HAAD   KMO   KYNU   TDO2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1.5 | 0.125 |
| NAISHIRO_CTNNB1_TARGETS_WITH_LEF1_MOTIF                                             | CLU   HAPLN1   IGF2BP2   ITGA6   SFRP4   TNC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.5 | 0.375 |
| MAUK_REPRESSED_BY_ESTROGEN                                                          | BIK   BMP7   CDH3   CERK1   CLDN4   CXCR4   EFEMP1   KLF6   MUC1   MXD4   NDRG1   RPRM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1.5 | 0.375 |
| PID_RET_PATHWAY                                                                     | CREB1   CRK   DOK1   DOK4   DOK5   FRS2   GAB1   GDNF   GFR1A   GRB10   GRB2   GRB7   HRAS   IRS1   IRS2   JUN   MAPK1   MAPK3   MAPK8   NCK1   PDLM7   PIK3CA   PIK3R1   PRKACA   PRKCA   PTK2   PTPN11   PXN   RAC1   RAP1A   RASA1   RET   RHOA   SHC1   SOS1   SRC                                                                                                                                                                                                                                                                                                                                | 1.5 | 0.125 |
| chr6p23                                                                             | ACTR1   CD83   DEK   EDN3   EEF1E1   FAM8A1   FOD1   GMPR   KIF13A   MYLIP   NOL7   PHACTR1   RANBP1   RANBP2   SLK17A1                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.5 | 0.25  |
| TRANSFERASE_ACTIVITY_TRANSFERRING_PENTOSYL_GROUPS                                   | APT1   ART1   ART3   HPR1T1   PARP1   PPAT   QPRT   QTRT1   SIRT1   SIRT3   SIRT4   SIRT5   SIRT6   TNKS   UMP5   UPP1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1.5 | 0.25  |
| chr11p                                                                              | BBOX1   KLF1   PEX16   RPS13   TOLLIP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.5 | 0.375 |
| TURASHVILI_BREAST_NORMAL_DUCTAL_VS_LO                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |       |

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                               |     |       |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| WANG_RESPONSE_TO_BEXAROTENE_UP                                  | BCL2L14   BNP13   BRCA1   CASA   CDH3   CEACAM1   CIAPIN1   CNNM3   CTNNB1P1   EFNA4   EGF   EMID2   FGD1   GLIPR1   GNB1L   HDAC6   HDGF   LAMB1   MPG   NFX1   PRRX2   RASA2   RGS11   TLX1                                                                                                                                                                                                                                 | 1.4 | 0.125 |
| MODULE_295                                                      | AC01   AC02   AUH   CA11   CA2   CA4   CASA   CA6   CA8   CBS   ECH1   ECHS1   EHHADH   ENO2   FH   HADHA   HADHB   PCBD1   PTPRG   PTS   UROS                                                                                                                                                                                                                                                                                | 1.4 | 0.125 |
| LIPOPROTEIN_METABOLIC_PROCESS                                   | AIP1L1   ANGPT13   APOA1   APOA2   APOA4   ATG7   CETP   CHM   DPM1   DPM2   DPM3   FNTA   FNTB   GPA1   LDLR   NPC1L1   PGGT18   PIGA   PIGB   PIGC   PIGF   PIGG   PIGH   PIGK   PIGO   PIGT   PIGV   PIGZ   PPT1   SCARF1                                                                                                                                                                                                  | 1.4 | 0.25  |
| MODULE_101                                                      | GSTA3   GSTA4   GSTM2   GSTM4   GSTM5   GSTP1   GST2   MGST2   MGST3                                                                                                                                                                                                                                                                                                                                                          | 1.4 | 0.25  |
| SMAD_BINDING                                                    | ACVR1   ACVR1B   ACVR1L   BMPR1A   BMPR1B   FOXH1   SMAD3   SMAD4   STUB1   TGFBR1   TGFBRAP1                                                                                                                                                                                                                                                                                                                                 | 1.4 | 0.125 |
| TRANSCRIPTION_ELONGATION_REGULATOR_ACTIVITY                     | ELL   ELL3   ELP3   ERCC6   HMGNI1   HTATSF1   IKKBAP   SUPT16H   SUPT4H1   SUPT5H   TCEB3B   TSFM                                                                                                                                                                                                                                                                                                                            | 1.4 | 0.25  |
| LIN_TUMOR_ESCAPE_FROM_IMMUNE_ATTACK                             | AKR1C3   CHD7   GJB4   HTRA1   IL2RG   JAG1   KHDRBS3   MMD   NPPB   NRP2   PLA2G7   RGS16   ST3GAL6   TNNT2                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| BIOCARTA_AKT_PATHWAY                                            | AKT1   BAD   CASP9   CHUK   FASLG   GH1   GHR   HSP90AA1   IKKBK   IKK2G   NFKB1   NFKBIA   POPK1   PIK3CA   PIK3CG   PIK3R1   PPP2CA   REL   YWHAH                                                                                                                                                                                                                                                                           | 1.4 | 0.125 |
| OUYANG_PROSTATE_CANCER_MARKERS                                  | AMACR   AR   BCL2   CCNE1   CDKN1A   CLU   CTSB   EZF4   ETS1   EZH2   FN1   HPN   IGFBP2   INSR   MET   MKI67   MTA1   TFF3   VAV3                                                                                                                                                                                                                                                                                           | 1.4 | 0.375 |
| LI_CYTIDINE_ANALOGS_CYCOTOXICITY                                | ARL2BP   C14orf169   CENPB   ESR2   FKBP5   GCAT   INPP5F   MAP4K4   MGMT   MYBBP1A   TLE4   TPMT   TRRAP                                                                                                                                                                                                                                                                                                                     | 1.4 | 0.125 |
| LIU_CMYB_TARGETS_DN                                             | ATP6V1A   CYB5B   FOLR1   RHOBTB3   SERINC3   SRRM2                                                                                                                                                                                                                                                                                                                                                                           | 1.4 | 0.25  |
| MODULE_543                                                      | ANXA1   ANXA2   ANXA3   ANXA4   ANXA5   HLA-DMB   HLA-DOA   HLA-DOB   HLA-DRA   LGALS1   LGALS3   LGALS4   LGALS7   MRC1   SCGB1A1                                                                                                                                                                                                                                                                                            | 1.4 | 0.5   |
| chr2q13                                                         | ACOXL   ACTR3   ANKRD57   BCL2L11   EN1   IL1B   LOC440895   MALL   NPHP1   POLR1B   PROC   PSD4   RABL2A   RANBP2   RGPD5                                                                                                                                                                                                                                                                                                    | 1.4 | 0.375 |
| REACTOME_APOPTOSIS_INDUCED_DNA_FRAGMENTATION                    | CASP3   DFFA   DFFB   H1FO   HIST1H1A   HIST1H1B   HIST1H1C   HIST1H1D   HIST1H1E   HMG81   HMG82   KPNA1   KPNB1                                                                                                                                                                                                                                                                                                             | 1.4 | 0.125 |
| chr1p32                                                         | ACOT11   ATP6V08   CDKN2C   CPT2   DIO1   ECHDC2   EPS15   FCN3   FOXD3   FOXE3   GPX7   HOOK1   JAK1   JUN   KHDRBS1   MACF1   NFYC   NRD1   OSBP19   PABPC4   PINK1   PP1E   PPT1   PTC2   RAB3B   RAD54L   RLF   RNF11   ROR1   SC2P   SLCA17   SLCS3D1   SPAT1A6   SSBP3   STIL   TACSTD2   TALI   TESK2   TM2D1   TMEM48   TTC22   UCK2   USP24   VCAM1   ZCCHC11                                                        | 1.4 | 0.125 |
| MATZUK_POST-IMPLANTATION_AND_POST-PARTUM                        | ABCA1   B4GALT1   CSF1   DAZAP1   FOXB1   FZD4   GDI1   HSF1   INHBB   NR2C2   OXT   OXTR   SRD5A1                                                                                                                                                                                                                                                                                                                            | 1.4 | 0.125 |
| chr2q31                                                         | ATP5G3   B3GALT1   BMPR2   CHN1   COL3A1   CYBRD1   DHRS9   DYNC12   FASTKD1   GAD1   HAT1   HOXD1   HOXD10   HOXD11   HOXD12   HOXD13   HOXD3   HOXD4   HOXD9   ITGA4   ITGA6   ITGAV   KLHL23   LOC440925   METTL5   METTL8   MTX2   NDUFB3   NFE212   PDE11A   PDK1   PMS1   PP1G   PRKRA   RAB6G   RAPGEF4   SCRN3   SP3   SSB   TFP1   TLK1   TTC30A   TTN                                                               | 1.4 | 0.25  |
| BIOCARTA_CERAMIDE_PATHWAY                                       | BAD   BAX   BCL2   CASP8   CYCS   FADD   MAP2K1   MAP2K4   MAP3K1   MAPK1   MAPK3   MAPK8   NFKB1   NSMAF   RAF1   RELA   RIPK1   SMPD1   TNFRSF1A   TRADD   TRAF2                                                                                                                                                                                                                                                            | 1.4 | 0.125 |
| MOREIRA_RESPONSE_TO_TSA_UP                                      | BAK1   BYSL   CD2   CD6   CD82   COX8A   EIF4A1   ENO2   FKBP4   HMGNI1   HSP90AB1   HSPA1A   HSPA1B   IGFBP4   MIF   MYC   PAZG4   PSMB4   RARA   SELPLG   SSR4   TGFBI   TMSB4X   TP53   USF2   YWHAH                                                                                                                                                                                                                       | 1.4 | 0.125 |
| DASU_IL6_SIGNALING_DN                                           | ASNS   PPP1R3C   SERPINE1   SULF1   TPM1                                                                                                                                                                                                                                                                                                                                                                                      | 1.4 | 0.375 |
| RRNA_METABOLIC_PROCESS                                          | DKC1   ERN2   EXOSC2   EXOSC7   FBL   GEMIN4   NOLC1   POP4   RPS14                                                                                                                                                                                                                                                                                                                                                           | 1.4 | 0.125 |
| BIOCARTA_MAL_PATHWAY                                            | ACTA1   CDC2   DIAPH1   HRAS   LIMK1   MAL   MAP2K1   MAP2K2   MAP3K1   MAP4K2   MAPK1   MAPK3   MAPK8   RAC1   RAF1   RHOA   ROCK1   SRF                                                                                                                                                                                                                                                                                     | 1.4 | 0.125 |
| REACTOME KERATAN_SULFATE KERATIN_METABOLISM                     | B3GNT1   B3GNT2   B3GNT3   B3GNT4   B4GALT1   B4GALT2   B4GALT3   B4GALT4   B4GALT5   B4GALT6   CHST1   CHST2   CHST5   FMOD   GLB1   GNS   HEXA   HEXB   KERA   LUM   OGN   OMD   PRELP   ST3GAL1   ST3GAL2   ST3GAL6                                                                                                                                                                                                        | 1.4 | 0.125 |
| MICROTUBULE_POLYMERIZATION_OR_DEPOLYMERIZATION                  | APC   ARHGFE2   CENPJ   CLASP1   CLASP2   KATNB1   MAPRE1   MAPT   MID1P1   STMN1   TPPP                                                                                                                                                                                                                                                                                                                                      | 1.4 | 0.125 |
| PID_TCPTP_PATHWAY                                               | ATR   CREBBP   CSF1   CSF1R   EGF   EGFR   EIF2AK2   GAB1   GRB2   HGF   INS   INSR   ITGB1   JAK1   JAK3   KDR   KPNA2   KPNB1   LMAN1   MET   PDGFR   PDGFRB   PIAS1   PIK3CA   PIK3CB   PIK3R1   PIK3R2   PIK3R3   PTPN1   PTPN21   RAB4A   SHC1   SOS1   SRC   STAT1   STAT3   STAT5A   STAT5B   STAT6                                                                                                                    | 1.4 | 0.25  |
| SARTIPY_NORMAL_AT_INSULIN_RESISTANCE_DN                         | ABCA1   ADRB3   B3GALT2   C1orf63   CCNG2   GAB1   HMG82   KLHL24   MKRN1   NR1D2   PIK3C3   PTGFR   SIX5   TCTA   TXNIP   ZBTB16                                                                                                                                                                                                                                                                                             | 1.4 | 0.375 |
| BARRIER_CANCER_RELAPSE_TUMOR_SAMPLE_UP                          | ATG12   ATP6V1G1   CKS1B   COPS4   DCTN3   DNAJB9   H2AFZ   IL8   LYN   MMP12   MRPL24   PDCD10   ZFAND1                                                                                                                                                                                                                                                                                                                      | 1.4 | 0.375 |
| URS_ADIPOCYTE_DIFFERENTIATION_DN                                | ADORA1   CD37   CEBPA   COL3A1   COL4A2   COL6A3   DCN   EZF4   FN1   LOX   LOXL1   LRP3   LRP5   LUM   MMP9   NUMA1   PPARD   PPP2R1A   PSG9   PTGDS   PTPRN   ROM1   SNR   SPARC   THBS2                                                                                                                                                                                                                                    | 1.4 | 0.125 |
| KANG_FLUOROURACIL_RESISTANCE_DN                                 | BACE2   CALB2   DDIT4   FLNB   GOT1   ITGB4   LAMC2   LDLR   MST1R   NFYA   OPLAH   PCK2   S100A14   S100P   SLCA2A1   SLCA3A1                                                                                                                                                                                                                                                                                                | 1.4 | 0.125 |
| KANG_CISPLATIN_RESISTANCE_UP                                    | ATP7A   C10orf116   CDKN1A   DALRD3   FAM46A   FTH1   GRN   IER5   IGFBP6   JUP   LZTF1   MAFF   MDK   RAC2   SF3B3   TFP1   ZDHHC3                                                                                                                                                                                                                                                                                           | 1.4 | 0.125 |
| HETEROPHILIC_CELL_ADHESION                                      | AMIGO2   CD164   CD209   LGALS7   PVRL1   REG3A                                                                                                                                                                                                                                                                                                                                                                               | 1.4 | 0.25  |
| NIELSEN_SCHWANNOMA_DN                                           | ADCY1   ASS6   C5orf13   DPEP1   EGFR   FBLN1   FBN2   GAS1   KIAA1462   MFAP2   MLLT4   SLC7A2   SNAI2   TBX3                                                                                                                                                                                                                                                                                                                | 1.4 | 0.375 |
| PID_EPHA2_FWDPATHWAY                                            | ACP1   CBL   EFNA1   EPHA2   GRB2   INPPL1   PAK1   PIK3CA   PIK3R1   PTK2   RAC1   RHOA   SHC1   SRC   TIAM1   VAV2   VAV3                                                                                                                                                                                                                                                                                                   | 1.4 | 0.125 |
| VANDESLUIS_COMMD1_TARGETS_GROUP_2_UP                            | BNIP3   CCND2   HK2   MAFF   NDUFA4L2   PDK1   PRKFB3   PRKP   STC2   TFRF                                                                                                                                                                                                                                                                                                                                                    | 1.4 | 0.125 |
| GNF2_RAB7L1                                                     | APOBEC3   ARL4C   BIN2   BTN3A3   CCL4   CD247   CTSW   FAM108A1   GNPTAB   GPR65   GZMA   GZMH   IL2RB   JAK1   KLRC3   KLRD1   KLRF1   NCR3   NKG7   PRF1   PRKCH   PTGER2   PTPN4   RAB7L1   RARRES3   RASSF1   RUNX3   STK10   TES                                                                                                                                                                                        | 1.4 | 0.5   |
| POSITIVE_REGULATION_OF_CYTOKINE_SECRETION                       | CARD8   CRTAM   GLMN   INS   PYCARD                                                                                                                                                                                                                                                                                                                                                                                           | 1.4 | 0.125 |
| PID_FRA_PATHWAY                                                 | ATF4   BGLAP   CCL2   CCNA2   CDND1   CDKN2A   COL1A2   DCN   DMTF1   EP300   FOSL1   FOSL2   GJA1   HMBOX1   IL6   IL8   ITGB4   IVL   JUN   JUNB   JUND   LAMA3   LIF   MGP   MMP1   MMP2   MMP9   NFATC1   NFATC3   NOS3   PLAU   PLUR   SP1   THBD   USF2                                                                                                                                                                 | 1.4 | 0.125 |
| KEGG_ALPHA_LINOLENIC_ACID_METABOLISM                            | ACOX1   ACOX3   FADS2   PLA2G10   PLA2G12A   PLA2G1B   PLA2G2A   PLA2G2D   PLA2G2E   PLA2G2F   PLA2G3   PLA2G4A   PLA2G4B   PLA2G5   PLA2G6                                                                                                                                                                                                                                                                                   | 1.4 | 0.125 |
| SHIRAIISHI_PLZF_TARGETS_DN                                      | ARHGDI6   CALB1   CHRNA10   NET1   PBX1   RGS6   SERPINH1                                                                                                                                                                                                                                                                                                                                                                     | 1.4 | 0.25  |
| BIOCARTA_LEPTIN_PATHWAY                                         | ACACA   CPT1A   LEP   LEPR   PKAA1   PKAA2   PRKAB1   PRKAB2   PRKAG1   PRKAG2                                                                                                                                                                                                                                                                                                                                                | 1.4 | 0.125 |
| chrXq25                                                         | BCORL1   GRIA3   IGSF1   OCLR   RAP2C   RNF113A   SH2D1A   SMARCA1   STAG2   THOC2   UPF3B   XPNPEP2                                                                                                                                                                                                                                                                                                                          | 1.4 | 0.375 |
| REACTOME_SIGNALING_BY_NOTCH4                                    | ADAM10   APM1A   APM1B   JAG1   JAG2   NCSTN   NOTCH4   PSEN1   PSEN2   PSENEN                                                                                                                                                                                                                                                                                                                                                | 1.4 | 0.25  |
| BIOCARTA_AKAP13_PATHWAY                                         | AKAP13   GNA12   GNA13   PRKACB   PRKACG   PRKAG1   PRKAR2A   PRKAR2B   RHOA                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.25  |
| YEMELYANOV_GR_TARGETS_DN                                        | ATF2   EBP   EGV1   EPHB1   GATA4   JUN   PAX6   SMAD3   SRF   STAT1                                                                                                                                                                                                                                                                                                                                                          | 1.4 | 0.375 |
| PID_WNT_CANONICAL_PATHWAY                                       | APC   AXIN1   CAV1   CSNK1G1   CTNNB1   CUL3   DVL1   DVL2   DVL3   FZD5   GSK3A   GSK3B   KLHL12   LRP6   PIP5K1B   PPP2R5A   RANBP3                                                                                                                                                                                                                                                                                         | 1.4 | 0.125 |
| GUILLAUMOND_KLF10_TARGETS_DN                                    | AACS   AQP9   CD36   CHTP1   CTNNB1   CTSS   CYBR53   DERL2   ELOVL5   ENPEP   FCN1   GPD1   OGT   PAPSS2   PSME4   RTN4   SEC61A1   SLC2A2   SLC01B3   TMSB4X   TXNIP   VNN1                                                                                                                                                                                                                                                 | 1.4 | 0.125 |
| chrXq13                                                         | ATP7A   CDX4   CTED1   CXCR3   CYSLTR1   DLG3   GOPD2   GJB1   IGBP1   IL13RA2   IL2RG   ITM2A   KIF4A   MED12   NAP1L2   NLGN3   NONO   OGT   P2RY4   PGK1   PIN4   PJA1   RPS4X   SH3BGR   SLC16A2   STAR08   TAF1   TAF9B   XIST   YIPF6   ZMYM3                                                                                                                                                                           | 1.4 | 0.125 |
| chr1p                                                           | CLIC4   CNR2   IFI44   RPS6KA1   SF3A3   ZBTB17                                                                                                                                                                                                                                                                                                                                                                               | 1.4 | 0.125 |
| INTERLEUKIN_BINDING                                             | A2M   CSF2RB   EB13   HAX1   IL10RA   IL10RB   IL12A   IL12RB1   IL12RB2   IL13RA2   IL15RA   IL1R1   IL2RA   IL2RB   IL2RG   IL3RA   IL4R   IL5RA   IL6R   IL6ST   IL7R   IL9R                                                                                                                                                                                                                                               | 1.4 | 0.125 |
| BIOCARTA_IGF1_PATHWAY                                           | CSNK2A1   ELK1   FOS   GRB2   HRAS   IGF1   IGF1R   IRS1   JUN   MAP2K1   MAPK3   MAPK8   PIK3CA   PIK3CG   PIK3R1   PTPN11   RAF1   RASA1   SHC1   SOS1   SRF                                                                                                                                                                                                                                                                | 1.4 | 0.125 |
| RNA_POLYMERASE_II_TRANSCRIPTION_FACTOR_ACTIVITYENHANCER_BINDING | EPAS1   HIF1A   IRF8   MYEF2   MYF5   MYO01   NF1X   NR5A2   PURA   REL   RFX1   RFX3   TFAF4                                                                                                                                                                                                                                                                                                                                 | 1.4 | 0.25  |
| chr16p12                                                        | ACSM1   AQP8   ARHGAP17   ATP2A1   CDIPT   CLN3   COG7   COQ2   DCTN5   DNAH3   ERN2   GPR2   GPRC5B   GTF3C1   HIRIP3   H3S3T2   IGSF6   IQCK   JMD15   KIAA0556   LCM1T1   LOC641298   LOC81691   LYRM1   METTL9   NDUFA81   NDMO2   PALB2   POLR3C   PPP4C   PYCARD   RABEP2   RBBP6   RPS15A   RRN3   SCNN1B   SCNN1G   SEZGL2   SLC5A2   SMG1   SULT1A1   SULT1A2   SYT17   TCEB2   TMEM159   UM0D   UQCRC2   XP06   ZP2 | 1.4 | 0.125 |
| chr4q22                                                         | ABCG2   ARHGAP24   ATOH1   BIN2   CXCK4   EMCN   GRID2   HERC5   HERC6   MANBA   MAPK10   MMRN1   NUDT9   PDHA2   PDLIM5   SLC39A8   SPARCL1   TMSL3   TSPAN5                                                                                                                                                                                                                                                                 | 1.4 | 0.25  |
| MODULE_371                                                      | ADAM9   AOX1   ARF4   ARF5   BMP1   DUSP14   GALNT1   GMFB   HMG81   HSPB2   KHDRBS1   MMP1   MMP10   MMP14   MMP2   MMP3   MMP7   MMP9   RPA1   RPA2   SCG5   SSBP1   TF   UBA2   YBX1   ZNF117                                                                                                                                                                                                                              | 1.4 | 0.125 |
| AACGGTT_MIR-451                                                 | C11orf30   CAB39   FAM63B   OGT   SAMD4B   YTHDF2   YWHAZ                                                                                                                                                                                                                                                                                                                                                                     | 1.4 | 0.25  |
| PID_NFKAPPABATYPICALPATHWAY                                     | ARRB2   BCL3   CSNK2A1   CSNK2A2   CSNK2B   IKKBK   LCK   MAPK14   NFKB1   NFKBIA   PIK3CA   PIK3R1   REL   RELA   SRC   SYK                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| MODULE_249                                                      | ACAA2   ACAT1   ALAS1   BAAT   CPT1A   CPT2   DBT   DLST   F3A1A   GGT1   GLYAT   HADHA   HADHB   HAT1   LCAT   NAT1   NAT2   OQCT   SAT1   SPTLC2   TGM1                                                                                                                                                                                                                                                                     | 1.4 | 0.125 |
| ENDOTHELIAL_CELL_PROLIFERATION                                  | AGGF1   ANG   ATP1F1   CALCA   CDH13   DLG1   NF1   SCG2   TNFSF12   TNFSF15                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| KYNG_DNA_DAMAGE_BY_4NQO_OR_GAMMA_RADIATION                      | AGPAT1   CYP19A3   DCTD   EGFR   EGR1   EPHA1   FGF2   GYPB   UMS1   LRRFIP2   MTMR10   PPOX   SERPINE2   UBE2N                                                                                                                                                                                                                                                                                                               | 1.4 | 0.125 |
| OXYGEN_AND_REACTIVE_OXYGEN_SPECIES_METABOLIC_PROCESS            | AOX1   APOA4   BNP13   CCS   DRD5   GPX3   ME3   MT3   NDUFA13   NDUFS1   NDUFS3   NDUFS4   NOXA   NOX5   PRG3   SFTPD   SOD1   SOD2                                                                                                                                                                                                                                                                                          | 1.4 | 0.25  |
| REGULATION_OF_RHO_GTPASE_ACTIVITY                               | FGD1   FGD2   FGD6   RALBP1   TSC1                                                                                                                                                                                                                                                                                                                                                                                            | 1.4 | 0.125 |
| DNA_DAMAGE_CHECKPOINT                                           | ATR   CCNA2   CHEK1   CHEK2   GML   HUS1   NBN   NEK1   PCBPA   PML   RAD1   RAD17   RAD9A   RINT1   TRIAP1   ZAK                                                                                                                                                                                                                                                                                                             | 1.4 | 0.25  |
| HOLLEMAN_PREDNISOLONE_RESISTANCE_B_ALL_UP                       | AES   C7orf26   CDK2AP1   CS   CTCF   HDGF   KIAA0922   MED28   NTAN1   OTUB1   PCBP1   POLDP13   PRPF18   PSRC1   SMARCB1   SNX3   SUMO2   THAP11   UBE2Q1   WAC                                                                                                                                                                                                                                                             | 1.4 | 0.25  |
| SA_PXT_PATHWAY                                                  | AKT1   AKT2   AKT3   BPTNL1   GRB2   ILK   MAPK1   MAPK3   PDK1   PIK3CA   PIK3CD   PTEN   PTK2B   RBL2   SHC1   SOS1                                                                                                                                                                                                                                                                                                         | 1.4 | 0.25  |
| REACTOME_DESTABILIZATION_OF_MRNA_BY_KSRP                        | AKT1   DCP2   EXOSC1   EXOSC2   EXOSC4   EXOSC5   EXOSC7   EXOSC8   EXOSC9   KHSRP   MAPK11   MAPK14   PARN   YWHAZ                                                                                                                                                                                                                                                                                                           | 1.4 | 0.125 |
| RANKIN_ANGIOGENIC_TARGETS_OF_VHL_HIF2A_UP                       | ANG   BMP4   DHCR7   MAPK14   PLG                                                                                                                                                                                                                                                                                                                                                                                             | 1.4 | 0.25  |
| GCM_DDX11                                                       | AD02   CASP2   COL11A2   COP57A   DDX11   DENND4A   DNAJC4   ITH1   KPNA6   KRT2   KRT85   MEF2D   MKS1   PRKD2   RMND5B   S100BPB   SCAMP2   SEC24A   SEMA6F   SMG5   SPSL2B   STAT5B   TEX261   THRAP3   USP6   VPS53                                                                                                                                                                                                       | 1.4 | 0.25  |
| PID_ILBCXCR2_PATHWAY                                            | AKT1   ARRB1   ARRB2   CBL   DNMI1   DOCK2   ELM01   FGR   GNA14   GNA15   GNAI2   GNB1   HCK   IL8   LYN   PDPK1   PIK3CG   PLCB1   PLCB2   PLCB3   PLD2   PPP2CA   PPP2R1A   PRKCA   PRCKC   RAB11A   RAB5A   RAC2   VASP                                                                                                                                                                                                   | 1.4 | 0.25  |
| MARIADASON_RESPONSE_TO_CURCUMIN_SULINDAC_7                      | ARHGFE2   BGN   C10orf116   CKAP2   DDX21   EIF2C2   NCKAP1   NFKB2   PCBP1   PPP1R8   PTGDS   RPLA1   STK3   TCL6   TP53   ZNF593                                                                                                                                                                                                                                                                                            | 1.4 | 0.125 |
| MA_PITUITARY_FETAL_VS_ADULT_DN                                  | CALM2   DR1   GABARAP   GH1   GRK5   GTPBP4   ITPR1   PKIG   PTAFR   RAB22A   RAP1B   SEC24C   TNFAIP1   ZNF318                                                                                                                                                                                                                                                                                                               | 1.4 | 0.375 |

|                                                                               |                                                                                                                                                                                                                                                                                                                                              |     |       |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| MEINHOLD_OVARIAN_CANCER_LOW_GRADE_DN                                          | BAP1   CCNB2   CFL1   COX8A   FASN   JTB   KIF14   MCM6   MRPL9   NCK1   PCCB   PTP4A2   RAD21   RHEB   SNRBP   STARD7   STAT1   TPX2   UVRAG                                                                                                                                                                                                | 1.4 | 0.375 |
| PROTON_TRANSPORTING_TWO_SECTOR_ATPASE_COMPLEX                                 | ATPSA1   ATP5B   ATP5C1   ATP5D   ATP5E   ATP5G1   ATP5G2   ATP5G3   ATP5O   ATP6AP1   ATP6V1A   ATP6V1B1   ATP6V1C1   ATP6V1E1   ATP6V1F                                                                                                                                                                                                    | 1.4 | 0.5   |
| PID_SYNDECAN_3_PATHWAY                                                        | AGRP   APH1A   APH1B   CASK   CTTN   EGFR   FYN   IL8   MC4R   NCSTN   POMC   PSEN1   PSENEN   PTN   SDC3   SRC                                                                                                                                                                                                                              | 1.4 | 0.5   |
| chr2p21                                                                       | ABCG5   CALM2   CDC42EP3   COX7A2L   CRIM1   CRIPT   EHD3   EML4   EPAS1   FBXO11   FSHR   UHCGR   LPIN1   LRPPRC   MCFD2   MRPL33   MSH2   PIGF   PRKE   PRKD3   RHOQ   SOCS5   SOS1   SPTBN1   SRBD1   THADA                                                                                                                               | 1.4 | 0.125 |
| chr12q                                                                        | CHPT1   CHST11   ESLP1   GLT8D2   KRR1   KRT5   PFKM   RASSF3   SLC38A2   SOCS2   TAOK3   TRAFD1                                                                                                                                                                                                                                             | 1.4 | 0.375 |
| chr7p21                                                                       | AGR2   ANKMY2   ARL4A   BZW2   C1GALT1   CBX3   CRHR2   CYC3   IL6   MYL7   NDUFA4   PDE1C   PHF14   PLEKHA8   PRPS1L1   PSPH   SCN   SNU33   SOSTDC1   TMEM106B   TSC22D4   TSPAN13   TWIST1   ZNF12                                                                                                                                        | 1.4 | 0.375 |
| SIG_CD40PATHWAYMAP                                                            | CD40   DMX1   GORASP1   IKBKG   MAP2K4   MAP2K7   MAPK1   MAPK10   MAPK11   MAPK12   MAPK13   MAPK14   MAPK3   MAPK8   MAPK8IP1   MAPK8IP2   MAPK8IP3   MAPK9   MAPKAPK5   NFKB1   NFKB2   NFKBIA   NFKBIB   NFKBIE   NFKBIL1   PIK3CA   PIK3CD   PIK3R1   SYT1   TRAF2   TRAF3   TRAF5   TRAF6                                              | 1.4 | 0.25  |
| JAERVINEN_AMPLIFIED_IN_LARYNGEAL_CANCER                                       | ASH2L   BRF2   C11orf68   C14orf118   C9orf46   CCT5   COPP5   COQ4   DDX31   DVL3   ENTDP2   ESR1   FADD   GNPAT   GTPBP8   KHLH7   LSM1   MCCC1   MGAM   MORN1   MYCBP2   NDUFB5   NPL   NR1I3   PARP4   PLCH2   PPFIA1   PSCA   PSMB5   SNRPD3   TOPBP1   TRIP13   ZBTB25                                                                 | 1.4 | 0.125 |
| FARDIN_HYPOXIA_9                                                              | ALDOC   BNP13   DDIT4   PDK1                                                                                                                                                                                                                                                                                                                 | 1.4 | 0.125 |
| PID_HEDGEHOG_GLIPTHWAY                                                        | AKT1   ARRB2   CREBBP   CSNK1A1   CSNK1D   CSNK1E   CSNK1G1   CSNK1G2   CSNK1G3   FBXW11   FOXA2   GU1   GU2   GU3   GNAI1   GNAI2   GNAI3   GNAO1   GNAZ   GNB1   GSK3B   HDAC1   HDAC2   IFT88   KIF3A   LGALS3   MAP2K1   MTSS1   PIAS1   PRKACA   PRKCD   RAB23   RBBP4   RBBP7   SAP18   SAP30   SHH   SIN3B   SMO   SPOP   XPO1        | 1.4 | 0.125 |
| POSITIVE_REGULATION_OF_MAPKKK_CASCADE                                         | ADRB2   ADRB3   CARD9   EDA2R   GRM4   HIPK2   TAOK2   TAOK3   TPDS2L1                                                                                                                                                                                                                                                                       | 1.4 | 0.375 |
| LOPEZ_MESOTELIOMA_SURVIVAL_TIME_UP                                            | ACOT7   AURKA   BIRC5   C20orf20   CDC25C   DCLRE1B   FAM64A   FLNB   HN1   KIF4A   MELK   PLXNA3   TRIP13                                                                                                                                                                                                                                   | 1.4 | 0.375 |
| HASLINGER_B_CLI_WITH_GQ21_DELETION                                            | ARHGAP1   CAPG   CEACAM1   EXOSC10   HIST1H2AC   HIST1H2AG   HIST1H2AK   HIST1H2AL   HIST1H2BG   HIST1H2BI   HIST1H2BM   MAP3K7   MDN1   NUP98   RAP1GDS1   SEC63   SNX3                                                                                                                                                                     | 1.4 | 0.125 |
| ZHAN_V1_LATE_DIFFERENTIATION_GENES_DN                                         | ADM   ANP32B   CKS2   CSK   DDB2   DNMT1   FRZB   HIST1H2AE   HMGA1   HMHA1   MAP4K1   MRPL23   MRPS27   PTPN7   SNRBP                                                                                                                                                                                                                       | 1.4 | 0.125 |
| REACTOME_TGF_BETA_RECEPTOR_SIGNALING_ACTIVATES_SMADS                          | FKBP1A   FURIN   MTMR4   PPP1CA   PPP1CB   PPP1CC   PPP1R15A   RPS27A   SMAD2   SMAD3   SMAD4   SMAD7   SMURF1   SMURF2   STRAP   STUB1   TGFBI1   TGFBR2   UBA52   UCHL5   XPO1   ZFYVE9                                                                                                                                                    | 1.4 | 0.125 |
| BIOCARTA_STEM_PATHWAY                                                         | CD4   CD8A   CSF1   CSF2   CSF3   EPO   IL11   IL2   IL3   IL4   IL5   IL6   IL7   IL8   IL9                                                                                                                                                                                                                                                 | 1.4 | 0.125 |
| ZHAN_MULTIPLE_MYELOMA_MS_DN                                                   | ANKRD49   APO1   ARHGEF12   C11orf73   CHD2   CHD7   CLTA   DHPS   GPX1   ICAM4   KIAA1704   LETMD1   MAGEC1   MRPS31   NPAT   OAS3   PAX5   POLR10   PROM5   RHOBTB3   RPS2   SLC16A6   SLC35D2   SLC35F2   STK24   TKT   TMEM1213   ZDHHC14                                                                                                | 1.4 | 0.125 |
| TRANSPORT_VESICLE                                                             | APFH   APIG2   AP151   AP351   APH1B   ATP7A   BGN   C14orf1   CAV2   CRISPLD2   FURIN   IGF2R   KIAA0368   LDLRAP1   NRSN2   PLEKHG12   RAB14   SPG21   SSPN   SYT13   TGNL2   TMEM168   YIPF1   YIPF2   YIPF3                                                                                                                              | 1.4 | 0.125 |
| chr1p33                                                                       | AKR1A   ARTN   BAGALT2   COL9A2   CYP4A11   CYP4A22   DHCR24   ELTD1   EPB41   FABP3   FAF1   HCRT1R   LRRCA2   MAGOH   MKNK1   MT1   MYCBP   PDZK1P1   SLC6A9   TGFBR3   TOE1   TSPAN1   YIPF1   ZFYVE9                                                                                                                                     | 1.4 | 0.125 |
| DNA_MODIFICATION                                                              | ATF7IP   ATRX   DNMT1   DNMT3A   DNMT3B   DNMT3C   GATAD2A   HELLS   PICK1                                                                                                                                                                                                                                                                   | 1.4 | 0.125 |
| PETRETTO_LEFT_VENTRICLE_MASS_QTL_CIS_DN                                       | AGTPBP1   NSD1   SEMA4D   SFKN1                                                                                                                                                                                                                                                                                                              | 1.4 | 0.25  |
| MODULE_168                                                                    | CBX1   CENPA   CENPE   CENPF   CHD3   H1FO   H2AFX   H2AFZ   HIST1H1C   HIST1H2AC   HIST1H2AE   HIST1H2BI   HIST1H2BK   HIST1H2BL   HIST2H2A3   HIST2H2BE   HMG82   HMG83   MAP2   MAP7   TERF2   TOX                                                                                                                                        | 1.4 | 0.25  |
| chr6q14                                                                       | ANKRD6   BACH2   CGA   CNR1   COX7A2   EEF1A1   ELOVL4   FAM46A   GABRR1   GABRR2   HMGN3   HTR1E   IBTX   IMPG1   IRAK1B1P   KIAA1009   MAP3K7   MTO1   NTSE   PGM3   PHIP   SLC17A5   SYNCRIP   TMEM30A   TPBG                                                                                                                             | 1.4 | 0.25  |
| STAMBOLSKY_RESPONSE_TO_VITAMIN_D3_DN                                          | ATP6V0A4   CABRY   CD52   CKLF   COL5A1   DAPK1   EFS   HBA2   HMGN4   IPP   NR1F1   NUP54   PIGR   RPL10L   SEMA3F   TXNIP   ZNF232                                                                                                                                                                                                         | 1.4 | 0.25  |
| REACTOME_RAF_MAP_KINASE_CASCADE                                               | HRAS   KRAS   MAP2K1   MAP2K2   MAPK1   MAPK3   NRAS   RAF1   YWHAB                                                                                                                                                                                                                                                                          | 1.4 | 0.375 |
| GUTIERREZ_WALDENSTROEMS_MACROGLOBULINEMIA_1_UP                                | ABCB4   ADAM28   ADARB1   APLP2   BACH2   GABBR1   IL4R   ITPR1   SESN1                                                                                                                                                                                                                                                                      | 1.4 | 0.25  |
| BIOCARTA_CARM1_PATHWAY                                                        | CARM1   CREB1   CREBBP   EP300   NCOA3   PRKACB   PRKAGC   PRKARIA   PRKAR1B   PRKAR2A   PRKAR2B   RARA   RXRA                                                                                                                                                                                                                               | 1.4 | 0.25  |
| KEGG_PROTEIN_EXPORT                                                           | HSPA5   OXA1L   SEC61A1   SEC61A2   SEC61B   SEC61G   SEC63   SPCS1   SPCS2   SPCS3   SRP14   SRP19   SRP54   SRP72   SRP9   SRPR   SRPB                                                                                                                                                                                                     | 1.4 | 0.125 |
| MIZUKAMI_HYPOXIA_UP                                                           | ADM   ANG   CXCL12   EFNA1   ENG   FGF2   PDGFA   TGFA   TGFBI                                                                                                                                                                                                                                                                               | 1.4 | 0.125 |
| PID_JFNPATHWAY                                                                | AKT1   CAMK2A   CAMK2B   CAMK2D   CAMK2G   CASP1   CBL   CEBPB   CREBBP   CRKL   DAPK1   EP300   IFNG   IFNGR1   IL1B   IRF1   JAK1   JAK2   MAP2K1   MAP3K1   MAP3K11   MAPK1   MAPK3   PIAS1   PIAS4   PIK3CA   PIK3R1   PRKCD   PTGES2   PTPN11   PTPN2   RAP1A   RAP1B   RAPGEF1   SMAD7   SOCS1   STAT1   STAT3                         | 1.4 | 0.25  |
| NEGATIVE_REGULATION_OF_ANGIOGENESIS                                           | COL4A2   COL4A3   NPPB   NPR1   PF4   PLG   PML   SERPINF1   SPINK5   STAB1   TNNI3                                                                                                                                                                                                                                                          | 1.4 | 0.25  |
| REGULATION_OF_ACTION_POTENTIAL                                                | CD9   EIF2A2   EIF2A4   EIF2B5   KCND2   KCNNMB2   KCNNMB3   KCNNMB4   KLR8   MAL   MBP   NF1   PLP1   PPAR4   SOD1   SRI                                                                                                                                                                                                                    | 1.4 | 0.25  |
| REACTOME_JNK_C_JUN_KINASES_PHOSPHORYLATION_AND_ACTIVATION_MEDIATED_BY_ACTIVAT | IKBK8   IKK1   MAP2K4   MAP2K7   MAP3K7   MAPK10   MAPK8   MAPK9   RIPK2   TRAF6                                                                                                                                                                                                                                                             | 1.4 | 0.125 |
| ED_HUMAN_TAK1                                                                 | ADAMTS1   ESR1   ESR2   INHA   IRS2   SH2B1   SOD1   SOX3   TNFRSF1A                                                                                                                                                                                                                                                                         | 1.4 | 0.25  |
| DNA_INTEGRITY_CHECKPOINT                                                      | ATR   CCNA2   CDC6   CDT1   CHEK1   CHEK2   GML   HUS1   NBN   NEK1   PCBP4   PML   RAD1   RAD17   RAD9A   RINT1   TIPIN   TRIAP1   ZAK                                                                                                                                                                                                      | 1.4 | 0.375 |
| PHOSPHATE_TRANSMEMBRANE_TRANSPORTER_ACTIVITY                                  | ADAMTS18   ANKH   SLC17A1   SLC17A2   SLC17A3   SLC17A4   SLC17A7   SLC20A1   SLC20A2   SLC25A3   SLC34A1                                                                                                                                                                                                                                    | 1.4 | 0.25  |
| MAHADEVAN_GIST_MORPHOLOGICAL_SWITCH                                           | CDH13   CDH6   CTGF   ELMO1   FSCN1   ITGA3   MMP2   MMP3   MYO10   NEDD9   PDLM1   SPOCK1   SPP1   TFFI2   TPM2                                                                                                                                                                                                                             | 1.4 | 0.375 |
| BIOCARTA_EGFR_SMRTT_PATHWAY                                                   | EGF   EGFR   MAP2K1   MAP3K1   MAPK14   NCOR2   RARA   RXRA   THRA   THRB   ZBTB16                                                                                                                                                                                                                                                           | 1.4 | 0.125 |
| COVALENT_CHROMATIN_MODIFICATION                                               | CARM1   CREBBP   EHMT1   HDAC11   HDAC6   HELLS   HUWE1   MAP3K12   NSD1   PHB   PPARGC1A   PRMT7   PRMT8   RBM14   RPS6KA5   SET   SIRT2   UBE2N   WHSC1L1                                                                                                                                                                                  | 1.4 | 0.25  |
| BIOCARTA_TFF_PATHWAY                                                          | AKT1   APAF1   BAD   CASP9   CTNNB1   CYCS   EGFR   GH1   GHR   GRB2   HRAS   ITGB1   MAPK1   MAPK3   PIK3CA   PIK3CG   PIK3R1   PTK2   RHOA   SHC1   SOS1                                                                                                                                                                                   | 1.4 | 0.125 |
| BIOCARTA_RANKL_PATHWAY                                                        | EIF2AK2   FOS   FOSL1   FOSL2   IFNAR1   IFNAR2   IFNB1   MAPK8   NFKB1   RELA   TNFRSF11A   TNFSF11   TRAF6                                                                                                                                                                                                                                 | 1.4 | 0.25  |
| ABE_VEGFA_TARGETS                                                             | A2M   ACE   ANGPT2   BPI   CD1B   CDR1   EGR2   EGR3   HBEFG   HERPUD1   MCM2   MRE11A   PCTP   PODXL   PPAP2B   PPY   PTGS2   SLC4A7   THBD                                                                                                                                                                                                 | 1.4 | 0.375 |
| REACTOME_IL_6_SIGNALING                                                       | CBL   IL6   IL6R   IL6ST   JAK1   JAK2   SOCS3   STAT1   STAT3   TYK2                                                                                                                                                                                                                                                                        | 1.4 | 0.375 |
| REACTOME_HDL_MEDIATED_LIPID_TRANSPORT                                         | A2M   ABCA1   ABCG1   ALB   AMN   APOA1   APOC2   APOC3   APOE   BMP1   CETP   CUBN   LCAT   PLTP   SCARB1                                                                                                                                                                                                                                   | 1.4 | 0.125 |
| BCAT_BILD_ET_AL_DN                                                            | ANKRD28   ARHGAP29   ARHGEF18   ARP2C   ASH1L   ATP10D   ATP9B   CLK1   COPB1   CTBP2   FRYL   GCLM   HZAFY   IERS   IL1A   IL1RAP   UNPEP   LSS   NBPFL10   OSBPFL10   PLAGL1   PRKDC   PRPF38B   PTHLH   PUM1   RAP1A   RASA2L2   RIF1   SECISBP2   SHC1   SMDA5   SMURF2   SORL1   STARO13   TNAIP3   TUG1   ZNF236   ZNF281              | 1.4 | 0.25  |
| KASLER_HDAC7_TARGETS_1_DN                                                     | C3   COL6A3   EDEM1   HK2   IGF2R   IGFBP6   ITM2B   LGMN   PARP16   PMM1   SEMA4A   SLC2A1   SPP1   TRIP10   TTC19   TXNIP                                                                                                                                                                                                                  | 1.4 | 0.125 |
| MATTHEWS_SKIN_CARCINOGENESIS_VIA_JUN                                          | ALOX5AP   C9orf82   CALML3   COBLL1   CXCL1   ERO1L   GUCA2A   LAMA3   NCF2   NDUFA10   PLAUR   RARG   SPP1   TRADD                                                                                                                                                                                                                          | 1.4 | 0.125 |
| SPERMATID_DIFFERENTIATION                                                     | CEP57   CSNK2A2   DDX25   HSPA2   MAST2   NME5   SPAG6   TNP1                                                                                                                                                                                                                                                                                | 1.4 | 0.125 |
| HYDROLASE_ACTIVITY_HYDROLYZING_N_GLYCOSYL_COMPOUNDS                           | ADPRN   APEX1   MSH3   MSH6   MUTYH   NTHL1   OGG1   SMUG1   TDG                                                                                                                                                                                                                                                                             | 1.4 | 0.125 |
| REACTOME_BASE_EXCISION_REPAIR                                                 | APEX1   FEN1   LIG1   LIG3   MBD4   MPG   MUTYH   NTHL1   OGG1   PCNA   POLB   POLD1   POLD2   POLD3   POLD4   SMUG1   TDG   XRCC1                                                                                                                                                                                                           | 1.4 | 0.125 |
| PID_HEDGEHOG_2PATHWAY                                                         | ADRBK1   AKT1   ARRB2   CDON   GAS1   GLI2   HHAT   IHH   LR2   LRAP1   PIK3CA   PIK3R1   PTCH2   PTHLH   SHH   SMO   STIL   TGFBI                                                                                                                                                                                                           | 1.4 | 0.125 |
| LIPOPROTEIN_BINDING                                                           | ANKRA2   APOA4   APO2L   CDH13   COLEC12   LDLR   LRP1   LRP6   LRPA1   MAPT   SCARF1   SORL1   STAB1   STAB2   TLR6   VLDLR                                                                                                                                                                                                                 | 1.4 | 0.125 |
| PID_FOXOPATHWAY                                                               | AKT1   BCL2L11   BCL6   CAT   CCNB1   CDK2   CDKN1B   CHUK   CREBBP   CSNK1A1   CSNK1D   CSNK1E   CSNK1G1   CSNK1G2   CSNK1G3   CTNNB1   EP300   FASLG   G6PC   GADD45A   IKBK8   MAPK10   MAPK8   MAPK9   MST1   PLK1   RALA   RALB   RAN   RBL2   SFN   SIRT1   SKP2   SOD2   USP7   XPO1   YWHAB   YWHAE   YWHAF   YWHAQ   YWHAZ   ZFAND5 | 1.4 | 0.125 |
| MODULE_474                                                                    | CTGF   CVR61   HTRA1   IGFBP1   IGFBP2   IGFBP3   IGFBP5   IGFBP6   IGFBP7   LTBP1   NEDD9   NOV   SHC1   SOCS1   SOCS3   WISP2                                                                                                                                                                                                              | 1.4 | 0.125 |
| MYLLYKANGAS_AMPLIFICATION_HOT_SPOT_7                                          | BCL6   EIF4A2   LPP   PIK3CA   RPL22   TFRG                                                                                                                                                                                                                                                                                                  | 1.4 | 0.25  |
| FEMALE_GAMETE_GENERATION                                                      | AXIN1   BCL2L10   BMP15   BMPR1B   CGB   DMC1   DYNLL1   EREG   FSHB   FSHR   GDF9   LEFTY2   PARN   SPO11   TOB2   USP9K                                                                                                                                                                                                                    | 1.4 | 0.375 |
| GCM_BAG5                                                                      | ACTR10   BAG5   BRP44L   C20orf3   DYNCL12   FBXO9   FN3KRP   G3BP2   GPR153   IKBKAP   KLHDC2   MAEA   NAPG   RAB14   SACM1L   SAP130   SETD3   SPTLC1   STARO7   TMEM508   UBLQN2   USP33   VP552   YTHDF3                                                                                                                                 | 1.4 | 0.25  |
| CELLULAR_RESPONSE_TO_NUTRIENT_LEVELS                                          | ALB   ASNS   CDKN2B   FADS1   NUAK2   SREBF1   TP53                                                                                                                                                                                                                                                                                          | 1.4 | 0.375 |
| KIM_HYPOXIA                                                                   | ALDOA   ALDOC   AMPD3   ANGPTL4   BACH1   BNP13   BNP13L   CCNG2   ENO2   F3   GYS1   ICAM1   IGFBP3   IL6   JUN   LDHA   PDLM4   PFKF   SAP30   SERPINE1   SLC2A1   TP1                                                                                                                                                                     | 1.4 | 0.25  |
| REACTOME_PROTEOLYTIC_CLEAVAGE_OF_SNARE_COMPLEX_PROTEINS                       | SNAP25   STX10   STX11   STX12   STX13   STX14   STX5   STX6   STX7   STX8   VAMP1   VAMP2                                                                                                                                                                                                                                                   | 1.4 | 0.25  |
| REACTOME_GUANYL_NUCLEOTIDE_EXCHANGE_FACTOR_ACTIVITY                           | ARHGEF1   ARHGEF11   ARHGEF2   ARHGEF3   DOCK2   FARP1   FARP2   MADD   RAPGEF2   RAPGEF5   RCBTB2   RCC1   SERGEF   SOS1   TIAM1                                                                                                                                                                                                            | 1.4 | 0.125 |
| PID_FASPATHWAY                                                                | AKT1   BID   BIRC2   BIRC3   BTK   CASP10   CASP3   CASP8   CFLAR   CHUK   CLTC   FADD   FAIM2   FAS   FASLG   IKBK8   IKBKG   MAP2K6   MAP2K7   MAP3K1   MAPK10   MAPK11   MAPK14   MAPK8   MAPK9   PDPK1   PIK3CA   PIK3CB   PIK3CD   PIK3R1   PIK3R2   PIK3R3   RFC1   RIPK1   SMDP1   SRC   SYK                                          | 1.4 | 0.375 |
| MCMURRAY_TP53_HRAS_COOPERATION_RESPONSE_UP                                    | ANKH   ANKRD1   CHST1   CXCL1   ENO3   F2RL1   FGF7   HBEFG   HMGA2   IL8   KCTD15   MRPL15   PARV8   PLA2G7   PLAC8   RGS2   SEMA7A   SERPINB2   SLC14A1   SMS   SOD3   TNNT2                                                                                                                                                               | 1.4 | 0.375 |
| HOFMANN_MYELODYPLASTIC_SYNDROM_LOW_RISK_UP                                    | ATF3   CCL18   CDKN1A   COL1   DLEC1   DLK1   DNMT2   GNA15   IL1RAP   LEFTY1   LTK   MEQX1   MSX1   PTPN7   PTPRS   RUNX1   TBR1   TOB2   TRAF6   ZMYN3   ZNF136                                                                                                                                                                            | 1.4 | 0.125 |
| PID_NETRIN_PATHWAY                                                            | CAMK2A   CD42   DAPK1   DCC   DOK1   ELMO1   FYN   MAP1B   MAP2K1   MAP2K2   MAPK1   MAPK3   MYO10   NCK1   NTN1   PAK1   PIK3CA   PIK3R1   PITPNA   PLCG1   PTK2   RAC1   RHOA   SRC   TRIO   UNC5C   WASL   YES1                                                                                                                           | 1.4 | 0.125 |
| REACTOME_SIGNALING_BY_BMP                                                     | ACVR2A   ACVR2B   BMP2   BMPRIA   BMPRII   BMPRII   BMPRII   BMPRII   CER1   CHRDL1   FSTL1   GREM2   SMAD1   SMAD4   SMAD5   SMAD6   SMAD7   SMURF1   SMURF2   UBE2D1   UBE2D3   ZFYVE16                                                                                                                                                    | 1.4 | 0.125 |
| WANG_CLASSIC_ADIPOGENIC_TARGETS_OF_PPARG                                      | ACSL1   AQP7   CD36   CEBP1   CFP1   CIDEC   CRAT   DGAT1   EPHX2   FABP4   FABP5   GLUL   HSD11B1   MGST3   NRIH3   ORM1   PEX11A   PNLPA2   RETN   S100A1   SLC25A10                                                                                                                                                                       | 1.4 | 0.125 |
| MATTIOLI_MGUS_VS_MULTIPLE_MYELOMA                                             | CAD   CCT4   CD163   CKAP2   DDX17   GADD45B   IL8   NUP62   PRDX3   PREPL   SEC23IP   SHQ1                                                                                                                                                                                                                                                  | 1.4 | 0.25  |

|                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |     |       |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| PALOMERO_GSI_SENSITIVITY_UP<br>MODULE_307                                         | GARNL3   PHTF1   P1AS2   PTEN   SOCS1   WBSCR16<br>ATP1B1   ATP6AP1   ATP6V0B   ATP6V0C   ATP6V1B2   ATP6V1C1   ATP6V1E1   ATP6V1F   COX4I1   COX5A   COX5B   COX6A1   COX6B1   COX6C   COX7A1   COX7A2   COX7B   COX7C   COX8A   SURF1   UQCRRB   UQCRC1   UQCRC2   UQCRCF51<br>B2M   CTNND1   FXR1   HMHR   MAP15   MARCKS   MSH3   NCOR1   PHF14   RNFA3<br>CUL2   EGLN1   EGLN2   EGLN3   EPAS1   HIF1A   HIF3A   RBX1   RPS27A   TCEB1   TCEB2   UBA52   UBE2D1   UBE2D2   UBE2D3   VHL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.4 | 0.125 |
| IVANOV_MUTATED_IN_COLON_CANCER                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| REACTOME_OXYGEN_DEPENDENT_PROLINE_HYDROXYLATION_OF_HYPOXIA_INDUCIBLE_FACTOR_ALPHA |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| CORTICAL_ACTIN_CYTOSKELETON                                                       | EPB41   EPB41L2   GYS2   LASP1   LLGL1   MYO1A   SHROOM2   SPTA1   SPTAN1   SPTB   SPTBN1   SPTBN2   SPTBN4<br>ACOT7   C20orf20   CCND1   CDC25C   CDC42EP3   DDAH1   DLGAP4   FLNB   HN1   LOX   PLXNA3   PSRC1   TGFBI1<br>ATF7F1   CASC1   GSG1   H2AF1   LRRC23   RASSF8   SOX5<br>CCL7   EDNR4   MCF2L   PLOD2   SERPINB1<br>ALK   BRE   C2orf28   C2orf44   CCDC121   CENPO   CGREF1   DNMT3A   DTN8   EIF2B4   EMILIN1   FNDCA   FOSL2   GALNT14   GCKR  <br>GTF3C2   HADHA   HADHB   KCNK3   KHK   KIF3C   LBH   MAPRE3   MDH1   MPV17   NCOA1   NRBP1   OTOF   POMC   PPM1G   PPM1CB  <br>PREB   RBKS   SLC30A3   SLC4A1AP   SLC5A6   SLC8A1   SNX17   SRDS5A2   SUPT7L   TP53I3   UCN   WDR12   WDR43   XDH   YPEL5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1.4 | 0.5   |
| LOPEZ_MESOTHELIOMA_SURVIVAL_WORST_VS_BEST_UP                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| KORKOLA_SEMINOMA_DN                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| PARK_OSTEOBLAST_DIFFERENTIATION_BY_PHENYLAMIL_DN                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.25  |
| chr2p23                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| HISTONE_MODIFICATION                                                              | CARM1   CREBBP   EHMT1   HDAC11   HDAC6   HUWE1   MAP3K12   NSD1   PHB   PPARGC1A   PRMT7   PRMT8   RBM14   RPS6KA5   SET  <br>SIRT2   UBE2N   WHSC1L1<br>ASB8   COL9A2   GPR172A   NBN   RPS6KA4   SEMA3C<br>BCL10   BTG2   CCL7   FPR1   IFRD1   IL1A   LITAF   NFE2L1   NFE2L2   NFIC   NFIL3   PMAIP1   PPP1R16B   TGFBR2   TRAF3   ZFX<br>BCL3   CDKN2D   DBD2   ERCC2   ERCC3   ERCCA   ERCC5   ERCC6   ERCC8   FEN1   GPX1   GTF2H2   IL12A   IL12B   IVL   MAPK8   MCIR  <br>POLD1   RELA   RPAIN   SCARAS   SERPINB13   UBE4B<br>ALDH2   BTG2   CFI   HP   NR4A2   RARRES1   STGAL1<br>IFNA1   IFNA10   IFNA14   IFNA16   IFNA17   IFNA2   IFNA21   IFNA4   IFNA5   IFNA6   IFNA7   IFNA8   IFNAR1   IFNAR2   IFNB1   JAK1  <br>PTPN1   PTPN6   SOCS1   SOCS3   STAT1   STAT2   TYK2   USP18<br>AQP3   MDR1   MMP14   NUBP2   PHTF1   PSMD13   RAD23B   SCARB2   SCD   SEMA3F   SERBP1   SLC39A7   SRPR   THBS1<br>AANAT   ARNTL   BMPR1B   CLOCK   CRY1   EGR3   EIF2B2   EIF2B4   EIF2B5   EREG   FOXL2   HEBP1   HTR7   MTNR1A   PER1   PER2  <br>PTGDS   SOD1   SPRR2B   SPRR2C   TIMELESS<br>ALDH4A1   AMT   ARG1   ASL   ASPA   ASRGL1   BCKDHA   BCKDHB   BCKDK   COLQ   DDAH1   DDAH2   DDO   DHPS   FAH   GAD1   GAD2  <br>GCSH   GLDC   GLUD1   GOT1   GOT2   GSTZ1   HGD   HPD   MCCC2<br>GRB2   HRAS   IRS1   IRS2   KRAS   MAP2K1   MAP2K2   MAPK1   MAPK3   NRAS   RAF1   SOS1   YWHAB<br>AB11   ABR   ARHGAP1   ARHGAP17   ARHGADIA   ARHGEF6   ARHGEF7   ARHGEF7   BCR   CHN1   CHN2   DEF6   DOCK1   DOCK2   DOCK6  <br>ELMO1   EP58   KALRN   MCF2   RAC1   RACGAP1   RALBP1   RAP1GDS1   RASGRF1   SOS1   TIAM1   TIAM2   TRIO1   VAV1   VAV2   VAV3 | 1.4 | 0.25  |
| KANG_CISPLATIN_RESISTANCE_DN                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.25  |
| ZHANG_RESPONSE_TO_CANTHARIDIN_UP                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.25  |
| RESPONSE_TO_UV                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| LOPEZ_MESOTELIOMA_SURVIVAL_TIME_DN                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| REACTOME_REGULATION_OF_IFNA_SIGNALING                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| AMIT_EGF_RESPONSE_20_MCF10A                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| RHYTHMIC_PROCESS                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| AMINE_CATABOLIC_PROCESS                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| REACTOME_SOS_MEDIATED_SIGNALING                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.25  |
| PID_RAC1_REG_PATHWAY                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| FARMER_BREAST_CANCER_CLUSTER_4                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| LEUKOCYTE_MIGRATION                                                               | ADM   CLDN1   EGFR   ERO1L   KYNU   MALL   MPP6   NDRG1   PDZK1IP1   PEX3   SLC31A1   SRD5A1   STEAP3   VLDLR<br>CD34   CKLF   CX3CL1   DOCK2   IL10   IL8   ITGB2   M1A3   PF4   SAA1   SCG2   SFTPD   SYK   TGF2<br>ABCCA   CTBP2   CTSE   FOLR3   GRIP1   IER2   KDELR3   MATN3   M1A3   PCM1   PVRL2   TM9SF2   TMEM131   TMEM508   TNFSF10  <br>UBE2J1<br>AKAP3   CASC1   GSG1   H2AF1   LRRC23   RASSF8   SOX5<br>BCAT1   BCAT2   IARS   IARS2   LARS   LARS2   PDHA1   PDHA2   PDHB   VARS<br>BANF1   CENPM   DHX15   DLD   EED   ELAC2   LAS1L   LMNB1   MCM3   MCM5   NUP153   POLA2   PSIP1   PSMA3   PSME2   PTBP1   RBMX  <br>  RRM2   SFPQ   SMC1A   SNRPG   TCP1   UQCRC2<br>APBB2   APTX   CACNA1D   FAIM   FES   GMIN   HMG1B   IL23A   MYB   NRAS   NUCKS1   PHF10   SYK   TYMS   UBT<br>EIF2AK1   EIF2AK2   EIF2AK3   EIF2B5   EIF2S1   EIF2S2   EIF2S3   EIFS   GSK3B   PPP1CA<br>ANXAS   ARPC1B   CAP1   CDG3   CSK2   DENR   FGD6   HMGAI   ITGAV   ITGB1   KPNB1   MAPK3   MDR1   NCK2   PLCE1   STK25   TUBB6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.4 | 0.125 |
| TOMLINS_METASTASIS_DN                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| KORKOLA_CHORIOCARCINOMA_DN                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| KEGG_VALINE_LEUCINE_AND_ISOLEUCINE_BIOSYNTHESIS                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| GNF2_SMC1L1                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.25  |
| MARIADASON_RESPONSE_TO_BUTYRATE_SULINAD_4                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| BIOCARTA_EIF2_PATHWAY                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.25  |
| KAPOSI_LIVER_CANCER_MET_UP                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.25  |
| chr3p25                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| MODULE_233                                                                        | ABHD5   ANKRD28   ARPC4   ATG7   ATP2B2   BTB   C3orf32   CAMK1   CAND2   CAV3   CIDEC   CPNE9   CRELD1   FBLN2   HDAC11   HRH1  <br>IL17RC   IQSEC1   LSM3   MKRN2   NR2C2   NUP210   OXNAD1   OXTR   PLCL2   PPARG   RAF1   SETD5   SLC6A1   SLC6A11   SRGAP3   SYN2  <br>TATDN2   TIMP4   TMEM111   TMEM40   TMEM43   TSEN2   TTL3   VGLL4   VHL   WNT7A   XPC<br>GCLM   GSS   PAIC3   TRIP12   TTL1   UBE2A   UBE2D1   UBE2D2   UBE2D3   UBE2G1   UBE2H   UBE2I   UBE2L3   UBE2L6   UBE2M   UBE2N  <br>  UBE2S   UBE2V1   UBE2V2   UBE3C<br>ANPEP   ATF4   BACE2   ELF3   KRT14   MYC   PDE2A   RASL12   SERPINB5   SYNCRIP   TSC22D3<br>ARID5B   BTG3   CDKN1A   CLU   CRY1   DDB2   DGUOK   GPNMB   H3F3B   HXB6   IGFBP2   LOC92249   LZTF1L   MDK   NOV   NQO1  <br>NR2F2   OSBPL3   SF3B3   SRI   TYMS<br>DCPIA   DCP2   EXOSC1   EXOSC2   EXOSC4   EXOSC5   EXOSC7   EXOSC8   EXOSC9   MAPKAPK2   TNPO1   YWHAB   ZFP36<br>AANAT   BRCA2   CREBBP   EDF1   ELP4   EP300   GTF3C4   HAT1   NAT1   NAT2   NCOA3   SAT1   SMARCE1   SRCAP   TAF1   TAF5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1.4 | 0.125 |
| DORN_ADENOVIRUS_INFECTION_24HR_UP                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| KOPEZ_FLUOROURACIL_RESISTANCE_UP                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.5   |
| REACTOME_DESTABILIZATION_OF_MRNA_BY_TRISTETRAPROLIN_TTP                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| N_ACETYLTANSFERASE_ACTIVITY                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.25  |
| CIRCADIAN_RHYTHM                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| LOPEZ_MESOTHELIOMA_SURVIVAL_OVERALL_DN                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.25  |
| ANTIORTER_ACTIVITY                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| KANG_DOXORUBICIN_RESISTANCE_DN                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| PARK_TRETINOIN_RESPONSE_AND_RARA_PLZF_FUSION                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.25  |
| chr4q26                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| PARK_HSC_VS_MULTIPOTENT_PROGENITORS_DN                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| LOW_DENSITY_LIPOPROTEIN_BINDING                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.25  |
| CARBOXY_LYASE_ACTIVITY                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| chr9q33                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| WAGNER_APO2_SENSITIVITY                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| REACTOME_PYRIMIDINE_CATABOLISM                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| SPINDLE_POLE                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.5   |
| OUYANG_PROSTATE_CANCER_PROGRESSION_UP                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| RAMPON_ENRICHED_LEARNING_ENVIRONMENT_EARLY_UP                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| SA_CASPASE_CASCADE                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.25  |
| BIOCARTA_GH_PATHWAY                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| FUNG_IL2_SIGNALING_2                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.25  |
| MODULE_132                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.25  |
| KEGG_ETHER_LIPID_METABOLISM                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| NUCLEAR_ORGANIZATION_AND_BIOGENESIS                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| GALIE_TUMOR_STEMNESS_GENES                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.5   |
| chr6q23                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| BIOCARTA_RAS_PATHWAY                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.25  |
| OXIDOREDUCTASE_ACTIVITY_ACTING_ON_THE_CH_CH_GROUP_OF_DONORS                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| FIGUEROA_AML_METHYLATION_CLUSTER_5_UP                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| KEGG_SELENOAMINO_ACID_METABOLISM                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| REACTOME_TAK1_ACTIVATES_NFKB_BY_PHOSPHORYLATION_AND_ACTIVATION_OF_IKKS_COMPLEX    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| chr15q24                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| NIKOLSKY_BREAST_CANCER_7P22_AMPLICON                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| REACTOME_ERK_MAPK_TARGETS                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| PID_HIF1APATHWAY                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| HOEGERKORP_CD44_TARGETS_DIRECT_DN                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| FATTY_ACID_BIOSYNTHETIC_PROCESS                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.25  |
| CHEOK_RESPONSE_TO_MERCAPTOPYRIMINE_AND_HD_MTX_DN                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |



|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                              |     |       |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| REACTOME_N_GLYCAN_ANTENNAE_ELONGATION_IN_THE_MEDIAL_TRANS_GOLGI | B4GALT1   B4GALT2   B4GALT3   B4GALT4   B4GALT5   B4GALT6   FUT8   MAN2A1   MGAT2   MGAT3   MGAT4A   MGAT4B   MGAT4C   MGAT5   ST6GAL1   ST8SIA2   ST8SIA3                                                                                                                                                                                                                                                                                   | 1.4 | 0.125 |
| TIMOFEEVA_GROWTH_STRESS_VIA_STAT1_DN                            | CND2   CDK10   GSTP1   HRAS   HSF1   HSPB1   ISG15   KPNB1   MCL1   PRDX2   RAC1   SMARCD3   SNRPE   TMSB10   TNPO2                                                                                                                                                                                                                                                                                                                          | 1.4 | 0.125 |
| GAVIN_IL2_RESPONSE_FOXP3_TARGETS_DN                             | GIMAP6   KIF18   STK38   YARS2                                                                                                                                                                                                                                                                                                                                                                                                               | 1.4 | 0.375 |
| PID_S1P_META_PATHWAY                                            | ABCC1   GNA11   GNA12   GNA13   GNA14   GNA15   GNAI1   GNAI2   GNAI3   GNAO1   GNAQ   GNAZ   SGP1L   SGPP1   SPHK1   SPHK2                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| chr4q31                                                         | ABCE1   ANAPC10   ANXA2P1   ARFP1   ARHGAP10   DCHS2   EDNRA   FBXW7   GAB1   GALT7   GLRB   GUCY1A3   GUCY1B3   HMG82   IL15   INPP4B   KIAA0922   LRAT   LRBA   LSM6   MAB21L2   NPY1R   NPY2R   NPY5R   NR3C2   OTUD4   POU4F2   PPIP   RPS3A   SCRG1   SMAD1   SMARCA5   TBC1D9   TDO2   TRIM2   ZNF330                                                                                                                                  | 1.4 | 0.125 |
| KYNG_ENVIRONMENTAL_STRESS_RESPONSE_NOT_BY_ANQO_IN_OLD           | CNN2   FLOT1   HGF   LCK   NDRG1   SOX9   SYK   TAF10   TAF1C   TP53I1                                                                                                                                                                                                                                                                                                                                                                       | 1.4 | 0.25  |
| COFACTOR_BINDING                                                | ABAT   ACOT7   AGXT   ALB   ALDH6A1   AOC3   BDH2   BIRC5   GCLC   GRHPR   HPGD   ME1   ME3   MTRR   NDOR1   NNT   NOX4   PPOX   SPR   WWOX                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| PID_HDAC_CLASSII_PATHWAY                                        | ADRBK1   ANKRA2   BCL6   BCOR   CAMK4   ESR1   GATA1   GATA2   GNB1   HDAC11   HDAC3   HDAC4   HDAC5   HDAC6   HDAC9   HSP90AA1   MEF2C   NCOR2   NR3C1   RAN   RANBP2   RANGAP1   RFXANK   SRF   SUMO1   TUBB2A   UBE2I   XPO1   YWHAB   YWHAE                                                                                                                                                                                              | 1.4 | 0.125 |
| ALDO_KETO_REDUCTASE_ACTIVITY                                    | AKR1A1   AKR1B1   AKR1B10   AKR1C1   AKR1C3   AKR1C4   AKR7A2   AKR7A3   ALDH3A1   SPR                                                                                                                                                                                                                                                                                                                                                       | 1.4 | 0.375 |
| VACUOLE_ORGANIZATION_AND_BIOGENESIS                             | ABCA1   ARSB   CLN3   CLN5   CLN6   GAA   HPS1   HPS4   MYO7A   NAGPA   NDP   PPT1                                                                                                                                                                                                                                                                                                                                                           | 1.4 | 0.25  |
| METHYLTRANSFERASE_ACTIVITY                                      | AT1C   BHMT   CARM1   COQ3   DNMT1   DNMT3A   DNMT3B   EDF1   EED   EHMT1   EZH2   FBXO11   GAMT   GART   GCSH   LCMT1   METTL1   MGMT   NDMT   NSD1   PCMT1   PEMT   PNMT   PRMT1   PRMT5   PRMT7   PRMT8   RNMT   SUV39H1   SUV39H2   SUZ12   TPMT   WHSC1L1                                                                                                                                                                               | 1.4 | 0.125 |
| REACTOME_SYNTHESIS_OF_PIP3_AT_THE_EARLY_ENDOSOME_MEMBRANE       | INPP4B   MTM1   MTMR2   MTMR4   PIK3C2A   PIK3C3   PIK3R4   VAC14                                                                                                                                                                                                                                                                                                                                                                            | 1.4 | 0.125 |
| SHIN_B_CELL_LYMPHOMA_CLUSTER_2                                  | AKT1   BM1   BTG3   CND2   DTX2   FANCA   FOSB   FZD6   GADD45B   HOCX13   IRF4   IRF6   MBD1   MXI1   MYC   NCSTN   PIK3CG   POU2AF1   PRDM1   PRKCD   PSEN2   RFNG   SOCS2   STAT5A   TRAF3   XBP1                                                                                                                                                                                                                                         | 1.4 | 0.125 |
| NAM_FXYD5_TARGETS_DN                                            | APPBP2   ARL1   AXL   CCL2   CRIPT   EIF2S1   FTH1   FXYD5   HSPF1   MCCC2   MLF1   PDHA1   RNF11   SNRPD1   SRP72   UBE2W                                                                                                                                                                                                                                                                                                                   | 1.4 | 0.25  |
| HOLLEMAN_DAUNORUBICIN_B_ALL_DN                                  | ARID4   CTCF   CTDSP2   GMEB2   ING3   MED28   NTAN1   PCBP2   RHOA   SHOC2                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| GCM_CSNK1D                                                      | ACTR10   ARFGAP1   C7orf42   CSNK1D   EVI5   FBXL5   GPR107   GPR153   IMPAD1   PHF10   PJA2   SAP130   SRRM2   TBC1D15   TMEM30A   UBQLN2   UPP3A   VPS52   YTHDF1   ZFAND3                                                                                                                                                                                                                                                                 | 1.4 | 0.25  |
| BIOCARTA_EIF4_PATHWAY                                           | AKT1   EIF4A1   EIF4A2   EIF4E   EIF4EBP1   EIF4G1   EIF4G2   EIF4G3   GHR   IRS1   MAPK1   MAPK14   MAPK3   MKNKB1   PABPC1   PKD2   PDK1   PIK3CA   PIK3R1   PRKCA   PTEN   RPS6KB1                                                                                                                                                                                                                                                        | 1.4 | 0.125 |
| GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_RED_DN            | CEP68   EPHA4   FRY   GIT2   KLHL3   MAFB   MLYCD   NR5A2   RAB11A   RALA   RHOBTB1   SESN1   SPTLC2   SUOX   TXNIP   VGLL4                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| RESPONSE_TO_HEAT                                                | AKT1   CRNN   DNAJB4   EIF2B1   EIF2B2   EIF2B3   EIF2B4   EIF2B5   GCLC   SOD1                                                                                                                                                                                                                                                                                                                                                              | 1.4 | 0.125 |
| MODULE_253                                                      | ARSB   CENPE   DCTN2   DNMI1   DYNCL1U2   DYNLL1   KIF11   KIF14   KIF23   KIF2C   KIF3B   KIF5A   KIF5C   MAP1B   MAP2   MAPRE1   SNTB2   STMN1   TUBB3                                                                                                                                                                                                                                                                                     | 1.4 | 0.375 |
| KORKOLA_CHORIOCARCINOMA                                         | CGA   HSD3B1   LEP   LHB   TFPI   XAGE3                                                                                                                                                                                                                                                                                                                                                                                                      | 1.4 | 0.5   |
| LU_TUMOR_ENDOTHELIAL_MARKERS_DN                                 | GREB1   OGN   PLN   SELE                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.4 | 0.375 |
| PID_RXR_VDR_PATHWAY                                             | ABCA1   BCL2   NCOA1   NCOR2   NR1H2   NR1H3   NR1H4   NR4A1   PPARA   PPARD   PPARG   RARA   RARB   RARG   RPS6KB1   RXRA   RXRB   RXRG   SREBF1   TGFBI   THRA   THRB   TNF   VDR                                                                                                                                                                                                                                                          | 1.4 | 0.125 |
| MICROTUBULE_BINDING                                             | APC   ARHGEF2   ATG4A   BIRC5   CDK5RAP2   CEP290   CLASP1   CLASP2   DCX   DYNC11   KATNA1   KIF5B   LRPPRC   MAP15   MAPRE1   MAPT   MARK4   NDE1   POLB   PRNP   RAE1   TARDBP   TPPP   TUBGCP5   UXT                                                                                                                                                                                                                                     | 1.4 | 0.125 |
| CGCAAAA_MIR-450                                                 | AMD1   CDC41   CREB1   DSCAM   DUSP10   MEI52   NRXN2   SOX2                                                                                                                                                                                                                                                                                                                                                                                 | 1.4 | 0.5   |
| chr4q27                                                         | ANXAS   BBS7   EXOSC9   MAD2L1   NDST3   PLK4   TNIP3   USP53                                                                                                                                                                                                                                                                                                                                                                                | 1.4 | 0.25  |
| REGULATION_OF_MUSCLE_CONTRACTION                                | ATP2A1   CNN1   KCNB2   MYBP3   MYBP8   MYL2   MYL5   MYL9   NMU   PLCE1   PPP1R12B   SOD1   SPHK1   SRI   TNNC1   TNNC2   TNNI1   TPM1                                                                                                                                                                                                                                                                                                      | 1.4 | 0.375 |
| chr14q23                                                        | ATP6V1D   DHR57   DLST   FNTB   GPHN   GPR135   KIAA0586   MAX   MNAT1   MPP5   PLEK2   PLEKHG3   PRKCH   PSMA3   RAB15   RDH11   SGPP1   SIX1   SLC38A6   TMEM308   TRMT5   VT118   ZBTB1   ZBTB25   ZFYVE26                                                                                                                                                                                                                                | 1.4 | 0.125 |
| SECRETORY_GRANULE                                               | ABCA3   ABCCA4   AZU1   BRCA2   CRISP3   CUZD1   HPS4   ICA1   LAMP2   PAM   SCG5   SELP   SLC30A5   SPINK5   TMED10   TMED2   VWF                                                                                                                                                                                                                                                                                                           | 1.4 | 0.125 |
| KEGG_BASE_EXCISION_REPAIR                                       | APEX1   APEX2   FEN1   HMG81   LIG1   LIG3   MBD4   MPG   MUTYH   NEIL1   NEIL3   NTHL1   OGG1   PARP1   PARP2   PARP3   PARP4   PCNA   POLB   POLD1   POLD2   POLD3   POLD4   POLE   POLE2   POLE3   POLL   SMUG1   TDG   UNG   XRCC1                                                                                                                                                                                                       | 1.4 | 0.125 |
| chr4q32                                                         | ANP32C   ANXA10   CBR4   CPE   CTSD   ETFDH   GRIA2   MAP9   MFAP3L   NEK1   PALD   PDGFC   RAPGEF2   SPOCK3   TLL1   TLR2   TMEM144                                                                                                                                                                                                                                                                                                         | 1.4 | 0.375 |
| ST_G_ALPHA_S_PATHWAY                                            | ASAHI   BFAI   BRAF   CAMP   CFB   CREB1   CREB3   CREB5   GAST   MAPK1   RAF1   RAPGEF3   SNX13   SRC   TERF2IP                                                                                                                                                                                                                                                                                                                             | 1.4 | 0.25  |
| PETRETTO_HEART_MASS_QTL_CIS_UP                                  | ADRA1B   BPHL   C5orf15   CARD9   CSNK2A1   DHOD5   FCER2   GLPD1   MAN1A1   NET1   OGN   PLEKH81   RAB14   RNF6   SPARC   TOR1B   TRAK2   TST   VAMP1   VPS52                                                                                                                                                                                                                                                                               | 1.4 | 0.125 |
| REACTOME_CYTOSOLIC_SULFONATION_OF_SMALL_MOLECULES               | BPNT1   PAPSS1   PAPSS2   SULT1A1   SULT1A2   SULT1A3   SULT1A4   SULT1B1   SULT1E1   SULT2A1   SULT2B1   SULT4A1                                                                                                                                                                                                                                                                                                                            | 1.4 | 0.25  |
| BIOCARTA_EPO_PATHWAY                                            | CSNK2A1   ELK1   EPO   EPOR   FOS   GRB2   HRAS   JAK2   JUN   MAP2K1   MAPK3   MAPK8   PLCG1   PTNIP6   RAF1   SHC1   SOS1   STAT5A   STAT5B                                                                                                                                                                                                                                                                                                | 1.4 | 0.125 |
| chr6q21                                                         | AIM1   AMD1   ATG5   CCNC   CD164   COL10A1   COQ3   FRK   FYN   GPR6   HDAC2   LAMA4   MARCKS   MICALL1   NR2E1   OSTM1   PDS2   PEX7   POPDC3   PRDM1   QRS1   ROS1   SEC63   SESN1   SLC16A10   SMPD2   SNX3   TRAF3IP2   TSPYL1   WASF1   ZBTB24                                                                                                                                                                                         | 1.4 | 0.125 |
| CELLULAR_RESPONSE_TO_STRESS                                     | ALB   ASNS   EIF2AK3   FADS1   GSK3B   NUA2   SREBF1   TP53                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| ST_GRANULE_CELL_SURVIVAL_PATHWAY                                | APC   ASAHI   CAMP   CASP3   CERK   CREB1   CREB3   CREB5   CXCL2   DAG1   EPHB2   FOS   GNAQ   ITPKA   ITPKB   JUN   MAP2K4   MAP2K7   MAPK1   MAPK10   MAPK8   MAPK8IP1   MAPK8IP2   MAPK8IP3   MAPK9   PARP1                                                                                                                                                                                                                              | 1.4 | 0.5   |
| chr2q33                                                         | ABCA12   ABCB6   AB12   ADAM23   ALS2CR11   ALS2CR8   AOX1   BCS1L   BMPR2   BZW1   CASP10   CASP8   CD28   CFLAR   CHRND   CHRNG   CLK1   COQ10B   CRYGA   CRYGB   CRYGC   CRYGD   CTLA4   CYP20A1   DDAH7   EEF1B2   FASTKD2   FZD5   FZD7   GPR1   GTF3C3   HSPD1   HSPF1   ICOS   IDH1   IGF8P2   IGF8P5   IHH   INHA   LANCL1   LOC645691   MYL1   NDUFS1   NIF3L1   PGAP1   PLCL1   RPL37A   SATB2   SERPINE2   STK17B   SUMO1   TRAK2 | 1.4 | 0.125 |
| INTERCELLULAR_JUNCTION_ASSEMBLY                                 | CD9   GJA1   GJA4   GJA5   PAR6B   TJP1   TLN1   TLN2   VCL                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| MANN_RESPONSE_TO_AMIFOSTINE_DN                                  | BLMH   CCNB1   HMGN2   KRAS   MAD2L1   PRKACB   RRM2   XPO1                                                                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| VERRECHIA_RESPONSE_TO_TGFB1_C1                                  | ADAM9   BSG   CD44   EPHB3   HSPG2   IGFBP3   ITGA3   LRRC17   NID1   NME1   NOTCH2   PAK1   PLAT   RHOB   RPSA   SERPINE1   SPARC   TCF7L2                                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| SCIBETTA_KDM5B_TARGETS_UP                                       | BRP44L   C20orf111   CD2BP2   CDIPT   CLCF1   DDIT3   DNAL4   EHD1   GADD45A   MAPK8IP3   MIA3   NDE1   POLB   RNASET2   RNF40   SAT1   SMOX                                                                                                                                                                                                                                                                                                 | 1.4 | 0.125 |
| SCHEIDERIT_IKK_TARGETS                                          | BCL10   CCND1   CTNNB1   CYLD   DOK1   ESR1   IRS1   NCOA3   NCOR2   NFKB1   NFKB2   NFKBIA   NFKBIB   RELA   YWHAB                                                                                                                                                                                                                                                                                                                          | 1.4 | 0.125 |
| REACTOME_SIGNAL_ATTENUATION                                     | CRK   DOK1   GRB10   GRB2   INS   INSR   IRS1   IRS2   MAPK3   SHC1   SHC2   SHC3   SOS1                                                                                                                                                                                                                                                                                                                                                     | 1.4 | 0.125 |
| INAMURA_LUNG_CANCER_SCC_SUBTYPES_DN                             | ASH1L   CEP135   SOS1   USP24                                                                                                                                                                                                                                                                                                                                                                                                                | 1.4 | 0.125 |
| ZHENG_FOXP3_TARGETS_IN_THYMUS_DN                                | ADIPQ1   AGOR2   AKR1D1   AMPH   APH1A   CADP5   EPB41   MAP4K4   NR4A2   PRSS2                                                                                                                                                                                                                                                                                                                                                              | 1.4 | 0.25  |
| MODULE_444                                                      | ANGPT1   ANPEP   EPAS1   FGF1   FGF2   FGF6   FIGF   IL18   IL8   JAG1   KDR   MMP19   NRG1   PBX3   PTPRR   TGFBI   TNFAIP2   TNFSF12                                                                                                                                                                                                                                                                                                       | 1.4 | 0.125 |
| chr3p24                                                         | CAPN7   CCR4   CLASP2   DAZL   DHX30   GPR98   GRIIP2   KIF15   NR1D2   OXSM   RAB5A   RARB   RBM53   RNF123   RPL15   TBC1D5   THRB   TOP2B   UBE2E1                                                                                                                                                                                                                                                                                        | 1.4 | 0.375 |
| PID_IL1PATHWAY                                                  | CASP1   CHUK   ERC1   IKKBK   IKKBG   IL1A   IL1B   IL1R1   IL1R2   IL1RAP   IL1RN   IRAK1   IRAK3   IRAK4   JUN   MAP2K6   MAP3K3   MAP3K7   MAPK8   MYD88   NFKB1   PIK3CA   PIK3R1   PRKCI   PRKCZ   RELA   SQSTM1   TOLLIP   TRAF6   UBE2N   UBE2V1                                                                                                                                                                                      | 1.4 | 0.125 |
| chr9q32                                                         | ALAD   AMBP   DBCI   DFNB31   GNG10   HSDL2   KIAA0368   MEGF9   ORM2   PTGS1   RAB14   RGS3   ROD1   RPL12   TLR4   TNC   TNFSF15   TOR1A   TRIM32   ZFP37                                                                                                                                                                                                                                                                                  | 1.4 | 0.125 |
| WANG_METASTASIS_OF_BREAST_CANCER_ESR1_UP                        | ATAD2   C11orf9   CBX3   CCNE2   EEF1A2   FEN1   GTSE1   HDGFRP3   HIST1H4H   KPNA2   MLF1IP   PLK1   POLQ   PPP1CC   PSMC2   SMC4   SUPT16H   UCLK1   YIF1A   ZCCHC8                                                                                                                                                                                                                                                                        | 1.4 | 0.375 |
| MODULE_281                                                      | ARF4   ARFS   CYCL1   DUSP14   DUSP5   DUSP6   FUBP1   GWF6   HMG81   HSPB2   KHDRBS1   MGST2   PPM1D   PPP2CB   PPP6C   PRPSA1   RAD23A   RPA1   RPA2   RPA3   SCG5   SERPINB2   SSBP1   TRIM23   UBA2   XPC   YBK1                                                                                                                                                                                                                         | 1.4 | 0.125 |
| GLI1_UP.V1_DN                                                   | ACSL6   ARPC2   CCN12   CD2AP   COP2I   CYP3A7   FOLR1   GTDC1   OPN3   RNF10   RSAD2   RUNX1   SLC22A1   TMEM62   YIPF1   ZMYND11                                                                                                                                                                                                                                                                                                           | 1.4 | 0.375 |
| REACTOME_METABOLISM_OF_POLYAMINES                               | AD1   AGMAT   AMD1   APIP   GOT1   MTAIP   ODC1   PAOX   SAT1   SMOX   SMS   SRM                                                                                                                                                                                                                                                                                                                                                             | 1.4 | 0.25  |
| SPINDLE_MICROTUBULE                                             | BIRC5   CDC16   CDC27   CLASP1   CLASP2   KIF11   KIF4A   KNTC1   NUMA1   PAFAH1B1   POLB   PRCI   TUBG1   TUBGCP3   ZW10                                                                                                                                                                                                                                                                                                                    | 1.4 | 0.375 |
| chr18q12                                                        | ATP5A1   C18orf10   CDH2   CXCL1   DSC1   DSC2   DSC3   DSG1   DSG2   DSG3   DTNA   FAM59A   FHOD3   GALNT1   IER3P1   MAPK4   MAPRE2   MEP1B   MOCOS   NOL4   PIAS2   PIK3C3   PSTPIP2   RIT2   RNF125   RNF138   SLC14A2   SLC39A6   ST8SIA5   TTR   ZNF24   ZNF271                                                                                                                                                                        | 1.4 | 0.25  |
| RNA_DEPENDENT_ATPASE_ACTIVITY                                   | DDX17   DDX18   DDX21   DDX23   DDX25   DDX3X   DDX43   DDX54   DDX56   DHX38   DHX8   DHX9   SKIVL2   UPP1                                                                                                                                                                                                                                                                                                                                  | 1.4 | 0.25  |
| IVANOVA_HEMATOPOIESIS_STEM_CELL_SHORT_TERM                      | AKAP8   APC   BCLAF1   DNIT1   EMID1   ERBB2IP   GINS4   GPR172A   GUF1   HIRIP3   IMPAD1   MATR3   MID1   MPHOSPH9   NCOA6   PDE1A   PKP1   PRKCA   PRRG1   RIT2   SENP6   TRAPP3   TSPAN1                                                                                                                                                                                                                                                  | 1.4 | 0.375 |
| BOYVAULT_LIVER_CANCER_SUBCLASS_G56_UP                           | DP41   DUT   GLUL   HIST1H2BK   LAMA3   NEDD4   REG3A   RHBG   SMDY2   SPARCL1   TBX3                                                                                                                                                                                                                                                                                                                                                        | 1.4 | 0.125 |
| REGULATION_OF_RAS_GTPASE_ACTIVITY                               | FOP1   FGD2   FGD6   NF1   RALBP1   TSC1                                                                                                                                                                                                                                                                                                                                                                                                     | 1.4 | 0.125 |
| REGULATION_OF_JNK_CASCADE                                       | AMBP   CARD9   EDAR2   HIPK2   MAPK8IP1   MAPK8IP2   MAPK8IP3   TAOK2   TAOK3   TPDS2L1   ZNF675                                                                                                                                                                                                                                                                                                                                             | 1.4 | 0.375 |
| KUUSELO_PANCREATIC_CANCER_19Q13_AMPLIFICATION                   | AKT2   CLC1   CNTD2   DL13   DYRK1B   FBL   FCGBP   GMFG   LGALS13   LGALS14   MAP3K10   PAF1   PLD3   PSMC4   RPS16   SAMD4B   SUPT5H   TIMM50   ZFP36                                                                                                                                                                                                                                                                                      | 1.4 | 0.125 |
| HOLLEMAN_ASPIRIN_RESISTANCE_ALL_DN                              | ARF6   ARRB2   C12orf35   CDC109B   CCNG2   CCNI   DEDD   DERL2   MAD2L1BP   MARCKS   MED28   MRPL15   PPIA   PSME3   RAB5C   RCHY1   SNRPG   SUMO2   UBE2Z   ZNF318   ZNHIT3                                                                                                                                                                                                                                                                | 1.4 | 0.125 |
| PHOSPHOLIPID_TRANSPORTER_ACTIVITY                               | ABCA1   ABCG1   ATP11B   ATP8B1   CDIPT   CETP   PITPN1   PITPN2   PITPNM1   PITPNM3   PLSCR1                                                                                                                                                                                                                                                                                                                                                | 1.4 | 0.125 |
| NEGATIVE_REGULATION_OF_CYTOSKELETON_ORGANIZATION_AND_BIOGENESIS | APC   ARHGEF2   CAPG   CLASP1   GSN   KATNB1   UMA1   MAPRE1   MID1IP1   TMSB4Y                                                                                                                                                                                                                                                                                                                                                              | 1.4 | 0.125 |
| chrnq12                                                         | ABCCT7   AR   ATRX   EDA   EFN81   ITGB81BP2   LAS1L   MED12   OPHN1   PHKA1   VSG14                                                                                                                                                                                                                                                                                                                                                         | 1.4 | 0.25  |
| POS_RESPONSE_TO_HISTAMINE_DN                                    | ASNS   CDT1   DPM1   EIF252   KLHL22   NCOR1                                                                                                                                                                                                                                                                                                                                                                                                 | 1.4 | 0.375 |

|                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                      |     |       |
|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| CEBALLOS_TARGETS_OF_TP53_AND_MYC_UP                                    | ACSL1   ACSL3   CD55   CTH   DRG1   FOSB   HARS   HSPA2   HSP61   HSPH1   INSIG1   ISLR   JUNB   MTHFD2   MYC   NEK3   PFKFB1   STAT5B   UAP1   ZNF532                                                                                                                                                                                                                                               | 1.4 | 0.125 |
| N_METHYLTRANSFERASE_ACTIVITY                                           | EHMT1   FBXO11   NNMT   NSD1   PEMT   PNMT   PRMT1   PRMT7   PRMT8   RNMT   SUV39H1   SUV39H2   WHSC1L1                                                                                                                                                                                                                                                                                              | 1.4 | 0.25  |
| MIZUSHIMA_AUTOPHAGOSOME_FORMATION                                      | ATG10   ATG12   ATG3   ATG5   ATG7   ATG9A   C12orf44   DCTN1   GABARAP   GABARAPL2   PIK3C3   PPM1D   RB1CC1   ULK1   ULK2                                                                                                                                                                                                                                                                          | 1.4 | 0.125 |
| BYSTRYKH_HEMATOPOIESIS_STEM_CELL_FGF3                                  | BMF8A   BMP8B   EFN81   EFN83   MAP2K6   PKNOX1   POU5F1                                                                                                                                                                                                                                                                                                                                             | 1.4 | 0.125 |
| PROTEIN_POLYUBQUITINATION                                              | AMFR   DDB2   DZIP3   ERCC8   HUWE1   STUB1   TRAF6   UBE2D1   UBE2V1   UBE2V2   UBE3C                                                                                                                                                                                                                                                                                                               | 1.4 | 0.25  |
| REACTOME_RIP_MEDIATED_NFKB_ACTIVATION_VIA_DAI                          | AGER   APP   CHUK   HMG1B   IKKBK   IKBKX   NFKB2   NFKBIA   NFKBIB   RELA   RIPK1   S100A12   S100B   SAA1   TICAM1   TLR3   ZBP1                                                                                                                                                                                                                                                                   | 1.4 | 0.375 |
| MODULE_408                                                             | ARSA   ASAH1   GM2A   GPX4   HEXB   HYAL1   IMPA1   NAGA   NAGLU   NSMAF   PLA2G5   PLCD1   PLCG2   PLD1   PRDX6   PSAP   SMPD1   UGCG                                                                                                                                                                                                                                                               | 1.3 | 0.25  |
| SECONDARY_METABOLIC_PROCESS                                            | ALAD   ALAS1   ALAS2   ALDH8A1   AP3D1   BLVRA   COX10   COX15   CPOX   DCT   DHRS3   FECH   GMP5   GPR143   NFE2L1   OCA2   PAICS   PPOX   RARRES2   RDH11   RETSAT   TSP0   TYR                                                                                                                                                                                                                    | 1.3 | 0.375 |
| WU_HBX_TARGETS_3_UP                                                    | CASP4   CCNI   CDK4   CDKN3   DAD1   FAS   GSTM2   IFITM1   IFNAR2   MFNG   MYB   MYC   PDCD2   SLC2A5   TFAP4   TYMS   VCL                                                                                                                                                                                                                                                                          | 1.3 | 0.375 |
| PID_CD40_PATHWAY                                                       | AKT1   BCL2L1   BIRC2   BIRC3   C4BP4   CBLB   CD40   CD40LG   IL4   JAK3   JUN   MAP2K4   MAP3K1   MAP3K14   MAPK10   MAPK11   MAPK14   MAPK8   MAPK9   MYC   NFKB1   NFKBIA   RELA   STAT5A   TNFAIP3   TRAF1   TRAF2   TRAF3   TRAF6                                                                                                                                                              | 1.3 | 0.125 |
| LE_SKI_TARGETS_DN                                                      | COL18A1   DLX4   EFEMP1   FHL1   ID4   SOCS2   TFP12   TIMP3                                                                                                                                                                                                                                                                                                                                         | 1.3 | 0.375 |
| TOKNS_TARGETS_OF_RUNX1_RUNX1T1_FUSION_SUSTAINED_IN_MONOCYTE_DN chr2q21 | CLC   CYP1B1   HBB   HDC   LTB   PLXNC1   RGS2   S100B                                                                                                                                                                                                                                                                                                                                               | 1.3 | 0.375 |
| AMINO_ACID_CATABOLIC_PROCESS                                           | CLALR   CCNT2   CXCR4   DD18   EPB41L5   ERCC3   GPR17   GPR39   HS6ST1   IMP4   LCT   LIMS2   LRP1B   LYPD1   MAP3K2   MGAT5   MYO7B   POLR2D   PTPN18   RAB3GAP1   RAB6G   SCN7A   SMPD4   TSN   WDR33   YSK4                                                                                                                                                                                      | 1.3 | 0.25  |
| REGULATION_OF_PROTEIN_STABILITY                                        | ALDH4A1   AMT   ARG1   ASL   ASPA   ASRGL1   BCKDHA   BCKDHB   BCKDK   DDAH1   DDAH2   DDO   FAH   GAD1   GAD2   GCSH   GLDC   GLUD1   GOT1   GOT2   GSTZ1   HGD   HPD   MCC2                                                                                                                                                                                                                        | 1.3 | 0.125 |
| KEGG_CYSSTEINE_AND_METHIONINE_METABOLISM                               | AP0A1   APOA2   APTX   AURKA   COG7   FBXO7   GTPBP4   HP54   ISOC2   MDM4   PEX6   PPARGC1A   PTEN   STX12                                                                                                                                                                                                                                                                                          | 1.3 | 0.125 |
| WALLACE_PROSTATE_CANCER_UP                                             | AD11   AHCY   AHYCL1   AMD1   AP1P   BHMT   CBS   CDO1   CTH   DNMT1   DNMT3A   DNMT3B   DNMT3L   GOT1   GOT2   IL4I1   LDHA   LDHAL6B   LDHB   LDHC   MAT1A   MAT2A   MAT2B   MPST   MTAP   MTR   SDS   SMS   SRM   TAT                                                                                                                                                                             | 1.3 | 0.125 |
| ENDONUCLEASE_ACTIVITY                                                  | AHCY   AMACR   BDH1   DAP   FASN   GDF15   HPN   LIG3   MYC   ODC1   POLD2   PPP3CA   PRS58   SLC25A6   SOX4   ST14   TPDS2   TSTA3   UAP1                                                                                                                                                                                                                                                           | 1.3 | 0.125 |
| BIOCARTA_NGF_PATHWAY                                                   | ANG   APEX1   DBR1   DICER1   DNASE2   ERCC1   ERCC4   ERCC5   ERN2   EXO1   FEN1   MBD4   MRE11A   NTHL1   OGG1   POP1   POP4   POP7   RAD50   RNASE1   RPP30   RPP38   RPP40                                                                                                                                                                                                                       | 1.3 | 0.375 |
| WHITEHURST_PACLITAXEL_SENSITIVITY                                      | CSNK2A1   ELK1   FOS   GRB2   HRAS   JUN   MAP2K1   MAPK3   MAPK8   NGFR   PIK3CA   PIK3CG   PIK3R1   PLCG1   RAF1   SHC1   SOS1                                                                                                                                                                                                                                                                     | 1.3 | 0.125 |
| SIG_IL4RECEPTOR_IN_B_LYPHOCYTES                                        | C1QTNF3   GAL3ST4   GPR144   ITH5   NDOR1   PDCL   PSMA6   PSMA7   PSMB1   PSMC3   PSMD1   PSMD3   RAB9A   SYT13   TBL1Y   TUBA8   TUBGCP2                                                                                                                                                                                                                                                           | 1.3 | 0.125 |
| BRACHAT_RESPONSE_TO_METHOTREXATE_DN                                    | AKT1   AKT2   AKT3   BAD   BCL2   GRB2   GSK3A   GSK3B   IL4R   IRS1   IRS2   JAK1   JAK3   MAP4K1   MAPK1   MAPK3   PDK1   PIK3CA   PIK3CD   PIK3R1   PPP1R13B   RAF1   SHC1   SOCS1   SOS1   SOS2   STAT6                                                                                                                                                                                          | 1.3 | 0.25  |
| PID_NEPHRIN_NEPH1_PATHWAY                                              | ALDOA   ANXA4   BCL2   BNIP3L   C10orf73   CORO7   CTGASE   EMILIN2   ENO1   ENO3   FKBP3   GAPDH   GPI   HIGD1A   HMGCS1   IFITM2   IFITM3   MTIE   OSTF1   PDK3   PPIA   SLC25A1   STAT5A   STMN1                                                                                                                                                                                                  | 1.3 | 0.125 |
| STARK_HYPOCAMPUS_22Q11_DELETION_DN chr10p15                            | AKT1   ARRB2   BAD   CD2AP   F2RL2   FYN   GRB2   JUN   KIRREL   MAP2K4   MAPK10   MAPK8   MAPK9   NCK1   NCK2   NPHS1   NPHS2   PAR6GA   PIK3CA   PIK3CB   PIK3CD   PIK3R1   PIK3R2   PIK3R3   PLCG1   PRKCI   PRKCZ   RAC1   TJP1   TRPC6   WASL                                                                                                                                                   | 1.3 | 0.125 |
| REACTOME_ACTIVATION_OF_BH3_ONLY_PROTEINS chr5q33                       | ARVCF   CLDN5   COMT   DGC14   DGC2   DGC6   G1PB1   HIRA   MRPL40   PRODH   RANBP1   SLC25A1   TXNRD2   UFD1L                                                                                                                                                                                                                                                                                       | 1.3 | 0.125 |
| MAGRANGEAS_MULTIPLE_MYELOMA_IGG_VS_IGA_UP                              | ADAR82   AKR1C1   AKR1C2   AKR1C3   AKR1C4   ASB13   CALML5   DIP2C   GATA3   GD12   GTPBP4   IDI1   IL15RA   IL2RA   ITH2   ITH5   KIN   KLF6   NET1   PKPK   PHYH   PITRM1   PRKCQ   RBM17   TUBAL3   WDR37                                                                                                                                                                                        | 1.3 | 0.375 |
| CELLULAR_RESPONSE_TO_EXTRACELLULAR_STIMULUS                            | AKT1   BAD   BB3C   BCL2   BCL2L11   BID   DYLL1   E2F1   MAPK8   PMAIP1   PPP3R1   TDFP1   TP53   YWHAB                                                                                                                                                                                                                                                                                             | 1.3 | 0.25  |
| BERENJENO_ROCK_SIGNALING_NOT_VIA_RHOA_UP                               | ABLIM3   ANXA6   BNIP1   CAMK2A   CDC69   CCN1   CLINT1   FBXO38   GABRP   GRIA1   HAND1   HAVCR1   LARP1   MRPL22   MYO23   PCYOX1L   RBM22   SAP30L   SGCD   SLC36A1   SLC36A2   SOX30   SYNPO   TIGD6                                                                                                                                                                                             | 1.3 | 0.375 |
| ONDER_CDH1_TARGETS_3_UP                                                | ABCA7   ANXA1   AP1B1   COL16A1   CST3   DARS   DCTN1   FAH   GAS1   GATA2   IGH41   INPP1   JAG2   LIPE   NGRFRAP1   OR2A9P   PSG2   SRF   WEE1                                                                                                                                                                                                                                                     | 1.3 | 0.125 |
| BIOCARTA_SPPA_PATHWAY                                                  | ALB   ASNS   CCKN1A   CCKN2B   FADS1   NUA2K   SREBF1   TP53                                                                                                                                                                                                                                                                                                                                         | 1.3 | 0.25  |
| REACTOME_SIGNAL_AMPLIFICATION                                          | ACAA2   ALDH2   ATF3   CA6   CCK   CD34   CDSN   CP   EPHX1   GAST   GPR137B   GTF3C5   ITGB7   KLR8   NDRG1   NQO1   PRR13   PRRX1   PTGES   PTGFR   RBP1   RND2   SEC61A1   TNXB   TRIB3   TSP0                                                                                                                                                                                                    | 1.3 | 0.125 |
| SIG_BCR_SIGNALING_PATHWAY                                              | ALDH6A1   CRI2   CYP1B1   FTL   KCNMA1   KDELR3   KLF9   LEPR   MAGED1   MAGED2   PRKCA   RNASE4   STC2   TCEA2   TSC2D3   WIPI1   ZBTB16                                                                                                                                                                                                                                                            | 1.3 | 0.125 |
| KYNG_ENVIRONMENTAL_STRESS_RESPONSE_NOT_BY_UV_IN_WS                     | F2   F2R1   GNAI1   GNB1   GNGT1   HRAS   ITGB1   MAP2K1   MAPK1   MAPK3   PLA2G4A   PLCB1   PRKCA   PTGS1   PTK2   RAF1   SRC   SYK   TBXA51                                                                                                                                                                                                                                                        | 1.3 | 0.25  |
| NEGATIVE_REGULATION_OF_DNA_METABOLIC_PROCESS                           | GNA11   GNA13   GNA14   GNA15   GNAI1   GNAI2   GNAI3   GNAQ   GNB1   GNB2   GNB3   GNB5   GNG10   GNG11   GNG12   GNG13   GNG3   GNA4   GNG5   GNG7   GNGT1   GNGT2   MAPK14   P2RY1   PLA2G4A   SRC   TBXA2R                                                                                                                                                                                       | 1.3 | 0.125 |
| HETEROGENEOUS_NUCLEAR_RIBONUCLEOPROTEIN_COMPLEX                        | AKT1   AKT2   AKT3   BAD   BCL2   BCR   BLNK   BTK   CD19   CD22   CD81   CR2   CSK   DAG1   FLOT1   FLOT2   GRB2   GSK3A   GSK3B   INPP5A   ITPR1   ITPR2   ITPR3   LYN   MAP4K1   MAPK1   MAPK3   NFATC1   NR0B2   PDK1   PIK3CA   PIK3CD   PIK3R1   PLCG2   PPP1R13B   PPP3CA   PPP3CB   PPP3CC   PTPRC   RAF1   SHC1   SOS1   SOS2   SYK   VAV1                                                  | 1.3 | 0.125 |
| INTERFERON_GAMMA_PRODUCTION                                            | ARPC1B   HGF   IL1A-DQA1   LCK   NDRG1   RHOB   SLC30A5   SOD1   TAF1C   TP53I11   ZNF507                                                                                                                                                                                                                                                                                                            | 1.3 | 0.125 |
| TERRAO_AOX4_TARGETS_HG_UP                                              | ATR   CDC6   CDT1   ERCC1   ERCC4   GMINN   GTPBP4   NF2   RAD17   RAD9A   S100A11   SET   TERF2   TERF2IP1   TIPIN   TSPYL2   HNRDPL   PTBP1   RALY                                                                                                                                                                                                                                                 | 1.3 | 0.375 |
| BIOCARTA_IL12_PATHWAY                                                  | CEBP6   EB13   FOXP3   IL12A   IL12B   IL18   INHA   INHBA   TLR3   TLR7   TLR8                                                                                                                                                                                                                                                                                                                      | 1.3 | 0.25  |
| chr18q21                                                               | ACSL6   CEBPA   CTGASE   GNA12   GNS   LMTK2   NSF   PAM   PEA15   PEX5   RAF1   RNF185   RNF4   SGLP1   SNX27   TMEM127   TXNDC5   UBE2V1                                                                                                                                                                                                                                                           | 1.3 | 0.125 |
| FLECHNER_BIOPSY_KIDNEY_TRANSPLANT_OK_VS_DONOR_DN                       | CCR5   CD247   CD3D   CD3E   CD3G   CXCR3   ETV5   IFNG   IL12A   IL12B   IL12RB1   IL12RB2   IL18   IL18R1   JAK2   JUN   MAP2K6   MAPK14   MAPK8   STAT4   TRA@   TYK2                                                                                                                                                                                                                             | 1.3 | 0.125 |
| REACTOME_PRE_NOTCH_TRANSCRIPTION_AND_TRANSLATION                       | ACAA2   ATP8B1   BCL2   C18orf25   CDC68B   DCC   DYM   ELAC1   FECH   GRP   LIP6   LMAN1   MALT1   MBD1   MBD2   ME2   NARS   NEDD4L   ONECUT2   PIGN   PMAIP1   POLI   RAB27B   RAX   RPL17   SERPINB10   SERPINB13   SERPINB2   SERPINB3   SERPINB4   SERPINB5   SERPINB7   SERPINB8   SFTBP1   SMDA2   SMDA4   SMDA7   STSIA3   TCEB3B   TCF4   TXN1L1   VPS4B   WDR7   ZBTB7C   ZCCHC2   ZNF532 | 1.3 | 0.25  |
| chr4p15                                                                | CND1   CREBBP   E2F1   E2F3   EIF2C1   EIF2C2   EIF2C3   EIF2C4   EP300   JUN   MAML1   MAML3   NOTCH2   NOTCH3   NOTCH4   SNW1   TDP1   TNRC6B   TP53                                                                                                                                                                                                                                               | 1.3 | 0.25  |
| PEPTIDE_METABOLIC_PROCESS                                              | ACQX3   BST1   COKAR   CD38   DHX15   FBXLS   FGFBP1   GBA3   GPR125   KCNIP4   LAP3   LGI2   PCDH7   PPARGC1A   PROM1   QDPR   SLIT2   TBC1D1   TBC1D19   UGDH   ZCCH4                                                                                                                                                                                                                              | 1.3 | 0.25  |
| chr15q                                                                 | ADAMTS13   DMD   DNPFP   FURIN   PAM   PCSK5   PGCP   TAPBP   TPP1                                                                                                                                                                                                                                                                                                                                   | 1.3 | 0.25  |
| WU_ALZHEIMER_DISEASE_DN                                                | APB2   AQP9   NEDD4   OCA2   PEX11A   PIA51   RPS17                                                                                                                                                                                                                                                                                                                                                  | 1.3 | 0.125 |
| MAP_KINASE_ACTIVITY                                                    | ADAMTS2   ANK3   C10orf116   CD2BP2   CDK10   EIF2S3   ELN   FADS2   HSPA2   IFITM1   MAF   NR4A2   NUPR1   PDE1A   PDE1B   REM1   RPL37A                                                                                                                                                                                                                                                            | 1.3 | 0.25  |
| RESPONSE_TO_CARBOHYDRATE_STIMULUS                                      | MAPK1   MAPK10   MAPK11   MAPK12   MAPK13   MAPK14   MAPK4   MAPK7   MAPK8   MAPK9   NLK                                                                                                                                                                                                                                                                                                             | 1.3 | 0.125 |
| ACETYLGLUCOSAMINYLTRANSFERASE_ACTIVITY                                 | APOA2   CLEC7A   EIF2B1   EIF2B2   EIF2B3   EIF2B4   EIF2B5   GCK   GYS2   ME1                                                                                                                                                                                                                                                                                                                       | 1.3 | 0.125 |
| PID_INTEGRIN2_PATHWAY                                                  | AGNT   EXT1   EXT2   GCNT1   GCNT2   GCNT3   GCNT4   LARGE   MGAT2   MGAT4A   MGAT4B   OGT   PIGA   POMGN1T1   C3   CD40LG   CYR61   F10   F11R   FCGR2A   FGA   FGB   FGG   GP1BA   ICAM1   ICAM2   ICAM3   ICAM4   ITGAL   ITGAM   ITGAX   ITGB2   ITGB3                                                                                                                                           | 1.3 | 0.375 |
| RUAN_RESPONSE_TO_TNF_UP                                                | JAM3   KNG1   PLAT   PLAU   PLAU1   PROC   SPON2   TGFBI   THY1   VCAM1                                                                                                                                                                                                                                                                                                                              | 1.3 | 0.25  |
| REGULATION_OF_MEMBRANE_POTENTIAL                                       | ABCA1   CP   DCN   F11R   GBP1   HP   IFNGR1   SERPINA3   SOD2   STAT1   TAP2                                                                                                                                                                                                                                                                                                                        | 1.3 | 0.125 |
| NIKOLSKY_BREAST_CANCER_7P15_AMPLICON                                   | BAK1   BAX   BCL2   BCL2L1   BNIP3   CHRNA1   GLRA1   GRK1   IFI6   KCNM2   KCNM3   KCNM4B   NDUFS1   SOD1                                                                                                                                                                                                                                                                                           | 1.3 | 0.125 |
| BIOCARTA_BARR_MAPK_PATHWAY                                             | HOKX1   HOKX10   HOKX11   HOKX2   HOKX3   HOKX4   HOKX5   HOKX6   HOKX7   HOKX9                                                                                                                                                                                                                                                                                                                      | 1.3 | 0.125 |
| PID_NOTCH_PATHWAY                                                      | ADCV1   ARRB1   DNMT1   GNAS   GNB1   GNGT1   MAP2K1   MAP2K2   MAPK1   MAPK3   PLCB1   RAF1                                                                                                                                                                                                                                                                                                         | 1.3 | 0.25  |
| chr8q21                                                                | ADAM10   ADAM12   APLH1   APLH1B   CBL   CCND1   CDKN1A   CNTN1   CNTN6   CTBP1   CUL1   DLK1   DLL3   DNMT1   ENO1   EP300   EPS15   FBXW7   FURIN   GATA3   HDAC1   IL4   IYTH   JAG1   JAG2   MAML1   MARK2   MFAP2   MFAP5   MYC   MYCBP   NCOR1   NCOR2   NCSTN   NEURL   NOTCH1   NOTCH2   NOTCH3   NOTCH4   NUMB   PSEN1   PSENEN   PTCTA   RAB11A   RBBP8   SKP2   SPEN   YY1                | 1.3 | 0.125 |
| chr17q                                                                 | CA1   CA3   CNGB3   CPNE3   CYP11B1   CYP11B2   CYP7B1   DEC1   E2F5   FBP4   FBP5   FAM82B   HEY1   HNF4G   IMPA1   MMP16   MRPS28   NBN   PKIA   PMP2   POLR3D   RPK2   SNX16   STMN2   TMEM70   TPDS2   UBE2W   WWP1   ZFAND1   ZFH4                                                                                                                                                              | 1.3 | 0.125 |
| SCHLINGEMANN_SKIN_CARCINOGENESIS_TPA_UP                                | CTT6B   GAST   MAP2K6   MAPK3   MMD   NXP3   POLG2   RAD51C   TRIM37                                                                                                                                                                                                                                                                                                                                 | 1.3 | 0.125 |
| HU_ANGIOGENESIS_UP                                                     | ADAR   ANXA6   BOP1   CREB3   CRNKL1   CTS12   EDF1   FBXW12   GCH1   IL4R   JUNB   KBTBD11   MAT2A   MT2A   NME1   OBF2CA   ODC1   PDPN   PTBP1   RALGDS   RBM6   RBMS1   RORB   RRAD   S100A8   S100A9   SAA1   SCGB1A1   SLPI   SPRR1A   SRM                                                                                                                                                      | 1.3 | 0.375 |
| REACTOME_REGULATION_OF_GLUKOKINASE_BY_GLUKOKINASE_REGULATORY_PROTEIN   | CAMK2D   CLTA   COL7A1   FAH   FOS   HECW1   ID1   ITGB4   LCAT   NAPG   NMD3   NRGN   PHF15   PIK3R1   PRODH   RN03   SEMA3C   SIPA11L1   STUB1   STXBP1                                                                                                                                                                                                                                            | 1.3 | 0.125 |
| MALE_GONAD_DEVELOPMENT                                                 | AAAS   GCK   GCKR   NUP107   NUP131   NUP153   NUP155   NUP188   NUP205   NUP210   NUP214   NUP37   NUP43   NUP50   NUP54   NUP62   NUP85   NUP88   NUP93   NUP11   NUP12   POM121   RAE1   RANBP2   SEH1   TPR                                                                                                                                                                                      | 1.3 | 0.25  |
| BIOCARTA_HER2_PATHWAY                                                  | ANKRD7   CSD51   DNMT1   LHB   LHCR   MEA1   NCOA4   NR5A1   PRKACG   SOX15   SRD5A2                                                                                                                                                                                                                                                                                                                 | 1.3 | 0.375 |
| PID_TCRINKPATHWAY                                                      | CARM1   EGRF   EP300   ERBB3   ERBB4   ESR1   GRB2   GRIP1   HRAS   IL6   IL6R   IL6ST   MAP2K1   MAPK1   MAPK3   PIK3CA   PIK3CG   PIK3R1   RAF1   SHC1   SOS1   STAT3                                                                                                                                                                                                                              | 1.3 | 0.375 |
| NIKOLSKY_BREAST_CANCER_15Q26_AMPLICON                                  | CRK   CRKL   GRAP2   JUN   LAT   LCP2   MAP2K4   MAP3K1   MAP3K7   MAP3K8   MAP4K1   MAPK8                                                                                                                                                                                                                                                                                                           | 1.3 | 0.125 |
| BIOCARTA_CLASSIC_PATHWAY                                               | ALDH1A3   ASB7   CHSY1   IGF1R   LRRK1   MEF2A   PCSK6   SNRP41   TM2D3   TTC23                                                                                                                                                                                                                                                                                                                      | 1.3 | 0.125 |
| PID_ALK1PATHWAY                                                        | C1QA   C1QB   C1R   C1S   C2   C3   C4   C4B   C5   C6   C7   C8   C9                                                                                                                                                                                                                                                                                                                                | 1.3 | 0.25  |
|                                                                        | ACVR1   ACVR2A   ACVR2B   ACVR1L   ARRB2   BMPR2   CAV1   CSNK2B   ENG   FKBP1A   GDF2   ID1   INHBA   MAPK1   MAPK3   PPP1CA   SMAD1   SMAD4   SMAD5   SMAD7   SMAD9   TGFBI1   TGFBI3   TGFBI7   TGFBR2   TLX2                                                                                                                                                                                     | 1.3 | 0.125 |

|                                                                                   |                                                                                                                                                                                                                                                                                                                                                               |     |       |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| SMALL_CONJUGATING_PROTEIN_SPECIFIC_PROTEASE_ACTIVITY                              | SEN2P   UCHL1   UCHL3   UFDL1   USP12   USP21   USP29   USP5   USP53   VCP1P1                                                                                                                                                                                                                                                                                 | 1.3 | 0.125 |
| PROTEIN_SERINE_THREONINE_TYROSINE_KINASE_ACTIVITY                                 | MAP2K1   MAP2K3   MAP2K6   MAP2K7   MAPK10   MAPK14   MAPKAPK3   MAPKAPK5   TGFA                                                                                                                                                                                                                                                                              | 1.3 | 0.125 |
| REACTOME_ANTIGEN_PRESENTATION_FOLDING_ASSEMBLY_AND_PEPTIDE_LOADING_OF_CLASS_I_MHC | B2M   CALR   CANX   HLA-A   HLA-B   HLA-C   HLA-F   HLA-G   HSPA5   PDIA3   SAR1B   SEC23A   SEC24C   SEC24C   SEC24D   TAP1   TAP2                                                                                                                                                                                                                           | 1.3 | 0.375 |
| SEIDEN_MET_SIGNALING                                                              | ABCC4   API5   CAP1   CCNH   CCT8   CLCN3   CNOT8   CSE1L   HAT1   IFITM1   ITGAV   PRPS2   RAB11A   RNASE4   SFPQ   TM9SF3                                                                                                                                                                                                                                   | 1.3 | 0.25  |
| MODULE_196                                                                        | ADRB2   ARSB   CENPE   DCTN2   DNMI1   DYNC1I1   DYNC1LI2   DYNLL1   KIF11   KIF14   KIF23   KIF2C   KIF3B   KIF5A   KIF5C   MAP1B   MAP2   MAPRE1   SNTB2   STMN1   TUBB3                                                                                                                                                                                    | 1.3 | 0.375 |
| NITROGEN_COMPOUND_CATABOLIC_PROCESS                                               | ALDH4A1   AMT   ARG1   ASL   ASPA   ASRGL1   BCKDHA   BCKDHB   BCKDK   COLQ   DDAH1   DDAH2   DDO   DHPS   FAH   GAD1   GAD2   GCSH   GLDC   GLUD1   GOT1   GOT2   GSTZ1   HGD   HPD   MCCC2   MPST   TST                                                                                                                                                     | 1.3 | 0.125 |
| CELL_SOMA                                                                         | ANG   ATXN10   CAMK2N1   CDK5   CDK5R1   EFHC1   MAP15   SOD1   TGFBR2                                                                                                                                                                                                                                                                                        | 1.3 | 0.125 |
| REGULATION_OF_CYTOKINE_SECRETION                                                  | APOA1   APOA2   CARD8   CIDEA   CRTAM   FOXP3   GLMN   INS   PYCARD                                                                                                                                                                                                                                                                                           | 1.3 | 0.125 |
| KYNG_ENVIRONMENTAL_STRESS_RESPONSE_NOT_BY_UV_IN_OLD                               | AP3B2   BNIP3L   CNL2L   CNKSR1   CDE1   FLOT1   GALNT2   GLRX   HGF   HLA-DQA1   PRSS23   RHOB   SLC30A5   SOX9   TAF10   TAF1C   TP53I11   TPR   ZNF507                                                                                                                                                                                                     | 1.3 | 0.125 |
| REACTOME_DESTABILIZATION_OF_MRNA_BY_BRF1                                          | AKT1   DCP1A   DCP2   EXOSC1   EXOSC2   EXOSC4   EXOSC5   EXOSC7   EXOSC8   EXOSC9   MAPKAPK2   YWHAB   ZFP36L1                                                                                                                                                                                                                                               | 1.3 | 0.125 |
| chr8q12                                                                           | ARMC1   ASPH   C8orf71   CHD7   GGH   IL7   IMPAD1   MCM4   NSMAF   PLAG1   RPS20   RRS1   SDCBP   SGK3   TOX   VDACC3   YTHDF3                                                                                                                                                                                                                               | 1.3 | 0.375 |
| BANDRES_RESPONSE_TO_CARMUSTIN_MGMT_48HR_UP                                        | CLTCL1   CNTNAP1   CTNNA1L   GCM1   GNRHR   GOLGA4   GPR65   PIK3R3   SLC10A1   SLC16A2   SLC6A2   SMARCD1   SMPD2   SNAPC1   SNAPC3   SNRPB2   TUBB   UGT8                                                                                                                                                                                                   | 1.3 | 0.25  |
| YU_BAP1_TARGETS                                                                   | BAP1   BCL2A1   BIRC5   BRCA1   BRIP1   CA2   CCND2   CCNE2   CDC25A   CDC5L   CDC6   CHEK1   COX7C   CYB5R1   E2F5   ELOVL6   GMNN   NPL   PDGFRA   RFC3   SKP2   TNFRSF10B   USP1   UXS1                                                                                                                                                                    | 1.3 | 0.375 |
| GOUYER_TUMOR_INVASIVENESS                                                         | AKR1B1   AKR1B10   CKB   CXCR4   GRB10   KIAA1199   SPINK1   SQRLD   SYT13                                                                                                                                                                                                                                                                                    | 1.3 | 0.375 |
| SULFOTRANSFERASE_ACTIVITY                                                         | CHST1   CHST10   CHST11   CHST12   CHST2   CHST3   CHST4   CHST5   CHST7   CHST8   GAL3ST1   H3S3T3B1   HS6ST1   SULT1A4   SULT1E1   SULT2B1   TPST1   TPST2   UST                                                                                                                                                                                            | 1.3 | 0.375 |
| COLLER_MYC_TARGETS_UP                                                             | AHCY   ASS1   C1QB   CCND2   CEBP2   CSK2   EIF5A   FBP5   FBL   FKBP4   G0S2   GPI   GRPEL1   HDGF   HSPD1   IARS   NCL   ODC1   POLR2H   PPIF   SLC16A1   TFR   TRAP1                                                                                                                                                                                       | 1.3 | 0.25  |
| PID_CERAMIDE_PATHWAY                                                              | AKT1   ASAH1   BAD   BAG4   BAX   BCL2   BID   BIRC3   CASP8   CRADD   CTSB   CYCS   EGF   EIF2AK2   FADD   IGF1   KSR1   MADD   MAP2K1   MAP2K2   MAP2K4   MAP3K1   MAP4K4   MAPK1   MAPK3   MAPK8   MYC   NFKB1   NFKBIA   NSMAF   PAWR   PDGFA   PRKCD   PRKCZ   PRKRA   RAF1   RB1   REL   RIPK1   SMPD1   SMPD3   SPHK2   TNF   TNFRSF1A   TRADD   TRAF2 | 1.3 | 0.125 |
| MODULE_349                                                                        | ALDH1L1   BHMT   CAD   COMT   DNMT1   FTD   GAMT   GART   GATM   GCSH   HNMT   ICMT   NNMT   PJA2   SHMT2   TRMU                                                                                                                                                                                                                                              | 1.3 | 0.5   |
| V\$PPARG_O1                                                                       | ACOT8   AGPS1   APB1   APOM   ASXL1   C1orf116   CDC73   CNTFR   DNAJA2   EEF1B2   EMG1   ESRR4   GOLGA4   GPR124   GRPEL1   HSD17B8   MRPS28   NDUFS1   NOVA1   NR2C1   NR2F6   PAK4   PAX7   PPARGC1A   PRRX2   RPL27   RQC1   SCNMI1   SMYD5   SNRPF   TP53BP1   ZBTB40   ZIC4                                                                             | 1.3 | 0.125 |
| BYSTRYKH_HEMATOPOIESIS_STEM_CELL_SCP2_QTL_TRANS                                   | ATP7B   ATXN2   CETN1   COL4A2   CTSG   DHX40   DNAISE1L2   FMO1   HSP90AB1   LIF   MYL4   MYOG   PBX1   POLD4   PSMD3   SFTPC   SPARC   TEPI1   TXNIP                                                                                                                                                                                                        | 1.3 | 0.125 |
| LIU_IL13_MEMORY_MODEL_UP                                                          | ARRB1   CCL27   CCL8   CDC42   MAP2K2   MAP3K10   MAP3K11   MAP4K1   MAPK8IP1   MKNK1   MUC5B   PKFB4   RAB4B   SPRY4   UNC119                                                                                                                                                                                                                                | 1.3 | 0.125 |
| TRANS_GOLGI_NETWORK_TRANSPORT_VESICLE                                             | ATFPH   AP1G2   AP1S1   ATP7A   FURIN   IGF2R   LDLRAP1   RAB14   SPG21                                                                                                                                                                                                                                                                                       | 1.3 | 0.25  |
| REACTOME_REGULATION_OF_THE_FANCONI_ANEMIA_PATHWAY                                 | ATM   ATR   RPS27A   UBA52   USP1   ZBTB32                                                                                                                                                                                                                                                                                                                    | 1.3 | 0.25  |
| ST_INTERLEUKIN_4_PATHWAY                                                          | AKT1   AKT2   AKT3   CISH   GRB2   IARS   IL13RA1   IL2RG   IL4   IL4R   INPP5D   JAK1   JAK2   JAK3   NR0B2   PI3   PIK3CA   PPP1R13B   RPS6KB1   SERPINA4   SHC1   SOS1   SOS2   SRC   STAT6   TYK2                                                                                                                                                         | 1.3 | 0.125 |
| BAKER_HEMATOPOIESIS_STATS_TARGETS                                                 | BCL2   CCND1   CCND2   CCND3   CCNE1   MYC   PIM1                                                                                                                                                                                                                                                                                                             | 1.3 | 0.25  |
| CALCIUM_ION_TRANSPORT                                                             | ATP2A1   ATP2A3   ATP2C1   CACNA1D   CACNA2D1   CACNB3   CACNB4   CCL8   CHRNA7   CSN2   NMUR1   NPY   PLN   RYR1   RYR3   SLC8A1   SLN   STIM1   TRPC1   TRPC3   TRPC4   TRPC5   TRPM2   TRPV5                                                                                                                                                               | 1.3 | 0.25  |
| IIZUKA_LIVER_CANCER_EARLY_RECURRENCE                                              | CCND2   DDIX17   HLA-DRA   LAPTM5   MEFC2   PDGFRA   REL   TNFAIP3   TRIM22   VIM                                                                                                                                                                                                                                                                             | 1.3 | 0.125 |
| MAINTENANCE_OF_CELLULAR_LOCALIZATION                                              | ALB   FAF1   MDF1   MXI1   NFKBIE   NFKB1L1   PDIA2   PDIA3   SUPT7L   TOPORS                                                                                                                                                                                                                                                                                 | 1.3 | 0.125 |
| TTCCGT7_MIR-191                                                                   | AMMECR1   APIG1   ATP2B2   BDNF   CCND2   CEBPB   EGR1   FOXP1   FZD5   GAP43   MAP3K12   MAPRE3   NDST1   NRCAM   OXSR1   PHC2   PLCD1   RNF139   SOX4   TAF5   TJP1   TLX3   TMOD2   WWP1                                                                                                                                                                   | 1.3 | 0.25  |
| chr12p12                                                                          | ABCC9   ARHGDB18   ARNTL2   C12orf11   CASC1   CMAS   DERA   EMP1   EP58   ETKN1   GPR19   GRIN2B   GUCY2C   GYS2   H2AFJ   IAPP   KIAA0528   KLRF1   KLRG1   KRAS   KRT4   LDHB   LRMP   PDE3A   PGF   PIK3C2G   PLEKHA5   PPFBP1   PTHLH   RASSF8   RECOL   SLC01A2   SLC01B1   SLC01B3   SLC01C1   SOX5   ST8SIA1   WBP11   ZNF384                         | 1.3 | 0.25  |
| ADAPTIVE_IMMUNE_RESPONSE                                                          | BCL10   C2   CD40LG   CD74   CRTAM   EB13   FOXP3   IL10   IL12A   IL12B   IL18   IL4   MALT1   MAP3K7   PTPRC   SOCS5   TGFBR1   TLR8   TNFSF13   TRAF2   TRAF6                                                                                                                                                                                              | 1.3 | 0.25  |
| BIOCARTA_CTCF_PATHWAY                                                             | CD79A   CD79B   CDKN1B   CDKN2A   MDM2   MYC   PIK3CA   PIK3CG   PIK3R1   PPP2CA   PTEN   RPS6KB1   SMAD1   SMAD4   SMAD5   TGFBR1   TGFBR2   TGFBR3   TGFBR2   TGFBR3   TP53                                                                                                                                                                                 | 1.3 | 0.125 |
| REGULATION_OF_DNA_REPLICATION                                                     | ATR   CDC6   CDK2   CDT1   EREG   G1U1   GLI2   GMNN   GTPBP4   NBN   NF2   RAD17   RAD9A   S100A11   TIPIN   TSPYL2   WRNIP1                                                                                                                                                                                                                                 | 1.3 | 0.375 |
| KEGG_LIMONENE_AND_PINENE_DEGRADATION                                              | ALDH1B1   ALDH2   ALDH3A2   ALDH7A1   ALDH9A1   ECHS1   EHHA1   HADHA   NAT6   YOD1                                                                                                                                                                                                                                                                           | 1.3 | 0.375 |
| MARSON_FOXP3_TARGETS_STIMULATED_DN                                                | DNAJB4   DNNT1   LTB   MAPKAPK3   PPP1R13B   RAMP1   TEC                                                                                                                                                                                                                                                                                                      | 1.3 | 0.375 |
| INAMURA_LUNG_CANCER_SCC_UP                                                        | DS3C1   DSG3   KRT14   KRT5   OSGE1   PVRL1   SFN   SLC2A1   TOP2A   TPX2                                                                                                                                                                                                                                                                                     | 1.3 | 0.5   |
| PID_RHOA_PATHWAY                                                                  | ACTA1   ATF2   CDC42   CDKN1B   CFL1   CIT   CYR61   DIAPH1   F2RL2   FOS   ITGB1   JUN   LIMK1   LIMK2   MAP2K3   MAP2K4   MAP2K6   MAPK12   MAPK8   MKL1   MSN   MYL2   PAR6A   PIP5K1A   PIP5K1B   PIP5K1C   PKN1   PKN2   PLD1   PLD2   PPP1R12A   PRKC2   PTEN   RDX   RHOA   ROCK1   ROCK2   SH3GL2   SLC9A1   SLC9A3   SRF   TUN1   VCL                | 1.3 | 0.25  |
| chr11q25                                                                          | ACAD8   ADAMT58   B3GAT1   BARX2   IGSF9B   JAM3   OPCML   PRDM10   SNX19   THYN1                                                                                                                                                                                                                                                                             | 1.3 | 0.5   |
| chr18q23                                                                          | ATP9B   CTDPI1   CYB5A   GALR1   MBP   NFATC1   PQLC1   TXNL4A   ZNF407   ZNF516                                                                                                                                                                                                                                                                              | 1.3 | 0.25  |
| KRISHNAN_FURIN_TARGETS_UP                                                         | DTL   FOS   H3FB3   HSPA1A   HSPA8   IGHM   JUN   LAPTM5   S100A4   TGM2                                                                                                                                                                                                                                                                                      | 1.3 | 0.5   |
| NIELSEN_SYNOVIAL_SARCOMA_DN                                                       | AIF1   ARHGDB18   C7   CASP1   CD4   CTS5   CYBB   HLA-DMA   IFI35   IL16   ITGB2   LGALS9   NUPR1   RARRES3   RNASE6   SQRLD   TRIM38                                                                                                                                                                                                                        | 1.3 | 0.375 |
| KORKOLA_EMBRYONAL_CARCINOMA_DN                                                    | UCP2                                                                                                                                                                                                                                                                                                                                                          | 1.3 | 0.125 |
| GRAHAM_CML_QUIESCENT_VS_CML_DIVIDING_DN                                           | AKAP3   ATP7IP   CASC1   GSG1   H2AFJ   LRR2C3   RASSF8   SOX5                                                                                                                                                                                                                                                                                                | 1.3 | 0.125 |
| HOLLEMAN_DAUNORUBICIN_ALL_DN                                                      | CLC   CPA3   CSTA   HGF   MPO   MS4A3   RNASE2   TOP2A                                                                                                                                                                                                                                                                                                        | 1.3 | 0.25  |
| MODULE_346                                                                        | GMEB2   ING3   MED28   NTAN1   PCBP2   SHOC2   WHSC2                                                                                                                                                                                                                                                                                                          | 1.3 | 0.375 |
|                                                                                   | ARSA   ASAH1   B4GALNT1   GM2A   GPX4   HEXA   HEXB   IMPA1   NSMAF   PLA2G5   PLCD1   PLCG2   PLD1   PRDX6   PSAP   SMPD1   USCG                                                                                                                                                                                                                             | 1.3 | 0.25  |
| EMBRYO_IMPLANTATION                                                               | PPAR   PRLR   RPL29   SCGB1A1   SFRP4   SOD1   SPRR2B   SPRR2C   TRO                                                                                                                                                                                                                                                                                          | 1.3 | 0.125 |
| REACTOME_THROMBOXANE_SIGNALLING_THROUGH_TP_RECEPTOR                               | GNAA1   GNAA13   GNAA15   GNAQ   GN81   GN82   GN83   GN85   GNG10   GNG11   GNG12   GNG13   GNG3   GNG4   GNG5   GNG7   GNGT1   GNGT2   TBXA2R                                                                                                                                                                                                               | 1.3 | 0.125 |
| REACTOME_ACYL_CHAIN_REMODELLING_OF_PC                                             | PLA2G10   PLA2G12A1   PLA2G18   PLA2G2A   PLA2G2D   PLA2G2E   PLA2G2F   PLA2G3   PLA2G4A   PLA2G4C   PLA2G5   PLA2G6                                                                                                                                                                                                                                          | 1.3 | 0.125 |
| REACTOME_ACYL_CHAIN_REMODELLING_OF_PE                                             | PLA2G10   PLA2G12A1   PLA2G18   PLA2G2A   PLA2G2D   PLA2G2E   PLA2G2F   PLA2G3   PLA2G4A   PLA2G4C   PLA2G5   PLA2G6                                                                                                                                                                                                                                          | 1.3 | 0.125 |
| BREUHAAHN_GROWTH_FACTOR_SIGNALING_IN_LIVER_CANCER                                 | AXIN1   CTNNB1   DACT1   EGFR   ERBB2   ERBB3   ERBB4   FZD7   HGF   IGF2   IRS1   IRS2   MET   PIN1   SMAD2   SMAD4   SMAD7   TGFA   TGFBR1   TGFBR2   TGFBR3                                                                                                                                                                                                | 1.3 | 0.25  |
| LUCAS_HNF4A_TARGETS_DN                                                            | ABCC4   GAS1   HEY1   LGR5   NEFL   TRIM9                                                                                                                                                                                                                                                                                                                     | 1.3 | 0.5   |
| SENSORY_ORGAN_DEVELOPMENT                                                         | BAX   CEP290   DFNB31   FOXL2   GAA   JAG2   MAFB   NF1   RORB   SHROOM2   SOD1   TGFBR2   THY1   ZIC1                                                                                                                                                                                                                                                        | 1.3 | 0.25  |
| MYLLYKANGAS_AMPLIFICATION_HOT_SPOT_17                                             | ABL2   ARNT   BCL9   CD73   FCGR2B   FH   MLLT11   MUC1   NTRK1   PAX7   PDX1   PRCC   PRRX1   SDHC   TPM3   TPR                                                                                                                                                                                                                                              | 1.3 | 0.375 |
| MOOHTHA_TCA                                                                       | AC02   CS   FH   IDH2   IDH3A   IDH3B   IDH3G   MDH2   OGDH   RPL18A   SDHA   SDHB   SDHC   SDHD   SUCLA2   SUCLG1                                                                                                                                                                                                                                            | 1.3 | 0.375 |
| REACTOME_PEROXISOMAL_LIPID_METABOLISM                                             | ABCD1   ACAA1   AC078   AC0X1   AC0X2   AC0X3   AGPS   AMACR   CRAT   CROT   GNPAT   HSD17B4   IDH1   PHYH   SCP2   SLC25A17   SLC27A2                                                                                                                                                                                                                        | 1.3 | 0.25  |
| MA_PITUITARY_FETAL_VS_ADULT_UP                                                    | ADCYAP1   CALCOCO1   CCNG1   CDC5L   CTGF   CTNNB1   FGF2   FGFR1   FUBP1   G0S2   IGFBP1   ING2   PIK3CB   PIK3CD   PIK3R1   PRKCD   QKI   RGS10   RGS2   RPA1   TNR   UCN   VGF   ZNF238                                                                                                                                                                    | 1.3 | 0.125 |
| TURASHVILI_BREAST_CARCINOMA_DUCTAL_VS_LOBULAR_UP                                  | AHCTF1   B3GALNT1   CDH1   CSK2   CPB1   DTL   EPB41L3   HIST1H3B   LAMP2   OSBPL10   RAB11FIP1   S100P   SLC1A2   STK4   TTC3                                                                                                                                                                                                                                | 1.3 | 0.125 |
| MODULE_306                                                                        | AC01   AC02   ALDOA   ALDOC   ENO1   ENO2   FH   GAPDH   IDH1   IDH2   IDH3B   IDH3G   LDHA   MDH1   PCK1   PCK2   PFKM   PFKF   PGAM1   PCK1   PKM2   SDHA   SDHB   SOD1   SUGL1   TP11                                                                                                                                                                      | 1.3 | 0.375 |
| PID_WNT_NONCANONICAL_PATHWAY                                                      | ARRB2   CAMK2A   CDC12   CHD7   CSNK1A1   DAAM1   DVL1   DVL2   DVL3   FLNA   FZD2   FZD5   FZD6   FZD7   MAP3K7   MAPK10   MAPK8   MAPK9   NLK   PPARG   PRKCZ   RAC1   RHOA   ROCK1   ROR2   SETDB1   WNT5A   YES1                                                                                                                                          | 1.3 | 0.125 |
| CLAUS_PGR_POSITIVE_MENINGIOMA_DN                                                  | BACE2   BCL2   EDNRB   FSTL1   HEG1   MAPK4   MEGF9   PDGFRB   SOX4   TMA5F1                                                                                                                                                                                                                                                                                  | 1.3 | 0.125 |
| CYTOSOL_ORGANIZATION_AND_BIOGENESIS                                               | CD9   GJA1   GJA4   GJA5   ITGA6   LAMC1   PAR6A   PAR6B   PRKCI   TJP1   TUN1   TUN2   VCL                                                                                                                                                                                                                                                                   | 1.3 | 0.375 |
| chr12p                                                                            | ATN1   DNMI1   MGP   PEX5   VAMP1                                                                                                                                                                                                                                                                                                                             | 1.3 | 0.25  |
| NOUSHMEHR_GBM_GERMLINE_MUTATED                                                    | ASCL2   CDH19   CHAT   DGKZ   KCNV2   SOX13                                                                                                                                                                                                                                                                                                                   | 1.3 | 0.375 |
| REACTOME_CHOLESTEROL_BIOSYNTHESIS                                                 | CYP51A1   DHCR24   DHCR7   EBP   FDF1   FDP5   GGPS1   HMGR   HMGCS1   HSD17B7   IDI1   LBR   LSS   MVD   MVK   NSDHL   PMVK   SCDL   SQLE   TM7SF2                                                                                                                                                                                                           | 1.3 | 0.375 |
| REACTOME_N_GLYCAN_ANTENNAE_ELONGATION                                             | B4GALT1   B4GALT2   B4GALT3   B4GALT4   B4GALT5   B4GALT6   MGAT4A   MGAT4B   MGAT4C   MGAT5   ST6GAL1   ST8SIA2   ST8SIA3                                                                                                                                                                                                                                    | 1.3 | 0.25  |
| SILIGAN_TARGETS_OF_EWS_FU1_FUSION_DN                                              | ACCN1   ASNS   CDC14B   CLASP2   CNTNAP2   DLG2   GTF2E2   IDH3B   LRBA   PCCA   POT1   RFC1   SLC2A5   SSR3   STYXL1   TBL1X                                                                                                                                                                                                                                 | 1.3 | 0.125 |
| BIOCARTA_IL3_PATHWAY                                                              | CSF2RB   FOS   GRB2   HRAS   IL3   IL3RA   JAK2   MAP2K1   MAPK3   PTPN6   RAF1   SHC1   SOS1   STAT5A   STAT5B                                                                                                                                                                                                                                               | 1.3 | 0.25  |
| BIOCARTA_ERKS_PATHWAY                                                             | AKT1   CREB1   GRB2   HRAS   MAPK1   MAPK3   MAPK7   MEFA2   MEFC2   MEFD2   NTRK1   PIK3CA   PIK3CG   PIK3R1   PLCG1   RPS6KA1   SHC1                                                                                                                                                                                                                        | 1.3 | 0.125 |
| PID_BMP_PATHWAY                                                                   | AHSG   BAMBI   BMP2   BMP4   BMP6   BMP7   BMPRIA   BMPRIIB   BMPRI2   CER1   CHRD   CHDL1   CTDS2P1   CTDS2P2   CTDS2P3   FST   GREM1   GSK3B   MAP3K7   MAPK1   NUP214   PPP1A   PPP1A1   PPP1R15A   SMAD1   SMAD4   SMAD5   SMAD6   SMAD7   SMAD9   SMURF1   SMURF2   SOSTDC1   ZFYVE16                                                                    | 1.3 | 0.375 |
| MARCINIAK_ER_STRESS_RESPONSE_VIA_CHOP                                             | ADH7   AMPD3   CAG   CHKA   CLCN3   DDIT3   ERO1L   ETS2   IFRD2   KITLG   MTM1   PAR6A   PPAN   PPP1R15A   PTHR2   PTX3   RAD1   RBM38   SOAT2   TCEA1   WFS1                                                                                                                                                                                                | 1.3 | 0.125 |
| LANDEMAINE_LUNG_METASTASIS                                                        | ANP32E   C21orf91   CALB2   CDH3   CHODL   DSC2   ELAC1   ITGB8   PAQR3   PTEN   SP5B1   TFCP2L1   UGT8                                                                                                                                                                                                                                                       | 1.3 | 0.25  |
| MATZUK_MATERNAL_EFFECT                                                            | CSF2   DNMT3L   HSF1   UBE2A   ZFP36L2                                                                                                                                                                                                                                                                                                                        | 1.3 | 0.25  |

|                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| KEGG_ONE_CARBON_POOL_BY_FOLATE<br>GLU1_UP_V1_UP                                                                                                                         | ALDH1L1   AMT   ATIC   DHFR   FTD   GART   MTHFD1   MTHFD2   MTHFD2L   MTHFR   MTHFS   MTR   SHMT1   SHMT2   TYMS                                                                                                                                                                                                                                                                                                                                                                                       | 1.3 | 0.375 |
| TRACEY_RESISTANCE_TO_IFNA2_DN                                                                                                                                           | C16orf45   CCND2   HLA-DQB1   IFT74   IGFBP6   IGF   LMO7   M6PR   PLXNA2   POFUT2   PPT2   PRKD3   SAR1A   SGTA   STAU1   TMOD3   TRIM23   WEE1   YBX1   ZBTB16                                                                                                                                                                                                                                                                                                                                        | 1.3 | 0.125 |
| REACTOME_NEP_NS2_INTERACTS_WITH_THE_CELLULAR_EXPORT_MACHINERY                                                                                                           | ANKA1   ARL5A   ATF5   BAG3   CAV1   CBFB   CORO2A   DAD1   DIABLO   DNAJB2   EMR1   EPB413   HBEFG   HSPA6   IL10RB   LAPTM4B   LYN   MAP2K1   MGC40069   MT1X   MYC   PLAT   PTAFR   PTTG1   SAMSN1   SH2D1A   XBP1                                                                                                                                                                                                                                                                                   | 1.3 | 0.25  |
| chr20q11                                                                                                                                                                | AAAS   NUP107   NUP133   NUP153   NUP155   NUP188   NUP205   NUP210   NUP214   NUP37   NUP43   NUP50   NUP54   NUP62   NUP85   NUP88   NUP93   NUP1   NUP12   POM121   RAE1   RAN   RANBP2   SEH1   TPR   XPO1                                                                                                                                                                                                                                                                                          | 1.3 | 0.25  |
| REGULATION_OF_HOMEOSTATIC_PROCESS<br>ESTABLISHMENT_OF_ORGANELLE_LOCALIZATION                                                                                            | AHCY   ASIP   ASXL1   BCL2L1   BLCAP   BPI   C20orf24   CBFA2T2   CEP250   CPNE1   CTNNB1L1   DHX35   DLGAP4   DNMT3B   DYLRB1   EF21   EDEM2   EPB41L1   FER1L4   GDF5   GSS   HCK   ID1   ITC   KIF3B   LBP   LOC388796   MAFB   MAPRE1   MMP24   MYH7B   MYL9   NCOA6   NDRG3   NFS1   NNAT   OSBP12   OVOL2   PHF20   PLAGL2   POFUT1   PPP1R16B   PROCR   PXMP4   RALY   RBM12   RBM39   REM1   SCAND1   SEC23B   SLC35C2   SNTA1   SPAG4   STK4   TGIF2   TGM3   TM9SF4   TPX2   TRPC4AP   ZNF335 | 1.3 | 0.125 |
| REGULATION_OF_TRANSFORMING_GROWTH_FACTOR_BETA_RECEPTOR_SIGNALING_PATHWAY                                                                                                | BCL2   CALCA   DDIT3   EGLN2   GCLC   GLRX2   GPX1   IFI6   MC4R   NF1   THY1                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.3 | 0.375 |
| NUCLEOTIDE_EXCISION_REPAIR                                                                                                                                              | AP1M2   BIRC5   CDC23   CENPE   CENPF   LRMP   NLGN1   NUSAP1   PAFAH1B1   SEPT5   SHROOM2   SNAP23   SNAP29   STX5   TMED10   YKT6                                                                                                                                                                                                                                                                                                                                                                     | 1.3 | 0.375 |
| chr3q29                                                                                                                                                                 | CDKN1C   CDKN2B   CIDEA   CITED2   ENG   HIPK2   PEG10   SMAD2   SMAD3   SMAD4   SNX6   TGFBI                                                                                                                                                                                                                                                                                                                                                                                                           | 1.3 | 0.375 |
| BIOCARTA_ACE2_PATHWAY<br>ZHU_SKIL_TARGETS_UP                                                                                                                            | ATXN3   BRCA2   DDB1   DDB2   ERCC1   ERCC2   ERCC3   ERCC4   ERCC5   ERCC6   ERCC8   LG4   NTHL1   POLL   RAD23A   RAD23B   TP53   XAB2   XPC                                                                                                                                                                                                                                                                                                                                                          | 1.3 | 0.125 |
| AMINO_SUGAR_METABOLIC_PROCESS<br>HOMEOSTASIS_OF_NUMBER_OF_CELLS                                                                                                         | ATP13A3   BDH1   CPN2   DLG1   GP5   IQCG   KIAA0226   LEPREL1   LRCH3   LRRC15   LSG1   MGC2889   MUC4   NCBP2   PAK2   PIGZ   PPP1R2   PPP4R2   SENP5   TFR1   TNK2                                                                                                                                                                                                                                                                                                                                   | 1.3 | 0.375 |
| chr2p24                                                                                                                                                                 | ACE   ACE2   AGT   AGTR1   AGTR2   CMA1   COL4A1   COL4A2   COL4A3   COL4A4   COL4A5   COL4A6   REN                                                                                                                                                                                                                                                                                                                                                                                                     | 1.3 | 0.375 |
| REACTOME_BOTULINUM_NEUROTOXICITY<br>REACTOME_TRAF6_MEDIATED_NFKB_ACTIVATION                                                                                             | CCNG2   CDKN1A   DCN   ECM2   EGFR   ENPP2   FN1   GADD45A   HYU01   IGFBP1   ITGA2   JUNB   MMP16   PLAU   PPP1R15A   RHOQ   SEL1L   SERPINE1   ST5                                                                                                                                                                                                                                                                                                                                                    | 1.3 | 0.375 |
| KINASE_ACTIVATOR_ACTIVITY<br>KRISHNAN_FURIN_TARGETS_DN<br>PID_TCRASPATHWAY<br>chr2q35                                                                                   | CHIA   CHIT1   CHST2   CHST4   CHST5   CHST7   EMTL2   GNE   GNPDA1   LARGE   NAGK   SLC35A3   ST3GAL2   ST3GAL6   UAP1                                                                                                                                                                                                                                                                                                                                                                                 | 1.3 | 0.25  |
|                                                                                                                                                                         | ACIN1   ACVR1B   ACVR2A   AKT1   ALAS2   BCL10   CDK6   CEPBG   DYRK3   ETS1   HCL51   IL6   INHBA   LDB1   LYN   MAFB   RPS19   SOD1   SPI1                                                                                                                                                                                                                                                                                                                                                            | 1.3 | 0.125 |
|                                                                                                                                                                         | AAK1   ADCY3   APOB   ANSND1   ASXL2   C2orf18   C2orf43   CENPA   DD1X1   FAHD2A   FAM49A   FKBP1B   GORASP2   HS1BP3   IL18RAP   KNC53   KIDINS220   LAPTM4A   MATN3   MRP144   MYCN   MYCNOS   NAGK   NMI   RDH14   RHOB   ROKC2   SMC6   SPAST   STAMBP   TPRKB   TTL4                                                                                                                                                                                                                              | 1.3 | 0.125 |
|                                                                                                                                                                         | SNAP25   STX10   STX11   STX12   STX16   STX1A   STX2   STX3   STX4   STX5   STX6   STX7   STX8   SYT1   VAMP1   VAMP2                                                                                                                                                                                                                                                                                                                                                                                  | 1.3 | 0.375 |
|                                                                                                                                                                         | AGER   APP   CHUK   DD58   HMGBI3   IFIH1   IKKB   IKKBK   MAP3K1   NFKB2   NFKBIA   NFKBIB   RELA   S100A12   S100B   SAA1   TRAF2   TRAF6   TRIM25                                                                                                                                                                                                                                                                                                                                                    | 1.3 | 0.5   |
|                                                                                                                                                                         | BCL10   CD24   CDK5R1   FGF13   IL2   MADD   MALT1   MAPK8IP2                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.3 | 0.375 |
|                                                                                                                                                                         | ADAMTS6   CNKIP2   LEPR   OPLAH   SLC16A4   TSPAN9   ZNF706                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.3 | 0.25  |
|                                                                                                                                                                         | BRAF   ELK1   FOS   HRAS   KRAS   MAP2K1   MAP3K8   MAPK1   MAPK3   NRAS   PRKCA   PTPN7   RAF1                                                                                                                                                                                                                                                                                                                                                                                                         | 1.3 | 0.125 |
|                                                                                                                                                                         | ABCA12   ANKZF1   ATG9A   ATIC   CCL20   CDKS2   CHPF   COL4A4   CTDSB1   DES   GPC1   NHEJ1   OBSL1   PAX3   PDE6D   PECR   PTMA   PTPRN   RNF25   RQCQ1   SCG2   SLC11A1   SPAG16   SPFG   STK16   TMBIM1   TNP1   TNS1   VIL1   WNT6   XRC5   ZNF142                                                                                                                                                                                                                                                 | 1.3 | 0.375 |
| POSITIVE_REGULATION_OF_DEFENSE_RESPONSE<br>GAJATE_RESPONSE_TO_TRAJECTEDIN_DN                                                                                            | CD1D   CRTAM   CX3CL1   EREG   IL12A   IL12B   TLR8   TNFRSF1A                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.3 | 0.125 |
| CHENG_TAF7L_TARGETS<br>ADAPTIVE_IMMUNE_RESPONSE_GO_0002460                                                                                                              | ABC6   ARHGDI1   CDC86   DD10   FAR52   GMD5   H1FX   HIST1H4C   ID3   LRBA   MCM5   PKP4   STAG1   STX8   TEAD4   TRIM16   UTP20                                                                                                                                                                                                                                                                                                                                                                       | 1.3 | 0.25  |
| MCCOLLUM_GELDANAMYCIN_RESISTANCE_UP<br>ST_PHOSPHOINOSITIDE_3_KINASE_PATHWAY                                                                                             | C5orf30   FSCN1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1.3 | 0.375 |
| chr2p22                                                                                                                                                                 | C2   CD40LG   CD74   CRTAM   EBI3   FOXP3   IL10   IL12A   IL12B   IL18   IL4   MALT1   MAP3K7   PTPRC   SOCS5   TGFBI   TLR8   TNFSF13   TRAF2   TRAF6                                                                                                                                                                                                                                                                                                                                                 | 1.3 | 0.25  |
|                                                                                                                                                                         | CDA   CDH11   MCC   PMCH   SEMA3F   SLC16A7   SMPD1                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.3 | 0.25  |
|                                                                                                                                                                         | AKT1   AKT2   AKT3   BAD   BTK   CD55   CDKN2A   DAPP1   EXOSC1   GRB2   GSK3A   GSK3B   IARS   IGFBP1   INPP5D   NR4A3   PDK1   PIK3CA   PPP1R13B   PTEN   RPS6KA1   RPS6KA2   RPS6KA3   RPS6KB1   SFN   SHC1   SOS1   SOS2   YWHAZ   YWHAH   YWHAJ   YWHAQ   YWHAZ                                                                                                                                                                                                                                    | 1.3 | 0.125 |
|                                                                                                                                                                         | CAD   CEBP2   CYP1B1   DHX57   EIF2AK2   FAM98A   FEZ2   GEMIN6   KCNK12   MAP4K3   PPM1B   PREPL   PUM2   QPCT   STRN   THUMPD2   TTC27   YIPF4   ZFP36L2                                                                                                                                                                                                                                                                                                                                              | 1.3 | 0.25  |
| TCGA_GLIOMASTOMA_MUTATED<br>DING_LUNG_CANCER_MUTATED_FREQUENTLY<br>SCHAEFFER_PROSTATE_DEVELOPMENT_AND_CANCER_BOX2_UP<br>HYDROGEN_ION_TRANSMEMBRANE_TRANSPORTER_ACTIVITY | EGFR   ERBB2   NF1   PIK3CA   PIK3R1   PTEN   RB1   TP53                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1.3 | 0.375 |
| MODULE_366                                                                                                                                                              | ACVR1B   APC   BAP1   FYN   LTK   NF1   NOTCH4   PIK3R2   RB1   STK11   TP53                                                                                                                                                                                                                                                                                                                                                                                                                            | 1.3 | 0.5   |
| chr1p21                                                                                                                                                                 | C5orf13   CALR   CSNK1A1   FBLN1   LDB2   SPARCL1                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1.3 | 0.375 |
|                                                                                                                                                                         | ATP4A   ATP4B   ATP6VOC   ATP6V1B2   ATP6V1C1   COX10   COX11   COX15   COX4I1   COX5A   COX5B   COX7A1   COX7A2L   COX7B   COX8A   CY5A   NNT   SLC9A2   SLC9A3   SLC9A5   SLC9A6   SLC9A7   SURF1   UQCRC1   UQCRCR                                                                                                                                                                                                                                                                                   | 1.3 | 0.25  |
|                                                                                                                                                                         | ACADL   AGTPBP1   B4GALT1   C9orf114   COL5A3   CTNS   CYP2E1   DHRS3   DHX30   EPHA1   EVPL   ID2   MPP6   MYO15A   OSBP13   PLXNA1   RAP1GAP   SCN1B   SHMT1   SIPA1   SLC12A4   SNGC   TSC1   UROS   VNN1   ZMYM1                                                                                                                                                                                                                                                                                    | 1.3 | 0.125 |
|                                                                                                                                                                         | ADORA3   AGL   ALX3   AMY1A   AMY1B   AMY1C   AMY2A   AMY2B   CCDC76   CDC14A   CELSR2   COL11A1   CSF1   DPH5   GCLM   GPR88   KCNC4   LPPR4   PTBP2   SLC35A3   SNX7   SORT1                                                                                                                                                                                                                                                                                                                          | 1.3 | 0.25  |
| SCHUHMACHER_MYC_TARGETS_DN<br>COENZYME_BIOSYNTHETIC_PROCESS<br>chr1q24                                                                                                  | ACPS   ARHGAP25   ARPC4   CD72   CFP   IFI35   ILK                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1.3 | 0.375 |
|                                                                                                                                                                         | COASY   COQ2   COQ3   COQ7   GCLC   GCLM   ME1   MCS2   PDSS1   PDSS2                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1.3 | 0.125 |
|                                                                                                                                                                         | BLZF1   BCRP44   C1orf105   C1orf112   C1orf9   CACYBP   CD84   CREG1   DNM3   FAM5B   FMO1   FMO2   FMO3   FMO4   GPA33   GPR52   KIAA040   MP2L1   NME7   PRDX6   RABGAP1L   RALGPS2   SCYL3   SFTD2   TNR   TOR1AIP1   VAMP4   XCL1   XCL2                                                                                                                                                                                                                                                           | 1.3 | 0.25  |
| AGTCTAG,MIR-151                                                                                                                                                         | CACNB4   CAMT1   CRK   DD3X3   ERGIC2   FAM5C   HPCAL4   INPP5A   KLF12   NELL1   PAPOLB   RAN   RBMS5   SULF1   TWIST1   VDACC3                                                                                                                                                                                                                                                                                                                                                                        | 1.3 | 0.375 |
| LEE_SP4_THYMOCYTE<br>BCAT_GDS748_UP                                                                                                                                     | CLDN1   DUSP4   EGR3   HTR2B   IER3   IFI44L   NR4A2   PDE4D   RSAD2   SERPINE2   SPRY2                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.3 | 0.375 |
|                                                                                                                                                                         | ABCB1   AIM1   AQP3   ASRGL1   BAG3   BAMBI   C3orf52   C9orf3   CA2   CASP9   CEBP8   COTL1   DDAH1   DEFA5   DYNC111   FAH   FLC3   FG20   FLTA   FZD7   GAD1   GADD45G   GCH1   GONT1   HHX1   ITGA9   KCTD12   KLR3   LMO2   LY6G6D   MSX2   MYB   NEDD9   NPTX1   PDE4D   PHLD2A   PKP2   PLEKH82   PRG3   QPCT   RUNX1   SLC39A14   SLC3A2   SRX1   TP53I3   UBE2N   WNT11                                                                                                                        | 1.3 | 0.125 |
| SHARMA_PILOCYTIC_ASTROCYTOMA_LOCATION_UP                                                                                                                                | APOBEC3G   ARL1   CASP7   GPC6   GPR98   LH2   LUM   LY96   MSR1   NR2E1   PSMO12   RARB   SBNO1   SIX1   SIX3   SIX6   SLC38A6   TTC9   ZHX4   ZNF140                                                                                                                                                                                                                                                                                                                                                  | 1.3 | 0.25  |
| RESPONSE_TO_TOXIN<br>chr18p11                                                                                                                                           | BAX   BCL2   BPHL   CES1   DPV5   GLYT   MPST   NQO1   PDZD3                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1.3 | 0.125 |
|                                                                                                                                                                         | ADCYAP1   AFG3L2   ANKRD12   ARHGAP28   C18orf1   CEP192   CEP76   CETN1   CHMP1B   CIDEA   CTAGE1   DLGAP1   EMILIN2   ENOSF1   EPB41L3   GER   GNAL   IMPA2   LAMA1   LOC641298   MC2R   MCSR   METTL4   MPPE1   MYOM1   MAPG   NDUFV2   PPP4R1   PTPN22   PTPRN   RAB31   RALBP1   RNMT   SMCHD1   THOC1   TUBB6   TW5G1   TYMS   USP14   VAPA   YES1                                                                                                                                                | 1.3 | 0.375 |
| FOURNIER_ACINAR_DEVELOPMENT_EARLY_DN<br>PALOMERO_GSI_SENSITIVITY_DN<br>REACTOME_CITRIC_ACID_CYCLE_TCA_CYCLE                                                             | AMIGO2   LR8   PHLDA1   SLC20A1   THBS1                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.3 | 0.125 |
|                                                                                                                                                                         | APOL6   MGC2752   RAB7L1   TUG1   ZNF426                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1.3 | 0.375 |
|                                                                                                                                                                         | ACQ2   CS   DLD   DLS1   FH   IDH2   IDH3A   IDH3B   IDH3G   MDH2   NNT   OGDH   SDHA   SDHB   SDHC   SDHD   SUCLA2   SUCLG1   SUCLG2                                                                                                                                                                                                                                                                                                                                                                   | 1.3 | 0.375 |
| TERAO_AOX4_TARGETS_SKIN_DN<br>chr1p31                                                                                                                                   | ABCD2   ACSL6   C17orf75   C5orf22   C5orf28   DMXL1   ESRRG   HIST1H1D   IGF1   SNURF   TTC18   UCHL1                                                                                                                                                                                                                                                                                                                                                                                                  | 1.3 | 0.375 |
|                                                                                                                                                                         | ACADM   AKS   ALG6   ANGPT13   CLCA2   CLCA4   CRY2   CTH   CYP2J2   DAB1   DBT   DEPD1   DIRAS3   DLEU2L   DNAJB4   FPGT   FUBP1   GADD45A   GIPC2   GLRX2   GNG12   HHLA3   HS2ST1   IL12RB2   INADL   INSL5   ITG83BP   LIT01   LEPR   LEPROT   LPHN2   LRRAC4   MSH4   PDE4B   PI6K   PRKAA2   PTGER3   PTGFR   RABGGTB   RAVER2   RPE65   SERBP1   STGGALNACS   TMEM59   TNNI3K   TTC4   TTL7   USP1   USP33   WDR78   ZZZ3                                                                        | 1.3 | 0.375 |
| ELLWOOD_MYC_TARGETS_DN                                                                                                                                                  | ALDH2   CAorf34   CA2   CD52   CHMP2A   CLDN4   DAZAP2   DNAJC10   EGF   FKBP2   FMOD   GANAB   HIST1H2BC   IDE   INPP5B   MCFD2   MOSC2   NKX3-1   NR1D2   PDIA6   PHYH   PROM1   PTTG1P   SATB1   TMED3   TMEM97   TMPRSS2   URC1                                                                                                                                                                                                                                                                     | 1.3 | 0.125 |
| MODULE_219                                                                                                                                                              | ADA   ADK   ADSL   AK2   APRT   ATP5B   ATP5E   ATP5I   ATP5J2   CTP5   DTYMK   GART   GMPS   HPRT1   IMPDH2   ITPA   MTHFD1   NME1   NME2   NME4   PAICS   PRPS2   RRM1   RRM2   TYMS   UMPS                                                                                                                                                                                                                                                                                                           | 1.3 | 0.375 |
| REACTOME_TRAF3_DEPENDENT_IRF_ACTIVATION_PATHWAY                                                                                                                         | CREBBP   DDYX58   EP300   IFIH1   IFNB1   IKKBE   IRF3   IRF7   TBK1   TRAF3   TRIM25                                                                                                                                                                                                                                                                                                                                                                                                                   | 1.3 | 0.25  |
| SH2_DOMAIN_BINDING                                                                                                                                                      | ARHGAP5   CRK   INSR   IRS1   JAK2   LAT2   LAX1   LCK   NUP62   PTX2   SITI   SQSTM1   SRC                                                                                                                                                                                                                                                                                                                                                                                                             | 1.3 | 0.25  |
| GOERING_BLOOD_HDL_CHOLESTEROL_QTL_TRANS                                                                                                                                 | C18orf1   EPB41L4A   FLT4   KLR3   MAPK8IP1   MPO   MSI1   PAF1   SCRIB                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.3 | 0.25  |
| REACTOME_IL_RECEPTOR_SHC_SIGNALING                                                                                                                                      | CSF2   CSF2RA   CSF2RB   GAB2   GRB2   HRAS   IL2   IL2RA   IL2RB   IL2RG   IL3   IL3RA   IL5   IL5RA   INPPL1   JAK1   JAK2   JAK3   PIK3CA   PIK3CB   PIK3CD   PIK3R1   PIK3R2   PIK3R3   PTPN6   SHC1   SOS1                                                                                                                                                                                                                                                                                         | 1.3 | 0.25  |
| REACTOME_CIRCADIAN_REPRESSION_OF_EXPRESSION_BY_REV_ERBA                                                                                                                 | ARNTL   CLOCK   CREBBP   EP300   HDAC3   NCOA1   NCOA2   NCOA3   NCOA6   NCOR1   NPAS2   NR1D1   PPARA   PPARGC1A   RORA   RXRA   SMARCD3   TBL1X   TBL1XR1                                                                                                                                                                                                                                                                                                                                             | 1.3 | 0.125 |
| MATTIOLI_MULTIPLE_MYELOMA_SUBGROUPS                                                                                                                                     | CAD   DYNLL1   FGF13   GABARAPL1   HSD17B4   KLF9   MAGEA12   MAGEA3   MAGEA6   RRM2   RUVELL1   SMARCA4   SSX1   TTC3                                                                                                                                                                                                                                                                                                                                                                                  | 1.3 | 0.375 |
| LI_WILMS_TUMOR_ANAPLASTIC_UP                                                                                                                                            | CCNA1   CDCA3   CENPA   CENPF   G3BP2   HAT1   KIF2C   KPN2   KPNB1   MKI67   NUSAP1   PCGF3   RAD54L   RFC3   RFC4   TTK                                                                                                                                                                                                                                                                                                                                                                               | 1.3 | 0.375 |
| UNFOLDED_PROTEIN_RESPONSE                                                                                                                                               | AMFR   ATF6   DERL1   DERL2   EIF2AK3   ERN1   VAPB   VCP                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.3 | 0.375 |
| AZARE_NEOPLASTIC_TRANSFORMATION_BY_STAT3_UP                                                                                                                             | AIM1L   AQP3   C10orf116   CCL20   CDA   CPE   FARP1   HR   HSPG2   KRT13   PEG10   PLAC8   PPL   PTGES   PTGS1   TFP1                                                                                                                                                                                                                                                                                                                                                                                  | 1.3 | 0.375 |
| V5EV1_01                                                                                                                                                                | C17orf85   CRAT   GPR44   IKZF2   ISL1   NCAM2   SCUBE3   SIX1   SPINK4   THBS2   TOB1   VAMP3   VCL                                                                                                                                                                                                                                                                                                                                                                                                    | 1.3 | 0.25  |
| chr17q23                                                                                                                                                                | ACE   BCAS3   C4A   CDC47   CD79B   CUEDC1   CYB5E1   DD42   EPX   ERN1   FTSJ3   GALK1   ICAM2   KCNH6   KCNJ16   KCNJ2   KPN2   LMO2   LOC653653   LPO   METTL2A   MRC2   MRPS7   PECAN1   PPM1D   PRKARIA   PRR11   PSMCS   PTRH2   RNF126P1   RNF43   RPS6KB1   SCNA4   SMARCD2   SOX9   TANC2   TBX2   TEX2   TK1   TLK2   TMEM100   TRIM25   TUBD1   USP32   VEZF1                                                                                                                                | 1.3 | 0.5   |
| chr1q25                                                                                                                                                                 | ABL1   ASTN1   ATP2B4   BGLAP   C1orf21   C1orf27   CCNA1E   CDC73   CEP350   DARS2   DHX9   DKFZP564C196   EDEM3   FAM20B   GLT2SD2   IERS   IVNS1ABP   KIAA1612   KHLH20   LAO1   LAMC2   LOC647070   MR1   NCF2   NMN2AT   NPHS2   NPL   OCLM   PDC   PLA2G4A   PRG4   PTGS2   RASAL2   RGL1   RGS16   RNASEL   RNF2   SMG7   SOAT1   STX6   TNFSF4   TOR3A   TPR                                                                                                                                    | 1.3 | 0.25  |
| CGCTGCT,MIR-503                                                                                                                                                         | ACHE   ANKZF1   AP3D1   BSN   CDC106   CCND1   CCND2   CHPF   EIF4G1   FANCA   ING4   LRCH4   PPP1A3   SMARCA1   TMEM93   USP2   VEZF1   ZNF423                                                                                                                                                                                                                                                                                                                                                         | 1.3 | 0.25  |
| GALL_TP53_TARGETS_APOPTOTIC_UP                                                                                                                                          | ATM   BAX   BIRC2   BIRC3   CASP4   CASP8   CD40   GADD45A                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1.3 | 0.375 |

|                                                                                     |                                                                                                                                                                                                                                                                                                                                                   |     |       |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| PASTURAL_RIZ1_TARGETS_UP                                                            | CLIC2   ENPP3   FGF13   HLA-E   LIMS1   LRRC61   SPARC                                                                                                                                                                                                                                                                                            | 1.3 | 0.375 |
| MODULE_190                                                                          | CTGF   CYR61   HTRA1   IGFBP1   IGFBP2   IGFBP3   IGFBP5   IGFBP6   IGFBP7   LTBP1   NOV   WISP2                                                                                                                                                                                                                                                  | 1.3 | 0.125 |
| PID_BARD1PATHWAY                                                                    | ATM   ATR   BARD1   BRCA1   CCNE1   CDK2   CSTF1   EWSR1   FANCA   FANCC   FANCE   FANCF   FANGC   FANCL   MRE11A   NBN   NPM1   PCNA   PRKDC   RAD50   RAD51   RBBP8   TOPBP1   TP53   UBE2D3   UBE2L3   XRCC5   XRCC6                                                                                                                           | 1.3 | 0.375 |
| MODULE_189                                                                          | BM1   CBX1   CENPA   CHAF1A   CHAF1B   EZH2   H1FO   H2AFX   H2AF2   HAT1   HIST1H1C   HIST1H2AC   HIST1H2AE   HIST1H2B   HIST1H2BK   HIST1H2BL   HIST2H2AA3   HIST2H2BE   NAP1L3   NASP   SETDB1                                                                                                                                                 | 1.3 | 0.375 |
| SHANK_TAL1_TARGETS_DN                                                               | BCL2   BCL2L1   CD4   CD5   CD6   ID2   PTCRA   RAG1   RAG2   RORC                                                                                                                                                                                                                                                                                | 1.3 | 0.375 |
| YAMASHITA_SILENCED_BY_METHYLATION                                                   | AEBP1   DYSF   GAS6   NNAT   TGFBR2                                                                                                                                                                                                                                                                                                               | 1.3 | 0.125 |
| WIKMAN_ASBESTOS_LUNG_CANCER_UP                                                      | ADD1   ASB9   ATRN   CTBP2   GPR126   IFT74   UFR   LRPAP1   MAEA   PREPL   SERINC3   SLC44A4   SLC6A14   SORBS2   WFDC2   YWHAB   ZNF140                                                                                                                                                                                                         | 1.3 | 0.25  |
| REACTOME_SYNTHESIS_OF_BILE_ACIDS_AND_BILE_SALTS                                     | ABCB11   ACOT8   ACOX2   AKR1C4   AKR1D1   AMACR   BAAT   CH25H   CYP27A1   CYP39A1   CYP46A1   CYP7A1   CYP7B1   HSD17B4   SC2P   SLC27A2   SLC27A5                                                                                                                                                                                              | 1.3 | 0.25  |
| MYLYKANGAS_AMPLIFICATION_HOT_SPOT_23                                                | ARHGEF12   ATM   BIRC3   CBL   CCND1   DDX10   DDX6   FLJ1   MEN1   MLL   NUMA1   PAFAH1B2   PCSK7   PICALM   POU2AF1   SDHD   ZBTB16                                                                                                                                                                                                             | 1.3 | 0.125 |
| BREDEMEYER_RAG_SIGNALING_VIA_ATM_NOT_VIA_NFKB_UP                                    | ANXA4   BCL11A   CAMK2B   CIB1   COLEC12   CRIM1   CSRP2   CYBB   FAM69A   HOOK1   IFT81   IGFBP3   IL6ST   JUN   KIF17   LTB   MAP3K8   MSRB2   NAT1   NFIX   PEPD   PKD2   SELL   SLC20A1   SMO   THBD   TRIM68                                                                                                                                 | 1.3 | 0.125 |
| RNA_EXPORT_FROM_NUCLEUS                                                             | DDX19B   DDX25   EIF5A   KHDRBS1   NCBP2   NUDT4   NUP107   NUP133   NUP160   RAE1   SMG1   SMG5   SMG6   SMG7   TSC1   UPF1   UPF2                                                                                                                                                                                                               | 1.3 | 0.375 |
| WANG_RESPONSE_TO_PACITAXEL_VIA_MAPK8_DN                                             | ABLIM1   HOXA4   NGRN   TERF1   TSC22D3                                                                                                                                                                                                                                                                                                           | 1.3 | 0.125 |
| BETA_TUBULIN_BINDING                                                                | ARL8B   GABARAP   GABARAPL1   GABARAPL2   LRPPRC   MAP15   RACGAP1   UXT   VAPB                                                                                                                                                                                                                                                                   | 1.3 | 0.25  |
| REACTOME_REVERSIBLE_HYDRATION_OF CARBON_DIOXIDE                                     | CA1   CA12   CA14   CA2   CA3   CA4   CA5A   CASB   CA6   CA7   CA9                                                                                                                                                                                                                                                                               | 1.3 | 0.5   |
| REACTOME_GLUCURONIDATION                                                            | SLC35D1   UGDH   UGP2   UGT1A1   UGT1A3   UGT1A4   UGT1A5   UGT1A6   UGT1A7   UGT1A8   UGT1A9   UGT2A1   UGT2B17   UGT2B28   UGT2B4                                                                                                                                                                                                               | 1.3 | 0.5   |
| STEROID_HORMONE_RECEPTOR_ACTIVITY                                                   | AR   ESR2   NR1D1   NR13   NR2C1   NR2E1   NR2F6   NR3C1   NR3C2   NR4A3   PGR   PGRMC2   PPARD                                                                                                                                                                                                                                                   | 1.3 | 0.125 |
| WANG_RECURRENT_LIVER_CANCER_UP                                                      | CETN2   CUL4B   DNAC10   KCNK1   MPHOSPH9   PARD3   PTPN11   R3HDM1   RACGAP1   RBM41   RPL10A   SH3GLB2   SMURF2   SSR3   SYNGR2   USH1C   ZBTB38   ZNF652                                                                                                                                                                                       | 1.3 | 0.125 |
| CERIBELLI_GENES_INACTIVE_AND_BOUND_BY_NFY                                           | ADORA2A   APOL3   CBR3   CRYBB2   CXADR   EDN3   GAS2L1   IGLL1   KCTD17   LOC96610   MX1   NEFH   NPEPL1   NRIP1   PLA2G3   PPM1F   PRMT2   RAE1   RBM38   RPL3   S100B   SYN1   UBASH3A   UBE2G2                                                                                                                                                | 1.3 | 0.5   |
| CHROMOSOME_SEGREGATION                                                              | ARL8B   BRCA1   CDC23   CENPE   CENPF   DDX11   ESLP1   INCENP   KIF25   LAT51   MIS12   NUSAP1   PAM   PMF1   PSEN1   PSEN2   RIOK3   SMC1A   SMC4   SRPK1   TOP2A   ZW10   ZWINT                                                                                                                                                                | 1.3 | 0.375 |
| PROTEIN_METHYLTRANSFERASE_ACTIVITY                                                  | CARM1   EED   EHMT1   EZH2   FBXO11   LCMT1   NSD1   PCMT1   PRMT7   PRMT8   SUV39H1   SUV39H2   SUZ12   WHSC1L1                                                                                                                                                                                                                                  | 1.3 | 0.375 |
| NIELSEN_LEIOMYOSARCOMA_CNN1_UP                                                      | ACTA2   ALDH1B1   CNNA1   GABRG2   KCNNB1   LAMA3   LMOD1   LOC81691   MYH11   MYL9   MYLK   PPP1R12B   RAB23   RIMS2   SORBS1   SVIL   TAGLN   TFP12                                                                                                                                                                                             | 1.3 | 0.25  |
| chr10p12                                                                            | APBB1IP   ARMC4   BAMBI   CACNB2   CREM   CUBN   KIAA1217   KIAA1462   MLLT10   MRC1   MSRB2   NEBL   NRP1   PDSS1   PRPF18   PTER   WAC                                                                                                                                                                                                          | 1.3 | 0.25  |
| MATZUK_EMBRYONIC_GERM_CELL                                                          | BCL2   BCL2L2   BMP4   BMP8B   DAZL   EHMT1   FST   GJA1   KIT   PRDM1   SMAD1   SMAD5   TCF21   TIAL1   WNT4   WT1   ZFX                                                                                                                                                                                                                         | 1.3 | 0.125 |
| ALONSO_METASTASIS_NEURAL_UP                                                         | APL2   CD63   CHN1   EMP1   ENCI   KIT   MAGEA6   MAL   MITF   PDGFRA   PMP22   PTPR21   S100A10   SDCBP   SEPP1   SETX                                                                                                                                                                                                                           | 1.3 | 0.375 |
| REACTOME_ADVANCED_GLYCOSYLATION_ENDPRODUCT_RECEPTOR_SIGNALING                       | AGER   APP   CAPZ2A   CAPZ2Z   DDOST   HMGBI1   LGALS3   MAPK1   MAPK3   PRKCSH   S100A12   S100B   SAA1                                                                                                                                                                                                                                          | 1.3 | 0.125 |
| PID_ERBB1_INTERNALIZATION_PATHWAY                                                   | AMPH   ARHGEF7   CBL   CBLB   CDC42   DNMI1   EGF   EGFR   EPN1   EPS15   GRB2   HGS   HRAS   KRAS   LRIG1   NRAS   PIK3CA   PIK3CB   PIK3CD   PIK3R1   PIK3R2   PIK3R3   PTK2   RAB5A   RAF1   SH3GL2   SHC1   SOS1   SPRY2   SRC   STAMBP   SYNY1   TSG101   UBE2D1   UBE2D2   UBE2D3   USP8                                                    | 1.3 | 0.25  |
| NELSON_RESPONSE_TO_ANDROGEN_DN                                                      | BARD1   BCL11   CDK8   CTBP1   DOC   DPH1   FN1   MMP16   MYC   PEG3   PIK3R3   PRKD1   SCNN1A   SDC4   SERPINI1   SLC29A1   ST7   TULP4                                                                                                                                                                                                          | 1.3 | 0.25  |
| HORTON_SREBF_TARGETS                                                                | AACS   ACACA   ACLY   ALDOC   CYP51A1   DHCR7   ELOVL6   FASN   FDF1   FDP5   HMGC51   HSD17B7   IDI1   INSI1G   LDLR   LSS   ME1   PMVK   RDH11   SC5DL   SQLE   TM7SF2                                                                                                                                                                          | 1.3 | 0.375 |
| chr9p13                                                                             | ALDH1B1   ANXA2P2   APTX   AQP3   AQP7   B4GALT1   CCIN   CCL19   CCL21   CCL27   CHMP5   CNTFR   DCTN3   DNAI1   FANGC   FRMPD1   GALT   GNE   IL11RA   KIAA1045   KIAA1539   KIF24   MCART1   MELK   NDUFB6   NPR2   NUDT2   ORS22   PAX5   PIGO   POLR1E   PRSS3   RUSC2   SIT1   SMU1   SPAG8   SPINK4   STOML2   TESK1   TPM2   VCP   ZBTB5  | 1.3 | 0.375 |
| MYLYKANGAS_AMPLIFICATION_HOT_SPOT_15                                                | CND3   DEK   FANCE   HMGAI1   HSP90A81   IRF4   PIM1   TFE8                                                                                                                                                                                                                                                                                       | 1.3 | 0.25  |
| GAVIN_IL2_RESPONSIVE_FOXP3_TARGETS_UP                                               | CCDC109B   ELOVL6   FOXP3   HIPK2   IL10RA   IL2RA   IL2RB   KIF3B   MAP3K8   MCM7   RRAGD   SORD   ST14   SYPL1   TNFRSF4                                                                                                                                                                                                                        | 1.3 | 0.375 |
| chr9q31                                                                             | ABCA1   ACTL7A   ACTL7B   AKAP2   ASPN   C9orf5   CTNNA1   CYLC2   IKBKAP   INVS   KLFA   LAMC3   MUSK   NIPSNAP3B   ORM1   PALM2-   AKAP2   PRPF4   PTPN3   RAD23B   SLC31A1   SLC31A2   STX17   SVEP1   TEX10   TMEFF1   TMEM388   TRIM14   TXN1   UGCG                                                                                         | 1.3 | 0.125 |
| LANG_MYB_FAMILY_TARGETS                                                             | ACTN1   API5   BET1L   BIRC2   CASP6   CBX4   CCT2   CD53   CLTA   COPA   EMILIN2   HSPAB   IQGAP1   MAD1L1   MSN   PPP3CA   PSD4   SET   SLC1A5   SLC20A1   SLC25A3   TFB1M   TFEC   TIMM44                                                                                                                                                      | 1.3 | 0.125 |
| INACTIVATION_OF_MAPK_ACTIVITY                                                       | DUSP2   DUSP22   DUSP6   DUSP8   DUSP9   GSP1   GSP2   LAX1   MBIP   RGS3   RGS4   SPRED2                                                                                                                                                                                                                                                         | 1.3 | 0.125 |
| ATPASE_ACTIVITY_COUPLED_TO_TRANSMEMBRANE_MOVEMENT_OF_IONS_PHOSPHORYLATIVE_MECHANISM | ABCB11   ATP1A1   ATP1A2   ATP1A3   ATP1B1   ATP1B2   ATP1B3   ATP2A1   ATP2A2   ATP2A3   ATP2B1   ATP2B3   ATP2B4   ATP2C1   ATP4A   ATP4B   ATP7A   ATP7B   FXYD2                                                                                                                                                                               | 1.3 | 0.125 |
| MITOCHONDRIAL_OUTER_MEMBRANE                                                        | BCL2   BNIP3   FIS1   MCL1   MFN2   MSTO1   MTX2   OPA1   RAB11FIP5   RAF1   RHOT1   RHOT2   TOMM22   TOMM34   VDAC1   VDAC2   VDAC3                                                                                                                                                                                                              | 1.3 | 0.25  |
| chr8p22                                                                             | ATP6V1B2   ATP6V1C1   ATP6V1H   AZIN1   CHRNA6   CNOT7   DPYSL2   EXTL3   FGL1   FNTA   KIAA1456   KIAA1967   LPL   LZTSL1   MSR1   MTMR7   MTS51   MTUS1   NAT2   PCM1   PDGFRL   RB1CC1   RIMS2   SLC7A2   STC1   TEX15   TNFRSF10B   TNFRSF10C   TRIB1   TUSC3                                                                                 | 1.3 | 0.375 |
| V\$PAX5_02                                                                          | ADAMTSL3   AP2B1   ARFGEF1   C18orf10   CORO2A   FLJ1   MKL1   PFN1   PSD   RASGRP2   TAF15   USP13                                                                                                                                                                                                                                               | 1.3 | 0.375 |
| MIKKELSEN_DEDIFFERENTIATED_STATE_DN                                                 | COL6A2   EGR2   FGF7   FOXP1   GAS1   TGFBI                                                                                                                                                                                                                                                                                                       | 1.3 | 0.25  |
| PID_ILK_PATHWAY                                                                     | ACTN1   AKT1   ARHGEF6   ARHGEF7   AURKA   CCND1   CDC37   CDC42   CKAP5   CREB1   CTNNB1   DIAPH1   ELMO2   GIT2   GSK3B   HSP90AA1   ILK   ILKAP   IQGAP1   JUN   LIMS1   LIMS2   MYL9   NACA   NCK2   PARP1   PARVA   PARVB   PPP1R12A   PPP1R14B   PXN   RAC1   RHOG   RUVBL1   RUVBL2   SNAI1   TACC3   TNF1   XPO1   ZYX                    | 1.3 | 0.25  |
| MIKKELSEN_DEDIFFERENTIATED_STATE_UP                                                 | COBL   DSG2   ETV5   FGF4   JARID2   PHC1   ZIC3                                                                                                                                                                                                                                                                                                  | 1.3 | 0.125 |
| GCGCCTT_MIR-525,MIR-524                                                             | ASC2   CSD61   FBXO34   HES1   IER2   INHBB   KPNB1   MYCL1   PRPF4B   SACM1L   SRGAP3   TLX3                                                                                                                                                                                                                                                     | 1.3 | 0.125 |
| PID_ERBB2ERBB3PATHWAY                                                               | AKT1   BAD   CDC42   CHRNA1   CHRNE   ERBB2   ERBB3   FOS   GRB2   HRAS   JAK2   JUN   KRAS   MAP2K1   MAP2K2   MAPK1   MAPK10   MAPK3   MAPK8   MAPK9   NF2   NFATC4   NRAS   NRG1   NRG2   PIK3CA   PIK3CB   PIK3CD   PIK3R1   PIK3R2   PIK3R3   PPP3CB   PRKACA   PTPN11   RAC1   RAF1   RNF41   SHC1   SOS1   SRC   STAT3   USP8              | 1.3 | 0.25  |
| REACTOME_GLOBAL_GENOMIC_NER_GG_NER                                                  | CNNH   CDK7   DDB1   DDB2   ERC1   ERCC2   ERCC3   ERCC4   ERCC5   GTF2H1   GTF2H2   GTF2H3   GTF2H4   LIG1   MNAT1   PCNA   POLD1   POLD2   POLD3   POLD4   POLE   POLE2   RAD23B   RFC2   RFC3   RFC4   RFC5   RPA1   RPA3   XPA   XPC                                                                                                          | 1.3 | 0.375 |
| COLLUS_PRKDC_REGULATORS                                                             | ABL1   C1D   CASP3   CLU   UGA   MDC1   PARP1   PPP1CC   PPP2CA   PPP5C   PRKCD   PTPN1   XRCC4   XRCC5   XRCC6                                                                                                                                                                                                                                   | 1.3 | 0.25  |
| B_CELL_ACTIVATION                                                                   | CD40LG   CD79A   CEBPG   HDAC4   HDAC5   HDAC9   IL4   IL7   INHA   INHBA   LAT2   LAX1   NHEJ1   PTPRC   TGFBI   TNFSF13   TPDS2                                                                                                                                                                                                                 | 1.3 | 0.25  |
| GRAHAM_CML_DIVIDING_VS_NORMAL_DIVIDING_UP                                           | CLC   CSTA   CYP1B1   HIST1H1C   HIST1H2BK   PF4   PPBP   PROS1   RHAG   RNASE2   XIIST                                                                                                                                                                                                                                                           | 1.3 | 0.375 |
| REACTOME_GLUTAMATE_NEUROTRANSMITTER_RELEASE_CYCLE                                   | GLS   GLS2   RAB3A   RIMS1   SLC17A7   SLC1A1   SLC1A6   SLC1A7   SLC38A2   SNAP25   STX1A   STXB1P   SYT1   UNC13B   VAMP2                                                                                                                                                                                                                       | 1.3 | 0.375 |
| GNF2_TDG                                                                            | CBX3   CPSF6   DEK   DHX15   EXOSC8   MAGOH   NCL   NUP153   PAPOLA   PTBP1   PTGES3   RBMX   RPA1   SERBP1   SFPQ   SNRPD3   SRI   SUMO2   TARDBP   TDG   XPO1   ZCCHC8                                                                                                                                                                          | 1.3 | 0.125 |
| WENG_POR_DOSAGE                                                                     | ACOT2   ACTG1   ANKAS   ASNS   CYP2A6   CYP2B6   CYP2C18   CYP7A1   ENTDP5   FGL1   GADD45B   GSTM2   GSTM3   HMOX1   LGALS1   RETSAT   SLC01A2   VNN1                                                                                                                                                                                            | 1.3 | 0.25  |
| NIELSEN_GIST_AND_SYNOVIAL_SARCOMA_UP                                                | ALDH1A2   APLP1   BCL6   BEX1   BMP4   CA11   CDKN1C   COL4A5   DLK1   EDN3   GPR125   ITM2C   KIT   PCDH10   PEG3   PLCB2   SFRP1   TDK                                                                                                                                                                                                          | 1.3 | 0.375 |
| V\$HXA3_01                                                                          | C1QL1   GRK6   LMO2   LTBP1   RBMS1   SALL1   SHOX2   SIM1   TXNRD1                                                                                                                                                                                                                                                                               | 1.3 | 0.375 |
| WU_HBX_TARGETS_1_UP                                                                 | ACP2   ACP3   CASP4   CCNG1   CDKN3   CXCL1   EMR3   FAS   GLRX   HMGB2   IL6   MMP1   PMAIP1   SLC25A5   UCK2                                                                                                                                                                                                                                    | 1.3 | 0.375 |
| PHOSPHOLIPASE_C_ACTIVATION                                                          | ANG   AVPR1A   AVPR1B   BUD31   CSAR1   CCKBR   EDNRB   EGFR   GNA15   GNAQ   NMUR1   PLCB2                                                                                                                                                                                                                                                       | 1.3 | 0.375 |
| ROZANOV_MMP14_CORRELATED                                                            | ANKAY7   CSNK2A1   DAPK1   JAG1   NNT   NR3C1   PIK3CD   SLC02A1   SMARCA1   SNRPB2   STK38                                                                                                                                                                                                                                                       | 1.3 | 0.375 |
| chr13q12                                                                            | ALOX5AP   ATP8A2   BRCA2   CCNA1   CDK8   CDX2   CENPJ   CGO30   EFHA1   FLT1   FLT3   GJA3   GJB6   GPR12   GTF3A   HMGB1   HSPH1   ITF88   ITM2B   KL   LHFP   MIPEP   MTMR6   NUP1L1   PABPC3   POLA1D   POMP   RFC3   RNF17   RNF6   RPL21   SAP18   SGGC   SLC7A1   SMAD9   STARO13   SUCLA2   UBL3   USP12   USPL1   UTP14C   WASF3   ZMYM5 | 1.3 | 0.375 |
| MELLMAN_TUT1_TARGETS_UP                                                             | ATF6   DDX52   G6PD   LARP1   MTHFD2   MTHFD2L   NFE2L3   PAPOLG   PTBP1   RPL23   SF3A2   SNX13   SNX17   TKT                                                                                                                                                                                                                                    | 1.3 | 0.25  |
| REACTOME_PASSIVE_TRANSPORT_BY_AQUAPORINS                                            | AQP1   AQP2   AQP3   AQP4   AQP5   AQP6   AQP7   AQP8   AQP9   MIP                                                                                                                                                                                                                                                                                | 1.3 | 0.25  |
| EARLY_ENDOSOME                                                                      | ANKRD27   CLN3   CTNS   KIAA0368   LDLRAP1   NF2   RAB14   RAB22A   RABEP1   SNX17   STX6   TOM1   VAMP9B                                                                                                                                                                                                                                         | 1.3 | 0.25  |
| REACTOME_SULFUR_AMINO_ACID_METABOLISM                                               | ADI1   AHCY   APIP   BHM7T   CBS   CDO1   CNDP2   CSAAD   CTH   ETHE1   GLCL   GLCLM   GOT1   MAT1A   MAT2A   MAT2B   MTAP   MTR   SLC25A10   SQDL   SUOX   TST                                                                                                                                                                                   | 1.3 | 0.375 |
| MULLIGAN_NTFS_SIGNALING_VIA_INSR_AND_IGF1R_DN                                       | CRADD   H1FO   MDC1F   PAWR   PKD4   RAB9A   SH3BP5   UGCG   WDR45                                                                                                                                                                                                                                                                                | 1.3 | 0.375 |
| FIGUEROA_AML_METHYLATION_CLUSTER_1_DN                                               | ABP1   AHNAK   C21orf96   CCL1   CD48   CD68   CD52   CEP350   ENTDP6   FNBP4   GF11   HIST1H2AG   HIST1H2BJ   KRTAP5-8   LHFPL2   MED25   MTMR11   PCNA   PPARD   PRF1   PTPRS1   RPS18   RUFY1   SEZ6L   SLC35E3   TACR3   TFCP2L1   TLR1   TSC1   VP552                                                                                        | 1.3 | 0.125 |
| SHI_SPARC_TARGETS_DN                                                                | AHR   BBG3   ITGB2   KIT   MAP3K8   PPPSC   RAB40B   SEMA3B   SPARC   SPARCL1   TP52TG3                                                                                                                                                                                                                                                           | 1.3 | 0.25  |
| EXOPEPTIDASE_ACTIVITY                                                               | ACE   ACE2   AEBP1   ANEPF   BACE1   BLMH   C9orf3   CPA1   CPA2   CPA3   CPB1   CPB2   CPD   CPE   DPEP1   DPP4   ENPEP   GGH   INPEP   LIMP1   METAP2   NEPPE5   PEPD   PGCP   TPPI1   TRHDE   UCHL1   XPNPEP1   ZMPSTE24                                                                                                                       | 1.3 | 0.125 |
| ATPASE_ACTIVITY_COUPLED_TO_TRANSMEMBRANE_MOVEMENT_OF_IONS                           | ABCB11   ATP1A1   ATP1A2   ATP1A3   ATP1B1   ATP1B2   ATP1B3   ATP2A1   ATP2A2   ATP2A3   ATP2B1   ATP2B3   ATP2B4   ATP2C1   ATP4A   ATP4B   ATP6VOC   ATP6V1B2   ATP6V1C1   ATP7A   ATP7B   FXYD2                                                                                                                                               | 1.3 | 0.125 |
| CHEOK_RESPONSE_TO_MERCAPTOPYRINE_AND_LD_MTX_DN                                      | CDK1   CEACAM6   CHD1L   FZD6   GCHFR   GDF10   KIF3A   LCN2   MAN2B2   MRE11A   PIGA   PRKCC   RCC1   S100A12   USP34                                                                                                                                                                                                                            | 1.3 | 0.375 |
| SCHAEFFER_PROSTATE_DEVELOPMENT_AND_CANCER_BOX6_DN                                   | AGTR1   ID4   SCNN1A   SOX9                                                                                                                                                                                                                                                                                                                       | 1.3 | 0.25  |
| MYLYKANGAS_AMPLIFICATION_HOT_SPOT_25                                                | AT1C   CHN1   ERCC3   FEV   HOXD11   HOXD13   PAX3   PMS1                                                                                                                                                                                                                                                                                         | 1.3 | 0.125 |
| WATANABE_ULCERATIVE_COLITIS_WITH_CANCER_UP                                          | ANGPT12   CDKN1C   EDIL3   FBNI   HS2ST1   ICA1   LRP5   LRP6   MN1   NOL3   PCSK5   PLXNB1   SEPW1   STK39   TXNRD3                                                                                                                                                                                                                              | 1.3 | 0.25  |
| KIM_GLS2_TARGETS_DN                                                                 | BFAF   DNASE1   GZMA   PPPB   SMAAC2A                                                                                                                                                                                                                                                                                                             | 1.3 | 0.125 |
| RANKIN_ANGIOGENIC_TARGETS_OF_VHL_HIF2A_DN                                           | ANGPTL3   CDH5   EGLF7   ITGAV   NR2F2   PLXND1   RHOB                                                                                                                                                                                                                                                                                            | 1.3 | 0.375 |



|                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                      |     |       |
|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| NUCLEOLAR_PART                                                               | CD3EAP   EMG1   KRR1   NOC4L   NOL6   POLR1C   POP1   POP7   RPP30   RPP38   RPP40   UTP18   UTP20                                                                                                                                                                                                                                                                                                                                   | 1.3 | 0.125 |
| CHIANG_LIVER_CANCER_SUBCLASS_POLYSOMY7_DN                                    | AACS   AKR1B10   BAMBI   GNL3   GPX2   HOMER1   P2RX5   PHACTR2   PLOD2   RCN1   RHOBTB1   ROBO1   SERPINB1   SLC16A7   SLC38A1                                                                                                                                                                                                                                                                                                      | 1.3 | 0.25  |
| GCM_DPF2                                                                     | AAMP   ADCYAP1   APOC3   ASMT   BCAT2   BNIP1   COX10   CSTF3   DGC6   DP2   DRG2   FANCC   FUT2   GRM4   HMG2A   MMP2   ODF1   PRKAG1   RFX5   RING1   SDHC   SMARCD1   SUPT4H1   TAF1   TIMM17A   TP53BP1   TTC1   VP572   ZNF8                                                                                                                                                                                                    | 1.3 | 0.125 |
| MANNOSYLTRANSFERASE_ACTIVITY                                                 | ALG3   ALG8   DPM1   DPM2   DPM3   PIGB   PIGV   PIGZ   SDF2                                                                                                                                                                                                                                                                                                                                                                         | 1.3 | 0.25  |
| MODULE_65                                                                    | ADCY3   ADM   GUCY1A2   GUCY1B3   GUCY2C   GUCY2D   GUCY2F   NPR1   NPR2   PDE5A                                                                                                                                                                                                                                                                                                                                                     | 1.3 | 0.5   |
| chr3q28                                                                      | AP2M1   CLDN1   EIF4A2   ETV5   FGF12   FXR1   HES1   HRASL5   IL1RAP   MF12   OPA1   POLR2H   SENP2   SST                                                                                                                                                                                                                                                                                                                           | 1.3 | 0.375 |
| LUI_THYROID_CANCER_CLUSTER_5                                                 | ACADM   AQP7   BLVRB   CRYAB   EPHX1   ETHE1   HLA-DMA   HMGCS2   ISL1   ISLR   LGALS1   TFF3   TSPAN1                                                                                                                                                                                                                                                                                                                               | 1.3 | 0.25  |
| chr3p11                                                                      | EPH3   POU1F1   PROS1   ZNF654                                                                                                                                                                                                                                                                                                                                                                                                       | 1.3 | 0.375 |
| POST_GOLGI_VESICLE_MEDIATED_TRANSPORT                                        | AP3B2   DOPEY1   DOPEY2   EXOC5   KRT18   MON2   OPTN   RAB14   SCAMP1   SCAMP2   SCAMP3   SNAP23   STX7                                                                                                                                                                                                                                                                                                                             | 1.3 | 0.125 |
| REACTOME_VEGF_LIGAND_RECEPTOR_INTERACTIONS                                   | FIGF   FLT1   FLT4   KDR   NRP1   NRP2   PDGFC   VEGFB   VEGFC                                                                                                                                                                                                                                                                                                                                                                       | 1.3 | 0.125 |
| TONKS_TARGETS_OF_RUNX1_RUNX1T1_FUSION_ERYTHROCYTE_DN                         | ARHGAP22   C18orf1   CLC   COL18A1   HBE1   ITM2A   LRR6C1   LTBP1   LTC45   MYL4   MYLK   PDLIM1   PF4   SLC27A2                                                                                                                                                                                                                                                                                                                    | 1.3 | 0.375 |
| INORGANIC_ANION_TRANSMEMBRANE_TRANSPORTER_ACTIVITY                           | ADAMTS8   ANKH   ASNA1   SLC13A4   SLC17A1   SLC17A2   SLC17A3   SLC17A4   SLC17A7   SLC20A1   SLC20A2   SLC25A3   SLC26A4   SLC34A1   SLC4A3   SLC4A4   SLC5A5                                                                                                                                                                                                                                                                      | 1.3 | 0.25  |
| chr5p13                                                                      | AMACR   CIQTNF3   C5orf22   C6   C7   CDH10   DAB2   FYB   GDNF   GOLPH3   IL7R   LIFR   LOC643373   NIPBL   NPR3   NUP155   OSMR   OXCT1   PTGER4   RAD1   RAI14   RPL37   SKP2   SLC1A3   SLC45A2   SUB1   TAR5   WDR70   ZNF35                                                                                                                                                                                                    | 1.3 | 0.25  |
| CORTICAL_CYTOSKELETON                                                        | CLASP1   DLG4   EPB41   EPB41L2   GYPC   GYS2   LASP1   LGLL1   MAPRE1   MYO1A   SHROOM2   SPTA1   SPTAN1   SPTB   SPTBN1   SPTBN2   SPTBN4   TRPC4                                                                                                                                                                                                                                                                                  | 1.3 | 0.25  |
| BANDRES_RESPONSE_TO_CARMUSTIN_WITHOUT_MGMT_24HR_DN                           | ACTN1   FNTA   GOLGA2   GTF2F1   INPPL1   RCN1   SLC01A2   TLE3                                                                                                                                                                                                                                                                                                                                                                      | 1.3 | 0.375 |
| REACTOME_CASPASE_MEDIATED_CLEAVAGE_OF_CYTOSKELETAL_PROTEINS                  | ADD1   CASP3   CASP6   CASP7   CASP8   GAS2   GSN   MAP7   SPTAN1   VIM                                                                                                                                                                                                                                                                                                                                                              | 1.3 | 0.375 |
| WENG_POR_TARGETS_GLOBAL_DN                                                   | ACOT2   APOA4   ATRF   CYP7B1   EGR1   EHMHAD1   ELOVL5   FABP2   FGL1   GRN   HSDL2   HSP90AA1   HSPH1   MGLL   MTAP   NAT6   RAB30   RETSAT   SLC22A5   VNN1                                                                                                                                                                                                                                                                       | 1.3 | 0.25  |
| WANG_BARRETTS_ESOPHAGUS_DN                                                   | ACTR3   ALDH9A1   AQP3   ARF5   CTSB   CUL3   DSG1   EMP2   FGR3   FMO2   GPNMB   GSTA4   JUP   KLF5   KLK6   KLK7   LTA4H   NFE2L2   OVOL1   PLP2   PRCP   S100A8   SERPINB1   SPRR3   STK24                                                                                                                                                                                                                                        | 1.3 | 0.125 |
| MODULE_116                                                                   | ATPSA1   ATP5B   ATP5C1   ATP5D   ATP5E   ATP5G1   ATP5G2   ATP5G3   ATP5H   ATP5I   ATP5J   ATP5J2   ATP5L   ATP5O   ATP6AP1   ATP6VOA1   ATP6V0B   ATP6V0C   ATP6V0D1   ATP6V1B2   ATP6V1D   ATP6V1E1   ATP6V1F   ATP6V1G1   ATP6V1H   CSPG4   UCP1   UCF2                                                                                                                                                                         | 1.3 | 0.375 |
| BIOCARTA_MITOCHONDRIA_PATHWAY                                                | APAF1   BAK1   BAX   BCL2   BCL2L1   BID   BIK   BIRC2   BIRC3   CASP3   CASP6   CASP7   CASP8   CASP9   CYCS   DFFA   DFFB   DIABLO   ENDOG                                                                                                                                                                                                                                                                                         | 1.3 | 0.25  |
| KIM_PTEEN_TARGETS_DN                                                         | MGA   PTEN   RBM4   RIT2   ZNF574                                                                                                                                                                                                                                                                                                                                                                                                    | 1.3 | 0.125 |
| chr7p13                                                                      | ADCY1   AUTS2   C7orf44   DDX56   GLI3   H2AFV   HECW1   HUS1   IGFBP1   IGFBP3   IKZF1   NPC1L1   NUDCD3   OGDH   PGAM2   POLD2   POLM   PPIA   PSMA2   RAMP3   TBRG4   UBE2D4   YKT6                                                                                                                                                                                                                                               | 1.3 | 0.125 |
| VANDESLUIS_COMMD1_TARGETS_GROUP_3_DN                                         | C5orf13   CCDC94   CLEC1B   CP   CRABP1   CRABP2   DLL3   EN2   FEZ1   HOXD12   MEOX2   MFAP2   MFAP4   MSLN   NNAT   NR2F1   PCP4   RG52   SCG3   SERF1A   TCF15   TGFBI   TMSB4X   TRIM9   TUBB2A   TUBB3   UCHL1   VCAM1   VTN1   WFD1C                                                                                                                                                                                           | 1.3 | 0.25  |
| chr16q23                                                                     | ADAT1   AP1G1   CENPN   CHST5   CTRB1   FA2H   GCSH   HSBP1   KARS   MLYCD   MON1B   MPHOSPH6   NUDT7   PMFBP1   VPS4A   WWOX   ZDHHC7                                                                                                                                                                                                                                                                                               | 1.3 | 0.25  |
| MYOSIN_COMPLEX                                                               | MYH6   MYH7   MYL3   MYL4   MYL5   MYL6   MYL6B   MYL9   MYLPF   MYO1C   MYO6   MYOM1                                                                                                                                                                                                                                                                                                                                                | 1.3 | 0.375 |
| BASSO_HAIRY_CELL_LEUKEMIA_UP                                                 | KIAA0922   PAWR   TNFAIP8   TRAF5                                                                                                                                                                                                                                                                                                                                                                                                    | 1.3 | 0.25  |
| DORN_ADENOVIRUS_INFECTION_12HR_DN                                            | ANPEP   BACE2   CCND1   CSNK   CD83   COL7A1   EFNA1   ELF3   EWSR1   FHL2   FUBP3   H1FO   HIST1H2AE   HIST1H4B   IER3   IL6   KYNLU   UIMA1   MAP2K3   MCL1   MYC   NFE2L2   NFKBIA   SDCB   SH3BP5   SYNCRIP   TNFRSF12A   TOP2A   TRAF4   TXNRD1                                                                                                                                                                                 | 1.3 | 0.125 |
| CHANG_POUSF1_TARGETS_UP                                                      | ABI1   AOC3   ATAD2   COL3A1   COL5A1   CYR61   FN1   MMP13   OPHN1   SLIT3   SMARCA4   TGFBI   VASP                                                                                                                                                                                                                                                                                                                                 | 1.3 | 0.5   |
| ST_B_CELL_ANTIEN_RECEPTOR                                                    | AKT1   AKT2   AKT3   BAD   BCR   BLNK   BTK   CD19   CSK   DAG1   EPHB2   GRB2   ITPKA   ITPKB   LYN   MAP2K1   MAP2K2   MAPK1   NFAT5   NFKB1   NFKB2   NFKBIA   NFKBIB   NFKBIE   NFKBIL1   PI3   PIK3CA   PIK3CD   PIK3R1   PIK3R2   PIP2R1   PRDX1   RAF1   SERPINA4   SHC1   SOS1   SOS2   SYK   VAV1                                                                                                                           | 1.3 | 0.125 |
| CAIRO_HEPATOBLASTOMA_POOR_SURVIVAL                                           | APP   ALDH2   APC5   APOC4   AQP9   BUB1   C1S   CYP2E1   DUSP9   E2F5   GHR   HPD   IGSF1   NLE1   RPL10A                                                                                                                                                                                                                                                                                                                           | 1.3 | 0.25  |
| RUAN_RESPONSE_TO_TROGLITAZONE_DN                                             | ADIPOQ1   AK2   AOC3   AP3S1   CDKN2C   HK2   IDH3G   NRIP1   ORM1   PEMT   PLA2G6   PPARG   RGS2   SCD   SELENBP1   SOD2   TST                                                                                                                                                                                                                                                                                                      | 1.3 | 0.125 |
| U12_DEPENDENT_SPLICEOSOME                                                    | DDX23   DHX15   PRPF8   ZMAT5                                                                                                                                                                                                                                                                                                                                                                                                        | 1.3 | 0.25  |
| RESPONSE_TO_TEMPERATURE_STIMULUS                                             | ACT11   AKT1   CIRBP   CRNN   CSDA   DNAJB4   EIF2B1   EIF2B2   EIF2B3   EIF2B4   EIF2B5   ERO1L   FGF16   GCLC   GMPR   SOD1                                                                                                                                                                                                                                                                                                        | 1.3 | 0.125 |
| REACTOME_COPI_MEDIATED_TRANSPORT                                             | ARCN1   ARF1   ARFGAP1   COPA   COPB1   COPB2   COPE   COPG   COP21   G8F1                                                                                                                                                                                                                                                                                                                                                           | 1.3 | 0.5   |
| chr10q23                                                                     | ANKRD1   ARL3   BLNK   C10orf116   C10orf57   CH25H   CNMN1   CNNM2   CPEB3   CYP26A1   DLG5   DNNT   DUSP13   ENTDP1   ENTDP7   FAM35A   FRAT2   GHITM   HELLS   HHX   HPS1   HPSE2   IDE   IFIT2   IFIT3   IFIT5   LIPA   LIPE   MINP1   MMRN2   NDUFB8   NOC3L   PDLIM1   PLCE1   POLL   PPP1R3C   PTEN   RBP4   RGR   RPP30   SCD   SLIT1   SMNDC1   SNCG   SORBS1   SORCS3   STAMBP1L   TBC1D12   TL2   TNKS2   TSPAN14   WAPAL | 1.3 | 0.375 |
| NIKOLSKY_BREAST_CANCER_6P24_P22_AMPICON                                      | CAP2   CD83   DEK   FAM8A1   GFOD1   ID4   KIF13A   NOL7   NUP153   PHACTR1   RANBP9   SIRT5   TPMT                                                                                                                                                                                                                                                                                                                                  | 1.3 | 0.375 |
| NEBEN_AML_WITH_FLT3_OR_NRAS_UP                                               | CDK9   FOXA1   HBA2   HOXB5   LFNG   MBD1   SMG1                                                                                                                                                                                                                                                                                                                                                                                     | 1.3 | 0.375 |
| NEGATIVE_REGULATION_OF_MAP_KINASE_ACTIVITY                                   | DUSP2   DUSP22   DUSP6   DUSP8   DUSP9   GSP1   GSP2   HIPK3   LAX1   MBIP   NF1   PDCD4   RGS3   RGS4   SPRED2                                                                                                                                                                                                                                                                                                                      | 1.3 | 0.375 |
| FIGUEROA_AML_METHYLATION_CLUSTER_6_DN                                        | AIM2   CCL1   CD3D   CD3G   CTDP1   DEFA1   DEFA3   ELTD1   FKRP   G8X2   GPR17   GPR39   GRTP1   IL2RG   KRTAP5-9   PLD3   PLEK   POU4F2   PSMD2   STRN4   TACR3   TPC11                                                                                                                                                                                                                                                            | 1.3 | 0.125 |
| XU_AKT1_TARGETS_48HR                                                         | B3GALNT1   BRCA1   CTAGE1   IFI6   MAP2K5   PLXDC1   RARB   SEC24D   TRPC3                                                                                                                                                                                                                                                                                                                                                           | 1.3 | 0.375 |
| PID_RHOA_REG_PATHWAY                                                         | ABR   AKAP13   ARHGAP4   ARHGAP5   ARHGAP6   ARHGAP8   ARHGDI4   ARHGDI8   ARHGDI9   ARHGEF1   ARHGEF10   ARHGEF10L   ARHGEF12   ARHGEF12   ARHGEF15   ARHGEF17   ARHGEF18   ARHGEF2   ARHGEF3   ARHGEF5   ARHGEF6   ARHGEF7   ARHGEF8   ARHGEF9   FARP1   MCF2   MCF2L   MYO9B   NET1   OBSCN   OPHN1   PLEKHG6   RGNF   RHOA   TRIO   VAV1   VAV2   VAV3                                                                           | 1.3 | 0.125 |
| BIOCARTA_CD40_PATHWAY                                                        | CD40   CD40LG   CHUK   DUSP1   IKBKAP   IKBKB   IKBKG   MAP3K1   MAP3K14   NFKB1   NFKBIA   RELA   TNFAIP3   TRAF3   TRAF6                                                                                                                                                                                                                                                                                                           | 1.3 | 0.25  |
| PID_IL27PATHWAY                                                              | EBI3   GATA3   IFNG   IL12A   IL12B   IL12RB1   IL12RB2   IL17A   IL18   IL1B   IL2   IL27RA   IL6   IL6ST   JAK1   JAK2   STAT1   STAT2   STAT3   STAT4   STAT5A   TBX21   TGFBI   TNF   TYK2                                                                                                                                                                                                                                       | 1.3 | 0.375 |
| MODULE_127                                                                   | BM1   BRCA2   CBX1   CENPA   CHAF1A   CHAF1B   EZH2   H1FO   H1FX   H2AFX   H2AF2   HAT1   HIST1H1A   HIST1H1C   HIST1H2AC   HIST1H2AE   HIST1H2BJ   HIST1H2BK   HIST1H2BL   HIST2H2AA3   HIST2H2BE   NAP1L3   NASP   SATB1   SEDB1                                                                                                                                                                                                  | 1.3 | 0.375 |
| GGATCCG_MIR-127                                                              | BCA53   DFBF   DHX57   FIX1   KIF3B   RBCK1   SETD8   TNFSF12   VAMP2                                                                                                                                                                                                                                                                                                                                                                | 1.3 | 0.375 |
| TRANSLATION_FROM_RNA_POLYMERASE_III_PROMOTER                                 | BRCA1   BRF1   GTF3A   GTF3C4   IVNS1ABP   POLR2K   POLR3   POLR3G   POLR3K   SNAPC2   SNAPC3   SNAPC4   SNAPC5   TROVE2   ZNF143   ZNF345   ZNF76                                                                                                                                                                                                                                                                                   | 1.3 | 0.25  |
| INNATE_IMMUNE_RESPONSE                                                       | APOA4   APOBEC3F   APOBEC3G   BCL10   CD1D   CEBPG   COLEC12   CRTAM   DEFB1   DMBT1   EREG   IL12A   IL12B   KRT1   MBL2   NCR1   SFTPD   TLR8                                                                                                                                                                                                                                                                                      | 1.3 | 0.375 |
| TORCHIA_TARGETS_OF_EWSR1_FL11_FUSION_TOP20_DN                                | ARHGAP15   CD81   CDC42EP3   CNN3   DOCK10   GALNT7   GRB10   GSTA4   HOXA9   LGALS1   PPBP   PRKD3   SLC6A13   SMO   SOX4   TGM2   TMSB10                                                                                                                                                                                                                                                                                           | 1.3 | 0.125 |
| ZHAN_VARIABLE_EARLY_DIFFERENTIATION_GENES_UP                                 | AEBP1   ANXA2   AQP2   BCR   CD3E   CUL7   FGL2   GN83   HOXB2   OR1G1   PIK3R2   PTPRN   WNT10B   WWOX                                                                                                                                                                                                                                                                                                                              | 1.3 | 0.125 |
| GROSS_HYPONIA_VIA_HIF1A_ONLY                                                 | AGL   CCNG2   CITED2   FGB   MAFF   SRA1   VLDLR                                                                                                                                                                                                                                                                                                                                                                                     | 1.3 | 0.125 |
| TUBE_MORPHOGENESIS                                                           | BCL10   CALCA   CELSR1   GCLC   GCLM   GLI2   KCNM82   KCNM84   KEL   LMO4   NOTCH4   SHH   SOD1                                                                                                                                                                                                                                                                                                                                     | 1.3 | 0.25  |
| STANHILL_HRAS_TRANSFORMATION_UP                                              | CRYAB   DUSP1   FOS   HMOX1   HSPA1A   HSPA1B   HSPB1   JUN                                                                                                                                                                                                                                                                                                                                                                          | 1.3 | 0.5   |
| MANN_RESPONSE_TO_AMIFOSTINE_UP                                               | CASP4   CAT   CDKN1A   CPOX   DDB2   EIF2B1   ERCC1   GDF15   GSR   HDAC3   MDM2   MYC   NEDD8   NME3   RAD23A   RFC4   S100A4   TP2B8   XPC   ZFP36L1                                                                                                                                                                                                                                                                               | 1.3 | 0.375 |
| BIOCARTA_LYM_PATHWAY                                                         | CD34   ICAM1   IL1A   IL8   ITGA4   ITGAL   ITGB1   ITGB2   PECAM1   SELL   VCAM1                                                                                                                                                                                                                                                                                                                                                    | 1.3 | 0.375 |
| JEPSSEN_SMRT_TARGETS                                                         | ABCA1   APOE   ARL8B   CGREF1   DCX   DSCAM   EGR1   ELAVL3   ESD   HMGAI1   HMOX1   IGF2R   LIM52   METRN   MGA   NIF3L1   NTNG1   PDGFA   PDLIM4   PPP1R1A   RBP1   SPARC   SPRY4   SYT12   TCF25   TIMP1   TNFRSF12A   ZBTB5                                                                                                                                                                                                      | 1.3 | 0.25  |
| TERAMOTO_OPN_TARGETS_CLUSTER_4                                               | AT1C   COL3A1   DGC6   FBP1   GNAZ   LDHA   LRPA1   S100A4   SPPL2B                                                                                                                                                                                                                                                                                                                                                                  | 1.3 | 0.375 |
| MCCOLLUM_GELDANAMYCIN_RESISTANCE_DN                                          | HHX   HMG2A   NOTCH3   NTS   PARD3   SOX2                                                                                                                                                                                                                                                                                                                                                                                            | 1.3 | 0.5   |
| CAFFAREL_RESPONSE_TO_THC_24HR_3_DN                                           | CDCA2   CPT1A   CSNK1G1   GIPCL   MT2A   NURP1   NUSAP1   PSMD8   RRM2   RYR1                                                                                                                                                                                                                                                                                                                                                        | 1.3 | 0.375 |
| U_CYTIDINE_ANALOG_PATHWAY                                                    | CD4   DCK   DCTD1   NTS2   NTS2C   RRM1   RRM2   SLC28A1   SLC28A2   SLC28A3   SLC29A1   SLC29A2                                                                                                                                                                                                                                                                                                                                     | 1.3 | 0.375 |
| MOROSSETTI_FACIOSCAPULOHUMERAL_MUSCULAR_DISTROPHY_UP                         | THB63   DBCL1   EBF2   HOKX6   HSD11B1   ID1   ID2   ID3   IFI27   LPHN2   LXN   NID1   PDGFRA   PGF   POSTN   PRG4   RARRRES1   SCG5   THS2   WSP1                                                                                                                                                                                                                                                                                  | 1.3 | 0.25  |
| CHUANG_OXIDATIVE_STRESS_RESPONSE_UP                                          | CTAGE5   CYP11B1   DDTIT3   DKK1   EDN1   EGR1   EPS8L2   FAS   FDXR   GDF15   HMOX1   HSPA1B   JUN   LIF   LRP6   MT1H   MTX1   NQO1   PLA2R1   PRRP2B   PSMD12   PSMD3   RCBT1   RPL38                                                                                                                                                                                                                                             | 1.3 | 0.25  |
| chr3p14                                                                      | AAGNT   AC0X2   ADAMTS9   ARL6IP5   C3orf14   C3orf64   CACNA1C   ERC2   FAM107A   FHIT   FLNB   FOXP1   FRMD4B   LRIG1   LRTM1   MAGIL1   MITF   PDZRN3   PSMD6   RYBP   SUCLG2   THOC7   TYK                                                                                                                                                                                                                                       | 1.3 | 0.125 |
| PID_AVB3_OPN_PATHWAY                                                         | CD44   CDC42   CHUK   FOS   GSN   ILK   ITGAV   ITGB3   JUN   MAP3K1   MAP3K14   MAPK1   MAPK3   MAPK8   MMP2   MMP9   NFKB1   NFKBIA   PIK3CA   PIK3R1   PIP5K1A   PLAU   PTX2B   RAC1   RELA   RHOA   ROCK2   SP1   SYK   VAV3                                                                                                                                                                                                     | 1.3 | 0.375 |
| PID_HDAC_CLASSIII_PATHWAY                                                    | BAX   CDKN1A   CREBBP   EP300   FHL2   HDAC4   HIST1H1E   HOXA10   MEFD2   MYOD1   PPARGC1A   SIRT1   SIRT2   SIRT3   SIRT7   TP53   TUBB2A   XRC6                                                                                                                                                                                                                                                                                   | 1.3 | 0.125 |
| ST_DIFFERENTIATION_PATHWAY_IN_PC12_CELLS                                     | AKT1   ASAH1   ATF1   BRAF   CAMP   CREB1   CREB3   CREB5   CREBBP   CRKL   DAG1   EGR1   EGR3   EGR4   ELK1   FR52   GAST   GNA10   JUN   MAP1B   MAP2K4   MAP2K7   MAPK1   MAPK10   MAPK3   MAPK8   MAPK8IP1   MAPK8IP2   MAPK8IP3   MAPK9   NTRK1   OPN1LW   PIK3C2G   PIK3CA   PIK3CD   PIK3R1   PTPN11   RPS6KA3   SHC1   SRC   TERF2IP   TH                                                                                    | 1.3 | 0.375 |
| PID_AR_NONGENOMIC_PATHWAY                                                    | AKT1   AR   CDC42   CREB1   FOS   GNAI1   GNAI2   GNAI3   GNAO1   GNAZ   GNB1   GNRH1   HRAS   MAP2K1   MAP2K2   MAPK1   MAPK3   PDL1   PIK3CA   PIK3R1   PLCB1   PLCB2   PLCB3   PLCG1   PLCG2   PTX2   RAC1   RAF1   SHBG   SRC                                                                                                                                                                                                    | 1.3 | 0.125 |
| REACTOME_BIOSYNTHESIS_OF_THE_N_GLYCAN_PRECURSOR_DOLICHOL_LIPID_UNKED_OUGOSAC | ALG12   ALG3   ALG5   ALG6   ALG8   ALG9   DOLPP1   DPAGT1   DPM1   DPM2   DPM3   GFTT2   GMPPA   GMPPB   MPI   PGM3   PMM1   PMM2                                                                                                                                                                                                                                                                                                   | 1.3 | 0.125 |
| CHARIDE_IL0_AND_TRANSFER_TO_A_NASCENT_PROTEIN                                | CDH5   ELK1   FOS   GNAI1   GNA12   GNA13   GNA14   GNA15   GNAI1   GNAI2   GNAI3   GNAO1   GNAQ   GNAZ   IRS1   JUN   MAPK1   MAPK14   MAPK3   MAPK8   PAK1   RAC1   RHOA                                                                                                                                                                                                                                                           | 1.3 | 0.125 |
| PID_S1P_S1P2_PATHWAY                                                         | ADA   ADARB2   ADAT1   AMPD1   AMPD3   APOBEC1   APOBEC2   APOBEC3F   APOBEC3G   CDA   CRYM   DCTD   GNPDA1                                                                                                                                                                                                                                                                                                                          | 1.3 | 0.25  |
| DEAMINASE_ACTIVITY                                                           | CNNB1   NUMA1   TUBG1   TUBG2   TUBGC2P1   TUBGC3P1   TUBGC5P5                                                                                                                                                                                                                                                                                                                                                                       | 1.3 | 0.25  |
| REACTOME_RECRUITMENT_OF_NUMA_TO_MITOTIC_CENTROSOMES                          |                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1.3 | 0.25  |

|                                                                               |                                                                                                                                                                                                                                                                                                                                                                         |     |       |
|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| chr7p22                                                                       | C7orf26   C7orf28B   CHST12   CYP2W1   DGKB   EIF2AK1   ETV1   FBXL18   FSCN1   FTSJ2   GNA12   HEATR2   ICA1   INTS1   IQCE   KIAA0415   LFNG   MAD1L1   MAFK   MEOX2   NUDT1   OCM   PDGFA   PMS2   PMS2CL   PRKAR1B   RAC1   RALA   RPA3   SOD1   WIPI2   ZDHHC4                                                                                                     | 1.3 | 0.375 |
| RESPONSE_TO_NUTRIENT                                                          | CCAR   CDKN2B   CDKN2D   ENPP1   ENSA   GCGR   GIPR   GNAI2   OGT   PPARG   SST   SSTR1   SSTR2   STC1   STC2   TULP4                                                                                                                                                                                                                                                   | 1.3 | 0.5   |
| GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_GREEN_UP                        | AKR1B10   ANKRD28   CHD2   CREM   CSNK1G1   DUSP6   ETV5   GEM   GNE   HDAC9   IDI1   MALT1   RAB23   SLC4A7   STIP1                                                                                                                                                                                                                                                    | 1.3 | 0.375 |
| RNA_CATABOLIC_PROCESS                                                         | ABCE1   AUN   ERN2   GSPT1   HSPA1B   ISG20   PABPC4   POP1   PPP1R8   RNASE2   RNASE3   RNASE6   RNASEH1   RNASEH2A   RNASEF2   SMG1   SMG5   SMG6   SMG7   UPF2   ZFP36                                                                                                                                                                                               | 1.3 | 0.5   |
| MODULE_432                                                                    | CNPB   DHC7   EBP   FDF1   FDP5   HMGCR   HMGCS1   HMGCS2   IDI1   LSS   MVD   MVK   NSDHL   PMVK   SQLE                                                                                                                                                                                                                                                                | 1.3 | 0.375 |
| BIOCARTA_A3T3_PATHWAY                                                         | GAT3   IL13   IL4   IL5   JUNB   MAF   MAP2K3   MAPK14   NFATC1   PRKCB   PRKACG   PRKARIA1   PRKAR1B   PRKAR2A   PRKAR2B                                                                                                                                                                                                                                               | 1.3 | 0.125 |
| REACTOME_AMINO_ACID_SYNTHESIS_AND_INTERCONVERSION_TRANSMINATION               | ALDH18A1   ASNS   CCB1L   GLS   GLS2   GLUD1   GLUL   GOT1   GOT2   GPT   OAT   PHGDH   PSAT1   PSPH   PYCR1                                                                                                                                                                                                                                                            | 1.3 | 0.125 |
| NEGATIVE_REGULATION_OF_DNA_REPLICATION                                        | ATR   CDC6   CDT1   GMNN   GTPBP4   NF2   RAD17   RAD9A   S100A11   TIPIN   TSPYL2                                                                                                                                                                                                                                                                                      | 1.3 | 0.375 |
| LIPID_TRANSPORTER_ACTIVITY                                                    | ABCA1   ABCG1   APOA1   APOA4   APOC4   APOD   APOF   APO1   APOL3   APOM   ATP11B   ATP8B1   CDIPT   CETP   CFHR4   GLTP   HSD17B4   LRP1   NPC1   PCTP   PITPNA   PITPNC1   PITPNM1   PITPNM3   PLSCR1   SLC02A1                                                                                                                                                      | 1.3 | 0.25  |
| PID_NECTIN_PATHWAY                                                            | CDC42   CDH1   CLDN1   CRK   CTNNA1   CTNNB1   F11R   FARP2   IQGAP1   ITGAV   ITGB3   MLLT4   PDGFB   PDGFRB   PIK3CA   PIK3R1   PIP5K1C   PTK2   PTPRM   PVR   PVRL1   PVRL2   PVRL3   RAC1   RAP1A   RAP1B   RAPGEF1   SRC   TLN1   VAV2                                                                                                                             | 1.3 | 0.125 |
| GUTIERREZ_WALDENSTROEMS_MACROGLOBULINEMIA_2                                   | CKAP2   CLC   CPA3   DEK   HLA-DMA   HLA-DPA1   HLA-DRB1   HMG81   MS4A3   MYB   RNASE2   SYK                                                                                                                                                                                                                                                                           | 1.3 | 0.25  |
| HOLLEMAN_ASPARAGINASE_RESISTANCE_B_ALL_DN                                     | ARF6   ARRB2   CNGG2   DERL2   ELK3   GPR56   H2BF5   HIST1H2BK   JUP   MAN1A1   RAB5C   RAP2C   UBE2Z   ZNF318                                                                                                                                                                                                                                                         | 1.3 | 0.5   |
| NEGATIVE_REGULATION_OF_INTRACELLULAR_TRANSPORT                                | BARSD1   CRYAA   CRYAB   FAF1   MDF1   MX1   NF1   NFKBIE   NFKBIL1                                                                                                                                                                                                                                                                                                     | 1.3 | 0.375 |
| chr1q22                                                                       | AIM2   ALDH9A1   ANP3E2   ASH1L   ATF6   ATP1B1   C1orf61   CD1A   CD1B   CD1C   CD1D   CD1E   CD247   DAP3   DPM3   FDP5   FLAD1   GBA   GONAL   IFI16   KIAA0907   LENEPE   MNDA   MP2   MSTO1   NCSTN   NHLH1   PBXIP1   PEX19   PIP5K1A   PMF1   POU2F1   PPOX   RAB25   RXRG   SELE   SELP   SEMA4A   SYT11   TMC01   UBE2Q1   USP21   YY1AP1                      | 1.3 | 0.125 |
| RAHMAN_TP53_TARGETS_PHOSPHORYLATED                                            | ACTB   ANXA1   CTF6A   DLD   G5T1P   IDH3A   NME1   PARK7   PCBP1   PDIA6   PGAM1   PHGDH   PPA1   PRDX2   PRDX3   PSMB6   RUVBL2   TPM3                                                                                                                                                                                                                                | 1.3 | 0.375 |
| REACTOME_SIGNALING_BY_NOTCH2                                                  | ADAM10   APHA1   APH1B   JAG1   JAG2   NCSTN   NOTCH2   PSEN1   PSEN2   PSENEN                                                                                                                                                                                                                                                                                          | 1.3 | 0.25  |
| SCHMIDT_POR_TARGETS_IN_LIMB_BUD_UP                                            | ACAT2   ACLY   CYP26A1   CYP51A1   DHC7   ELOVL6   FDF1   FDP5   FGL1   HMGCS1   IDI1   INSIG1   LDLR   LSS   MVD   MVK   NSDHL   SCDL   SQLE   SREBF2   TM7SF2   ZMAT4                                                                                                                                                                                                 | 1.3 | 0.375 |
| LIPID_HOMEOSTASIS                                                             | ABCA1   ABCA2   ABCG1   AKR1C1   ANGPTL3   APOA1   APOA2   APOA4   APOE   CAV1   CD24   CETP   LCAT   NPC1   NPC2                                                                                                                                                                                                                                                       | 1.3 | 0.375 |
| OXIDOREDUCTASE_ACTIVITY_ACTING_ON_THE_CH_NH_GROUP_OF_DONORS                   | ALDH4A1   ETFDH   MTHFD2   MTHFR   PRODH   PYCR1   QDPR   SARDH                                                                                                                                                                                                                                                                                                         | 1.3 | 0.125 |
| chr2p25                                                                       | ACF1   ADAM17   ADI1   ALLC   COLEC11   DYNC2L1   E2F6   GREB1   HPCAL1   ID2   ITGB1BP1   KXN1   KLF11   MYT1L   NOL10   NTSR2   ODC1   PDIA6   POLC3   PXDN   RASGRP3   RNASEH1   RP57   RRM2   RSAD2   SH3YL1   SNTG2   SOX11   TAF1B   TPO1   TRIB2   TSSC1   TTC15   YWHAQ                                                                                         | 1.3 | 0.375 |
| RHO_GTPASE_ACTIVATOR_ACTIVITY                                                 | ARHGAP10   ARHGAP29   ARHGAP4   ARHGAP5   ARHGEF10L   CDC42EP2   DOCK4   GMIP   MYO9B   OPHN1   RALBP1   SOS1   THY1                                                                                                                                                                                                                                                    | 1.3 | 0.25  |
| UBIQUITIN_BINDING                                                             | BCL10   CITA   DZIP3   NUP62   SIRT2   SQSTM1   TOM1L1   TOP2A   TSG101   UBE2N   UCHL1                                                                                                                                                                                                                                                                                 | 1.3 | 0.375 |
| PID_ATM_PATHWAY                                                               | ABL1   ATM   BID   BLM   BRCA1   CDC25A   CDC25C   CHEK2   CTBP1   DCLRE1C   H2AFX   MDC1   MDM2   MRE11A   NBN   RAD17   RAD50   RAD9A   RBBP8   RNFB   SMC1A   SMC3   TERF2   TOP3A   TP53BP1   TRIM28   UBE2N   XRC4   YWHAB                                                                                                                                         | 1.3 | 0.375 |
| ST_ADRENERGIC                                                                 | AKT1   APC   AR   ASAH1   BRAF   CAMP   CCL13   CCL15   CCL16   CFB   DAG1   EGFR   GAST   GNA11   GNA15   GNAI1   GNAQ   ITPKA   ITPKB   ITPR1   ITPR2   ITPR3   KCNJ3   KCNJ5   KCNJ9   MAPK1   MAPK10   MAPK14   PHKA2   PIK3CA   PIK3CD   PIK3R1   PITX2   PTX3   RAF1   SRC                                                                                        | 1.3 | 0.25  |
| MYLLYGANGAS_AMPLIFICATION_HOT_SPOT_3                                          | BLM   NTRK3   PML   TCF12                                                                                                                                                                                                                                                                                                                                               | 1.3 | 0.5   |
| GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_YELLOW_DN                       | B4GALT5   C22orf29   C5orf13   CCDC85B   GEMIN4   PCTP   PIK3R2   PML   RGL1   RGS3   SLC30A1   TMEM50B                                                                                                                                                                                                                                                                 | 1.3 | 0.25  |
| BIOCARTA_RAB_PATHWAY                                                          | ACTA1   RAB11A   RAB1A   RAB27A   RAB3A   RAB5A   RAB6A   RAB8A   RAB9A                                                                                                                                                                                                                                                                                                 | 1.3 | 0.375 |
| PLASARI_NFIC_TARGETS_BASAL_DN                                                 | AHR   ENPEP   EPHA3   EPHB2   FLU1   IGF8P6   INSIG1   LSS   MEOX1   MFAP4   NOV   PDGFA   RBP1   RPL39L   SLIT2                                                                                                                                                                                                                                                        | 1.3 | 0.375 |
| chr12q15                                                                      | CPM   CPSE6   DYRK2   FRS2   HMGGA2   IL22   IL26   KCNM84   LVZ   MDM1   PHLDA1   PPP1R12A   PSMC6   PTPR   PTPRR   RAB21   SLC35E3   TBC1D15   TMEM19   TRHDE                                                                                                                                                                                                         | 1.3 | 0.375 |
| chr11q24                                                                      | APLP2   C11orf63   CCDC15   CHEK1   CRTAM   DCPS   DDX25   FEZ1   FLI1   KCNJ1   KCNJ5   MMP27   NFRKB   NRGN   PKNOX2   PUS3   ROBO3   ROBO4   SCN3B   SPA17   SRPR   ST14                                                                                                                                                                                             | 1.3 | 0.375 |
| DETECTION_OF_CHEMICAL_STIMULUS                                                | CASR   GCK   KCNP1   KCNP2   KCNM2   KCNM8B   KCNM8A   RTP4   STIM1   SYT1   TAS2R14   TAS2R16   UGT2A1                                                                                                                                                                                                                                                                 | 1.3 | 0.25  |
| SINGLE_STRANDED_RNA_BINDING                                                   | ADAR2   ATXN1   HNRPDL   PABPC1   PABPC3   PABPC4   TIA1   TLR7   TLR8   ZFP36                                                                                                                                                                                                                                                                                          | 1.3 | 0.375 |
| ATP_DEPENDENT_RNA_HELICASE_ACTIVITY                                           | DDX18   DDX21   DDX23   DDX25   DDX3X   DDX43   DDX56   DHX38   DHX8   SKIVL2   UPF1                                                                                                                                                                                                                                                                                    | 1.3 | 0.25  |
| REACTOME_SLP_DEPENDENT_PROCESSING_OF_REPLICATION_DEPENDENT_HISTONE_PRE_MRNA   | NCBP1   NCBP2   SLPB   SNRBP   SNRPD3   SNRPE   SNRPF   SNRPG   ZNF473                                                                                                                                                                                                                                                                                                  | 1.3 | 0.375 |
| SUH_COEXPRESSED_WITH_ID1_AND_ID2_UP                                           | ATF5   D0IT1   DNAJB1   EXOSC4   GABARAPL1   GAD45B   ID1   ID2   ID28   NDRG1   PLAU   RAB20   S100A6   SH2D3C   SQSTM1                                                                                                                                                                                                                                                | 1.3 | 0.375 |
| ACTIVATION_OF_IMMUNE_RESPONSE                                                 | C2   CD79A   CFHR1   FYN   IKBKG   KRT1   LAT2   MALT1   MBL2   PTPRC   THY1   TRAF6   TRAT1   UBE2N                                                                                                                                                                                                                                                                    | 1.3 | 0.375 |
| REACTOME_HS_GAG_DEGRADATION                                                   | GLB1   GPC3   GPC4   GPCS   GPC6   GUSB   HPSE   HPSE2   HSPG2   IDS   IDUA   NAGLU   SDC1   SDC3   SDC4   SGSH                                                                                                                                                                                                                                                         | 1.3 | 0.375 |
| SEMBA_FHIT_TARGETS_UP                                                         | ATXN1   COL1A1   HSPD1   IFI44L   LY96   OAS1   SPHK1   ULBP2                                                                                                                                                                                                                                                                                                           | 1.3 | 0.375 |
| REGULATION_OF_RHO_PROTEIN_SIGNAL_TRANSDUCTION                                 | ARF6   FGD1   FGD2   FGD6   RAC1   RALBP1   TSC1                                                                                                                                                                                                                                                                                                                        | 1.3 | 0.375 |
| PML_BODY                                                                      | CHEK2   ELF4   ISG20   LRCH4   PML   R81   RPA1   RPAIN   SP100   SPTBN4   TOPBP1   UBE2I   ZBTB16                                                                                                                                                                                                                                                                      | 1.3 | 0.375 |
| DEFENSE_RESPONSE_TO_BACTERIUM                                                 | AZU1   CAMP   CFP   DMBT1   IL12A   LALBA   PGLYRP1   PGLYRP4   S100A7   SPN   STAB1   STAB2   TLR3   TLR6                                                                                                                                                                                                                                                              | 1.3 | 0.25  |
| APOPTOTIC_NUCLEAR_CHANGES                                                     | ACIN1   BAX   BINP3   CASP3   CDKN2A   CIDEA   CYCS   DFFA   DFFB   FOXL2   MOAP1   NDUFA13   PPT1   SOD1   TOP2A   TPDS2L1                                                                                                                                                                                                                                             | 1.3 | 0.5   |
| BIOCARTA_IL22BP_PATHWAY                                                       | IL10RA   IL22   IL22RA1   JAK1   JAK2   JAK3   SOCS3   STAT1   STAT2   STAT3   STAT4   STAT5A   STAT5B   STAT6   TYK2                                                                                                                                                                                                                                                   | 1.3 | 0.375 |
| NADELLA_PRKARIA_TARGETS_UP                                                    | CDH1   CDH3   CDH4   SNAI1   TJP1   TRIM28   TWIST1                                                                                                                                                                                                                                                                                                                     | 1.3 | 0.25  |
| REGULATION_OF_JAK_STAT_CASCADE                                                | CLCF1   HCL1   HGS   IL12A   LYN   NF2   SOCS1                                                                                                                                                                                                                                                                                                                          | 1.3 | 0.25  |
| chr1p22                                                                       | ABCA4   ABCD3   ARHGAP29   BCAR3   BCL10   BRDT   CDC7   CLCA1   CNN3   CSDE1   CTBS   CYR61   ODAH1   DNASE2B   DNTTIP2   DPYD   DR1   EVI5   F3   FAM69A   FNBP1   GBP1   GBP2   GF1   GLMN   GNG5   GTF2B   IFI44L   KIAA1107   LMO4   LOC339524   LRRCB8   LRRCB9   MCOLN3   MTF2   PALMD   PGM1   PKN2   RPL5   RWDD3   SH3GLB1   SNORA66   SPATA1   SSX2IP   TTF2 | 1.3 | 0.375 |
| REACTOME_SIGNALING_BY_CONSTITUTIVELY_ACTIVE_EGFR                              | CBL   CDC37   EGF   EGFR   GAB1   GRB2   HRAS   HSP90AA1   KRAS   NRAS   PIK3CA   PIK3R1   PLCG1   RPS27A   SHC1   SOS1   UBA52                                                                                                                                                                                                                                         | 1.3 | 0.125 |
| SMALL_CONJUGATING_PROTEIN_BINDING                                             | BCL10   CITA   DZIP3   NUP62   PML   SIRT2   SQSTM1   TOM1L1   TOP2A   TSG101   UBE2N   UCHL1                                                                                                                                                                                                                                                                           | 1.3 | 0.375 |
| chr3q22                                                                       | ANAPC1   ARMC8   ATP1B3   ATR   C3orf36   CCLR1   CDV3   CEP63   CEP70   DNAJC13   MINA   MRAS   NEK11   PIK3CB   PIK3R4   PPP2R3A   RASA2   RN7F   RYK   SOX14   SRPRB   STAG1   TMEM22   TOPBP1   TRPC1                                                                                                                                                               | 1.3 | 0.25  |
| REACTOME_SYNTHESIS_OF_PIP3_AT_THE_LATE_ENDOSOME_MEMBRANE                      | MTM1   MTMR2   MTMR4   MTMR7   PIK3C2A   PIK3C3   PIK3R4   VAC14                                                                                                                                                                                                                                                                                                        | 1.3 | 0.25  |
| MONOSACCHARIDE_BINDING                                                        | ACR   CD207   CD209   COLEC10   GALK1   GCK   LGAAL9   LMAN1   LMAN2L   MRC1   UPK1A                                                                                                                                                                                                                                                                                    | 1.3 | 0.375 |
| OXIDOREDUCTASE_ACTIVITY_ACTING_ON_NADH_OR_NADPH                               | CRYZL2   CYB5L1   CYB5R2   CYB5R3   CYB5R4   DUOX2   ECIS7   GMPR   NDUFA13   NDUFA9   NDUFS1   NDUFS2   NDUFS3   NDUFS4   NDUFS7   NDUFS8   NNT   NOX1   NOX4   NOX5   NQO1   NQO2   POR   PRDX3                                                                                                                                                                       | 1.3 | 0.375 |
| KOINUMA_COLON_CANCER_MSI_DN                                                   | ANP32E   CTNNA1   CXCL10   CXCL9   ERH   HLA-DMB   HMOX6   LAP3   PSMB5   TPBG   TYMS                                                                                                                                                                                                                                                                                   | 1.3 | 0.125 |
| PID_CXCR3PATHWAY                                                              | AKT1   ARRB1   CCL11   CXCL10   CXCL11   CXCL13   CXCL9   CXCR3   DNMT1   GNAI1   GNAI2   GNAI3   GNAU1   GNAZ   GNB1   HRAS   ITGAL   ITGB2   KRAS   MAP2K1   MAP2K2   MAP2K3   MAP2K6   MAPK1   MAPK11   MAPK14   MAPK3   MAPKAP1   NRAS   PDPK1   PF4   PIK3CA   PIK3CB   PIK3CD   PIK3R1   PIK3R2   PIK3R3   RAF1   SRC                                             | 1.3 | 0.125 |
| V\$AHRRANT_02                                                                 | AMPD2   ATOH1   CBX6   CNTN6   EGR1   HDAC3   HES1   HINT1   MAPRE1   MEIS2   NRF1   SORCS3   SUPT16H                                                                                                                                                                                                                                                                   | 1.3 | 0.5   |
| INSULIN_RECEPTOR_SIGNALING_PATHWAY                                            | AKT1   AP3S1   BAIAP2   FOXO2   GAB1   GRB10   GRB2   IGF1R   IGF2   INSR   IRS1   PDPK1   PIK3R1   PIK3R3   SOS1   SORBS1                                                                                                                                                                                                                                              | 1.3 | 0.25  |
| DAVICIONI_RHABDOMYOSARCOMA_PAX_FOXO1_FUSION_DN                                | ATP2B4   COL11A1   FGF9   GLRX   IGF8P3   MARCKS   MXOD1   MYLFP   OLFML3   PLK2   SOX11   TCF4   ZFP36L2                                                                                                                                                                                                                                                               | 1.3 | 0.375 |
| REACTOME_SYNTHESIS_OF_BILE_ACIDS_AND_BILE_SALTS_VIA_7ALPHA_HYDROXYCHOLESTEROL | ABCB11   ACOT8   ACODX   AKR1C4   AKR1D1   AMACR   BAAT   CYP27A1   CYP7A1   HSD17B4   SCP2   SLC27A2   SLC27A5                                                                                                                                                                                                                                                         | 1.3 | 0.25  |
| PETRETTO_BLOOD_PRESSURE_UP                                                    | CHIT1   KHSRP   KPNAB6   MAP1A   MOC53   MUSK   MYO1E   NTRK1   NXPH4   TMEM111   ZBTB7A                                                                                                                                                                                                                                                                                | 1.3 | 0.125 |
| LIPID_KINASE_ACTIVITY                                                         | ATM   CERK   PIK3C2A   PIK3C3   PIK3CA   PIK3CB   PIK3CG   PIK3R2   PIK3R3   SPHK1                                                                                                                                                                                                                                                                                      | 1.2 | 0.25  |
| REACTOME_TRIGLYCERIDE_BIOSYNTHESIS                                            | ACACA   ACLY   ACSL1   ACSL3   ACSL4   ACSL5   ACSL6   AGPAT1   AGPAT2   AGPAT3   AGPAT4   AGPAT5   DGAT1   ELOVL1   ELOVL2   ELOVL4   ELOVL5   ELOVL6   FASN   GK   GPD1   GPDL1   HSD17B12   LPIN1   LPIN2   SLC25A1                                                                                                                                                  | 1.2 | 0.125 |
| BIOCARTA_TRKA_PATHWAY                                                         | AKT1   GRB2   HRAS   NTRK1   PIK3CA   PIK3R1   PLCG1   PRKCA   SHC1   SOS1                                                                                                                                                                                                                                                                                              | 1.2 | 0.375 |
| GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_MAGENTA_UP                      | ABL2   BGM   BTN2A1   DNAJA1   FOSL2   GABARAPL1   HSPA8   KIAA0232   KLF6   MAFF   MAFG   NUP153   PPP1R15A   PRDM4   PTGS2   PTP4A1   RIT1   TNPO1                                                                                                                                                                                                                    | 1.2 | 0.25  |
| chr8q13                                                                       | ARGGEF1   C8orf44   COPPS   CRH   CSPP1   EYA1   GDAP1   GEM   KCNB2   LACTB2   LY96   LYN   MSC   MTRF1   NCOA2   PI15   RPL7   SLC05A1   STAU2   SULF1   TCEB1   TERF1   TRAM1   TRPA1   VCPBP1   ZBTB10                                                                                                                                                              | 1.2 | 0.25  |
| NEGATIVE_REGULATION_OF_CYTOKINE_BIOSYNTHETIC_PROCESS                          | BCL3   FOXP3   GHSR   IL6   INHA   INHBA   INHBB   SFTPD   SIGIRR                                                                                                                                                                                                                                                                                                       | 1.2 | 0.25  |
| GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_RED_UP                          | AT4   CEBPB   CEBPG   CHAC1   DDIT4   DDX10   LR8   MTHFD2   SLC7A5   STC2   STX11   XBP1                                                                                                                                                                                                                                                                               | 1.2 | 0.375 |
| THYROID_HORMONE_RECEPTOR_BINDING                                              | JMJD1C   MED12   MED4   NCOA6   NSD1   NUP62   OASL   THRAP3   TRIP12   ZNHIT3                                                                                                                                                                                                                                                                                          | 1.2 | 0.375 |
| WEBER_METHYLATED_HCP_IN_SPERM_UP                                              | CATSPER2   DAZL   DKKL1   GAPDH5   LPIN1   ODF2   PHF7   SPACA1   TCCP1   TPTE   TRPM4                                                                                                                                                                                                                                                                                  | 1.2 | 0.375 |
| REACTOME_SEMA4D_INDUCED_CELL_MIGRATION_AND_GROWTH_CONE_COLLAPSE               | ARGGEF12   ARGHEF12   CDC42   ERBB2   LMUK1   LMUK2   MYH10   MYH11   MYH14   MYH9   MYL6   MYL9   PLXNB1   RAC1   RAC2   RHOA   RHOB   RHOC   RHOG   RND1   ROCK1   ROCK2   SEMA4D                                                                                                                                                                                     | 1.2 | 0.25  |
| PID_HIVNEFPATHWAY                                                             | APAF1   BAG4   BCL2   BID   BIRC3   CASP2   CASP3   CASP6   CASP7   CASP8   CASP9   CD247   CFLAR   CHUK   CRADD   CYCS   DAXX   DFFA   DFFB   FADD   FAS   FASLG   MAP2K7   MAP3K14   MAP3K5   MAPK8   NFKB1   NFKBIA   RELA   RIPK1   TNF   TNFRSF1A   TRADD   TRAF1   TRAF2                                                                                          | 1.2 | 0.125 |
| ACTIVATION_OF_JNK_ACTIVITY                                                    | DAXX   MAP3K10   MAP3K11   MAP3K2   MAP3K5   MAP3K6   MAP3K9   MAP4K1   MAP4K5   MDM1   MDMIC   PKN1   PTPBLAD1   ZAK                                                                                                                                                                                                                                                   | 1.2 | 0.25  |
| KEGG_REGULATION_OF_AUTOPHAGY                                                  | ATG12   ATG3   ATG4A   ATG4B   ATG5   ATG7   BECN1   GABARAP   GABARAPL1   GABARAPL2   IFNA1   IFNA10   IFNA13   IFNA14   IFNA16   IFNA17   IFNA2   IFNA21   IFNA4   IFNA5   IFNA6   IFNA7   IFNA8   IFNG   INS   PIK3C3   PIK3R4   PRKAA1   PRKAA2   ULK1   ULK2                                                                                                       | 1.2 | 0.125 |
| chr8p23                                                                       | AGPAT5   ANGPT2   ARHGEF10   BLK   CLNB   CTSH   DEFA1   DEFA3   DEFA4   DEFB1   DLGAP2   EGR3   ERICH1   FAM86B1   FDF1   GATA4   KBTBD11   LOC157627   LONRF1   MCPH1   MFHAS1   MSRA   MTMR9   MYOM2   NAT1   TNKS                                                                                                                                                   | 1.2 | 0.25  |

|                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |     |       |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| G1_PHASE_OF_MITOTIC_CELL_CYCLE                                    | CDC23   CDC25C   CDC6   CDK10   CDK2   CDK6   CDKN1C   E2F1   GF1B   MAP3K11   TAF1   TBRG4                                                                                                                                                                                                                                                                                                                                                                                 | 1.2 | 0.375 |
| MITOTIC_CELL_CYCLE_CHECKPOINT                                     | ATM   BUB1   BUB1B   CCNA2   CDKN2B   CHFR   GML   KNTC1   MAD2L1   NBN   PCBP4   PML   RAD17   RINT1   TGFBI   TRIAP1   TTK   ZW10   ZWINT                                                                                                                                                                                                                                                                                                                                 | 1.2 | 0.5   |
| BIOCARTA_VITC_PATHWAY                                             | COL4A1   COL4A2   COL4A3   COL4A4   COL4A5   COL4A6   P4HB   SLC23A2   SLC2A1   SLC2A3                                                                                                                                                                                                                                                                                                                                                                                      | 1.2 | 0.375 |
| HOLLEMAN_PREDNISOLONE_RESISTANCE_B_ALL_DN                         | BLVRB   CA4   CD69   CNTNS   GAPDH   MAFF   MATN1   MCL1   PCDH9   PVRL2   STOM                                                                                                                                                                                                                                                                                                                                                                                             | 1.2 | 0.25  |
| SUZUKI_RESPONSE_TO_TSA_AND_DECITABINE_1A                          | ANGPT2   CDKN2A   COL6A3   CYP4B1   DNASE1L3   FOLH1   KYNU   LAMA2   LAMA3   LPHN2   PCDH8   PTGS2   PTPRM   S100A10   SEZ6L   SFRP1   SNRPN   TIMP2   TIMP3   XCL1                                                                                                                                                                                                                                                                                                        | 1.2 | 0.375 |
| SCHAEFFER_PROSTATE_DEVELOPMENT_AND_CANCER_BOX6_UP                 | ALDH1A1   ASPN   DAB2   FBLN1   LDB2   PAPPA   SPARCL1                                                                                                                                                                                                                                                                                                                                                                                                                      | 1.2 | 0.5   |
| PID_ARF_3PATHWAY                                                  | AP2M1   ARF1   ARFGAP1   ARFIP2   CD4   CLTA   CLTB   COPA   GBF1   GGA3   GOSR2   KDELR1   PIP5K1A   PLD2   RAC1                                                                                                                                                                                                                                                                                                                                                           | 1.2 | 0.25  |
| SPUCEOSOME_ASSEMBLY                                               | CRNK1   SF1   SF3A1   SF3A2   SF3A3   SNRPD1   SNRPD2   SRPK2   TXNL4A   USP39                                                                                                                                                                                                                                                                                                                                                                                              | 1.2 | 0.25  |
| BIOCARTA_VDR_PATHWAY                                              | CARM1   CREBBP   EP300   HDAC1   NCOA1   NCOA2   NCOA3   NCOR1   RXRA   TSC2                                                                                                                                                                                                                                                                                                                                                                                                | 1.2 | 0.125 |
| INTERLEUKIN_2_PRODUCTION                                          | CD28   FOXP3   GLMN   IL18   IRF4   MALTI   MAP3K7   SFTPD   TRAF2   TRAF6                                                                                                                                                                                                                                                                                                                                                                                                  | 1.2 | 0.125 |
| HOEGERKORP_CD44_TARGETS_TEMPORAL_UP                               | CDC85B   FAS   GPR31   KDELR1   MME   MPP3   NFKB2   PNMT   PRPF18   VGLL4   XIST                                                                                                                                                                                                                                                                                                                                                                                           | 1.2 | 0.125 |
| RESPONSE_TO_EXTRACELLULAR_STIMULUS                                | ALB   ASN5   CCKAR   CDKN1A   CDKN2B   CDKN2D   ENPP1   ENSA   FADS1   GCGR   GHSR   GIPR   GNAI2   LEP   NPY   NUAQ2   OGT   PPARG   RPS19   SREBF1   SST   SSTR1   SSTR2   STC1   STC2   TP53   TULP4                                                                                                                                                                                                                                                                     | 1.2 | 0.375 |
| REACTOME_CS_DS_DEGRADATION                                        | ARSB   BCAN   BGN   CSPG4   DCN   HEXA   HEXB   HYAL1   IDS   IDUA                                                                                                                                                                                                                                                                                                                                                                                                          | 1.2 | 0.125 |
| DAIRKEE_CANCER_PRONE_RESPONSE_E2                                  | ABCC4   ACTC1   ATP2A1   ATP2B4   CNR1   DAAM2   DUT   EIF4A2   EML2   ERCC2   FST   HADHA   HDH3A   LDB3   LMNB1   MYLPF   MYOM2   NDUFB6   PDK2   PPFIA4   PPP2CB   RYR1   SGGG   SLC1A5   TNNT2   TSC2                                                                                                                                                                                                                                                                   | 1.2 | 0.25  |
| chr20q12                                                          | ACTR5   CD40   GDAPI1L   HNF4A   IFTS2   JPH2   KCNK15   KCNS1   MMP9   NCOA3   PI3   PIGT   PLCG1   PTPRT   RPN2   SDC4   SEMG1   SEMG2   SLC13A3   SLC2A10   SLP1   SPINLW1   SRC   TGM2   TNNC2   TOP1   WFD2C   WISP2   ZHX3                                                                                                                                                                                                                                            | 1.2 | 0.375 |
| PLASARI_TGFB1_TARGETS_1HR_UP                                      | CDK5R1   CYR61   EGR2   EGR3   FBLN2   FGF18   GADD45B   GADD45G   HBEFG   HES1   ID1   ID2   ID4   IER3   IER5   IL6   JUNB   KLF10   LIF   MAP3K14   NR4A1   NUAQ2   PTGS2   RASL11B   SERPINE1   SLC20A1   SMAD7   SNAI1   SP5B1                                                                                                                                                                                                                                         | 1.2 | 0.125 |
| GRANDVAUX_IRF3_TARGETS_DN                                         | ADAM9   ANXA4   CD1B   CD58   CDH11   FGF1   GEM   MFAP5   PAH   PIK3C3   PLAG1   PPP2R3A   RASA1   RPS7   SORL1   STK17B   TIMP3   TMPO   TYRP1                                                                                                                                                                                                                                                                                                                            | 1.2 | 0.25  |
| HORMONE_BINDING                                                   | ADIPOR1   ADIPOR2   ADRB2   ADRB3   ALDH1A1   AMHR2   CALCR   INSR   MC2R   NPR1   NRD1   PIK3R1   SHBG                                                                                                                                                                                                                                                                                                                                                                     | 1.2 | 0.25  |
| HOLLEMAN_DAUINORUBICIN_B_ALL_UP                                   | ATP1A1   CDC37   CHD4   CNTNS   EGR1   EIF2B4   KCNN4   LARP1   PCDH9   THBD                                                                                                                                                                                                                                                                                                                                                                                                | 1.2 | 0.375 |
| REGULATION_OF_ENDOTHELIAL_CELL_PROLIFERATION                      | AGGF1   ANG   ATP1B   CDH13   NF1   SCG2   TNFSF12   TNFSF15                                                                                                                                                                                                                                                                                                                                                                                                                | 1.2 | 0.5   |
| PID_AR_PATHWAY                                                    | AKT1   AR   BRCA1   CARM1   CASP8   CCND1   CCND3   CDK6   CDKN2A   CTDSP2   CTDSP2   CTNNB1   FH2   FKBP4   GSN   HIP1   KLK2   KLK3   MAK   NCOA2   NCOA4   NCOA6   NKX3-1   NRIP1   PA2G4   PAWR   PELP1   PIA51   PIA53   PIA54   PRDX1   PRKDC   PTK2B   RANBP9   RPS6KA3   SNURF   SRF   SVIL   TCF4   TGFBI1   TMF1   TMPPRSS2   UBE2I   UBE3A   VAV3   XRC5   XRC6   ZNF318                                                                                         | 1.2 | 0.375 |
| PHOSPHATASE_INHIBITOR_ACTIVITY                                    | ANP32E   LMTK2   PPME1   PPP1R1A   PPP1R2   PPP1R8   PTN   SAG   SET   TESC                                                                                                                                                                                                                                                                                                                                                                                                 | 1.2 | 0.125 |
| ELVIDGE_HIF2A_TARGETS_UP                                          | JAK2   KIAA0317   LOX   OSTM1   RET   SORL1                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.2 | 0.25  |
| REACTOME_ACTIVATED_AMPK_STIMULATES_FATTY_ACID_OXIDATION_IN_MUSCLE | ACACB   ACSL1   CAB39   CAB39L   CPT1A   CPT1B   CPT2   PRKAA1   PRKAA2   PRKAB1   PRKAB2   PRKAG1   PRKAG2   SLC25A20   STK11                                                                                                                                                                                                                                                                                                                                              | 1.2 | 0.125 |
| VERRECCHIA_RESPONSE_TO_TGFB1_C5                                   | ARHGAP1   CTNNA1   CTNNB1   DDR1   DVL3   EFNA5   EPHA2   FGD1   ILK   ITGA4   ITGA5   ITGB3   ITGB8   MMP11   MMP2   NME4   RHOD   SEMA3F   SMO   TNFRSF1A   WNT8B                                                                                                                                                                                                                                                                                                         | 1.2 | 0.375 |
| DORN_ADENOVIRUS_INFECTION_48HR_UP                                 | ANPEP   ATF4   BACE2   ELF3   FUBP3   HIST1H2BK   IFIT2   MYC   NFKB2   PDE2A   RASL12   SH3BP5   TOP2A   TSC22D3                                                                                                                                                                                                                                                                                                                                                           | 1.2 | 0.25  |
| ZEMBUTSU_SENSITIVITY_TO_FLUOROURACIL                              | ADAMTS2   ATF2   CTDSP2   FARP1   GCNT3   HGFCF   MAGEA6   PIK3CB   PRPS1   RPS6KB1   TMEM98   TSP0                                                                                                                                                                                                                                                                                                                                                                         | 1.2 | 0.375 |
| PID_LPA4_PATHWAY                                                  | ADCY1   ADCY2   ADCY3   ADCY6   ADCY7   ADCY8   ADCY9   CREB1   GNA1   PRKACA   PRKCE   RPS6KA5                                                                                                                                                                                                                                                                                                                                                                             | 1.2 | 0.375 |
| PETROVA_PROX1_TARGETS_UP                                          | BDTB3   BUB1B   CCNE2   CDKN1C   CH25H   CREM   CSRP2   DSP   EPB49   FLT4   GCH1   GINS1   GPRC58   HMGB2   MCM6   MYBL2   NR2F1   PDUM3   PEG10   PYGL   SMC4   TBXA2R   TK1   TOP2A   UBE2C                                                                                                                                                                                                                                                                              | 1.2 | 0.375 |
| MRNA_SPLICE_SITE_SELECTION                                        | SF1   SF3A1   SF3A2   SF3A3                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.2 | 0.375 |
| chr8p11                                                           | ADAM18   ADAM2   ADAM9   AP3M2   ASH2L   BAG4   BRF2   C8orf4   CALB1   CHRN8B   DDHD2   DKK4   GINS4   GOLGA7   GPR124   HGSNAT   IKKB   LSM1   PLEKHA2   PROSC   PURG   RAB11FIP1   RNFI70   SFRP1   STAR   TAC1   THAP1   WHSC1L1   ZMAT4                                                                                                                                                                                                                                | 1.2 | 0.375 |
| HEIDENBLAD_AMPLICON_8Q24_UP                                       | ABL1   AHSA1   ALAD   ALKBH1   BAG5   CDC25C   DNASE1   DYNC1H1   GTT2H2   HIST1H2AM   HLF   IFRD2   KIF22   MAP4   MAPKAPK3   MED6   MGAT1   MYO6   NPLOC4   PDK1   SLC16A1   SMN2   TMEM38B   TROAP   UNC13B                                                                                                                                                                                                                                                              | 1.2 | 0.25  |
| SA_PROGRAMMED_CELL_DEATH                                          | APL1   BAD   BAK1   BAX   BCL10   BCL2   BCL2L1   BID   CASP8A2   CASP9   CE51                                                                                                                                                                                                                                                                                                                                                                                              | 1.2 | 0.125 |
| POSITIVE_REGULATION_OF_INK_ACTIVITY                               | DAXX   MAP3K10   MAP3K13   MAP3K2   MAP3K5   MAP3K6   MAP3K9   MAP4K1   MAP4K5   MDF1   MDFIC   PAK1   PKN1   PTLAD1   TLR6   ZAK                                                                                                                                                                                                                                                                                                                                           | 1.2 | 0.375 |
| BIOCARTA_CELLCYCLE_PATHWAY                                        | CCNA1   CCNB1   CCND1   CCND2   CCND3   CCNE1   CCNH   CDC25A   CDK2   CDK4   CDK6   CDK7   CDKN1A   CDKN1B   CDKN2A   CDKN2B   CDKN2C   CDKN2D   E2F1   RB1   TDP1                                                                                                                                                                                                                                                                                                         | 1.2 | 0.375 |
| chr4q24                                                           | BDH2   CENPE   GSTCD   INTS12   MTTT   NFKB1   PAPS51   UBE2D3                                                                                                                                                                                                                                                                                                                                                                                                              | 1.2 | 0.375 |
| REACTOME_SIGNALING_TO_P38_VIA_RIT_AND_RIN                         | BRAF   HRAS   KRAS   MAP2K1   MAP2K2   MAPK1   MAPK3   NRAS   NTRK1   RAF1   RIT1   RIT2   YWHAB                                                                                                                                                                                                                                                                                                                                                                            | 1.2 | 0.25  |
| chr1q42                                                           | ACTA1   ACTN2   AGT   ARF1   ARID4B   BPNT1   C1orf35   C1orf95   CAPN9   CDC42BP4   CNIH3   CNIH4   COG2   DISC1   EGLN1   EPHX1   EXO11B   EXO1   FBXO28   FH   GNG4   GNPAT   GPR137B   H3F3A   HIST3H2A   HIST3H3   ITPKB   JMJD4   KCNK1   KMO   LBR   LEFTY1   LEFTY2   LYST   NUP133   OBSCN   PCNXL2   PGDB5   RAB4A   RBM34   RNF187   RYR2   SPHAR   SRP9   TAF1A   TAF5L   TARBP1   TBCE   TMEM63A   TOMM20   TP53BP2   TRIM17   TSNAK   TTC13   UBE2G1   WDR26  | 1.2 | 0.25  |
| BIOCARTA_CACAM_PATHWAY                                            | CALM1   CALM2   CALM3   CAMK1   CAMK1G   CAMK2A   CAMK2B   CAMK2D   CAMK2G   CAMK4   CAMK2K   CREB1                                                                                                                                                                                                                                                                                                                                                                         | 1.2 | 0.375 |
| JOHNSTONE_PARVB_TARGETS_1_UP                                      | CT51   KRT7   PARVB   PEA15   SERPINE1                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1.2 | 0.375 |
| KEGG_NICOTINATE_AND_NICOTINAMIDE_METABOLISM                       | AOX1   BST1   C9orf95   CD38   ENPP1   ENPP3   NADK   NADSYN1   NMNAT2   NNMT   NNT   NTSC   NTSC2   NTSE   NT5M   QPRT                                                                                                                                                                                                                                                                                                                                                     | 1.2 | 0.375 |
| BIOCARTA_CXCR4_PATHWAY                                            | CRK   CXCL12   CXCR4   GNAI1   GNAQ   GNB1   GNGT1   HRAS   MAP2K1   MAPK1   MAPK3   NFKB1   PIK3C2G   PIK3CA   PIK3R1   PLCG1   PRKCA   PTK2   PTK2B   PXN   RAF1   RELA                                                                                                                                                                                                                                                                                                   | 1.2 | 0.125 |
| MATZUK_STEROIDOGENESIS                                            | ARNTL   CYP11A1   CYP19A1   DHCR24   NR5A2   STAR   VDR                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.2 | 0.375 |
| XU_RESPONSE_TO_TRETINOIN_DN                                       | ANXA2   FUBP3   GARS   MAD1L1   NR2F2   NTHL1   PPP3CA   RAP2A   TPM4   UBE3A                                                                                                                                                                                                                                                                                                                                                                                               | 1.2 | 0.375 |
| MODULE_573                                                        | AKR1C2   ALOXAP   AMBP   CDKN1A   CDKN1C   CDKN2A   CDKN2C   CDKN3   GADD45A   GMNN   HSP90B1   LCN2   MYC   PP8P   RLBP1   SLC25A16   SLC2A3   SLC2A5   TBRG4   TNC   UCP1   UCP2   VWF                                                                                                                                                                                                                                                                                    | 1.2 | 0.375 |
| BERENJENO_TRANSFORMED_BY_RHOA_FOREVER_DN                          | AKAP12   AMOT   ANKRD1   ANXA3   BNC1   CHD1   COL3A1   CXCL1   ECT2   EPHA2   EREG   F2R   FLNB   GIA1   HBEFG   HSPH1   IER3   LRFRIP1   MADP1   MTMR10   PHLDA1   PLAUR   POSTN   PTGS2   SDPR   TNK2   TOM1L1                                                                                                                                                                                                                                                           | 1.2 | 0.125 |
| BRACHAT_RESPONSE_TO_CAMPTOTHECIN_UP                               | BTG2   C1R   C9orf116   C9orf5   CARHSP1   CBS   CCNG1   CD53   CDKN1A   E124   GRB10   H2AFJ   LPIN1   LRRC2   PMM1   TOB1   TPP1   TRAFD1   TXNIP   ULK1   ZFP36L1                                                                                                                                                                                                                                                                                                        | 1.2 | 0.125 |
| MODULE_455                                                        | ABCC2   ACP5   ANXA9   CABP5   COLEC12   COQ4   CSTA   DYNC2H1   KRT17   KRT19   MAPK8IP2   MEF2C   MMP25   MSI1   MX2   MXI1   NRCAAM   PACS2   RAP1GAP   RUNX3   SPON1   SYT13   TACSTD2   TPSAB1   UNC13A                                                                                                                                                                                                                                                                | 1.2 | 0.375 |
| IIZUKA_LIVER_CANCER_PROGRESSION_I0_L1_DN                          | ARPC2   CD74   COX411   CST3   CTNNA1   CTSB   CYBA   HLA-A   HLA-DPB1   IFI30   KARS   PRCP   RHOA   RPS19   SRP72   SSR4   TSP0   VDCA3                                                                                                                                                                                                                                                                                                                                   | 1.2 | 0.5   |
| BEGUM_TARGETS_OF_PAX3_FOXO1_FUSION_AND_PAX3                       | FN1   I04   JAG1   NR2F1   PSTPIP2   PTHLH   TOX                                                                                                                                                                                                                                                                                                                                                                                                                            | 1.2 | 0.5   |
| CHAPERONE_BINDING                                                 | AHSA1   DNAJB6   HSPD1   HSPF1   PFDN4   SOD1   TBCA   TBCC   TBDC   TBCE   TSC1   VWF                                                                                                                                                                                                                                                                                                                                                                                      | 1.2 | 0.375 |
| GRASEMANN_RETINOBLASTOMA_WITH_6P_AMPLIFICATION                    | ABCF1   CACNA1A   CSNK2B   DEK   E2F3   ELOVL5   LSM2   NUP153   POLR1C   PRR3   RAN   RPS10                                                                                                                                                                                                                                                                                                                                                                                | 1.2 | 0.375 |
| INTRINSIC_TO_GOLGI_MEMBRANE                                       | ATP7A   BINP3   ENTDP4   FIS1   LARGE   MAN1C1   PCSK7   RER1   RHOT1   RHOT2                                                                                                                                                                                                                                                                                                                                                                                               | 1.2 | 0.125 |
| G1_PHASE                                                          | CD23   CDC25C   CD61   CDK10   CDK2   CDK6   CDKN1C   E2F1   GF1B   MAP3K11   RB1   TAF1   TBRG4                                                                                                                                                                                                                                                                                                                                                                            | 1.2 | 0.375 |
| chr2q11                                                           | ACTR1B   AFB3   CHST10   CNGA3   CNMMA4   DUSP2   EDAR   FAHD2A   GPR45   INPP4A   LIPT1   LMAN2L   MAP4K4   RPL31   SEMA4C   SLC20A1   SLC9A2   TMEM127   TMEM131   TSGA10   TXNDC9   ZAP70                                                                                                                                                                                                                                                                                | 1.2 | 0.125 |
| PID_PDGFRAPATHWAY                                                 | CAV1   CAV3   CRK   CRKL   CSNK2A1   ELK1   FOS   GRB2   IFNG   ITGAV   JAK1   JUN   PDGFRA   PIK3CA   PIK3R1   PLCG1   RAPGEF1   SHB   SHC1   SOS1   SRF                                                                                                                                                                                                                                                                                                                   | 1.2 | 0.25  |
| MATZUK_CUMULUS_EXPANSION                                          | AMBP   AREG   BMP15   BMPR1B   EREG   GDF9   PTGER2   PTX3   TNFAIP6                                                                                                                                                                                                                                                                                                                                                                                                        | 1.2 | 0.375 |
| ST_TUMOR_NECROSIS_FACTOR_PATHWAY                                  | BAG4   BIRC2   BIRC3   CASP3   CASP8   CFLAR   FADD   IKBK1   JUN   MAP2K4   MAP3K3   MAP3K7   NFKB1   NFKB2   NFKBIA   NFKBIB   NFKBIE   NFKB1L1   NR2C2   RALBP1   RIPK1   TNF   TNFAIP3   TNFRSF1A   TNFRSF1B   TRADD   TRAF2                                                                                                                                                                                                                                            | 1.2 | 0.25  |
| GROSS_ELK3_TARGETS_UP                                             | ABCG1   AMIGO2   ARRB1   ASS1   BMP4   CAV1   CCND1   CDC14A   CNN2   CPD   CPE   CRYAB   CXCL12   CYR61   EDN1   F2R   GPX1   HCK   MYLIP   NARS2   RAMP2   RRS2   TCF7L1   TMMP2   ZMAT3                                                                                                                                                                                                                                                                                  | 1.2 | 0.125 |
| GAUSSMANN_MLL_AF4_FUSION_TARGETS_D_UP                             | ADCYAP1   ADRA2C   ARNT2   CD302   CD74   CDC14A   CYP2B6   DRD2   EIF4G3   EPHB6   F5   FABP4   FGF9   GPR153   HECW1   KCNA81   LOKL2   LXN   NRP3   PDE6B   PERP   PLA2G7   POPDC3   QPCT   SERPINE2   SSBP2   XPO7                                                                                                                                                                                                                                                      | 1.2 | 0.25  |
| LEE_INTRATHYMIC_T_PROGENITOR                                      | CDK6   CEP70   ET52   FXD2   GPR56   GUCY1A3   GUCY1B3   HIVEP3   HOXA9   IGF1   MEST   NDN   RAB13   RIMS3   RRS2   TLR7   TNFSF4                                                                                                                                                                                                                                                                                                                                          | 1.2 | 0.5   |
| FUNG_IL2_TARGETS_WITH_STATS_BINDING_SITES                         | CCND2   DKC1   IL2RA   LIF   LTA   SOCS2                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1.2 | 0.375 |
| PID_CD8TRCDOWNSTREAMPATHWAY                                       | B2M   BRAF   CD247   CD30   CD3E   CD3G   CD8A   CD8B   EGR1   EGR4   ELK1   FASLG   FOS   FOSL1   GZMB   HLA-A   HRAS   IFNA1   IFNA10   IFNA14   IFNA16   IFNA17   IFNA21   IFNA21   IFNA4   IFNA5   IFNA7   IFNA8   IFNA9   IFNG   IL2   IL2RA   IL2RB   IL2RG   JUN   JUNB   KRAS   MAP2K1   MAP2K2   MAPK1   MAPK3   MAPK8   MAPK9   NFATC1   NFATC3   NRAS   PPP3CA   PPP3CB   PPP3R1   PRF1   PRKCA   PRKCE   PRKCQ   PTPN7   RAF1   STAT4   TNF   TNFRSF4   TNFRSF9 | 1.2 | 0.125 |
| PID_VEGF_VEGFR_PATHWAY                                            | FIGF   FLT1   FLT4   KDR   NRP1   NRP2   PGF   VEGFB   VEGFC                                                                                                                                                                                                                                                                                                                                                                                                                | 1.2 | 0.125 |
| PID_ERBB1_RECEPTOR_PROXIMAL_PATHWAY                               | EGF   EGR1   GAB1   GNAI1   GNAQ3   GRB2   GSN   HRAS   KRAS   MAPK1   MAPK3   NCK1   NCK2   NRAS   PAK1   PIK3CA   PIK3CB   PIK3CD   PIK3R1   PIK3R2   PIK3R3   PIP5K1C   PLCG1   PTK2   PTPN11   PTPN11   PTPN6   RASA1   SHC1   SOS1   SRC   STAT1   STAT3   TNLN   WASL                                                                                                                                                                                                 | 1.2 | 0.25  |
| MODULE_388                                                        | LSM1   NHP2L1   PRPF8   SF3A2   SF3A3   SNRPA   SNRPA1   SNRPB2   SNRPC   SNRPD1   SNRPD2   SNRPD3   SNRPE   SNRPF   SNRPG                                                                                                                                                                                                                                                                                                                                                  | 1.2 | 0.5   |
| MORI_EML6_MYC_LYMPHOMA_BY_ONSET_TIME_DN                           | CBX7   CREB3L2   DEGS1   GAA   HIP1   HSP90B1   HSPA5   IL6ST   ITGB5   KLF6   PTPN22   PVR   SLA   WDR13                                                                                                                                                                                                                                                                                                                                                                   | 1.2 | 0.125 |
| BOQUEST_STEM_CELL_CULTURED_VS_FRESH_DN                            | ADH1B   APOD1   APOE   C3   C7   CD14   CD14   CHL1   CPVL   CXCL14   DPT   FABP4   FOSB   IGF1   ITH5   MYOC   NAALAD2   NTRK2   OGN   OMD   PDGFRL   PPL   PTERGA4   SERPINAS   SOCS3   SPARCL1   WISP2   WNT11                                                                                                                                                                                                                                                           | 1.2 | 0.375 |
| chr4p16                                                           | ABLUM2   ADD1   ADRA2C   C4orf6   CP2   MCP1   CTBP1   CYTL1   D4S234E   DGKG   DRD5   EVC   FGF83   GAK   GRK4   GRPEL1   HGFAC   HMK1   HSS3T1   IDUA   KIAA0232   KLF3   LDB2   LEFT1   LRPA1   MAEA   MAN2B2   MED28   MFS07   MRFAFP11   MSX1   MXD4   MYL5   OR7E35P1   PCGF3   PDE6B   PIGG   RAB28   RGS12   RN4   S100P   SH3BP2   SH3TC1   SLBP   SLC26A1   SLC2A9   SOD3   SPON2   STK32B   STX18   TACC3   TLR6   TNIP2   WDR1   WFS1   WHSC1   WHSC2   ZNF141  | 1.2 | 0.125 |

|                                                                                 |                                                                                                                                                                                                                                                                                                                                                                           |     |       |
|---------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| chr17q22                                                                        | BRIP1   BZRAP1   CA4   CACNA1G   COIL   COX11   CSH1   CSH2   CSHL1   DGKE   DHX40   FOXJ1   GH1   GH2   HLF   MTMR4   PRKCA   SCPEP1   SMURF2   TEX14   TNFAIP1                                                                                                                                                                                                          | 1.2 | 0.375 |
| PID_A6B1_A6B4_INTEGRIN_PATHWAY                                                  | AKT1   CASP7   CD9   CDH1   COL17A1   EGF   EGFR   ERBB2   ERBB3   GRB2   HRAS   IL1A   ITGA6   ITGB1   ITGB4   LAMA1   LAMA2   LAMA3   LAMA4   LAMAS   LAMB1   LAMB2   LAMB3   LAMC1   LAMC2   LAMC3   MET   MST1   MST1R   PIK3CA   PIK3R1   PMP22   PRKCA   RAC1   RP56KB1   RXRA   RXRB   RXRG   SFN   SHC1   YWHAB   YWHAE   YWHAH   YWHAQ   YWHAZ                   | 1.2 | 0.25  |
| DNA_FRAGMENTATION_DURING_APOPTOSIS                                              | BAK   BNIP3   CDKN2A   CIDEA   CYCS   DFFA   DFFB   FOXL2   PPT1   SOD1   TPDS2L1                                                                                                                                                                                                                                                                                         | 1.2 | 0.125 |
| PROTEIN_STABILIZATION                                                           | APOA1   COG7   GTPBP4   HPS4   MDM4   PEX6   PPARGC1A   STX12                                                                                                                                                                                                                                                                                                             | 1.2 | 0.25  |
| GENTILE_UV_LOW_DOSE_UP                                                          | BTG2   CDC86   CCNE1   CDKN1A   CSNK1G2   EFNB1   FDXR   GDF15   GPRC5A   GTF2H4   HIST2H2AA3   HSPA1A   IFI30   IL11   ISG15   PCGF3   PLK2   PMAIP1   PPP1R8   RSL1D1   SAT1   SMOX   SOX4   SYF2   TAP1   TOB1   ZNF263                                                                                                                                                | 1.2 | 0.375 |
| CHIARETTI_T_ALL_RELAPSE_PROGNOSIS                                               | AHNAF   BUB1B   CAT   CD2   CD8A   CDC7   CENPF   DEK   H2AFX   LRMP   MEF2A   MELK   MYC   RCBTB2   TTK   USP1                                                                                                                                                                                                                                                           | 1.2 | 0.5   |
| CELLULAR_RESPONSE_TO_STIMULUS                                                   | ALB   ASNS   CDKN1A   CDKN2B   EIF2AK3   EIF2B1   EIF2B2   EIF2B3   EIF2B4   EIF2B5   FADS1   GSK3B   NUAK2   SREBF1   TP53                                                                                                                                                                                                                                               | 1.2 | 0.25  |
| AXON_GUIDANCE                                                                   | CDK5R1   FEZ1   FEZ2   GLI2   KAL1   NRP1   NRP2   NRXN1   NRXN3   OPHN1   SEMA3B   SEMA4F   SHH   SHAN1   SLIT1   SLIT2   SPON2   UBB   UNC5C                                                                                                                                                                                                                            | 1.2 | 0.375 |
| CHUANG_OXIDATIVE_STRESS_RESPONSE_DN                                             | ADCY3   CCNA2   CHEK1   HIST1H4C   NAB2   PLK1   PPP1R7   UBE2C   UNG   UTRN                                                                                                                                                                                                                                                                                              | 1.2 | 0.375 |
| SA_FAS_SIGNALING                                                                | BCL2   CASP3   CASP8   CFL1   CFLAR   FAS   FASLG   PDE6D                                                                                                                                                                                                                                                                                                                 | 1.2 | 0.25  |
| GROSS_ELK3_TARGETS_DN                                                           | ACOX2   ADAMTS1   BNIP3   CNOT7   COPE   CTH   CXCL2   ERO1L   FTH1   GBE1   HAX1   HOXB9   IFI44   IL6   MAFF   OAS3   PDK1   PGM1   PLEK   PRKG2   PTGS2   RAMP3   RSAD2   SLPI   SOCS3   UPP1   VLDLR                                                                                                                                                                  | 1.2 | 0.125 |
| CACGTTT_MIR-302A                                                                | C5orf13   CNMNM3   CUL2   DACH1   DDC2A   EYA2   GSK3B   LEMD3   MORF4L1   NBEA   PARL   PRPF4B   PTPN9   PUM1   PURA   RAP2C   SSBP2   TAF5   UCHL5   ZCCHC11                                                                                                                                                                                                            | 1.2 | 0.125 |
| NIKOLSKY_BREAST_CANCER_19P13_AMPLICON                                           | MYO9B   NR2F6   OCEL1                                                                                                                                                                                                                                                                                                                                                     | 1.2 | 0.375 |
| chr14q                                                                          | AHSA1   BRF1   GOLGA5   MEG3   NRXN3   RPS29   YY1                                                                                                                                                                                                                                                                                                                        | 1.2 | 0.375 |
| REACTOME_REGULATION_OF_RHEB_GTPASE_ACTIVITY_BY_AMPK                             | PRKAA1   PRKAA2   PRKAB1   PRKAB2   PRKAG1   PRKAG2   RHEB   TSC1   TSC2                                                                                                                                                                                                                                                                                                  | 1.2 | 0.25  |
| GRADE_COLON_VS_RECTAL_CANCER_UP                                                 | ALG5   ASF1B   BCL11B   CANX   CD34   CTP5   DDX50   EMCN   ERO1L   FSTL1   GADD45B   GPR116   HABP4   IL1A   INSIG2   JUNB   KIAA1199   KIAA1797   LAGE3   PALMD   PMP2   RHOQ   RNASEH2B   RYK   STX2   TEX10   UMP5   ZAK   ZWILCH                                                                                                                                     | 1.2 | 0.125 |
| ST_WNT_BETA_CATENIN_PATHWAY                                                     | AKT1   CTCT2   AKT3   ANKR06   APC   AXIN1   CER1   CSNK1A1   CTNNB1   CXCK4   DACT1   DKK1   DKK2   DKK3   DKK4   DVL1   FRAT1   FSTL1   GSK3A   GSK3B   LRP1   MVP   PIN1   PSEN1   PTPRA   RPSA   SENP2   SFRP1   TSHB   WIF1                                                                                                                                          | 1.2 | 0.125 |
| REACTOME_RAP1_SIGNALLING                                                        | PRKACA   PRKACB   PRKACG   PRKG1   RAF1   RAP1A   RAP1B   RAP1GAP   RAPGEF3   RAPGEF4   RASGRP1   RASGRP2   SIPA1   YWHAB   YWHAZ                                                                                                                                                                                                                                         | 1.2 | 0.375 |
| BIOCARTA_GSK3_PATHWAY                                                           | AKT1   APC   AXIN1   CCND1   CD14   CTNNB1   DVL1   EIF2AK2   FZD1   GJA1   GNAI1   GSK3B   IRAK1   LBP   LEF1   LY96   MYD88   NFKB1   PDPK1   PIK3CA   PIK3R1   PPP2CA   RELA   TLR4   TOLLIP   WNT1                                                                                                                                                                    | 1.2 | 0.125 |
| MESODERM_DEVELOPMENT                                                            | BMX   BTK   EYA2   GDF11   HCK   IKZF1   IKZF2   JAK2   KLF4   MATK   MEST   SECTM1   SLIT2   SMAD2   SNAI2   T   TBX3   TBX6   TCF15   TCF21   TIE1   TRIM15                                                                                                                                                                                                             | 1.2 | 0.125 |
| REGULATION_OF_ACTIN_POLYMERIZATION_AND_OR_DEPOLYMERIZATION                      | ARF6   CAPG   CDC42EP2   CXCL12   GSN   LAT51   LIMA1   NCK1   NCK2   RASA1   TMSB4Y                                                                                                                                                                                                                                                                                      | 1.2 | 0.125 |
| SMALL_NUCLEAR_RIBONUCLEOPROTEIN_COMPLEX                                         | DDX23   GEMIN4   LSM4   LSM6   PRPF31   PRPFB   SF3A2   SF3B3   SNRPA1   SNRPB   SNRPB2   SNRPC   SNRPD1   SNRPD2   SNRPD3   SNRPF   SNRPN                                                                                                                                                                                                                                | 1.2 | 0.25  |
| REACTOME_INSULIN_SYNTHESIS_AND_PROCESSING                                       | CPE   ERO1L   EXOC1   EXOC2   EXOC3   EXOCA   EXOCS   INS   KIF5B   MYO5A   PCSK1   PCSK2   RAB27A   SLC30A5   SNAP25   STX1A   VAMP2                                                                                                                                                                                                                                     | 1.2 | 0.375 |
| CASPASE_REGULATOR_ACTIVITY                                                      | BIRC5   CARD8   CASP1   CASP8AP2   FOXL2   MAP3K5   TNFAIP8   TNFSF14   TPDS2L1   TRIAP1                                                                                                                                                                                                                                                                                  | 1.2 | 0.25  |
| LI_ADIPOGENESIS_BY_ACTIVATED_PPARG                                              | ACSL1   ADIPOQ   ADRB3   AGT   AOC3   CEBPA   CFD   DGAT1   FABP4   FASN   GPD2   LIPE   NR1H2   NR1H3   PC   PPARG   RETN                                                                                                                                                                                                                                                | 1.2 | 0.125 |
| BIOCARTA_BARRESTIN_PATHWAY                                                      | ADCY1   AP2M1   ARRB1   DNM1   GNAS   GN81   GNGT1   PLCB1   PPARA                                                                                                                                                                                                                                                                                                        | 1.2 | 0.25  |
| MATZUK_IMPLANTATION_AND_UTERINE                                                 | ACSL4   CBS   CENPB   CSF1   FKBP4   HOXA10   HOXA11   IL11RA   LHX1   LIFR   NCOA1   NDP   OVOL1   PAX8   PGR   PTGS2   TERT   WNT7A                                                                                                                                                                                                                                     | 1.2 | 0.25  |
| SA_MMP_CYTOKINE_CONNECTION                                                      | ACE   CD44   CSF1   FCGR3A   IL1B   IL6R   SELL   SPN   TGFBI   TGFBI2   TNF   TNFRSF1A   TNFRSF1B   TNFRSF8   TNFSF8                                                                                                                                                                                                                                                     | 1.2 | 0.5   |
| REACTOME_ENERGY_DEPENDENT_REGULATION_OF_MTOR_BY_LKB1_AMPK                       | CAB39   CAB39L   PPM1A   PRKAA1   PRKAA2   PRKAB1   PRKAB2   PRKAG1   PRKAG2   RHEB   STK11   TSC1   TSC2                                                                                                                                                                                                                                                                 | 1.2 | 0.25  |
| ABDULRAHMAN_KIDNEY_CANCER_VHL_UP                                                | F2RL1   GLCE   INSIG2   SLC5A3                                                                                                                                                                                                                                                                                                                                            | 1.2 | 0.375 |
| KEGG_GLYCOPHINGOLIPID_BIOSYNTHESIS_GLOBO_SERIES                                 | A4GALT   B3GALNT1   B3GALT5   FUT1   FUT2   FUT9   GLA   HEXA   HEXB   NAGA   ST3GAL1   ST3GAL2   ST8SIA1                                                                                                                                                                                                                                                                 | 1.2 | 0.125 |
| EHRLICH_ICF_SYNDROM_DN                                                          | BLK   BTG2   BTN3A2   HMOK1   ID3   IGHAI1   IL23A   INPP4A   ITGB7   MEFC2   SLC1A1   TFRG   TNFRSF17   ZFX                                                                                                                                                                                                                                                              | 1.2 | 0.25  |
| G2_M_TRANSITION_OF_MITOTIC_CELL_CYCLE                                           | ACAT1   ACAT2   DHODS   FDP5   GGP51   HMGCR   HMGCS1   HMGCS2   IDI1   MVD   MVK   PDS51   PDS52   PMVK                                                                                                                                                                                                                                                                  | 1.2 | 0.375 |
| KEGG_TERPENOID_BACKBONE_BIOSYNTHESIS                                            | ANKRA2   CCNB1   CD180   CDK7   ERCC8   FOXD1   GCNT4   GTTF2H2   MAST4   MCC2C   PART1   PDE4D   PDE8B   PLK2   PPWD1   SLC30A5   THBS4   TRIM23                                                                                                                                                                                                                         | 1.2 | 0.125 |
| SABATES_COLORECTAL_ADENOMA_SIZE_UP                                              | ATHL1   BCL6   DFFB   FBXL6   GART   LAMP2   LOC595101   LRRIC4   MDM4   SLC20A1   STMN3   STX16   TIMP3   ZAK                                                                                                                                                                                                                                                            | 1.2 | 0.25  |
| BIOCARTA_CDK5_PATHWAY                                                           | CDK5   CDK5L   EGR1   HRAS   MAP2K1   MAP2K2   MAPK1   MAPK3   NGFR   RAF1                                                                                                                                                                                                                                                                                                | 1.2 | 0.25  |
| GRANDVAUX_IFN_RESPONSE_NOT_VIA_IRF3                                             | ADAR   EIF2AK2   GBP2   IFI35   IFI6   IFITM1   IFITM3   IRF1   IRF7   ISG20   MX2   STAT1                                                                                                                                                                                                                                                                                | 1.2 | 0.5   |
| PURINE_RIBONUCLEOTIDE_METABOLIC_PROCESS                                         | ACYL1   ADO5   AK5   AMPD3   C16orf7   CTNS   GUK1   NDUFS1                                                                                                                                                                                                                                                                                                               | 1.2 | 0.125 |
| VISALA_AGING_LYMPHOCYTE_DN                                                      | CD16   COL9A3   FDF1   GLUPR1   GNA15   LGALS3   NDUFS4   NRG2   PCMT1   RUNX3   SDC4   SOAT1   STAT4   TKX   UFD1L                                                                                                                                                                                                                                                       | 1.2 | 0.5   |
| G2_M_TRANSITION_OF_MITOTIC_CELL_CYCLE                                           | ANAPC10   ANAPCS   BIRC5   CDK2   CDKN1A   CDKN2A   CDKN2B   DDX11   KHDRB51   LAT51   TPDS2L1   USH1C                                                                                                                                                                                                                                                                    | 1.2 | 0.375 |
| KEGG_BETA_ALANINE_METABOLISM                                                    | ABAT   ACADM1   ALDH1B1   ALDH2   ALDH3A2   ALDH7A1   ALDH9A1   AOC2   AOC3   DPYD   DPY5   ECHS1   EHHADH   GAD1   GAD2   HADHA   HIBCH   MLYCD   SMS   SRM   UPB1                                                                                                                                                                                                       | 1.2 | 0.125 |
| INOSITOL_OR_PHOSPHATIDYLINOSITOL_KINASE_ACTIVITY                                | ATM   FXN   IPPK   ITPKA   ITPKB   PIK3C2A   PIK3C3   PIK3CA   PIK3CB   PIK3CG   PIK3R2   PIK3R3   SMG1                                                                                                                                                                                                                                                                   | 1.2 | 0.375 |
| SUPEROXIDE_METABOLIC_PROCESS                                                    | AP0A4   CCS   MT3   NOX4   NOX5   PRG3   SOD1   SOD2                                                                                                                                                                                                                                                                                                                      | 1.2 | 0.5   |
| KASLER_HDAC7_TARGETS_2_DN                                                       | ACOX2   ADD3   BBC3   CACNB3   CDH22   CDKN1A   CUL7   GADD45B   GAMT   GPI   H1FO   HY1   IFITM2   KLF2   KLHL24   MPP2   NFKB1A   OAZ2   P2RX3   PYCR1   SEMA6A   STC2   TACC2                                                                                                                                                                                          | 1.2 | 0.375 |
| LOPEZ_MESOTHELIOMA_SURVIVAL_UP                                                  | ADH1B   CREBL2   FABP5   FAM117A   GMPR   IL6R   KIA0040   PCBP2                                                                                                                                                                                                                                                                                                          | 1.2 | 0.375 |
| chr6q27                                                                         | BRP44L   C6orf120   CCR6   FGRF10P   FRMD1   GPR31   KIF25   MLLT4   PDCD2   PHF10   P5MB1   RNASET2   RP56KA2   T   TBP   TCP10   TCP10L2   THBS2   TTL2   UNC93A                                                                                                                                                                                                        | 1.2 | 0.5   |
| ACTIN_FILAMENT_BASED_MOVEMENT                                                   | MYH10   MYH6   MYH7   MYH9   MYL6   MYL6B   MYO1E   MYO6   MYO9B   TNNT2                                                                                                                                                                                                                                                                                                  | 1.2 | 0.5   |
| RESPONSE_TO_BACTERIUM                                                           | AZU1   BCL10   CAMP   CD1D   CD24   CFP   CHIT1   DMBT1   IL10   IL12A   LALBA   PGLYRP1   PGLYRP4   S100A7   SLC11A1   SPN   STAB1   STAB2   TLR3   TLR6                                                                                                                                                                                                                 | 1.2 | 0.375 |
| LE_SKI_TARGETS_UP                                                               | ADAMTS1   ADAMTS6   AGR2   AKR1C3   CD44   CDH11   ENPP2   HMGA2   HSPB8   ITGB4   KRT19   NRG1   NRP1   S100A4   SERPINE2   SNAI2   SPHK1                                                                                                                                                                                                                                | 1.2 | 0.375 |
| PID_ANGIOPEPTINRECEPTOR_PATHWAY                                                 | AGTR1   AKT1   ANGPT1   ANGPT2   ANGPT4   BMX   CDKN1A   CRK   DOK2   ELF1   ELF2   ELK1   ETS1   F2   FES   FGF2   FN1   FYN   GRB14   GRB2   GRB7   ITGAS   ITGB1   MMP1   MAPK14   MAPK3   MAPK8   MMP2   NCK1   NFKB1   NOS3   PAK1   PIK3CA   PIK3R1   PLD2   PLG   PTK2   PTPN11   PXN   RAC1   RASA1   RELA   RP56KB1   SHC1   STAT5A   STAT5B   TEK   TNF   TNIP2 | 1.2 | 0.125 |
| CYCLIC_NUCLEOTIDE_PHOSPHODIESTERASE_ACTIVITY                                    | CNP   PDE10A   PDE1A   PDE1B   PDE1C   PDE2A   PDE3A   PDE3B   PDE4A   PDE4B   PDE4C   PDE4D   PDE7B                                                                                                                                                                                                                                                                      | 1.2 | 0.25  |
| KEGG_PANTOTHENATE_AND_COA_BIOSYNTHESIS                                          | BCAT1   BCAT2   COASY   DPVD   DPY5   ENPP3   ENPP3   PANK3   PANK4   PPCDC   PPCS   UPB1   VNN1   VNN2                                                                                                                                                                                                                                                                   | 1.2 | 0.125 |
| FARMER_BREAST_CANCER_CLUSTER_5                                                  | ADAM12   AEBP1   CDH11   COL1A2   COL3A1   COL5A1   COL5A2   CTSK   DACT1   FAP   FBN1   HTRA1   NID2   PCOLCE   SERPINF1   SPARC   SRPX2   THBS2                                                                                                                                                                                                                         | 1.2 | 0.125 |
| ZHENG_FOXP3_TARGETS_IN_T_LYMPHOCYTE_UP                                          | CPM   GATA3   GPLD1   IFT57   RAS2   SAMSN1   VRK2                                                                                                                                                                                                                                                                                                                        | 1.2 | 0.125 |
| AGCGCAG_MIR-191                                                                 | CHRD   DIO3   EGR3   ETF1   HMG81   MAGI1   OGT   SPEN   UBAP2                                                                                                                                                                                                                                                                                                            | 1.2 | 0.375 |
| KAPOSI_LIVER_CANCER_MET_DN                                                      | ALDH1A1   ALDH6A1   EPHX1   EPHX2   GSTT1   PIK3R1                                                                                                                                                                                                                                                                                                                        | 1.2 | 0.25  |
| CELLULAR_PROTEIN_COMPLEX_DISASSEMBLY                                            | ETF1   HMGA1   HRSF12   MAZ   MTERF   MTRF1   NRG1   SET   SMARCE1   SUPT16H   TNP1   TTF2   UPF1                                                                                                                                                                                                                                                                         | 1.2 | 0.375 |
| FERRARI_RESPONSE_TO_FENRETINIDE_DN                                              | CD34   HSPA2   LDLR   PPP1R3C   TFF3                                                                                                                                                                                                                                                                                                                                      | 1.2 | 0.5   |
| chr7p11                                                                         | CTGA6   CHCHD2   DDC   FKBP9   MRPS17   PHKG1   PPP2R5E   SEC61G                                                                                                                                                                                                                                                                                                          | 1.2 | 0.125 |
| FIGUEROA_AML_METHYLATION_CLUSTER_4_DN                                           | CCR7   CEP350   CTD1   EPHA2   GBX2   GNGT2   IL2RA   MED25   PTPRS   TACR3                                                                                                                                                                                                                                                                                               | 1.2 | 0.25  |
| DASU_IL6_SIGNALING_SCAR_DN                                                      | ADAM10   CTGF   CYR61   HMOK1   ID3   LOXL2   PDGFRA   PPP1R3C   PRPS1   PSG9   SERPINE1   SULF1   THBS1   TPM1                                                                                                                                                                                                                                                           | 1.2 | 0.375 |
| MARTINELLI_IMMATURE_NEUTROPHIL_UP                                               | AZU1   BP1   CAMP   CTSG   CYBB   DEFA1   DEFA4   LCN2   MMP8   MPO                                                                                                                                                                                                                                                                                                       | 1.2 | 0.375 |
| DNA_DIRECTED_DNA_POLYMERASE_ACTIVITY                                            | POLB   POLD1   POLD4   POLE   POLE2   POLE3   POLG   POLG2   POLH   POLI   POLQ   REV3L                                                                                                                                                                                                                                                                                   | 1.2 | 0.5   |
| REACTOME_ARMS_MEDIATED_ACTIVATION                                               | BRAF   CRK   HRAS   KIDINS220   KRAS   MAP2K1   MAP2K2   MAPK1   MAPK3   NRAS   NTRK1   RAF1   RAP1A   RAPGEF1   YWHAB                                                                                                                                                                                                                                                    | 1.2 | 0.375 |
| SA_B_CELL_RECEPTOR_COMPLEXES                                                    | ATF2   BCR   BLNK   ELK1   FOS   GRB2   HRAS   JUN   LYN   MAP2K1   MAP3K1   MAPK1   MAPK3   MAPK8IP3   PAPP1   RAC1   RP56KA1   RP56KA3   SHC1   SOS1   SYK   VAV1   VAV2   VAV3                                                                                                                                                                                         | 1.2 | 0.125 |
| NEGATIVE_REGULATION_OF_IMMUNE_SYSTEM_PROCESS                                    | FOXP3   GLMN   INHA   INHBA   LAX1   LST1   PTPRC   SFTPD   SOCS5   SPINK5   TARB2P2   TGFBI2   THY1                                                                                                                                                                                                                                                                      | 1.2 | 0.375 |
| NIKOLSKY_BREAST_CANCER_12Q24_AMPLICON                                           | CHFR   DDX51   EP400   GOLGA3   MMP17   NOC4L   P2RX2   POLE   PUS1   PXMP22   ULK1                                                                                                                                                                                                                                                                                       | 1.2 | 0.5   |
| SCHAEFFER_SOX9_TARGETS_IN_PROSTATE_DEVELOPMENT_UP                               | BCL2L1   DUSP6   EDN1   FGF2R2   FGF3   FOXA1   FST   HMGN3   HOXA10   HOXB9   KIAA1456   LHX6   MAOB   MBP   PNOC   SLC39A8   TLE1   TRIM2   VLDLR                                                                                                                                                                                                                       | 1.2 | 0.375 |
| PID_ERB_GENOMIC_PATHWAY                                                         | C3   DDX54   ESR2   NCOA1   NCOA2   NCOA3   NEDD8   NR0B1   NR0B2   SMARCA4   SMARCB1   SMARCE1   UBE2M   ZNF14                                                                                                                                                                                                                                                           | 1.2 | 0.125 |
| PID_S1P1_PATHWAY                                                                | ABCC1   ABCG1   GNAI2   GNAI3   GNAO1   GNA2   ITGA1   ITGB3   KDR   MAPK1   MAPK3   PDGFRB   PDGFRF   PLG1   PTGS2   RAC1   RHOA   SPHK1                                                                                                                                                                                                                                 | 1.2 | 0.5   |
| ZHAN_MULTIPLE_MYELOMA_MF_DN                                                     | ALDH2   AMGO2   APH1B   CAMK1D   CHTS11   CREB3L2   DKK1   DOCK9   ENAH   ESRRG   FAM3C   ITSN1   MOXD1   MTDH   PDZRN4   PRKCA   RAD17   RAPGEF2   SLC12A8   STXBP6   SYNGR1   TNFAIP8                                                                                                                                                                                   | 1.2 | 0.375 |
| TUBE_DEVELOPMENT                                                                | BCL10   CALCA   CELSR1   GCLC   GCLM   GLI2   KCNNB2   KCMB4   KEL   LMO4   NOTCH4   PDPN   SFTPD   SHH   SOD1                                                                                                                                                                                                                                                            | 1.2 | 0.375 |
| OXFORD_RALA_AND_RALB_TARGETS_UP                                                 | CCNE2   ETV4   GINS2   KLHL21   MBD2   MMP1   RPA1   SMYD5   WNT10B                                                                                                                                                                                                                                                                                                       | 1.2 | 0.25  |
| CARBONATE_DEHYDRATASE_ACTIVITY                                                  | CA1   CA11   CA12   CA14   CA2   CA3   CA4   CASKA   CASB   CA6   CA7   CA8   CA9                                                                                                                                                                                                                                                                                         | 1.2 | 0.5   |
| PID_FANCONI_PATHWAY                                                             | APTAD1   ATM   ATR   BLM   BRCA1   BRCA2   BRIP1   C1orf70T   C19orf40   CHEK1   FANCA   FANCC   FANCE   FANCF   FANCG   FANCL   FBXW11   H2AFX   HES1   HUS1   MEI1A   NBN   PALB2   RAD1   RAD17   RAD50   RAD9A   RFC2   RFC3   RFC4   RFC5   RMI1   RPA1   RPA2   TOPBP1   TOPBP1   USP1   WRAR   XRC3                                                                | 1.2 | 0.375 |
| HYDROLASE_ACTIVITY_ACTING_ON_CARBOAN_NITROGEN_NOT_PEPTIDEBONDSIN_CYCLIC_AMIDINE | ADA   ADARB2   ADATP1   AMPD1   AMPD3   APOBEC1   APOBEC2   APOBEC3F   APOBEC3G   ATIC   CDA   DCTD   GCH1   MTHFD1   MTHFD2                                                                                                                                                                                                                                              | 1.2 | 0.375 |
| ST_STAT3_PATHWAY                                                                | CISH   IL6   IL6R   JAK1   JAK2   JAK3   PIAS3   PTPRU   REG1A   SRC   STAT3                                                                                                                                                                                                                                                                                              | 1.2 | 0.375 |
| REACTOME_TIE2_SIGNALING                                                         | ANGPT1   ANGPT2   ANGPT4   DOK2   GRB14   GRB2   GRB7   HRAS   KRAS   NRAS   PIK3CA   PIK3CB   PIK3R1   PIK3R2   SHC1   SOS1   TEK                                                                                                                                                                                                                                        | 1.2 | 0.5   |

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |       |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| KAMIKUBO_MYELOID_CEBPA_NETWORK                                  | ALDH2   ANXA1   CAMP   CASD1   CD177   CEBPA   CSF2RA   CYBB   EMR1   GLRX   HDC   HP   IL18   IRF8   ITGAM   LBP   LCN2   LGALS1   LTF   MMP8   PGD   PRTN3   RAB31   S100A8   S100A9   SERPINB1   SPINT2                                                                                                                                                                                                                                                                            | 1.2 | 0.125 |
| KAUFFMANN_MELANOMA_RELAPSE_DN                                   | CRY2   TERF2   TOM1L2                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.2 | 0.375 |
| PLASARI_TGFB1_SIGNALING_VIA_NFIC_1HR_UP                         | AHR   ATF4   CA6   CALCRL   CCR5   CYP51A1   DFNA5   ENPEP   EPHB2   EVI2A   FAM46C   FLJ1   FLT1   IDI1   IL2RG   INSIG1   KCNA81   KCNN4   MEOX1   MFAP4   NOV   NR4A2   OXC71   PDGFRA   RBP1   RPL39L   SOAT1   TATDN2                                                                                                                                                                                                                                                            | 1.2 | 0.375 |
| MICROTUBULE_MOTOR_ACTIVITY                                      | APBPB2   BB54   CENPE   DNAI2   DNALI1   DYNC11   KIF11   KIF1B   KIF22   KIF23   KIF2C   KIF3B   KIF4A   KIF5B   KIF5F   KIFC3                                                                                                                                                                                                                                                                                                                                                       | 1.2 | 0.375 |
| LEUKOCYTE_CHEMOTAXIS                                            | CKLF   CXCL1   DOK2   IL10   IL8   ITGB2   PF4   SAA1   SCG2   SFTPD   SYK   TGFb2                                                                                                                                                                                                                                                                                                                                                                                                    | 1.2 | 0.375 |
| REACTOME_IKK_COMPLEX_RECRUITMENT_MEDIATED_BY_RIP1               | CD14   CHUK   IKKBK   IKBKKG   LY96   RIPK1   TICAM1   TLR3   TLR4                                                                                                                                                                                                                                                                                                                                                                                                                    | 1.2 | 0.375 |
| NEGATIVE_REGULATION_OF_CELL_ADHESION                            | ACVRL1   ADAM10   ARHGDI1   ARHGDI8   ARHGDI9   CDH13   CDKN2A   GTPBB4   KNG1   MIA3   NF2   PTEN   RASA1   RND1   SPN   TGFBI                                                                                                                                                                                                                                                                                                                                                       | 1.2 | 0.25  |
| BIOCARTA_CCR5_PATHWAY                                           | CALM1   CALM2   CALM3   CCL2   CCL4   CCR5   CXCL12   CXCR4   FOS   GNAQ   JUN   MAPK14   MAPK8   PLCG1   PRKCA   PTK2B                                                                                                                                                                                                                                                                                                                                                               | 1.2 | 0.125 |
| VANDELSUIJ_COMMDD1_TARGETS_GROUP_4_DN                           | CKB   COL3A1   EMID2   FABP7   HOXD11   METRN   NEUROD1   OXC71   PAX1   SERPINF1   TTPA                                                                                                                                                                                                                                                                                                                                                                                              | 1.2 | 0.5   |
| BIOCARTA_LECTIN_PATHWAY                                         | C2   C3   C4A   C4B   C5   C6   C7   C8A   C9   MASP1   MASP2   MBL2                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.2 | 0.25  |
| LATE_ENDOSOME                                                   | ATP7A   ATP7B   CD79A   CTNS   KIAA0368   LAMP1   LAMP2   RAB14   RAB9A   TPT1   TSG101                                                                                                                                                                                                                                                                                                                                                                                               | 1.2 | 0.375 |
| chr4p14                                                         | ART3   ATP8A1   BMP3   C4orf19   C4orf34   CHRNA9   FLJ13197   LIAS   NSUN7   RFC1   TLR1   TMEM156   TMEM33   UCHL1   WDR19                                                                                                                                                                                                                                                                                                                                                          | 1.2 | 0.5   |
| CHIANG_LIVER_CANCER_SUBCLASS_INTERFERON_UP                      | ACSL4   ALOX5AP   APOF   CALCRL   EVI2A   FCGR2B   FCGR3A   GOT1   GPR65   HPGD   IFI27   IFI6   ISG15   KLRB1   KMO   MOXD1   MS4A4A   NNMT   PLA2G2A   PRAMEF10   SERPIN7   SLC12A2   SLC38A4   STAT1   TDO2                                                                                                                                                                                                                                                                        | 1.2 | 0.375 |
| GTCTACC,MIR-379                                                 | ARHGEF5   C9orf7   CAPZA2   EDEM3   EID4   EIF4G2   GLMN   HBEGF   HTR1D   HTR2C   LPHN3   SCRT1   SLC20A1   SLC22A2   TNFSF12   TNRC6B   UBE2E3                                                                                                                                                                                                                                                                                                                                      | 1.2 | 0.375 |
| chr17p11                                                        | AKAP10   ALDH3A1   ALDH3A2   ATPAF2   C17orf39   CDR1T1   COP3   CPD   ELAC2   EPN2   FAM106B   FLCN   FLII   GIT1   KCNJ12   KSR1   LGLL1   LRRC48   MAP2K4   MAPK7   MED9   MEIS3P1   MFAP4   MYO15A   NCOR1   NTSM   PEMT   PRPSAP2   RAI1   SHMT1   SREBF1   TMEM11   TNFRSF13B   TOM1L2   TRIM16   TRIM16L   TRPV2   TTC19   ULK2   USP22   ZNF287                                                                                                                               | 1.2 | 0.25  |
| CHEOK_RESPONSE_TO_MERCAPTOPYRINE_AND_LD_MTX_UP                  | GALNT1   HTATSF1   MLLT10   MRPL33   PRKY   RBM19   STK24   TM9SF2   YY1                                                                                                                                                                                                                                                                                                                                                                                                              | 1.2 | 0.25  |
| PIONTEK_PKD1_TARGETS_UP                                         | AASS   ACOX2   ALDH8A1   ARG2   CTGF   CYP27B1   DNASE1   EGF   ENTDP5   FKBP5   GK   GLUL   HAAO   HAO2   KLF15   MT2A   NDRG1   PRODH   PTER   RHH16   SCD   SLC13A3   SLC17A1   SLC27A2   SORD   TNFRSF21   TOM1L2   UGT1A6                                                                                                                                                                                                                                                        | 1.2 | 0.25  |
| CREIGHTON_AKT1_SIGNALING_VIA_MTOR_UP                            | ADIPOR1   AKT1   ARHGEF16   BIK   BRMS1   BSG   CDC34   CLDN3   CLSTN1   CORO1B   CYB561   DDR1   DUSP10   GPX4   KCTD5   LASP1   MMP15   MVK   NEDD8   NEU1   PMPCA   POR   PRKCD   PVRL2   RNF126   SLC37A1   SPINT1   SYNJ2BP   TJP3   TMED10   TOLLIP   UBE2M                                                                                                                                                                                                                     | 1.2 | 0.125 |
| KYNG_NORMAL_AGING_UP                                            | C2orf28   GNAL   GOLPH3   ITGA2   MBNL2   RHOD   SAT1   SHC3   TAF10   TUG1                                                                                                                                                                                                                                                                                                                                                                                                           | 1.2 | 0.375 |
| REGULATION_OF_NUCLEOCYTOPLASMIC_TRANSPORT                       | BARDL   BCL3   CDH1   FAF1   FLNA   GSK3B   KHORB51   MDR1   MXI1   NCBP2   NF1   NFKBIE   NFKBIL1   NUDT4   SMAD3   TGFBI   TNFSF14   TRIP6                                                                                                                                                                                                                                                                                                                                          | 1.2 | 0.375 |
| OKAMOTO_LIVER_CANCER_MULTICENTRIC_OCCURRENCE_UP                 | AHCYL1   CALCOCO1   CD14   CDC5L   EIF253   HLA-DQA1   IGBP1   ITGB2   LGALS1   LITAF   MNDA   MPP1   PTPRC   RALB   RPA3   SLC12A7   SLC15A3   SLK   SNRPG   SPON2   SQLE   SRPX   TRBC1   VDCA2                                                                                                                                                                                                                                                                                     | 1.2 | 0.25  |
| UROSEVIC_RESPONSE_TO_IMIQIMOD                                   | BRCA1   CCL8   CCR7   CXCL11   IFI30   IFI35   IFI6   IFITM1   IL6   IRF7   ISG15   ISG20   MICB   MX1   OAS1   OAS2   OASL   RARRES3   RSAD2   SECTM1   STAT1   TRAFD1                                                                                                                                                                                                                                                                                                               | 1.2 | 0.5   |
| TGCACGA,MIR-517A,MIR-517C                                       | ACNA   AMMECR1   BSN   C4orf34   CDKN2A   DBN1   FOXJ3   PTK2B   RAPGEFL1   SMG7   TMCC1                                                                                                                                                                                                                                                                                                                                                                                              | 1.2 | 0.125 |
| REACTOME_REGULATION_OF_COMPLEMENT_CASCADE                       | C2   C3   C4A   C4BPA   C4BPB   CD46   CD55   CFB   CFH   CFI   CR1   PROS1                                                                                                                                                                                                                                                                                                                                                                                                           | 1.2 | 0.375 |
| chr9p12                                                         | BAG1   CA9   CNTNAP3B   DDX58   NFX1   NOI6   RECK   SHB   SMU1                                                                                                                                                                                                                                                                                                                                                                                                                       | 1.2 | 0.375 |
| NUCLEOBASENUCLEOSIDENUCLEOTIDE_KINASE_ACTIVITY                  | ADK   AK1   AK2   AKS   CASK   DCK   DGUOK   DLG1   DLG2   DTYMK   GUK1   MPP1   MPP2   MPP3   NME1   NME2   NME4   NME5   NME6   PNKP   TJP2   TK1   TK2                                                                                                                                                                                                                                                                                                                             | 1.2 | 0.375 |
| JOHANSSON_BRAIN_CANCER_EARLY_VS_LATE_UP                         | ADM   FOS   RACGAP1   RRM2   TACC3   USP29                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1.2 | 0.375 |
| WILSON_PROTEASES_AT_TUMOR_BONE_INTERFACE_UP                     | ADAM10   ADAM9   CTSG   CTSK   MMP12   MMP13   MMP9   SERPINI1   SERPINE2   SERPING1   TIMP3   USP1   USP14   USP15   USP16   USP2   USP24   USP25   USP32   USP33   USP53                                                                                                                                                                                                                                                                                                            | 1.2 | 0.125 |
| SHI_SPARC_TARGETS_UP                                            | ABL2   ADAMTS13   ANKRD11   ARHGEF5   DDIT3   GADD45B   MDM2   MME   MMP1   PIK3R1   PPP1R15A   PPP1R3C   RAB27B   SEMA3C   SEMA4F   SEMA6A   SEMA6D   TGFBR2                                                                                                                                                                                                                                                                                                                         | 1.2 | 0.125 |
| RASHI_NFKB1_TARGETS                                             | BIRC3   BTG2   CSF1   CXCL1   CXCL2   DUSP6   IFNGR2   IRF1   LCN2   MAP3K8   MDM2   NFKB2   NFKBIA   NFKBIB   RELB   TNFAIP3   TNIP1                                                                                                                                                                                                                                                                                                                                                 | 1.2 | 0.375 |
| REACTOME_PKA_MEDIATED_PHOSPHORYLATION_OF_CREB                   | ADCY1   ADCY2   ADCY3   ADCY6   ADCY7   ADCY8   ADCY9   CREB1   PRKACA   PRKACB   PRKACG   PRKAR1A   PRKAR1B   PRKAR2A   PRKAR2B                                                                                                                                                                                                                                                                                                                                                      | 1.2 | 0.125 |
| KEGG_GLYOXYLATE_AND_DICARBOXYLATE_METABOLISM                    | ACO1   ACO2   CS   GRHPR   HAO1   HAO2   HY1   MDH1   MDH2   MTHFD1   MTHFD2   MTHFD2L                                                                                                                                                                                                                                                                                                                                                                                                | 1.2 | 0.375 |
| POSITIVE_REGULATION_OF_ANGIOGENESIS                             | AGGF1   AMOT   ANGPTL3   ANGPTL4   BTG1   CHRNA7   RHOB   RUNX1   SPHK1   TNFSF12                                                                                                                                                                                                                                                                                                                                                                                                     | 1.2 | 0.375 |
| REACTOME_IRAK1_RECRUITS_IKK_COMPLEX                             | CHUK   IKKBK   IKBKG   IRAK1   PELI1   PELI2   TRAF6   UBE2N                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.2 | 0.5   |
| PID_ECADHERIN_STABILIZATION_PATHWAY                             | AB11   ACTN1   AQP3   AQP5   ARF6   CDH1   CTNNA1   CTNNB1   CTNND1   CYIP2   DIAPH1   EFNA1   EGF   EGFR   ENAH   EPHA2   EXOC3   EXOC4   GIT1   HGF   IGF1   IGF1R   IGFIR   LIMA1   LPP   MET1   MGAT3   MLLT4   MYL2   MYO6   NCK1   NCKAP1   PIP5K1C   PVRL2   RHOA   ROCK1   STX4   VASP   VCL   ZYX                                                                                                                                                                            | 1.2 | 0.125 |
| TACGGGT,MIR-99A,MIR-100,MIR-99B                                 | ADCY1   BAZ2A   CTDSP1   CYP26B1   EIF2C2   GFR3   FZD8   HOXA1   HS3ST2   HS3ST3B1   ICMT   INSM1   MBNL1   MTMR3   RAVR2   SMARCA5   TRIB2   ZZZF1                                                                                                                                                                                                                                                                                                                                  | 1.2 | 0.25  |
| chr5q35                                                         | ADAMTS12   B4GALT7   BTNL3   BTNL8   CANX   CCCC99   CLK4   CNOT6   CPLX2   DBN1   DDX41   DOCK2   DOK3   FBXW11   GNB2L1   GRK6   GRM6   HIGD2A   HK3   HMP19   HRH2   KCNIP1   LMAN2   LOC202181   LTC4S   MAML1   MAPK9   MGAT1   MGAT4B   MXD3   N4BP3   NPM1   NSD1   ODZ2   POLIM7   PROP1   PRR7   PTTG1   RARS   RGS14   RMND5B   RNF130   RNF4A   RPL26L1   RUFY1   SFKN1   SLC34A1   SU13   SNCB   SOSMT1   STC2   STK10   TBC1D9B   TLX3   TMED9   TRIM52   ZFP2   ZNF354A | 1.2 | 0.375 |
| REACTOME_PROLONGED_ERK_ACTIVATION_EVENTS                        | BRAF   CRK   FRS2   HRAS   KIDINS220   KRAS   MAP2K1   MAP2K2   MAPK1   MAPK3   NRAS   NTRK1   PLCG1   RAF1   RAP1A   RAPGEF1   YWHAH                                                                                                                                                                                                                                                                                                                                                 | 1.2 | 0.375 |
| HOLLEMAN_VINCISTINE_RESISTANCE_B_ALL_DN                         | ATP13A2   CD44   CDKN2D   LSM3   PDLIM1   RPL12   RPLP2   RPS11   RPS12   RPS15A   S100A13   SCNMI   TMSB10   VIM                                                                                                                                                                                                                                                                                                                                                                     | 1.2 | 0.375 |
| KOBAYASHI_EGFR_SIGNALING_6HR_DN                                 | CCND1   CX3CL1   CYR61   DUSP4   DUSP5   DUSP6   EPHA2   F3   FOSL1   G0S2   HMGA2   IER3   IL11   JUN   MAFF   PHLDA2   TGFA                                                                                                                                                                                                                                                                                                                                                         | 1.2 | 0.375 |
| PID_VEGFR1_PATHWAY                                              | AKT1   CAV1   CBL   CD2AP   FLT1   HIF1A   HSP90AA1   MAPK1   MAPK3   NCK1   NOS3   NRP1   NRP2   PDPK1   PGF   PIK3CA   PIK3R1   PLCG1   PRKACA   PRKCA   PTPN11   RASA1   SHC2   VEGFR                                                                                                                                                                                                                                                                                              | 1.2 | 0.125 |
| chr20p13                                                        | ADRA12   ANGPT4   ATRN   AVP   C20orf29   C20orf46   CDC25B   CD52   CENPB   CSNK2A1   DEFB126   FASTKD5   FKBP1A   GFRA4   GNRH2   IHD3B   NRSN2   NSFLLC   OXT   PANK2   PDYN   PRNP   PSME1   PTPRA   RBCK1   SIGLEC1   SIRPA   SIRPB1   SIRPG   SLC23A2   SLC24A3   SMOX   SNPN   SNRPB   SOX12   TCF15   TRIB3   UBBOX5   VP516   ZNF343                                                                                                                                         | 1.2 | 0.25  |
| SCHRAETS_MLL_TARGETS_DN                                         | ACADM   AGT   ARHGDI8   CAP1   CD53   CD93   CDKN1B   COL6A1   COL6A2   COL6A3   CTSH   DFFB   ENPP2   FOXC2   GAS1   GATA6   GREM1   GSTA4   HXOK8   HSPB8   IL1RN   LIMK1   MGLL   MGP   PITX2   SPRR1A   TGFBI   THBD   THBS2                                                                                                                                                                                                                                                      | 1.2 | 0.125 |
| MODULE_509                                                      | AP1S2   AP2S1   AP3S1   FDTF1   FDIS   HPCA   HPCAL1   IDI1   LRFB   SEC24D   SQLE                                                                                                                                                                                                                                                                                                                                                                                                    | 1.2 | 0.375 |
| SEKI_INFLAMMATORY_RESPONSE_LPS_DN                               | ABLIM1   BAMB1   CORO2B   DBP1   G0S2   GDF10   GSTT1   MMP11   PALM   PDLIM2   PLEKHA6   RAB3D   SELENBP1   SYNPO   THBS2   WNT4                                                                                                                                                                                                                                                                                                                                                     | 1.2 | 0.125 |
| BIOCARTA_BARRESTIN_SRC_PATHWAY                                  | ADCY1   ARRB1   DNM1   GNAS   GNB1   GNGT1   HCK   HRAS   MAP2K1   MAP2K2   MAPK1   MAPK3   PLCB1   RAF1   SRC                                                                                                                                                                                                                                                                                                                                                                        | 1.2 | 0.25  |
| KORKOLA_EMBRYONAL_CARINOMA                                      | DNMT3B   DPPA4   HERC5   MICB   NANOG   SEPT6   TERF1   UPP1                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.2 | 0.125 |
| GLUCOSAMINE_METABOLIC_PROCESS                                   | CHIA   CHIT1   CHST2   CHST4   CHST5   CHST7   EXT12   GNPD1   LARGE   NAGK   SLC35A3   UAP1                                                                                                                                                                                                                                                                                                                                                                                          | 1.2 | 0.375 |
| DER_IFN_GAMMA_RESPONSE_DN                                       | COX17   FEZ1   IDI1   INPP5A   PKD1   PTX3   SNRPB2   TRAF6                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.2 | 0.25  |
| MAHADEVAN_IMATINIB_RESISTANCE_DN                                | ABCG1   ALDH1A2   BCHE   CA2   CHODL   CST1   CXCL12   CXCR4   FGL2   GDF10   HAND1   KIT   LPHN2   MEOX2   MYOC   PIP5K1B   PRG1   PTGIS   VCAM1                                                                                                                                                                                                                                                                                                                                     | 1.2 | 0.5   |
| MODULE_184                                                      | ABAT   ACADL   ACADM   ACADS   ACADSB   ACADVL   ACOX1   ACOX2   ACSL1   ALDH1A1   ALDH1B1   ALDH2   ALDH3A2   ALDH6A1   ALDH9A1   BLVRB   DECR1   DHODH   DYPD   ECHS1   EHHA4H   IVD   MUT   PCCA   PCGB   SDHC   SRD5A2   SUGCL1                                                                                                                                                                                                                                                   | 1.2 | 0.125 |
| VALK_AML_CLUSTER_4                                              | ABCB1   BACALG16   C18orf1   CAPN2   CD7   CDF1   CSOA   CTNNA1   CYP1P1   FZD6   HP5A   IGF1BP7   IKZF2   IL4R   ITGA4   KLF2   LRP10   NDFIP1   P2RX5   PMS2L2   RAB13   TRAF1   TRIB1   TSPAN7   TUBB6   UGT2B28                                                                                                                                                                                                                                                                   | 1.2 | 0.25  |
| JIANG_CORE_DUPLICATION_GENES                                    | GOLGA8E   NBP1F1   NPIP   RGPD5   SMA4   TBC1D3C                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1.2 | 0.125 |
| PARK_HSC_VS_MULTIPOTENT_PROGENITORS_UP                          | CAPNS1   CCT7   DCUN1D1   GIMAP6   H2AFY1   HAT1   HMGMB1   NEDD4   NFIX   PABPC1   PRKARIA   RBM3   RPRGRI1   SMG1   TMEM14A   ZNF307                                                                                                                                                                                                                                                                                                                                                | 1.2 | 0.125 |
| PURINE_NUCLEOTIDE_METABOLIC_PROCESS                             | ACLY   ADSS   AK5   AMPD3   C16orf7   CTNS   GUK1   HPRT1   NDUF51   PPA2                                                                                                                                                                                                                                                                                                                                                                                                             | 1.2 | 0.25  |
| PROTEIN_AMINO_ACID_N_LINKED_GLYCOSYLATION                       | ALG12   ALG6   ALG8   ALK   CD37   DOLPP1   FUT8   GAL3ST1   GYPC   KEL   LIPA   LIPC   MAN1A2   MAN1C1   MGAT4A   MGAT4B   MPDU1   RPN1   STBIA2   STBIA3   STBIA4   STT3A   TM4SF4   TM4SF5   TSPAN7   TUSC3                                                                                                                                                                                                                                                                        | 1.2 | 0.25  |
| NIKOLSKY_BREAST_CANCER_IQ21_AMPLICON                            | ADAM15   CXSLB   CLK2   DPM3   EFN1A   EFN3A   EFN4A   FDIS   FLAD1   GBA   LENEP   MRPL9   MTX1   MUC1   OAZ3   PBXIP1   PKLR   PMVK   RORC   RUSC1   SCAMP3   SHC1   TDRKH   THBS3   TRIM46   ZBTB7B                                                                                                                                                                                                                                                                                | 1.2 | 0.125 |
| BIOCARTA_ARF_PATHWAY                                            | ABL1   CDKN2A   E2F1   MDM2   MYC   PIK3CA   PIK3CG   PIK3R1   POLR1B   POLR1C   POLR1D   RAC1   RB1   TBX2   TP53   TWIST1                                                                                                                                                                                                                                                                                                                                                           | 1.2 | 0.125 |
| GHO_ATFS_TARGETS_UP                                             | ATP11B   EIF4G2   IFT88   ITH13   LAMB2   NEB   RHOBT81   RIF1                                                                                                                                                                                                                                                                                                                                                                                                                        | 1.2 | 0.25  |
| NGO_MALIGNANT_GLIOMA_1P_LOH                                     | ANKX2   ECHS1   ENO1   GAPDH   HSP90AB1   HSPA5   P4HB   PARK7   PGK1   RPSA   STMN1   TPM3   TPM4   VIM                                                                                                                                                                                                                                                                                                                                                                              | 1.2 | 0.5   |
| BIOCARTA_IGF1R_PATHWAY                                          | ADCY1   AKT1   BAD   GRB2   HRAS   IGF1R   IRS1   MAP2K1   MAPK1   MAPK3   PIK3CA   PIK3R1   PRKACB   PRKACG   PRKAR1A   PRKAR1B   PRKAR2A   PRKAR2B   RAF1   RPS6KA1   SHC1   SOS1   YWHAH                                                                                                                                                                                                                                                                                           | 1.2 | 0.25  |
| chr3p12                                                         | CGGBP1   CHMP2B   GBE1   HTR1F   IL12A   ROBO1   ROBO2   VGLL3                                                                                                                                                                                                                                                                                                                                                                                                                        | 1.2 | 0.375 |
| INOSITOL_OR_PHOSPHATIDYINOSITOL_PHOSPHODIESTERASE_ACTIVITY      | BDRKB2   C3AR1   CASR   CXKR8   CCR5   CHRM5   EDNR4   F2RL2   PLCB2   PLCD1   PLCE1                                                                                                                                                                                                                                                                                                                                                                                                  | 1.2 | 0.375 |
| MODULE_226                                                      | ALOX5AP   ARF4   ARF5   ARL1   CDKN3   CXCL1   DUSP14   DUSP5   DUSP6   DYNNL1   GMFB   HSPB2   MGST2   PPM1D   PPP1CC   PPP1R11   PPP2CA   PPP2CB   PPP4C   PPP6C   PRPSAP1   RFC3   SCG5   SERPINB2   TRIM23   UBA2                                                                                                                                                                                                                                                                 | 1.2 | 0.25  |
| WANG_METASTASIS_OF_BREAST_CANCER                                | ACOT11   BCL2L14   C11orf51   CEP57   COL2A1   FUT3   GABRG1   GAS2   MYH2   PARP4   RPL23AP7   RPS4X   TNFSF10                                                                                                                                                                                                                                                                                                                                                                       | 1.2 | 0.25  |
| HUMMERICH_MALIGNANT_SKIN_TUMOR_DN                               | AFB1   ALB   ATP2A1   CA3   CCL27   CFD   CKM   COX6A2   MYH2   MYH8   PCDH12   PLXNB2   SCAND1   SNX7   TNNC2   TNNT2   TNNT3                                                                                                                                                                                                                                                                                                                                                        | 1.2 | 0.5   |
| POSITIVE_REGULATION_OF_CYTOSKELETON_ORGANIZATION_AND_BIOGENESIS | ARF6   ARHGEF10L   CDC42EP2   KATNB1   MAPT   NCK1   NCK2   NF2   SORBS3                                                                                                                                                                                                                                                                                                                                                                                                              | 1.2 | 0.125 |
| DEMAGALHAES_AGING_DN                                            | ATP5G3   CSORF13   CA4   CALB1   COL1A1   COL3A1   COL4A5   CX3CL1   DIABLO   FABP3   GHITM   NDUFB11   TFR1   UQCRF51   UQCRCQ                                                                                                                                                                                                                                                                                                                                                       | 1.2 | 0.125 |
| B_CELL_DIFFERENTIATION                                          | CD79A   CEBPG   HDAC4   HDAC5   HDAC9   IL4   INHA   INHBA   NHEJ1   TPDS2                                                                                                                                                                                                                                                                                                                                                                                                            | 1.2 | 0.25  |
| WU_HBX_TARGETS_2_UP                                             | ANPEP   ATP5J   BCL2L1   CASP4   CNG1   CDC42BP4   CDKN3   CSNK1G2   CXCL1   EMR3   FAS   GLRX   HMG2B   HSPA1L   MAP2K3   PPP5C   RAB5C   SLC25A5   STK25   TGFb2   UCK2   YWHAH                                                                                                                                                                                                                                                                                                     | 1.2 | 0.125 |



|                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                         |     |       |
|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| chr16q24                                                     | ANKRD11   APRT   BANP   C16orf3   C16orf7   CASA   C8FA2T3   CDH13   CDH15   CDK10   CDT1   COTL1   COX4NB   CPNE7   CRISPLD2   CYBA   DBNDD1   DPEP1   FANCA   FBXO31   FOXF1   FOXL1   GALNS   GAN   GAS8   GINS2   HSD17B2   IRF8   JPH3   KIAA0182   KIAA0513   KIAA1609   KLHDC4   MAP1LC3B   MBPT51   MC1R   MTHFS1   MVD   PLCG2   RPL13   SLC7A5   SNORD68   SPG7   TAF1C   TCF25   TRAPPC2L   TUBB3   WFDC1   ZCHCH14   ZNF276 | 1.2 | 0.5   |
| PID_CASPASE_PATHWAY                                          | ACTA1   APAF1   APP   ARHGDB   BAX   BCL2   BID   BIRC2   BIRC3   CASP1   CASP10   CASP2   CASP3   CASP4   CASP6   CASP7   CASP8   CASP9   CRADD   CYCS   DFFA   DFFB   DIABLO   GAS2   GSN   GZMB   KRT18   LUMK1   LMNA   LMNB1   LMNB2   MADD   MAP3K1   NUMA1   PARP1   PRF1   PTK2   RIPK1   SATB1   SLK   SPTAN1   SREBF1   TFAP2A   TNF   TNFRSF1A   TOP1   TRADD   TRAF2   VIM                                                  | 1.2 | 0.125 |
| TOMIDA_METASTASIS_DN                                         | CDH1   CLK1   DARS   DLX4   EIF1   ENO2   GARS   GLRX   KRT18   LGALS3   NR4A1   SARS   SAT1   TRIP6   WARS                                                                                                                                                                                                                                                                                                                             | 1.2 | 0.5   |
| FINETTI_BREAST_CANCERS_KINOME_GRAY                           | CHUK   CSNK1A1   CSNK1G3   DYRK1A   HIPK1   MAPK43   NEK4   PRPF4B   SCYL2   SLK   SNRK   TLK1   TRIM33                                                                                                                                                                                                                                                                                                                                 | 1.2 | 0.25  |
| OKAWA_NEUROBLASTOMA_1P36_31_DELETION                         | ACOT7   AJA1   CAMTA1   CHD5   DNAJC11   GPR153   HES2   ICMT   KCNAB2   KLHL21   NOL9   NPH4   PLEKHG5   RPL22   THAP3   TNFRSF25                                                                                                                                                                                                                                                                                                      | 1.2 | 0.25  |
| HO_LIVER_CANCER_VASCULAR_INVASION                            | AMPD3   CA2   CSF3R   MAGEA9   OGG1   RPA1P   RYR1   SERPINB6   TAF4B   TRIM8   UBE3C                                                                                                                                                                                                                                                                                                                                                   | 1.2 | 0.375 |
| SMID_BREAST_CANCER_RELAPSE_IN_PLEURA_DN                      | BAMBI   C1orf106   CCL18   CDH3   CEACAM1   CHAC1   CP   CST1   CXCL9   FABP7   FRMPD1   FYB   HLA-DQB1   IGVK1D-13   LTF   MAGEA3   MIA   PEG10   POPDC3   PSAT1   S100A7   S100A9   S100P   SIX1   SLPI   SRD5A1                                                                                                                                                                                                                      | 1.2 | 0.5   |
| PID_ERBB4_PATHWAY                                            | ADAM17   BTC   CBFA2T3   DLG4   ERBB2   ERBB4   EREG   FYN   GRB2   GRIN2B   HBEGF   ITC   JAK2   LRIG1   MAPK1   MAPK3   MDM2   NCOB1   NEDD4   NRG1   NRG2   PIK3CA   PIK3CB   PIK3CD   PIK3R1   PIK3R2   PIK3R3   PRL   PRLR   SHC1   STAT5A   STAT5B   WWOX   WWP1   YAP1                                                                                                                                                           | 1.2 | 0.375 |
| PID_EPHBFWDPATHWAY                                           | CDC42   CRK   DNM1   EFNA5   EFNB1   EFNB2   EFNB3   EPHB1   EPHB2   EPHB3   EPHB4   GRB2   GRB7   GRIA1   HRAS   ITSN1   KALRN   KRAS   MAP2K1   MAP4K4   MAPK1   MAPK3   NCK1   NRAS   PAK1   PIK3CA   PIK3R1   PTK2   PXN   RAC1   RAP1A   RAP1B   RASA1   ROCK1   RRAS   SHC1   SRC   SYN1   TF   WASL                                                                                                                              | 1.2 | 0.25  |
| RESPONSE_TO_ORGANIC_SUBSTANCE                                | ABAT   ABCG1   APOA2   AQO9   BCL2   BRCA2   CDH13   CHRNA4   CHRNA7   CHRN2B   CLEC7A   DGKD   DUOX1   DUOX2   EIF2B1   EIF2B2   EIF2B3   EIF2B4   EIF2B5   GCK   GLRX2   GOT2   GYS2   ME1   NDUFS4   RELA   SOD1   SUPTSH   CHST1   CHST10   CHST11   CHST12   CHST2   CHST3   CHST4   CHST5   CHST7   CHST8   GAL3ST1   H3S3T3B1   HS6S1   MPST   NFS1   OXC1T   SULT1A4   SULT1E1   SULT2B1   TPST1   TPST2   TST   UST            | 1.2 | 0.375 |
| TRANSFERASE_ACTIVITY_TRANSFERRING_SULFUR_CONTAINING_GROUPS   | CDK8   MED12   MED18   MED4   MED6   MED8   THRAP3                                                                                                                                                                                                                                                                                                                                                                                      | 1.2 | 0.25  |
| MEDIATOR_COMPLEX                                             | ANKRD40   ASF1B   BAIAP2   C2orf20   CA12   CASP8AP2   CDB8   CNR1   EHM2T   ESPL1   FBN2   INSM1   JAKMIP2   KIAA0922   KLHL11   LMNB1   MRPL28   PALMD   POLIM2   POLD1   SNN   TCL6   TRIM21   TTL4   ZNF135                                                                                                                                                                                                                         | 1.2 | 0.5   |
| FLOTID_PEDIATRIC_ALL_THERAPY_RESPONSE_DN                     | ACAD8   ADAMTS20   BASP1   BMPR1A   CDK5RAP3   CELSR1   CHMP4A   COL2A1   DDI14   EXOC2   FAM46A   GAS1   HMG20B   HSDL2   IGHM   ISYNA1   KLHL9   LAP3   MLH1   MYBL1   PABPC3   PDHA1   PMF6P1   RALY   RDHS   RPS6KA5   SKP2   SLC27A6   SLC35E3   SNAI2   TCF25   TTR   UROS   VPS13B   ZBED5   ZNF273   ZNF318   ZNF32                                                                                                             | 1.2 | 0.125 |
| BCAT_GDS748_DN                                               | ACB8   AMPD3   ATFS   CA6   CD53   CLEC5A   CTH   ERO1L   FGFBP1   GADD45A   GHITM   GLCE   HTATIP2   LHFP12   LPL   MYOM2   NAP112   NMMT   OPN3   RAGG1   SERPINB2   SH3GL3   STEAP1   TFP1   TMEM47   TSPAN12   VEGFC                                                                                                                                                                                                                | 1.2 | 0.25  |
| GAUSSMANN_MLL_Af4_FUSION_TARGETS_F_DN                        | ACADL   ACSL3   BCS1L   CRYAB2   ERBB4   FN1   FZD5   MAP2   NR2P   SMARCAL1   STK16                                                                                                                                                                                                                                                                                                                                                    | 1.2 | 0.375 |
| chr2q34                                                      | ATP2C1   ATP7A   ATP7B   ATXN2   CHST2   CHST4   CLN3   GGA2   GGA3   GNAS   GOLGA4   KIAA0368   NBEA   RAB11A   SLC9A7   SMPD4   TAS2R16   TGNL2                                                                                                                                                                                                                                                                                       | 1.2 | 0.5   |
| TRANS_GOLGI_NETWORK                                          | CAMKV   CDKAL1   DVL3   EVC   FAF1   GRK5   NEDD8   RAB6B   RHBDF2   RIMS2                                                                                                                                                                                                                                                                                                                                                              | 1.2 | 0.125 |
| TOMLINS_METASTASIS_UP                                        | AANAT   ADRB3   AQP2   ATM   BCAT2   BCL3   DRG2   HSD17B3   HSF4   KRT35   LTK   MICB   MPP2   MYBPC2   NEFL   NR1H2   PLK1   RABGGTA   RENBP   SCNN1G   SIRPB1   TH   WAS                                                                                                                                                                                                                                                             | 1.2 | 0.25  |
| GCM_ATM                                                      | ACHE   ANG   APOA1   APOA2   ARFIP1   CARD8   CIDEA   CRTAM   DNAJC1   FOXP3   GCK   GHRH   GLMN   IL11   INHA   INHBA   INHBB   INS   KNCMB4   LIF   MYO6   OSM   PYCARD   SCG5   SCIN   SERGEF   SNAP25   SNAIP   STX1A                                                                                                                                                                                                               | 1.2 | 0.25  |
| REGULATION_OF_SECRETION                                      | ARID5A   BUB1   C2orf3   CAPG   EIF5B   FABP1   IGVK1-8   IGVK1D-13   IGVK1D-8   IGVK3-20   IGVK3D-15   IGVK3D-20   IMMT   KCMF1   KRCC1   MAT2A   MRPL19   MRPL35   NPAS2   PLGLB1   PLGLB2   PTCD3   REEP1   RETSAT   RNMDS4   RNFI03   ST3GAL5   STARD7   SUCLG1   TCF7L1   TGNL2   TMSB10   USP39   VAMP5                                                                                                                           | 1.2 | 0.375 |
| chr2p11                                                      | ATP2C1   ATP7A   ATP7B   ATXN2   CHST2   CHST4   CLN3   GGA2   GGA3   GNAS   GOLGA4   KIAA0368   NBEA   RAB11A   SLC9A7   SMPD4   TAS2R16   TGNL2                                                                                                                                                                                                                                                                                       | 1.2 | 0.5   |
| PID_P38_MK2PATHWAY                                           | CDC25B   CREB1   ETV1   HSPB1   LSP1   MAPK11   MAPK14   MAPKAPK2   MAPKAPK3   RAF1   SFN   SRF   TCF3   TH   TSC2   YWHAB   YWHAZ                                                                                                                                                                                                                                                                                                      | 1.2 | 0.25  |
| HETEROCYCLE_METABOLIC_PROCESS                                | CDC25B   CREB1   ETV1   HSPB1   LSP1   MAPK11   MAPK14   MAPKAPK2   MAPKAPK3   RAF1   SFN   SRF   TCF3   TH   TSC2   YWHAB   YWHAZ                                                                                                                                                                                                                                                                                                      | 1.2 | 0.25  |
| REACTOME_SHC_MEDIATED_SIGNALLING                             | ALAD   ALAS1   ALAS2   ALDH1L1   ALDH6A1   ASMTL   BLVR4   CDA   COX10   COX15   CPOX   FECH   FTCD   GMPS   HPR1T   MAT2B   MTHFD2   NFE2L1   PA4B   PAICS   PPOX   PRG3   PRPS1   TSP0   UGT1A1   UROS                                                                                                                                                                                                                                | 1.2 | 0.375 |
| PHESSSE_TARGETS_OF_APC_AND_MBD2_DN                           | GRB2   HRAS   KRAS   MAP2K1   MAP2K2   MAPK1   MAPK3   NRAS   RAF1   SHC1   SHC2   SHC3   SOS1   YWHAB                                                                                                                                                                                                                                                                                                                                  | 1.2 | 0.125 |
| N_ACETYLGUCOSAMINE_METABOLIC_PROCESS                         | ATP10A   CYP1A1   DTNA   MBD2   PLCB1   WASF3                                                                                                                                                                                                                                                                                                                                                                                           | 1.2 | 0.375 |
| MAYBURD_RESPONSE_TO_L663536_UP                               | CHIA   CHIT1   CHST2   CHST4   CHST5   CHST7   EXT12   LARGE   NAGK   SLC35A3   UAP1                                                                                                                                                                                                                                                                                                                                                    | 1.2 | 0.125 |
| KEGG_RIBOFLAVIN_METABOLISM                                   | ARHGAP26   ASXL2   EIF2AK3   GARS   HDLB1   IKZF1   IL1RAP   MED12   PLEKHG5   RFNG   SEMA6B   SFA2   SLC14A   SLC38A2   SLC7A11   SMARCA4   SNX6   TRIM8   USP11   WDR19   YARS                                                                                                                                                                                                                                                        | 1.2 | 0.125 |
| OUTER_MEMBRANE                                               | ACP1   ACP2   ACP3   ACP6   ACP7   ENPP1   ENPP3   FLAD1   MTMR1   MTMR2   MTMR6   MTMR7   RPK   TYR                                                                                                                                                                                                                                                                                                                                    | 1.2 | 0.25  |
| REACTOME_G_PROTEIN_BETA_GAMMA_SIGNALLING                     | ANKH   BCL2   BNI3   DHCR7   F1S1   GUCY2D   GUCY2F   MCL1   MFN2   MSTO1   MTX2   OPA1   RAGMT   MKLN1   MRPS35   RETSAT   RHO1T   RHO2T   TOMM22   TOMM34   VDACA1   VDACA2   VDACA3                                                                                                                                                                                                                                                  | 1.2 | 0.125 |
| RAS_GTPASE_ACTIVATOR_ACTIVITY                                | AKT1   AKT2   AKT3   GNB1   GNB2   GNB3   GNB5   GNG10   GNG11   GNG12   GNG13   GNG3   GNG4   GNG5   GNG7   GNGT1   GNGT2   PDPK1   PIK3CG   PIK3RS   PLCB1   PLCB2   PLCB3   RHOA                                                                                                                                                                                                                                                     | 1.2 | 0.25  |
| POSITIVE_REGULATION_OF_IMMUNE_RESPONSE                       | ALDH1A1   ARHGAP10   ARHGAP29   ARHGAP4   ARHGAP5   ARHGEF10L   CDC42EP2   DOCK4   GMIP   MYO9B   NF1   OPHN1   RAB3GAP1   RALBP1   RANGAP1   RARGE1F   RASA1   RAS2   RASAL1   RASAL2   RASGRP3   SOS1   THY1                                                                                                                                                                                                                          | 1.2 | 0.125 |
| PASTURAL_RIZ1_TARGETS_DN                                     | CTD10   CD79A   CHTM1   CRTAM   EREG   FYN   IKBKG   IL12A   IL12B   KRT1   LAT2   MALTI   MAP3K7   MBL2   PTPRC   TGF82   THY1   TLR8   TRAF2   TRAF6   TRAT1   UBE2N                                                                                                                                                                                                                                                                  | 1.2 | 0.25  |
| REACTOME_YAP1_AND_WWTR1_TAZ_STIMULATED_GENE_EXPRESSION       | CDKN1C   DLK1   IGF1   LAPTM5   SV2B                                                                                                                                                                                                                                                                                                                                                                                                    | 1.2 | 0.5   |
| WONG_INA2_RESISTANCE_DN                                      | CREBBP   CTGF   NCOA1   NCOA2   NCOA3   NCOA6   NPPA   PPARA   RUNX2   RXRA   SMARCD3   TBL1X   TBL1XR1   TBX5   TEAD1   TEAD3   TEAD4   WWTR1   YAP1                                                                                                                                                                                                                                                                                   | 1.2 | 0.125 |
| BIOCARTA_CYTOKINE_PATHWAY                                    | IFNA1   IFNB1   IFNG   IL10   IL12A   IL12B   IL13   IL15   IL16   IL17A   IL18   IL1A   IL1A   IL2   IL3   IL4   IL5   IL6   IL8   IL9   IL1A   TNF                                                                                                                                                                                                                                                                                    | 1.2 | 0.5   |
| chr1q23                                                      | ATP6V0B   BCL2L1   DEFA1   DPF2   DUSP3   EMR1   FOXF1   GRIN2A   HMG21   HMGN1   IDUA   LZTR1   MAGT1   MKLN1   MRPS35   MS2H   PAK7   PDK2   PLAU   POR   PRKACB   PSMD8   PWP1   RUNX1T1   SBF1   TTR   ZNF185   ZNF32                                                                                                                                                                                                               | 1.2 | 0.375 |
| BRACHAT_RESPONSE_TO_METHOTREXATE_UP                          | CDC19   CCT3   CD244   COPA   DEDD   F5   FASLG   FCER1A   FCER1G   FCGR2A   FCGR2B   FCGR3A   FCGR3B   GPR161   HAPLN2   HSD17B7   HSPA6   ISG20L2   MGST3   MRPS14   MYOC   NDUFS2   NES   NOS1AP   NR1B3   NTRK1   OLFML2B   OR10J1   PAPP2   PAQR6   PBX1   PF2D2   PIGC   POGK   PRRX1   PYHIN1   RGS4   RGS5   SELL   SERPINC1   SLAMF7   SLAMF8   SLC19A2   TBX19   TIPRL   TNFSF18   TNN   UAP1   UCF1   VASH2                  | 1.2 | 0.375 |
| BIOCARTA_CASPASE_PATHWAY                                     | ABLIM1   BTG2   C6orf116   C9orf5   CARHSP1   CCNG1   CD53   CDKN1A   E124   EMR1   H2AF1   HBA1   LPIN1   LRRC2   MDM2   PMM1   TOB1   TRAFD1   TXNIP   ZFP36L1                                                                                                                                                                                                                                                                        | 1.2 | 0.25  |
| NIKOLSKY_BREAST_CANCER_14Q22_AMPICON                         | APAF1   ARHGDB   BIRC2   BIRC3   CASP1   CASP10   CASP2   CASP3   CASP4   CASP6   CASP7   CASP8   CASP9   CYCS   DFFA   DFFB   GZMB   LMNA   LMNB1   LMNB2   PARP1   PRF1                                                                                                                                                                                                                                                               | 1.2 | 0.375 |
| REACTOME_ACTIVATION_OF_ATR_IN_RESPONSE_TO_REPLICATION_STRESS | C14orf166   ERO1L   NID2   PSMC6   PTGDR   PTGER2                                                                                                                                                                                                                                                                                                                                                                                       | 1.2 | 0.5   |
| HEIDENBLAD_AMPICON_12P11_12_UP                               | ATR   CDC25A   CDC25C   CDG6   CDG7   CDK2   CHEK1   DBF4   HUS1   MCM10   MCM2   MCM3   MCM4   MCM5   MCM6   MCM7   RAD1   RAD17   RAD9A   RFC2   RFC3   RFC4   RFCS   RPA1   RPA2   RPA3                                                                                                                                                                                                                                              | 1.2 | 0.375 |
| REGULATION_OF_ACTIN_FILAMENT_LENGTH                          | ABCC8   ADSL   ANKXA5   ARID3A   C6orf35   CB3   CDC39   CTC5   DNMBP   EFCAB1   EIF2B2   EIF5A   ERGIC2   GEM   IL7R   KCNK5   KIF1C   METTL5   MGP   NTAN1   PKNOX1   PPP1R7   RASA3   RASSF8   RPA1   RPRG   SARI1   SPA17   TCF11L1   XCL1                                                                                                                                                                                          | 1.2 | 0.375 |
| REGULATION_OF_CELLULAR_COMPONENT_SIZE                        | ARF6   CAPG   CDC42EP2   CXCL12   GSN   LAT51   LIMA1   NCK1   NCK2   NEBL   RASA1   TMSB4Y                                                                                                                                                                                                                                                                                                                                             | 1.2 | 0.25  |
| BAKER_HEMATOPOIESIS_STAT3_TARGETS                            | ARF6   CAPG   CDC42EP2   CXCL12   GSN   LAT51   LIMA1   NCK1   NCK2   NEBL   RASA1   TMSB4Y                                                                                                                                                                                                                                                                                                                                             | 1.2 | 0.25  |
| PID_INSULIN_GLUCCOSE_PATHWAY                                 | BCL2   BIRC5   CCNA2   CCND1   CCND2   CCND3   FAS   HIF1A   IL6   MCL1   MMP2   MMP9   MYC   PIM1   PIM2                                                                                                                                                                                                                                                                                                                               | 1.2 | 0.5   |
| KEGG_OTHER_GLYCAN_DEGRADATION                                | ACT1   AKT2   ASIP   GSK3B   GYS1   INS   INSR   LUNEP   PPP1CC   PPP1R3A   PRKCI   PRKC2   RHOQ   SFN   SLC2A4   STX4   TBC1D4   TRIP10   VAMP2   YWHAB   YWHAZ   YWHAA   YWHAQ   YWHAZ                                                                                                                                                                                                                                                | 1.2 | 0.25  |
| CYTOSOLIC_PART                                               | AGA   FUC1   GBA   GLB1   HEXA   HEXB   MAN2B1   MAN2B2   MAN2C1   MANBA   NEU1   NEU2   NEU3                                                                                                                                                                                                                                                                                                                                           | 1.2 | 0.125 |
| REACTOME_NEPHRIN_INTERACTIONS                                | CYB5B3   ERC1   GUCY1A3   GUCY1B3   HBA2   HBB   HBD   HBE1   HBQ1   HBZ   IKBKG   MAP3K13   NEFL   PFKFB1   PFKL   PFKM   PIK3R1   PRDX3   PYCARD   TSC1   TSC2                                                                                                                                                                                                                                                                        | 1.2 | 0.125 |
| TRNA_PROCESSING                                              | ACTN1   ACTN2   ACTN4   CD2AP   FYN   IQGAP1   MAGI2   NCK1   NCK2   NPHS1   PIK3CA   PIK3CB   PIK3R1   PIK3R2   SPTAN1   SPTBN1   WASL                                                                                                                                                                                                                                                                                                 | 1.2 | 0.375 |
| BIOCARTA_CDMAC_PATHWAY                                       | AARS   ADAT1   FARS2   METTL1   POP4   SARS   SSB                                                                                                                                                                                                                                                                                                                                                                                       | 1.2 | 0.25  |
| PID_IL12_STAT4PATHWAY                                        | CUZD1   FOS   HRAS   JUN   MAP2K1   MAPK1   MAPK3   MYC   NFKB1   NFKBIA   PLCB1   PRKCA   RAF1   RELA   TNF                                                                                                                                                                                                                                                                                                                            | 1.2 | 0.125 |
| NUCLEAR_MATRIX                                               | CD247   CD28   CD30   CD3E   CD3G   CD4   CD80   CD86   CREBBP   ETV5   FOS   HLA-DRA   HLA-DRB1   IFNG   IL13   IL18   IL18R1   IL18RAP   IL2   IL2RA   IRF1   JUN   MAPK8   MAPK9   PIAS2   PPP3CA   PPP3CB   PPP3R1   PRF1   STAT3   STAT4   TBX21   TGF81                                                                                                                                                                           | 1.2 | 0.125 |
| PARK_OSTEOBLAST_DIFFERENTIATION_BY_PHENYLAMIL_UP             | ATXN1   CENPF   DNMT3A   ERCC8   KIN   NUFIP1   SMC3   SPTBN4   TEPI1   TP53                                                                                                                                                                                                                                                                                                                                                            | 1.2 | 0.5   |
| PID_ATR_PATHWAY                                              | CHAC1   CLDN1   COX6A2   CYP26B1   FST   RGS3   SLC6A9   THBS1   TRIB3                                                                                                                                                                                                                                                                                                                                                                  | 1.2 | 0.25  |
| REACTOME_DOWNREGULATION_OF_ERBB2_ERBB3_SIGNALING             | ATR   BRCA2   CCNA2   CDC25A   CDC25C   CDG6   CDK2   CEP164   CHEK1   CLSPN   FBXW11   HUS1   MCM2   MCM7   MDM2   NBN   PLK1   PPP2CA   PPP2R1A   PPP2R2B   RAD1   RAD17   RAD51   RAD9A   RFC2   RFC3   RFC4   RFCS   RPA1   RPA2   SMARCAL1   TIMELESS   TIPIN   TOPBP1   YWHAB   YWHAZ                                                                                                                                             | 1.2 | 0.375 |
| REACTOME_SYNTHESIS_OF_PIP3_AT_THE_GOLGI_MEMBRANE             | AKT1   AKT2   AKT3   ERBB2   ERBB3   NRG1   NRG2   RNF41   RPS27A   UBA52   USP8                                                                                                                                                                                                                                                                                                                                                        | 1.2 | 0.25  |
| REACTOME_REGULATION_OF_IFNG_SIGNALING                        | ARF1   ARF3   INPP5E   OCLR   PIK3C2A   PIK3C2G   PIK3C3   PIK3R4   SACM1L   VAC14                                                                                                                                                                                                                                                                                                                                                      | 1.2 | 0.375 |
| EINAV_INTERFERON_SIGNATURE_IN_CANCER                         | IFNG   IFNGR1   IFNGR2   JAK1   JAK2   PIAS1   PTPN11   PTPN22   PTPN6   SOCS1   SOCS3   STAT1   SUMO1                                                                                                                                                                                                                                                                                                                                  | 1.2 | 0.375 |
| NIELSEN_LEIOMYOSARCOMA_UP                                    | ADAR   APOBEC3G   BRD3   BST2   EIF2AK2   ERG   IFI30   IFI35   IFI44   IFI44L   IFI6   IFI71   IFI73   ISG15   LY6E   MORC3   MX1   OAS1   OAS2   RXRA   SP100   SP110   STAT1   UBE2L6                                                                                                                                                                                                                                                | 1.2 | 0.5   |
| WAKABAYASHI_ALDOPHOGENESIS_PPARG_BOUND_36HR                  | AIM2   CAPG   CCL5   COL7A1   CXCL9   HLA-DQB1   HOMER2   KCNN4   LOXL1   MICAL2   MME   MTR   PLOD1   SH3BGR13   SLAMF8   VEGFC                                                                                                                                                                                                                                                                                                        | 1.2 | 0.375 |
| FUJIWARA_PARK2_IN_LIVER_CANCER_DN                            | ACY2P2   ADC2K   ALDH9A1   CALCOCO1   CDC25A   CHUK   CLNT1   CUEDC1   DYNLRB1   HIC2   LGALS3BP   MDM2   ME2FC2   NGLY1   OXSM   PLOD3   SAP30L   SH3GLB1   SLC16A10   TOB1   TRIT1   ZNHT1                                                                                                                                                                                                                                            | 1.2 | 0.25  |
| ZEMBUTSU_SENSITIVITY_TO_CISPLATIN                            | ASNS   BCL6   CXCL1   FST   NAT8                                                                                                                                                                                                                                                                                                                                                                                                        | 1.2 | 0.25  |
|                                                              | ABP1   ANXA4   DES   FBP1   HSD17B2   LLLG2   NRP3   OBF2CA   PCDH1   PGLYRP1   PGPEP1   PPM1F   TMSF53   TNFRSF14   TRPC4   TSPAN1                                                                                                                                                                                                                                                                                                     | 1.2 | 0.375 |



|                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |     |       |
|-------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| GAUSSMANN_MLL_AF4_FUSION_TARGETS_G_DN                             | AHNAK   AKR1B1   C7orf23   CCD9C1   CHST1   CPEB1   CPOX   CST6   DGC914   DGC6   DUS4L   DYRK3   ELMO1   ETV1   GCH1   GPR19   GSTA4   MTM1   NMT2   PCK2   RNF128   RP56KA2   SERPINB8   SLC6A8   WDR62   WHSC1   WNT4   ZCCHC2                                                                                                                                                                                                                                      | 1.2 | 0.375 |
| chr17q24                                                          | ABCA8   ACOX1   AMZ2   CACNG1   CACNG4   CACNG5   CDC42EP4   FOXR   GNA13   GRB2   GRIN2C   HELZ   LLGL2   MBTD1   NOL11   PITPNK1   PPM1E   PRPSAP1   PSDM12   RGS9   SLC16A6   SLC9A3R1   SSTR2   WIPI1                                                                                                                                                                                                                                                              | 1.2 | 0.125 |
| MARIADASON_RESPONSE_TO_BUTYRATE_CURCUMIN_SUINDAC_TSA_8            | CALML4   CREM   HELLS   HNMT   MTDH   RBBP4   SOS2   TMEM80   ZNF148                                                                                                                                                                                                                                                                                                                                                                                                   | 1.2 | 0.375 |
| DING_LUNG_CANCER_MUTATED_RECURRENTLY                              | EGFR   FLT4   KRAS   NRAS   STK11   TP53                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.2 | 0.375 |
| KEGG_CIRCADIAN_RHYTHM_MAMMAL                                      | ARNTL   CLOCK   CRY1   CRY2   CSNK1D   CSNK1E   NPAS2   NR1D1   PER1   PER2   PER3                                                                                                                                                                                                                                                                                                                                                                                     | 1.2 | 0.25  |
| PATTERN_SPECIFICATION_PROCESS                                     | ACVR2B   AXIN1   BM11   CTED2   DVL2   FTO   GLI2   HOXB1   KIF3B   LEFTY2   LMX1B   MDFI   MFNG   MID1   NOTCH4   PBX3   PITX2   SHH   SMAD1   SMAD2   SMAD5   T   TBX3   TGF1   TRIM14   ZIC1   ZIC3                                                                                                                                                                                                                                                                 | 1.2 | 0.25  |
| chr7q21                                                           | ABCB1   ABCB4   ADAM22   AKAP9   ARF1P1   ASB4   ASNS   BET1   C7orf23   CACNA2D1   CALCR   CDK6   COL1A2   CROT   CYP3A4   CYP3A43   CYP3A5   CYP3A7   CYP51A1   DBF4   DMTF1   DYNC111   EPO   FZD1   GATAD1   GNAI1   GNAT3   GNB2   GNGT1   GRM3   HGF   MAGI2   MCM7   MTERF   NPTX2   PDK4   PEG10   PEX1   PON1   PON2   PON3   PPP1R9A   SAMD9   SEMA3C   SEMA3D   SEMA3E   SERPINE1   SGCE   SHFM1   SLC25A13   SMURF1   SRI   STEAP1   STEAP4   TAC1   TRRAP | 1.2 | 0.25  |
| chr20p11                                                          | BFS1P   C20orf3   CD93   CRNKL1   CST1   CST2   CST3   CST4   CST5   CST7   CST8   ENTPD6   FLRT3   FOXA2   GINS1   HSPC072   INSM1   PAX1   PCSK2   POLR3F   PYGB   RBBP9   RIN2   SEC23B   SNX5   SSTR4   VSX1   ZNF133   ZNF337                                                                                                                                                                                                                                     | 1.2 | 0.25  |
| chr10p13                                                          | BM11   CAMK1D   DCLRE1C   GAD2   ITGA8   MCM10   MRC1   NMT2   NSUNG   OLAH   RPP38   RSU1   SUV39H2   USP6NL   VIM                                                                                                                                                                                                                                                                                                                                                    | 1.2 | 0.375 |
| SCIAN_INVERSED_TARGETS_OF_TP53_AND_TP73_UP                        | ASB4   FTL   GPR3   HIST1H31   MMP17   PCNA   PEPD   RHCE   SLC28A2   ST3GAL4   TP53                                                                                                                                                                                                                                                                                                                                                                                   | 1.2 | 0.5   |
| REACTOME_NEGATIVE_REGULATION_OF_THE_P13K_AKT_NETWORK              | AKT1   AKT2   AKT3   PTEN   TRIB3                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1.2 | 0.375 |
| BAFNA_MUC4_TARGETS_UP                                             | ATF7IP   IL18R1   PTGS1   S100A11   SNAI1                                                                                                                                                                                                                                                                                                                                                                                                                              | 1.2 | 0.375 |
| REACTOME_DSCAM_INTERACTIONS                                       | DC   DSCAM   MAPK11   MAPK12   MAPK13   MAPK14   MAPK8   NTN1   PAK1   RAC1                                                                                                                                                                                                                                                                                                                                                                                            | 1.2 | 0.375 |
| chr12q21                                                          | ATP2B1   BBS10   C12orf29   CCDC59   CEP290   CRADD   CSRP2   GALNT4   KERA   LIN7A   LUM   MGAT4C   MLXIP   MYF5   MYF6   NAP1L1   NTS   NUDT4   PAWR   PPIAF2   SLC6A15   ZDHHC17                                                                                                                                                                                                                                                                                    | 1.2 | 0.375 |
| YE_METASTATIC_LIVER_CANCER                                        | AKR1C4   ASPH   CD37   CENPE   CES1   CXCR6   CYP4F12   ENO3   FZD2   GRK5   HCG2P7   IGFBP6   IL2RB   INPP5B   IRF2   ITGA9   KHK   IL1RA2   LRP6   MFI   MMP9   PRR3   RAB28   SERPINB5   SPP1   YES1                                                                                                                                                                                                                                                                | 1.2 | 0.25  |
| YAGUE_PRETUMOR_DRUG_RESISTANCE_UP                                 | ABCB1   HSD17B2   MAN1C1   PHLDA1   SALL1   TBC1D8                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.2 | 0.125 |
| PID_NFKAPPABCANONICALPATHWAY                                      | ATM   BCL10   BIRC2   CHUK   CYLD   ERC1   IKKB   IKBK   MALT1   NFKB1   NFKBIA   PRKCA   RAN   REL   RIPK2   TNF   TNFAIP3   TNFRSF1A   TRAF6   UBE2D3   XPO1                                                                                                                                                                                                                                                                                                         | 1.2 | 0.375 |
| REACTOME_FANCONI_ANEMIA_PATHWAY                                   | ATM   ATR   BRCA1   BRCA2   C17orf70   C19orf40   FANCA   FANCC   FANCE   FANCF   FANGC   FANCL   PALB2   RPS27A   UBA52   USP1   ZBTB32                                                                                                                                                                                                                                                                                                                               | 1.2 | 0.375 |
| chr3q25                                                           | ABCF3   ARL14   B3GALNT1   CCN1L1   EIF5A2   GFM1   GPR171   KPNA4   LXN   MAP3K13   MBNL1   MFSO1   MLF1   P2RY1   PFN2   PLCH1   PTX3   RAP2B   RARRES1   RNF13   RSRC1   SCHIP1   SELT   SERP1   SHOX2   SI   SIAH2   SSR3   TIPARP   TM4SF4   TSC22D2                                                                                                                                                                                                              | 1.2 | 0.25  |
| ST_P38_MAPK_PATHWAY                                               | AKT1   ATF1   CDC42   CREB1   CREB3   CREB5   DUSP1   DUSP10   EIF4E   ELK1   GADD45A   HSPB1   IL1R1   MAP2K3   MAP2K4   MAP2K6   MAP3K10   MAP3K4   MAP3K5   MAP3K7   MAPK1   MAPK11   MAPK12   MAPK13   MAPK14   MAPKAPK2   MAPKAPK5   MKK1   MKK2   MYE2   NFKB1   NR2C2   SRF   TRAF6                                                                                                                                                                             | 1.2 | 0.125 |
| ICOSANOID_METABOLIC_PROCESS                                       | AKR1C2   AKR1C3   CD74   CYP2J2   CYP4F2   CYP4F3   CYP4F8   FADS1   HPGD   LTA4H   MIF   PRG3   PTGDS   PTGES   PTGES3   PTGS1   TNFRSF1A                                                                                                                                                                                                                                                                                                                             | 1.2 | 0.25  |
| VALK_AML_CLUSTER_13                                               | ADCY7   ADRA2C   BAIAP3   C11orf21   C11orf9   C15orf39   CACNA2D2   CAV1   FBLN5   GRK5   HSPG2   IL5RA   ITGB4   LAT2   LCP1   NARFL   NBL1   NCALD   PNMT   POU4F1   PSD3   ROBO1   RUNX1T1   SLC25A1   STK32B   TRH   VLDLR                                                                                                                                                                                                                                        | 1.2 | 0.25  |
| TOKNS_TARGETS_OF_RUNX1_RUNX1T1_FUSION_SUSTAINED_IN GRANULOCYTE_UP | ALDH1A1   ARI05B   CD200   CRHRP   CYP1A1   FZRL1   GUCY1A3   HSPB1   ID1   IFI16   IL17B8   JUP   SOX4   TM4SF1                                                                                                                                                                                                                                                                                                                                                       | 1.2 | 0.375 |
| BIOCARTA_IL6_PATHWAY                                              | CEBPB   CSNK2A1   ELK1   FOS   GRB2   HRAS   IL6   IL6R   IL6ST   JAK1   JAK2   JAK3   JUN   MAP2K1   MAPK3   PTPN11   RAF1   SHC1   SOS1   SRF   STAT3   TYK2                                                                                                                                                                                                                                                                                                         | 1.2 | 0.5   |
| GILMORE_CORE_NFKB_PATHWAY                                         | BCL3   CHUK   IKKB   IKBE   IKKBG   NFKB1   NFKB2   NFKBIA   NFKBIB   NFKBIE   REL   RELB                                                                                                                                                                                                                                                                                                                                                                              | 1.2 | 0.5   |
| VESICLE_LOCALIZATION                                              | AP1M2   LRMP   MYO1A   NLGN1   SEPT5   SHROOM2   SNAP23   SNAP29   STX5   TMED10   YKT6                                                                                                                                                                                                                                                                                                                                                                                | 1.2 | 0.25  |
| chr4p12                                                           | ATP10D   CNGA1   COMMD8   FRYL   GABRA2   GABRA4   GABRB1   NR4A3   PHOX2B   PTTG2   SLC30A9   TXK                                                                                                                                                                                                                                                                                                                                                                     | 1.2 | 0.375 |
| chr6p12                                                           | ABCC10   BAG2   CAPN11   CD2AP   CENPQ   CLIC3   COL21A1   CRISP3   DST   EFHC1   FBXO9   GCLC   GNMT   GPR116   GSTA1   GSTA3   GSTA4   HSP90B1   ICK   IL17A   LRRC1   MCN3   MEP1A   TFAP2B   TMEM14A   ZNF451                                                                                                                                                                                                                                                      | 1.2 | 0.25  |
| REACTOME_PIP3_ACTIVATES_AKT_SIGNALING                             | AKT1   AKT2   AKT3   BAD   CASP9   CDKN1A   CDKN1B   CHUK   CREB1   GSK3A   MAPKAP1   MDM2   NR4A1   PDPK1   PTEN   RPS6KB2   TRIB3   TSC2                                                                                                                                                                                                                                                                                                                             | 1.2 | 0.25  |
| CYTOKINE_AND_CHEMOKINE_MEDIATED_SIGNALING_PATHWAY                 | C16orf5   CCR2   CD24   CXCL31   DUOX1   DUOX2   EREG   IL2RB   IRAK3   NUP85   PF4   PTPRC   PYCARD   RELB   SIGIRR   SOCS1   SOCSS   TNFRSF1A   ZNF675                                                                                                                                                                                                                                                                                                               | 1.2 | 0.5   |
| PID_DELTANP63PATHWAY                                              | ADA   ADM1   ATM   AXL   BDKRB2   BRCA2   CCN2   CDKN2A   CEBPD   COL5A1   DLX5   DLX6   FASN   FBXW7   FOSL2   GNB2L1   GPX2   GSK3B   NBL1   HELLS   HES1   IGFBR3   IL1A   ITCH   ITGA3   KRT14   KRT5   MDM2   MRE11A   NOTCH1   NRG1   PERP   POU2F2   PPP2R5A   RAB38   RRAD   RUNX1   SEC14L2   SFN   T   TCF7L1   TOP2A   VDR   WWP1   YAP1                                                                                                                    | 1.2 | 0.375 |
| RNA_SPLICING_FACTOR_ACTIVITYTRANSESTERIFICATION_MECHANISM         | BCAS2   DDXX23   KHSRP   LSM1   PRPF3   PRPF8   SF3A3   SF3B3   SF3B4   SMNDC1   SRRM1   TNLX4A                                                                                                                                                                                                                                                                                                                                                                        | 1.2 | 0.375 |
| PHOSPHOTRANSFERASE_ACTIVITY_PHOSPHATE_GROUP_AS_ACCEPTOR           | AK1   AK2   AK5   CASK   DLG1   DLG2   DTYMK   GUK1   MPP1   MPP2   MPP3   NME1   NME2   NME4   NME5   NME6   PMVK   TPJ2                                                                                                                                                                                                                                                                                                                                              | 1.2 | 0.375 |
| REACTOME_APOPTOTIC_CLEAVAGE_OF_CELL_ADHESION_PROTEINS             | CASP3   CDH1   CTNNB1   DSG1   DSG2   DSG3   DSP   LOC647859   OCLN   PKP1   TPJ1   TPJ2                                                                                                                                                                                                                                                                                                                                                                               | 1.2 | 0.375 |
| REACTOME_EFFECTS_OF_PIP2_HYDROLYSIS                               | DGKA   DGKB   DGKD   DGKE   DGKG   DGKI   DGKJ   ITPR3   ITPR4   MGLL   PRKCD   PRKCE   PRKCH   PRKCQ   RASGRP1   RASGRP2   TRPC3   TRPC6   TRPC7                                                                                                                                                                                                                                                                                                                      | 1.2 | 0.25  |
| KEGG_RENIN_ANGIOTENSIN_SYSTEM                                     | ACE   ACE2   AGT   AGTR1   AGTR2   ANPEP   CMA1   CPA3   CTSG   ENPEP   LNPEP   MAS1   MME   REN   THOP1                                                                                                                                                                                                                                                                                                                                                               | 1.2 | 0.25  |
| MANTOVANI_NFKB_TARGETS_DN                                         | BRD1   DGKQ   DHCR24   DNASE2   EFNB3   GLT2D2   KIAA1609   SLC14A2   UBN1   ZCWPW2                                                                                                                                                                                                                                                                                                                                                                                    | 1.2 | 0.5   |
| HEDVAT_ELF4_TARGETS_UP                                            | ABCB1   CA2   CREM   CXCL2   HDC   IL8   KIT   MT1G   NDUFS8   PIK3C3   TAF7                                                                                                                                                                                                                                                                                                                                                                                           | 1.2 | 0.5   |
| INTRACELLULAR_RECEPTOR_MEDIATED_SIGNALING_PATHWAY                 | ARID1A   CALCOCO1   DAXX   DDXX4   ESR2   IGF1   MED12   MED4   THRAPP3   YWHAAH                                                                                                                                                                                                                                                                                                                                                                                       | 1.2 | 0.375 |
| STEROID_HORMONE_RECEPTOR_SIGNALING_PATHWAY                        | ARID1A   CALCOCO1   DAXX   DDXX4   ESR2   IGF1   MED12   MED4   THRAPP3   YWHAAH                                                                                                                                                                                                                                                                                                                                                                                       | 1.2 | 0.375 |
| MODULE_191                                                        | CCL11   CCL13   CCL14   CCL19   CCL2   CCL23   CCL3   CCL7   CP   CXCL12   FTH1   HFE   LTF   MT2A   MYC   STC1   TF   TFRC   XCL1                                                                                                                                                                                                                                                                                                                                     | 1.2 | 0.25  |
| MAHADEVAN_IMATINIB_RESISTANCE_UP                                  | ALDH1A1   AXL   BAMBI   CD24   CRIM1   CXCL14   CYTL1   DKX3   GREM1   HSD17B2   KYNU   MYO10   NNMT   PDGFC   SCN3A   SERPINE2   SLC1A1   SPANXA1   SPANXA2   SPANXB1   SPANXB2   SPANXC   SPOCK1                                                                                                                                                                                                                                                                     | 1.2 | 0.375 |
| MODULE_445                                                        | ACHE   ADCY8   ADM1   DDC   DIO1   GAD2   GUCY1A2   GUCY1B3   GUCY2C   GUCY2D   GUCY2F   MAOA   NPR1   NPR2   TTR                                                                                                                                                                                                                                                                                                                                                      | 1.2 | 0.375 |
| REGULATION_OF_IMMUNE_RESPONSE                                     | C2   CD10   CD79A   CFHR1   CRTAM   EREG   FOXP3   FYN   IKKBG   IL12A   IL12B   IL4   KRT1   LAT2   MALT1   MAP3K7   MBL2   NCR1   PTPRC   SPINK5   TGF2   THY1   TLR8   TRAF2   TRAF6   TRAT1   UBE2N                                                                                                                                                                                                                                                                | 1.2 | 0.375 |
| DORN_ADENOVIRUS_INFECTION_12HR_UP                                 | ATF4   BCAR3   CYR61   DDXX58   EGR3   ELL2   EPHA2   FUBP1   HIST1H2BK   IFIT1   IFIT2   JUNB   KLRC2   KRT14   KRT19   MAFAP2   MMP15   NFKB2   NR4A1   PDE2A   PLK2   RAB1A   RASL12   RND3   SERPINB5   SNAI2   TSC22D3                                                                                                                                                                                                                                            | 1.2 | 0.5   |
| MODULE_343                                                        | ACADM   ACADSB   ACADVL   ACO1   ACO2   AMT   CA11   CA2   CA4   CASA   CA6   CA8   CBS   CPS1   ECH1   ECHS1   EHHADH   FH   GLUD1   HADHA   HADHB   HAL   PCB01   PTS   UROS                                                                                                                                                                                                                                                                                         | 1.2 | 0.25  |
| REGULATION_OF_PROTEIN_AMINO_ACID_PHOSPHORYLATION                  | BMP4   CARD14   CCND1   CCND2   CCND3   CD80   CD81   CLCF1   EGFR   HCL51   IGFBR3   IL12A   IL3   IL5   ITGB2   LYN   NDUFS4   NF2   SOS1   TGF1   TNK2                                                                                                                                                                                                                                                                                                              | 1.2 | 0.375 |
| PODAR_RESPONSE_TO_ADAPHOSTIN_DN                                   | ACTG1   C1orf106   CCNE1   CCNF   CXCR3   CXCL10   DHCR7   FDDT1   GU2   HK2   IDI1   INSIG1   SCD   SDC1   TFRC   UNG                                                                                                                                                                                                                                                                                                                                                 | 1.2 | 0.375 |
| PID_P13KPLCTRKPATHWAY                                             | AKT1   BAD   CAMK2A   CAMK4   CCND1   CREB1   EGR1   EPB41L1   GAB1   GRB2   GSK3B   HRAS   KRAS   NRAS   NTRK1   PDPK1   PIK3CA   PIK3R1   PLCG1   PRKCD   SFN   SHC1   SOS1   SRC   STAT5A   TRPC3   TRPV1   YWHAB   YWHAE   YWHAAQ   YWHAZ                                                                                                                                                                                                                          | 1.2 | 0.25  |
| PID_P38GAMMADeltaPATHWAY                                          | CCND1   MAP2K3   MAP2K6   MAPK12   MAPK13   MAPT   PKN1   SNTA1   STMN1   ZAK                                                                                                                                                                                                                                                                                                                                                                                          | 1.2 | 0.375 |
| HISTONE_METHYLTRANSFERASE_ACTIVITY                                | EED   EHMT1   EH2   FBXO11   NSD1   PRMT7   PRMT8   SUV39H1   SUV39H2   SUZ12   WHSC1L1                                                                                                                                                                                                                                                                                                                                                                                | 1.2 | 0.5   |
| V5STAT3_O1                                                        | APBA1   ASK1   BTBD1   CCL2   CSH1   CLDN5   ELMO1   ICAM1   IRF1   MAFF   PROS1   SERPING1   TRAF4   VIP                                                                                                                                                                                                                                                                                                                                                              | 1.2 | 0.125 |
| chrqx11                                                           | ARHGEF9   EDA2R   HEPH   LOC92249   MSN   MTMR8   TSPAN7                                                                                                                                                                                                                                                                                                                                                                                                               | 1.2 | 0.25  |
| BIOCARTA_RACCYC_D_PATHWAY                                         | AKT1   CCND1   CCNE1   CDK2   CDK4   CDK6   CDKN1A   CDKN1B   CHUK   EZF1   HRAS   IKKB   IKKBG   MAPK1   MAPK3   NFKB1   NFKBIA   PAK1   PIK3CA   PIK3R1   RAC1   RAF1   RB1   RELB   RHOA   TRPD1                                                                                                                                                                                                                                                                    | 1.2 | 0.375 |
| HAHTOLA_CTLX_PATHOGENESIS                                         | CCL5   CD52   DLG5   GZMB   IL2RB   IL7R   KIR3DL2   LILRA5   MMP9   M5A4A4   NKG7   S100P   TBX21   TXK   VAV3   XCL1                                                                                                                                                                                                                                                                                                                                                 | 1.2 | 0.125 |
| chr8q23                                                           | COL14A1   COLEC10   EBAG9   ENV2   ITPR1   KIAA0196   OXR1   PENK   SNTB1   TRHR   TRPS1   ZFPM2                                                                                                                                                                                                                                                                                                                                                                       | 1.2 | 0.25  |
| NIELSEN_LEIOMYOSARCOMA_DN                                         | ABLIM1   AOD3   CSorf4   DAAM2   EPHX2   GPR125   HR   LRPS   MEIS3P1   MN1   PBX1   PRDX2   RPP30   SFRP1   TBLX1   TRAK2                                                                                                                                                                                                                                                                                                                                             | 1.2 | 0.125 |
| DORN_ADENOVIRUS_INFECTION_32HR_UP                                 | ANPEP   ATF4   BACE2   ELF3   HIST1H2BK   IFIT2   MYC   PDE2A   RASL12   TOP2A   TSC22D3                                                                                                                                                                                                                                                                                                                                                                               | 1.2 | 0.375 |
| ACTIVATION_OF_PROTEIN_KINASE_ACTIVITY                             | ANG   AZU1   CARD10   EDN2   GADD45B   GADD45G   GAP43   IRAK1   MALT1   MAP3K13   MAP3K4   MAP3K7   PARD3   PICK1   PPAP2A   PRKD3   TAO2   TNFSF15   TRAF2   TRAF6   ZAK                                                                                                                                                                                                                                                                                             | 1.2 | 0.125 |
| REACTOME_INITIAL_TRIGGERING_OF_COMPLEMENT                         | C1QA   C1QB   C1S   C2   C3   C4   C4A   CFB   CFI   CRP   MASP1   MASP2   MBL2                                                                                                                                                                                                                                                                                                                                                                                        | 1.2 | 0.25  |
| AMINO_ACID_TRANSPORT                                              | ARL6IP5   CLN3   CTNS   PDPN   PRAF2   SERINC1   SLC16A10   SLC1A1   SLC1A2   SLC1A3   SLC1A4   SLC1A5   SLC1A6   SLC25A12   SLC25A13   SLC25A15   SLC25A22   SLC38A3   SLC3A1   SLC3A2   SLC3A3   SLC6A7   SLC7A10   SLC7A5   SLC7A8   SLC7A9                                                                                                                                                                                                                         | 1.2 | 0.5   |
| PID_IL6_PATHWAY                                                   | A2M   AKT1   BCL2L1   CEBP9   CEBPD   CRP   FGG   FOS   GAB1   GAB2   GRB2   HCK   HSP90B1   IL6   IL6R   IL6ST   IRF1   JAK1   JAK2   JUN   JUNB   LBP   LMO4   MAP2K4   MAP2K6   MAPK11   MAPK14   MCL1   MITF   MYC   PIAS1   PIAS3   PIK3CA   PIK3R1   PRKCD   PTPN11   PTPRE   RAC1   SOCS3   SOS1   STAT1   STAT3   TIMP1   TNFSF11   TYK2   VAV1                                                                                                                | 1.2 | 0.25  |
| YAMANAKA_GLIOMASTOMA_SURVIVAL_DN                                  | ALCAM   DDR1   IFT88   ITGB2   PDCC4                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1.2 | 0.5   |
| CYTOKINE_BIOSYNTHETIC_PROCESS                                     | APOA2   AZU1   BCL10   BCL3   CD28   CEBP9   EB13   EREG   FOXP3   GHSR   GLMN   IL12B   IL18   IL4   IL6   IL9   INHA   INHBA   INHBB   IRF4   LTB   MAST2   PRG3   SFTPO   SIGIRR   SPN   TLR1   TLR3   TLR4   TLR6   TLR7   TLR8   TNFRSF8                                                                                                                                                                                                                          | 1.2 | 0.375 |
| BIOCARTA_SHH_PATHWAY                                              | DYRK1A   DYRK1B   GU1   GU2   GU3   GSK3B   PRKACB   PRKACG   PRKARIA   PRKARI1B   PRKAR2A   PRKAR2B   SHH   SMO                                                                                                                                                                                                                                                                                                                                                       | 1.2 | 0.25  |
| REACTOME_DCC_MEDIATED_ATTRACTIVE_SIGNALING                        | ABLIM1   ABLIM3   CDC42   DCC   DOCK1   FYN   NCK1   NTN1   PTK2   RAC1   SRC   TRIO   WASL                                                                                                                                                                                                                                                                                                                                                                            | 1.2 | 0.25  |
| FOCAL_ADHESION_FORMATION                                          | ACTN1   ACTN2   ACTN3   ACVRL1   PTEN   SORBS1   TAOK2   TESK2   THY1   TSC1                                                                                                                                                                                                                                                                                                                                                                                           | 1.2 | 0.25  |
| TISSUE_MORPHOGENESIS                                              | ERCC2   ERCC3   EVA2   GLI1   KLF4   KRT2   SLIT2   SMOAD2   SPINK5   TBX3   TGF2B   TGM3   TRIM15                                                                                                                                                                                                                                                                                                                                                                     | 1.2 | 0.25  |
| CLASPER_LYMPHATIC_VESSELS_DURING_METASTASIS_UP                    | ADM   ANGPT2   CD200   CXADR   EDN1   ENG   F11R   HXB5   LEPR   PDGFB   PIM1   PVRL2   SPRY1   TGF2B   TGF3B   THBS1   TNC                                                                                                                                                                                                                                                                                                                                            | 1.2 | 0.375 |
| chr10q25                                                          | ABLIM1   ACADSB   ACSL5   ADD3   BAG3   BCCIP   CASP7   DCLRE1A   DMBT1   DPYSL4   DUSP5   FAM54A   FGF8   FGF2   GFR1A   GSTO1   IFIT1   LOC282997   NEURL   OBF1   PAX2   PGAM1   PITX3   PRDX3   RGS10   SEC23IP   SH3PX2A   SHOC2   SLK   SMC3   TCF7L2   UROS   XPNPEP1                                                                                                                                                                                           | 1.2 | 0.25  |
| chr4q23                                                           | ADH1A   ADH1B   ADH1C   ADH5   ADH6   ADH7   AGA   BANK1   BMPR1B   DNAJB14   H2AF2   LEF1   METAP1   RAP1GDS1                                                                                                                                                                                                                                                                                                                                                         | 1.2 | 0.5   |

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| chr5q22                                              | AP3S1   C5orf13   CD14   DCP2   DMXL1   FEM1C   FLJ11235   ISOC1   PJA2   REEP5   TMED7   TRIM36   YTHDC2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| FERRARI_RESPONSE_TO_FENRETINIDE_UP                   | ATF3   BMP2   C10orf10   CCL20   CXCL2   CXCL3   DDIT3   DDIT4   DHRS3   GPRC5A   HERPUD1   IRF1   KLF7   NR1P1   PTGS2   SELE   SEMA3C   SLC7A5   ST3GALL1   TRIM33                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| MUNSHI_MULTIPLE_MYELOMA_DN                           | CNOT2   DKC1   HSF1   KIR2DL4   RAD51   SKIL   SMARCA4   UCHL1   VAMP5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| chrXq21                                              | ARMXC1   ARMXC2   ARMXC6   ARMC6   ATRX   BEX1   BTK   CHM   COX7B   CYLC1   FGF16   FMR1   GLA   KLHL4   NAP13L   P2RY10   PCDH11X   PLP1   POF1B   POU3F4   PRP51   RPA4   RPS6KA6   SATL1   SERPINA7   SRPX2   TMSB4X   TNMD   ZNF711                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| HOWLIN_CITED1_TARGETS_1_UP                           | C12orf35   CBX5   CD8A   CLEC3B   CNOT3   DD66   DPP4   FGF23   GDDP3   GPC3   HAL   IL1R2   IL6R   JAK1   KCNK11   KIF5B   KRT85   MBP   MLF1   NR2F2   PANK3   RBM5   SAMHD1   SNCA   TMEM100   XIST   ZBTB20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| BIOCARTA_SODD_PATHWAY                                | BAG4   BIRC3   CASP8   FADD   RIPK1   TNF   TNFRSF1A   TNFRSF1B   TRADD   TRAF2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| WHITE_NEUROBLASTOMA_WITH_1P36.3_DELETION             | ACOT7   AJAP1   CAMTA1   CHD5   DNAJC11   GPR153   HES2   ICMT   KCNAB2   KLHL21   NOL9   PLEKHG5   RPL22   THAP3   TNFRSF25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| chr4q28                                              | CCRN4L   CLGN   ELF2   FBP2   FAT4   FGA   FGB   FGG   GYPA   GYPB   GYPE   HSPA4L   IBSP   KIAA1109   MAML3   MGST2   NDUFC1   RAB33B   SLC25A31   SLC7A11   UCP1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| TCCGTCC,MIR-184                                      | ATXN2L   CREB3L1   EIF2C2   EPB41L5   FZD1   INPPL1   SF1   SLC6A9   TNRC6B   UBAP2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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| POSITIVE_REGULATION_OF_CELL_MIGRATION                | AMOT   ANGPTL3   CDH13   EGFR   LAMB1   MIA3   SPHK1   TDGF1   TRIP6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| ESTABLISHMENT_OF_VESICLE_LOCALIZATION                | AP1M2   LRMP   NLGN1   SEPT5   SHROOM2   SNAP23   SNAP29   STX5   TMED10   YKT6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| MYOBLAST_DIFFERENTIATION                             | ACTA1   ADAM12   BMP4   CACNA1H   IFRD1   IGFBP3   KCNH1   KRT19   MAPK12   MBNL1   MYEF2   MYH11   MYOZ1   NOTCH1   TBX3   TTN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| ESTABLISHMENT_AND_OR_MAINTENANCE_OF_CELL_POLARITY    | ANK1   BRSK2   CAP1   CAP2   CCL4   CD3G   CDC42   CDC42BPB   CLASP2   CRB1   DLG1   MAP7   MARK2   PARD3   PARD6B   PRKCI   SFRP5   SPN   WNT1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| BIOCARTA_P35ALZHEIMERS_PATHWAY                       | APP   CAPP1   CAPNS1   CDK5   CDK5R1   CSNK1A1   CSNK1D   GSK3B   MAPT   PPP2CA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| REACTOME_PROCESSING_OF_CAPPED_INTRONLESS_PRE_MRNA    | CPSF1   CSTF1   CSTF2   CSTF3   NCBP1   NCBP2   NUDT21   PABPN1   PAPOLA   PCF11   SLBP   SNRNP   SNRNP3   SNRPE   SNRPF   SNRPG   ZNF473                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| PID_CDC42_REG_PATHWAY                                | APC   ARHGAP1   ARHGAP17   ARHGOD1A   ARHGEF6   ARHGEF7   ARHGEF9   BCAR3   CDC42   DNMBP   DOCK10   DOCK6   DOCK9   FARP2   FGD1   GIT1   ITSN2   MCF2   MCF2L   NME1   PLCG1   RACGAP1   RALBP1   VAV2   VAV3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| PROTEIN_TRANSPORTER_ACTIVITY                         | ABCG1   CTGF8   COG2   EIF4ENIF1   IPO9   MCL1   RAMP1   SEC61B   TSNAK   XPO6   ZFYVE16                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| chr1q41                                              | ACDB3   CAPN2   DEGS1   DUSP10   EPRS   ESRG   GALNT2   IARS2   KCNK2   KCTD3   MARK1   MOSC1   MOSC2   NVL   PARP1   RPS6KC1   SLC30A10   SUSDA   TGF82   USH2A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| SCHLESINGER_METHYLATED_IN_COLON_CANCER               | CDX2   DKK1   IHH   MGMT   SFRP1   SFRP5   WIF1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| chr10q22                                             | ACTA2   ADK   ANXA11   ANXA7   ATP5C1   BMP1A1   BTAFA1   CAMK2G   CHST3   COL13A1   CRTAC1   DDX50   DNAJB12   DNAJC12   DNAJC9   ECD   H2AFY2   HK1   HKDC1   JMD1C   KCNMA1   KIAA0913   KIAA1279   LDB3   LRRC20   MAT1A   MRPS16   MYOZ1   NDST2   NRBF2   NUDT13   PCBD1   PPIF   PRF1   PRG1   RHOBTB1   RPS24   RUFY2   SAR1A   SEC24C   SFTPA2   SFTPD   SLC29A3   SUPV3L1   SYNP02L   TSPAN15   TTC18   VCL   VDAC2   ZNF32                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| COLLAGEN_BINDING                                     | ACHE   DSSP   GP6   ITGA10   ITGA2   LUM   MMP9   NID2   SPARC   USH2A   VWF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| PEPPER_CHRONIC_LYMPHOCYTIC_LEUKEMIA_DN               | ADCV8   APBB2   CCRA   CDC14A   CENPQ   CHST8   EXT1   GNRH2   GYPA   MICAL2   NEFL   NEURL   NR5A2   OR3A2   PDAP1   PDE10A   PROS1   SLC10A1   STATH   TBXA2R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| PID_NCADHERINPATHWAY                                 | AXIN1   CAMK2G   CDC42   CDH2   CNR1   CTNNA1   CTNNB1   CTNND1   CTTN   DCTN1   FER   FGFR1   GAP43   GJA1   GRIA2   GSN   JUP   KIF5B   LRPS   MAPK8   MAPRE1   MYL2   PIK3CA   PIK3R1   PIP5K1C   PLCG1   PTPN1   PTPN11   RAC1   RHOA   ROCK1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| chr7p15                                              | ACTB   AHR   CHN2   CREB5   DFNA5   EVX1   FKBP14   GARS   GCK   HDAC9   HIBADH   HOXA1   HOXA10   HOXA11   HOXA2   HOXA3   HOXA4   HOXA5   HOXA6   HOXA7   HOXA9   IGF2BP3   INHBA   ITGB8   KIAA0087   KLHL7   LOC402644   LOC441204   MPPE   NEUROD6   NPY   NUP12   OSBP13   RARGE5   SNX10   SP4   TARP   TAX1BP1   TOMM7   TRA2A   TWISTNB   TXNDC3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| REACTOME_LYSOSOME_VESICLE_BIOGENESIS                 | AP1B1   AP1G1   AP1M2   AP1S1   AP1S2   ARF1   ARRB1   BLOC1S1   CLTA   CLTC   CTSE   DNAJC6   DNASE2   DNM2   GNS   HSPA8   M6PR   SH3GL2   TXNDC5   VAMP2   VAMP8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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| BACOLOD_RESISTANCE_TO_ALKYLATING_AGENTS_UP           | ARSF   CA2   CDH11   CYR61   DARIC   ENC1   FBXO21   HSPA6   HTRA1   ID2   IGF1   LMO2   MDK   MTIX   MT2A   PEG10   PGP2R1B   PRSS12   RABGAP1L   SEMA3A   SGCE   SHOX2   TPM1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| GAZIN_EPIGENETIC_SILENCING_BY_KRAS                   | ASF1A   BAZ2A   BM11   C20orf20   CTCF   DNMT1   DOT1L   E2F1   EED   EZH2   HDAC9   MAP3K9   MAPK1   PDPK1   PTK2B   SIRT6   SOX14   TRIM37   TRIM66   ZCCHC4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| MEISSNER_NPC_ICP_WITH_H3_UNMETHYLATED                | COL6A2   EPN3   EPPK1   EVPL   KRT85   LECT1   LEP   LYL1   PAK6   PPIH   SHANK2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| REACTOME_THE_NLRP3_INFLAMMASOME                      | APP   CASP1   FIP90A1   MEV1   P2RX7   PANX1   PSTPIP1   PYCARD   TXN   TXNIP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| SESTO_RESPONSE_TO_UV_C3                              | ATF3   CBFV001   BR3   CYCS   DUSP1   EIF2S1   H2AFX   HBEGF   HIST2H2BE   IER3   IL1B   IL8   MAD2L1BP   MYD88   PHLDA2   PMAIP1   PTGS2   RND3   SOX9   TAX1BP3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| VACUOLAR_MEMBRANE                                    | ABCA2   ATP6V1B1   CD63   CLN5   CORO1A   CTNS   LAMP2   LAMP3   MYO7A   SLC17A5   TRIM23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| BAUS_TFF2_TARGETS_DN                                 | ART3   BAG2   CTCF   DDX6   HEBP1   PCP4   PRDX2   RBP4   TIMP3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| HOLLEMAN_PREDNISOLONE_RESISTANCE_ALL_UP              | ARPC2   CA4   CST7   DAPK1   MATK   MATN1   MCL1   POLH   SLC11A1   STOM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| KONDO_COLON_CANCER_HCP_WITH_H3K27ME1                 | ACSL3   C1orf114   C1orf27   CCNA1   COL9A1   CXCR4   DKK2   EFNA5   LGI2   MAPKBK1   PCSK1N   PLA2G4A   RNASE2   RQCD1   SIPA1   TPP2   TPR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| REACTOME_INTRINSIC_PATHWAY_FOR_APOPTOSIS             | AKT1   APAF1   BAD   BAK1   BAX   BBC3   BCL2   BCL2L1   BCL2L11   BID   CASP3   CASP7   CASP8   CASP9   CYCS   DIABLO   DYNLL1   E2F1   GZMB   MAPK8   NMT1   PMAIP1   PPP3R1   TFDP1   TP53   YWHAB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| BIOCARTA_LAIR_PATHWAY                                | C3   C5   C6   C7   ICAM1   IL1A   IL6   IL8   ITGA4   ITGAL   ITGB1   ITGB2   KNG1   SELP   SELPLG   TNF   VCAM1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| DNA_POLYMERASE_ACTIVITY                              | DKC1   POL1   POLB   POLD1   POLE   POLE2   POLE3   POLG   POLG2   POLH   POLI   POLQ   PTGES3   REV3L   TEP1   TERT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| chr12q14                                             | AVPR1A   CAND1   CCT2   COL2A1   GLIPR1   GNS   KCNC2   LEMD3   MDM2   MMP19   MON2   NAV3   NUP107   OSBP18   PPM1H   RAP1B   TBK1   TMBIM4   TMEM5   TSMF   TSPAN8   USP15   WIF1   XPOT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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| <b>BIOCARTA_HIF_PATHWAY</b>                          | ARNT   ASPH   COPPS   CREB1   EDN1   EP300   EPO   HIF1A   HSP90AA1   JUN   LDHA   NOS3   P4HB   VHL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| REACTOME_ABCA_TRANSPORTERS_IN_LIPID_HOMEOSTASIS      | ABCA12   ABCA2   ABCA3   ABCA6   ABCA7   ABCD1   ABCD2   ABCD3   ABCG1   ABCG4   ABCG5   APOA1   PEX19   PEX3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| PID_ARF6_PATHWAY                                     | ADRB2   AGTR1   ARF6   ARRB2   ARRB2   EFNA1   EGF   EGFR   EPHA2   GIT1   GNA11   GNA14   GNA15   GNAQ   GULP1   HGF   IQSEC1   ITGA2B   ITGB3   KIF13B   LHCG1   MET   NCK1   PXN   SRC   TSHR   USP6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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| LEIN_LOCALIZED_TO_DISTAL_AND_PROXIMAL_DENDRITES      | ADCV1   BOK   BTBD3   CAMK2A   CPE   DLG4   EPB41L1   HPCAL4   ITPR1   KIF5A   PSD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| chr2q14                                              | BIN1   CBW20   CDC93   CLASP1   CLS02A   FOXD4L1   GLI2   GYPC   IL1RN   INSIG2   MCM6   MERTK   PSMID14   PTPN4   RPL23AP7   SAP130   SCTR   SLC35F5   STEAP3   TFCP2L1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| REACTOME_SIGNALLING_TO_RAS                           | GRB2   HRAS   KRAS   MAP2K1   MAP2K2   MAPK1   MAPK11   MAPK12   MAPK13   MAPK14   MAPK3   MAPKAPK2   MAPKAPK3   NRAS   NTRK1   RAF1   RALA   RALB   RALGDS   SHC1   SHC2   SHC3   SOS1   SRC   YWHAB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| SU_THYMUS                                            | ADAMEC1   CC9   CD1B   CD1E   ETS1   GNA13   IRF4   IRF8   ITK   MMP12   MYB   NCK2   PAX1   PIK3CD   RHOH   SH2D1A   SLAMF1   STK17A   TRAF3IP3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| DOUBLE_STRAND_BREAK_REPAIR                           | BRCA1   CIB1   ERCC4   FEN1   LIG4   MRE11A   NBN   NHEJ1   RAD21   RAD50   RAD51   RAD52   RAD54B   SETX   SOD1   UBE2N   UBE2V2   VCP   XRC4   XRC6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| KEGG_PRIMARY_BILE_ACID_BIOSYNTHESIS                  | ACOX2   AKR1C4   AKR1D1   AMACR   BAAT   CH25H   CYP27A1   CYP39A1   CYP46A1   CYP7A1   CYP7B1   HSD17B4   SCP2   SLC27A5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| DENDRITE                                             | ACTN2   ATXN10   BINP3   CAMK2N1   CDK5   CDK5R1   GRIN1   MAP15   NF1   OPA1   RAB27A   SOD1   SYNP0   TRAPP4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| RICKMAN_TUMOR_DIFFERENTIATED_MODERATELY_VS_POORLY_DN | ANP3A2   CCT3   CD8B   CENPF   CSPP1   HIST1H4C   IPO9   JRK   MCM3   TGIF2   TMEM70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| REACTOME_SPHINGOLIPID_DE_NOVO_BIOSYNTHESIS           | COL4A3BP   CSNK1G2   DEGS1   OSBP   PPA2A   PPA2B   PPA2C   PRKD1   SGPL1   SGPP1   SPHK1   SPHK2   SPTLC1   SPTLC2   VAPA   VAPB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| chr2q12                                              | ANAPC1   DBI   FHL2   GCC2   IL18R1   IL1A   IL1R1   IL1R2   IL1RL1   IL1RL2   LIMS1   LOC644617   MARCO   MATN3   MGAT4A   MYO1B   NCK2   PAX8   PDC13   POU3F3   RGPD4   SLC5A7   TBC1D8   TGFBRAP1   UNC50   UXS1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| chr10p11                                             | AB11   ACTA1   C10orf68   CUL2   DNAJC1   EPC1   FZD8   ITGB1   KIF5B   MAP3K8   MYO3A   PARD3   SPAG6   SVIL   ZNF248   ZNF37A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1.2 | 0.375 |
| PID_TKRRPATHWAY                                      | ABL1   BDNF   CCND1   CDC42   CRK   CRKL   DNAJ3   DNMT1   DOCK1   DYNLT1   EHD4   ELMO1   FAIM   FR52   FR53   GAB1   GAB2   GIPC1   GRB2   HRAS   KRAS   MAGED1   MAP2K1   MAPK1   MAPK3   MATK   MCF2L   NEDD4L   NGFR   NRAS   NTF3   NTRK1   NTRK2   NTRK3   PIK3CA   PIK3R1   PLCG1   PRKCI   PRKCK   PTPN11   RAC1   RAP1A   RAP1B   RAPGEF1   RASA1   RASGRF1   RGS19   RHOA   RHOG   RITI   RIT2   SH2B1   SHC1   SHC2   SHC3   SOS1   SOSTM1   STAT3   TIAM1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1.2 | 0.375 |
| FIRESTEIN_CTNNB1_PATHWAY                             | CAMK2K   CDK8   CHEK2   CSNK1E   CSNK1G3   DAPK2   DKC1   EPHA2   FER   GABRA3   LAT51   LTK   MAP2K1   MAP3K14   NRAS   PDK3   PKN1   PLK1   PLK4   PTK2B   RPS6KA1   SLK   SRPK3   STK25   SYT11   TAOK1   ULK1   ZAK                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1.2 | 0.25  |
| TING_SILENCED_BY_DICER                               | APOBEC3G   C10orf10   CXCR4   CYR61   DHRS2   DKX4   HOXB2   KRTAP2-4   LHFP   LIPG   PANK3   PELI2   RASGRP1   RTN1   SERPINA1   SFRP4   SLC4A4   SPARC   TM4SF1   VIM   ZNF550                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.1 | 0.375 |
| BIOCARTA_IL4_PATHWAY                                 | ACT1   GRB2   IL2RG   IL4   IL4R   IRS1   JAK1   JAK3   RPS6KB1   SHC1   STAT6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1.1 | 0.5   |
| BIOCARTA_AGPCR_PATHWAY                               | ARRB1   GNAS   GNB1   GNGT1   GRK4   PRKACB   PRKACG   PRKARIA   PRKAR1B   PRKAR2A   PRKAR2B   PRKCA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.1 | 0.125 |
| BOWIE_RESPONSE_TO_EXTRACELLULAR_MATRIX               | IF16   IF35   IF16   IF1T1   IF1T2   IF1T3   IF1T4   IF1T5   IF1T6   IF1T7   IF1T8   IF1T9   IF1T10   IF1T11   IF1T12   IF1T13   IF1T14   IF1T15   IF1T16   IF1T17   IF1T18   IF1T19   IF1T20   IF1T21   IF1T22   IF1T23   IF1T24   IF1T25   IF1T26   IF1T27   IF1T28   IF1T29   IF1T30   IF1T31   IF1T32   IF1T33   IF1T34   IF1T35   IF1T36   IF1T37   IF1T38   IF1T39   IF1T40   IF1T41   IF1T42   IF1T43   IF1T44   IF1T45   IF1T46   IF1T47   IF1T48   IF1T49   IF1T50   IF1T51   IF1T52   IF1T53   IF1T54   IF1T55   IF1T56   IF1T57   IF1T58   IF1T59   IF1T60   IF1T61   IF1T62   IF1T63   IF1T64   IF1T65   IF1T66   IF1T67   IF1T68   IF1T69   IF1T70   IF1T71   IF1T72   IF1T73   IF1T74   IF1T75   IF1T76   IF1T77   IF1T78   IF1T79   IF1T80   IF1T81   IF1T82   IF1T83   IF1T84   IF1T85   IF1T86   IF1T87   IF1T88   IF1T89   IF1T90   IF1T91   IF1T92   IF1T93   IF1T94   IF1T95   IF1T96   IF1T97   IF1T98   IF1T99   IF1T100   IF1T101   IF1T102   IF1T103   IF1T104   IF1T105   IF1T106   IF1T107   IF1T108   IF1T109   IF1T110   IF1T111   IF1T112   IF1T113   IF1T114   IF1T115   IF1T116   IF1T117   IF1T118   IF1T119   IF1T120   IF1T121   IF1T122   IF1T123   IF1T124   IF1T125   IF1T126   IF1T127   IF1T128   IF1T129   IF1T130   IF1T131   IF1T132   IF1T133   IF1T134   IF1T135   IF1T136   IF1T137   IF1T138   IF1T139   IF1T140   IF1T141   IF1T142   IF1T143   IF1T144   IF1T145   IF1T146   IF1T147   IF1T148   IF1T149   IF1T150   IF1T151   IF1T152   IF1T153   IF1T154   IF1T155   IF1T156   IF1T157   IF1T158   IF1T159   IF1T160   IF1T161   IF1T162   IF1T163   IF1T164   IF1T165   IF1T166   IF1T167   IF1T168   IF1T169   IF1T170   IF1T171   IF1T172   IF1T173   IF1T174   IF1T175   IF1T176   IF1T177   IF1T178   IF1T179   IF1T180   IF1T181   IF1T182   IF1T183   IF1T184   IF1T185   IF1T186   IF1T187   IF1T188   IF1T189   IF1T190   IF1T191   IF1T192   IF1T193   IF1T194   IF1T195   IF1T196   IF1T197   IF1T198   IF1T199   IF1T200   IF1T201   IF1T202   IF1T203   IF1T204   IF1T205   IF1T206   IF1T207   IF1T208   IF1T209   IF1T210   IF1T211   IF1T212   IF1T213   IF1T214   IF1T215   IF1T216   IF1T217   IF1T218   IF1T219   IF1T220   IF1T221   IF1T222   IF1T223   IF1T224   IF1T225   IF1T226   IF1T227   IF1T228   IF1T229   IF1T230   IF1T231   IF1T232   IF1T233   IF1T234   IF1T235   IF1T236   IF1T237   IF1T238   IF1T239   IF1T240   IF1T241   IF1T242   IF1T243   IF1T244   IF1T245   IF1T246   IF1T247   IF1T248   IF1T249   IF1T250   IF1T251   IF1T252   IF1T253   IF1T254   IF1T255   IF1T256   IF1T257   IF1T258   IF1T259   IF1T260   IF1T261   IF1T262   IF1T263   IF1T264   IF1T265   IF1T266   IF1T267   IF1T268   IF1T269   IF1T270   IF1T271   IF1T272   IF1T273   IF1T274   IF1T275   IF1T276   IF1T277   IF1T278   IF1T279   IF1T280   IF1T281   IF1T282   IF1T283   IF1T284   IF1T285   IF1T286   IF1T287   IF1T288   IF1T289   IF1T290   IF1T291   IF1T292   IF1T293   IF1T294   IF1T295   IF1T296   IF1T297   IF1T298   IF1T299   IF1T300   IF1T301   IF1T302   IF1T303   IF1T304   IF1T305   IF1T306   IF1T307   IF1T308   IF1T309   IF1T310   IF1T311   IF1T312   IF1T313   IF1T314   IF1T315   IF1T316   IF1T317   IF1T318   IF1T319   IF1T320   IF1T321   IF1T322   IF1T323   IF1T324   IF1T325   IF1T326   IF1T327   IF1T328   IF1T329   IF1T330   IF1T331   IF1T332   IF1T333   IF1T334   IF1T335   IF1T336   IF1T337   IF1T338   IF1T339   IF1T340   IF1T341   IF1T342   IF1T343   IF1T344   IF1T345   IF1T346   IF1T347   IF1T348   IF1T349   IF1T350   IF1T351   IF1T352   IF1T353   IF1T354   IF1T355   IF1T356   IF1T357   IF1T358   IF1T359   IF1T360   IF1T361   IF1T362   IF1T363   IF1T364   IF1T365   IF1T366   IF1T367   IF1T368   IF1T369   IF1T370   IF1T371   IF1T372   IF1T373   IF1T374   IF1T375   IF1T376   IF1T377   IF1T378   IF1T379   IF1T380   IF1T381   IF1T382   IF1T383   IF1T384   IF1T385   IF1T386   IF1T387   IF1T388   IF1T389   IF1T390   IF1T391   IF1T392   IF1T393   IF1T394   IF1T395   IF1T396   IF1T397   IF1T398   IF1T399   IF1T400   IF1T401   IF1T402   IF1T403   IF1T404   IF1T405   IF1T406   IF1T407   IF1T408   IF1T409   IF1T410   IF1T411   IF1T412   IF1T413   IF1T414   IF1T415   IF1T416   IF1T417   IF1T418   IF1T419   IF1T420   IF1T421   IF1T422   IF1T423   IF1T424   IF1T425   IF1T426   IF1T427   IF1T428   IF1T429   IF1T430   IF1T431   IF1T432   IF1T433   IF1T434   IF1T435   IF1T436   IF1T437   IF1T438   IF1T439   IF1T440   IF1T441   IF1T442   IF1T443   IF1T444   IF1T445   IF1T446   IF1T447   IF1T448   IF1T449   IF1T450   IF1T451   IF1T452   IF1T453   IF1T454   IF1T455   IF1T456   IF1T457   IF1T458   IF1T459   IF1T460   IF1T461   IF1T462   IF1T463   IF1T464   IF1T465   IF1T466   IF1T467   IF1T468   IF1T469   IF1T470   IF1T471   IF1T472   IF1T473   IF1T474   IF1T475   IF1T476   IF1T477   IF1T478   IF1T479   IF1T480   IF1T481   IF1T482   IF1T483   IF1T484   IF1T485   IF1T486   IF1T487   IF1T488   IF1T489   IF1T490   IF1T491   IF1T492   IF1T493   IF1T494   IF1T495   IF1T496   IF1T497   IF1T498   IF1T499   IF1T500   IF1T501   IF1T502   IF1T503   IF1T504   IF1T505   IF1T506   IF1T507   IF1T508   IF1T509   IF1T510   IF1T511   IF1T512   IF1T513   IF1T514   IF1T515   IF1T516   IF1T517   IF1T518   IF1T519   IF1T520   IF1T521   IF1T522   IF1T523   IF1T524   IF1T525   IF1T526   IF1T527   IF1T528   IF1T529   IF1T530   IF1T531   IF1T532   IF1T533   IF1T534   IF1T535   IF1T536   IF1T537   IF1T538   IF1T539   IF1T540   IF1T541   IF1T542   IF1T543   IF1T544   IF1T545   IF1T546   IF1T547   IF1T548   IF1T549   IF1T550   IF1T551   IF1T552   IF1T553   IF1T554   IF1T555   IF1T556   IF1T557   IF1T558   IF1T559   IF1T560   IF1T561   IF1T562   IF1T563   IF1T564   IF1T565   IF1T566   IF1T567   IF1T568   IF1T569   IF1T570   IF1T571   IF1T572   IF1T573   IF1T574   IF1T575   IF1T576   IF1T577   IF1T578   IF1T579   IF1T580   IF1T581   IF1T582   IF1T583   IF1T584   IF1T585   IF1T586   IF1T587   IF1T588   IF1T589   IF1T590   IF1T591   IF1T592   IF1T593   IF1T594   IF1T595   IF1T596   IF1T597   IF1T598   IF1T599   IF1T600   IF1T601   IF1T602   IF1T603   IF1T604   IF1T605   IF1T606   IF1T607   IF1T608   IF1T609   IF1T610   IF1T611   IF1T612   IF1T613   IF1T614   IF1T615   IF1T616   IF1T617   IF1T618   IF1T619   IF1T620   IF1T621   IF1T622   IF1T623   IF1T624   IF1T625   IF1T626   IF1T627   IF1T628   IF1T629   IF1T630   IF1T631   IF1T632   IF1T633   IF1T634   IF1T635   IF1T636   IF1T637   IF1T638   IF1T639   IF1T640   IF1T641   IF1T642   IF1T643   IF1T644   IF1T645   IF1T646   IF1T647   IF1T648   IF1T649   IF1T650   IF1T651   IF1T652   IF1T653   IF1T654   IF1T655   IF1T656   IF1T657   IF1T658   IF1T659   IF1T660   IF1T661   IF1T662   IF1T663   IF1T664   IF1T665   IF1T666   IF1T667   IF1T668   IF1T669   IF1T670   IF1T671   IF1T672   IF1T673   IF1T674   IF1T675   IF1T676   IF1T677   IF1T678   IF1T679   IF1T680   IF1T681   IF1T682   IF1T683   IF1T684   IF1T685   IF1T686   IF1T687   IF1T688   IF1T689   IF1T690   IF1T691   IF1T692   IF1T693   IF1T694   IF1T695   IF1T696   IF1T697   IF1T698   IF1T699   IF1T700   IF1T701   IF1T702   IF1T703   IF1T704   IF1T705   IF1T706   IF1T707   IF1T708   IF1T709   IF1T710   IF1T711   IF1T712   IF1T713   IF1T714   IF1T715   IF1T716   IF1T717   IF1T718   IF1T719   IF1T720   IF1T721   IF1T722   IF1T723   IF1T724   IF1T725   IF1T726   IF1T727   IF1T728   IF1T729   IF1T730   IF1T731   IF1T732   IF1T733   IF1T734   IF1T735   IF1T736   IF1T737   IF1T738   IF1T739   IF1T740   IF1T741   IF1T742   IF1T743   IF1T744   IF1T745   IF1T746   IF1T747   IF1T748   IF1T749   IF1T750   IF1T751   IF1T752   IF1T753   IF1T754   IF1T755   IF1T756   IF1T757   IF1T758   IF1T759   IF1T760   IF1T761   IF1T762   IF1T763   IF1T764   IF1T765   IF1T766   IF1T767   IF1T768   IF1T769   IF1T770   IF1T771   IF1T772   IF1T773   IF1T774   IF1T775   IF1T776   IF1T777 |     |       |

|                                                  |                                                                                                                                                                                                                                                                                                                                 |     |       |
|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| ACGTA_NCCELS_PATHWAY                             | B2M   HLA-A   IL18   ITGB1   KLRC1   KLRC2   KLRC3   KLRC4   KLRD1   LAT   MAP2K1   MAPK3   PAK1   PIK3CA   PIK3R1   PTK2B   PTPN6   RAC1   SYK   VAV1                                                                                                                                                                          | 1.1 | 0.375 |
| LIU_VAV3_PROSTATE_CARCINOGENESIS_DN              | C18   CLU   CREM1   CTGF   GAD2   HSPA5   IFNA7   ITGB1   NR4A2   PPT2   PSAT1   PTGS1   RASGRP1   TH                                                                                                                                                                                                                           | 1.1 | 0.5   |
| WANG_IMMORTALIZED_BY_HOXA9_AND_MEI51_DN          | CALCRL   CD244   CD34   CD93   EDNRA   ERG   FLT3   GEM   GPR56   IL7R   ITGB7   LY86   MEI51   NRGN   NRIP1   PTPRCAP   SATB1   TMSB10   TSC22D1   ZBTB16                                                                                                                                                                      | 1.1 | 0.375 |
| chr16q21                                         | AMFR   BCMN1   C16orf80   CDH16   CNOT1   CSNK2A2   CTCF   E2F4   GINS3   HSFA1   NDRG4   NOL3   SETD6                                                                                                                                                                                                                          | 1.1 | 0.375 |
| MISHRA_CARCINOMA_ASSOCIATED_FIBROBLAST_DN        | BDNF   C15   CAT   CD24   CD55   FTL   HGF   HSPA1A   ID2   JUP   KRT14   KRT18   KRT19   KRT7   KRT8   MAN2B1   MET   MFAP4   RARRES2   SPINT2   TCEAL1                                                                                                                                                                        | 1.1 | 0.25  |
| STERIOD_BIOSYNTHETIC_PROCESS                     | ADM   AKR1D1   BMP6   CNBP   CYP11A1   CYP11B2   CYP19A1   CYP39A1   CYP7B1   DHCR24   DHCR7   FDPS   FDXR   HSD11B2   HSD3B1   NPC1L1   NR0B1   NRS1A   NSDHL   SC2P   SOD1   TFCP2L1                                                                                                                                          | 1.1 | 0.375 |
| MODULE_417                                       | ACOX2   ALDH5A1   APOC2   APOC3   BAAT   CLPS   HMGCS1   HMGCS2   IGF1   LIPA   LPC   PAFAH2   PLA2G2A   PLA2G5   PLA2G7   PLCD1   PLCG2   PLD1   PNLIP   PNLIPRP2   PRDX6   SLC27A2                                                                                                                                            | 1.1 | 0.5   |
| LYSOSOMAL_MEMBRANE                               | ABCA2   CD63   CLN5   CORO1A   CTNS   LAMP2   LAMP3   MYO7A   SLC17A5   TRIM23                                                                                                                                                                                                                                                  | 1.1 | 0.5   |
| TSAL_DNAI8A_TARGETS_UP                           | CNMG2   CDKN1A   IFIT1   IFIT3   IFITM1   ISG15   OAS3   SERPINB1   STA71   TIMP3   TXNIP                                                                                                                                                                                                                                       | 1.1 | 0.375 |
| REACTOME_PROCESSING_OF_INTRONLESS_PRE_MRNAS      | CP5F1   CSTF1   CSTF2   CSTF3   NCBP1   NCBP2   NUDT21   PABPN1   PAPOLA   PCF11                                                                                                                                                                                                                                                | 1.1 | 0.125 |
| KYNG_WERNER_SYNDROM_UP                           | C22orf28   CTGF   GNAI1   IGFBR3   ITGA2   UGA   MBM12   NUMB   PICALM   RHOD   SAT1   TUG1                                                                                                                                                                                                                                     | 1.1 | 0.5   |
| MODULE_262                                       | CCLL1   CCLL3   CCL14   CCL15   CCL19   CCL2   CCL23   CCL3   CCL7   CP   CXCL12   HFE   LTF   MT2A   MYC   STC1   TF   TFRF   XCL1                                                                                                                                                                                             | 1.1 | 0.25  |
| PID_P38_MKK3_6PATHWAY                            | ATM   CAMK2B   GADD45A   GADD45B   GADD45G   MAP2K3   MAP2K6   MAP3K1   MAP3K10   MAP3K3   MAP3K4   MAP3K5   MAP3K6   MAP3K7   MAPK11   MAPK14   RAC1   TAOK1   TAOK2   TAOK3   TRAF2   TRAF6   TXN                                                                                                                             | 1.1 | 0.5   |
| MITOTIC_SPINDLE_ORGANIZATION_AND_BIOGENESIS      | KIF11   KIF23   PRCL1   RAN   RCC1   SMC1A   SMC3   STMN1   TTK                                                                                                                                                                                                                                                                 | 1.1 | 0.375 |
| BERENJO_TRANSFORMED_BY_RHOA_REVERSIBLY_UP        | DAP   DNMI1   GSTA4   MGST3   MT2A   PIK3R1   SQSTM1   TNFRSF18                                                                                                                                                                                                                                                                 | 1.1 | 0.5   |
| REACTOME_MRNA_DECAY_BY_5_TO_3_EXORIBONUCLEASE    | DCP1A   DCP2   DDX6   EDC3   EDC4   LSM1   LSM2   LSM3   LSM4   LSM5   LSM6                                                                                                                                                                                                                                                     | 1.1 | 0.25  |
| NEGATIVE_REGULATION_OF_TRANSLATION               | APBB1   BCL3   EIF2AK3   EIF2AK3   FOXP3   FUSIN   GHSR   IL10   IL6   INHA   INHBA   INHBB   NDUFA13   PRG3   SFTPD   SIGIRR   TSC1                                                                                                                                                                                            | 1.1 | 0.5   |
| SUZUKI_CTCFL_TARGETS_UP                          | ADK   CAMK2D   CKM   DBNDD2   MDN1   MYF6   PPY   TFF1   UBP1                                                                                                                                                                                                                                                                   | 1.1 | 0.375 |
| BIOCARTA_GNANULOCYTES_PATHWAY                    | CS1   CSF3   ICAM1   IFNG   IL1A   IL8   ITGAL   ITGAM   ITGB2   PECAM1   SELL   SELP   SELPLG   TNF                                                                                                                                                                                                                            | 1.1 | 0.375 |
| GLUCOSE_METABOLIC_PROCESS                        | ACN9   AKR1A1   ALDOA   ALDOB   ATF4   ECD   G6PD   GAPDH5   GCK   HK1   INS   IRS2   PDK1   PDK2   PDK3   PDK4   PFKFB1   PFKL   PFKM   PGD   PGLS   PPARGC1A   SLC25A10   TKT1   UGDH   UGP2                                                                                                                                  | 1.1 | 0.25  |
| COLLAGEN                                         | COL10A1   COL11A1   COL13A1   COL15A1   COL16A1   COL18A1   COL1A2   COL3A1   COL4A2   COL4A3   COL4A4   COL4A5   COL5A1   COL5A2   COL5A3   COL6A3   COL7A1   COL8A1   COL9A1   COL9A2   COL9A3   LUM   TNXB                                                                                                                   | 1.1 | 0.5   |
| AMUNDSON_DNA_DAMAGE_RESPONSE_TP53                | BAI3   BTG1   BTG2   CNG1   CDKN1A   CTSD   DDB2   IIF   MDM2   PHLD3   PLXNB2   PPM1D   ST14   TNFSF9   TRIM22   XPC                                                                                                                                                                                                           | 1.1 | 0.375 |
| PID_ECADHERIN_NASCENTAI_PATHWAY                  | ABH1   AKT1   ARF6   CCND1   CD42   CDH1   CRK   CSNK2A1   CSNK2A2   CSNK2B   CTNNA1   CTNNB1   CTNND1   CTNN   CYP1P2   DLG1   ENAH   IQGAP1   ITGA7   ITGB7   JUP   KHLH20   MLLT4   NCKAP1   NME1   PIK3CA   PIK3R1   PI3K51C   PIK3R1   RAP1A   RAP1B   RAPGEF1   RHOA   SRC   TIAM1   TJP1   VAV2                          | 1.1 | 0.25  |
| ACTIN_FILAMENT_BINDING                           | ACTN4   ARPC4   CYFIP1   DST   EGRF   FLNA   LIMA1   LRPPRC   MAP1S   MARCKS   MYH10   MYH9   MYO6   PLS1   SCIN   SHROOM2   SPTA1   SPTB   SVIL   UXT                                                                                                                                                                          | 1.1 | 0.375 |
| BAKER_HEMATOPOIESIS_STAT1_TARGETS                | BCL2   CASP1   CASP2   CASP3   CASP7   CITA   FGF2   MMP2   MMP9   MYC                                                                                                                                                                                                                                                          | 1.1 | 0.25  |
| HEPARIN_BINDING                                  | AAMP   ANG   COL13A1   FGFBP1   FSTL1   HBEFG   HDGF   LPL   LRPA1   MDK   PF4   POSTN   RPL29   SERPINAS   THBS2   THBS4   TNXB   ZNF146                                                                                                                                                                                       | 1.1 | 0.375 |
| MODULE_275                                       | CD47   ITGA10   ITGA2   ITGA3   ITGA5   ITGA9   ITGAE   ITGAL   ITGAM   ITGAV   ITGB2   ITGB3   ITGB5   ITGB6   ITGB7   TNC                                                                                                                                                                                                     | 1.1 | 0.25  |
| PID_THROMBIN_PAR1_PATHWAY                        | ADRRK2   AKAP13   ARHGSD1A   ARHGEF1   ARRB1   DNMI1   DNMI2   F2   F2R   FZRL2   GNAI11   GNA12   GNA13   GNA14   GNA15   GNAI1   GNAI2   GNAI3   GNAO1   GNAQ   GNAQ2   GNB1   MYL2   NOS3   PIK3CA   PIK3R1   PKN1   PLCB1   PLCB2   PLCB3   PRKCA   PRKCD   PRKCG   RHOA   ROCK1   ROCK2   SNX1   SNX2   TRPC6   VASP   ZYX | 1.1 | 0.375 |
| REACTOME_POST_CHAPERONIN_TUBULIN_FOLDING_PATHWAY | TBCA   TBCB   TBCD   TBCE   TUBB1   TUBB2A   TUBB2B   TUBB3   TUBB6                                                                                                                                                                                                                                                             | 1.1 | 0.375 |
| POSITIVE_REGULATION_OF_CELL_DIFFERENTIATION      | ACIN1   ACVR1B   ACVR2A   BMP4   BMPR1B   BTG1   CALCA   ETS1   IGFBR3   IL7   INHBA   NME2   PPARG   RUNX1   SART1   SCIN   SOCS5   TBX5   TGFBI2   ZAP70                                                                                                                                                                      | 1.1 | 0.5   |
| GAUSSMANN_MLL_AF4_FUSION_TARGETS_E_DN            | AIM2   CDSN   COL6A3   GPNMB   IGFBP4   ITM2A   MORC4   NEO1   PEG3   PLAGL1   RAB3B   SGK3   TAF7L   TRIB3   TUBB3   VLDLR                                                                                                                                                                                                     | 1.1 | 0.125 |
| ORGANELLE_LOCALIZATION                           | ALB   AP1M2   BIRC5   CDC23   CENPE   CENPF   LRMP   MFN2   MSTO1   MYO1A   NIN   NLGN1   NUSAP1   PAFAH1B1   PEX1   SEPT5   SHROOM2   SNAP23   SNAP29   STX5   TMED10   YKT6                                                                                                                                                   | 1.1 | 0.375 |
| chr15q26                                         | ABHD2   ALDH1A3   AP3S2   ASB7   BLM   CHD2   CHRMS   CRTCS   FE5   GABARAPL3   IDH2   IGFIR1   IL16   IQGAP1   ISG20   LOC283761   LRK1   MCTP2   MEFA2   NGRN   NR2F2   PCSK6   PRC1   RLBP1   SLC03A1   SNRPA1   STS1A2   STARD5   SV2B   TM2D3   TTC23   UNC45A   VPS3B   ZNF710                                            | 1.1 | 0.375 |
| BIOCARTA_ASBCCELL_PATHWAY                        | CD28   CD4   CD40   CD40LG   CD80   FAS   FASLG   HLA-DRA   HLA-DRB1   IL10   IL2   IL4                                                                                                                                                                                                                                         | 1.1 | 0.375 |
| CELL_CORTEX_PART                                 | CLASP1   DLG4   EPB41   EPB41L2   GYPC   GYS2   LASP1   LGLL1   MAPRE1   MYH9   MYO1A   PRKCI   SHROOM2   SPTA1   SPTAN1   SPTB   SPTBN1   SPTBN2   SPTBN4   TRPC4                                                                                                                                                              | 1.1 | 0.25  |
| BONOME_OVARIAN_CANCER_POOR_SURVIVAL_DN           | ACOT7   ASPSCR                                                                                                                                                                                                                                                                                                                  |     |       |

|                                                        |                                                                                                                                                                                                                                                                                                                                                                                        |     |       |
|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| chr7p12                                                | COBL   EGFR   GBAS   GRB10   MDH2   SEMA3A   STK17A   TNS3   UPP1                                                                                                                                                                                                                                                                                                                      | 1.1 | 0.375 |
| GLYCOSAMINOGLYCAN_BINDING                              | AAMP   ANG   CHODL   COL13A1   FGFBP1   FSTL1   HABP2   HBEGF   HDGF   IMPG2   LPL   LRPAP1   MDK   PF4   PODXL2   POSTN   RPL29   SERPINAS   STAB2   TGFBR3   THBS2   THBS4   TNFAIP6   TNXB   ZNF146                                                                                                                                                                                 | 1.1 | 0.375 |
| chr1p11                                                | DCLE1B   EXT12   VANGL1                                                                                                                                                                                                                                                                                                                                                                | 1.1 | 0.375 |
| BURTON_ADIPOGENESIS_12                                 | ARID1A   BUB1   C1orf63   CAPN7   CASP8A2   CYP1B1   DNAJC3   GTF2A1   H1FO   IMPAD1   KITLG   MKI67   MTM1   MYEF2   NIPBL   PUM2   ROCK1   ROD1   SP3   UBE2V2   ZNF638                                                                                                                                                                                                              | 1.1 | 0.375 |
| GNF2_MSH2                                              | DKC1   FEN1   GINS1   ITGB3BP   KIAA0101   UG1   LRPPRC   MCM3   MCM6   MCM7   MLH1   MSH2   MSH6   NASP   PCNA   RAD51AP1   RFC4   RRM1   SERBP1   SMC4   SNRPD1   SUPT16H   TCERG1   TOP2A   USP1                                                                                                                                                                                    | 1.1 | 0.375 |
| MAEKAWA_ATF2_TARGETS                                   | ASL   CCR3   CHIA1   CHL1   CLCN1   CNR2   CRP   DDXY3   FBXO3   FMOS   HTR4   IGLL1   INA   PCNP   SDF2   SLC1A5   SMCP   VPS13C   XRC5                                                                                                                                                                                                                                               | 1.1 | 0.375 |
| BIOCARTA_COMP_PATHWAY                                  | C1QA   C1QB   C1R   C1S   C2   C3   C4A   C4B   C5   C6   C7   C8A   C9   CFB   CFD   MASP1   MASP2   MBL2                                                                                                                                                                                                                                                                             | 1.1 | 0.25  |
| PEDERSEN_METASTASIS_BY_ERBB2_ISOFORM_6                 | AMIGO2   AOX1   CAMK2N1   CDC68   FAM5B   GSTM3   GUCY1B3   IL2RB   ITGB2   KMO   LOXL1   MCTP1   MGP   PDK4   RAB27B   RNF32   SACS   SERPIN3A   SOCS2   TAF1A   UGT2B28                                                                                                                                                                                                              | 1.1 | 0.5   |
| THUM_MIR21_TARGETS_HEART_DISEASE_UP                    | APOD   ASPN   BGN   COL1A1   COL1A2   COL5A2   CRLF1   ELN   ITGB1BP3   LOX   LTBP2   LUM   POSTN   SVEP1   TGFBR3   WISP2                                                                                                                                                                                                                                                             | 1.1 | 0.25  |
| LY_AGING_MIDDLE_UP                                     | COL15A1   COMP   CRYBB2   CST6   DPT   FMOD   HTRA1   IL8   MMP10   MMP12   PTGS1   SERPINB2   THBS2   TNFRSF11B                                                                                                                                                                                                                                                                       | 1.1 | 0.5   |
| STEIN_ESRRA_TARGETS_RESPONSIVE_TO_ESTROGEN_UP          | ATXN3L   CA12   CA2   CXCL12   DNAJC1   FRK   GLA   HSPB8   IER3   MCM4   MLT10   P2RX5   PHB   RBM12B   RFC4   SLC16A1   SLC35F2   SLC39A14   SLC39A8   SLK   SNX24   STARO7   TFF1   TNFRSF10B   ZNF302   ZNF629                                                                                                                                                                     | 1.1 | 0.5   |
| REACTOME_CELL_EXTRACELLULAR_MATRIX_INTERACTIONS        | ACTN1   ARHGEF6   FLNC   ILK   ITGB1   LIMS1   PARVA   PARVB   RSU1   TESK1   VASP                                                                                                                                                                                                                                                                                                     | 1.1 | 0.375 |
| PID_ARF6DOWNSTREAMPATHWAY                              | BAD   BLK   CSNK2A1   FGR   FKBP1A   FYN   GRK5   HCK   KLG6   LCK   LYN   MAOB   MAPK1   MAPK3   PARK2   PLCB2   PLD1   PLD2   PPP2R5D   PRKCD   PTK2B   SLC6A3   SNCAIP   SRC   STUB1   SYK   TH   TOR1A   UBE2L3   UCHL1   YES1                                                                                                                                                     | 1.1 | 0.25  |
| REACTOME_ABC_FAMILY_PROTEINS_MEDIATED_TRANSPORT        | ARF1   ARF6   KALRN   MAPK1   MAPK3   NME1   PIP5K1A   PLAUR   PLD1   PLD2   RAB11A   RAB11FIP3   RAC1   RHOA   TIAM1                                                                                                                                                                                                                                                                  | 1.1 | 0.125 |
| SPINDLE_ORGANIZATION_AND_BIOGENESIS                    | ABCA12   ABCA2   ABCA3   ABCA4   ABCA6   ABCA7   ABCA8   ABCB1   ABCB6   ABCC1   ABCC2   ABCC3   ABCC4   ABCCS   ABCCE   ABCCE8   ABCCS   ABCD1   ABCD2   ABCD3   ABCG1   ABCG4   ABCG5   APOA1   CTRF   PEX19   PEX3                                                                                                                                                                  | 1.1 | 0.25  |
| PID_INTEGRIN4_PATHWAY                                  | KIF11   KIF23   PRC1   RAN   RCC1   SMC1A   SMC3   STMN1   TTK   TUBG1                                                                                                                                                                                                                                                                                                                 | 1.1 | 0.5   |
| chr7q                                                  | ITGA6   ITGB4   LAMA1   LAMA2   LAMA3   LAMAS   LAMB1   LAMB2   LAMB3   LAMC1   LAMC2                                                                                                                                                                                                                                                                                                  | 1.1 | 0.375 |
| GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_BLACK_DN | ARPC1A   ARPC1B   HSPB1   PDAP1   PIK3CG   PRSS2   TAF6   TFP12                                                                                                                                                                                                                                                                                                                        | 1.1 | 0.25  |
| GENTILE_UV_RESPONSE_CLUSTER_D1                         | ABHD10   ELAC1   MTS51   OSGEPL1   PIK3C2B   SLC30A1   SMAD3   ZNF22                                                                                                                                                                                                                                                                                                                   | 1.1 | 0.375 |
| chr9q24                                                | ASPH   CASP3   DDIT4   DUSP1   EZF3   GEM   GNA12   GREM1   ITGA6   PHTF2   RND3   STX3   STXB3P3   TOPBP1   WEE1   ZNF117                                                                                                                                                                                                                                                             | 1.1 | 0.25  |
| BIOCARTA_ARAP_PATHWAY                                  | C1GALT1C1   CUL4B   FAM70A   GLU02   HTR2C   IL13RA1   LAMP2   LONRF3   LUZP4   NDUFA1   NKRFP   PLS3   RPL39   SEPT6   SLC25A14   SLC25A5   SLC9A6   UBE2A   WDR44   ZIC3                                                                                                                                                                                                             | 1.1 | 0.125 |
| MODULE_315                                             | ARF1   ARFGAP1   ARFGAP3   ARFGEP1   ARFGEF2   CLTB   COPA   GBF1   GPLD1   KDELR1   KDELR2   KDELR3                                                                                                                                                                                                                                                                                   | 1.1 | 0.5   |
| BIOCARTA_RNA_PATHWAY                                   | BIRC5   BUB1   BUB3   CNA2   CDC20   CENPE   CENPF   KIF11   KIF23   MAD2L1   NEDD9   TBCE   TTK   TUBB3   ZW10                                                                                                                                                                                                                                                                        | 1.1 | 0.5   |
| chr9q21                                                | CHUK   DNAJC3   EIF2AK2   EIF251   EIF252   MAP3K14   NFKB1   NFKBIA   RELA   TP53                                                                                                                                                                                                                                                                                                     | 1.1 | 0.5   |
| SETLUR_PROSTATE_CANCER_TMPPRSS2_ERG_FUSION_DN          | AGTPBP1   ALDH1A1   ALDOB   ANXA1   C9orf40   C9orf95   COL15A1   FXN   GAS1   GNA14   GNAQ   IARS   IPPK   KLF9   PCSK5   PSAT1   RFX   SLC28A3   SMCS   SPTLC1   TLE1   TLE4   TRPM3   TRPM6   VPS13A   ZCCHC6                                                                                                                                                                       | 1.1 | 0.375 |
| chr14q22                                               | AADAC   ADH5   ALOX15B   AMELX   AQP2   CCR1   CSDC2   FOXF2   GRK1   HPS1   KHLH21   METTL7A   MPPED2   NEUROD1   PNLP1RP2   PROM1   RAB27A   RG57   TRO                                                                                                                                                                                                                              | 1.1 | 0.375 |
| APICAL_JUNCTION_COMPLEX                                | ACTR10   ARID4A   BMP4   C14orf101   C14orf118   C14orf166   CDKN3   CGRRF1   CNIH   DAAM1   DACT1   ERO1L   EXOC5   FBXO34   GCH1   GIMF   HSPA2   KTN1   LZHG0H   PGF   PPM1A   PTGDR   PTGER2   SAMD4A   SIX6   SNAPC1   SNW1   SYNJ2BP   TIMM9   WDH01   ZFP36L1   ZFYVE26                                                                                                         | 1.1 | 0.375 |
| APICOLATERAL_PLASMA_MEMBRANE                           | ASH1L   BAGALT1   CLDN1   CLDN10   CLDN11   CLDN14   CLDN15   CLDN16   CLDN17   CLDN18   CLDN3   CLDN4   CLDN5   CLDN6   CLDN7   CLDN8   CLDN9   PARO3   PARO6   PARO6B   PDZD3   RAB13   SHROOM2   SORBS1   TJP1   VAPA                                                                                                                                                               | 1.1 | 0.25  |
| REACTOME_DOUBLE_STRAND_BREAK_REPAIR                    | ASH1L   BAGALT1   CLDN1   CLDN10   CLDN11   CLDN14   CLDN15   CLDN16   CLDN17   CLDN18   CLDN3   CLDN4   CLDN5   CLDN6   CLDN7   CLDN8   CLDN9   PARO3   PARO6   PARO6B   PDZD3   RAB13   SHROOM2   SORBS1   TJP1   VAPA                                                                                                                                                               | 1.1 | 0.25  |
| SIG_INSULIN_RECEPTOR_PATHWAY_IN_CARDIAC_MYOCYTES       | ATM   BRCA1   BRCA2   BRIP1   H2AFX   LIG1   LIG4   MDC1   MRE11A   NBN   PRKDC   RAD50   RAD51   RAD52   RPA1   RPA2   RPA3   TDP1   TP53BP1   XRCC4   XRC5   XRC6                                                                                                                                                                                                                    | 1.1 | 0.5   |
| OUYANG_PROSTATE_CANCER_PROGRESSION_DN                  | AKT1   AKY2   AKT3   BRD4   CAP1   CBL   CDC42   CDKN2A   F2RL2   FLOT1   FLOT2   GRB2   GSK3A   GSK3B   IGF1BP1   INPP1   IRS1   IRS2   IRS4   LNPEP   MAPK3   MAPK3   PARO3   PARO6A   PDK1   PIK3CA   PIK3CD   PIK3R1   PPYR1   PTEN   PTPN1   RAF1   RPS6KA1   RPS6KA2   RPS6KA3   RPS6KB1   SERPINB6   SFN   SHC1   SLC2A4   SORBS1   SOS1   SOS2   YWHAB   YWHAH   YWHAH   YWHAZ | 1.1 | 0.25  |
| chr16q13                                               | ARF4   ARFIP2   ARL3   ARL4A   BAIAP2   C9orf86   CSPG4   CTNNA1   DAB1   EGF   ERAL1   GNA12   IGHM   MAP2K3   MAPK3   MAPKBIP3   PTPN11   SRF   TRIB3                                                                                                                                                                                                                                | 1.1 | 0.375 |
| YANG_BREAST_CANCER_ESR1_BULK_DN                        | ARL2BP   C16orf57   CCL17   CCL22   CETP   CIAPIN1   CNGB1   COQ9   CX3CL1   DOK4   GNAO1   GPR56   GPR97   KIFC3   LAT   MMP15   MMP2   MT1E   MT1F   MT1H   MT1X   MT3   MT4   NME3   NUOT21   NUP93   PLLP   POLR2C   SLC12A3                                                                                                                                                       | 1.1 | 0.25  |
| PID_INTEGRIN_A4B1_PATHWAY                              | APBA2   ASPM   C1orf38   CEBPB   DEFB1   GMPS   GTPBP4   KCNK5   LAD1   LPIN1   MAP3K13   NCK1   PFKF   PLAUR   RGS16   RIN3   SIRPA   TEX10   TMEM123   TTK                                                                                                                                                                                                                           | 1.1 | 0.5   |
| CARBON CARBON_LYASE_ACTIVITY                           | AB11   ADAM28   ARF6   CD14   CD81   CRK   DOCK1   FN1   GIT1   ITGA4   ITGB1   JAM2   MDK   MYH2   PRKACA   PRKACB   PRKAR1A   PRKAR1B   PTX2   PTK2B   PTPRA   PXN   RAC1   SP1   SRC   THBS1   THBS2   TLN1   VCAM1   YWHAZ                                                                                                                                                         | 1.1 | 0.25  |
| WANG_RECURRENT_LIVER_CANCER_DN                         | ALDOA   ALDOB   ALDOB   AMO1   BCKDHA   BCKDHB   DDC   GAD1   GGCK   HDC   MLYCD   MVD   ODC1   PCK1   UMP5   UROD                                                                                                                                                                                                                                                                     | 1.1 | 0.375 |
| KEGG_BUTANOATE_METABOISM                               | BUB1B   CDC6   CENPE   CHEK1   PTTG1                                                                                                                                                                                                                                                                                                                                                   | 1.1 | 0.5   |
| chr7p14                                                | CCD42SE1   CD01   CNGA1   ELU2   ET52   GCH1   ID2   INSIG1   MAFB   NUDT9   PGGT1B   PTP4A1   SAR1B   SLC27A2                                                                                                                                                                                                                                                                         | 1.1 | 0.5   |
| REACTOME_KERATAN_SULFATE_DEGRADATION                   | AACS   ABAT   ACADS   ACAT1   ACAT2   ACSM1   ACSM3   AKR1B10   ALDH1B1   ALDH2   ALDH3A2   ALDH5A1   ALDH7A1   ALDH9A1   BDH1   BDH2   ECDH1   EHMDH   GAD1   GAD2   HADHA   HMGCL1   HMGCS1   HMGCS2   LZHG0H   OXCT1   OXCT2   PDHA1   PDHA2   PDHB                                                                                                                                 | 1.1 | 0.25  |
| ONO_FOXP3_TARGETS_UP                                   | ADCYAP1R1   AMPH   AOAH   AQP1   BMPER   C7orf10   C7orf25   CAMK2B   CPVL   DPY19L1   DPY19L1P1   ELMO1   FLJ20712   GHRHR   KBTBD2   KIAA0895   LSM5   NFE2L3   POU6F2   SCR1   SFRP4   TRGC2   TRGV2   TRGV5   TRGV7   TRGV9   VPS41   ZPB8                                                                                                                                         | 1.1 | 0.25  |
| BOYLAN_MULTIPLE_MYELOMA_C_UP                           | FMOD   GLB1   GNS   HEXA   HEXB   KERA   LUM   OGN   OMD   PRELP                                                                                                                                                                                                                                                                                                                       | 1.1 | 0.375 |
| REACTOME_RETROGRADE_NEUROTROPHIN_SIGNALING             | CCR2   CCR5   CCR7   CD38   CD97   CREM   CXCR3   DDY5   DLK1   FOS   GADD45B   IL10   ITGAE   JUN   MEC2P   PAK1   PDCCD1LG2   RGS2   SLAMF7   SOCS2                                                                                                                                                                                                                                  | 1.1 | 0.5   |
| CELL_RECOGNITION                                       | ANGPTL4   APOBEC2   ARVCF   CAD   CPSF6   CSTF1   DHX38   DPP4   DYRK2   EMI01   ETS1   FAM53B   FXBP3   HEATR1   KIAA1462   LGR5   LRIG1   MARCKSL1   MCM3   NASP   NFYA   PDE2A   PPM1F   PRM1   PTER   RBKS   SKP2   SPIB   STX2   TYMS   VPREB3                                                                                                                                    | 1.1 | 0.375 |
| BIOCARTA_MCALPAIN_PATHWAY                              | AP2A2   AP2B1   AP2M1   AP2S1   CLTA   CLTC   DNAL4   DNM1   DNM2   NTRK1   SH3GL2                                                                                                                                                                                                                                                                                                     | 1.1 | 0.5   |
| FIRESTEIN_CTNNB1_PATHWAY_AND_PROLIFERATION             | CD209   CDKSR1   CLEC4B   CLEC7A   COLEC12   CRTAM   MICA   MICB   OPCML   PCDH12   PECAM1   SLIT2   SPAM1   ZP2                                                                                                                                                                                                                                                                       | 1.1 | 0.5   |
| MODULE_362                                             | ACTA1   CAPN1   CAPN2   CAPN51   CXCR3   EGF   EGFR   HRAS   ITGB1   MAPK1   MAPK3   MYL2   MYLK   PRKACB   PRKACG   PRKAR1A   PRKAR1B   PRKAR2A   PRKAR2B   PTX2   PXN   TLN1                                                                                                                                                                                                         | 1.1 | 0.375 |
| chr18p                                                 | CDK8   CSNK1E   CSNK1G3   DKC1   MAP3K14   PLK4   TAOK1   ZAK                                                                                                                                                                                                                                                                                                                          | 1.1 | 0.5   |
| NEGATIVE_REGULATION_OF_CELL_DIFFERENTIATION            | ANGPT1   ANPEP   EPAS1   FGF1   FGF2   FGF6   FGF7   FGF8   IL18   IL8   JAG1   KDR   MFNG   MMP19   NRG1   NRP1   PBX3   PTPRR   T   TNFAIP2   TNFSF12   VEGFC                                                                                                                                                                                                                        | 1.1 | 0.375 |
| WANG_BARRETTES_ESOPHAGUS_AND_ESOPHAGUS_CANCER_UP       | CLU1   LPIN2                                                                                                                                                                                                                                                                                                                                                                           | 1.1 | 0.5   |
| PID_LKB1_PATHWAY                                       | BMP4   CALCA   CDK6   EREG   GPR98   IL4   INHA   INHBA   IQCB1   LDB1   MAFB   NF1   NOTCH1   NOTCH2   NOTCH4   PF4   SHH   SOCS5                                                                                                                                                                                                                                                     | 1.1 | 0.375 |
| MACROMOLECULAR_COMPLEX_DISASSEMBLY                     | TBX3   USH2A   ZBTB16   ZNF675                                                                                                                                                                                                                                                                                                                                                         | 1.1 | 0.375 |
| PROTEIN_COMPLEX_DISASSEMBLY                            | AGR2   ARPC3   AZGP1   COL4A2   CREB3L1   CRIP1   CXCL3   CYBA   GDF15   GJB1   HGD   INSR   KRT8   LAMC2   LTA   LYZ   NR0B2   PDGFA   PNP1A2   PSM8B   SERPINH1   TCEAL1   TNFRSF10C   TSPAN8                                                                                                                                                                                        | 1.1 | 0.5   |
| FINETTI_BREAST_CANCERS_KINOME_BLUE                     | BRISK2   CAB39   CDC37   CREB1   CTSD   ESR1   ETVA   GSK3B   HSP90AA1   MAP2   MAPT   MARK2   MARK4   MYC   PRKAA1   PRKAA2   PRKAB1   PRKACA   PRKAG1   PRKAG2   PSEN2   SFN   SMAD4   SMARCD3   STK11   TP53   TSC1   TSC2   YWHAH   YWHAH   YWHAH   YWHAZ                                                                                                                          | 1.1 | 0.375 |
| ADHERENS_JUNCTION                                      | CP   FTH1   HFE   HPX   LTF   MT2A   MYC   SRI   TF   TFR                                                                                                                                                                                                                                                                                                                              | 1.1 | 0.25  |
| YAO_TEMPORAL_RESPONSE_TO_PROGESTERONE_CLUSTER_3        | CA2   ESR1   GADD45A   HPGD   IGHM   IGF1   ITH1   MBTD1   MINPP1   NFKBIA   PTEN   PTPN22   RABGAP1L   SEMA3E                                                                                                                                                                                                                                                                         | 1.1 | 0.375 |
| CGTCTTA_MIR-208                                        | CSNK2A2   ETS1   NUK   QKI   SPT1   TTN                                                                                                                                                                                                                                                                                                                                                | 1.1 | 0.375 |
| BIOCARTA_HSP27_PATHWAY                                 | ACTA1   APAF1   BCL2   CASP3   CASP9   CYCS   DAXX   FAS   FASLG   HSPB1   HSPB2   IL1A   MAPKAPK2   MAPKAPK3   TNF                                                                                                                                                                                                                                                                    | 1.1 | 0.375 |
| KEGG_MISMATCH_REPAIR                                   | EXO1   UG1   MLH1   MLH3   MSH2   MSH3   MSH6   PCNA   PMS2   POLD1   POLD2   POLD3   POLD4   RFC1   RFC2   RFC3   RFC4   RFC5   RPA1   RPA2   RPA3   RPA4   SSBP1                                                                                                                                                                                                                     | 1.1 | 0.375 |
| MACROMOLECULAR_COMPLEX_DISASSEMBLY                     | ETF1   HMG A1   HSP12   IRAK3   MAZ   MTERF   MTRF1   NRG1   SET   SMARCE1   SUPT16H   TNPI   TTF2   UPF1                                                                                                                                                                                                                                                                              | 1.1 | 0.375 |
| PROTEIN_COMPLEX_DISASSEMBLY                            | ETF1   HMG A1   HSP12   IRAK3   MAZ   MTERF   MTRF1   NRG1   SET   SMARCE1   SUPT16H   TNPI   TTF2   UPF1                                                                                                                                                                                                                                                                              | 1.1 | 0.375 |
| FINETTI_BREAST_CANCERS_KINOME_BLUE                     | ACVR1B   BMP1R1B   ERBB3   ERBB4   FGFR3   GAK   IGF1R   IKKB8   MAP3K12   NEK11   NEK9   RET   STK32B   STK39   ULK4                                                                                                                                                                                                                                                                  | 1.1 | 0.5   |
| chr6p24                                                | BMP6   Gcorf105   DSP   ELOVL2   F13A1   GCM2   GCNT2   HIVEP1   IL18   LY86   PAK1P1   PRPF4B   SRS1   TFA2P4   TXNDC5                                                                                                                                                                                                                                                                | 1.1 | 0.25  |
| ADHERENS_JUNCTION                                      | ACTN1   ACTN2   ACTN3   CDH1   CTNNA3   EVL   LIMA1   NRAP   PGMS5   PTRPC   RND1   SHROOM2   SORBS1   SORBS3   TRIP6   VCL   ZYX                                                                                                                                                                                                                                                      | 1.1 | 0.375 |
| chr3p                                                  | COLQ   MYL3   PRKCD                                                                                                                                                                                                                                                                                                                                                                    | 1.1 | 0.5   |
| KUROKAWA_LIVER_CANCER_EARLY_RECURRENCE_UP              | AK1   ALCAM   CDH1   DAPK1   HSPA1A   KRT8   NMT1   NRG2   RGS5   USP39                                                                                                                                                                                                                                                                                                                | 1.1 | 0.125 |
| MODULE_395                                             | AP152   AP2M1   AP2S1   AP3S1   ARCN1   HPCA   HPCAL1   LRPH   SEC24D   TBCC                                                                                                                                                                                                                                                                                                           | 1.1 | 0.5   |
| MYLLYKANGAS_AMPLIFICATION_HOT_SPOT_8                   | ABL1   CDC42EP1   FANCC   FBNP1   NR4A3   NUP214   SET   SYK   TSC1   XPA                                                                                                                                                                                                                                                                                                              | 1.1 | 0.375 |
| NEGATIVE_REGULATION_OF_CELL_MIGRATION                  | ACVR1L   ALOX15B   BMP10   CLU4   GTPBP4   MIA3   NF1   NF2   PLG   PTEN   SHH   TBX5   THY1   VCL                                                                                                                                                                                                                                                                                     | 1.1 | 0.5   |
| ZEMBUTSU_SENSITIVITY_TO_VINCISTINE                     | ABLUM1   ANXA4   ATY1B1   BARO1   CPT1A   ETS1   GCNT3   HNF4A   MMP7   MYH10   NNAT   PGPEP1   STC1   VGLL1                                                                                                                                                                                                                                                                           | 1.1 | 0.25  |
| RIZ_ERYTHROID_DIFFERENTIATION_HEMGN                    | E2F8   ELU2   EYAZ   FOSB   FOXA1   FOXO2   HOKA2   KLF5   MPL   NCOA1   NFE2L3   NKX2-5   NR0B2   NR2F1   NRAA2   PBX3   PITX2   POU2F3   POU3F3   R81   RUNX1T1   SMARCD2   SOX1   SOX18   SOX4   TBX2   TMPO                                                                                                                                                                        | 1.1 | 0.5   |
| KIM_ALL_DISORDERS_OLIGODENDROCYTE_NUMBER_CORR_DN       | ANKRD11   BAGE   CCIN   CCL1   CYP2C18   DGCR11   DNAJB14   EPHA2   FUT6   GABRB3   HIPK2   HXB07   IL5   KIF3A   MAGEA1   MAP1B   NR1D2   NR5A1   SERPINF2   SLC10A1   SLC1A2   SV2C   UMOD   XRC2   XRC3   ZBTB38   ZNF136   ZNF148                                                                                                                                                  | 1.1 | 0.375 |

|                                                                           |                                                                                                                                                                                                                                                                                                                                                                 |     |       |
|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| ABE_VEGFA_TARGETS_30MIN                                                   | ALAD   APOE   AURKC   C2   CD18   CYR61   DBC1   DUSP5   EGR1   EGR2   EGR3   ELAVL4   GZMK   HBEGF   HDC   KRAS   MCM2   MPG   MYO7A   NR4A1   PCDH17   PPY   PTGS2   SCRNI1   TAC1   TKT1L   TRIB1   VARS                                                                                                                                                     | 1.1 | 0.25  |
| MODULE_264                                                                | AP1S2   AP2M1   AP2S1   AP3S1   ARCN1   HPCA   HPCAL1   LR8B   SEC24D                                                                                                                                                                                                                                                                                           | 1.1 | 0.5   |
| BRUNEAU_SEPTATION_VENTRICULAR                                             | CREDL1   GATA4   KRAS   NKX2-5   PTPN11   RAF1   SOS1   TBX1   TBX5                                                                                                                                                                                                                                                                                             | 1.1 | 0.375 |
| BOYAUUT_LIVER_CANCER_SUBCLASS_G56_DN                                      | AGPAT2   CTGF   FZRL1   HP55   IER3   IL4R   LGA1S3BP   MAFF   NAV2   NCALD   PLD1   RAB27A   THBS2   TRIB1   VNN3                                                                                                                                                                                                                                              | 1.1 | 0.375 |
| RAMJAU_N_APOPTOSIS_BY_TGFB1_VIA_MAPK1_DN                                  | ATF5   BID   DDIT3   E2F1   EGLN3   NR4A1   SGLP1   TRIB3                                                                                                                                                                                                                                                                                                       | 1.1 | 0.5   |
| BIOCARTA_CHEMICAL_PATHWAY                                                 | AKT1   APAF1   ATM   BAD   BAX   BCL2   BCL2L1   BID   CASP3   CASP6   CASP7   CASP9   CYCS   EIF2S1   PARP1   PRKCA   PTK2   PXN   STAT1   TLN1   TP53                                                                                                                                                                                                         | 1.1 | 0.25  |
| MATZUK_SPERMATOGENIA                                                      | ADAMTS2   APAF1   BAX   BMP8B   CDKN2D   CSF1   CYP19A1   DAZL   DDX4   DNMT3L   ETV5   GDNF   GJA1   KIT   LUMK2   P2RX1   PIN1   RBP4   SLC19A2   SOHLH2   SYCP2   ZBTB16                                                                                                                                                                                     | 1.1 | 0.25  |
| BIOCARTA_CK1_PATHWAY                                                      | CDK5   CDK5R1   CSNK1D   DRD1   DRD2   GRM1   PLCB1   PPP1CA   PPP2CA   PPP3CA   PRKACB   PRKACG   PRKAR1A   PRKAR1B   PRKAR2A   PRKAR2B                                                                                                                                                                                                                        | 1.1 | 0.375 |
| SUZUKI_AMPULFIED_IN_ORAL_CANCER                                           | BCL7A   BCL9   CCND1   CCND2   EGFR   FGF3   FGF4   FGF6   GAS6   MITF   MMP1   MMP7   PGR   PTH   SUPTSH   YAP1                                                                                                                                                                                                                                                | 1.1 | 0.5   |
| MODULE_272                                                                | ALDH1L1   ALDH4A1   ALDOA   BLVRB   MTHFD1   MTHFD2   MTHFR   ODC1   PAICS   PYCR1   UMP5                                                                                                                                                                                                                                                                       | 1.1 | 0.5   |
| MIKKELSEN_MCV6_ICP_WITH_H3K4ME3_AND_H3K27ME3                              | ACTA2   ANK3   COL1A1   COL4A3   COL4A4   ESR2   FAM70A   HTR2A   IGF1   IGF3   KCNA4   KCNJ2   KCNM82   MCHR1   NOL3   NPY2R   PLAT   PTPRR   RLN1   SUSO4   SYT1   UCP1                                                                                                                                                                                       | 1.1 | 0.375 |
| BCAT.100_UP.V1_UP                                                         | ABCB1   ARHGEF5   BIK   BMP4   CD9   CDX2   CHODL   CRYM   DBNDD1   DEFAS   DKK1   DNAJC3   DUSP4   DUSP6   EEF1A2   EFEMP1   ENC1   ENO2   ENP22   ETV5   FGF20   FUT1   GAD1   GADD45G   GCNT3   HBA2   HOXA1   HYAL3   IHH   IRS1   ITGA9   LBP   LMO2   LYGG6D   PLEKHF1   PPP1R1A   PTFR   QPCT   RBP1   RUNX1   SERPINI1   SLC7A8   SORBS2   TBX3   WNT11 | 1.1 | 0.25  |
| MOTOR_ACTIVITY                                                            | APPBP2   BBS4   CENPE   DNAI1   DNAI2   DNAL1   DYNC1I1   GRIN1   KIF11   KIF1B   KIF22   KIF23   KIF2C   KIF3B   KIF4A   KIF5B   KIF5C   KIFC3   MYH10   MYH13   MYH2   MYH9   MYL6   MYL6B   MYO1E   MYO3A   MYO6   MYO9B                                                                                                                                     | 1.1 | 0.5   |
| REACTOME_CGMP_EFFECTS                                                     | KCNMB1   KCNM82   KCNM83   KCNM84   PDE10A   PDE11A   PDE1A   PDE1B   PDE2A   PDE3A   PDE3B   PDE5A   PDE6A   PDE6B   PDE6G   PDE9A   PRKG1   PRKG2                                                                                                                                                                                                             | 1.1 | 0.25  |
| ZEMBUTSU_SENSITIVITY_TO_CYCLOPHOSPHAMIDE                                  | AGR2   ATP1B1   DLK1   ELF3   GPX2   KCNH2   MBP   NRP1   STK17A   TDRD7                                                                                                                                                                                                                                                                                        | 1.1 | 0.25  |
| MODULE_516                                                                | ANGPT1   ANPEP   DIO1   EPAS1   FGF1   FGF2   FIGF   IL18   IL8   JAG1   MMP19   NRG1   PBX3   PTPRR   TNFAIP2   TNFSF12                                                                                                                                                                                                                                        | 1.1 | 0.375 |
| chr3p22                                                                   | ACVR2B   ANGPTL3   CCK   CCR8   CLEC3B   CMTM6   CMTM8   CRTAP   EIF1B   EPM2AIP1   FBXL2   GOLGA4   GORASP1   GPD1L   HIGD1A   LRFRIP2   MLH1   MYD88   OSBP1L0   OXSR1   PARP3   PDCD6IP   PFKFB4   PLCD1   RPL14   SLC4A7   SNRK   STAC   TGFBR2   TGM4   TRAK1   UBP1   ULK4   VIPR1   XYL8                                                                 | 1.1 | 0.375 |
| INTEGRAL_TO_GOLGI_MEMBRANE                                                | ATP7A   ENTDP4   LARGE   MAN1C1   PCSK7   RER1                                                                                                                                                                                                                                                                                                                  | 1.1 | 0.5   |
| KEGG_HOMOLOGOUS_RECOMBINATION                                             | BLM   BRCA2   MRE11A   MUS81   NBN   POLD1   POLD2   POLD3   POLD4   RAD50   RAD51   RAD51C   RAD52   RAD54B   RAD54L   RPA1   RPA2   RPA3   RPA4   SHFM1   SSBP1   TOP3A   TOP3B   XRCC2   XRCC3                                                                                                                                                               | 1.1 | 0.5   |
| AUXILIARY_TRANSPORT_PROTEIN_ACTIVITY                                      | ADRA2A   CHP   CHRNA7   ENSA   KCNA81   KCNA82   KCNA83   KCNE1   KCNJ12   KCNM81   KCNM82   KCNS1   KCNS3   KCNV1   NEDD4L   NNAT   NPY   NPY2R   PDZD3   RSC1A1   SGK2   SMA03   SRI   TMPRSS3   TNNI3                                                                                                                                                        | 1.1 | 0.5   |
| BIOCARTA_RAC1_PATHWAY                                                     | ARIP2   CDK5   CDK5R1   CFL1   CHN1   LIMK1   MAP3K1   MYL2   MYLK   NCF2   PAK1   PDGFRA   PIK3CA   PIK3CG   PIK3R1   PLD1   PPP1R12B   RAC1   RALBP1   RP56KB1   TRIO   VAV1   WASF1                                                                                                                                                                          | 1.1 | 0.25  |
| PID_HNF3APATHWAY                                                          | APB1   APOB   AR   ATP5J   BRCA1   C4BPB   CDKN1B   CEBPB   COL18A1   CREBBP   CYP2C18   DSCAM   EP300   ESR1   FOS   FOXA1   FOXA2   GGC   INS   JUN   KLR3   NCOA3   NFIB   NFIC   NIK3-X1   NR2F2   NRIP1   PISD   POU2F1   SCGB1A1   SERPINA1   SFTPA2   SFTPD   SHH   SOD1   SP1   TFF1   VTN   XBP1                                                       | 1.1 | 0.25  |
| BIOCARTA_D4GDI_PATHWAY                                                    | APAF1   ARHGAP5   ARHGD1B   CASP1   CASP10   CASP3   CASP8   CASP9   CYCS   GZMB   JUN   PARP1   PRF1                                                                                                                                                                                                                                                           | 1.1 | 0.125 |
| REGULATION_OF_CYTOKINE_BIOSYNTHETIC_PROCESS                               | AP0A2   AZU1   BCL1L   BCL2   CD28   CEBPG   EB13   EREG   FOXP3   GHSR   GLMN   IL12B   IL6   IL9   INHA   INHBA   INHBB   IRF4   LTB   MAST2   PRG3   SFTPD   SIGIRR   SPN   TLR1   TLR3   TLR4   TLR6   TLR7   TLR8   TNFRSF8                                                                                                                                | 1.1 | 0.375 |
| NIKOLSKY_BREAST_CANCER_Z2Q13_AMPLICON                                     | ALG12   BRD1   CRELD2   MAPK11   MAPK12   MLC1   PLXNB2   TRABD   ZBED4                                                                                                                                                                                                                                                                                         | 1.1 | 0.5   |
| HANSON_HRAS_SIGNALING_VIA_NFKB                                            | ADRA2A   ADRA2C   ALDH1A3   CGREF1   CLCF1   COL18A1   CRISP3   KLF3   LGLAL57   NPPB   PIP5K1A   PKP1   PVR   SELPLG   SERPINB2   SOX5   STK10   TMOD2                                                                                                                                                                                                         | 1.1 | 0.375 |
| VACUOLAR_PART                                                             | ABCA2   ACR   ATP6V1B1   CD63   CLN5   CORO1A   CTNS   CYLC1   LAMP2   LAMP3   MYO7A   SLC17A5   TRIM23                                                                                                                                                                                                                                                         | 1.1 | 0.5   |
| NIKOLSKY_BREAST_CANCER_IQ3Z_AMPLICON                                      | DYRK3   FAIS3   IKKBE   IL10   IL19   IL24   MAPKAPK2   PI3R   SRGAP2                                                                                                                                                                                                                                                                                           | 1.1 | 0.5   |
| KEGG_NITROGEN_METABOLISM                                                  | AMT   ANS   CA1   CA12   CA14   CA2   CA3   CA4   CASK   CASB   CAG   CA7   CA8   CA9   CPS1   CTH   GLS   GLS2   GLUD1   GLUD2   GLUL   HAL                                                                                                                                                                                                                    | 1.1 | 0.5   |
| BIOCARTA_PTDINS_PATHWAY                                                   | AKT1   AP2M1   ARF1   ARHGEF2   BAD   BTK   EEA1   GSK3A   GSK3B   JAG1   LYN   PDPK1   PFKL   PFKM   PFKP   PLCG1   PRKCE   PRKCZ   RAB5A   RAC1   RP56KB1   VAV2                                                                                                                                                                                              | 1.1 | 0.25  |
| IIZUKA_LIVER_CANCER_PROGRESSION_L0_L1_UP                                  | AKT9   CNBP   DMD   FNI   MT4   PCB3P   PTPN18   RMND5A   RNF103   S100A2   SULT2B1   TUBB2B   ZFPL1   ZNF337                                                                                                                                                                                                                                                   | 1.1 | 0.5   |
| KEGG_AMINO_SUGAR_AND_NUCLEOTIDE_SUGAR_METABOLISM                          | AMDHD2   CHIA   CHIT1   CMAS   CYB5R1   CYB5R3   FPGT   GALE   GALK1   GALK2   GALT   GCK   GPFT1   GPFT2   GMD5   GMPPA   GMPPB   GNE   GNPDA1   GPI   HEXA   HEXB   HK1   HK2   HK3   MPI   NAGK   NANS   NPL   PGM1   PGM3   PMM1   PMM2   RENBP   TSTA3   UAP1   UGDH   UGP2   UXS1                                                                         | 1.1 | 0.125 |
| MONOVALENT_INORGANIC_CATION_HOMEOSTASIS                                   | ATP1A1   ATP1A2   ATP1A3   ATP6V1B1   BCL2   CLCN3   CLN3   CLN5   CLN6   PPT1   SLC9A1   SLC9A7   TMPRSS3                                                                                                                                                                                                                                                      | 1.1 | 0.375 |
| CHEN_ETV5_TARGETS_TESTIS                                                  | CNBN1P1   CCNE2   CDK2   CRABP1   DAZL   DCK   DDX10   DMCI   HELLS   MAD2L1   MCM2   MKI67   NFYB   RAD51   RBMY1A1   SOX3   TGFBR1   TKT1L                                                                                                                                                                                                                    | 1.1 | 0.375 |
| GNF2_CDH3                                                                 | ALDH1A3   AMIGO2   ANXA3   ANXA8   AREG   CDH3   CLCA2   COL17A1   F3   FGF8P1   GJB3   GJB5   GPR87   KRT17   KRT19   LAMA3   LAMB3   LAMC2   PTHLH   S100A14   S100A2   SERPINB5   SFN   UPP1                                                                                                                                                                 | 1.1 | 0.5   |
| CHESLER_BRAIN_QTL_TRANS                                                   | ATF5   MYH9   MYOC   PITPNB   SPC51   TSPAN5                                                                                                                                                                                                                                                                                                                    | 1.1 | 0.5   |
| AROMATIC_COMPOUND_METABOLIC_PROCESS                                       | ALDH1L1   ALDH5A1   ALDH6A1   ASMTL   CDA   DCT   FAH   FTCD   GMP5   GSTZ1   HGD   HPD   HPRT1   MAT2B   MOCOS   MOC52   MTHFD2   PAICS   PRPS1   PTS   QDPR   SNCAIP   SPR   SULT1B1   TGF82   TYR                                                                                                                                                            | 1.1 | 0.375 |
| TONKS_TARGETS_OF_RUNX1_RUNX1T1_FUSION_SUSTAINED_IN GRANULOCYTE_DN         | ALOXAP   CAMK1   CYP1B1   FCER1A   HDC   IL10RA   PMP22                                                                                                                                                                                                                                                                                                         | 1.1 | 0.375 |
| BIOCARTA_RANMS_PATHWAY                                                    | AURKA   KIF15   KPN2A   KPNB1   NUMA1   RAN   RANBP1   RANGAP1   RCC1   TPX2                                                                                                                                                                                                                                                                                    | 1.1 | 0.375 |
| MITOCHONDRIAL_TRANSPORT                                                   | BAK1   BCL2   BCL2L1   BNIP3   HSP90AA1   MFN2   MIP2   MTLX2   SLC25A11   SLC25A15   STARD3   TIMM17A   TIMM17B   TIMM23   TIMM44   TOMM22   TOMM34   TP53   TSPO                                                                                                                                                                                              | 1.1 | 0.25  |
| TIAN_BHLHA15_TARGETS                                                      | ACP2   AQP3   BRP44L   CCPG1   FAM63A   FNDC3A   MAP2K5   RAB26   RAB3D   SERPINI1   SLC31A2                                                                                                                                                                                                                                                                    | 1.1 | 0.25  |
| HOWLIN_CITED1_TARGETS_2_DN                                                | AMACR   BID   BPGM   CHRDL1   CITED1   ETF1   FGG   GALT   PHGDH   PRKCDPB   SORL1   STC2   TRIM34   VAMP3                                                                                                                                                                                                                                                      | 1.1 | 0.5   |
| ZWANG_EGF_PERSISTENTLY_UP                                                 | C14orf1   CALU   CPA4   CXorf57   CYP51A1   DYNC1L1   FAM98A   HMGCR   HSDL2   IDI1   IFIT3   KHLH7   LANCL2   ME1   NSDHL   OASL   UGDH   POR   RHOBTB2   SERPINB7   TCEA2   UGDH                                                                                                                                                                              | 1.1 | 0.25  |
| LUDWICZEK_TREATING_IRON_OVERLOAD                                          | CP   HAMP   HRX   LCN2   MTZA   TFRIC                                                                                                                                                                                                                                                                                                                           | 1.1 | 0.375 |
| MODULE_537                                                                | BCL2A1   BCL2L1   BIRC2   BIRC3   BIRC5   BNIP3   CD2   CFLAR   IER3   IL1A   MYBL2   NFKB1   NRG2   SEMA4D   SERPINB2   SON   TNFAIP3                                                                                                                                                                                                                          | 1.1 | 0.5   |
| MODULE_130                                                                | C1QA   C1QB   C1R   C1S   C2   C3   C4A   C4B   C4BP4   C4BPB   C5   C6   C7   C8A   C9   CD55   CFB   CFH   CFHR1   CFI   CLU   CR2   SERPING1                                                                                                                                                                                                                 | 1.1 | 0.5   |
| ST_TYPE_I_INTERFERON_PATHWAY                                              | IFNAR1   IFNB1   JAK1   PTPRU   REG1A   STAT1   STAT2   TYK2                                                                                                                                                                                                                                                                                                    | 1.1 | 0.5   |
| KANNAN_TP53_TARGETS_DN                                                    | APB2A   ARLA4   BIRC3   BRCA1   CCNE1   CDG6   COL18A1   CFPM   CXADR   EIF4A1   FOSL2   G0S2   INA   LAMC2   PMP22   PPAT   PURA   SLC19A1   SORL1   TMEM97                                                                                                                                                                                                    | 1.1 | 0.375 |
| FUJIWARA_PARK2_HEPATOCYTE_PROLIFERATION_UP                                | APCS   APOA4   ASNS   CXCL1   FST   HSPA1A   NAT8   SULT1E1   TFB2M                                                                                                                                                                                                                                                                                             | 1.1 | 0.375 |
| HOFMANN_MYELODYSPLASTIC_SYNDROM_RISK_DN                                   | ARIP1   CXCL12   DLEC1   DYRK2   IFNAR1   LCP2   MND4   MTMR11   NFE2   NKG7   PAGE1   PCDHB17   PF4   PIK3CG   PPP1R8   PRKAA1   RGS19   RHOF   STAT2   UPK3A   ZNF11                                                                                                                                                                                          | 1.1 | 0.25  |
| BIOCARTA_NUCLEARRS_PATHWAY                                                | ABCB1   ABCB11   ABCB4   ABCB3   CYP1A2   CYP2E1   NR0B2   NR1H3   NR1H4   NR113   PPARA   PPARG   PPARG   RARA                                                                                                                                                                                                                                                 | 1.1 | 0.25  |
| MODULE_106                                                                | CYP11A1   CYP11A1   CYP1B1   CYP2B6   CYP2C19   CYP2C8   CYP2C9   CYP2D6   CYP2E1   CYP2J2   CYP3A4   CYP3A7   CYP4B1                                                                                                                                                                                                                                           | 1.1 | 0.375 |
| ZHAN_MULTIPLE_MYELOMA_CD1_UP                                              | ADRB1   ATF5   BGLAP   CEBPB   CLEC2D   CSTA   CTH   EIF4EBP1   FYN   G0S2   GPR63   INHBE   ITGAL   KHLH4   MFAP4   MTG1   NID2   NSUN7   PCK2   PHGDH   PPP2R5E   PTGER2   RAB31   RAB33A   RBP1   SLC7A11   STC2   TBC1D16   TM6SF1   TMC6   TRIB3                                                                                                           | 1.1 | 0.375 |
| PID_TCRALCIUMPATHWAY                                                      | AKAP5   CABIN1   CD40LG   CHP   CREM   CSF2   FASLG   FKBP1A   FOS   FOSL1   IFNG   IL2   IL2RA   IL3   IL4   JUN   JUNB   NFATC1   NFATC3   POU2F1   PPP3CA   PPP3CB   PPP3R1   PRKACA   PTGS2                                                                                                                                                                 | 1.1 | 0.375 |
| GAUTSCHL_SRC_SIGNALING                                                    | ID1   ID2   ID3   ID4   SERPINE1   SMADE   SMA07   TGFBI                                                                                                                                                                                                                                                                                                        | 1.1 | 0.5   |
| STEGMEIER_PRE-MITOTIC_CELL_CYCLE_REGULATORS                               | CYLD   DZIP3   FBXO5   RING1   RNF32   SKP2   SOCS2   TRIM32                                                                                                                                                                                                                                                                                                    | 1.1 | 0.375 |
| REACTOME_SYNTHESIS_AND_INTERCONVERSION_OF_NUCLEOTIDE_DI_AND_TRIPHOSPHATES | AK1   AK2   AKS   CTPS   CTPS2   DTYMK   GLRX   GSR   GUK1   NME1   NME1-NME2   NME2   NME4   RRM1   RRM2   TXN   TXNRD1                                                                                                                                                                                                                                        | 1.1 | 0.5   |
| PROTEIN_HOMOOLOGOMERIZATION                                               | ACTN2   AKR1C1   ALDH5A1   ATP1F1   BAX   BCL10   CDA   DGKD   EIF2AK3   GPX3   HPRT1   PEX14   RAD51   SCUBE3   STOM   SYT1   VWF                                                                                                                                                                                                                              | 1.1 | 0.25  |
| TSUTSUMI_FBXW8_TARGETS                                                    | ACTN3   ATP2A1   IGF8P1   MYBPC2   RYR1                                                                                                                                                                                                                                                                                                                         | 1.1 | 0.5   |
| ZERBINI_RESPONSE_TO_SULINDAC_DN                                           | CNBN1   CNBN31P1   CNBN2   CDC25C   CDKN1A                                                                                                                                                                                                                                                                                                                      | 1.1 | 0.5   |
| MARSHALL_VIRAL_INFECTION_RESPONSE_DN                                      | CD7   CKS2   G2MA   GZMB   H2AFZ   IL18RAP   ITGB7   KIF23   KLF2   KLF3   KLRG1   MYB   NFKBIA   NFKBIB   PCNA   PDIM1   PIM1   RASA3   RASGRP2   RBM38   RELB   TC7F   TOB1   TXK                                                                                                                                                                             | 1.1 | 0.5   |
| KEGG_GLYCINE_SERINE_AND_THREONINE_METABOLISM                              | AGXT   ALAS1   ALAS2   AMT   AOC2   AOC3   BHMT   CBS   CTH   DAO   DLD   GAMT   GATM   GCAT   GLDC   GNMT   MAOA   MAOB   PHGDH   PIPOX   PSA1   P5PH   SARDH   SDS   SHMT1   SHMT2   SRR                                                                                                                                                                      | 1.1 | 0.375 |
| BIOCARTA_CCR3_PATHWAY                                                     | CLL1   CCR3   CFL1   GNAQ   GNAS   GN81   NGT1   HRAS   LIMK1   MAP2K1   MAPK1   MAPK3   MYL2   NOX1   PIK3C2G   PLCB1   PPP1R12B   PRKCA   PTK2   RAF1   RHOA   ROCK2                                                                                                                                                                                          | 1.1 | 0.375 |
| REGULATION_OF_LIPID_METABOLIC_PROCESS                                     | ANGPTL3   BMP6   BRCA1   CIDEA   EDF1   NP2C1   NR5A1   PPARA   PPARGC1A   SOD1   STUB1                                                                                                                                                                                                                                                                         | 1.1 | 0.375 |
| DAVIES_MULTIPLE_MYELOMA_V5_MGUS_UP                                        | EM13   FRZ8   HIST1H2BK   ITGA8   MFGN   PDE6G   PITX3   RING1   RP56KA4   RRAGD   SGCE   UBE2G2                                                                                                                                                                                                                                                                | 1.1 | 0.375 |
| PID_SYNDSCAN_4_PATHWAY                                                    | ACTN1   ADAM12   CCLE5   CXCL12   CXCR4   DNMT2   F2   FGF2   FGF6   FGFFR1   FN1   FZD7   GIPC1   ITGA5   ITGB1   ITGA1   LAMA1   LAMA3   MDK   MMP9   PLG   PRKCA   PRKCD   PTK2   RAC1   RHOA   SDC4   SDCBP   TFP1   THBS1   TNC   TNFRSF13B                                                                                                                | 1.1 | 0.375 |
| KUMAMOTO_RESPONSE_TO_NUTLIN_3A_UP                                         | BTG2   CYP1P2   GDF15   MDM2   NIN1   PLTP   SESN1   TP53B3                                                                                                                                                                                                                                                                                                     | 1.1 | 0.5   |
| KAMMINGA_SENESCENCE                                                       | ABHD8   ARHGAP28   ARHGEF10L   ARID1A   CLK2   CPN1   DDX54   ELAVL1   EZH2   FHIT   GJB5   GNAO1   GRP   GTF2E1   HMGN1   ID1   KPNB1   KYNU   MKI67   NOL9   PSD1   QTRT1   RABAC1   SUOX   THBS4   WHSC2                                                                                                                                                     | 1.1 | 0.5   |
| MATZUK_MALE_REPRODUCTION_SERTOLI                                          | ACVR2A   AR   BAGALNT1   BCL2L2   CDKN2C   CLDN11   CYP17A1   CYP19A1   DMRT1   DNAJA1   GDI1   GDNF   GJA1   HMGAI   HMG82   INHA   KITLG   LHCGR   MAN2A2   MAP7   NR0B1   RBP4   SBF1   SERPINAS   SF1   SLC12A2                                                                                                                                             | 1.1 | 0.5   |
| chrXq23                                                                   | AMOT   BHLHB9   CAPN6   CHRDL1   CUL4B   SLC6A14   TAF7L   TEX13B   TRPC5   ZBTB33                                                                                                                                                                                                                                                                              | 1.1 | 0.25  |

|                                                                          |                                                                                                                                                                                                                                                                                                                                                                                           |     |       |
|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| MORI_PLASMA_CELL_DN                                                      | ABLIM1   ANP32A   ARPC5L   BACH2   BCL11A   BMP2K   C14orf118   C4orf34   CALM2   CD22   CD40   CD83   COTL1   CPM   ELK3   HLA-DQA1   KIAA0748   LAPTM5   LMO2   LRCH1   MICAL1   MS4A1   SMAD1   SPIB   SRPK3   TLR1   TPM4                                                                                                                                                             | 1.1 | 0.125 |
| OHM_EMBRYONIC_CARCINOMA_DN                                               | CDKN2A   CDKN2B   RARB   RBP1   SFRP4   SFRP5   TIMP3   TP73                                                                                                                                                                                                                                                                                                                              | 1.1 | 0.5   |
| CRONQUIST_IL6_DEPRIVATION_UP                                             | AHNAK   APO1L   ARL4C   BMP2   CDKN1C   ECM2   FCER2   FCGRT   HOMER3   IFIT1   IFIT2   LEFTY2   NCF2   PCDHGA8   PDE1A   RAPGEF3   RRAS   SCGB2A2   SLC7A7   TBC1D9                                                                                                                                                                                                                      | 1.1 | 0.125 |
| SIG_CHEMOTAXIS                                                           | ACTR2   ACTR3   AKT1   AKT2   AKT3   ANGPTL2   ARHGAP1   ARHGAP4   ARHGEF11   BTK   CDC42   CFL1   GDI1   GDI2   INPPL1   ITPR1   ITPR2   ITPR3   LIMK1   MYLK   PAK1   PAK2   PAK3   PAK4   PAK6   PAK7   PDK1   PIK3CA   PIK3CD   PIK3CG   PIK3D1   PIK3R1   PIK3R5   PITX2   PPP1R13B   PTEN   RACGAP1   RHO   ROCK1   ROCK2   RP54X   SAG   WASF1   WASL                              | 1.1 | 0.125 |
| MODULE_400                                                               | ABCA8   AHSG   AMELY   COL5A1   EFEMP1   EXT1   GNG11   IBSF   IL6ST   JAK3   KIF25   LMOD1   MGP   MTPP   SLT2   SRD5A2   STC1   TCF15   TIE1                                                                                                                                                                                                                                            | 1.1 | 0.375 |
| STARK_BRAIN_22Q11_DELETION                                               | B3GAT1   BSN   C9orf3   CDK5R1   FJX1   SLC17A7   TRAK1   USP7                                                                                                                                                                                                                                                                                                                            | 1.1 | 0.125 |
| ST_INK_MAPK_PATHWAY                                                      | AKT1   ATF2   CDC42   DLD   DUSP10   DUSP4   DUSP8   GAB1   GADD45A   GCK   IL1R1   JUN   MAP2K4   MAP2K5   MAP2K7   MAP3K1   MAP3K10   MAP3K11   MAP3K12   MAP3K13   MAP3K2   MAP3K3   MAP3K4   MAP3K5   MAP3K7   MAP3K9   MAPK10   MAPK7   MAPK8   MAPK9   MYEF2   NFATC3   NR2C2   PAPPA   SHC1   TP53   TRAF6   ZAK                                                                   | 1.1 | 0.375 |
| AMINO_ACID_DERIVATIVE_METABOLIC_PROCESS                                  | ALDH5A1   ASMTL   BBOX1   CCB1   CDD1   COLQ   DHS5   DIO1   DIO2   ETKN1   GAMT   GATM   HPRT1   MAT2B   OAZ1   OAZ2   P4HB   PRG3   SLC5A7   SMS   SNCAIP   SULT1B1   TGF82                                                                                                                                                                                                             | 1.1 | 0.5   |
| BIOCARTA_MONOCYTE_PATHWAY                                                | CD44   ICAM1   ITGA4   ITGAL   ITGAM   ITGB1   ITGB2   PECAM1   SELE   SELP                                                                                                                                                                                                                                                                                                               | 1.1 | 0.5   |
| REACTOME_INHIBITION_OF_REPLICATION_INITIATION_OF_DAMAGED_DNA_BY_RB1_E2F1 | E2F1   POLA2   PPP2CA   PPP2CB   PPP2R1A   PPP2R1B   PPP2R3B   PRIM1   RB1   TFDP1                                                                                                                                                                                                                                                                                                        | 1.1 | 0.5   |
| CARBOXYLSTERASE_ACTIVITY                                                 | ACHE   AOAH   APOC2   CES1   CES2   LGALS13   LIPE   LIPF   LIPG   LPL   LYPLA1   MGLL   PLA1A   PLA2G10   PLA2G1B   PLA2G2A   PLA2G2D   PLA2G2E   PLA2G3   PLA2G4B   PLA2G4C   PLA2G5   PLA2G6   PNLI1   PNLI1PR1   PNLI1PR2   PNPLA3   PON2   PPME1   PRDX6                                                                                                                             | 1.1 | 0.375 |
| IKEDA_MIR30_TARGETS_DN                                                   | ATP2A2   BCL2L11   CDH13   CHD9   CEPB3   ESRRG   GJA1   HSPD1   IGF2R   IRX4   LPHN3   MMD   NCAM1   NEDD4L   RABGAP1L   RNF139   SATB2   STX39   TAOK1   TMEFF1   ZDHHC17                                                                                                                                                                                                               | 1.1 | 0.375 |
| REACTOME_GLYCOPROTEIN_HORMONES                                           | CGA   CGB   CGB5   FSHB   INHA   INHBA   INHBB   INHBC   INHBE   LHB   TSHB                                                                                                                                                                                                                                                                                                               | 1.1 | 0.5   |
| AIGNER_ZEB1_TARGETS                                                      | CD24   CDH1   CDH11   CDH3   CDH4   CLDN7   CXADR   DSC2   DSP   EPPK1   F11R   GJB3   INADL   MUC1   OCLN   PCDH7   PKP3   PPL   SCEL   SFN   SH3YL1   TACSTD2   TMEM308   TSPAN1   TSPAN15                                                                                                                                                                                              | 1.1 | 0.25  |
| BEIER_GLIOMA_STEM_CELL_UP                                                | ABCA1   AKAP7   C20orf103   CHRNA1   COL9A3   EPHA4   FGFR3   LOC441204   MYO5C   NEDD4L   NELL2   NRIP3   OBSL1   PEX13   PROM1   RLBP1   SERPING1   SIX1   SLC04A1   SOCS6   SV2C   TLE1   ZNF516                                                                                                                                                                                       | 1.1 | 0.375 |
| FARDIN_HYPOXIA_11                                                        | ALDOC   ANGPTL4   BNIP3   BNIP3L   BTG1   DDIT4   EGLN1   EGLN3   IGF1R   IGFFBP3   MAPT   MXI1   NDRG1   P4HA2   PDK1   PFKFB4   PGK1   PGM1   PLOD1   SLC2A3   TNIP1   TP11   TXNIP   ZNF395                                                                                                                                                                                            | 1.1 | 0.375 |
| GOUYER_TATI_TARGETS_DN                                                   | A4GALT   BMP7   CSPG4   FABP5   FN1   HPN   IGF2   IGF8P2   MAPK12   MCAM   PTP4A3   S100A4   SNCG   TAGLN   TIMP4                                                                                                                                                                                                                                                                        | 1.1 | 0.5   |
| WU_HBX_TARGETS_1_DN                                                      | ANPEP   BCL2L1   CDC42BPA   CSNK1G2   EIF2AK2   HSPA1L   KLF6   MADCAM1   MAP2K3   MAP3K1   NCOA3   PPP5C   PRKCD   PRKCI   PTPN14   RAB5C   RYBP   STK25   TGF81   TGF82   YWHAE                                                                                                                                                                                                         | 1.1 | 0.125 |
| REGULATION_OF_MAPKKK_CASCADE                                             | ADRB2   ADRB3   AMBP   ATP6AP2   CARD9   CD24   EDA2R   GRM4   HIPK2   MAPK8IP1   MAPK8IP2   MAPK8IP3   NF1   REN   TAOK2   TAOK3   TPDS2L1   ZNF675                                                                                                                                                                                                                                      | 1.1 | 0.375 |
| BIOCARTA_ATRBCRA_PATHWAY                                                 | ATM   ATR   BRCA1   BRCA2   CHEK1   CHEK2   FANCC   FANCE   FANCF   FANGC   HUS1   MRE11A   NBN   RAD1   RAD17   RAD50   RAD51   RAD9A   TP53   TREX1                                                                                                                                                                                                                                     | 1.1 | 0.375 |
| PHOSPHOLIPASE_C_ACTIVITY                                                 | BCKR82   CJAR1   CASR   CCKBR   CCR5   CHRM5   EDNRA   F2RL2   PDIA3   PLCB2   PLCD1   PLCE1   PLCH1                                                                                                                                                                                                                                                                                      | 1.1 | 0.375 |
| SKELETAL_MUSCLE_DEVELOPMENT                                              | ACTA1   ADAM12   BMP4   CACNA1C   CACNB2   CHRNA1   COL4A4   CSRP3   FOXL2   IFRD1   IGF8P3   KCHN1   KRT19   MAPK12   MBNL1   MYEF2   MYF5   MYF6   MYH11   MYL6   MYL6B   MYO11   MYOZ1   NOTCH1   NRD1   SVIL   TAZ   TBX3   TTN   UBB                                                                                                                                                 | 1.1 | 0.25  |
| MIKKELSEN_PLURIPOTENT_STATE_UP                                           | ASH2L   CBX7   CCNB1   DNMT3L   NANOG   SUV39H2   TGDG1                                                                                                                                                                                                                                                                                                                                   | 1.1 | 0.5   |
| PID_THROMBIN_PAR4_PATHWAY                                                | F2   F2RL2   GNA11   GNA13   GNA14   GNA15   GNAQ   GN81   MYL2   PLCB2   RHOA   ROCK1   ROCK2                                                                                                                                                                                                                                                                                            | 1.1 | 0.375 |
| VARELA_ZMPSTE24_TARGETS_DN                                               | AKR1C1   ALDH1A1   ALDH3A2   ALDOB   BPHL   CA3   CAT   CCN4L   CD1D   CPT2   EHHADH   FABP1   FMO1   GOS2   IDI1   IFI27   IGFALS   INP55   KLB1   LASP1   OTC   PHLDA1   RGN   S100A10   SLC31A1   SULT1B1   VNN1   XIST   ZAP70                                                                                                                                                        | 1.1 | 0.125 |
| GOLUB_ALL_VS_AML_DN                                                      | ATP6VOC   AZU1   CAT   CD33   CFD   CFP   CST3   CTSD   FAH   HOKA9   IL8   ITGAX   LEPROT   LGALS3   LTC4S   LYN   LYZ   MCL1   NFKBIA   PP1F   SQSTM1   STOM   ZYX                                                                                                                                                                                                                      | 1.1 | 0.5   |
| REGULATION_OF_PROTEIN_IMPORT_INTO_NUCLEUS                                | BCL3   CDH1   FAF1   FLNA   MDF1   MXI1   NF1   NFKBIE   NFKBIL1   SMAD3   TGF81   TNFSF14   TRIP6                                                                                                                                                                                                                                                                                        | 1.1 | 0.5   |
| GOLGI_ASSOCIATED_VESICLE                                                 | ADAM10   ATP1B   AP1G2   AP1S1   AP3B2   ARCN1   ATP7A   COPA   COPB1   COPB2   COPE   COPG   COPG2   COPZ1   CSPG5   FURIN   IGF2R   KIAA0368   LDLRAP1   OCLR   RAB14   SPG21   TYR                                                                                                                                                                                                     | 1.1 | 0.5   |
| chr7q32                                                                  | ADP1   ATP6V1F   CALU   COPG2   CPA1   CPA2   CPA4   DGKI   EPHA1   FLJ43663   FLNC   HIPK2   IRF5   MEST   METTL2B   MKLN1   MRPS33   NR1F   PAX4   PODXL   RBM28   TNPO3   TRIM24   UBE2H   ZYX                                                                                                                                                                                         | 1.1 | 0.375 |
| POLYSACCHARIDE_BINDING                                                   | AAMP   ANG   CHIA   CHIT1   CHODL   COL13A1   FGFBP1   FSTL1   HBBP2   HBEGF   HDGF   IMPG2   LPL   LRPAP1   MDK   PF4   PODXL2   POSTN   RPL29   SERPINA5   STAB2   TGFBR3   THBS2   THBS4   TNFAIP6   TNXB   ZNF146                                                                                                                                                                     | 1.1 | 0.375 |
| PYEON_CANCER_HEAD_AND_NECK_VS_CERVICAL_DN                                | CD5N   DCN   DDX3Y   DPT   OSC1   EIF1AY   FEZ1   GPR98   IL1R2   KLF7   KLB8   LRRC15   LY96   MAGEA12   NEB   PDPN   RPS4Y1   SLC6A15   USP9Y   ZFY                                                                                                                                                                                                                                     | 1.1 | 0.375 |
| WU_HBX_TARGETS_3_DN                                                      | EBI3   GAS6   GLG1   GSTA4   GSTM4   GSTM5   IL6   MAP2K2   PAK1   PMAIP1   TGF81   TP53   WT1                                                                                                                                                                                                                                                                                            | 1.1 | 0.125 |
| KIM_RESPONSE_TO_TSA_AND_DECITABINE_DN                                    | BCL2L10   CHRNA4   FAM120A   GSK3A   HFE   KCNJ5   PACSIN3   PARVB   RPL10   SLCUG2   TMEM63A                                                                                                                                                                                                                                                                                             | 1.1 | 0.375 |
| NIELSEN_LEIOMYOSARCOMA_CNN1_DN                                           | ADD3   AMPD2   ATRX   BMP7   CDH11   CDK2AP1   ETV5   FRAS1   HLA-DOA   LOXL2   MMP2   PDPN   PLAGL1   SOCS3   SPRY2   TCF4   THY1   TOX                                                                                                                                                                                                                                                  | 1.1 | 0.5   |
| MODULE_511                                                               | AIM1   ANKRD2   ASPSCR1   BTG3   CTAGE1   DMRT1   EAF2   HYAL3   IPP   KCNJ1   LMAN1L   MAK   OSBPL10   PARP8   PKD2L1   PSME4   RNASE2   SCPEP1   SLC38A2   TSNAIXP1   WDR52   ZBTB3                                                                                                                                                                                                     | 1.1 | 0.375 |
| KOMMAGANI_TP63_GAMMA_TARGETS                                             | CDKN1A   IGF8P3   JAG2   MDM2   NOTCH3   SMARCD3   TP53I3   VDR   YWHAQ                                                                                                                                                                                                                                                                                                                   | 1.1 | 0.5   |
| NEGATIVE_REGULATION_OF_RESPONSE_TO_STIMULUS                              | CHRNA7   FOXP3   GHSR   KLB8   LEP   PTPRC   SPINK5   TARBP2   TGF82                                                                                                                                                                                                                                                                                                                      | 1.1 | 0.375 |
| TBK1.DN.48HRS_UP                                                         | APOE   APPBP2   ARL4C   BAMBI   CALM3   CDK4   CDKN2A   CEBCA   CHEK2   CHMP6   CNDP2   CNOT4   COPB2   CXCL2   DDR1   DUSP3   ECO   EDN1   FCHO1   FKBP14   FSD1   IGF8P3   KIAA0907   LBR   LRPAP1   MAP3K4   MTRF1   MYCBP   MYLK   OXSR1   PIK3C2B   PSRC1   PTK2   RBM15B   RNMT   SC2P   SDHB   SLC11A2   SOX2   TEX10   TIMM22   TM9SF2   TMC01   TP53BP1   UBE2J1   UBQLN2   UGDH | 1.1 | 0.5   |
| MYLLYKANGAS_AMPLIFICATION_HOT_SPOT_24                                    | ARNT   BCL9   CDC73   FCGR2B   MLT11   MUC1   NTRK1   PBX1   PRCC   PRRX1   SDHC   TPM3                                                                                                                                                                                                                                                                                                   | 1.1 | 0.375 |
| L_AMINO_ACID_TRANSMEMBRANE_TRANSPORTER_ACTIVITY                          | CTNS   OCA2   SERINC1   SLC1A1   SLC1A2   SLC1A3   SLC1A6   SLC1A7   SLC25A12   SLC25A13   SLC25A15   SLC25A22   SLC38A3   SLC3A1   SLC7A10   SLC7A11   SLC7A9                                                                                                                                                                                                                            | 1.1 | 0.5   |
| GNF2_SERPINB5                                                            | ALDH1A3   ANXA3   ANXA8   AREG   CDH3   CLCA2   COL17A1   F3   FGFBP1   GJB3   GJB5   GPR87   KRT17   KRT19   KRT5   LAMA3   LAMB3   LAMC2   PERP   PTHLH   S100A14   S100A2   SERPINB5   SFN   UPP1                                                                                                                                                                                      | 1.1 | 0.5   |
| RUAN_RESPONSE_TO_TNF_TROGLITAZONE_UP                                     | ABCA1   ACOX1   CIDEC   COL15A1   CP   F11R   GBP1   HIPK3   HP   IFNGR1   LIPE   LTC4S   PCK1   SERPINA3   SOD2   STAT1   TAP2                                                                                                                                                                                                                                                           | 1.1 | 0.375 |
| METALLOENDOPEPTIDASE_ACTIVITY                                            | ADAMTS1   ECE2   FAP   IDE   KEL   MBP252   MEPIA   MMP11   MMP12   MMP13   MMP14   MMP15   MMP16   MMP17   MMP20   MMP23B   MMP24   MMP28   MMP3   MMP8   MMP9   PITRM1   PMPCA   RCE1   SPG7   THOP1                                                                                                                                                                                    | 1.1 | 0.5   |
| PID_REELINPATHWAY                                                        | AKT1   ARHGEF2   CBL   CDK5   CDKN1C   CRKL   DAB1   FYN   GRIN2A   GRIN2B   GSK3B   ITGA3   ITGB1   LR8   LRPAP1   MAP1B   MAP2K7   MAP3K11   MAPK8   MAPK8IP1   MAPT   NCK2   PAFAH1B1   PIK3CA   PIK3R1   RAPIA   RAPGEF1   RELN   VDLR                                                                                                                                                | 1.1 | 0.375 |
| ST_G_ALPHA_I_PATHWAY                                                     | AKT1   AKT2   AKT3   ASAH1   BRAF   CFB   DAG1   DRD2   EGRF   EPHB2   GRB2   ITPKA   ITPKB   ITPR1   ITPR2   ITPR3   KCNJ3   KCNJ5   KCNJ9   MAPK1   PI3   PIK3CB   PITX2   PLCB1   PLCB2   PLCB3   PLCB4   RAF1   RGS20   SHC1   SOS1   SOS2   SRC   STAT3   TERF2IP                                                                                                                    | 1.1 | 0.375 |
| VSPA3_01                                                                 | AP1S1   CACNA1G   CBX8   CLPTM1   CRY1   FBXO11   MAP1A   MYH2   NOTCH2   NOTCH2NL   RTF1   STXBP1   YARS   ZIC1                                                                                                                                                                                                                                                                          | 1.1 | 0.5   |
| MARCHINI TRABECTEDIN_RESISTANCE_UP                                       | AGT   AKAP12   AKR1C1   AKR1C2   ARHGDB18   ATP6VOC   CRIP2   CSF2RA   DNAJB1   DUT   GDI1   GLUL   IFI6   IFI71   MAML3   MIF   RAD51C   TP21   VBP1   YWHAQ   ZNF24                                                                                                                                                                                                                     | 1.1 | 0.375 |
| HERNANDEZ_ABERRANT_MITOSIS_BY_DOCETACEL_ZNM_DN                           | A2M   BA13   CD69   CDH1   CRYM   EGR1   FBXO11   HSPA1L   HSPA2   HSPA8   IL1RAP   IL1RL1   IRF8   ITM2A   KCNK2   LCP2   LUM   PABPC4   PAR3   PDGFRA   TASR1A   WNT5A                                                                                                                                                                                                                  | 1.1 | 0.375 |
| OXFORD_RALB_TARGETS_UP                                                   | CLU   COL5A1   DENND2A   HSPG2   IL32   SYNGR3   TLN2   TPM1                                                                                                                                                                                                                                                                                                                              | 1.1 | 0.125 |
| GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_BLACK_UP                   | ABHD4   ATP11B   CDCDC93   CD55   CDC42EP2   CDKN1A   CLK1   DUSP14   EIF1   ETV5   F2RL2   GCH1   KLF2   NFE2L2   PLAGL1   PRNP   SNK16   SPRY4   SQLE   SRC   TFEF   TRIB3   UBB   ZNF44   ZNF654                                                                                                                                                                                       | 1.1 | 0.375 |
| ANDROGEN_RECEPTOR_SIGNALING_PATHWAY                                      | ARID1A   DAXX   MED12   MED4   THRAP3                                                                                                                                                                                                                                                                                                                                                     | 1.1 | 0.375 |
| POSITIVE_REGULATION_OF_SECRETION                                         | ACHE   ANG   CARDB1   CRTAM   GCK   GHRH   GLMN   INHA   INHBA   INHBB   INS   PYCARD   SCIN                                                                                                                                                                                                                                                                                              | 1.1 | 0.375 |
| LA_MEN1_TARGETS                                                          | ADAM19   ANP32A   AZI2   BEX1   CASP8   CNN1   CRABP1   DDR2   F3   FGF13   HOXB8   IGF8P5   ITGA5   NUPR1   PRKDCBP   PTER   RGS16   SNX10   SORBS1   TSPAN7                                                                                                                                                                                                                             | 1.1 | 0.5   |
| ZHENG_FOXP3_TARGETS_UP                                                   | ABCB1   CD44   CDC42SE2   COBLL1   CREM   CTLA4   FAM46C   FRMD4B   ICOS   IFNGR1   IKZF2   IL2RA   IRF6   MAP3K8   NRP1   P4HA1   PRDM1   PRKCH   RHOH   SNX9                                                                                                                                                                                                                            | 1.1 | 0.25  |
| chr15q23                                                                 | ACSBG1   C15orf39   C15orf5   CSK   CYP11A1   ETFA   FAH   FBX022   GLCE   IQCH   ISLR   LARP6   LRR4C9   PTPN9   SCAMP2   SCAMP5   THSD4   TSPAN3                                                                                                                                                                                                                                        | 1.1 | 0.375 |
| INAMURA_LUNG_CANCER_SCC_SUBTYPES_UP                                      | CD47   CIT   CS   DHFR   DNAJC9   KIAA0391   P4HA1   PA2G4   SMNDC1   WAPAL                                                                                                                                                                                                                                                                                                               | 1.1 | 0.375 |
| REACTOME_INTERACTION_BETWEEN_IL1_AND_ANKYRINS                            | ANK1   ANK3   KCNQ2   KCNQ3   L1CAM   NRCAM   SCN1B   SCN2B   SCN3B   SCN4A   SCN5A   SCN7A   SCN8A   SPTA1   SPTAN1   SPTB   SPTBN1   SPTBN2   SPTBN4   SPTBN5                                                                                                                                                                                                                           | 1.1 | 0.5   |
| REGULATION_OF_PH                                                         | ATP1A1   ATP1A2   ATP1A3   ATP6VB1B1   BCL2   CLC1   CLN3   CLN5   CLN6   PPT1   SLC9A1   SLC9A7                                                                                                                                                                                                                                                                                          | 1.1 | 0.375 |
| REGULATION_OF_NEUROGENESIS                                               | APOE   KLB8   MAPT   NF1   NPTN   ROBO1   ROBO2   RTN4   SERPINF1   SUT2   THY1   YWHAH                                                                                                                                                                                                                                                                                                   | 1.1 | 0.5   |
| BARRIER_COLON_CANCER_RECURRENCE_DN                                       | ACOT11   AES   ASB13   BSG   BTBD2   CD24   CDK10   CITED2   EPPK1   FOXJ3   HLA-C   KCNAB1   NDRP1   NUCB1   PFKL   SPPL2B   STAT2   TSPAN7                                                                                                                                                                                                                                              | 1.1 | 0.375 |
| RAY_TARGETS_OF_P210_BCR_ABL_FUSION_DN                                    | AIF1   CYP5B8   FUT4   GGT1   IGF8P7   KCNAB2   MX2   MYB   PAK1   PTPRCAP   RGS19   SATB1   SNRNP1   TUBGCP3                                                                                                                                                                                                                                                                             | 1.1 | 0.25  |
| WANG_ESOPHAGUS_CANCER_PROGRESSION_UP                                     | CKCL3   DUSP2   HSP61   MMP7   PLAUR   PRG1   TNFRSF12A                                                                                                                                                                                                                                                                                                                                   | 1.1 | 0.375 |
| FUJIIWARA_PARK2_HEPATOCYTE_PROLIFERATION_DN                              | ACOT1   CFD   FMO3   PTGD5   RTN4   XIST                                                                                                                                                                                                                                                                                                                                                  | 1.1 | 0.375 |
| BIOCARTA_FREE_PATHWAY                                                    | GPX1   GSR   GSS   IL8   NFKB1   NOX1   RELA   SOD1   TNF   XDH                                                                                                                                                                                                                                                                                                                           | 1.1 | 0.5   |
| CHANNEL_REGULATOR_ACTIVITY                                               | ADRA2A   CHP   CHRNA7   ENSA   KCNAB1   KCNAB2   KCNAB3   KCNE1   KCNJ12   KCNMB1   KCNMB2   KCNS1   KCNS3   KCNV1   NEDD4L   NPY   NPY2R   PDZD3   RSC1A1   SGK2   SRI   TMPRSS3   TNNI3                                                                                                                                                                                                 | 1.1 | 0.5   |
| MODULE_401                                                               | AADAC   AOAH   APOC2   BCHE   CES1   CLC   LIPA   LPL   MGLL   PLA2G10   PLA2G2A   PLA2G5   PLA2G7   PNLI1PR1   PON1   PRDX6                                                                                                                                                                                                                                                              | 1.1 | 0.5   |
| ZEILSTRA_CD44_TARGETS_DN                                                 | BAK1   CASP1   CFLAR   DAXX   PARN   TNFRSF12A   TNFRSF17                                                                                                                                                                                                                                                                                                                                 | 1.1 | 0.375 |



|                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                           |     |       |
|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| GNF2_SNRK                                                     | ARHGEF3   BIN2   BTN3A1   BTN3A2   BTN3A3   CASP8   CCL5   CLEC2B   GIMAP6   GPR65   HECA   ITGAL   JAK1   KLRB1   LCP2   MBNL1   PARP8   PTPRC   RASGRP1   SEMA4D   SNRK   STK10   STK38                                                                                                                                                                                                                                                 | 1.1 | 0.375 |
| GROSS_HIF1A_TARGETS_UP                                        | C3   DDR2   F2R   MAFB   TCF7L1   TLR2   TRPC2                                                                                                                                                                                                                                                                                                                                                                                            | 1.1 | 0.375 |
| MODULE_557                                                    | AOC3   ARHGAP22   ELTD1   MAOA   MAOB   PF4   PPBP   PTGS2   STAR   VIPR1                                                                                                                                                                                                                                                                                                                                                                 | 1.1 | 0.25  |
| POSITIVE_REGULATION_OF_PROTEIN_MODIFICATION_PROCESS           | ATG7   BCL10   BMP4   BRCA1   CARO14   CCND1   CCND2   CCND3   CD80   CD81   CLCF1   HCL51   IL12A   IL3   IL5   LYN   PPARGC1A   PPP2R4   STUB1   TDGF1   TGFBI   TNK2   UBE2D1   UBE2N                                                                                                                                                                                                                                                  | 1.1 | 0.25  |
| XU_HGF_TARGETS_INDUCED_BY_AKT1_48HR_UP                        | AMPD3   C1orf38   ECM1   EPHB2   F2RL1   FOXD1   LTBP2   MMP10   PCDHGA3   PLAUR   SP5B1   TGM2   TNIP1   WNT4                                                                                                                                                                                                                                                                                                                            | 1.1 | 0.375 |
| chr12q12                                                      | ACCN2   ADAMTS20   ADCY6   AQP2   CD63   COL2A1   DAZAP2   GPD1   HOXC10   HOXC11   HOXC4   HOXC5   HOXC6   HOXC8   IRAKA   KRT3   KRT6A   KRT6B   KRT7   KRT83   KRT85   MLL2   ORMDL2   PDZRN4   PFDN5   PRKAG1   PRPH   PUS7   RND1   SHMT2   SLC38A1   STAT2   TARBP2   TIMELESS   VDR   YAF2                                                                                                                                         | 1.1 | 0.375 |
| NIELSEN_LIPOSARCOMA_UP                                        | APOA1   C10orf10   CLDN5   CLEC3B   CPZ   GPRC5B   HSD11B2   LGMN   PALM   POR   RNASE1   SERPINB2   STC1   TNXB   UAP1   WNT2                                                                                                                                                                                                                                                                                                            | 1.1 | 0.375 |
| MODULE_412                                                    | CD47   ITGA2   ITGA3   ITGA5   ITGAE   ITGAL   ITGAM   ITGAV   ITGAX   ITGB2   ITGB3   ITGB5   TNC                                                                                                                                                                                                                                                                                                                                        | 1.1 | 0.5   |
| PATTERN_BINDING                                               | AAMP   ANG   CD14   CHIA   CHIT1   CHODL   COL13A1   FGF8P1   FSTL1   HABP2   HBEGF   HDGF   IMPG2   LPL   LRPA1   MDK   PF4   PGLYRP1   PGLYRP4   PODXL2   POSTN   RPL29   SERPINA5   STAB2   TGFBR3   THBS2   THBS4   TLR2   TNFAIP6   TNXB   ZNF146                                                                                                                                                                                    | 1.1 | 0.375 |
| TRICARBOXYLIC_ACID_CYCLE_INTERMEDIATE_METABOLIC_PROCESS       | ACLY   ACO1   ACO2   FH   GAD1   GAD2   IDH1   IDH3B   ME1   ME3                                                                                                                                                                                                                                                                                                                                                                          | 1.1 | 0.125 |
| REACTOME_HORMONE_LIGAND_BINDING_RECEPTORS                     | CGA   FSHB   FSHR   GNRH1   GNRH2   GNRHR   LHB   LHCGR   TSHB   TSHR                                                                                                                                                                                                                                                                                                                                                                     | 1.1 | 0.5   |
| NIKOLSKY_BREAST_CANCER_SP15_AMPICON                           | BRD9   CEP72   EXO2   GNC1   IRXA   NDUFS6   PDCD6   SDHA   SLC12A7   SLC6A3   SLC9A3   TERT   TPPP   TRIP13   ZDHHC11                                                                                                                                                                                                                                                                                                                    | 1.1 | 0.5   |
| KANG_AR_TARGETS_DN                                            | ALPL   ANXA5   COL1A1   COL1A2   CTSK   DMP1   DSPP   FGF1   IBSP   ITGB1   MEPE   MMP8   SLC20A1   SLC20A2   SMAD1   SPP1   TGFBI   VEGFB                                                                                                                                                                                                                                                                                                | 1.1 | 0.25  |
| SHIN_B_CELL_LYMPHOMA_CLUSTER_1                                | CCL3   CXCL9   DVL2   HELLS   HOXD11   IFNG   IL10   IRF1   PTCH2   RAD52   TCL1A                                                                                                                                                                                                                                                                                                                                                         | 1.1 | 0.5   |
| REGULATION_OF_MYELOID_CELL_DIFFERENTIATION                    | ACIN1   ACVR1B   ACVR2A   CALCA   CDK6   ETS1   IL4   INHA   INHBA   LDB1   MAFB   PF4   RUNX1   SCIN   SPI1   ZBTB16   ZNF675                                                                                                                                                                                                                                                                                                            | 1.1 | 0.5   |
| YAO_HOXA10_TARGETS_VIA_PROGESTERONE_DN                        | ABP1   ACTA1   ALDH1A2   ALPL   CDKN2B   COL15A1   DSG2   FN1   FST   GJA1   HOXA10   HOXA11   PCP4   PIGR   TGFBR3                                                                                                                                                                                                                                                                                                                       | 1.1 | 0.25  |
| REACTOME_PROSTACYCLIN_SIGNALING_THROUGH_PROSTACYCLIN_RECEPTOR | GNAS   GNB1   GNB2   GNB3   GNB5   GNG10   GNG11   GNG12   GNG13   GNG4   GNG5   GNG7   GNGT1   GNGT2   PTGIR                                                                                                                                                                                                                                                                                                                             | 1.1 | 0.375 |
| ZIRN_TRETINOLIN_RESPONSE_UP                                   | AKAP12   CCL2   CTGF   DHR53   GFM1   IQCK   LAMA4   NID2   PLAUR   PLGLB1   PLK2   RARB   RARG   RARRES3   SLC38A2   SLC20A1   TAL1   THSD4   VGLL3                                                                                                                                                                                                                                                                                      | 1.1 | 0.5   |
| FUNG_IL2_SIGNALING_1                                          | BOP1   CCND2   DKC1   IL2RA   LIF   LTA   MAT2A   NOLC1   SOCS2                                                                                                                                                                                                                                                                                                                                                                           | 1.1 | 0.5   |
| chrXq27                                                       | CDR1   CXorf1   EMD   FMR1   IDS   LDCC1   MAGEC2   MAGEC3   MTM1   SPANXA1   SPANXA2   SPANXB1   SPANXB2   SPANXC   UBE2NL                                                                                                                                                                                                                                                                                                               | 1.1 | 0.25  |
| CYTOSKELETON_DEPENDENT_INTRACELLULAR_TRANSPORT                | APBA1   DYNC1I1   KIF13B   KIF1A   KIF1B   KIF3B   KIF4A   KIF5A   KIF5B   LRPPRC   MAP1S   MYH10   MYH6   MYH7   MYH9   MYL6   MYL6B   MYO1E   MYO6   MYO9B   NEFL   OPA1   RHOT1   RHOT2   TNNI2   UXT                                                                                                                                                                                                                                  | 1.1 | 0.5   |
| WORSCHER_TUMOR_EVASION_AND_TOLEROGENICITY_UP                  | BLNK   BOK   CCL2   CCL4   CCR7   CX3CL1   CXCL10   CXCL9   IFNAR1   IFNB1   IFRD1   IL12B   IL13   IL2RG   IL4   IL4I1   IL6   IL7R   IL9   IRF7   LCP2   LY6D   NFKB1   P1AS2   P1AS3   STAT4   VPREB3   XCL1                                                                                                                                                                                                                           | 1.1 | 0.375 |
| MODULE_313                                                    | AHNAK   CACNG4   CP5F3L   CRYZ1L   EVI2B   IGHM   IGLJ3   MGA   NEUROD6   NUP107   PLEKHA1   PTGIS   RGS5   WWC3   ZNF185   ZNF266                                                                                                                                                                                                                                                                                                        | 1.1 | 0.25  |
| chr15q25                                                      | ADAMTSL3   ALPK3   ANPEP   BNC1   CIB1   COX5A   CPBE1   CTSH   DET1   EFTUD1   FURIN   IDH3A   KIAA1024   KIAA1199   KHLH25   LOC388152   LOC643707   MAN2A2   MFG8   MRPS11   PDE8A   RHCG   SCAND2   SLC28A1   WDR61   WDR73   ZNF592   ZSCAN2                                                                                                                                                                                         | 1.1 | 0.5   |
| IKEDA_MIR1_TARGETS_DN                                         | CLCN3   EIF4E   HSPD1   MMD   MTSS1   STK39                                                                                                                                                                                                                                                                                                                                                                                               | 1.1 | 0.375 |
| BRACHAT_RESPONSE_TO_CISPLATIN                                 | ABLIM1   ASNSD1   BTG2   CCNG1   CD53   CDKN1A   DHR53   EI24   EMR1   HBA1   ISOC1   LPIN1   MDM2   OBF2CA   PMM1   TOB1   TXNIP                                                                                                                                                                                                                                                                                                         | 1.1 | 0.375 |
| ITO_PTTG1_TARGETS_UP                                          | AKR1C3   ALCAM   CALU   CXCL14   DKK3   GCLC   GPNMB   SLC2A3   ST13   THBS1   UGT1A6                                                                                                                                                                                                                                                                                                                                                     | 1.1 | 0.125 |
| BILE_ACID_METABOLIC_PROCESS                                   | ACOX2   ACOX3   AKR1C1   AKR1D1   BAAT   CYP39A1   CYP7B1   NPC1   NR1H4                                                                                                                                                                                                                                                                                                                                                                  | 1.1 | 0.5   |
| BOYALT_LIVER_CANCER_SUBCLASS_G23_DN                           | ACO1   CDO1   COBLL1   PDE2A   RAMP3   SERPINF2   SORD   STARD5                                                                                                                                                                                                                                                                                                                                                                           | 1.1 | 0.5   |
| KEGG_PHENYLALANINE_METABOLISM                                 | ALDH1A3   ALDH3A1   ALDH3B1   ALDH3B2   AOC2   AOC3   DDC   GOT1   GOT2   HPD   IL4I1   MAOA   MAOB   MIF   NAT6   PAH   PRDX6   TAT                                                                                                                                                                                                                                                                                                      | 1.1 | 0.5   |
| MODULE_39                                                     | AP152   AP251   AP351   ARCN1   HPCA   HPCAL1   LRP8   SEC24D                                                                                                                                                                                                                                                                                                                                                                             | 1.1 | 0.5   |
| REACTOME_CD28_DEPENDENT_PI3K_AKT_SIGNALING                    | AKT1   AKT2   AKT3   CD28   CD80   CD86   FYN   LCK   MAP3K14   MAP3K8   MAPKAP1   PDPK1   PIK3CA   PIK3R1   PIK3R2   PIK3R3   TRIB3                                                                                                                                                                                                                                                                                                      | 1.1 | 0.25  |
| chr6q15                                                       | BACH2   C6orf162   DOPEY1   GJA10   LYRM2   MDN1   RRGAD   SLC35A1   SNAP91   SPACA1   ZNF292                                                                                                                                                                                                                                                                                                                                             | 1.1 | 0.375 |
| FIGUEROA_AML_METHYLATION_CLUSTER_3_DN                         | ABP1   AHNAK   ARF6   ARHGAP10   C12orf10   CRTC3   EPHA2   GPR17   HIST1H2AG   HIST1H2BI   IGLJ3   MAML1   MED25   NECAP2   NOS3   PALH01   PLEK   PLEKHA4   PPARD   PPP1R15A   RHOT1   SEZ6L   TLR1   TMEM33   TSM                                                                                                                                                                                                                      | 1.1 | 0.375 |
| NEWMAN_ERCC6_TARGETS_UP                                       | ABCB1   CD24   CRIP1   CSTA   CXCL2   DBF4   FABP5   HERC5   IFIT2   IL8   KYNU   LITAF   MYLIP   PCSK5   PMAIP1   SLC38A1   SLC7A11   SRI   STEAP1   TNFAIP6                                                                                                                                                                                                                                                                             | 1.1 | 0.25  |
| PROTEIN_TARGETING_TO_MITOCHONDRION                            | MFN2   MIPEP   TIMM17A   TIMM17B   TIMM23   TIMM44   TOMM22   TOMM34   TSPO                                                                                                                                                                                                                                                                                                                                                               | 1.1 | 0.5   |
| THIOLESTER_HYDROLASE_ACTIVITY                                 | ACOT11   ACOT8   ACOT9   HAGH   HIBCH   OTUB2   PPT1   UCHL1   UCHL3   USP12   USP29   USP5   USP53   YOD1                                                                                                                                                                                                                                                                                                                                | 1.1 | 0.25  |
| REACTOME_SYNTHESIS_OF_PE                                      | CEPT1   CHKA   CHKB   ETNK1   ETNK2   LPIN1   LPIN2   PCYT2                                                                                                                                                                                                                                                                                                                                                                               | 1.1 | 0.5   |
| VIETOR_IFRD1_TARGETS                                          | ANP32   ATP1A2   CRABP2   CTN1   CTSD   EBP   KRT7   MSX2   MYH8   PPIA   PTTG1   RPL17   RPS15A   SHFM1   SPP1   TK1   WDFC2                                                                                                                                                                                                                                                                                                             | 1.1 | 0.375 |
| REPLICATION_FORK                                              | BCL6   CDT1   MCM3   MCM7   PCNA   PURA   RFC1   RFC2   RFC3   RFC4   RFC5   RPA1   RPA2   RPA3   RPA4                                                                                                                                                                                                                                                                                                                                    | 1.1 | 0.5   |
| BIOCARTA_CD42RAC_PATHWAY                                      | ACTR2   ACTR3   ARPC1A   ARPC1B   ARPC2   ARPC3   ARPC4   ARPC5   CDC42   PAK1   PDGFRA   PIK3CA   PIK3R1   RAC1   RHOA   WASL                                                                                                                                                                                                                                                                                                            | 1.1 | 0.5   |
| VISALA_RESPONSE_TO_HEAT_SHOCK_AND_AGING_DN                    | ANXA1   CCT4   CHD1L   DNAJB1   DYNLL1   FCGR2A   HSPA8   HSPA1   PTGES3   SKIL   SOD1   STIP1   TRA2A                                                                                                                                                                                                                                                                                                                                    | 1.1 | 0.375 |
| GERHOLD_RESPONSE_TO_TZD_DN                                    | AGT   APOE   CD81   CEBPD   CFD   CRYAB   CXCL12   GHR   MCL1   MNT   PMP22   PPARG   SOX4                                                                                                                                                                                                                                                                                                                                                | 1.1 | 0.375 |
| WONG_IFNA2_RESISTANCE_UP                                      | AKT2   BA12   BIRC3   DHX3A   EPHB6   GDAP1L1   GTF2F1   HSPA4L   IDS   IFTM1   REV3L   SNX1   TLL1   UBE4B                                                                                                                                                                                                                                                                                                                               | 1.1 | 0.375 |
| FINAK_BREAST_CANCER_SDDP_SIGNATURE                            | ADM1   ADRA2A   CD247   CD48   CD52   CD8A   CXCL14   F2RL2   FRZB   GIMAP5   GZMA   HOXA10   HRASL5   ITGBL1   LCP1   OGN   PLEK   RA12   RUNX3   SNTG2   SPP1   TRBV5-4   VGLL1                                                                                                                                                                                                                                                         | 1.1 | 0.5   |
| REACTOME_SIGNALING_BY_HIPPO                                   | AMOT   AMOTL2   CASP3   DVL2   LAT51   NPHP4   SAV1   STK3   STK4   TJP1   TJP2   WWC1   WWTR1   YAP1   YWHAB   YWHAH                                                                                                                                                                                                                                                                                                                     | 1.1 | 0.25  |
| PIONTEK_PKD1_TARGETS_DN                                       | APP   ATP12A   CCNA2   CLDN11   HIST1H2AL   HNRPDL   NDP   OBSL1   PDGFA   RP56   RRM1   SERPINA1   TUBB                                                                                                                                                                                                                                                                                                                                  | 1.1 | 0.375 |
| MODULE_492                                                    | AERP1   AERPA1   ATP6V1B2   ATP6V1C1   ATP6V1E1   ATP6V1F1   CPA1   CPB1   CPB2   CPN1   FUCAL   GBL1   HEXA   HEXB   NAGA                                                                                                                                                                                                                                                                                                                | 1.1 | 0.5   |
| BIOCARTA_TID_PATHWAY                                          | DNAJA3   HSPA1A   IFNG   IFNGR1   IFNGR2   IKKBK   JAK2   LUN7A   NFKB1   NFKBIA   RB1   RELA   TAX1BP3   TNF   TNFRSF1A   TNFRSF1B   TP53   USH1C   WT1                                                                                                                                                                                                                                                                                  | 1.1 | 0.5   |
| AMIT_EGF_RESPONSE_40_MCF10A                                   | ADM   BUB1   CYR61   DUSP5   EGR1   EGR3   FOS   GNS   HSDL2   JUN   KLF6   LRRFIP1   NDUFB6   THBS1   TIMM44   TUFT1   UNC93B1   ZFP36                                                                                                                                                                                                                                                                                                   | 1.1 | 0.25  |
| RESPONSE_TO_HORMONE_STIMULUS                                  | ABCA2   ADIPOR1   ADIPOR2   ANG   BRCA1   BRCA2   CALCR   CD24   EIF2B1   EIF2B2   EIF2B3   EIF2B4   EIF2B5   FOXC2   GATA3   GCLC   GHSR   GSTM3   HCL51   KRT19   LAT51   LYN   ME1   NCOA6   RBM14   TSC1                                                                                                                                                                                                                              | 1.1 | 0.25  |
| REACTOME_SYNTHESIS_OF_PIP3_AT_THE_PLASMA_MEMBRANE             | INPP4B   INPPL1   MTM1   MTMR1   MTMR3   MTMR6   PIK3C2A   PIK3C2B   PIK3C2G   PIK3CA   PIK3CB   PIK3CD   PIK3CG   PIK3R1   PIK3R2   PIK3R3   PIK3R5   PIP5K1B   PIP5K1C   PTEN   SYNJ1   SYNJ2                                                                                                                                                                                                                                           | 1.1 | 0.25  |
| PID_INTEGRIN_CS_PATHWAY                                       | ITGA10   ITGA2   ITGA2B   ITGA3   ITGA4   ITGA5   ITGA6   ITGA7   ITGA8   ITGA9   ITGAE   ITGAL   ITGAM   ITGAV   ITGAX   ITGB1   ITGB2   ITGB3   ITGB4   ITGB5   ITGB6   ITGB7   ITGB8                                                                                                                                                                                                                                                   | 1.1 | 0.375 |
| TAKADA_GASTRIC_CANCER_COPY_NUMBER_UP                          | FGFR2   KRAS   MET   MYBL2   MYC   SDCI1   SSPN                                                                                                                                                                                                                                                                                                                                                                                           | 1.1 | 0.5   |
| HASLINGER_B_CLI_WITH_CHROMOSOME_12_TRISOMY                    | ANAPCS   ARPC3   ATP2B1   DYRK2   G1T2   GUPIR1   GPX7   HIP1R   IGI   KIAA1033   M6PR   MCRS1   MLXIP   MTCP1   MYF6   NCKAP1L   PMF1   PPW1   RRAGA   SNRPF   TIMELESS   VCL                                                                                                                                                                                                                                                            | 1.1 | 0.5   |
| PID_TOLL_ENDOGENOUS_PATHWAY                                   | BGN   CD14   CHUK   HMGB1   HSPD1   IKKBK   IKBKKG   IRAK1   IRAK4   LY96   MYD88   RHOA   S100A8   S100A9   SAA1   TICAM1   TLR1   TLR2   TLR3   TLR4   TLR6                                                                                                                                                                                                                                                                             | 1.1 | 0.5   |
| NUCLEAR_HORMONE_RECEPTOR_BINDING                              | DAXX   DDX54   HMGAA1   JMJD1C   MED12   MED4   NCOA6   NR1P1   NSD1   NUP62   OASL   PRPF6   SMARCD3   TACC2   TGFBI1   THRAPP3   TRIP12   YWHAH   ZNHT3                                                                                                                                                                                                                                                                                 | 1.1 | 0.5   |
| REGULATION_OF_SMALL_GTPASE_MEDIATED_SIGNAL_TRANSDUCTION       | ARF6   CDC42BP1   CDC42BPB   DMPK   FGD1   FGD2   FGD6   FNF1   NOTCH2   PLCE1   RAC1   RALBP1   TSC1                                                                                                                                                                                                                                                                                                                                     | 1.1 | 0.375 |
| PID_AMB2_NEUTROPHILS_PATHWAY                                  | AGER   AKT1   APOB   BLK   CTGF   FGR   FYN   HCK   HMGB1   ICAM1   IL6   ITGAM   ITGB2   JAM2   JAM3   LCK   LPA   LRP1   LYN   MMP2   MMP9   MST1   MST1R   MYH2   NFKB1   PLAT   PLAU   PLAUR   PLG   PRKC2   RAP1A   RAP1B   RHOA   ROCK1   SELP   SELPLG   SRC   THY1   TNLN1   TNF   YES1                                                                                                                                           | 1.1 | 0.5   |
| INGA_TP53_TARGETS                                             | BAX   BBC3   CCNG1   CDKN1A   FASLG   FOS   GADD45A   IER3   IGFBP3   MDM2   PCNA   PMAIP1   SESN1   SFN   THBS1   TNFRSF10B                                                                                                                                                                                                                                                                                                              | 1.1 | 0.125 |
| HUMMERICH_BENIGN_SKIN_TUMOR_DN                                | ACTN3   AFF1   ALB   ATP2A1   CFD   CKM   COX6A2   IGFBP5   MYH1   MYH2   MYH4   MYH8   PCDH12   PLXNB2   S100A3   TNNC2   TNNI2   TNNI3                                                                                                                                                                                                                                                                                                  | 1.1 | 0.5   |
| GCM_MYCL1                                                     | ADCVAP1   APOC3   AQP7   ASMT   AVPR1B   BCAT2   BNIP1   CCL2   DRG2   EBI3   FUT2   GRM4   HMG2A   IKKBE   IRF5   KRT35   KRT83   MP22   MYK   MYCL1   NUOFA1   UROD   ZNF8                                                                                                                                                                                                                                                              | 1.1 | 0.25  |
| KARAKS_TGFBI_SIGNALING                                        | BIRC5   BRCA1   BUB1   CDH2   CST6   CUL3   FAP   FN1   FOLR3   IGFBP7   IL15   KIF3C   LOX   LY6D   MMP2   MTZA   PLK1   PPP3R1                                                                                                                                                                                                                                                                                                          | 1.1 | 0.375 |
| CONDENSED_NUCLEAR_CHROMOSOME                                  | CHEK1   DMK1   LRPPRC   NOL6   RAD51   RCC1   RGS12   SMC1A   STAG3   SUV39H1   TTN   TUBG1   UBE2I                                                                                                                                                                                                                                                                                                                                       | 1.1 | 0.5   |
| chr9q22                                                       | ANP32B   AUH   BAAT   BICD2   C6orf3   CDC14B   CSK2   CORO2A   CTSL2   DIRAS2   ECM2   EPB41L4B   FAM120A   FAM22F   FAM22K   FANCC   FBP1   FBP2   FOXE1   GABBR2   GADD45G   GALNT12   HABPA   HSD17B3   LOC441454   NFIL3   NIN1   NOL8   NR4A3   NTRK2   OGN   OMD   PHF2   RMI1   RNFD2   ROR2   RORB   SEC61B   SECISBP2   SEMA4D   SHC3   SLC35D2   SMC2   SYK   TBC1D2   TDRD7   TGFBR1   TMOD1   XPA   ZNF189   ZNF484   ZNF510 | 1.1 | 0.5   |
| TERAMOTO_OPN_TARGETS_CLUSTER_6                                | ACACB   ACTN4   ADAMT57   APOD   ATP8A1   BLOC1S1   C12orf52   ELMO2   KCTD20   MMP7   NDRG2   OLFML3   PDGFRB   PPP5C   PSME1   SERPINF1   SLIT1   SOAT1   SPARCL1   TSPAN9   TSTA3                                                                                                                                                                                                                                                      | 1.1 | 0.5   |
| MODULE_236                                                    | APOA1   APOB   APOE   APOL1   CETP   LDLR   LRP8   MBTPS2   NMT1   NR0B2   SCARB1   SOAT2   SORL1   SREBF1   STARD3   UGCG   VLDLR                                                                                                                                                                                                                                                                                                        | 1.1 | 0.5   |
| GAUSSMANN_MLL_AF4_FUSION_TARGETS_B_UP                         | ADAM12   BTG1   CD79B   CIB2   COL11A1   CRLF1   DNAJC12   ENNP1   GABRA6   GALNT12   NRXN1   OMD   PARP12   PPR13C   RANBP2   RUNX3   TCN2   USP9X   XIST                                                                                                                                                                                                                                                                                | 1.1 | 0.5   |

|                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                             |     |       |
|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| REACTOME_BILE_ACID_AND_BILE_SALT_METABOLISM                          | ABCB11   ABCC3   ACOT8   ACOX2   AKR1C4   AKR1D1   ALB   AMACR   BAAT   CH25H   CYP27A1   CYP39A1   CYP46A1   CYP7A1   CYP7B1   FABP6   HSD17B4   SC2P   SLC10A1   SLC10A2   SLC27A2   SLC27A5   SLC01A2   SLC01B1   SLC01B3                                                                                                                                                                                | 1.1 | 0.5   |
| REACTOME_IRON_UPTAKE_AND_TRANSPORT                                   | ABCG2   ATP6V0A2   ATP6V0A4   ATP6V0B   ATP6V0C   ATP6V0D1   ATP6V1A   ATP6V1B1   ATP6V1B2   ATP6V1C1   ATP6V1D   ATP6V1E1   ATP6V1F   ATP6V1G1   ATP6V1G2   ATP6V1H   CP   CYBRD1   FTH1   FTL   HEPH   HMOX1   HMOX2   MCOLN1   STEAP3   TCIRG1   TF   TFR                                                                                                                                                | 1.1 | 0.5   |
| chr13q22                                                             | DACH1   EDNRB   ERCC5   KLF12   LMO7   MYCBP2   SCEL   SPRY2                                                                                                                                                                                                                                                                                                                                                | 1.1 | 0.5   |
| ABNUD_LIF_SIGNALING_2_UP                                             | ANGPT1   ATP1B1   COL11A1   DCN   DIO2   FGF1   GPX2   JNRP   NRP1   PFKP   PPP2R2B   PTPRO                                                                                                                                                                                                                                                                                                                 | 1.1 | 0.5   |
| INTERLEUKIN_RECEPTOR_ACTIVITY                                        | CSF2RB   IL10RA   IL10RB   IL12RB1   IL12RB2   IL13RA2   IL15RA   IL1R1   IL2RA   IL2RB   IL2RG   IL3RA   IL4R   IL5RA   IL6R   IL6ST   IL7R   IL9R                                                                                                                                                                                                                                                         | 1.1 | 0.5   |
| REACTOME_DEFENSINS                                                   | ART1   CCR2   CCR6   CD4   DEFA1   DEFA3   DEFA4   DEFA5   DEFA6   DEFB1   DEFB126   PRSS2   TLR1   TLR2                                                                                                                                                                                                                                                                                                    | 1.1 | 0.5   |
| NIKOLSKY_BREAST_CANCER_19Q13.1_AMPLICON                              | ZFP30   ZNF345   ZNF529   ZNF571                                                                                                                                                                                                                                                                                                                                                                            | 1.1 | 0.5   |
| SCHMAHL_PDGF_SIGNALING                                               | ARID5B   MYO1E   PLEKHA1   SCHIP1   SGPL1   TIPARP   TXNIP   ZFAND5                                                                                                                                                                                                                                                                                                                                         | 1.1 | 0.125 |
| chr8q22                                                              | ANGPT1   ANKRD46   BAALC   C8orf39   CA2   CCNE2   CDH17   COX6C   DPY19L4   DPY5   FZD6   GRIHL2   HRSPT12   INTS8   KCN1V   KLF10   LAPTM4B   LRP12   MATN2   MRPL13   MTDH   MTERFD1   MYBL1   NACAP1   NCALD   ODF1   OSR2   PABPC1   PGCP   PLEKHF2   POLR2K   POP1   PTDS51   RAD54B   RBM12B   RPL30   RUNX1T1   SDC2   SLC25A32   SPAG1   STK3   TM7SF4   TSPYL5   UQCRC8   VPS13B   YWHAZ   ZNF706 | 1.1 | 0.375 |
| chr10q11                                                             | ALOX5   ANXA8   ANXA8L1   ARHGAP22   ARID5B   C10orf10   CHAT   CSTF2T   CXCL12   DKK1   ERCC6   FAM21B   FAM21C   GDF10   LOC441666   MAPK8   MBL2   MSMB   NCOA4   OGDHL   PARG   PPA1   PPYR1   PRKG1   PTPN20A   PTPN20B   RASSF4   RBP3   RET   SLC18A3   TACR2   TIMM23   UBE2D1   ZNF22   ZNF239   ZNF338                                                                                            | 1.1 | 0.375 |
| REACTOME_FACILITATIVE_NA_INDEPENDENT_GLUCCOSE_TRANSPORTERS           | SLC2A1   SLC2A10   SLC2A11   SLC2A2   SLC2A3   SLC2A4   SLC2A5   SLC2A6   SLC2A8   SLC2A9                                                                                                                                                                                                                                                                                                                   | 1.1 | 0.5   |
| PYEON_HPV_POSITIVE_TUMORS_DN                                         | CAV1   CCND1   CTTN   KLK10   KLR8   NAP1L2   PTHLH                                                                                                                                                                                                                                                                                                                                                         | 1.1 | 0.5   |
| chr5q11                                                              | ANKRD55   DHFR   DHX29   ESM1   FST   GZMA   GZMK   HSPB3   HTR1A   IL6ST   ISL1   MAP3K1   MOCS2   MRPS30   MSH3   NDUFS4   PARP8   PELO   PPAP2A   SKIV2L2   SMN1   TAF9                                                                                                                                                                                                                                  | 1.1 | 0.375 |
| MODULE_222                                                           | CBX1   CENPA   CENPE   CENPF   H1FO   H2AFX   H2AFZ   HIST1H1C   HIST1H2AC   HIST1H2AE   HIST1H2BJ   HIST1H2BK   HIST1H2BL   HIST2H2AA3   HIST2H2BE   HMG82   HMG83   MAP2   MAP4   MAP7   TERF2   TOX                                                                                                                                                                                                      | 1.1 | 0.5   |
| WILLIAMS_ESR1_TARGETS_DN                                             | CYP11A1   EFN82   ERBB2   ZFP36L2                                                                                                                                                                                                                                                                                                                                                                           | 1.1 | 0.375 |
| PID_INTEGRIN5_PATHWAY                                                | CYR61   EDI13   FBNI   FN1   ITGA4   ITGAV   ITGB5   ITGB6   ITGB7   ITGB8   MADCAM1   PLAUI   PLAUR   SDC1   TGFBR1   VCAM1   VTN                                                                                                                                                                                                                                                                          | 1.1 | 0.25  |
| REACTOME_EXTRINSIC_PATHWAY_FOR_APOPTOSIS                             | CASP10   CASP8   CFLAR   FADD   FAS   FASLG   RIPK1   TNF   TNFRSF10B   TNFRSF1A   TNFSF10   TRADD   TRAF2                                                                                                                                                                                                                                                                                                  | 1.1 | 0.375 |
| REGULATION_OF_G_PROTEIN_COUPLED_RECEPTOR_PROTEIN_SIGNALING_PATHWAY   | ADRB2   ADRB3   G1T1   G1T2   GNG4   GNG7   GRK1   GRK4   GRK5   GRK6   PLCE1   RAMP1   RGS11   RGS12   RGS14   RGS16   RGS2   RGS20   RGS3   RGS4   RGSS   RGS9   RIC8B                                                                                                                                                                                                                                    | 1.1 | 0.375 |
| chr5q15                                                              | CHD1   ELL2   LNPEP   MCTP1   PCSK1                                                                                                                                                                                                                                                                                                                                                                         | 1.1 | 0.5   |
| KEGG_HISTIDINE_METABOLISM                                            | ABP1   ALDH1A3   ALDH1B1   ALDH2   ALDH3A1   ALDH3A2   ALDH3B1   ALDH3B2   ALDH7A1   ALDH9A1   ASPA   DDC   FTCD   HAL   HDC   HEMK1   HNMT   LCM1T1   LCM1T2   MAOA   MAOB   METTL2B   WBSCR22                                                                                                                                                                                                             | 1.1 | 0.25  |
| SHIRAIISHI_PLZF_TARGETS_UP                                           | FEZ1   KLF9   NFS1   OAS3   OSMR   PHLD2A   PNKP   ZBTB32                                                                                                                                                                                                                                                                                                                                                   | 1.1 | 0.5   |
| PID_ER_NONGENOMIC_PATHWAY                                            | AKT1   ESR1   ESR2   GNAI1   GNAI3   GNA14   GNA15   GNAI1   GNAI2   GNAI3   GNAL   GNAO1   GNAQ   GNAZ   GNB1   GRB2   HBEGF   HRAS   IGF1   IGF1R   KRAS   MAPK11   MMP2   MMP9   MSN   NOS3   NRAS   PELP1   PIK3CA   PIK3R1   PLCB1   PLCB2   PLCB3   RHOA   ROCK2   SHC1   SOS1   SRC   STRN                                                                                                           | 1.1 | 0.5   |
| SIG_PIP3_SIGNALING_IN_B_LYMPHOCTYES                                  | AKT1   AKT2   AKT3   BCR   BTK   CD19   CDKN2A   DAPP1   FLOT1   FLOT2   GAB1   ITPR1   ITPR2   ITPR3   LYN   NR0B2   NR4A3   PDK1   PHF11   PIK3CA   PIK3R5   PITX2   PLCG2   PPP1R13B   PTEN   PTPRC   RP56KA1   RP56KA2   RP56KA3   RP56KB1   SAG   SYK   VAV1                                                                                                                                           | 1.1 | 0.125 |
| VITAMIN_BINDING                                                      | ABAT   AGXT   ALB   FOLR1   FOLR2   FOLR3   GC   PC   PCCA   TTPA                                                                                                                                                                                                                                                                                                                                           | 1.1 | 0.5   |
| ZERBIN1_RESPONSE_TO_SULINDAC_UP                                      | ATF3   CEBPB   CEBPG   GADD45A   IL24   IL6   IL8   PAK2                                                                                                                                                                                                                                                                                                                                                    | 1.1 | 0.5   |
| SINGH_KRAS_DEPENDENCY_SIGNATURE_                                     | ADAM8   AMPD3   AREG   C1orf116   CLDN7   DAPP1   FGF8P1   LAD1   LAMA3   LAMC2   MAOA   MST1R   PRSS22   SH2D3A   TGFA                                                                                                                                                                                                                                                                                     | 1.1 | 0.5   |
| GNF2_ZAP70                                                           | ARL4C   BTN3A2   BTN3A3   CD247   CD7   CD96   CTSW   GZMA   GZMM   IL18RAP   ITGAL   KLRB1   KLRK1   MATK   MYBL1   NKG7   PRKCH   PTPN4   RARRES3   RASGRP1   RORA   SH2D1A   TXK   ZAP70                                                                                                                                                                                                                 | 1.1 | 0.5   |
| PID_SYNDICAN_1_PATHWAY                                               | B5G   CASK   CCL5   COL10A1   COL11A1   COL11A2   COL13A1   COL14A1   COL15A1   COL16A1   COL17A1   COL1A1   COL1A2   COL2A1   COL3A1   COL4A1   COL4A3   COL4A4   COL4A5   COL4A6   COL5A1   COL5A2   COL6A1   COL6A2   COL6A3   COL7A1   COL8A1   COL8A2   COL9A1   COL9A2   COL9A3   HGF   HPSE   LAMAS   MAPK1   MAPK3   MET   MMP1   MMP7   MMP9   PP1B   PRKACA   SDC1   SDCBP   TGFB1                | 1.1 | 0.5   |
| CHEOK_RESPONSE_TO_MERCAPTOPURINE_DN                                  | POBEC3B   CA3   CUL4B   GSS   HAT1   LAPTM4B   LST1   MICA   NFASC   PMVK   PRF1   RBBP8   RNASE6   SERPING1   SH3BP5   SOCS6   SORL1   SPOCK2   TK1   TRAC   VAPB                                                                                                                                                                                                                                          | 1.1 | 0.5   |
| GENTILE_UV_HIGH_DOSE_UP                                              | ACT1   ATF3   COL13A1   FSTL3   GADD45A   HBEGF   HIST1H2BE   HIST1H2BJ   HIST2H2AA3   HTR6   IL11   ISG15   LRBA   MAFF   MMP3   NUPR1   PMAIP1   PRSS3   RPS20   RRAD   SAT1   SF1   TCEB2   TSC22D3                                                                                                                                                                                                      | 1.1 | 0.375 |
| CARBOHYDRATE_KINASE_ACTIVITY                                         | GALK1   GALK2   GCK   GNE   HK1   HK2   KHK   PKFB1   PKFB2   PFKL   PKFM   PFKP   PRPS1   PRPS2   XYL8                                                                                                                                                                                                                                                                                                     | 1.1 | 0.25  |
| LI_WILMS_TUMOR_ANAPLASTIC_DN                                         | CASP10   IFI16   RBBP6   STAT4   TACC1                                                                                                                                                                                                                                                                                                                                                                      | 1.1 | 0.5   |
| REACTOME_INHIBITION_OF_INSULIN_SECRETION_BY_ADRENALINE_NORADRENALINE | ADCY6   ADRA2A   CACNB2   CACNB3   GNAI1   GNAI2   GNAO1   GNB1   GNB2   GNB3   GNB5   GNG10   GNG11   GNG12   GNG13   GNG3   GNG4   GNG5   GNG7   GNGT1   GNGT2                                                                                                                                                                                                                                            | 1.1 | 0.125 |
| MODULE_563                                                           | ABAT   BAIAP3   CADPS   CCL3   COPB2   GABRA2   GAD1   GAD2   MAOA   SLC1A3   SNAP25   SNPH   STX1A   SYN1   SYNJ1                                                                                                                                                                                                                                                                                          | 1.1 | 0.375 |
| CAIRO_PML_TARGETS_BOUND_BY_MYC_DN                                    | ADM   BCAT2   CAV1   CCND1   CDKN1A   CDKN1B   CDKN2B   FTH1   GADD45A   HSPA1B   PDGFRB   TERT                                                                                                                                                                                                                                                                                                             | 1.1 | 0.375 |
| RESPIRATORY_GASEOUS_EXCHANGE                                         | BPGM   CTRF   COX11   COX15   COX5B   CSF2R8   CYS1T1   EDNRA   ELN   HNMT   PPBP2L   SFTPB   TMPRSS11D   UCP3                                                                                                                                                                                                                                                                                              | 1.1 | 0.5   |
| REACTOME_CREB_PHOSPHORYLATION_THROUGH_THE_ACTIVATION_OF_CAMKII       | ACTN2   AKAP9   CALM1   CALM2   CALM3   CAMK2A   CAMK2B   CAMK2D   CREB1   GRIN1   GRIN2A   GRIN2B   GRIN2D   NEFL                                                                                                                                                                                                                                                                                          | 1.1 | 0.5   |
| MULLIGAN_NTF3_SIGNALING_VIA_INSR_AND_IGF1R_UP                        | ADRM1   ARL4C   BNC1   CCL2   CORO1C   DD2X1   EBNA1BP2   GMP8B   GNL3   GREM2   HSPA4   MRLP20   NME1   RCL1   SERP1   ST3GAL4   ST6GAL1   TMEM97   USP10   WDR77                                                                                                                                                                                                                                          | 1.1 | 0.25  |
| BUSA_SAM68_TARGETS_DN                                                | BRC1A   CDK2   CDK3   CLU   EGF   IGF1                                                                                                                                                                                                                                                                                                                                                                      | 1.1 | 0.5   |
| DETECTION_OF_STIMULUS                                                | ABCA4   CACNA1F   CASR   CD1D   CRTAM   GCK   GRK1   GRM6   KCNIP1   KCNIP2   KCNM2B   KCNM3B   KCNM4B   NR2E3   OPN1SW   PDC   PDE6B   PGLYRP1   PGLYRP4   PITPNM1   RHO   RTP4   SAG   STIM1   SYT1   TAC1   TACR1   TAS2R14   TAS2R16   TIMELESS   TRPC3   UGT2A1   UNC119                                                                                                                               | 1.1 | 0.5   |
| NEUTRAL_AMINO_ACID_TRANSMEMBRANE_TRANSPORTER_ACTIVITY                | SERINC1   SLC1A4   SLC1A5   SLC38A3   SLC43A1   SLC6A5   SLC6A9   SLC7A10   SLC7A11   SLC7A5   SLC7A8   SLC7A9                                                                                                                                                                                                                                                                                              | 1.1 | 0.375 |
| FONTAINE_THYROID_TUMOR_UNCERTAIN_MALIGNANCY_DN                       | ATR   BAP1   CD38   FRZB   HCL1S1   IFITM3   IL24   IL2RA   ITGA4   KLF1   KLU2   LILRB3   ODAM   PCSK6   PLCG2   PTGES   ROGDI   S100A10   SLPI   TRAF5   TWIST1   VAV2                                                                                                                                                                                                                                    | 1.1 | 0.5   |
| chr19q                                                               | APL1   SYTS                                                                                                                                                                                                                                                                                                                                                                                                 | 1.1 | 0.5   |
| ISOPRENOID_METABOLIC_PROCESS                                         | ALDH8A1   DHRS3   IDI1   MVK   NPC2   PDSS1   PDSS2   RARRES2   RDH11   RETSAT                                                                                                                                                                                                                                                                                                                              | 1.1 | 0.375 |
| PID_ALK2PATHWAY                                                      | ACVR1   AMH   AMHR2   BMP7   BMPR2   FBKP1A   SMAD1   SMAD4   SMAD5   SMAD9   TLX2                                                                                                                                                                                                                                                                                                                          | 1.1 | 0.375 |
| BIOCARTA_ECM_PATHWAY                                                 | ARHGAP5   DIAPH1   FYN   GSN   HRAS   ITGB1   MAP2K1   MAPK1   MAPK3   MYL2   MYLK   PFN1   PIK3CA   PIK3CG   PIK3R1   PTK2   PXN   RAF1   RHOA   ROCK1   SHC1   SRC   TLN1                                                                                                                                                                                                                                 | 1.1 | 0.25  |
| GCM_TEC                                                              | ADCYAP1   APOC3   AVPR1B   CCR9   CD88   CHRM5   DGCR6   FANCC   FCGR2A   FEV   GRM4   HMG2A   IFNA21   KRT83   MADD   MPP2   MVK   MYH7   NDUFA1   NR4A3   NRF1   PDE6B   PTPRU   RING1   SLC17A2   SLC18A1   SLC2A4   SLC30A3   VAV1   ZNF8                                                                                                                                                               | 1.1 | 0.5   |
| HYDROLASE_ACTIVITY_HYDROLYZING_O_GLYCOSYL_COMPOUNDS                  | AMY1B   AMY2A   AMY2B   CHIA   CHIT1   FUCAL   GBA3   GLA   GLB1   GUSB   HEXB   HPSE   HPSE2   HYAL1   HYAL2   HYAL4   IDUA   KL   LCT   LY2   MAN1A1   MAN1A2   MAN1C1   MAN2A1   MAN2A   MANBA   MGEA5   NAGA   NAGLU   NAGPA   NEU1   PARG   TREH                                                                                                                                                       | 1.1 | 0.125 |
| 3_5_CYCLIC_NUCLEOTIDE_PHOSPHODIESTERASE_ACTIVITY                     | PDE10A   PDE1A   PDE1B   PDE1C   PDE2A   PDE3A   PDE3B   PDE4A   PDE4B   PDE4C   PDE4D   PDE7B                                                                                                                                                                                                                                                                                                              | 1.1 | 0.25  |
| PDZ_DOMAIN_BINDING                                                   | CFTF   CLCN3   DOCK4   GRM7   NOS1AP   PDZK1   PTEN   SSTR2   USH2A                                                                                                                                                                                                                                                                                                                                         | 1.1 | 0.375 |
| LEE_METASTASIS_AND_RNA_PROCESSING_UP                                 | ACIN1   BOP1   COIL   CSTF1   DHX16   EXOSC8   FBL   GRSF1   PAZG4   PABPC1   PP1G   RAE1   RINGT1   SLBP                                                                                                                                                                                                                                                                                                   | 1.1 | 0.125 |
| SMOOTH_MUSCLE_CONTRACTION_GO_0006939                                 | ADRA1A   CNV1   KCN2B   KNG1   MYH11   NMU1   NMUR1   PLCE1   SMTN   SOD1   SPHK1                                                                                                                                                                                                                                                                                                                           | 1.1 | 0.5   |
| PID_UPA_UPAR_PATHWAY                                                 | CRK   CTRC   CTSG   DOCK1   EGFR   FGA   FGB   FGG   FN1   FPR1   GLP1D   HGF   ITGA3   ITGA5   ITGAM   ITGAV   ITGB1   ITGB2   ITGB3   ITGB5   LRP1   MMP12   MMP13   MMP3   MMP9   NCL   PDGFD   PDGFRB   PLAUI   PLAUR   PLG   RAC1   SERPINE1   SRC   TGFBI   VLDLR   VTN                                                                                                                               | 1.1 | 0.5   |
| SASSON_FSH_RESPONSE                                                  | CD55   DUSP1   FDX1   FOSL2   MT2A   NPY1R   STAR                                                                                                                                                                                                                                                                                                                                                           | 1.1 | 0.5   |
| REGULATION_OF_MITOTIC_CELL_CYCLE                                     | APBB1   APBB2   ASNS   BIRC5   BTG3   CDC25   CDC6   CDK10   CDK2   CDKN2A   DLG1   FBXO5   RCC1   SMAD3   SPHK1   TGFBI                                                                                                                                                                                                                                                                                    | 1.1 | 0.5   |
| REACTOME_TRANSFERRIN_ENDOCYTOSIS_AND_RECYCLING                       | ATP6V0A2   ATP6V0A4   ATP6V0B   ATP6V0C   ATP6V0D1   ATP6V1A   ATP6V1B1   ATP6V1B2   ATP6V1C1   ATP6V1D   ATP6V1E1   ATP6V1F   ATP6V1G1   ATP6V1G2   ATP6V1H   MCOLN1   STEAP3   TCIRG1   TF   TFR                                                                                                                                                                                                          | 1.1 | 0.5   |
| MODULE_451                                                           | ALOX12B   CNB1   CXC20   CDK4   CENPA   FEN1   H2AF2   IQSEC1   KPN2A   MELK   MKI67   MKS1   MYBL2   NEK2   PCNA   PCNT   PLK1   PRXK   PTK7   RPA1   SORT1   TOP2A   TOPBP1   TSPYL4   UPF3A                                                                                                                                                                                                              | 1.1 | 0.375 |
| chr4q13                                                              | ALB   AREG   BMP2K   BTC   DCK   EPHA5   GK2   GRSF1   HNRNPDL   IL8   LPHN3   MTHFD2L   MUC7   ODAM   PPBP2L   PRKG2   PROL1   RUFY3   SMR3A   SMR3B   SULT1B1   SULT1E1   TMPRSS11D   TMPRSS11E   UGT2A1   UGT2A3   UGT2B15   UGT2B17   UGT2B28   UGT2B4   YTHDC1                                                                                                                                         | 1.1 | 0.5   |
| MODULE_410                                                           | APC5   ASGR1   ASGR2   CD22   CD69   CD72   CHIT1   CLC   CLEC10A   CLEC2B   CLEC3B   FCER2   FCN1   FCN2   GCKR   GFF27   KLRK1   KLRK3   KLRK1   LGALS1   LGALS2   LGALS3   LGALS4   LGALS9   LMAN2   MRC1   OLR1   REG1B   SELL   SELP   SFTPD   SIGLECS   THBD                                                                                                                                          | 1.1 | 0.5   |
| CHOW_RASSF1_TARGETS_DN                                               | ARL1   BCL3   BST2   CELSR2   CREG1   DOB2   EBAG9   EEF1D   EXOSC4   ICK   KHLH21   LRAPAP1   LYGE   NDUFS8   NIN1   OPTN   P4HB   POLR2K   PP1B   PPP1CA   PRKCSH   PTPRN2   PYCR1   RUNX3   SNRPD1                                                                                                                                                                                                       | 1.1 | 0.25  |
| PHOSPHOINOSITIDE_BINDING                                             | CD24   EEA1   EPB41   GPA1A   PICALM   PI3K   RAB35   SCIN   SYT1   THY1   ZFYVE16                                                                                                                                                                                                                                                                                                                          | 1.1 | 0.5   |
| REGULATION_OF_CYTOKINE_PRODUCTION                                    | ATP6AP2   CALCA   CD24   CD40LG   CHRNA7   CIDEA   EREG   FOXP3   GHSR   HIF1A   IFNG   IL12A   IL12B   MALT1   MAP3K7   SMAD3   SMAD4   SOD1   TGFBI2   TRAF2   TRAF6                                                                                                                                                                                                                                      | 1.1 | 0.5   |
| VERRECCHIA_RESPONSE_TO_TGFB1_C4                                      | COL16A1   EPHB2   LAMB1   MMP1   MMP17   MTA1   NOTCH2   PAK2   RAC1   RAC2   THBS1   THBS2   TNC                                                                                                                                                                                                                                                                                                           | 1.1 | 0.375 |
| TIGHT_JUNCTION                                                       | ASH1L   CLDN1   CLDN10   CLDN11   CLDN14   CLDN15   CLDN16   CLDN17   CLDN18   CLDN3   CLDN4   CLDN5   CLDN6   CLDN7   CLDN8   CLDN9   PARDB   PARDBA   PARDB6   RAB13   SHROOM2   TJPI   VAPA                                                                                                                                                                                                              | 1.1 | 0.375 |
| REACTOME_SHC_RELATED_EVENTS                                          | GRB2   HRAS   INS   INSR   KRAS   MAP2K1   MAP2K2   MAPK1   MAPK3   NRAS   RAF1   SHC1   SHC2   SHC3   SOS1   YWHAB                                                                                                                                                                                                                                                                                         | 1.1 | 0.375 |
| CELL_MATURATION                                                      | ACTA1   ADAM12   CACNA1H   EREG   FARP2   IL21   KCN11   KCNIP2   KRT19   MYH11   MYO21   NRCAM   PICK1   RND1   TTN                                                                                                                                                                                                                                                                                        | 1.1 | 0.25  |

|                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                          |     |       |
|---------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| ENDOSOME_TRANSPORT                                                        | ABCA1   ADRB2   ANKRD27   BET1L   DOPEY1   DOPEY2   EEA1   GOSR1   LYST   M6PR   MON2   RAB14   RAB35   RHOB   SQSTM1   STX16   STX5   TINAGL1   TOM1   VP54B   YKT6   ZFYVE16                                                                                                                                                                                                                           | 1.1 | 0.25  |
| CLIMENT_BREAST_CANCER_COPY_NUMBER_UP                                      | BCL6   CCND1   CTTN   EBAG9   ERBB2   ESRRG   EXT1   FGF3   FGFRI   JAG1   KCNQ3   MTSS1   MYC   PAK1   PTPRT   RBBP5   SLA   SOX9   STK3   TG   WNT3                                                                                                                                                                                                                                                    | 1.1 | 0.5   |
| HINATA_NFKB_IMMU_INF                                                      | CCL2   CCL20   CDB3   CXCL2   CXCL3   CXCL6   ICAM1   IL1B   IL6   IL8   IRF1   NFKB1   NFKBIA   OLR1   PTX3   RELA   TNFAIP2                                                                                                                                                                                                                                                                            | 1.1 | 0.375 |
| REACTOME_TRAF6_MEDIATED_IRF7_ACTIVATION                                   | CREBBP   DDXX58   EP300   IFIH1   IFNA1   IFNA10   IFNA14   IFNA16   IFNA17   IFNA2   IFNA21   IFNA4   IFNA5   IFNA6   IFNA7   IFNA8   IFNB1   IKKBE   IRF1   IRF2   IRF3   IRF7   TANK   TBK1   TRAF2   TRAF6   TRIM25                                                                                                                                                                                  | 1.1 | 0.375 |
| GHANDHI_DIRECT_IRRADIATION_DN                                             | BCL11A   C10orf10   FAM50B   FAM5C   FZD4   G6PD   HOXB3   IRF1   MDR1   MN1   NFE2   NR3C2   OLFML2B   OPRL1   PBX2   PER1   PLEKHA6   PTK7   S100P   TOX                                                                                                                                                                                                                                               | 1.1 | 0.375 |
| KORKOLA_EMBRYONIC_CARCINOMA_VS_SEMINOMA_UP                                | ABCG2   BCAT1   CALB1   CD24   DNMT3B   FGF4   GAL   GDF3   GJA1   GPC3   GPC4   GPM6B   KRT18   PHLD1A   RASSF8   SCN11A   SOX2   WNT5B                                                                                                                                                                                                                                                                 | 1.1 | 0.375 |
| RNA_3END_PROCESSING                                                       | CPSF1   CSTF1   CSTF2   CSTF3   GRSF1   NCBP1   PABPC1   SLBP                                                                                                                                                                                                                                                                                                                                            | 1.1 | 0.375 |
| YAMASHITA_LIVER_CANCER_WITH_EPCAM_DN                                      | ALDH1L1   APOC1   C4A   CES1   ECHDC2   GSTA3   HMGC52   HRG   HSD17B6   SCLY   SERPINC1   SIX1                                                                                                                                                                                                                                                                                                          | 1.1 | 0.375 |
| INTEGRIN_COMPLEX                                                          | ITGA10   ITGA2   ITGA3   ITGA5   ITGA8   ITGA9   ITGAE   ITGAM   ITGAX   ITGB3   ITGB4   ITGB6   ITGB7   ITGB8   MYH9                                                                                                                                                                                                                                                                                    | 1.1 | 0.375 |
| chr10q                                                                    | HABP2   PVRL1   TIAL1                                                                                                                                                                                                                                                                                                                                                                                    | 1.1 | 0.375 |
| REACTOME_GRB2_SOS_PROVIDES_LINKAGE_TO_MAPK_SIGNALING_FOR_INTERGRINS       | APBB1IP   FGA   FGB   FGG   FN1   GRB2   ITGA2B   ITGB3   PTK2   RAP1A   RAP1B   SOS1   SRC   TLN1   VWF                                                                                                                                                                                                                                                                                                 | 1.1 | 0.25  |
| REACTOME_ADP_SIGNALING_THROUGH_P2RY12                                     | GNAI1   GNAI2   GNAI3   GNB1   GNB2   GNB3   GNB5   GNG10   GNG11   GNG12   GNG13   GNG3   GNG4   GNG5   GNG7   GNGT1   GNGT2                                                                                                                                                                                                                                                                            | 1.1 | 0.375 |
| KINESIN_COMPLEX                                                           | KIF11   KIF15   KIF23   KIF2C   KIF3B   KIF3C   KIF5A   KIF5B   KIF5C   KIFAP3   KIFC3   KLC2                                                                                                                                                                                                                                                                                                            | 1.1 | 0.5   |
| MURAKAMI_UV_RESPONSE_24HR                                                 | DSG1   DSP   DVL1   EDN2   EGR1   IFI6   IL13   IL6   ITGB7   KRT1   KRT10   KRT14   MAP3K14   NOTCH4   RARG   RFC2   SMO   TGFBI   TRAIIP   VTN                                                                                                                                                                                                                                                         | 1.1 | 0.375 |
| PID_MAPKTRKPATHWAY                                                        | BRAF   CDK5   CDK5R1   CREB1   EGR1   EHD4   ELK1   FOS   HRAS   KRAS   MAP2K1   MAP2K3   MAP2K5   MAP2K6   MAP3K2   MAPK1   MAPK14   MAPK3   MAPK7   MAPKAPK2   MEFC2   NRAS   NTF3   PRKCD   RAF1   RAP1A   RAP1B   RIT1   RIT2   RPS6KA1   RPS6KA5   RUSC1   SRF   TRPV1                                                                                                                              | 1.1 | 0.375 |
| AMINO_ACID_TRANSMEMBRANE_TRANSPORTER_ACTIVITY                             | CTNS   OCA2   PDPN   SERINC1   SLC1A1   SLC1A2   SLC1A3   SLC1A4   SLC1A5   SLC1A6   SLC1A7   SLC25A12   SLC25A13   SLC25A15   SLC25A22   SLC38A3   SLC3A1   SLC3A1   SLC6A14   SLC6A5   SLC6A9   SLC7A10   SLC7A11   SLC7A2   SLC7A4   SLC7A5   SLC7A6   SLC7A8   SLC7A9                                                                                                                                | 1.1 | 0.5   |
| KIM_PTEIN_TARGETS_UP                                                      | APBB2   BUD31   C12orf5   CDKN1A   CLPB   CPA4   GALNT10   GDF15   GPM6A   HSPA4L   IFI44   PLAUI   PLD1   PLP1   RCHY1   SLC7A11                                                                                                                                                                                                                                                                        | 1.1 | 0.375 |
| HUI_MAPK14_TARGETS_UP                                                     | ASB1   CNTNAP2   DUSP8   FHL1   GADD45A   GADD45G   GNG4   GRAP2   ISG15   ITGB7   JUN   JUND   MAP2K6   PAK6   PRNP   SFRP1                                                                                                                                                                                                                                                                             | 1.1 | 0.5   |
| KEEN_RESPONSE_TO_ROSIGLITAZONE_UP                                         | ACAA1   AKT2   AQP7   ATP5G3   CES1   CIB2   COX17   CYP4B1   DGAT1   DLST   FABP3   FZD4   HSPD1   IARS2   MRPL4   NDUF6B   NDUF53   PEX6   PNCLAP   PPARA   SAMM50   SDHB   SLC25A5   SORBS1   TXNIP   UBE2M   UQCRCQ   VEGFB                                                                                                                                                                          | 1.1 | 0.375 |
| MILICIC_FAMILIAL_ADENOMATOUS_POLYPOSIS_UP                                 | CDH3   DEFA6   FZD3   KIAA1199   LCN2   MSX2   PCSK1   SLC01B3   TACSTD2   XIST                                                                                                                                                                                                                                                                                                                          | 1.1 | 0.5   |
| PID_ECADHERIN_KERATINOCYTE_PATHWAY                                        | AKT1   AKT2   CASR   CDH1   CTNNA1   CTNNB1   CTNND1   CTNND2   EGFR   FYN   JUP   PIK3CA   PIK3R1   PI3P5K1A   PLCG1   RAC1   RHOA   SRC   VASP   ZYX                                                                                                                                                                                                                                                   | 1.1 | 0.5   |
| TAKEDA_TARGETS_OF_NUP98_HOXA9_FUSION_3D_DN                                | ALB   ALOX5   ATP10D   CCL7   CD163   CLEC10A   CXCL5   ENTDP1   ETS1   FCGR2B   FCGR2C   GLUL   GPR97   HBE1   HGF   IL7R   LIF   MAFB   OSM   PPA2A   PPBP   PRG3   RAP1A   RAPGEF5   S100A8   S100A9   TEX15   TGFBI                                                                                                                                                                                  | 1.1 | 0.5   |
| BENPORATH_ES_2                                                            | CD25A   CHKE1   CLDN6   CYP26A1   DBNDD1   DNMT3A   DTYMK   EPHA1   ETV4   GDF3   GOLGA7   GPR19   HELLS   HESX1   LITD1   MCM10   MYBL2   NANOG   POU5F1   PRDM14   PRKD3   RBM4   SLC5A6   TDGF1   ZIC3                                                                                                                                                                                                | 1.1 | 0.375 |
| SILIGAN_TARGETS_OF_EWS_FU1_FUSION_UP                                      | ATP1B1   CDK7   LIMS1   LIPA   MDH2   NCAM1   NPY   PCLO   RHOBTB3   TAOK1   TCF12   VGF                                                                                                                                                                                                                                                                                                                 | 1.1 | 0.5   |
| chrXq22                                                                   | ACSL4   AGTR2   AMMECR1   ARMCX5   ATG4A   CENPI   COL4A5   COL4A6   CSTF2   CXorf57   DCX   DIAPH2   DRP2   GPRASP1   GUCY2F   ILIRAPL2   IRS4   KCNE1L   MCT51   MID2   MORC4   MORF4L2   NGRAP1   NOX1   NUP62CL   NXF2   NXF3   NXT2   PAK3   PGRMC1   PRPS1   PSMID10   RAB40A   RBM41   RNF128   RPL36A   TBC1D8B   TCEAL1   TCEAL2   TCEAL4   TIMM8A   TMEM164   TMEM35   TSC22D3   TSPAN6   WBP5 | 1.1 | 0.5   |
| REACTOME_ENDOGENOUS_STEROLS                                               | CYP11A1   CYP11B1   CYP11B2   CYP17A1   CYP19A1   CYP1B1   CYP21A2   CYP27A1   CYP39A1   CYP46A1   CYP51A1   CYP7A1   CYP7B1   POMC                                                                                                                                                                                                                                                                      | 1.1 | 0.375 |
| GAZDA_DIAMOND_BLACKFAN_ANEMIA_ERYTHROID_UP                                | ATP6V1B2   C17orf42   CSF1   DDB2   DENND2D   DPY19L1   FAS   LEPR   LUMK2   NSF   NUFIP1   NUP62CL   PDK3   SCRN1   SEPHS2   SESN1   SOS1   SPHK2   TNFRSF10B   TRIM38   UTP6                                                                                                                                                                                                                           | 1.1 | 0.5   |
| PACHER_TARGETS_OF_IGF1_AND_IGF2_UP                                        | ABCA12   ASNS   ASS1   DDIT3   DNAJB9   EGR3   GADD45A   GDF15   HERPUD1   IFRD1   IGF1   INHBE   KRT81   MAP1B   MFAP3L   MID1   NELL2   PCDH8   PGHDH   PSPH   RPRM   SDFZL1   SEC24D   SERTAD2   SLC1A4   SLC3A2   SLC7A11   SLC7A5   TFF3                                                                                                                                                            | 1.1 | 0.375 |
| BIOCARTA_STATHMIN_PATHWAY                                                 | CAMK2A   CAMK2B   CAMK2D   CAMK2G   CAMK4   CCNB1   CD2   CD247   CD3D   CD3E   CD3G   MAPK13   PRKACB   PRKACG   PRKAR1A   PRKAR1B   PRKAR2A   PRKAR2B                                                                                                                                                                                                                                                  | 1.1 | 0.375 |
| REACTOME_PYRIMIDINE_METABOLISM                                            | CAD   CDA   DCK   DCTD   DHODH   DPYD   DPYS   DUT   NTSC   NTSE   NTSM   TK1   TK2   TYMS   UCK2   UMPCL   UPB1   UPPI                                                                                                                                                                                                                                                                                  | 1.1 | 0.5   |
| NIELSEN_GIST_V5_SYNOVIAL_SARCOMA_UP                                       | ADAM12   ADNR   BMP7   COL1A2   COL6A3   COL9A2   COLEC12   DLX5   ENCL   FOXD1   MEK3   POCLE   PRAME   SOX4   SSK4B                                                                                                                                                                                                                                                                                    | 1.1 | 0.5   |
| WOTTON_RUNX_TARGETS_DN                                                    | ADD3   ALCAM   CEBPD   EGLN3   ENO2   FDX1   FNDC3A   GAS2   ID2   ID3   KITLG   MSLN   NR3C1   ODZ4   PDE8B   PLOD2   PRRX1   RAMP3   RGS2   SGPP1   SIX1   TOB2   VIP   XDH                                                                                                                                                                                                                            | 1.1 | 0.5   |
| YANG_BREAST_CANCER_ESR1_BULK_UP                                           | ABCG1   ACOT2   AGGF1   BLVRA   C6orf211   CELSR1   COX6C   CRIP1   DALRD3   DNALI1   EEF1A2   ELOVL5   FOXA1   MYO5C   PPP1R3C   PTP4A2   REEP5   SLC39A6   TSPAN1   TSPAN13                                                                                                                                                                                                                            | 1.1 | 0.5   |
| BIOCARTA_INTRINSIC_PATHWAY                                                | COL4A1   COL4A2   COL4A3   COL4A4   COL4A5   COL4A6   F10   F11   F12   F2   F2R   F5   F8   F9   FGA   FGB   FGG   KLB1   KNG1   PROC   PROS1   SERPINC1   SERPING1                                                                                                                                                                                                                                     | 1.1 | 0.5   |
| VITAMIN_METABOLIC_PROCESS                                                 | ALDH1A2   ALDH8A1   BBOX1   CYP27B1   DHRS3   DHRS9   ME1   PGD   PGLS   RDH11   RETSAT   RLBP1   RXRA   THTPA   TKTL1                                                                                                                                                                                                                                                                                   | 1.1 | 0.5   |
| METALLOXOPEPTIDASE_ACTIVITY                                               | CPA1   CPA2   CPA3   CPB2   DPEP1   ENPEP   METAP1   METAP2   PEPD   PGCP   ZMPSTE24                                                                                                                                                                                                                                                                                                                     | 1.1 | 0.5   |
| STEROL_BINDING                                                            | APOA1   APOF   CAV1   CETP   HSD17B4   NPC2   OSBP   SCP2   STARD3   SYP   TSPD                                                                                                                                                                                                                                                                                                                          | 1.1 | 0.5   |
| ACTIN_POLYMERIZATION_AND_OR_DEPOLYMERIZATION                              | ANG   ARF6   CAPG   CDC42EP2   CXCL12   DSTN   EVL   GHSR   GSN   LATS1   LIMA1   NCK1   NCK2   RAC1   RASA1   TMSB4Y   WASF1   WASF3   WASL                                                                                                                                                                                                                                                             | 1.1 | 0.25  |
| MIKKELSEN_IPS_LCP_WITH_H3K27ME3                                           | CACNA1S   CD244   GAL3ST4   PRND   UGT1A1                                                                                                                                                                                                                                                                                                                                                                | 1.1 | 0.5   |
| KUWANO_RNA_STABILIZED_BY_NO                                               | CHIC2   GADD45B   HMOX1   ID3   KLF10   PTGS2   RGS2                                                                                                                                                                                                                                                                                                                                                     | 1.1 | 0.375 |
| SPHINGOID_METABOLIC_PROCESS                                               | ASHA1   CERK1   CLN3   CLN6   NEU3   NSMAF   SGPL1   SPHK1   UGCG                                                                                                                                                                                                                                                                                                                                        | 1.1 | 0.375 |
| ALONSO_METASTASIS_DN                                                      | AKAP13   BCL2L10   CCBP2   CDH10   CX3CL1   CYP19A1   CYP7B1   EDN2   EPS15   GIMAP6   IDS   IFI44L   LFNG   LRRCC2   OLIG2   PAPPA   PCDH9   REST   SECISBP2   TCOF1   TOB2   WNT2                                                                                                                                                                                                                      | 1.1 | 0.5   |
| LUI_THYROID_CANCER_CLUSTER_4                                              | CD74   FGFRI   HLA-DPA1   HLA-DPB1   HLA-DQB1   HLA-DRA   IGLJ3   IL23A   NUPR1   PCP4   PLTP   WARS   ZYX                                                                                                                                                                                                                                                                                               | 1.1 | 0.375 |
| chr5q23                                                                   | ADAMTS2   ADRA1B   CAMLG   CD01   COMMD10   CSF2   CSNK1G3   EGR1   FABP6   FBN2   GDF9   GPX3   GRAMD3   HBEFG   IL3   IL4   IL5   IIRF1   ITGA2   LMNB1   LOX   NEUROG1   NMES   NRG2   PGST1B   PPIC   PPP2CA   PRR16   PRR1   RAD50   RNF14   SEMA6A   SLC12A2   SLC27A6   SNX2   SNX24   TNFAIP8   UBE2B                                                                                            | 1.1 | 0.375 |
| PEDERSEN_METASTASIS_BY_ERBB2_ISOFORM_3                                    | CLCF1   EGFR   ENCL   F2RL1   LMOT7   NPLC1   NPY1R   OBF2CA   PKP2   RGS2   TFP12   TNFAIP8                                                                                                                                                                                                                                                                                                             | 1.1 | 0.5   |
| FARMER_BREAST_CANCER_CLUSTER_2                                            | ARMC1   ASPM   ATAD2   BUB1   BUB1B   CCNA2   CCNB2   CENPA   CENPE   CEP55   KIF11   KIF15   KIF20A   KIF4A   KIF4A   MAD2L1   MCM4   MELK   MRPL15   MTERF1   MTRF1   NEK2   NUSAP1   PRCL1   PRKDC   PTTG1   RAD54B   RB1CC1   RRS1   SLC25A32   TPX2                                                                                                                                                 | 1.1 | 0.5   |
| OXFORD_RALA_TARGETS_DN                                                    | C5orf4   COL5A1   DENND2A   EIF4EBP2   EPN2   IGFBP3   IL1RAP   KIAA0319L   PKF84A   RALA                                                                                                                                                                                                                                                                                                                | 1.1 | 0.375 |
| PARK_APL_PATHOGENESIS_UP                                                  | AHR   ANXA1   GZMA   HINT1   MEF2C   MPO   PSMB9   PSME2   SELPLG   SOX4   STIP1   SUCLG1   TMSB10   UBE4A                                                                                                                                                                                                                                                                                               | 1.1 | 0.5   |
| SCHWAB_TARGETS_OF_8MYB_POLYMORPHIC_VARIANTS_DN                            | BCL3   CAMK2B   CDC14A   CDKN1C   ELF3   EVI5   GULP1   HDAC6   HOXB5   NEK3   NR3C2   PAFAH1B1   RASSF2   TAF7L   VEGFC                                                                                                                                                                                                                                                                                 | 1.1 | 0.375 |
| BIOCARTA_TEL_PATHWAY                                                      | AKT1   BCL2   EGFR   HSP90AA1   IGF1R   KRAS   MYC   POLR2A   PPP2CA   PRKCA   RB1   TEPI1   TERF1   TERT   TNKS   TP53   XRCC5   XRCC6                                                                                                                                                                                                                                                                  | 1.1 | 0.5   |
| REACTOME_LATENT_INFECTION_OF_HOMO_SAPIENS_WITH_MYCOBACTERIUM_TUBERCULOSIS | ATP6V0A2   ATP6V0A4   ATP6V0B   ATP6V0C   ATP6V0D1   ATP6V1A   ATP6V1B1   ATP6V1B2   ATP6V1C1   ATP6V1D   ATP6V1E1   ATP6V1F   ATP6V1G1   ATP6V1G2   ATP6V1H   CAMP   CYBA   CYBB   LTF   NCF2   NCF4   NOS1   NOS3   SLC11A1   TCIRG1                                                                                                                                                                   | 1.1 | 0.5   |
| GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_GREY_UP                     | ADAMTS1   ADAMTS9   CDCDC8   DUSP5   EMP1   LBN   NAV3   RORA   SOS1   TFEC   TRIM16   ZNF323                                                                                                                                                                                                                                                                                                            | 1.1 | 0.375 |
| NEGATIVE_REGULATION_OF_DNA_BINDING                                        | CDKN2A   CEBPG   EGLN1   FLNA   FOXP3   ID1   ID2   ID3   MDR1   NAREL   PEX14   RSF1   SIGIRR   SUMO1                                                                                                                                                                                                                                                                                                   | 1.1 | 0.375 |
| MONTERO_THYROID_CANCER_POOR_SURVIVAL_DN                                   | APLP2   C7orf23   LMBRD1   PDK2   PPA2B   PTPRN2   RMST   SDK2   SIAH1                                                                                                                                                                                                                                                                                                                                   | 1.1 | 0.375 |
| INDUCTION_OF_APOPTOSIS_BY_INTRACELLULAR_SIGNALS                           | ABL1   BAX   BCL3   BIRC1   C16orf5   CDKN1A   CHEK2   CIDEA   CIDEB   CUL1   CUL2   CUL3   CUL4A   CUL5   DYRK2   IFI16   PCBP4   PML   RNF7   SFN   TP53   TP73                                                                                                                                                                                                                                        | 1.1 | 0.5   |
| SMID_BREAST_CANCER_LUMINAL_A_DN                                           | ANP32E   CCNE1   CD2C0   CDCA3   CDC48   CENPN   DKC1   KRT16   LRPH   SLC7A5   TOS2A   TPX2   TLL4   VGLL1                                                                                                                                                                                                                                                                                              | 1.1 | 0.5   |
| MODULE_416                                                                | ADAM17   ADM   AGT1   AQP1   AQP3   AQP4   CLCNKA   CLCNKB   CYP2B6   DUSP2   EFNA1   GUCA2B   LEPREL2   LTF   MAD2L1   NFAT5   SAA1   SCN11A   SLC22A4   SLC3A1   TLE3   TMF1   UNC13B                                                                                                                                                                                                                  | 1.1 | 0.375 |
| HORMONE_RECEPTOR_BINDING                                                  | DAXX   DDXX54   HMGAI1   JMD1C   MED12   MED4   NCOA6   NR1P1   NSD1   NUP62   OASL   PRPF6   PSMC5   SMARCD3   TACC2   TGFBI1   THRASP3   TRIP12   YWHAH   ZNHTF3                                                                                                                                                                                                                                       | 1.1 | 0.5   |
| RAFFEL_VEGFA_TARGETS_UP                                                   | ACVR2B   CITED2   EZF3   GNB1L   HEY2   HIF1A   PBX1   SOX11   WT1                                                                                                                                                                                                                                                                                                                                       | 1.1 | 0.375 |
| JOHANSSON_GLIOMAGENESIS_BY_PDGF_DN                                        | ACOT7   CACNB3   CHN1   CTNND1   FGFRI2   MAT2B   NEFL   PPP3CA   PRKCZ   RPH3A   SLC30A3   SYNGR3   TYRO3                                                                                                                                                                                                                                                                                               | 1.1 | 0.5   |
| RNA_POLYMERASE_II_TRANSCRIPTION_MEDIATOR_ACTIVITY                         | CNOT2   MED12   MED4   PPARGC1A   THRAP3                                                                                                                                                                                                                                                                                                                                                                 | 1.0 | 0.5   |
| REACTOME_P13OCAS_LINKAGE_TO_MAPK_SIGNALING_FOR_INTEGRINS                  | APBB1IP   CERK1   FGA   FGB   FGG   FN1   ITGA2B   ITGB3   PTK2   RAP1A   RAP1B   SRC   TLN1   VWF                                                                                                                                                                                                                                                                                                       | 1.0 | 0.25  |
| REACTOME_GABA_SYNTHESIS_RELEASE_REUPTAKE_AND_DEGRADATION                  | ABAT   ALDH5A1   GAD1   GAD2   HSPA8   RAB3A   RIMS1   SLC6A1   SLC6A11   SLC6A12   SNAP25   STX1A   STXBP1   SYT1   VAMP2                                                                                                                                                                                                                                                                               | 1.0 | 0.5   |
| ZIRN_RETINOLIN_RESPONSE_WT1_UP                                            | AKAP12   CAPN7   CLDN11   COTL1   DHRS3   DLCL1   ETV1   IGFBP3   IGFBP6   KIT   NAV2   PDGFRA   PLAUR   RARB   RARRES1   SMAD3   TAL1   ZNF133                                                                                                                                                                                                                                                          | 1.0 | 0.375 |
| RIBONUCLEOTIDE_METABOLIC_PROCESS                                          | ACLY   ADK   ADSS   AKS   AMPD3   C16orf7   CTNS   CTP5   ENTDP4   GUK1   NDUF51   UMP5                                                                                                                                                                                                                                                                                                                  | 1.0 | 0.375 |
| REACTOME_G_BETA_GAMMA_SIGNALING_THROUGH_PI3KGAMMA                         | AKT1   AKT2   AKT3   GNB1   GNB2   GNB3   GNB5   GNG10   GNG11   GNG12   GNG13   GNG3   GNG4   GNG5   GNG7   GNGT1   GNGT2   PDPK1   PIK3CG   PIK3RS   RHOA                                                                                                                                                                                                                                              | 1.0 | 0.25  |
| NON_MEMBRANE_SPANNING_PROTEIN_TYROSINE_KINASE_ACTIVITY                    | CLK1   DYRK1A   ERBB2   FRK   ITK   NRA43   PTK2B   PTG6   TNK2   TYK   TYK2                                                                                                                                                                                                                                                                                                                             | 1.0 | 0.5   |
| CREIGHTON_AKT1_SIGNALING_VIA_MTOR_DN                                      | ALDOA   ATP6A1   ATP6V0B   ATP6V0C   ATP6V1F   CIB1   DHCR7   GOT1   GPI   KRT8   MIF   MRPS7   PAFAH1B3   PFKL   PPR21A   PPP4C   RGL2   TNFRSF12A   TOM1   TSPAN1   YWHAH                                                                                                                                                                                                                              | 1.0 | 0.25  |
| YORDY_RECIPROCAL_REGULATION_BY_ETS1_AND_SP100_UP                          | ARRB1   ATF5   C16orf57   CDK2   ERO1L   GPR116   HMGNA4   IGFBP6   KIAA0494   MEA1   MYCL1   NDE1   NPDC1   PPR21B   RAP1GDS1   RARA   RASSF2   SCARA3   SIRPA   SS18L2   TACSTD2                                                                                                                                                                                                                       | 1.0 | 0.25  |

|                                                                                                                                       |                                                                                                                                        |     |       |
|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| PID_AURORA_B_PATHWAY                                                                                                                  | AURKA   AURKB   AURKC   BIRC5   BUB1   CBX5   CDCA8   CENPA   CUL3   DES   EVI5   INCENP   KIF20A   KIF23   KIF2C   KHLH9   MYLK   NCL | 1.0 | 0.5   |
| chr11q11                                                                                                                              | NPM1   PEBP1   PPP1CC   PPP2R5D   PSMA3   RACGAP1   RASA1   RHOA   SMC2   SMC4   STMN1   TACC1   VIM                                   | 1.0 | 0.5   |
| JI_CARINOGENESIS_BY_KRAS_AND_STK11_DN                                                                                                 | CREB3L1   GDF2   HSD17B12   ORS11   OR5T2   PC   RPS6KA4   SLC22A8   SLC43A3   TCN1                                                    | 1.0 | 0.5   |
| BIOCARTA_IL17_PATHWAY                                                                                                                 | C2   CXCL13   DCN   FGF11   FN1   ITGBL1   LOXL1   LUM   MMP2   NCAM1   NEDD9   PDGFRB   THBS2   TIMP1   VEGFC   WNT2                  | 1.0 | 0.5   |
| NEUTRAL_AMINO_ACID_TRANSPORT                                                                                                          | CD2   CD247   CD34   CD3D   CD3E   CD3G   CD4   CD58   CD8A   CSF3   IL17A   IL3   IL6   IL8   KTLG   TRA@                             | 1.0 | 0.5   |
| PARK_TRETINOIN_RESPONSE                                                                                                               | SERINC1   SLC1A4   SLC1A5   SLC38A3   SLC43A1   SLC6A7   SLC7A10   SLC7A5   SLC7A8   SLC7A9                                            | 1.0 | 0.5   |
| BCAT.100_UV_P1_DN                                                                                                                     | ALOX5AP   CEBPE   FGR   MERTK   NDRG1   PIK3CG   PIM1   PLEK   SLA   SLC2A5   SMOX   THBD                                              | 1.0 | 0.375 |
| CELLULAR_MONOVALENT_INORGANIC_CATION_HOMEOSTASIS                                                                                      | AMH   C10orf10   CCDC53   CDH12   CHRNA2   DAZL   DKFZP434A062   DOCK3   DSG3   EXOC3   FAM46A   FZD4   GLRA2   HIST2H2AA3             | 1.0 | 0.5   |
| S_ADENOSYLMETHIONINE_DEPENDENT_METHYLTRANSFERASE_ACTIVITY                                                                             | IGFBP5   IGHM   KIAA0319L   KLF10   KLHL4   KRT32   KRTAP4-7   NAT6   PARK2   PIP   PMCH   RALGPS2   SERGEF   SNAI2   TBX5   TLN2      | 1.0 | 0.5   |
| REACTOME_FATTY_ACYL_COA_BIOSYNTHESIS                                                                                                  | TMPRSS2   TTR   WISP3   ZNF711   ZNF749                                                                                                | 1.0 | 0.5   |
| MODULE_240                                                                                                                            | ATP1A1   ATP1A2   ATP1A3   BCL2   CLCN3   CLN3   CLN5   CLN6   PPT1   TMPRSS3                                                          | 1.0 | 0.5   |
| HASLINGER_B CLL_WITH_13Q14_DELETION                                                                                                   | BHMT   DNMT1   DNMT3A   DNMT3B   EHMT1   FBXO11   LCM11   METTL1   NNMT   NSD1   PCMT1   PEMT   PNMT   PRMT7   PRMT8                   | 1.0 | 0.25  |
| NEGATIVE_REGULATION_OF_TRANSPORT                                                                                                      | RNMT   SUV39H1   SUV39H2   TPMT   WHSC1L1                                                                                              | 1.0 | 0.5   |
| LEI_HOXC8_TARGETS_DN                                                                                                                  | ACACA   ACLY   ACSL1   ACSL3   ACSL4   ACSL5   ACSL6   ELOVL1   ELOVL2   ELOVL4   ELOVL5   ELOVL6   FASN   HSD17B12   SLC25A1          | 1.0 | 0.5   |
| BIOCARTA_CELL2CELL_PATHWAY                                                                                                            | AHNAK   CACNG4   CP5F3L   CRYZL1   EVI2B   IGHM   IGLJ3   MGA   NEUROD6   NUP107   PLAGL1   PLEKHA1   PTGIS   RG55   WWC3              | 1.0 | 0.375 |
| PID_RHODOPSIN_PATHWAY                                                                                                                 | ZNF185   ZNF266                                                                                                                        | 1.0 | 0.5   |
| LIM_MAMMARY_LUMINAL_PROGENITOR_DN                                                                                                     | ALOX5   ARL44   BCL7A   DLEU1   DUSP8   EFNA2   EPB41L2   ID4   ITGB5   KLF4   LDLR   PNMA2   RB1   RBMS2   RNASEH2B   SSBP2   TPM2    | 1.0 | 0.5   |
| RAMJAUN_APOPTOSIS_BY_TGFB1_VIA_MAPK1_UP                                                                                               | TRIM16   TUBB                                                                                                                          | 1.0 | 0.5   |
| MODULE_78                                                                                                                             | ARF6   BARO1   CRYAA   CRYAB   FAF1   MDF1   MX1   NF1   NFKBIE   NFKBIL1   PACSIN3   PEAI5   RAC1   RSC1A1   TRAT1   YRDC             | 1.0 | 0.5   |
| WU_HBX_TARGETS_2_DN                                                                                                                   | ACTA2   ADAM19   ANKRD1   ASS1   CNN1   CXCL10   ELMO1   GAS1   GREM2   KRT19   NCAM1   NQO1   PLAGL1   SERPINF1   SP1   TAGLN         | 1.0 | 0.375 |
| AMINE_BIOSYNTHETIC_PROCESS                                                                                                            | ACTN1   ACTN2   ACTN3   CSK   CTNNA1   CTNNA2   CTNNA3   CTNNB1   PECAM1   PTK2   PXN   SRC   VCL                                      | 1.0 | 0.5   |
| MARIADASON_RESPONSE_TO_BUTYRATE_CURCUMIN_SUINDAC_TSA_2                                                                                | CNGA1   CNGB1   GNAT1   GNB1   GNBS   GNGT1   GRK1   GUCA1A   GUCA1B   GUCY2D   GUCY2F   LRAT   PDE6A   PDE6B   PDE6G   RDH5           | 1.0 | 0.375 |
| SOLUTE_SODIUM_SYMPORTER_ACTIVITY                                                                                                      | RG59   RHO   RPE65   SAG   SLC24A1                                                                                                     | 1.0 | 0.5   |
| MODULE_471                                                                                                                            | ASPH   DST   HSPB8   ITGA5   KIF3C   PLCH2   SEMA3F   TBC1D9   TRIM29                                                                  | 1.0 | 0.5   |
| MODULE_528                                                                                                                            | BC12L11   CARD10   HSPA1B   SH3GLB1                                                                                                    | 1.0 | 0.5   |
| INGRAM_SHH_TARGETS                                                                                                                    | ALDH4A1   ALDH6A1   AMT   ASPA   ASS1   CAD   FAH   GAMT   GATM   GCH1   GCSH   GOT1   GOT2   GSTZ1   HPD   MTHFD1   OAT   PAH         | 1.0 | 0.5   |
| REACTOME_GLUTATHIONE_CONJUGATION                                                                                                      | PTS   QDPR                                                                                                                             | 1.0 | 0.5   |
| DEVELOPMENTAL_GROWTH                                                                                                                  | ACP2   EIF2AK2   IL6   KLF6   MADCAM1   MAP3K1   MMP1   NCOA3   PMAIP1   PRKCD   PRKCI   PTPN14   RYBP   TGFBI                         | 1.0 | 0.5   |
| MYLLYKANGAS_AMPLIFICATION_HOT_SPOT_12                                                                                                 | ALDH18A1   ASMTL   BBOX1   BCAT1   CDOI   ETNK1   MAT2B   OAZ1   PAH   PLOD1   PRG3   PYCR1   SLC5A7   SULT1A2   TGFBI                 | 1.0 | 0.5   |
| MEMBRANE_FUSION                                                                                                                       | ATP5D   MAP1LC3B   NEU1   NPC2   PER1   UBE2V1   ZFP36                                                                                 | 1.0 | 0.5   |
| DNA_DAMAGE_RESPONSESIGNAL_TRANSDUCTION_BY_P53_CLASS_MEDIATOR                                                                          | SLC10A1   SLC10A2   SLC13A2   SLC5A1   SLC5A2   SLC5A3   SLC5A6   SLC5A7   SLC6A2   SLC6A5   SLC6A6   SLC6A8   SLC6A9                  | 1.0 | 0.5   |
| IRITANI_MAD1_TARGETS_UP                                                                                                               | ACSL1   ASNS   CBS   GCLC   GCLM   LAP3   ME2   ME3   SDS   SHMT2                                                                      | 1.0 | 0.5   |
| KANG_AR_TARGETS_UP                                                                                                                    | ACSL1   ASNS   CBS   GCLC   GCLM   LAP3   ME2   ME3   SDS   SHMT2                                                                      | 1.0 | 0.5   |
| REACTOME_OLFACTORY_SIGNALING_PATHWAY                                                                                                  | FOXDI   IG2   LASP1   NR4A1   PMP22   THBD   TSC22D3                                                                                   | 1.0 | 0.5   |
| EHRlich_ICF_SYNDROM_UP                                                                                                                | CNDP2   GCLC   GCLM   GGT1   G5S   GSTA1   GSTA3   GSTA4   GSTM1   GSTM4   GSTM5   GSTO1   GSTP1   MGST2   MGST3   OPLAH               | 1.0 | 0.375 |
| MODULE_156                                                                                                                            | BMPR1B   COL4A4   EREG   GLI2   KLK8   SPINK5   UBB                                                                                    | 1.0 | 0.5   |
| HUMORAL_IMMUNE_RESPONSE                                                                                                               | ASPSR1   BRCA1   CLTC   ERBB2   ETV4   LASP1   NF1   SUZ12   TAF15                                                                     | 1.0 | 0.375 |
| LYSOSOMAL_TRANSPORT                                                                                                                   | ADAM12   ADAM2   ATG7   BNIP1   CACNA1H   CD9   CRISP1   EEA1   GCA   GOSR2   KCNH1   LRMP   NAPA   NAGP   NPLOC4   OTOF               | 1.0 | 0.5   |
| MUSCLE_CELL_DIFFERENTIATION                                                                                                           | RABEP1   RABIF   SNAP23   SNAP29   STX11   STX6   VAMP3   VAPA   VPS4B   VTI1B                                                         | 1.0 | 0.5   |
| EXTRINSIC_TO_PLASMA_MEMBRANE                                                                                                          | BC13   BRCA1   C16orf5   DYRK2   EEF1E1   GML   IFI16   MYO6   NBN   PCB4   PML   TP53   TRIAP1                                        | 1.0 | 0.5   |
| PID_P3KCAK1PATHWAY                                                                                                                    | CPA3   EIF2C2   FAM96B   HSD11B1   LTB   MXD1   MYCN   PIK3R1   SCIN   SLC43A3   TULP4                                                 | 1.0 | 0.5   |
| FARMER_BREAST_CANCER_CLUSTER_7                                                                                                        | AHS6   BMP1   BMP5   COL2A1   COL4A1   COL4A2   COL5A1   COL6A1   FGFR2   MMP2   MMP9   PDGFA   PHEX   TGFBI   TGFBI3   TUFT1          | 1.0 | 0.5   |
| NOUSHMEHR_GBM_SOMATIC_MUTATED                                                                                                         | VDR                                                                                                                                    | 1.0 | 0.5   |
| REGULATION_OF_CELLULAR_PH                                                                                                             | GNAL   GNB1   GNGT1   OR10C1   OR10H1   OR10H2   OR10H3   OR10J1   OR11A1   OR1A1   OR1A2   OR1D2   OR1D4   OR1D5   OR1E1              | 1.0 | 0.5   |
| TONKS_TARGETS_OF_RUNX1_RUNX1T1_FUSION GRANULOCYTE_DN                                                                                  | OR1E2   OR1F1   OR1G1   OR2B2   OR2B6   OR2C1   OR2F1   OR2F2   OR2H1   OR2J3   OR2S2   OR2W1   OR3A1   OR3A2   OR3A3   OR51E2         | 1.0 | 0.5   |
| SASAI_TARGETS_OF_CXCR6_AND_PTCH1_DN                                                                                                   | OR52A1   OR5L1   OR5T2   OR5V1   OR6A2   OR7A10   OR7A17   OR7A5   OR7C1   OR7C2                                                       | 1.0 | 0.5   |
| SUGAR_BINDING                                                                                                                         | BB3   CNNA3   F13A1   FH2   GUCY1A3   GUCY1B3   IGFBP3   IGHD   IGHM   MARK3   PRKCH   RARA   RGS1                                     | 1.0 | 0.5   |
| LIU_TOPBP1_TARGETS                                                                                                                    | AHNAK   CACNG4   COL6A1   CP5F3L   CRYZL1   EVI2B   IGHM   IGLJ3   MGA   NEUROD6   NUP107   PLAGL1   PLEKHA1   PTGIS   RG55            | 1.0 | 0.5   |
| REACTOME_AMINO_ACID_TRANSPORT_ACROSS_THE_PLASMA_MEMBRANE                                                                              | WWC3   ZNF185   ZNF266                                                                                                                 | 1.0 | 0.5   |
| BARIS_THYROID_CANCER_UP                                                                                                               | BCL2   BLNK   BST1   BST2   C2   CCL2   CCR6   CD28   CD83   CFHR1   DMBT1   EBI3   GPI   IL4   IL6   IL7   KRT1   LTF   LY86   MBL2   | 1.0 | 0.5   |
| CELL_PROJECTION_PART                                                                                                                  | MS4A2   PAX5   PDCD1   POU2AF1   POU2F2   PSMB10   ST6GAL1   TREM1   TREM2   YTHDF2                                                    | 1.0 | 0.5   |
| ST_MYOCYTE_AD_PATHWAY                                                                                                                 | ADRB2   ARS5   LYST   M6PR   NAGPA   NPC1   RHOB   ZFYVE16                                                                             | 1.0 | 0.5   |
| VETTER_TARGETS_OF_PRKCA_AND_ETS1_DN                                                                                                   | ACTA1   ADAM12   BMP4   BMP4   CACNA1H   EREG   GLMN   IFRD1   IGFBP3   KCNH1   KRT19   MAPK12   MBNL1   MYEF2   MYH11   MYOZ1         | 1.0 | 0.375 |
| DEVELOPMENTAL_MATURATION                                                                                                              | NOTCH1   SYNE1   TBX3   TTN                                                                                                            | 1.0 | 0.5   |
| POSITIVE_REGULATION_OF_PEPTIDYL_TYROSINE_PHOSPHORYLATION                                                                              | APC2   ARRB1   EEA1   GNA14   GNAI1   GNAS   RGS19   SYTL2   TDGF1   TGM3                                                              | 1.0 | 0.5   |
| MODULE_407                                                                                                                            | AKT1   AKT2   AKT3   BAD   BCL2L1   CASP9   CDKN1A   CDKN1B   CHUK   GSK3A   GSK3B   HSP90AA1   KPN1   MAP3K5   MAPKAP1                | 1.0 | 0.5   |
| CHEMELLO_SOLEUS_VS_EDL_MYOFIBERS_DN                                                                                                   | PDPK1   PRKACA   PRKDC   RAF1   SFN   SLC2A4   SRC   TBC1D4   YWHAB   YWHAE   YWHAH   YWHAH   YWHAH   YWHAH                            | 1.0 | 0.5   |
| chr6q24                                                                                                                               | ALCAM   ALDH3B2   AR   BLVRB   CDH1   DHRS2   FASN   GHR   IRIX5   KIAA0182   MSX2   RND1   SCD   SLC35A3   SREBF1   TMEM135           | 1.0 | 0.375 |
| LIU_TOPBP1_TARGETS                                                                                                                    | TMEM41B   TRIM36                                                                                                                       | 1.0 | 0.5   |
| REACTOME_AMINO_ACID_TRANSPORT_ACROSS_THE_PLASMA_MEMBRANE                                                                              | DST   EPHB4   FGF4   IDH1   LEMD3   MAPK7   TRPM3                                                                                      | 1.0 | 0.5   |
| SCAMBOLSKY_BOUND_BY_MUTATED_TP53                                                                                                      | ATP1A1   ATP1A2   ATP1A3   BCL2   CLCN3   CLN3   CLN5   CLN6   PPT1                                                                    | 1.0 | 0.375 |
| ADAM28   APOD   DAZL   MDK   PIP5K1A   PRM1   TFP1                                                                                    | ADAM8   ALOX5   ALOX5AP   CAMK1   CPA3   CYP11B1   ENTDP1   FCER1A   G0PD5   HDC   IL10RA   KRT86   MS4A2   PDE4C   PILRA   PMP22      | 1.0 | 0.5   |
| ACR   CD207   CD209   CLEC10A   CLEC2B   CLEC4E   CLEC7A   COLEC10   FCN1   FCN2   FCN3   GALK1   GCK   KLRB1   KLRG1   KRT1   LGALS3 | LGALS4   LGALS7   LGALS8   LGALS9   LMAN1   LMAN2L   MRC1   PRG2   REG3A   SFTPD   SIGLEC7   SIGLEC8   UPK1A                           | 1.0 | 0.5   |
| AQP3   E2F5   ERBB4   HIC1   IGFBP3   MDM2   PAX5   RECQL5   RFC1   SMR3B   TCL6   TP73                                               | SLC16A10   SLC144   SLC1A5   SLC36A1   SLC36A2   SLC38A1   SLC38A2   SLC38A3   SLC38A4   SLC3A1   SLC3A2   SLC43A1   SLC6A12           | 1.0 | 0.5   |
| SLC6A14   SLC6A15   SLC6A20   SLC6A6   SLC7A1   SLC7A10   SLC7A11   SLC7A2   SLC7A5   SLC7A6   SLC7A7   SLC7A8   SLC7A9               |                                                                                                                                        | 1.0 | 0.5   |
| ACTN2   ADA   ATF4   ATP6V1D   COPB1   COX6A1   COX7A2   COX7B   CRNKL1   CYC1   CYCS   EIF2S2   ERCC5   GCHFR   GLUL   GSTM3         | LPGAT1   NRF1   PTPRN   RBBP5   RPN1   STIP1                                                                                           | 1.0 | 0.25  |
| CYCLIC_NUCLEOTIDE_METABOLIC_PROCESS                                                                                                   | ABCA1   ADCY7   ADM   ADORA2A   GRM8   NUDT4   PDZD3   PTH   PTHLH                                                                     | 1.0 | 0.5   |
| HASEGAWA_TUMORIGENESIS_BY_RET_C634R                                                                                                   | COL11A1   CXCL1   DUSP4   IFT1   IRF7   RET   USP18                                                                                    | 1.0 | 0.5   |
| MURAKAMI_UV_RESPONSE_GHR_DN                                                                                                           | CDK5   DSC2   EDN2   EGR1   IFI6   IL13   IL6   ITGB7   KRT10   KRT13   KRT14   MAP3K14   NIN1   NOTCH4   RARG   RFC2   SMO   TGFBI    | 1.0 | 0.5   |
| CELL_PROJECTION_PART                                                                                                                  | TGFBI   VTN                                                                                                                            | 1.0 | 0.5   |
| ST_MYOCYTE_AD_PATHWAY                                                                                                                 | ACTN2   ATP6V0A4   B4GALT1   CDK5R1   CROCC   DNAH9   DNAI2   DNALI1   EFHC1   PKD2   RAB35   SOD1   SPAG6   SYNPO                     | 1.0 | 0.5   |
| VETTER_TARGETS_OF_PRKCA_AND_ETS1_DN                                                                                                   | ADRB1   AKT1   APC   ASAHI   CAMP   CAV3   CFB   DAG1   DLGA   EPHB2   GAST   GNAI1   GNAQ   ITPR1   ITPR2   ITPR3   KCNJ3   KCNJ5     | 1.0 | 0.375 |
| DEVELOPMENTAL_MATURATION                                                                                                              | KCNJ9   MAPK1   PITX2   PLN   PTX3   RAC1   RHO   RYR1                                                                                 | 1.0 | 0.5   |
| POSITIVE_REGULATION_OF_PEPTIDYL_TYROSINE_PHOSPHORYLATION                                                                              | ARHGDB   ARPC2   CDC28A   CST1   CST2   CST4   HSPA1A   IGFBP3   MMP1   MMP9   MRPL9   NQO1   PHLDA2   PTPRN2   PVR   SP100            | 1.0 | 0.375 |
| MODULE_407                                                                                                                            | ACTA1   ADAM12   CACNA1H   EREG   FARP2   IL21   KCNH1   KCNIP2   KRT19   MYH11   MYOZ1   NRCAM   PICK1   RND1   SPINK5   TGFBI2       | 1.0 | 0.5   |
| CHEMELLO_SOLEUS_VS_EDL_MYOFIBERS_DN                                                                                                   | TTN                                                                                                                                    | 1.0 | 0.5   |
| chr6q24                                                                                                                               | CD80   CD81   CLCF1   HCLS1   IL12A   IL3   IL5   LYN   TDGF1   TNK2                                                                   | 1.0 | 0.5   |
| LIU_TOPBP1_TARGETS                                                                                                                    | C5   CSAR1   CXCR4   DUSP2   DUSP4   DUSP6   DUSP8   FGF2   FGF11   FPR1   GADD45G   RGS3   RGS4                                       | 1.0 | 0.5   |
| REACTOME_AMINO_ACID_TRANSPORT_ACROSS_THE_PLASMA_MEMBRANE                                                                              | ACTN3   CALM3   ITPR1   MYBPH   MYH4   MYH8   MYL7   MYOM2   MYOZ1   PAK1   PDLM3   PPP3CA   PVALB   SOS2   TMOD1   TNNC2              | 1.0 | 0.5   |
| SCAMBOLSKY_BOUND_BY_MUTATED_TP53                                                                                                      | TNNI2   TNNI3   VCL                                                                                                                    | 1.0 | 0.5   |
| ADAM28   APOD   DAZL   MDK   PIP5K1A   PRM1   TFP1                                                                                    | AKAP12   ALDH8A1   EPM2A   ESR1   GRM1   HEBP2   HYMAI   KATNA1   MAS1   NUP43   OPRM1   PERP   PEX3   PHACTR2   PLAGL1                | 1.0 | 0.25  |
| ACR   CD207   CD209   CLEC10A   CLEC2B   CLEC4E   CLEC7A   COLEC10   FCN1   FCN2   FCN3   GALK1   GCK   KLRB1   KLRG1   KRT1   LGALS3 | RAB32   SASH1   SF3B5   SHPRH   STX11   SYNE1   TAA2   UTRN   VIP                                                                      | 1.0 | 0.5   |
| LIU_TOPBP1_TARGETS                                                                                                                    | ANGPTL4   AREG   C12orf47   CCL2   LRPI2   PAX8   PHLR3G   SAT1   SMURF2   SOD2                                                        | 1.0 | 0.375 |
| REACTOME_AMINO_ACID_TRANSPORT_ACROSS_THE_PLASMA_MEMBRANE                                                                              | ACTR10   C12orf49   CPT1B   ECE2   FRAS1   GHR   KLF10   LIG1   MAGEH1   MARK2   MKL2   NFS1   PCDH7   SKP2   STATH   VIPR2            | 1.0 | 0.5   |
| ADAM28   APOD   DAZL   MDK   PIP5K1A   PRM1   TFP1                                                                                    | AAAS   EDNRB   EPHK1   GPNMB   MDM2   MGMT   NNT   PCOLCE2   PTGDS   PTP4A3   SLC45A2   SOK10   TRPM1   ZDHHC3                         | 1.0 | 0.5   |
| ACR   CD207   CD209   CLEC10A   CLEC2B   CLEC4E   CLEC7A   COLEC10   FCN1   FCN2   FCN3   GALK1   GCK   KLRB1   KLRG1   KRT1   LGALS3 | ACTN1   ACTN2   ACTN3   DST   ERBB2IP   EVL   UIMA1   NRAP   PTPRC   SORBS1   SORBS3   TRIP6   VCL                                     | 1.0 | 0.5   |
| LIU_TOPBP1_TARGETS                                                                                                                    | ADK   ARFIP2   AVIL   C1orf105   EEM1   FABP4   FPGT   GNAI2   GSTA3   MBNL1   PDIA5   PPP1R12A   RAD23B   RGDPS   TFPD1   TRADD       | 1.0 | 0.5   |
| REACTOME_AMINO_ACID_TRANSPORT_ACROSS_THE_PLASMA_MEMBRANE                                                                              | TRIM32                                                                                                                                 | 1.0 | 0.5   |
| YAO_TEMPORAL_RESPONSE_TO_PROGESTERONE_CLUSTER_4                                                                                       | ASNS   ASS1   ATF3   ATF5   CAR5   CBS   CCNG2   CDKN1A   CEBPB   CHAC1   CLEC7A   CTH   DDIT3   DDIT4   FYN   GADD45A   IL8   MARS    | 1.0 | 0.5   |
| MATZUK_LUTEAL_GENES                                                                                                                   | PPP1R15A   PSAT1   RETN   SARRS   SLC38A2   SLC7A11   STC2   TRIB3   WARS                                                              | 1.0 | 0.5   |
| MODULE_372                                                                                                                            | BARX1   DAZAP1   DRD4   ERCC2   FDPS   FKBP10   GALR2   GCAT   HXAA4   LDLR   MC2R   RGS5   SYNGRA4   YBX2                             | 1.0 | 0.375 |
| VALK_AML_CLUSTER_16                                                                                                                   | CDK4   CDKN1B   CEBPB   EGR1   NPEPPS   PRL   PRLR   PTGFR                                                                             | 1.0 | 0.375 |
| POS_HISTAMINE_RESPONSE_NETWORK                                                                                                        | ABCCA   ADAMTS13   ATAD2   C15orf34   CCNE2   CCNJ   COLEC11   DLEU1   ECT2   FEN1   KIF11   KLHL2   LARS   MSH2   NPR1   NUP50        | 1.0 | 0.375 |
| HEIDENBLAD_AMPLICON_12P11_12_DN                                                                                                       | RBM14   RCOR3   RNF123   SLC26A2   TW5G1                                                                                               | 1.0 | 0.375 |
| ADAM28   APOD   DAZL   MDK   PIP5K1A   PRM1   TFP1                                                                                    | ADCY9   AK2   AKR7A2   APOC2   BRE   C1orf54   C2orf103   C3orf14   CACNA2D3   CLSTN2   DACH1   GGA2   ITGA7   KCNE1   KCNN2           | 1.0 | 0.5   |
| ACR   CD207   CD209   CLEC10A   CLEC2B   CLEC4E   CLEC7A   COLEC10   FCN1   FCN2   FCN3   GALK1   GCK   KLRB1   KLRG1   KRT1   LGALS3 | MBNL1   PENK   RET   RPP25   TDOR7   TGM5   TKT11   TRPM4   UVRAG                                                                      | 1.0 | 0.5   |
| LIU_TOPBP1_TARGETS                                                                                                                    | ACPP   ADH7   ALPL2   ARF4   ASNS   CAMK2A   CDK2AP1   CEBPB   EMLIN1   ENAH   FBLN5   GARS   GCNT1   H2AFY   IGFB2   IL15   JUN       | 1.0 | 0.5   |
| REACTOME_AMINO_ACID_TRANSPORT_ACROSS_THE_PLASMA_MEMBRANE                                                                              | LMO1   LOXL1   NOST1   NNMT   PFN2   SLC7A1   TAX1BP3   TGFBI   TIAM1   TSPAN7   UPP1                                                  | 1.0 | 0.5   |
| ADAM28   APOD   DAZL   MDK   PIP5K1A   PRM1   TFP1                                                                                    | C1orf116   CBX5   GABRP   GLB1   JUNB   LGALS4   MZF1   RBM15B   SAR1A   SYNGR2   TMEM308   TNFRSF8   VILL   ZBED4   ZFP161            | 1.0 | 0.375 |

|                                                                        |                                                                                                                                                                                                                                                                                                                                    |     |       |
|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| FIGUEROA_AML_METHYLATION_CLUSTER_5_DN                                  | AIM2   ARID5B   CBX6   CD3D   CD3G   CD48   CHRNA1   DEFA1   DEFA3   DYNLT1   EFHD2   FAM90A1   FMOD   GHITM   GIMAP5   GPR17   HOXA10   ITGB2   KRT76   NUDT21   OGFOD1   PCK1   PNLIIPRP2   RAPGEF1   SERPINA10   SYT13   TACR3   TIAM1   TIMP2   TRPC4AP   TUB   TXNDC5   USH1C                                                 | 1.0 | 0.5   |
| BIOCARTA_ATM_PATHWAY                                                   | ABL1   ATM   BRCA1   CDKN1A   CHEK1   CHEK2   GADD45A   JUN   MAPK8   MDM2   MRE11A   NBN   NFKB1   NFKBIA   RAD50   RAD51   RBBP8   RELA   TP53   TP73                                                                                                                                                                            | 1.0 | 0.5   |
| REACTOME_GO_AND_EARLY_G1                                               | CCNA1   CCNA2   CCNE1   CCNE2   CDC25A   CDC6   CDK2   DYRK1A   E2F1   E2F4   E2F5   HDAC1   MYBL2   PCNA   RBBP4   RBL2   TFDP1                                                                                                                                                                                                   | 1.0 | 0.5   |
| INTERLEUKIN_8_PRODUCTION                                               | APOA2   BCL10   BCL3   CALCA   PRG3   TLR4   TLR7   TLR8                                                                                                                                                                                                                                                                           | 1.0 | 0.5   |
| NOUSHMEHR_GBM_SILENCED_BY_METHYLATION                                  | AQP5   BIRC3   C1orf63   CA3   CBR1   CCNA1   CH13L1   CRYGD   EPHX2   F3   FABP5   FKBP5   FLNC   FMOD   FZD6   G0S2   ITGBL1   LDHA   LECT1   LGALS3   LGALS8   MMP9   MOSC2   PDPN   RAB36   RARRES1   RARRES2   RBP1   SEMA3E   SLC25A20   SPON2   TMEM22   TOM1L1   TRIP4   TTC12                                             | 1.0 | 0.375 |
| REGULATION_OF_ANATOMICAL_STRUCTURE_MORPHOGENESIS                       | APOE   CDC42   CDC42EP1   CDC42EP2   CDC42EP4   FGD1   FGD2   FGD6   KLK8   MAPT   MYH9   ROBO1   ROBO2   RTN4   SLIT2   TAOK2   THY1   YWHAH                                                                                                                                                                                      | 1.0 | 0.5   |
| FOCAL_ADHESION                                                         | ACTN1   ACTN2   ACTN3   EVL   UMA1   PTPRC   SORBS3   TRIP6   VCL                                                                                                                                                                                                                                                                  | 1.0 | 0.5   |
| ABDELMOHSEN_ELAVL4_TARGETS                                             | BCL2   CAB39   CASP3   CDC42   CDH2   DLG4   EIF2AK2   ITGB1   KCNQ2   LEPROTL1   NCAM1   PARP1   RHOA   SETD8                                                                                                                                                                                                                     | 1.0 | 0.5   |
| V\$MEF2_04                                                             | ADCY2   ANP32D   CYP46A1   DGKI   ELAVL4   EYA1   LGI1   MGST3   NFAT5   NR2F1   NRAP   PPARGCIA1   PREP   RALY   RAP2C   SCML1   SLC05A1   TMEM57   TRPC4   ZNF238                                                                                                                                                                | 1.0 | 0.375 |
| CELL_SUBSTRATE_ADHERENS_JUNCTION                                       | ACTN1   ACTN2   ACTN3   EVL   UMA1   NRAP   PTPRC   SORBS1   SORBS3   TRIP6   VCL                                                                                                                                                                                                                                                  | 1.0 | 0.5   |
| ZEMBUTSU_SENSITIVITY_TO_DOXORUBICIN                                    | CCNB1   DES   DNMT3B   EFSB12   GAB1   GPC3   IL6ST   MORF4L2   MSLN   PIK3C2A   VAMP2                                                                                                                                                                                                                                             | 1.0 | 0.375 |
| GNF2_H2AFX                                                             | ASPM   AURKA   BIRC5   CCNA2   CCNB2   CCNF   CDC20   CDCA8   CENPE   CENPF   DNAAIC9   FOXM1   H2AFX   HMG82   MCM2   NUSAP1   PCNA   PRC1   PTTG1   RRM1   RRM2   SHCBP1   SMC4   TMPO   TYMS   UBE25   WHSC1   ZWINT                                                                                                            | 1.0 | 0.5   |
| REACTOME_COMPLEMENT_CASCADE                                            | C1QA   C1QB   C1S   C2   C3   C4A   C4BPA   C4BPB   C5   C6   C7   C8A   C8B   C8G   C9   CD46   CD55   CFB   CFD   CFH   CFI   CR1   CRP   MASP1   MASP2   MBL2   PROS1                                                                                                                                                           | 1.0 | 0.5   |
| TSUNODA_CISPLATIN_RESISTANCE_UP                                        | ARHGDB   BRAP   C1S   CTGF   CYR61   DIO2   EFEMP1   G0S2   IFI27   INSIG1   NTSE   PLAU   VAV3   VIM                                                                                                                                                                                                                              | 1.0 | 0.375 |
| SA_TRKA_RECEPTOR                                                       | AKT1   AKT2   AKT3   CDKN1A   ELK1   GRB2   HRAS   MAP2K1   MAP2K2   NGFR   NTRK1   PIK3CA   PIK3CD   RHOA   SHC1   SOS1                                                                                                                                                                                                           | 1.0 | 0.375 |
| SUGAR_TRANSMEMBRANE_TRANSPORTER_ACTIVITY                               | PPBP   SLC17A5   SLC2A1   SLC2A2   SLC2A3   SLC2A4   SLC2A5   SLC2A8   SLC37A4   SLC5A1   SLC5A2                                                                                                                                                                                                                                   | 1.0 | 0.5   |
| CORRADETTI_MTOR_PATHWAY_REGULATORS_DN                                  | DDIT4   PRKAA2   RHEB   SETD2   STK11                                                                                                                                                                                                                                                                                              | 1.0 | 0.5   |
| chr3p23                                                                | ACAA1   AZI2   DYNCL1L1   NGLY1   NIKTR   SATB1   SMARCC1   SUSD5   TMEM43   ZCWPW2                                                                                                                                                                                                                                                | 1.0 | 0.5   |
| TRANSFERASE_ACTIVITY_TRANSFERRING_ALKYL_OR_ARYLOTHER_THAN_METHYLGROUPS | AGPS1   CHM   FNTA   FNTB   GGP51   GSTA3   GSTA4   GSTM1   GSTM2   GSTM3   GSTM4   GSTM5   GSTT1   GSTT2   GSTZ1   HMBS   LTC4S   MAT1A   MAT2A   MGST2   MGST3   PDSS1   PDSS2   PGGT1B   RABGGTA   SMS   SRM   TRIT1                                                                                                            | 1.0 | 0.375 |
| SA_G2_AND_M_PHASES                                                     | CDC25A   CDC25B   CDK7   CDKN1A   CHEK1   NEK1   WEE1                                                                                                                                                                                                                                                                              | 1.0 | 0.5   |
| POSITIVE_REGULATION_OF_CELL_CYCLE                                      | ASN5   BIRC5   CCND1   CCND2   CCND3   CD28   CITED2   EGF   EREG   HCF1   NUSAP1   SPHK1   TBX3   TGFA   TGFb2                                                                                                                                                                                                                    | 1.0 | 0.5   |
| PID_PLK1_PATHWAY                                                       | AURKA   BUB1   BUB1B   CNB1   CDC14B   CDC20   CDC25B   CDC25C   CENPE   CLSPN   ECT2   FBXO5   FBXW11   FZR1   GOLGA2   GORASP1   INCENP   KIF20A   MLF1IP   NUDC   ODF2   PAK1   PLK1   PPP1CB   PPP1R12A   PPP2CA   PPP2R1A   PRC1   RAB1A   RHOA   ROCK2   STAG2   TPT1   TPX2   TUBG1   WEE1                                  | 1.0 | 0.5   |
| KERATINOCYTE_DIFFERENTIATION                                           | ANXA1   CSTA   DSP   EREG   EVPL   IVL   LOR   NME2   SCEL   SPRR1A   SPRR1B   TGM1   TGM3   TXNIP                                                                                                                                                                                                                                 | 1.0 | 0.5   |
| MASRI_RESISTANCE_TO_TAMOXIFEN_AND_AROMATASE_INHIBITORS_DN              | ACTG2   APOD   AQP3   CALD1   CTGF   EFEMP1   EPAS1   FBN2   FHL2   FHOD3   ITGB6   KRT17   L1CAM   NTSE   PCSK2   SNAI2   SPANXA1   TAGLN   TN33   WISP2                                                                                                                                                                          | 1.0 | 0.5   |
| REACTOME_CTLA4_INHIBITORY_SIGNALING                                    | AKT1   AKT2   AKT3   CD80   CD86   CTLA4   FYN   LCK   LYN   PDPK1   PPP2CA   PPP2CB   PPP2R1A   PPP2R1B   PPP2R5A   PPP2R5B   PPP2R5C   PPP2R5D   PPP2R5E   SRC   YES1                                                                                                                                                            | 1.0 | 0.5   |
| KORKOLA_CORRELATED_WITH_POU5F1                                         | CBR3   DND1   DPPA4   ETV4   FRAT2   LITD1   MYBL2   NANOG   PHC1   PIM2   RAB15   SLC25A16   SOX15   TEAD4   TFPAC2   TFCP2L1   UPP1   UTF1   VENTX                                                                                                                                                                               | 1.0 | 0.5   |
| MOOTHA_GLYCOLYSIS                                                      | ALDOA   ALDOB   ALDOC   BID   CD4   ENO1   ENO2   ENO3   FBP1   FBP2   GAPDH5   GPI   HK1   PKFB1   PKFB2   PKFM   PGAM2   PGK1   PGM1   PKM2   TP11                                                                                                                                                                               | 1.0 | 0.5   |
| REACTOME_VITAMIN_B5_PANTOTHENATE_METABOLISM                            | AASDHPT   COASY   FASN   PANK2   PANK3   PANK4   PPCDC   PPCS   SLC25A16   SLC5A6                                                                                                                                                                                                                                                  | 1.0 | 0.5   |
| GREENBAUM_E2A_TARGETS_DN                                               | ALPL   BLK   CD74   CERK   CYFP2   EMP1   EVL   GAB1   GIMAP4   GM2A   MYO7A   PQLC3   SERINC3   TMSB10   XRCC6                                                                                                                                                                                                                    | 1.0 | 0.5   |
| GLYCOLIPID_METABOLIC_PROCESS                                           | B4GALNT1   CLN3   CLNG   GLA   LARGE   NEU3   PSAP   ST3GAL6   ST6GALNAC4   ST8SIA1   ST8SIA3   ST8SIA5   UGCG                                                                                                                                                                                                                     | 1.0 | 0.5   |
| SPERM_MOTILITY                                                         | AKAP4   ATP1A1   ATP1A2   ATP1A3   GAPDH5   GAS8   ROPN1B   SMCP   TNP1                                                                                                                                                                                                                                                            | 1.0 | 0.5   |
| chr13q13                                                               | AQR   ARHGAP11A   AVEN   C15orf29   CATSPER2   CHP   CHRFA7A   CHRNA7   DKFZP434L187   GOLGA8G   GOLGA8G   HERC2   LOC646278   MTMR10   RPUSD2   SCG5   SLC12A6   SPINT1   TJP1   TRPM1                                                                                                                                            | 1.0 | 0.5   |
| YOKOE_CANCER_TESTIS_ANTIGENS                                           | C12orf24   CCACNA5   CAPN3   CENPE   DPEP1   FBP6   FBXL2   GABBR1   GREB1   IVD   LACTB2   LR8B   MAGEA11   MAT2A   MMP11   MP93   MVR   NPTX2   NUP43   OVGPI1   PHF16   PTGER4   RRAD   SLC7A5   TFDP1   TRIP13   UBE4A   WFS1   ZNF200                                                                                         | 1.0 | 0.5   |
| REACTOME_ALPHA_LINOLENIC_ACID_ALA_METABOLISM                           | ABCD1   ACAA1   ACOT8   ACOX1   ACSL1   ELOVL2   ELOVL5   FADS1   FADS2   HSD17B4   SCP2                                                                                                                                                                                                                                           | 1.0 | 0.375 |
| KEGG_PENTOSE_PHOSPHATE_PATHWAY                                         | ALDOA   ALDOB   ALDH8   COL5A3   EGLF6   FJX1   FOXF2   FZD10   HSPA6   ISG15   LCP2   MMP9   MUC1   MXRA5   PLAT   PLXDC1   PMAIP1   RBKS   RPE   RPIA   TALDO1   TKT   TKTL1                                                                                                                                                     | 1.0 | 0.5   |
| PID_NFAT_TFPATHWAY                                                     | CASP3   CBLB   CD40LG   CDK4   CREM   CSF2   CTLA4   DGKA   E2F1   EGR1   EGR2   EGR3   EGR4   FASLG   FOS   FOSL1   FOXP3   GATA3   IFNG   IKZF1   IL2   IL2RA   IL3   IL4   IL5   IL8   IRF4   ITCH   JUN   JUNB   MAF   NFATC1   NFATC3   POU2F1   PPARG   PRKCQ   PTGS2   PTPN1   PTPRK   RNF128   SLC3A2   TBX21   TLE4   TNF | 1.0 | 0.5   |
| REACTOME_ROLE_OF_DCC_IN_REGULATING_APOPTOSIS                           | CASP3   CASP9   DAPK1   DAPK2   DAPK3   DCC   MAGED1                                                                                                                                                                                                                                                                               | 1.0 | 0.5   |
| REACTOME_XENOBIOTICS                                                   | CYP1A1   CYP1A2   CYP2A13   CYP2A6   CYP2B6   CYP2C8   CYP2C18   CYP2C19   CYP2C8   CYP2C9   CYP2D6   CYP2E1   CYP2F1   CYP3A4   CYP3A5   CYP3A7                                                                                                                                                                                   | 1.0 | 0.25  |
| ALONSO_METASTASIS_EMT_DN                                               | CDH10   EDN2   PAPPA   PCDH9   WNT2                                                                                                                                                                                                                                                                                                | 1.0 | 0.5   |
| MODULE_497                                                             | ADARB1   BAMBI   GABRA5   GNAT1   GRIK1   KIAA0040   NHLH1   NHLH2   NNAT   NPAS1   NPTX1   PAX6   PCP4   PDE6H   PTPRR   RAD9A   S100B   SEMA3A   SERPINI1   SLC4A2   SLIT1   SNCA   TAC1   TBR1   TFF1   UGT8   ZIC1                                                                                                             | 1.0 | 0.375 |
| NEGATIVE_REGULATION_OF_BINDING                                         | CDKN2A   CEBPG   EGLN1   FLNA   FOXP3   GTPBP4   ID1   ID2   ID3   MDR1   NARFL   PEX14   RSF1   SIGIRR   SUMO1                                                                                                                                                                                                                    | 1.0 | 0.5   |
| LU_TUMOR_VASCULATURE_UP                                                | ADAM12   CHN1   CMTM8   COL5A3   EGLF6   FJX1   FOXF2   FZD10   HSPA6   ISG15   LCP2   MMP9   MUC1   MXRA5   PLAT   PLXDC1   PMAIP1   POSTN   RPS11   SCIN   SPP1   STC1   TNFAIP6   TNFRSF21   TWIST1   WDR77                                                                                                                     | 1.0 | 0.5   |
| VALK_AML_WITH_T_8_21_TRANSLOCATION                                     | FGF13   HGF   MYH11   ROBO1   RUNX1T1                                                                                                                                                                                                                                                                                              | 1.0 | 0.5   |
| chr7q34                                                                | ABP1   ACTR3B   ADCK2   BRAF   CASP2   CREB3L2   DENND2A   HIPK2   LOC93432   LUC7L2   MGAM   MKRN1   NDUFB2   PARP12   PIP   SSBP1   TBXAS1   TPK1   TRBC1   TRBV19   TRBV21-1   TRBV5-4   TRPV6   TRY6   TTC26   ZC3HAV1                                                                                                         | 1.0 | 0.5   |
| MODULE_327                                                             | ACOX1   AGPAT2   AKR1C3   ALOX15   ALOX15B   ALOX5   ALOX5AP   CYP2J2   FDXR   GLT2SD2   HPGD   HSD17B1   HSD17B4   HSD17B7   LTA4H   MGST2   PCBD1   PTGD5   PTGIS   SCP2   UGDH                                                                                                                                                  | 1.0 | 0.5   |
| NIELSEN_LIPOSARCOMA_DN                                                 | APLP1   ARHGEF5   CHML   CSR2   CYFP2   ETV4   FZD1   INHBA   MYEF2   NRP2   PPP1R13L   SLC5A3   TNC   TRP51                                                                                                                                                                                                                       | 1.0 | 0.5   |
| chr8p12                                                                | ADAM9   ADAMDEC1   ADARB1   CYP7B1   DCTN6   DUSP26   DUSP4   EIF4EBP1   FGR1   GTF2E2   HR   NRG1   PLAT   POLB   PPP2CB   PROM1A   RBPMS   RNF122   SLC22A2   TMEM66                                                                                                                                                             | 1.0 | 0.5   |
| chr7q33                                                                | AGBL3   AKR1B10   ARHGEF5   ATP6VD04   CALD1   CHCHD3   CLEC5A   EPHB6   KEL   OR2F2   PTN   SLC13A4   TMEM140                                                                                                                                                                                                                     | 1.0 | 0.5   |
| chr6q13                                                                | BCKDHB   HDODC2   HTR1B   LMBRD1   MYO6   OGRL1   RWD01   SENP6   TTK                                                                                                                                                                                                                                                              | 1.0 | 0.375 |
| NEGATIVE_REGULATION_OF_SECRETION                                       | AP0A1   APOA2   CIDEA   FOXP3   IL11   INHBB   LIF   OSM   SERGEF                                                                                                                                                                                                                                                                  | 1.0 | 0.5   |
| NIELSEN_MALIGNANT_FIBROUS_HISTIOCYTOMA_DN                              | BCL2   CA11   CAP2   CDKN1C   COL4A5   FBXL2   GNAS   INADL   ITM2C   OBSL1   ODZ4   SUB1   TCF7L1   TP53   TSHZ1   WRB                                                                                                                                                                                                            | 1.0 | 0.5   |
| REGULATION_OF_RAS_PROTEIN_SIGNAL_TRANSDUCTION                          | ARF6   EGR1   FGD2   FGD6   MFN2   NTF1   NOTCH2   PLCE1   RAC1   RALBP1   TSC1                                                                                                                                                                                                                                                    | 1.0 | 0.375 |
| TIAN_TNF_SIGNALING_NOT_VIA_NFKB                                        | DUSP2   EGR1   EXT1   FOSB   FZD2   GATA2   HSPA1A   IER3   INSIG1   JUN   JUNB   KLF10   KLF6   MAFF   MNT   NR4A1   PDE8B   PPP1R15A   PTGES   RGS16   TIPARP                                                                                                                                                                    | 1.0 | 0.5   |
| NIKOLSKY_BREAST_CANCER_21Q22_AMPLICON                                  | ADARB1   COL18A1   COL6A1   COL6A2   DIP2A   FTCD   LSS   MCM3AP   PCBP3   PCNT   POFUT2   SLC19A1                                                                                                                                                                                                                                 | 1.0 | 0.375 |
| FIGUEROA_AML_METHYLATION_CLUSTER_2_DN                                  | AIM2   CD3D   CD3G   ITGB2                                                                                                                                                                                                                                                                                                         | 1.0 | 0.5   |
| BIOCARTA_UCALPAIN_PATHWAY                                              | ACTA1   ACTN1   ACTN2   ACTN3   CAPN1   CAPNS1   ITGB1   ITGB3   PTK2   PXN   RAC1   RHOA   SP7ANT1   SRC   TLN1                                                                                                                                                                                                                   | 1.0 | 0.375 |
| TSUDA_ALVEOLAR_SOFT_PART_SARCOMA                                       | HSPB8   LYN   MAPK3   MAPKAPK2   MET   MKNK2   PACSIN2   PCK2   PIM1   PRKAG2                                                                                                                                                                                                                                                      | 1.0 | 0.5   |
| MEISSNER_BRAIN_HCP_WITH_H3K4ME2                                        | ANK1   BASP1   C1orf135   DLGAP1   HSD11B2   KL   MYO5C   NRXN2   TGIF2   YBX2                                                                                                                                                                                                                                                     | 1.0 | 0.5   |
| BIOCARTA_GLYCOLYSIS_PATHWAY                                            | ALDOB   ENO1   GAPDH   GPI   HK1   PFKL   PGAM1   PGK1   PKLR   TP11                                                                                                                                                                                                                                                               | 1.0 | 0.5   |
| SUZUKI_RESPONSE_TO_TSA_AND_DECITABINE_1B                               | AT7F1P2   C8orf4   CXCL3   DLX4   HMGCS2   HOXA1   IFTTM1   IGF2   KLRD1   KPNA4   LAMA2   MAP3K13   MYF6   ODZ2   RIMS2   TRPM1   YKT6   ZNF532                                                                                                                                                                                   | 1.0 | 0.5   |
| MODULE_311                                                             | AKR1C1   AKR1C2   ALOX5AP   AMBP   FTH1   HSP90B1   LCN2   PPBP   RLBP1   SLC25A16   SLC25A5   SLC2A3   SLC2A5   TCN1   TNC   UCP1   UCP2   VWF                                                                                                                                                                                    | 1.0 | 0.375 |
| chr2q36                                                                | ACCN4   ARP2   COL4A3   CUL3   DNPEP   DOCK10   EPHA4   FAM124B   FEV   GCG   GLB1L   GMPPA   HTR2B   IRS1   KCNJ13   RAMP1   SLC4A3   TM4SF20                                                                                                                                                                                     | 1.0 | 0.375 |
| REACTOME_REGULATION_OF_SIGNALING_BY_CBL                                | BLNK   CBL   CRK   CRKL   FYN   GRB2   HCK   LYN   PIK3CA   PIK3CB   PIK3CD   PIK3R1   PIK3R2   PIK3R3   RAPGEF1   SYK   VAV1   YES1                                                                                                                                                                                               | 1.0 | 0.375 |
| VITAMIN_TRANSPORT                                                      | CUBN   FOLR1   FOLR2   FOLR3   GC   PDPN   SLC19A1   SLC22A4   SLC22A5   TCN1   TCN2                                                                                                                                                                                                                                               | 1.0 | 0.5   |
| REACTOME_NITRIC_OXIDE_STIMULATES_GUANYLATE_CYCLASE                     | GUCY1A2   GUCY1A3   GUCY1B3   KCNNB1   KCNNB2   KCNNB3   KCNNMB4   NOS1   NOS3   PDE10A   PDE11A   PDE1A   PDE1B   PDE2A   PDE3A   PDE3B   PDE5A   PDE6A   PDE6B   PDE6G   PDE6A   PRKG1   PRKG2                                                                                                                                   | 1.0 | 0.5   |
| chr11p12                                                               | ACRV1   API5   CHRM4   DDB2   EHF   EXT2   PACSIN3   SPI1   SYT13   TRAF6   TRIM44                                                                                                                                                                                                                                                 | 1.0 | 0.5   |
| GLAND_DEVELOPMENT                                                      | ELF3   ERBB2   FOXE1   GCM2   GLI2   MOK   NF1   NOTCH4   NR0B1   SHH   TBX1   TBX3   TDGF1                                                                                                                                                                                                                                        | 1.0 | 0.5   |
| CARBOHYDRATE_TRANSMEMBRANE_TRANSPORTER_ACTIVITY                        | PPBP   SLC17A5   SLC2A1   SLC2A2   SLC2A3   SLC2A4   SLC2A5   SLC2A8   SLC35A1   SLC35A2   SLC35A3   SLC35B1   SLC37A4   SLC5A1   SLC5A2                                                                                                                                                                                           | 1.0 | 0.5   |
| VILIMAS_NOTCH1_TARGETS_DN                                              | BTX   CAMP   CMA1   CSF1R   CSF2RA   CSF3R   CTSG   GF11   GF11B   ITGAM   MATK   MPO   NCF2   NCF4   PGLYRP1   STOM   TREM2   VPREB1                                                                                                                                                                                              | 1.0 | 0.375 |
| VERRECCHIA_RESPONSE_TO_TGFB1_C6                                        | COL8A1   DSP   EPHB4   IGFBB4   NEO1                                                                                                                                                                                                                                                                                               | 1.0 | 0.5   |
| POSITIVE_REGULATION_OF_PROTEIN_AMINO_ACID_PHOSPHORYLATION              | BNP4   CARO14   CCND1   CCND2   CCND3   CD80   CD81   CLCF1   HCL51   IL12A   IL3   IL5   LYN   TDGF1   TNK2                                                                                                                                                                                                                       | 1.0 | 0.5   |
| GAUSSMANN_MLL_AF4_FUSION_TARGETS_C_DN                                  | AH11   ARHGAP22   ASN5   BCS1L   CHAC1   ERO1L   GREM2   IAPP   KHLH4   MLF1   NPY1R   PCLL1   RNF187   SLC7A11   TLE4   UCHL1                                                                                                                                                                                                     | 1.0 | 0.5   |
| REACTOME_SYNTHESIS_SECRETION_AND_INACTIVATION_OF_GLP1                  | CDX2   CTNNB1   DPP4   GCG   GNB3   GNG13   GRP   LEF   LOC653566   PAX6   PCSK1   SPCS1   SPCS2   SPCS3                                                                                                                                                                                                                           | 1.0 | 0.5   |
| MODULE_58                                                              | C1QA   C1R   C1S   C2   C3   C4B   C4BP4   C4BPB   C5   C6   C7   C8A   C9   CD55   CFB   CFH   CFHR1   CFI   CLU   CR2   SERPING1                                                                                                                                                                                                 | 1.0 | 0.5   |
| BOYLAN_MULTIPLE_MYELOMA_PCA1_DN                                        | BCL2L1   BLVRB   CNV3   CPM   EGFLE6   FSTL1   LHX2   PLK2                                                                                                                                                                                                                                                                         | 1.0 | 0.5   |

|                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                   |     |       |
|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| chr4q25                                                                                  | AGXT2L1   ANK2   CASP6   CDC109B   CCNA2   CFI   CYP2U1   DAPP1   DKK2   EGF   ELOVL6   ENPEP   LARP7   NDST4   NEUROG2   PDE5A   PITX2   PLA2G12A   PPA2   PRDM5   PRSS12   RPL34   RRR   SEC24B   TACR3                                                                                                                                                                                                         | 1.0 | 0.5   |
| chr17q12                                                                                 | ARL4D   CLL3   CCL3L1   CCR7   CDC27   CDK5R1   COASY   CRRH1   DUSP14   FND08   IGFBP4   KRT14   KRT17   KRT31   KRT32   KRT33A   KRT33B   KRT35   KRT36   KRT37   KRT38   KRTAP1-1   KRTAP1-3   KRTAP2-4   KRTAP4-7   KRTAP9-9   LOC440434   MPP2   MPP3   MRM1   NEUROD2   NLE1   NPEPP5   PCGF2   PSMB3   PSMD11   PSME3   PTMS   RAMP2   RARA   RPL23   SLFN12   TBC1D3   TBC1D3C   TBC1D3F   TBC1D3H   TCAP | 1.0 | 0.5   |
| BIOCARTA_TNFR2_PATHWAY                                                                   | CHUK   DUSP1   IKBKAP   IKBKB   IKBKG   LTA   MAP3K1   MAP3K14   NFKB1   NFKBIA   RELA   RIPK1   TANK   TNFAIP3   TNFRSF1B   TRAF1   TRAF2   TRAF3                                                                                                                                                                                                                                                                | 1.0 | 0.5   |
| REACTOME_SHC1_EVENTS_IN_EGFR_SIGNALING                                                   | EGF   EGFR   GRB2   HRAS   KRAS   MAP2K1   MAP2K2   MAPK1   MAPK3   NRAS   RAF1   SHC1   SOS1   YWHAB                                                                                                                                                                                                                                                                                                             | 1.0 | 0.5   |
| MISHRA_CARCINOMA_ASSOCIATED_FIBROBLAST_UP                                                | CA12   CCL2   COL6A1   COL6A2   CTSC   EGR1   FGR   FOS   FXYD3   GEM   HBA2   KRT17   MMP9   PDGFA   PDGFRB   PLAU   RAB3B   TCN1   THY1   TMEM156   TNC                                                                                                                                                                                                                                                         | 1.0 | 0.5   |
| XU_AKT1_TARGETS_6HR                                                                      | ABI1   BRCA1   CDC5L   ERBB2IP   ERF   HERCS   IFI6   IFIH1   IFIT1   IFIT3   IFITM2   INHBC   IRF7   ISG15   LYST   MAP2K5   MX1   OAS3   PLSCR1   PRKARIA   SOAT1   TAT   U2AF2   UBB                                                                                                                                                                                                                           | 1.0 | 0.5   |
| ZHANG_INTERFERON_RESPONSE                                                                | IFI16   IFI27   IFI30   IFI44   IFIT2   IFITM1   IFITM3   IFNB1   IFRD1   IRF1   IRF3   ISG15   ISG20   MX1   MX2   OAS1   OAS2   OAS3   OASL   RTP4   SP110   STAT1                                                                                                                                                                                                                                              | 1.0 | 0.5   |
| MYLYKANGAS_AMPLIFICATION_HOT_SPOT_1                                                      | GATA1   S5X1   S5X2   S5X4   TFE3   WAS                                                                                                                                                                                                                                                                                                                                                                           | 1.0 | 0.5   |
| RESPONSE_TO_IONIZING_RADIATION                                                           | ATM   BRCC3   LIG4   NHEJ1   PML   TOPBP1   XRCC4                                                                                                                                                                                                                                                                                                                                                                 | 1.0 | 0.5   |
| TRANSITION_METAL_ION_TRANSMEMBRANE_TRANSPORTER_ACTIVITY                                  | CCS   FXN   SLC11A2   SLC30A3   SLC30A4   SLC30A5   SLC31A1   SLC31A2   SLC39A2                                                                                                                                                                                                                                                                                                                                   | 1.0 | 0.5   |
| MODULE_186                                                                               | ABCC3   ABCC1   AKR1C4   LTBP2   SLC10A1   SLC10A2   SLC16A1   SLC16A2   SLC16A3   SLC16A4   SLC16A8   SLC1A3   SLC1A6   SLC26A3   SLC38A3   SLC3A1   SLC7A2   SLC7A5   SLC7A9   SLC10A2                                                                                                                                                                                                                          | 1.0 | 0.5   |
| TOMIDA_LUNG_CANCER_POOR_SURVIVAL                                                         | CKAP4   DAD1   DLX4   TBXA51                                                                                                                                                                                                                                                                                                                                                                                      | 1.0 | 0.5   |
| BIOCARTA_P53HYPOXIA_PATHWAY                                                              | ABCB1   AKT1   ATM   BAX   CDKN1A   CSNK1A1   CSNK1D   EP300   FHL2   GADD45A   HIC1   HIF1A   HSP90AA1   HSPA1A   IGFBP3   MAPK8   MDM2   NFKBIB   NQO1   RPA1   TAF1   TP53                                                                                                                                                                                                                                     | 1.0 | 0.5   |
| BIOCARTA_GCR_PATHWAY                                                                     | ADRB2   AKT1   ANXA1   CALM1   CALM2   CALM3   CORIN   GNAS   GNB1   GNGT1   HSP90AA1   NFKB1   NOS3   NPPA   NR3C1   PIK3CA   PIK3CG   PIK3R1   RELA                                                                                                                                                                                                                                                             | 1.0 | 0.5   |
| MODULE_402                                                                               | AEPB1   ATP6V1B2   ATP6V1C1   ATP6V1E1   ATP6V1F   CPA1   CPA2   CPB1   CPB2   CPM   CPN1                                                                                                                                                                                                                                                                                                                         | 1.0 | 0.5   |
| REACTOME_E2F_MEDIATED_REGULATION_OF_DNA_REPLICATION                                      | CCNA1   CCNB1   CCNE1   CDC25A   CDC6   CDT1   DHFR   E2F1   FBXO5   PCNA   POLA2   PPP2CA   PPP2CB   PPP2R1A   PPP2R1B   PPP2R3B   PRIM1   RB1   RRM2   TFDP1   TK2   TYMS                                                                                                                                                                                                                                       | 1.0 | 0.5   |
| CONTRACTILE_FIBER_PART                                                                   | ACTA1   DES   DMD   KRT19   MYL3   MYL5   MYL6B   MYL9   MYLFP   MYOM1   MYOZ2   NEB   SVIL   TNNC1   TNN13   TNNT2   TPM1   TPM2   TPM3   TPM4   TTN   VCL                                                                                                                                                                                                                                                       | 1.0 | 0.5   |
| VICENT_METASTASIS_UP                                                                     | ABCG2   AIM1   COCH   MCAM   MICAL2   MXRA7   PRKD3   PQCT   SNAP25   SORBS2   SUSD5   TAOK3   TCF4                                                                                                                                                                                                                                                                                                               | 1.0 | 0.5   |
| PETRETTO_LEFT_VENTRICLE_MASS_QTL_CIS_UP                                                  | H2AFY   OGN   PAK1P1   SLC28A3                                                                                                                                                                                                                                                                                                                                                                                    | 1.0 | 0.5   |
| STEIN_ESTROGEN_RESPONSE_NOT_VIA_ESRRA                                                    | ABAT   ADCV9   CALC1   DYNLT3   FHL2   GREB1   IGFBP4   ITPK1   OLFM1   PLA2G2F   RET   SIAH2   SLC39A8   SUSD4   TIAM1   TIPARP   TPBG                                                                                                                                                                                                                                                                           | 1.0 | 0.5   |
| BIOCARTA_CBL_PATHWAY                                                                     | CBL   CSF1R   EGF   EGFR   GRB2   MET   PDGFR   PRKCA   SH3GLB1   SH3GLB2   SRC                                                                                                                                                                                                                                                                                                                                   | 1.0 | 0.5   |
| WEST_ADRENOCORICAL_CARCINOMA_VS_ADENOMA_UP                                               | C1orf135   CD22   DDX56   DES   DLL3   DUOX2   HOXB13   LONRF3   NLE1   NUP88   PRPF3   SAP130   SLC35C1   TCEB2   TRAP1                                                                                                                                                                                                                                                                                          | 1.0 | 0.5   |
| MODULE_178                                                                               | ANGPT1   ANPEP   EPSA1   FGFI   FGF2   FGF6   FGF   IL18   IL8   JAG1   KDR   MMP19   NRG1   T   TNFAIP2   TNFSF12   VEGFC                                                                                                                                                                                                                                                                                        | 1.0 | 0.5   |
| LOPEZ_MBD_TARGETS_IMPRINTED_AND_X_LINKED                                                 | ABCD1   EIFLAX   FAM3A   GPC3   HDGF   IDH3G   IGF2   IL3RA   IRAK1   MAGEA6   MEG3   MTM1   NX2T   PDHA1   SDHD   UBE2A                                                                                                                                                                                                                                                                                          | 1.0 | 0.5   |
| CHO_NRA41_TARGETS                                                                        | ABCC6   ABL2   ASNS   ATF3   ATF4   BIRC3   BMP8A   CTH   DDIT3   DSCR6   EXTL1   FUT7   GCNT3   HERPUD1   HLCS   HMOX1   HOXD10   INSLIG1   NCN1   NOXA   PDCD1   PI3G   PPP1R15A   S100G   SLC3A2   TNNT2   TNSI                                                                                                                                                                                                | 1.0 | 0.5   |
| RIZ_ERYTHROID_DIFFERENTIATION_APOBEC2                                                    | AIRE   ANKR057   CACNA1A   CRX   ESRR8   EYA3   GTF3C4   HIC1   HNF4G   HOKA4   HOKA6   MEFC2   MEIS3   MYCL1   NDN   NR1I3   PIAS3   SAP30BP   SFRP4   TCF21   TFCP2L1   ZNF235                                                                                                                                                                                                                                  | 1.0 | 0.5   |
| REGULATION_OF_CELL_MORPHOGENESIS                                                         | CD42   CDC42EP1   CDC42EP2   CDC42EP4   FGD1   FGD2   FGD6   MYH9   TAOK2                                                                                                                                                                                                                                                                                                                                         | 1.0 | 0.5   |
| REACTOME_ACYL_CHAIN_REMODELLING_OF_PI                                                    | PLA2G10   PLA2G12A   PLA2G1B   PLA2G2A   PLA2G2D   PLA2G2E   PLA2G2F   PLA2G4A   PLA2G4C   PLA2G5                                                                                                                                                                                                                                                                                                                 | 1.0 | 0.5   |
| REGULATION_OF_PROTEIN_POLYMERIZATION                                                     | ARF6   CDC42EP2   LAT51   MAPRE1   MAPT   NCK1   NCK2   RASA1   TMSB4Y   TPPP                                                                                                                                                                                                                                                                                                                                     | 1.0 | 0.5   |
| chr14q31                                                                                 | FBXL5   GALT   GPR65   GPR68   GTF2A1   KCNK10   NDUFB1   PTPN21   RPS6KA5   SEL1L   SERPINA4   SERPINA6   SPATA7   TRIP11   ZC3H14                                                                                                                                                                                                                                                                               | 1.0 | 0.5   |
| HOWLIN_CITED1_TARGETS_2_UP                                                               | C12orf35   DYNLT1   IFI44   IQGAP1   KIF18A   LACTB2   MAP3K7   MYB   SGCG   SMARCA4   SPRR1A   UCP1   XI2T                                                                                                                                                                                                                                                                                                       | 1.0 | 0.5   |
| STERIOD_DEHYDROGENASE_ACTIVITY                                                           | AKR1C1   DHRS9   HSD17B4   HSD17B7   HSD3B1   HSD3B2   NSDHL                                                                                                                                                                                                                                                                                                                                                      | 1.0 | 0.5   |
| STERIOD_DEHYDROGENASE_ACTIVITY_ACTING_ON_THE_CH_OH_GROUP_OF_DONORSNAD_OR_N               | AKR1C1   DHRS9   HSD17B4   HSD17B7   HSD3B1   HSD3B2   NSDHL                                                                                                                                                                                                                                                                                                                                                      | 1.0 | 0.5   |
| ADP_AS_ACCEPTOR                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                   |     |       |
| WANG_LSD1_TARGETS_UP                                                                     | CCNE1   CD1D   CDKN1C   CSRP2   ELK3   EPB41L2   GADD45G   GAS6   HEPH   IGFBP2   IGFBP5   LGALS1   MDK   MGP   MYCL1   PDGFA   PYCARD   RELN   RPRM   SIX1   SOX2   TGFBR                                                                                                                                                                                                                                        | 1.0 | 0.5   |
| REACTOME_NOREPINEPHRINE_NEUROTRANSMITTER_RELEASE_CYCLE                                   | MAOA   RAB3A   RIMS1   SLC22A2   SNAP25   STX1A   STXBP1   SYT1   VAMP2                                                                                                                                                                                                                                                                                                                                           | 1.0 | 0.5   |
| REGULATION_OF_CELL_CELL_ADHESION                                                         | ACVR1L   CD47   CDKN2A   CXCL3   GTPBP4   NF2   PTEN   RASA1   SIRPG                                                                                                                                                                                                                                                                                                                                              | 1.0 | 0.5   |
| BIOGENIC_AMINE_METABOLIC_PROCESS                                                         | ASMT1   BBOX1   COLQ   DHPS   DIO1   DIO2   ETKN1   HPRT1   OAZ1   OAZ2   PRG3   SLC5A7   SMS   SNCAIP   SULT1B1   TGFBR2                                                                                                                                                                                                                                                                                         | 1.0 | 0.5   |
| BIOCARTA_PLATELETAPP_PATHWAY                                                             | APP   COL4A1   COL4A2   COL4A3   COL4A4   COL4A5   COL4A6   F11   F2   F9   PLAT   PLAU   PLG   SERPINE1                                                                                                                                                                                                                                                                                                          | 1.0 | 0.625 |
| LEE_DOUBLE_POLAR_THYMOCYTE                                                               | ACSBG1   BCL6   C3orf52   CD1C   CD1D   CD8A   CD8B   CIB2   CYP2U1   DNMBP   EFN2B   ELOVL4   LHFP2L   LYST   MCTP1   RPK4   RMDNSA   RORC   SH2D1A   SLAMF1   TBC1D19                                                                                                                                                                                                                                           | 1.0 | 0.625 |
| TRANSITION_METAL_ION_TRANSPORT                                                           | ATOX1   ATP7A   ATP7B   CCS   COX17   HFE   SLC11A2   SLC30A5   SLC31A1   SLC31A2   SLC39A2                                                                                                                                                                                                                                                                                                                       | 1.0 | 0.625 |
| MODULE_218                                                                               | EBP   SLC10A1   SLC10A2   SLC12A1   SLC12A3   SLC15A1   SLC16A2   SLC16A3   SLC16A4   SLC16A7   SLC16A8   SLC17A2   SLC20A1   SLC24A1   SLC34A1   SLC6A1   SLC6A11   SLC6A2   SLC6A3   SLC6A4                                                                                                                                                                                                                     | 1.0 | 0.625 |
| APOPTOTIC_MITOCHONDRIAL_CHANGES                                                          | BAK1   BAX   BBC3   BCL2L1   BID   CDKN2A   DNMT1   GPX1   IFI6   PMAIP1   SFN                                                                                                                                                                                                                                                                                                                                    | 1.0 | 0.625 |
| chr2q22                                                                                  | ACVR2A   ARHGAP15   ARHGEF4   CACNB4   DKFZp68601327   GRB14   GDC1   HNMT   KYN1U   NEB   NRA42   PLEKH82                                                                                                                                                                                                                                                                                                        | 1.0 | 0.625 |
| MODULE_519                                                                               | AKR1A1   AKR7A2   AKR7A3   ALDH1A1   ALDH3A1   ALDH7A1   ALDH9A1   ERP29   IDH1   IDH2   P4HB   PDIA3   PDIA4   PDIA5                                                                                                                                                                                                                                                                                             | 1.0 | 0.625 |
| BIOCARTA_N02L12_PATHWAY                                                                  | CCR5   CD2   CD247   CD3D   CD3E   CD3G   CD4   CXCR3   IFNG   IL12A   IL12B   IL12RB1   IL12RB2   JAK2   STAT4   TYK2                                                                                                                                                                                                                                                                                            | 1.0 | 0.625 |
| NEURON_APOPTOSIS                                                                         | BAX   BCL2   BID   BNIP3   CDK5   CDK5R1   GDNF   GRIK2   GRM4   NF1   PPT1   RASA1   SOD1   TGFBR2                                                                                                                                                                                                                                                                                                               | 1.0 | 0.625 |
| MODULE_547                                                                               | AHNAX   CACNG4   CP5F3L   EVI2B   IGHM   IGLJ3   MGA   NEUROD6   NUP107   PLEKH1A   PTGIS   WWC3   ZNF266                                                                                                                                                                                                                                                                                                         | 1.0 | 0.625 |
| XU_RESPONSE_TO_TRETINOIN_AND_NSC682994_UP                                                | ANXA1   AP1G2   BIRC2   CD53   GAS7   GSTP1   HDAC1   ICAM3   IFITM1   IL8   ITGA6   LAMP2   MYH9   NMI   STAT1   STK10   TNFSF10                                                                                                                                                                                                                                                                                 | 1.0 | 0.625 |
| BOYALT_LIVER_CANCER_SUBCLASS_G2                                                          | ALDOE   AMIGO2   CD58   DEGS1   ENPP2   EPHA1   FHOD3   HIP1   INHBB   INTS7   ITGA5   KIF14   KHLH7   MCTP1   MEIS2   MLT11   MOAP1   MOSP21   NAV3   RPN2   RRAS2   SAP130   SATB2   SDF2L1   SLC2A6                                                                                                                                                                                                            | 1.0 | 0.625 |
| REGULATION_OF_CELL_SHAPE                                                                 | CD42EP1   CD42EP2   CD42EP4   FGD1   FGD2   FGD6   MYH9   TAOK2                                                                                                                                                                                                                                                                                                                                                   | 1.0 | 0.625 |
| REACTOME_PEPTIDE_HORMONE_BIOSYNTHESIS                                                    | CGA   CGB   CGBS   FSHB   INHA   INHBA   INHBB   INHBC   INHBE   LHB   PCSK1   POMC   TSHB                                                                                                                                                                                                                                                                                                                        | 1.0 | 0.625 |
| MICROTUBULE_BASED_MOVEMENT                                                               | APBA1   DYNCL11   KIF13B   KIF1A   KIF1B   KIF3B   KIF4A   KIF5A   KIF5B   LRPPRC   MAP1S   NEFL   OPA1   RHO11   RHOT2   UXT                                                                                                                                                                                                                                                                                     | 1.0 | 0.625 |
| BIOCARTA_KREB_PATHWAY                                                                    | ACO2   CS   FH   IDH2   MDH1   OGDH   SDHA   SUCLA2                                                                                                                                                                                                                                                                                                                                                               | 1.0 | 0.625 |
| NUCLEAR_REPLICATION_FORK                                                                 | MCM3   MCM7   PURA   RPA1   RPA2   RPA3   RPA4                                                                                                                                                                                                                                                                                                                                                                    | 1.0 | 0.625 |
| INORGANIC_ANION_TRANSPORT                                                                | CLCN4   CLIC1   CLIC3   CLIC5   FXYD1   FXYD3   GLRA1   NMUR1   SLC13A4   SLC17A1   SLC17A7   SLC26A2   SLC26A4   SLC34A1                                                                                                                                                                                                                                                                                         | 1.0 | 0.625 |
| MODULE_96                                                                                | APCS   ASGR1   ASGR2   CD22   CD69   CD72   CHIT1   CLC   CLEC10A   CLEC2B   CLEC3B   FCER2   FCN1   FCN2   FCN3   GCKR   GFTPT2   KLRK3   KLRK1   LGALS1   LGALS2   LGALS3   LGALS4   LGALS9   LPHN2   MRC1   OLR1   PRG2   REG1B   SELL   SELP   SFTPD   SIGLECS   THBD                                                                                                                                         | 1.0 | 0.625 |
| POSITIVE_REGULATION_OF_CYTOKINE_PRODUCTION                                               | ATP6AP2   CALCA   CD40LG   EREG   IFNG   IL12A   IL12B   MALT1   MAP3K7   SOD1   TRAF2   TRAF6                                                                                                                                                                                                                                                                                                                    | 1.0 | 0.625 |
| chr3q13                                                                                  | ABHD10   ADPRH   ALCAM   ATG3   ATP6V1A   B4GALT4   C3orf52   CD47   CD80   COX17   DPPA4   DRD3   DZIP3   FSTL1   GAP43   GOLGB1   GRAMD1C   GSK3B   GTPBP8   HCLS1   HHLA2   IFT57   KLF15   LSAMP   MAGEF1   MORC1   MUC13   MYH15   NDUFB4   PLA1A   POLQ   POPDC2   PVR13   QTRT01   RPL32   SLC35A5   STXBPSL   TAGLN3   TMEM39A   TRAT1   TRH   UMPS   UPK1B   WDR52   ZBTB20   ZNF80                      | 1.0 | 0.625 |
| REACTOME_REMOVAL_OF_THE_FLAP_INTERMEDIATE_FROM_THE_C_STRAND                              | FEN1   PCNA   POLD1   POLD2   POLD3   POLD4   RPA1   RPA2   RPA3                                                                                                                                                                                                                                                                                                                                                  | 1.0 | 0.625 |
| MODULE_505                                                                               | CYP11B2   DCT   DDT   HSD11B1   HSD17B1   HSD17B4   HSD17B7   SRD5A2   SULT1E1   TYR   TYRPI1   UGT2B15   UGT2B4                                                                                                                                                                                                                                                                                                  | 1.0 | 0.625 |
| KEGG_PROXIMAL_TUBULE_BICARBONATE_RECLAMATION                                             | AQP1   ATP1A1   ATP1A2   ATP1A3   ATP1B1   ATP1B2   ATP1B3   ATP1B4   CA2   CA4   FXYD2   GLS   GLS2   GLUD1   GLUD2   MDH1   PCK1   PCK2   SLC25A10   SLC38A3   SLC4A4   SLC9A3                                                                                                                                                                                                                                  | 1.0 | 0.625 |
| HOEGERKORP_CD44_TARGETS_DIRECT_UP                                                        | ADRB2   ALB   AQP1   ATP1A2   CAMK2D   COKL5   CFI   GCNT2   IL1A   IL6   MAPK14   MITF   MLLT3   NBL1   PDEGA   PIGA   PLG   PYGL   RGS3   RPU5D2   SERPINC1   SH3BP2   SOX5   STX1A                                                                                                                                                                                                                             | 1.0 | 0.625 |
| BIOCARTA_P27_PATHWAY                                                                     | CCNE1   CDK2   CDKN1B   CKS1B   CUL1   E2F1   NEDD8   RB1   RBX1   SKP2   TFDP1   UBE2M                                                                                                                                                                                                                                                                                                                           | 1.0 | 0.625 |
| chr9p11                                                                                  | CNTNAP3B   KIF24   UBAP2   UNC13B                                                                                                                                                                                                                                                                                                                                                                                 | 1.0 | 0.75  |
| REACTOME_INSULIN_RECEPTOR_RECYCLING                                                      | ATP6V0A2   ATP6V0A4   ATP6V0B   ATP6V0C   ATP6V0D1   ATP6V1A   ATP6V1B1   ATP6V1B2   ATP6V1C1   ATP6V1D   ATP6V1E1   ATP6V1F   ATP6V1G1   ATP6V1G2   ATP6V1H   INS   INSR   TCRG1                                                                                                                                                                                                                                 | 1.0 | 0.625 |
| PHAGOCYTOSIS                                                                             | ADORA1   ADORA2A   AHSG   AZU1   CD14   CLEC7A   COLEC12   CORO1C   DOCK1   ELMO1   FCGR1A   FCN1   FCN2   GATA2   GULP1   SFTPD                                                                                                                                                                                                                                                                                  | 1.0 | 0.625 |
| COPPER_ION_BINDING                                                                       | ANG   AOC3   APOA4   ATOX1   ATP7A   ATP7B   CCS   DCT   LOX   MT3   PRNP   RN7F   SOD1   TP53   TYR                                                                                                                                                                                                                                                                                                              | 1.0 | 0.625 |
| LEE_LIVER_CANCER_HEPATOBLAST                                                             | CND2   CD44   F3   FOS   IL6   KRT19   KRT7   LAMA3   MMP1   NR4A1   PLAU   PTGS2   TIMP1   TNC   VIM                                                                                                                                                                                                                                                                                                             | 1.0 | 0.625 |
| REACTOME_HOMOLOGOUS_RECOMBINATION_REPAIR_OF_REPLICATION_INDEPENDENT_DOUBLE_STRAND_BREAKS | ATM   BRCA1   BRCA2   BRIP1   H2AFX   LIG1   MDC1   MRE11A   NBN   RAD50   RAD51   RAD52   RPA1   RPA2   RPA3   TP53BP1                                                                                                                                                                                                                                                                                           | 1.0 | 0.625 |
| BIOCARTA_EPONFKB_PATHWAY                                                                 | ARNT   CDKN1A   EPO   EPOR   GRIN1   HIF1A   JAK2   NFKB1   NFKBIA   RELA   SOD2                                                                                                                                                                                                                                                                                                                                  | 1.0 | 0.625 |
| LU_TUMOR_ENDOTHELIAL_MARKERS_UP                                                          | ADAM12   CHN1   COL5A3   EGFL6   FZD10   HSPA6   LCP2   MMP9   MXRA5   PLXDC1   PMAIP1   POSTN   RPS11   STC1   TNFAIP6   TNFRSF21   TWIST1   WDR77                                                                                                                                                                                                                                                               | 1.0 | 0.625 |
| FUCOSYLTRANSFERASE_ACTIVITY                                                              | FUT1   FUT2   FUT4   FUT5   FUT6   FUT7   FUT8   FUT9   POFUT1                                                                                                                                                                                                                                                                                                                                                    | 1.0 | 0.625 |
| WARTERS_IR_RESPONSE_SGY                                                                  | APP   ATF3   BBC3   BTG2   C12orf5   CDKN1A   COO9   DDB2   DNAI2   FAS   FBXW7   FDXR   GADD45A   GDF15   GDNF   HSPA4L   MDM2   NGFRAP1   NIN1   NOTCH1   OR11A1   PCNA   PLCL2   PLK3   POLH   PPM1D   RRAD   SDRP   SESN1   SH2D2A   THSD1   TNFRSF10C                                                                                                                                                        | 1.0 | 0.625 |
| MATHEW_FANCONI_ANEMIA_GENES                                                              | BRCA2   BRIP1   FANCA   FANCC   FANCE   FANCF   FANCG   FANCL                                                                                                                                                                                                                                                                                                                                                     | 1.0 | 0.625 |
| PROTEIN_EXPORT_FROM_NUCLEUS                                                              | BARD1   CALR   EIF5A   GSK3B   NUP214   NUP127   XPO6   XPO7                                                                                                                                                                                                                                                                                                                                                      | 1.0 | 0.625 |



|                                                                           |                                                                                                                                                                                                                                                                                         |     |       |
|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| REACTOME_ADHERENS_JUNCTIONS_INTERACTIONS                                  | CDH1   CDH10   CDH11   CDH12   CDH13   CDH15   CDH18   CDH2   CDH3   CDH4   CDH5   CDH6   CDH7   CDH8   CDH9   CTNNA1   CTNNB1   CTNND1   JUP   PVRL1   PVRL2   PVRL3                                                                                                                   | 1.0 | 0.625 |
| chr9p24                                                                   | C9orf46   CBW01   CDC37L1   DMRT1   INSL4   INSL6   JAK2   KNCV2   KIAA0020   MLANA   MPDZ   NANS   NFIB   PDCD1LG2   RANBP6   RCL1   RFK3   RLN1   RLN2   SLC1A1   SMARCA2   VLDLR   ZBTB43                                                                                            | 1.0 | 0.625 |
| INAMURA_LUNG_CANCER_SCC_DN                                                | ABCA8   ADAMTS   ADAMTSLS   ADARB1   AGER   AKAP2   CAV1   NR2F1   PGM5   PHACTR2   RASL12   ST6GALNAC5   VWF                                                                                                                                                                           | 1.0 | 0.625 |
| CHEMELLO_SOLEUS_VS_ED01_MYOFIBERS_UP                                      | ACTA1   ACTN2   ANKRD2   ATP2A1   ATP2A2   CASQ1   CASQ2   CRYAB   CSRP3   FHL1   FHL2   HIST2H2AA3   HSPB1   ITGB1BP2   MYF5   MYH3   MYH6   MYH7   MYL2   MYL3   MYOT   MYOZ2   PDLM1   PPARA   PPARGC1A   SMPX   TNNC1   TNNI1   TNN1T   TNN2T   TPM2                                | 1.0 | 0.625 |
| ST_PAC1_RECEPTOR_PATHWAY                                                  | ASAH1   CAMP   DAG1   GAST   GNAQ   ITPKA   ITPKB                                                                                                                                                                                                                                       | 1.0 | 0.625 |
| SUM1_HNF4A_TARGETS                                                        | ABHD2   AKR1D1   ALDH6A1   BDH1   BHMT   CYP19A1   CYP4F3   DIO1   FABP1   IL22RA1   LGALS2   MEP1A   NM2T   SFXN3   SLC6A4   SLC02B1   SOAT2   TNFSF10   UNC93A   ZNF22                                                                                                                | 1.0 | 0.75  |
| BIOCARTA_THELPER_PATHWAY                                                  | CD2   CD247   CD28   CD3D   CD3E   CD3G   CD4   ICAM1   ITGAL   ITGB2   PTPRC   THY1   TRA@                                                                                                                                                                                             | 1.0 | 0.625 |
| PLASARI_TGFB1_SIGNALING_VIA_NFIC_10HR_DN                                  | AHR   ALDH1A3   CA6   DOCK2   FAM105A   FAM111A   FLI1   HEY1   INSIG1   LSS   LYL1   MAFB   MCFZL   MFAP4   NMNMT   NR4A2   PDGFRA   Phip   PTPN18   RAB31L1   RBP1   RPL39L   SIRPB1   STC2   WISP2                                                                                   | 1.0 | 0.625 |
| PHOTOTRANSDUCTION                                                         | ABCA4   GRK1   NR2E3   OPN1SW   PDC   PDE6B   PITPNM1   RHO   SAG   TRPC3   UNC119                                                                                                                                                                                                      | 1.0 | 0.625 |
| MEISSNER_ES_ICP_WITH_H3K4ME3_AND_H3K27ME3_MODULE_404                      | CORO1A   EPN3   EVPL   LECT1   LYL1   PAK7                                                                                                                                                                                                                                              | 1.0 | 0.625 |
| GLUTATHIONE_TRANSFERASE_ACTIVITY                                          | ACACA   ACACB   ALDH1A1   AR   CRABP1   CRABP2   ESR2   FOLR2   GC   GNMT   HNF4G   HSD17B4   NR3C2   OSBP   PCCA   RBP1   RLBP1   RXRA   RXRG   SCGB1A1   SCGB2A1   SCP2   SERPINAG   SHBG   SULT1E1   TTR                                                                             | 1.0 | 0.75  |
| ER_NUCLEAR_SIGNALING_PATHWAY                                              | GSTA3   GSTA4   GSTM1   GSTM2   GSTM3   GSTM4   GSTM5   GSTT1   GSTT2   GSTZ1   LTC4S   MGST2   MGST3                                                                                                                                                                                   | 1.0 | 0.625 |
| KEGG_FRUCTOSE_AND_MANNOSE_METABOLISM                                      | AMFR   ARHGEF10L   ATF6   DERL1   DERL2   EIF2AK3   ERN1   GSK3B   PAK1   SCAP   TP53   VAPB   VCP                                                                                                                                                                                      | 1.0 | 0.625 |
|                                                                           | AKR1B1   AKR1B10   ALDOA   ALDOB   ALDOC   FBP1   FBP2   FPGT   GMD5   GMPGA   GMPPB   HK1   HK2   HK3   KHK   MPI   MTMR1   MTMR2   MTMR6   MTMR7   PKFB1   PKFB2   PKFB3   PKFB4   PFKL   PKFM   PFKP   PMM1   PMM2   SORD   TP1   TSTA3                                              | 1.0 | 0.625 |
| GENTLES_LEUKEMIA_STEM_CELL_UP                                             | ABCC2   BIRC3   CCDC48   CD34   EVI2A   FAIM3   FBXO21   GIMAP6   GUCY1A3   HECA   HLF   ICAM1   LTB   MEF2C   MMRN1   PCDHGA10   RBPMS   SETBP1   SH3BP5   SLC38A1   VNN1                                                                                                              | 1.0 | 0.625 |
| WENG_POR_TARGETS_GLOBAL_UP                                                | AQP8   CYB5B   CYP2B6   CYP2C18   CYP51A1   CYP7A1   DHCR7   ETHE1   FDP5   GCK   GSTA3   GSTM2   GSTM3   HMGCS1   IDI1   SCD   SLE                                                                                                                                                     | 1.0 | 0.625 |
| chr8q11                                                                   | CAB   CEBPD   CHCHD7   CYP7A1   EFCAB1   KIAA0146   LYPAL1   MOS   MRPL15   OPRK1   PRKDC   SNTG1   SOX17   ST18   TCEA1   UBE2V2                                                                                                                                                       | 1.0 | 0.625 |
| LIU_TARGETS_OF_VMYB_VS_CMYB_UP                                            | CASQ1   CLN6   FGL2   LIPA   MINA   POLR2B   PPP1R14D   RAB11FIP3                                                                                                                                                                                                                       | 1.0 | 0.625 |
| SYNAPTIC_VESICLE                                                          | AMPH   APBA1   CLN3   DMXL2   HCRT   ICA1   MT3   PPT1   RAB3A   SEPT5   SLC30A3   SYN3   TRAPPC4                                                                                                                                                                                       | 1.0 | 0.625 |
| NEGATIVE_REGULATION_OF_BIOSYNTHETIC_PROCESS                               | APBB1   BACE2   BCL3   BRCA1   EIF2AK1   EIF2AK3   FOXP3   FURIN   GCK   GHSR   GLA   GRM8   IL10   IL6   INHA   INHBA   INHBB   NDUFA13   PDZD3   PRG3   SFTPD   SIGIRR   SOD1   TSC1                                                                                                  | 1.0 | 0.625 |
| TSENG_ADIPOGENIC_POTENTIAL_UP                                             | ADORA2B   BMP6   BPGM   CARS   CD24   CDKN2B   CH25H   COL7A1   CRABP2   DDx47   DLK1   EFN2B   FHL1   GJB3   GLRB   MAPK12   MGP   MTHFD2   NDN   NNAT   PRSS23   PTPRF   TCF7   TRIB3   UCK2   WISP1                                                                                  | 1.0 | 0.625 |
| POSITIVE_REGULATION_OF_TRANSPORT                                          | AHSG   AZU1   CBL   CDH1   FLNA   GATA2   GCK   GHRH   GSK3B   LDLRAP1   NCBP2   PPT1   SFTPD   SMAD3   STIM1   TNFSF14   TRIP6                                                                                                                                                         | 1.0 | 0.625 |
| NUCLEOTIDE_KINASE_ACTIVITY                                                | AK1   AK2   AK5   CASK   DLG1   DLG2   DTYMK   GUK1   MPP1   MPP2   MPP3   PNKP   TJP2                                                                                                                                                                                                  | 1.0 | 0.625 |
| chr5q21                                                                   | APC   ATG12   C5orf30   CAMK4   EFNA5   EPB41L4A   FER   GNPDAT1   MAN2A1   MCC   RHOBTB3   SLC04C1   SNAIPC   SRP19   ST8SIA4                                                                                                                                                          | 1.0 | 0.75  |
| ISHIKAWA_STING_SIGNALING                                                  | ADAR   CCL5   IFNB1   IRF1   IRF2   IRF6   IRF7                                                                                                                                                                                                                                         | 1.0 | 0.625 |
| GNF2_CASP8                                                                | ATM   BIN2   BTN3A1   BTN3A2   BTN3A3   C11orf21   CASP8   DDx58   FYB   GIMAP4   GIMAP6   HECA   HMHA1   ITGAL   LCP2   MBNL1   PARP8   PTPRC1   RNF44   SEMA4D   SNRK   STK10   STK38   TM6C   TRAF3IP3                                                                               | 1.0 | 0.625 |
| PID_EPHRINBREVPATHWAY                                                     | BLK   CXCR4   DNM1   EFNB1   EFN2B   EPHB1   EPHB2   EPHB4   FGA   FGB   FGG   FGR   FYN   HCK   ITGA2B   ITGB3   LCK   LYN   MAP2K4   MAP3K7   MAPK8   NCK2   PIK3CA   PIK3R1   PTPN13   RAC1   RGS3   SRC   TIAM1   YES1                                                              | 1.0 | 0.625 |
| LAMELLOPODIUM                                                             | AB1   AMOT   APB81   APB82   CTNN   CYFIP1   EVL   FAP   FGD1   FGD2   FGD6   ITGB1BP1   NME2   PDPN   SCYL3   TESC   TSC1                                                                                                                                                              | 1.0 | 0.625 |
| REACTOME_TIGHT_JUNCTION_INTERACTIONS                                      | CLDN1   CLDN11   CLDN14   CLDN15   CLDN16   CLDN17   CLDN18   CLDN3   CLDN4   CLDN5   CLDN6   CLDN7   CLDN8   CLDN9   F11R   INADL   MPP5   PARO3   PARDA6   PARO6B   PRKCI                                                                                                             | 1.0 | 0.625 |
| OUELLET_OVARIAN_CANCER_INVASIVE_VS_LMP_DN                                 | CIRBP   GAMT   GNA11   ITGB3   KHSRP   LGALS8   RBP1   RPS29   SHROOM2   SMAD3   STX5                                                                                                                                                                                                   | 1.0 | 0.625 |
| BIOCARTA_NDKDYNAMIN_PATHWAY                                               | AMPH   AP2M1   BIN1   CALM1   CALM2   CALM3   DNM1   EPN1   EPS15   NME1   NME2   PICALM   PPP3CA   PPP3CB   PPP3CC   SYNJ1   SYNJ2                                                                                                                                                     | 1.0 | 0.625 |
| BIOCARTA_FEEDER_PATHWAY                                                   | HK1   KHK   LCT   MPI   PGM1   PYGL   PYGM   TPI1   TREH                                                                                                                                                                                                                                | 1.0 | 0.625 |
| JIANG_TIP30_TARGETS_DN                                                    | AKAP1   ARHGAP10   ASS1   BLCAP   CALR   CBX4   CIDEB   CLDN6   CTSD   DHX38   F8A1   FGRF4   IG2   LAD1   MAZ   PCGF2   PEBP1   SIRPA   SLC45A2   SRRM2   TLN1   TP53   ZYX                                                                                                            | 1.0 | 0.625 |
| PID_S1P_S1P4_PATHWAY                                                      | CD42   GNA12   GNA13   GNAI1   GNAI2   GNAI3   GNAO1   GNAZ   MAPK1   MAPK3   PLCG1   RHOA                                                                                                                                                                                              | 1.0 | 0.625 |
| REACTOME_KINESINS                                                         | KIF11   KIF13   KIF18A   KIF20A   KIF22   KIF23   KIF2C   KIF3B   KIF3C   KIF4A   KIF5A   KIF5B   KIFAP3   KIFC1   KLC2   RACGAP1                                                                                                                                                       | 1.0 | 0.75  |
| REACTOME_INCRETIN_SYNTHESIS_SECRETION_AND_INACTIVATION                    | CDX2   CTNNB1   DPP4   GATA4   GCG   GIP   GNB3   GNG13   GRP   ISL1   LEP   LOC653566   PAX6   PCSK1   SPCS1   SPCS2   SPCS3                                                                                                                                                           | 1.0 | 0.75  |
| WATANABE_ULCERATIVE_COLITIS_WITH_CANCER_DN                                | BTN3A1   CXCR6   CYSLTR1   GBP1   IGF2BP3   LCP2   SAMS1   SLA                                                                                                                                                                                                                          | 1.0 | 0.625 |
| BOWIE_RESPONSE_TO_TAMOXIFEN_MODULE_552                                    | CCL5   IFI16   IFI27   IFI35   IFI6   IFIT1   IFIT2   IFIT3   IFITM1   IFNGR1   IRF1   IRF7   ISG15   MX1   OAS1   OAS2   STAT1   CBX1   CENPA   EZH2   H1FO   H2AFX   H2AFX   HIST1H1C   HIST1H2AC   HIST1H2AE   HIST1H2BJ   HIST2H2AB   HIST2H2AA3   HIST2H2BE   HMG2B   MYBL2   NASP | 1.0 | 0.75  |
| TOMIDA_METASTASIS_UP                                                      | ALG3   CKAP4   CPLX2   CXCL1   DAD1   ECH1   GNAI2   GNAS   HSP90AB1   IER3   METAP2   MRPS22   PSMD2   PTTG1   SNRPF   TFA2A   TMSB4X   TUBB                                                                                                                                           | 1.0 | 0.75  |
| GNF2_CD14                                                                 | API52   CD14   CD1D   CD302   CD33   CD93   CFP   CTSS   DUSP1   FCN1   FGL2   HCK   HK3   IFI30   IL1RA1   IL1RA3   IL1RB2   IL1RB3   MAFB   MS4A6A   PSAP   RGS2   RNF130   SC02   SLC7A7   STX11   SULT1A1   TBXA51   TLR2   TNFAIP2   TYROBP   VNN1                                 | 1.0 | 0.625 |
| HORMONE_SECRETION                                                         | GCK   GHRH   GHSR   IL11   INHA   INHBA   INHBB   LIF   OSM   SCG5   SNAP25   STX1A   TBX3                                                                                                                                                                                              | 1.0 | 0.625 |
| CONTRACTILE_FIBER                                                         | ACTA1   CDK5R1   DES   DMD   KRT19   MYBPC1   MYL3   MYL5   MYL6B   MYL9   MYLPF   MYOM1   MYOZ2   NEB   SVIL   TNNC1   TNNI3   TNN2T   TPM1   TPM2   TPM3   TPM4   TTN   VCL                                                                                                           | 1.0 | 0.75  |
| HORMONE_METABOLIC_PROCESS                                                 | ADM   AKR1C4   AKR1D1   ALDH8A1   ALDH9A1   ASMTL   BMP6   CHST8   CYP11A1   CYP11B2   DHRS2   DHRS3   DHRS9   DIO1   DIO2   ECE2   HSD11B2   HSD17B6   HSD3B1   RDH11   RETSAT   SCG5   SHH   STUB1   SULT1B1   UGT1A1   UGT2B4   YWHAH                                                | 1.0 | 0.75  |
| BOYLAN_MULTIPLE_MYELOMA_O_CLUSTER_UP                                      | ACTR3B   ADM   BACH1   BTBD1   CCND1   EIF5   GPR132   GSTO1   ISL1   KIFAP3   MXRAB   NEFH   OBSCN   PLCH3   PLK2   PLLP   PPM1A   PPP1R13B   PRODH   SETD4   STC2   UCHL1                                                                                                             | 1.0 | 0.625 |
| BIOCARTA_PML_PATHWAY                                                      | CREBBP   DAXX   FAS   FASLG   HRAS   PAX3   PML   RARA   RB1   SIRT1   SP100   SUMO1   TNF   TNFRSF1A   TNFRSF1B   TP53                                                                                                                                                                 | 1.0 | 0.625 |
| BIOCARTA_SPRY_PATHWAY                                                     | CBL   EGF   EGR1   GRB2   HRAS   MAP2K1   MAPK1   MAPK3   PTPRB   RAF1   RASA1   SHC1   SOS1   SPRY1   SPRY2   SPRY4   SRC                                                                                                                                                              | 1.0 | 0.625 |
| PLASARI_NFIC_TARGETS_BASAL_UP                                             | CACNA1G   CHODL   CLCA1   CLU   COL2A1   FOXA1   GNA14   GZMH   KCNA5   KCNM84   MPPED2   NNAT   NRN1   PAX1   PERP   PPP1R3C   RGS4   RGS5   SEMA4F   SNCA   TEX15   THSD4   TINAGLI   TNFRSF11B   WNT5B                                                                               | 1.0 | 0.75  |
| PID_RAS_PATHWAY                                                           | CAMK2B   GRB2   HRAS   KRAS   LGAL51   LGALS3   NF1   NRAS   PLEC1   PRKCA   PRKCE   PRKCZ   RABGEF1   RASA1   RASA2   RASA4   RASAL1   RASGRF1   RASGRF1   RASGRP2   RASGRP3   RIN1   RAS   SOS1   SOS2                                                                                | 1.0 | 0.625 |
| KINNEY_DNM1T1_METHYLATION_TARGETS                                         | ABCB1   HAL   MCAR   MYO6   SLC22A3   SLC1A7   SORL2   STS1   SYCP2                                                                                                                                                                                                                     | 1.0 | 0.625 |
| chr2q24                                                                   | FBF11   ARSLA   CD302   CHRNA1   COBL1   DPP4   G6PC2   GALNT3   GP2D   IFIH1   ITGB6   KCNH7   KCNJ3   LRP2   LY75   RBMS1   RPRM   SAG   SCN1A   SCN3A   SCN9A   SLC25A12   STK39   TANK   TTC21B   ZAK                                                                               | 1.0 | 0.75  |
| PROTEIN_SERINE_THREONINE_PHOSPHATASE_ACTIVITY                             | CD144   CYCS   DUSP6   DUSP7   LCK   MTMR3   PDE1F   PDE2F   PPM1A   PPM1B   PPM1D   PPM1G   PPP1CA   PPP1R3C   PPP1R3D   PPP2CB   PPP2R2A   PPP2R3B   PPP5C   PPP6C   PTEN   TIMM50                                                                                                    | 1.0 | 0.625 |
| NAKAYAMA_FGF2_TARGETS                                                     | ACE2   ACTA2   ARL15   BRP1   COL1A1   COL2A1   COL4A1   COL5A2   COL8A1   CXCL12   CXCL14   DPM3   GPT   GREM1   IFNAR1   IGF1   MYL6   OLFML3   PDGFRB   SNRPD2   TTF2   VPS35                                                                                                        | 1.0 | 0.625 |
| REACTOME_CHYLOMICRON_MEDIATED_LIPID_TRANSPORT                             | APOA1   APOA2   APOB   APOC2   APOC3   APOE   HSPG2   LDLR   LDLRAP1   LIPC   LPL   MTPP   P4HB   SAR1B   SDC1                                                                                                                                                                          | 1.0 | 0.625 |
| chr9q13                                                                   | APBA1   CBWD3   CBWD5   CBWD6   GCNT1   OSTF1   PGM5   PIIP5K1B   PRKAGC   TJP2   TMEM22   ZFAND5                                                                                                                                                                                       | 1.0 | 0.625 |
| DETECTION_OFABIOTIC_STIMULUS                                              | ABCA4   CACNA1F   GRK1   GRM6   NR2E3   OPN1SW   PDC   PDE6B   PITPNM1   RHO   SAG   TAC1   TACR1   TIMELESS   TRPC3   UNC119                                                                                                                                                           | 1.0 | 0.625 |
| DNA_DAMAGE_RESPONSESIGNAL_TRANSDUCTION_RESULTING_IN_INDUCION_OF_APOPTOSIS | ABL1   BCL3   BRCA1   C16orf5   CHEK2   CIDEA   CIDEB   DYRK2   IFI16   PCBP4   PML   SFN   TP53   TP73                                                                                                                                                                                 | 1.0 | 0.625 |
| chr13q21                                                                  | ATXN805   CLN5   DIAPH3   KCTD12   KLF5   KLUH1   OR7E156P   TBC1D4   UCHL3                                                                                                                                                                                                             | 1.0 | 0.625 |
| EXTRACELLULAR_MATRIX_STRUCTURAL_CONSTITUENT                               | CH3L3   COL4A2   COL4A4   COMP   DSPP   EFEMP2   FBLN1   FBLN2   FBN1   FBN2   IMPG1   IMPG2   KAL1   LAMA1   LAMA4   LAMB1   LAMC1   MATN1   MATN3   MEPE   MFAP5   MGP   MUC2   PRELP   TFP12                                                                                         | 1.0 | 0.625 |
| ANION_CHANNEL_ACTIVITY                                                    | CFTR   CLCA1   CLCA2   CLCA4   CLCN1   CLCN2   CLCN3   CLCN4   CLCNKA   CLCNKB   FXYD1   FXYD3   GLRA1   GLRA2   GLRB   PKD2                                                                                                                                                            | 1.0 | 0.75  |
| CHLORIDE_CHANNEL_ACTIVITY                                                 | CFTR   CLCA1   CLCA2   CLCA4   CLCN1   CLCN2   CLCN3   CLCN4   CLCNKA   CLCNKB   FXYD1   FXYD3   GLRA1   GLRA2   GLRB   PKD2                                                                                                                                                            | 1.0 | 0.75  |
| DETECTION_OF_STIMULUS_INVOLVED_IN_SENSORY_PERCEPTION                      | ABCA4   CACNA1F   GRK1   NR2E3   OPN1SW   PDC   PDE6B   PITPNM1   RHO   RTP4   SAG   TAS2R14   TAS2R16   TRPC3   UNC119                                                                                                                                                                 | 1.0 | 0.625 |
| MIKKELSEN_NPC_WITH_LCP_H3K27ME3_CELL_DIVISION                             | BLK   PRELP   WISP2                                                                                                                                                                                                                                                                     | 1.0 | 0.625 |
|                                                                           | AURKC   BIRC5   BRCA2   DCTN3   DIAPH2   INCENP   MYH10   MYH9   NUSAP1   PARD3   PRC1   RAB35   RACGAP1   RASA1   SEPT5   SEPT6   TGFBR                                                                                                                                                | 1.0 | 0.625 |
| REACTOME_SYNTHESIS_OF_PC                                                  | ACHE   CEPT1   CHAT   CHKA   CHKB   CHPT1   LPIN1   LPIN2   PCYT1A   PCYT1B   PEMT   SLC44A4                                                                                                                                                                                            | 1.0 | 0.625 |
| RADAeva_RESPONSE_TO_IFNA1_DN                                              | APIG2   FOS   GLP1R   KIAA0284   KIT   MET   MLL   MYCL1   PDGFA                                                                                                                                                                                                                        | 1.0 | 0.625 |
| GCGCTT_MIR-518B,MIR-518C,MIR-518D                                         | APIG1   HMP19   HMOX3   HMOX8   KCNK12   MCF2L   NEFL1   NRXN1   PTPRU   RAP1B   SOX11   TBC1D10B   TEAD3   TFE3   TSN                                                                                                                                                                  | 1.0 | 0.625 |
| TERAMOTO_OPN_TARGETS_CLUSTER_7                                            | CTH   HLA-DQB1   MTTT12B   MTHFD2   NFATC1   NR13   PDE3B   PHGDH   PPP1R15A   PSPH   RABGEF6   RRBP1   S100A6   SLC4A10   SPP1   TFA2P2   UGDH   WARS                                                                                                                                  | 1.0 | 0.625 |
| VSEV11_06                                                                 | ACCN1   ARPC2   C17orf85   C18orf25   CITED2   CREB5   GRIN2B   IL17B   MAP2   MAP4K5   NRAS   PCF11   PDHA2   RNF11   SCUBE3   TCF4   USP2   VAMP1                                                                                                                                     | 1.0 | 0.625 |

|                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |     |       |
|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| XU_HGF_SIGNALING_NOT_VIA_AKT1_48HR_DN                                                        | CD248   CENPF   FXYD2   GTSE1   HIST2H2BE   HMMR   IGFBP7   KIF20A   MAD2L1   MYH9   PLK1   PPM1B   SCD5   SPP1   VPSA1   WTAP                                                                                                                                                                                                                                                                                                                                                  | 1.0 | 0.75  |
| KYNG_WERNER_SYNDROM_DN                                                                       | CDH12   CLSPN   EIF2C2   GOLPH3   HIST1H2AC   HSD17B4   IL17RB   MT1X   PPARA   PPP1R12A   PTEN   SHC3   STC2   TACC2   TAF10   WWC1   ZFAND3                                                                                                                                                                                                                                                                                                                                   | 1.0 | 0.625 |
| MIKKELSEN_ES_ICP_WITH_H3K27ME3                                                               | ADCY6   CALCB   CHST1   CNN1   CPLX3   DUSP8   FAM70A   FXYD7   HPCA   KCNJ9   LEP   MC3R   MYH11   PCDH86   PDE6B   POU6F1   PRSS16   SFTPC   TH   TNF   TNNC2   UPK3A   ZIC4                                                                                                                                                                                                                                                                                                  | 1.0 | 0.75  |
| YIH_RESPONSE_TO_ARSENITE_C4                                                                  | CDCA2   CRADD   EGFR   EIF4E   ELK1   ETV6   F11R   GRB2   IL8   JUN   KRT8   MAP3K8   MYCN   NCK1   NPAT   NR2F6   RAB3A   TAPBP                                                                                                                                                                                                                                                                                                                                               | 1.0 | 0.625 |
| MODULE_173                                                                                   | ADORA2B   ADRA2A   CSAR1   DUSP2   DUSP4   DUSP6   DUSP8   EGF   FGF2   FGFR1   FPR1   GADD45G   KCNH2   RGS3   RGS4                                                                                                                                                                                                                                                                                                                                                            | 1.0 | 0.625 |
| REACTOME_HYALURONAN_METABOLISM                                                               | ABCC5   CD44   GUSB   HAS1   HAS2   HEXA   HEXB   HMMR   HYAL1   HYAL2   SLC9A1   STAB2                                                                                                                                                                                                                                                                                                                                                                                         | 1.0 | 0.625 |
| NEGATIVE_REGULATION_OF_CELLULAR_BIOSYNTHETIC_PROCESS                                         | APBB1   BCL3   BRCA1   EIF2AK1   EIF2AK3   FOXP3   FURIN   GCK   GHSR   GLA   GRM8   IL10   IL6   INHA   INHBA   INHBB   NDUFA13   PDZD3   PRG3   SFTPD   SIGIRR   SOD1   TSC1                                                                                                                                                                                                                                                                                                  | 1.0 | 0.625 |
| VACUOLAR_TRANSPORT                                                                           | ADRB2   ARSB   ATG4A   LYST   M6PR   NAGPA   NPC1   RHOB   ZFYVE16                                                                                                                                                                                                                                                                                                                                                                                                              | 1.0 | 0.625 |
| SESTO_RESPONSE_TO_UV_C4                                                                      | ABCD3   ALDH1A3   ATP12A   CD9   CDK5   DGKA   ISG15   IVL   LY6D   NMT1   PREP   RAD23B   SNRPA   SNRPD3   TNFRSF1A   TYMS                                                                                                                                                                                                                                                                                                                                                     | 1.0 | 0.625 |
| PID_LIS1PATHWAY                                                                              | ABL1   CDCA2   CDK5   CDK5R1   CDK5R2   CSNK2A1   DAB1   DCX   DYNC1H1   DYNLTI1   IQGAP1   KATNA1   LRP8   LRPAP1   MAP1B   NDEL1   NUDC   PAFAH1B1   PAFAH1B2   PAFAH1B3   PLA2G7   PPP2R5D   RAC1   RELN   RHOA   VLDLR   YWHAE                                                                                                                                                                                                                                              | 1.0 | 0.75  |
| RUFFLE                                                                                       | ARF6   ARFIP2   CD2AP   CDK6   CTTN   CYFIP1   FGD1   FGD2   FGD6   ITGA5   ITGB1   ITGB1BP1   MYH9   MYOSA   MYOG   NME2   PDPN   S100A11   S100A6   S100B   TESC   TLN1                                                                                                                                                                                                                                                                                                       | 1.0 | 0.625 |
| REACTOME_HYALURONAN_UPTAKE_AND_DEGRADATION                                                   | CD44   GUSB   HEXA   HEXB   HMMR   HYAL1   HYAL2   SLC9A1   STAB2                                                                                                                                                                                                                                                                                                                                                                                                               | 1.0 | 0.625 |
| OXIDOREDUCTASE_ACTIVITY_ACTING_ON_THE_ALDEHYDE_OR_OXO_GROUP_OF_DONORS                        | ADH5   ALDH1A1   ALDH1A2   ALDH1A3   ALDH2   ALDH3A1   ALDH3A2   ALDH3B1   ALDH3B2   ALDH4A1   ALDH5A1   ALDH6A1   ALDH7A1   ALDH8A1   ALDH9A1   AOX1   BCKDHA   BCKDHB   GAPDH5   GOGH   PDHA2   PDHB                                                                                                                                                                                                                                                                          | 1.0 | 0.625 |
| REGULATION_OF_HORMONE_SECRETION                                                              | GCK   GHRH   IL11   INHA   INHBA   INHBB   IUF   OSM   SCG5   SNAP25   STX1A                                                                                                                                                                                                                                                                                                                                                                                                    | 1.0 | 0.625 |
| NUCLEOTIDE_BIOSYNTHETIC_PROCESS                                                              | ABCA1   ADCY7   ADK   ADM   ADORA2A   ADSS   AKS   C16orf7   CTP5   GRM8   GUK1   HPRT1   ME1   PDZD3   PPAT   TYMS   UMP5                                                                                                                                                                                                                                                                                                                                                      | 1.0 | 0.625 |
| MODULE_562                                                                                   | ADAM10   ADAM12   ADAM9   BMP1   CHIT1   MMP1   MMP10   MMP11   MMP12   MMP13   MMP14   MMP15   MMP2   MMP3   MMP7   MMP9   PEPD   TIMP1   TIMP2   TIMP3   TNF                                                                                                                                                                                                                                                                                                                  | 1.0 | 0.625 |
| CALCIUM_MEDIATED_SIGNALING                                                                   | BTX   CAMKK2   CDH13   EGFR   IL8   LAT   LAT2   NMUR1   NUDT4   PLCE1   RGN   SPHK1   TRAT1                                                                                                                                                                                                                                                                                                                                                                                    | 1.0 | 0.625 |
| COWLING_MYCN_TARGETS                                                                         | APH1B   BAGALT4   BMPER   CNN1   COL11A1   COP22   COX7A1   CPEB1   CRYAB   DDAH2   FBLN5   GREM1   GRIA3   HSPB2   IGFBP5   LBH   MFG8   MMP10   MMP3   MYL5   MYL9   PBX3   PVALB   RND2   SHOX2   SLC16A2   SPP1   STMN2   TAGN   TK2   TUBB2A                                                                                                                                                                                                                               | 1.0 | 0.75  |
| chr11q14                                                                                     | ALG8   C11orf73   CAPN5   CDC81   CHORDC1   CTC5   EED   FZD4   GRM5   NAALAD2   NARS2   NDUFC2   NOX4   OMP   PANX1   PICALM   POLD3   PRCP   PRSS23   RAB38   RHOD   SYTL2   TMEM126B   TMEM135   TYR                                                                                                                                                                                                                                                                         | 1.0 | 0.625 |
| RAY_TARGETS_OF_P210_BCR_ABL_FUSION_UP                                                        | CTNNA1   GAGE5   GAGE6   HIST2H2BE   HOXB2   KLF1   NUP214   PDLIM5   PIM1   PRPF48   RAPGEF2   RRA52   SOX5   TUBB2A   TUSC3                                                                                                                                                                                                                                                                                                                                                   | 1.0 | 0.625 |
| REACTOME_ACYL_CHAIN_REMODELLING_OF_PS                                                        | PLA2G10   PLA2G12A   PLA2G1B   PLA2G2A   PLA2G2D   PLA2G2E   PLA2G2F   PLA2G4A   PLA2G5                                                                                                                                                                                                                                                                                                                                                                                         | 1.0 | 0.625 |
| POSITIVE_REGULATION_OF_PHOSPHORYLATION                                                       | ANG   BCL10   BMP4   CARD14   CCND1   CCND2   CCND3   CD80   CD81   CLCF1   EGF   EGFR   EREG   GLMN   HCLS1   IL12A   IL3   IL5   LYN   TDGF1   TNK2                                                                                                                                                                                                                                                                                                                           | 1.0 | 0.75  |
| PERIPHERAL_NERVOUS_SYSTEM_DEVELOPMENT                                                        | ACCN1   ALDH3A2   BA11   EGR2   GFRA3   GSTM3   NEUROG3   NF1   PMP22   SERPINI1   SOD1   UGT8                                                                                                                                                                                                                                                                                                                                                                                  | 1.0 | 0.625 |
| PID_FOXM1PATHWAY                                                                             | AURKB   BIRC5   BRCA2   CCNA2   CCNB1   CCNB2   CCND1   CCNE1   CDC25B   CDK2   CDK4   CDKN2A   CENPA   CENPB   CENPF   CHEK2   KCS1B   CREBBP   EP300   ESR1   ETV5   FOS   FOXM1   GAS1   GSK3A   LAMA4   MAP2K1   MMP2   MYC   NKX2   NFAF3   ONECUT1   PLK1   RB1   SKP2   SP1   TGFA   XRC1                                                                                                                                                                                | 1.0 | 0.625 |
| REACTOME_GLYCOSPHINGOLIPID_METABOLISM                                                        | ARSA   ARSB   ARSE   ARSF   ARSJ   ASAH1   CERK   GAL3ST1   GALC   GBA   GBA3   GLA   GLB1   GM2A   HEXA   HEXB   NEU1   NEU2   NEU3   PSAP   SMPD1   SMPD2   SMPD3   SMPD4   STS   UGCG                                                                                                                                                                                                                                                                                        | 1.0 | 0.625 |
| HATADA_METHYLATED_IN_LUNG_CANCER_DN                                                          | BAHCC1   C17orf63   DLGAP4   ELF3   FRMD4A   INSL6   JAK3   LAMA3   MEFV   MELK   MKRN3   MYT1L   NTF3   PRAME   SOHLH2   TCL1B   TCL6   TRIM29   ZNF556                                                                                                                                                                                                                                                                                                                        | 1.0 | 0.625 |
| OXFORD_RALA_TARGETS_UP                                                                       | ASN5   BBC3   CXCL2   DUSP6   GINS2   MMP1   RPA1   SF3B5   SLC7A11                                                                                                                                                                                                                                                                                                                                                                                                             | 1.0 | 0.875 |
| EPIDERMAL_GROWTH_FACTOR_RECEPTOR_SIGNALING_PATHWAY                                           | CB1   CBLC   CDH13   EGF   EGFR   EPS15   EPS8   ERBB2IP   EREG   GAB1   GRB2   GRB7   NCK2   REP52   RPS6KA5   SHC1   SHC3   TDGF1   TGFA                                                                                                                                                                                                                                                                                                                                      | 1.0 | 0.75  |
| TRIACYLGLYCEROL_METABOLIC_PROCESS                                                            | APOC2   APOC3   CETP   DGAT1   LPL   PNLIIPRP2   PNPLA3                                                                                                                                                                                                                                                                                                                                                                                                                         | 1.0 | 0.75  |
| LOPEZ_EPITHELIOID_MESOTHELIOMA                                                               | ADCYAP1   ANXA9   BTG3   CDC64   CLDN15   COB1   ELMO3   GPR37   GRB7   ID4   ILK11   LRP2   LRRC1   PTPRF   UPK1B   UPK3B                                                                                                                                                                                                                                                                                                                                                      | 1.0 | 0.625 |
| RIZ_ERYTHROID_DIFFERENTIATION_6HR                                                            | ANKRD1   BNC1   CNOT7   ELF1   ELF5   GCM2   HMG2A   HOXA3   HOXA6   HOXB3   HOXD12   ID3   MEFC2   MYBL1   MYF5   NEUROD1   NEUROG1   NFIL3   NR4A2   NR5A1   PPARA   RAB25   SIM2   SMAD3   TRPC4   VDR                                                                                                                                                                                                                                                                       | 1.0 | 0.75  |
| ST_JAK_STAT_PATHWAY                                                                          | CISH   JAK1   JAK2   JAK3   PIAS1   PIAS3   PTPRU   REG1A   SOAT1                                                                                                                                                                                                                                                                                                                                                                                                               | 1.0 | 0.625 |
| SULFURIC_ESTER_HYDROLASE_ACTIVITY                                                            | ARSA   ARSB   ARSD   ARSE   ARSF   ARSJ   GALNS   GNS   IDS   STS   SULF1                                                                                                                                                                                                                                                                                                                                                                                                       | 1.0 | 0.625 |
| WOTTON_RUNX_TARGETS_UP                                                                       | ANGPT1   C9orf91   CCL2   CCL7   CYP11B1   EMILIN1   ITGB5   LY6E   MASP1   NCAM1   ST3GALS   TIMP4   UGCG   WWP2                                                                                                                                                                                                                                                                                                                                                               | 1.0 | 0.625 |
| chr7q31                                                                                      | AASS   ANKRD7   ARFS   BPGM   CADP52   CAPZ2A   CAV1   CAV2   CFTR   COG5   DLD   DNAJB9   DOCK4   EXOC4   FSCN3   GNG11   GPR37   GPR85   GRM8   HYAL4   IFRD1   IMPDH1   ING3   KCND2   LAMB4   LANCL2   LEP   LRRC61   LRRN3   MDIC   MET   NDUFA5   NRCAM   NUP205   OPN1SW   PAPOLB   POT1   PPP1R3A   PTPR21   SLC13A1   SLC26A3   SLC26A4   SMO   SND1   SPAM1   ST7   TAS2R16   TAS2R3   TAS2R4   TES   TFC1   TMEM168   TRPV5   TSPAN12   WASL   WNT16   WNT2   ZNF277 | 1.0 | 0.625 |
| RESPONSE_TO_DRUG                                                                             | ABCA2   ABCA3   ABCB1   ABCB4   ABCC1   ABCC6   ABCG2   BCAR3   CSAG2   CTP5   GCLM   LCK   LIPE   MVP   NAT8   RAB6C   SCN11A   SEMA3C   SLC22A18   SOD1   TOP1                                                                                                                                                                                                                                                                                                                | 1.0 | 0.625 |
| SCHAEFFER_PROSTATE_DEVELOPMENT_AND_CANCER_BOX3                                               | CD27   IGF1R   PDIA4   SOX9   ZNF22                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.0 | 0.625 |
| SECRETIN_LIKE_RECEPTOR_ACTIVITY                                                              | BAI1   BAI2   CRRH1   CRRH2   GCGR   GHSR   SCTR   VIPR1                                                                                                                                                                                                                                                                                                                                                                                                                        | 1.0 | 0.625 |
| SARCOMERE                                                                                    | ACTA1   DES   MYOM1   MYOZ2   NEB   TNNC1   TNN31   TNNT2   TPM1   TPM2   TPM3   TPM4   TTN                                                                                                                                                                                                                                                                                                                                                                                     | 1.0 | 0.75  |
| PROTEIN_OLIGOMERIZATION                                                                      | AASS   ACTN2   AKR1C1   ALDH5A1   AMFR   APOE   ATP1F1   BAX   BCL10   CDA   DGKD   EIF2AK3   GPX3   HPRT1   IGF1R   INSR   IRAK1   MAL   MAP3K11   PEX14   RAD51   SCUBE3   STOM   SYT1   TGM3   TP53   TRPV5   UPK1A   VWF                                                                                                                                                                                                                                                    | 1.0 | 0.75  |
| KEGG_STEROID_BIOSYNTHESIS                                                                    | CET1   CYP27B1   CYP51A1   DHCR24   DHCR7   EBP   FDF1   HSD17B7   LIPA   LSS   NSDHL   SCSDL   SOAT1   SOAT2   SQLE   TM7SF2                                                                                                                                                                                                                                                                                                                                                   | 1.0 | 0.625 |
| SYNAPSE_PART                                                                                 | CABP1   CACNA1C   DLG4   DNM2   ERC1   ERC2   GRM7   NPTN   NUFIP1   PICK1   RIMS1   SYNE1                                                                                                                                                                                                                                                                                                                                                                                      | 1.0 | 0.75  |
| FUKUSHIMA_TNFSF11_TARGETS                                                                    | ACP1   CALCR   DL3   HES1   HEY1   JAG1   JAG2   NFATC1   NOTCH1   NOTCH2   NOTCH3   NOTCH4   TNFSF11                                                                                                                                                                                                                                                                                                                                                                           | 1.0 | 0.75  |
| SPHINGOLIPID_METABOLIC_PROCESS                                                               | ASAH1   BAGALNT1   CERK   CLN3   CLN6   GLA   LARGE   NEU3   NSMAF   PPT1   PSAP   SERINIC1   SGPL1   SMPD2   SMPD3   SMPD4   SPHK1   SPTLC1   ST8SIA1   ST8SIA3   ST8SIA5   UGCG                                                                                                                                                                                                                                                                                               | 1.0 | 0.625 |
| LAMB_CCND1_TARGETS                                                                           | ASNS   AXIN1   EFNA1   EVX1   GNAI2   HEXA   HSPA1A   HSPG2   HSPH1   KIF22   LGALS3BP   LOR   LTBR   PPID   RAB31   RPS6KA1   SMAD3   TGFBI                                                                                                                                                                                                                                                                                                                                    | 1.0 | 0.75  |
| GNF2_ATM                                                                                     | ATHL1   ATM   BTN3A1   BTN3A2   CASP8   CLEC2D   DEF6   DENND2D   DUSP2   GPR171   GZMK   HECA   HMHA1   ITK   LAT   LDLRAP1   OGT   PPWD1   RAPGEF5   RASGRP1   RASGRP2   RNFT25   SFI1   TMC6   TRAF3IP3   ZNF266                                                                                                                                                                                                                                                             | 1.0 | 0.625 |
| HASLINGER_B_CLL_WITH_MUTATED_VH_GENES                                                        | COBIL1   DMD   IL10RA   ILK2   LDOC1   LIP1   LMA1   NRIP1   P2RX1   PCDH9   PCSK7   SORL1   TCF7   TLE1   W5B2   ZBTB20                                                                                                                                                                                                                                                                                                                                                        | 1.0 | 0.75  |
| MODULE_381                                                                                   | AMPH   APBA1   CHGA   DOCA2   HCRT   PALM   RAB3A   SLC30A3   SYN2   SYT1   SYT5   VAMP2                                                                                                                                                                                                                                                                                                                                                                                        | 1.0 | 0.625 |
| WALLACE_PROSTATE_CANCER_DN                                                                   | AKAP12   CAV2   GJA1   GPM6B   LAMA4   RAP1B                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1.0 | 0.625 |
| MONOSACCHARIDE_TRANSMEMBRANE_TRANSPORTER_ACTIVITY                                            | PP8P   SLC12A1   SLC2A2   SLC2A3   SLC2A4   SLC2A5   SLC2A8   SLC37A4   SLC5A1   SLC5A2                                                                                                                                                                                                                                                                                                                                                                                         | 1.0 | 0.625 |
| REACTOME_REGULATION_OF_KIT_SIGNALING                                                         | CB1   FYN   GRB2   KIT   KITLG   LCK   LYN   PRKCA   PTPN6   SH2B2   SH2B3   SOCS1   SOCS6   SOS1   SRC   YES1                                                                                                                                                                                                                                                                                                                                                                  | 1.0 | 0.625 |
| REACTOME_ABACAVIR_TRANSPORT_AND_METABOLISM                                                   | ABCB1   ABCG2   ADH1A   GUK1   NTS5C2   PKC1   SLC22A1   SLC22A2   SLC22A3                                                                                                                                                                                                                                                                                                                                                                                                      | 1.0 | 0.625 |
| MODULE_470                                                                                   | ABCA2   ARHGAP22   BA13   ELTD1   IGFBP5   LPW2   MAOA   PF4   PFKL   PPBP   PRLR   PTGS2   STAR   VIPR1                                                                                                                                                                                                                                                                                                                                                                        | 1.0 | 0.625 |
| ARYLSULFATASE_ACTIVITY                                                                       | ARSA   ARSB   ARSD   ARSE   ARSF   ARSJ   SULF1                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.0 | 0.625 |
| GNF2_MATK                                                                                    | ARHGFE3   ARLAC   BTN3A3   CD247   CTSW   FAM108A1   GZMA   GZMH   GZMM   IL18RAP   IL2RB   KLRB1   KLRD1   KLRK1   MATK   NKG7   PRF1   PRKCH   PTGDR   PTPN4   RASSF1   ZAP70                                                                                                                                                                                                                                                                                                 | 1.0 | 0.625 |
| LY_AGING_OLD_UP                                                                              | COMP   CRYAB   CST6   FMOD   HTRA1   MMP12   PTGS1                                                                                                                                                                                                                                                                                                                                                                                                                              | 1.0 | 0.75  |
| REACTOME_BETA_DEFENSINS                                                                      | CCR2   CCR6   DEFB1   DEFB126   TLR1   TLR2                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.0 | 0.625 |
| SYNAPSE_ORGANIZATION_AND_BIOGENESIS                                                          | ACHE   CACNB2   CHRNA1   COL4A4   KLR8   NLGN1   NRCAM   NRD1   PCDH811   PCDH813   PCDH83   PCDH86   POU4F1   UBB                                                                                                                                                                                                                                                                                                                                                              | 1.0 | 0.75  |
| NAKAJIMA_EOSINOPHIL                                                                          | ADORA3   ALOX15   CANK1   CL3   CLC4   CCR3   CF1   CLC   CNR2   CREM   EMR1   FBP1   GPR44   HES1   IL5RA   MARCKSL1   OLIG2   OLR1   P2RY10   P2RY14   PLAUR   PNPLA6   RGS3   RNASE2   S100P   SLC29A1   SMAD7   SYNE1   TFF3                                                                                                                                                                                                                                                | 1.0 | 0.875 |
| POSITIVE_REGULATION_OF_CYTOKINE_BIOSYNTHETIC_PROCESS                                         | APOA2   AZU1   BCL10   CD28   CEBPG   EB13   EREG   GLMN   IL12B   IL9   IRF4   LTB   PRG3   SPN   TLR1   TLR3   TLR4   TLR6   TLR7   TLR8   TNFRSF8                                                                                                                                                                                                                                                                                                                            | 1.0 | 0.625 |
| XU_RESPONSE_TO_TRETINOIN_UP                                                                  | AD03   ALAS1   CDKN2C1   COL5A2   DEFA1   EIF2C1   ELF4   ITM2B   PGD   PIM1   PSMB9   PTK2B   RCBTB2   REL   WAS                                                                                                                                                                                                                                                                                                                                                               | 1.0 | 0.75  |
| ZHENG_IL22_SIGNALING_DN                                                                      | ABCD2   ARHGFE15   ASPM   BGN   C7   CDC121   CENP1   COL11A1   CSPP1   EPB41L1   FBXW2   FGF13   GHR   GPR124   HIST1H1T   IL1RL1   LAT51   MBTP52   NCOA4   OLFM4   PDE7B   PNLIIPRP2   RACGAP1   RBMY1A1   SCN3A   SIPA1   SLC17A1   SLC9A2   SUV39H2   TFCP2   TLL5   ZNF180                                                                                                                                                                                                | 1.0 | 0.75  |
| CAR_MYST2                                                                                    | ADCYAP1   AFI1   ATP1B2   CEACAM6   EFNA3   GRM4   IGHMBP2   IGSF9B   IL1RA4   LYGG6C   MC2R   NCKIPSD   NPPA   PCBP3   PFKFB2   POU4F1   PRPH   PSG1   RREB1   SLC12A4   TNP1   TRIM58   VAMP1   WBSCR22   WNT10B   ZNF157                                                                                                                                                                                                                                                     | 1.0 | 0.625 |
| chr5p15                                                                                      | ADCY2   ANKH   ARL15   BRD9   CDT5   CDH18   CEP72   CTNND2   DAP   DDX4   EXOC3   FAM105A   FASTKD3   FBXL7   IRX4   KIAA0947   MTMR12   MTRR   MYO10   NDUFS6   RFXP3   SDHA   SEMA5A   SLC12A7   SLC6A3   SLC9A3   SRD5A1   TAS2R1   TERT   TPPP   TRIP13   UNG   ZDHHC11   ZFR   ZFYVE16                                                                                                                                                                                    | 1.0 | 0.625 |
| LE_NEURONAL_DIFFERENTIATION_DN                                                               | CENB2   CCNT1   CDC20   CDC25C   CDK4   CSK2   EF2F   EIF4EBP2   KIF23   LHX6   MRPL11   MSJ1   PKMYT1   RGS12   SEMASA   SUV39H1   UBE2C                                                                                                                                                                                                                                                                                                                                       | 1.0 | 0.75  |
| PID_WNT_SIGNALING_PATHWAY                                                                    | ATP6AP2   OKK1   FZD1   FZD10   FZD2   FZD4   FZD5   FZD6   FZD7   FZD8   FZD9   IGFBP4   KREMEN2   LRPS   LRP6   ROR2   RYK   WIF1   WNT1   WNT2   WNT3   WNT5A   WNT7A   WNT7B                                                                                                                                                                                                                                                                                                | 1.0 | 0.625 |
| REACTOME_G_PROTEIN_ACTIVATION                                                                | GNAI1   GNAI2   GNAI3   GNAO1   GNAT1   GNAT2   GNA2   GNB1   GNB2   GNB3   GNB5   GNG10   GNG11   GNG12   GNG13   GNG3   GNG4   GNG5   GNG7   GNGT1   GNGT2   OPRM1   PDYN   POMC                                                                                                                                                                                                                                                                                              | 1.0 | 0.75  |
| G1_S_TRANSITION_OF_MITOTIC_CELL_CYCLE                                                        | ACVR1   ACVR1B   BCAT1   CDC7   CDK4   CDKN1A   CDKN1B   CDKN2A   CDKN2C   CDKN2D   CDKN3   CUL1   CUL2   CUL3   CUL4A   CUL5   DBF4   GF11   GSP11   INHBA   POLE   PPP6C   RCC1   SKP2                                                                                                                                                                                                                                                                                        | 1.0 | 0.625 |
| OXIDOREDUCTASE_ACTIVITY_ACTING_ON_THE_ALDEHYDE_OR_OXO_GROUP_OF_DONORSNAD_OR_NADP_AS_ACCEPTOR | ADH5   ALDH1A1   ALDH1A2   ALDH1A3   ALDH2   ALDH3A1   ALDH3A2   ALDH3B1   ALDH3B2   ALDH4A1   ALDH5A1   ALDH6A1   ALDH7A1   ALDH8A1   ALDH9A1   GAPDH5                                                                                                                                                                                                                                                                                                                         | 1.0 | 0.625 |

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| REGULATION_OF_AXONOGENESIS                                                       | APOE   KLR8   MAPT   ROBO1   ROBO2   RTN4   SLIT2   THY1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 1.0 | 0.75  |
| MODULE_210                                                                       | ACE   ADAM10   ADAM11   ADAM12   ADAM15   ADAM23   ADAM9   AEBP1   ANPEP   APC2   BMP1   CPB2   GGH   KEL   MMP1   MMP10   MMP11   MMP12   MMP13   MMP14   MMP2   MMP23A   MMP3   MMP7   MMP9   TIMP1   TRAF1   TRAF2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1.0 | 0.625 |
| MODULE_294                                                                       | ACADL   ACADM   ACADS   ACADS8   ACADVL   AMT   CA2   CASA   CA6   CA8   CPS1   CTH   DHODH   DPYD   GLUD1   HAL   SDHC   SRD5A2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 1.0 | 0.625 |
| GNF2_TTN                                                                         | ACTN3   ANKRD2   ATP2A1   CASQ1   CKM   ENO3   KBTBD10   LDB3   MYBPC1   MYBPC2   MYH1   MYH2   MYL1   MYOT   MYOZ1   NEB   PYGM   RYR1   SLN   TNNC2   TNNI1   TNNI2   TNNI3   TNNI3   TPM3   TTN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1.0 | 0.875 |
| BIOCARTA_MCM_PATHWAY                                                             | CCNE1   CDC6   CDK2   CDKN18   CDT1   KITLG   MCM2   MCM3   MCM4   MCM5   MCM6   MCM7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 1.0 | 0.625 |
| MARKS_HDAC_TARGETS_UP                                                            | APAF1   BAD   BAK1   BCL2L11   CASP3   CASP8   CASP9   CCNE1   DFFA   FAS   FASLG   GADD45B   GLRX   GSN   MCM3   RARB   TNFRSF108   TNFSF10   TP53   TXN   TXNIP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 1.0 | 0.625 |
| BENPORATH_ES_CORE_NINE                                                           | HMGAI   HMG83   ILF3   KLF5   MYBL2   NFE2L3   TCF7L1   TEAD4   ZIC1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.0 | 0.75  |
| GCGGCA.MIR-371                                                                   | POM121   PTGES2   ZIC4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1.0 | 0.75  |
| BIOCARTA_CFTR_PATHWAY                                                            | ADCY1   ADRB2   CFTR   GNAS   PRKACB   PRKACG   PRKAR1A   PRKAR1B   PRKAR2A   PRKAR2B   SLC9A3R1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| DER_IFN_BETA_RESPONSE_DN                                                         | ARHGAP4   CHRN82   PPAP2B   SGGH   SLC30A3   TBCE   TRAF6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| MIKI_COEXPRESSED_WITH_CYP19A1                                                    | ESRR1   HNF4A   NR2C2   NR2E3   NR6A1   THRA   VDR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| STEGER_ADIPOGENESIS_DN                                                           | CAPN6   CD44   DLK1   DPT   FSTL1   LOX   MAGED2   MMP2   OGN   OLFML3   PDLIM2   PDPN   PLA2G7   PLAT   POSTN   RAB31L1   RBP1   RNASE4   THBS2   TIMP2   TIMP3   WISP1   WNT5A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| BANDRES_RESPONSE_TO_CARMUSTIN_WITHOUT_MGMT_48HR_DN                               | ACTC1   ACTN1   ADCYAP1   ADRA18   AMH   AQP8   ATP13A3   ATP5D   EPHX1   FBN1   FYN   GTF2F1   HMGN2   INNP11   INSIG1   INSL3   IRS1   ITGA3   KRT17   LOXL1   LRCH4   MAP4K2   MDK   NRTN   PPN1   PPM1G   SEPT5   SHOX   TUBG1   YWHAH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| NEGATIVE_REGULATION_OF_TRANSCRIPTION_FACTOR_ACTIVITY                             | CDKN2A   CEBPG   EGN1   FLNA   FOXP3   ID1   ID2   ID3   NARF   PEX14   SIGIRR   SUMO1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| NIELSEN_SCHWANNOMA_UP                                                            | ADORA3   APC2   GFAP   LICAM   NLGN4X   NRXN1   NRXN3   PLEKH81   PLP1   RASSF4   S100B   SEMA3B   SERPINAS1   SLC26A2   ST14   TREM2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| BIOCARTA_BLYMPHOCYTE_PATHWAY                                                     | CD40   CD80   CR1   CR2   FCGR2B   HLA-DRA   HLA-DRB1   ICAM1   ITGAL   ITGB2   PTPRC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| BERTUCCI_INVASIVE_CARCINOMA_DUCTAL_VS_LOBULAR_UP                                 | CDH1   DHCR7   DOKC3   ERBB2   FKB4   GRB7   HELZ   HSPA8   JAK2   MMP24   MYBPC2   NRGN   RPIA   SCAR81   STUB1   TFAP2A   UBE2L3   UST   VPS37C   YWHAB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| MYELOID_LEUKOCYTE_DIFFERENTIATION                                                | ACIN1   CALCA   CDC42   CSF1   IFI16   IL4   INHA   INHBA   MMP9   MYH9   RUNX1   TM7SF4   ZNF675                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| chr2q23                                                                          | ACVR1   BA228   FAP   FMNL2   KIF5C   MBD5   PKP4   PLA2R1   PRPF40A   RIF1   RND3   SCN1A   SLC4A10   TBR1   TNFAIP6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| chr16p                                                                           | CRYM   NUBP1   PLK1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| chr18q22                                                                         | CCDC102B   CD226   CDH19   CDH20   CDH7   CNDP2   KCNG2   LOC400655   MC4R   SOCS6   TNFRSF11A   TSHZ1   ZNF236                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| AMINE_BINDING                                                                    | ADRB2   ADRB3   ANXA9   CHRM2   CHRM4   CHRM5   CHRNA1   CHRNA2   CHRNA3   CHRNA4   CHRNA5   CHRNA6   CHRNA7   CHRN81   CHRN82   CHRN84   CHRNE   GCLC   GLRA1   GLRA2   GLRB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| CALVET_IRINOTECAN_SENSITIVE_VS_REVERTED_DN                                       | CDH5   HOXD3   PCNA   PTN   RHOB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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| STRATIATED_MUSCLE_CONTRACTION_GO_0006941                                         | ALDOA   ATP2A1   CASQ2   DTNA   GAA   KBTBD10   MYBPC3   MYBPH   MYL2   MYOM1   PGAM2   SMPX   SRI   TTN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| HOFMANN_MYELODYSPLASTIC_SYNDROM_RISK_UP                                          | CNDN1   CD9   CDK2AP2   DUSP14   GDF15   GPRC5A   HRAS   IER3   JUND   MAGEA1   MAGEA3   MAGEA6   MALL   MLF2   NCCR1   PSMID1   PTPRN   STIP1   TK1   TOM1   TRAM2   TSPAN8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| SOUCEK_MYC_TARGETS                                                               | CCL2   CCL5   CCL7   CXCL1   CXCL13   CXCL2   CXCL6   KLF6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| HASLINGER_B CLL_WITH_17P13_DELETION                                              | ASMTL   EIF4A1   FXR2   GABARAP   GEMIN4   GNAI2   GPS2   HNRPDL   MAPRE3   MINK1   PLD2   PRDX4   RRAS2   RYR1   SCP2   SENP3   TBC1D2B   TPNO3   TP53   VDCA1   ZZZEF1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| CHEN_PDGF_TARGETS                                                                | ARID5B   C9orf3   EPHA2   GOT1   GPD2   KLF2   KLF9   LMNA   MCL1   MYO1E   PHF17   PLEKHA1   SCHIP1   SGPL1   SLC2A2   TIPARP   UCK2   ZFAND5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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| REGULATION_OF_INTRACELLULAR_TRANSPORT                                            | ABCA2   BARD1   BCL3   CDH1   CRYAA   CRYAB   FAF1   FLNA   GSK3B   KHDRBS1   MDF1   MX1   NCBP2   NF1   NFKBIE   NFKBIL1   NUOT4   SMA03   TGFBI   TNFSF14   TRIP6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| KEGG_GALACTOSE_METABOLISM                                                        | AKR1B1   B4GALT1   B4GALT2   GGPC   G6PC2   GAA   GALE   GALK1   GALK2   GALT   GCK   GLA   GLB1   HK1   HK2   HK3   LALBA   LCT   MGAM   PFKL   PFKM   PFKP   PGM1   UGP2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| DELAYED_RECTIFIER_POTASSIUM_CHANNEL_ACTIVITY                                     | KCNA1   KCNA2   KCNA3   KCNA5   KCNB2   KCNE1   KCNG2   KCNH1   KCNH2   KCNQ1   KCNS1   KCNS3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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| PID_CONE_PATHWAY                                                                 | ARR3   CNGA3   CNGB3   GNAT2   GN83   GN85   GNGT2   GRK1   GUCA1A   GUCA18   GUCY2D   GUCY2F   LRAT   PDE6C   PDE6H   RDH5   RGS9   RPE65   SLC24A2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| MODULE_340                                                                       | APOA4   ARNTL   ARSB   CDC106   CKMT1B   CREG1   CTSK   FANCC   GCNT1   GH2   HAO1   HIST1H3H   IGLL1   KCNA1   LRRC17   MX1   NFKB2   NR2C2   PCSK2   PDE1A   SCGB2A1   SERPINB3   TNF   TOE1   ZNF415                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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| ST_IL13_PATHWAY                                                                  | IL13   IL13RA1   IL13RA2   IL4R   JAK1   JAK2   TYK2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| ST_INTERLEUKIN_13_PATHWAY                                                        | IL13   IL13RA1   IL13RA2   IL4R   JAK1   JAK2   TYK2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| KONG_E2F1_TARGETS                                                                | ANKRD1   CCL20   E2F1   H2AFX   HMG2A   KPNA1   NUPL1   NUSAP1   PRG4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| WHITESIDE_CISPLATIN_RESISTANCE_UP                                                | CDKN1A   ERBB3   FASN   GDF15   IFITM1   ITGA7   ITGB4   MX1   PTGES   PXN   RAC1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| ROYLANCE_BREAST_CANCER_16Q_COPY_NUMBER_DN                                        | CDH8   CE51   DNAJA2   GNAO1   ITFG1   MAF   MMP2   NETO2   PHK8   SHCBP1   SLC6A2   VPS35   WWOX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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| DIERRICK_SEROTONIN_FUNCTION_GENES                                                | BRD2   DDC   HTR2A   HTR7   PAH   SLC6A4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| YAN_ESCAPE_FROM_ANOIKIS                                                          | ALDH3A1   BCL2L1   CCL20   CCL5   CD44   CFB   CXCL31   CXCL10   DDIT3   EIF2AK2   HLA-DMA   HLA-E   IL15   IRF1   IRF7   LTA   MMP2   NFKB1   RSAD2   STAT1   STAT2   VCAM1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| DACOSTA_ERCC3_ALLELE_XPCS_VS_TTD_UP                                              | ADORA1   ANPEP   CTSH   CXCL12   EZF5   EFN82   EPB41L3   FOS   GNG4   HOXB5   IGFBP2   IGFBP6   IGSF3   ISG20   KCNG1   KRT18   LHX2   MDK   MEST   NMB   NNMT   PCDH7   PTPRN   PTX3   RASSF2   RIMS2   TGM2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      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| KASLER_HDAC7_TARGETS_2_UP                                                        | ATF7IP   CD48   CPA3   CST7   MYL1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| REACTOME_PTM_GAMMA_CARBOXYLATION_HYPUSINE_FORMATION_AND_ARYLSULFATASE_ACTIVATION | ARSA   ARSB   ARSE   ARSF   ARSJ   DHPS   DOHH   EIF5A   EIF5A2   F10   F2   F7   F9   FURIN   GGCK   PROC   PROS1   PROZ   STS   VKORC1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| WANG_THOC1_TARGETS_DN                                                            | AMHR2   CLDN11   CLU   GATA1   GATA4   GDNF   INHBB   KIT   MAGEA4   MTL5   NOTCH1   NR0B1   NR5A1   PPT1   SOX9   VDR   WT1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| BOGNI_TREATMENT_RELATED_MYELOID_LEUKEMIA_UP                                      | CFP   CLPP   DNAJA2   EFEMP1   EFNA2   EPB41   FLNA   GABRB1   HIST1H4C   HP   MAP2K1   MPST   NPR2   PAX5   PGK1   POLR2A   RFNG   RPL11   RPL17   RPS27A   S100A2   SEMA6C   SGPL1   SLC10A1   SLC25A6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| MICROVILLUS                                                                      | CLIC4   CLICS   DFN831   DOCK4   MYO1A   MYO1C   USH1C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| REACTOME_P2Y_RECEPTORS                                                           | GP1R7   P2RY1   P2RY10   P2RY11   P2RY13   P2RY14   P2RY2   P2RY4   P2RY6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| SASAKI_TARGETS_OF_TP73_AND_TP63                                                  | CYR61   DUSP7   IL4R   ITGB1   JAG1   JAG2   MEF2B   MT1H   MTJX   MT2A   SERPINF1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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| WEST_ADRENOCORICAL_CARCINOMA_VS_ADENOMA_DN                                       | APOE   APOL3   BTN2A1   CIQB   CD7   CYB5R3   CYP11B1   DGAT1   EMCN   GIMAP6   GLS   GLUL   GRHL2   HLA-DPA1   HLA-DPB1   HLA-DRA   HRC   KIAA0247   KTN1   PAH   PART1   PLAGL1   SLC25A24   TGFB2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| REACTOME_DOPAMINE_NEUROTRANSMITTER_RELEASE_CYCLE                                 | RAB3A   RIMS1   SNAP25   STX1A   STXB1P   SYN1   SYN2   SYN3   SYT1   VAMP2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         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| JEON_SMA06_TARGETS_DN                                                            | BCKDHA   CALCB   CCNB2   CDH1   CENPA   CTH   DDC   DHCR7   DHFR   EGFR   ERBB3   IRS2   KIF11   KIF23   NOTCH3   TOP2A   UBE25   USH1C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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| REGULATION_OF_NEURON_APOPTOSIS                                                   | BAX   CDK5   CDKSR1   GDNF   GRM4   NF1   PPT1   RASA1   SOD1   TGFBI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| REACTOME_GAP_JUNCTION_DEGRADATION                                                | AP2M1   CLT1   CLTB   CLTC   CLTCL1   DAB2   DNMI1   DNMI2   GJA1   MYO6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            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| NIELSEN_MALIGNANT_FIBROUS_HISTIOCYTOMA_UP                                        | BST1   CCL2   CCL7   COL6A3   CTGF   CXCL1   GNA15   LIF   LOX   LRRC32   MME   PLAU   RAB21   SFRP4   SH3BGR13   SRPX   THBS2   TIMP1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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| GARGALOVIC_RESPONSE_TO_OXIDIZED_PHOSPHOLIPIDS_LIGHTYELLOW_UP                     | ABHD3   GNA13   IER5   PIM1   RBBP6   SIRT1   UGDH   USP12   ZDHHC18                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| ZEMBUTSU_SENSITIVITY_TO_VINBLASTINE                                              | ANKXA4   CXK2   GJB1   HNF4A   HSD17B2   INSIG2   ITH2   LPP   MYH14   MYO15B   NR3C1   PABPC1   PDIA4   RNASE2   SPTBN1   UCP3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| POSITIVE_REGULATION_OF_EPITHELIAL_CELL_PROLIFERATION                             | EGFR   ERBB2   LAMA1   LAMB1   LAMC1   NME1   NME2   TGFA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| REGULATION_OF_T_CELL_PROLIFERATION                                               | CD24   CD28   CD3E   EB13   GLMN   ICOSLG   IL12B   IL18   IL21   IL4   NCK1   NCK2   PTPRC   SFTPD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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| POSITIVE_REGULATION_OF_T_CELL_PROLIFERATION                                      | CD24   CD28   CD3E   EB13   ICOSLG   IL12B   IL18   IL21   IL4   NCK1   NCK2   PTPRC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                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| REACTOME_PD1_SIGNALING                                                           | CD247   CD3D   CD3E   CD3G   CD4   CSK   HLA-DPA1   HLA-DPB1   HLA-DQA1   HLA-DQA2   HLA-DRB1   HLA-DRB5   LCK   PDCD1   PDCD1LG2   PTPN6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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| MONOCARBOXYLIC_ACID_TRANSPORT                                                    | AKR1C1   AKR1C4   SLC16A1   SLC16A2   SLC16A3   SLC16A4   SLC16A5   SLC16A6   SLC16A7   SLC16A8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| ZHAN_MULTIPLE_MYELOMA_SPIKED                                                     | AREG   AZGP1   C11orf41   CNDN1   CRYBB1   CST6   CTGF   DSC3   DUSP2   EDNRB   FBLN2   FGF3   GALNT3   GNAT1   IFI27   IFT3   LGALS3BP1   LTB   MAL   MS4A1   TSPAN7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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| REGULATION_OF_RESPONSE_TO_EXTERNAL_STIMULUS                                      | AHSG   CDH13   CHRNA7   CXCL1   GHSR   IL8   KLR8   LEP   NPY   SCG2   SLIT2   TNFRSF1A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             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| LE_NEURONAL_DIFFERENTIATION_UP                                                   | ACCN2   ANK2   CA10   CHRN81   CNR1   GABBR1   KCNAB1   KCNB1   KCND1   KCNK2   SCG5   SNCAIP   STX3   SYNGR3   SYT11   SYT5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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| MODULE_440                                                                       | ACY1   ARG1   ARG2   ASL   ASS1   BBOX1   CKB   CKM   CKMT1B   CPS1   DIO1   GAMT   GATM   GLUD1   OAT   ODC1   OTC   PYCR1   TTR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.9 | 0.625 |
| OSAWA_TNF_TARGETS                                                                | CFLAR   COL3A1   EFNA1   HABP2   IER3   IL8   JAG2   TNFAIP2   TP53BP2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 0.9 | 0.75  |
| REACTOME_ENOS_ACTIVATION_AND_REGULATION                                          | AKT1   CALM1   CALM2   CALM3   CAV1   DHFR   DNMI2   GCH1   GCHFR   HSP90AA1   LYP1A1   NOS3   NOSIP   PRKG2   PTS   SPR   WASL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.9 | 0.625 |
| BIOCARTA_NEUROTRANSMITTERS_PATHWAY                                               | DBH   GAD1   HDC   PNMT   TH   TPH1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0.9 | 0.75  |
| BIOCARTA_EXTRINSIC_PATHWAY                                                       | F10   F2   F12R   F3   F5   F7   FGA   FGB   FGG   PROC   PROS1   SERPINC1   TFPI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 0.9 | 0.75  |
| REACTOME_SEMA3A_PAK_DEPENDENT_AXON_REPULSION                                     | CFL1   FES   FYN   HSP90AA1   HSP90AB1   UIM1   NRP1   PAK1   PAK2   PLXNA1   PLXNA2   PLXNA3   RAC1   SEMA3A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.9 | 0.875 |
| REACTOME_EXTENSION_OF_TELOMERES                                                  | DKC1   FEN1   LIG1   PCNA   POLA2   POLD1   POLD2   POLD3   POLD4   POLE   POLE2   PRIM1   RFC2   RFC3   RFC4   RFC5   RPA1   RPA2   RPA3   RUVL1   RUVL2   TERT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.9 | 0.625 |
| REACTOME_PROSTANOID_LIGAND_RECEPTORS                                             | GR44   PTGDR   PTGER1   PTGER2   PTGER3   PTGER4   PTGFR   PTGIR   TBXA2R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.9 | 0.625 |
| THEODOROU_MAMMARY_TUMORIGENESIS                                                  | ASTN2   ATP2B1   EGR3   FGF3   FGF4   FGF6   FGF8   FGF9   FOXC2   IGFB2   IGFB3   IGFB4   IGFB5   IGFB6   IGFB7   IGFB8   IGFB9   IGFB10   IGFB11   IGFB12   IGFB13   IGFB14   IGFB15   IGFB16   IGFB17   IGFB18   IGFB19   IGFB20   IGFB21   IGFB22   IGFB23   IGFB24   IGFB25   IGFB26   IGFB27   IGFB28   IGFB29   IGFB30   IGFB31   IGFB32   IGFB33   IGFB34   IGFB35   IGFB36   IGFB37   IGFB38   IGFB39   IGFB40   IGFB41   IGFB42   IGFB43   IGFB44   IGFB45   IGFB46   IGFB47   IGFB48   IGFB49   IGFB50   IGFB51   IGFB52   IGFB53   IGFB54   IGFB55   IGFB56   IGFB57   IGFB58   IGFB59   IGFB60   IGFB61   IGFB62   IGFB63   IGFB64   IGFB65   IGFB66   IGFB67   IGFB68   IGFB69   IGFB70   IGFB71   IGFB72   IGFB73   IGFB74   IGFB75   IGFB76   IGFB77   IGFB78   IGFB79   IGFB80   IGFB81   IGFB82   IGFB83   IGFB84   IGFB85   IGFB86   IGFB87   IGFB88   IGFB89   IGFB90   IGFB91   IGFB92   IGFB93   IGFB94   IGFB95   IGFB96   IGFB97   IGFB98   IGFB99   IGFB100   IGFB101   IGFB102   IGFB103   IGFB104   IGFB105   IGFB106   IGFB107   IGFB108   IGFB109   IGFB110   IGFB111   IGFB112   IGFB113   IGFB114   IGFB115   IGFB116   IGFB117   IGFB118   IGFB119   IGFB120   IGFB121   IGFB122   IGFB123   IGFB124   IGFB125   IGFB126   IGFB127   IGFB128   IGFB129   IGFB130   IGFB131   IGFB132   IGFB133   IGFB134   IGFB135   IGFB136   IGFB137   IGFB138   IGFB139   IGFB140   IGFB141   IGFB142   IGFB143   IGFB144   IGFB145   IGFB146   IGFB147   IGFB148   IGFB149   IGFB150   IGFB151   IGFB152   IGFB153   IGFB154   IGFB155   IGFB156   IGFB157   IGFB158   IGFB159   IGFB160   IGFB161   IGFB162   IGFB163   IGFB164   IGFB165   IGFB166   IGFB167   IGFB168   IGFB169   IGFB170   IGFB171   IGFB172   IGFB173   IGFB174   IGFB175   IGFB176   IGFB177   IGFB178   IGFB179   IGFB180   IGFB181   IGFB182   IGFB183   IGFB184   IGFB185   IGFB186   IGFB187   IGFB188   IGFB189   IGFB190   IGFB191   IGFB192   IGFB193   IGFB194   IGFB195   IGFB196   IGFB197   IGFB198   IGFB199   IGFB200   IGFB201   IGFB202   IGFB203   IGFB204   IGFB205   IGFB206   IGFB207   IGFB208   IGFB209   IGFB210   IGFB211   IGFB212   IGFB213   IGFB214   IGFB215   IGFB216   IGFB217   IGFB218   IGFB219   IGFB220   IGFB221   IGFB222   IGFB223   IGFB224   IGFB225   IGFB226   IGFB227   IGFB228   IGFB229   IGFB230   IGFB231   IGFB232   IGFB233   IGFB234   IGFB235   IGFB236   IGFB237   IGFB238   IGFB239   IGFB240   IGFB241   IGFB242   IGFB243   IGFB244   IGFB245   IGFB246   IGFB247   IGFB248   IGFB249   IGFB250   IGFB251   IGFB252   IGFB253   IGFB254   IGFB255   IGFB256   IGFB257   IGFB258   IGFB259   IGFB260   IGFB261   IGFB262   IGFB263   IGFB264   IGFB265   IGFB266   IGFB267   IGFB268   IGFB269   IGFB270   IGFB271   IGFB272   IGFB273   IGFB274   IGFB275   IGFB276   IGFB277   IGFB278   IGFB279   IGFB280   IGFB281   IGFB282   IGFB283   IGFB284   IGFB285   IGFB286   IGFB287   IGFB288   IGFB289   IGFB290   IGFB291   IGFB292   IGFB293   IGFB294   IGFB295   IGFB296   IGFB297   IGFB298   IGFB299   IGFB300   IGFB301   IGFB302   IGFB303   IGFB304   IGFB305   IGFB306   IGFB307   IGFB308   IGFB309   IGFB310   IGFB311   IGFB312   IGFB313   IGFB314   IGFB315   IGFB316   IGFB317   IGFB318   IGFB319   IGFB320   IGFB321   IGFB322   IGFB323   IGFB324   IGFB325   IGFB326   IGFB327   IGFB328   IGFB329   IGFB330   IGFB331   IGFB332   IGFB333   IGFB334   IGFB335   IGFB336   IGFB337   IGFB338   IGFB339   IGFB340   IGFB341   IGFB342   IGFB343   IGFB344   IGFB345   IGFB346   IGFB347   IGFB348   IGFB349   IGFB350   IGFB351   IGFB352   IGFB353   IGFB354   IGFB355   IGFB356   IGFB357   IGFB358   IGFB359   IGFB360   IGFB361   IGFB362   IGFB363   IGFB364   IGFB365   IGFB366   IGFB367   IGFB368   IGFB369   IGFB370   IGFB371   IGFB372   IGFB373   IGFB374   IGFB375   IGFB376   IGFB377   IGFB378   IGFB379   IGFB380   IGFB381   IGFB382   IGFB383   IGFB384   IGFB385   IGFB386   IGFB387   IGFB388   IGFB389   IGFB390   IGFB391   IGFB392   IGFB393   IGFB394   IGFB395   IGFB396   IGFB397   IGFB398   IGFB399   IGFB400   IGFB401   IGFB402   IGFB403   IGFB404   IGFB405   IGFB406   IGFB407   IGFB408   IGFB409   IGFB410   IGFB411   IGFB412   IGFB413   IGFB414   IGFB415   IGFB416   IGFB417   IGFB418   IGFB419   IGFB420   IGFB421   IGFB422   IGFB423   IGFB424   IGFB425   IGFB426   IGFB427   IGFB428   IGFB429   IGFB430   IGFB431   IGFB432   IGFB433   IGFB434   IGFB435   IGFB436   IGFB437   IGFB438   IGFB439   IGFB440   IGFB441   IGFB442   IGFB443   IGFB444   IGFB445   IGFB446   IGFB447   IGFB448   IGFB449   IGFB450   IGFB451   IGFB452   IGFB453   IGFB454   IGFB455   IGFB456   IGFB457   IGFB458   IGFB459   IGFB460   IGFB461   IGFB462   IGFB463   IGFB464   IGFB465   IGFB466   IGFB467   IGFB468   IGFB469   IGFB470   IGFB471   IGFB472   IGFB473   IGFB474   IGFB475   IGFB476   IGFB477   IGFB478   IGFB479   IGFB480   IGFB481   IGFB482   IGFB483   IGFB484   IGFB485   IGFB486   IGFB487   IGFB488   IGFB489   IGFB490   IGFB491   IGFB492   IGFB493   IGFB494   IGFB495   IGFB496   IGFB497   IGFB498   IGFB499   IGFB500   IGFB501   IGFB502   IGFB503   IGFB504   IGFB505   IGFB506   IGFB507   IGFB508   IGFB509   IGFB510   IGFB511   IGFB512   IGFB513   IGFB514   IGFB515   IGFB516   IGFB517   IGFB518   IGFB519   IGFB520   IGFB521   IGFB522   IGFB523   IGFB524   IGFB525   IGFB526   IGFB527   IGFB528   IGFB529   IGFB530   IGFB531   IGFB532   IGFB533   IGFB534   IGFB535   IGFB536   IGFB537   IGFB538   IGFB539   IGFB540   IGFB541   IGFB542   IGFB543   IGFB544   IGFB545   IGFB546   IGFB547   IGFB548   IGFB549   IGFB550   IGFB551   IGFB552   IGFB553   IGFB554   IGFB555   IGFB556   IGFB557   IGFB558   IGFB559   IGFB560   IGFB561   IGFB562   IGFB563   IGFB564   IGFB565   IGFB566   IGFB567   IGFB568   IGFB569   IGFB570   IGFB571   IGFB572   IGFB573   IGFB574   IGFB575   IGFB576   IGFB577   IGFB578   IGFB579   IGFB580   IGFB581   IGFB582   IGFB583   IGFB584   IGFB585   IGFB586   IGFB587   IGFB588   IGFB589   IGFB590   IGFB591   IGFB592   IGFB593   IGFB594   IGFB595   IGFB596   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|                                                                            |                                                                                                                                                                                                                                                                                                                                                                |     |       |
|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| KEGG_GLYCOSAMINOGLYCAN_DEGRADATION                                         | ARSB   GALNS   GLB1   GNS   GUSB   HEXA   HEXB   HGSNAT   HPSE   HPSE2   HS3ST3A1   HS3ST3B1   HYAL1   HYAL2   HYAL3   HYAL4   IDS   IDUA   NAGLU   SGSH   SPAM1                                                                                                                                                                                               | 0.9 | 0.625 |
| BIOCARTA_PLCE_PATHWAY                                                      | ADCY1   ADRB2   GNAS   PLCE1   PRKACB   PRKACG   PRKAR1A   PRKAR1B   PRKAR2A   PRKAR2B   PTGER1   RAP2B                                                                                                                                                                                                                                                        | 0.9 | 0.75  |
| BIOCARTA_ERYTH_PATHWAY                                                     | CLL3   CSF2   CSF3   EPO   FLT3   IGF1   IL11   IL1A   IL3   IL6   IL9   KITLG   TGFBI   TGFBI2   TGFBI3                                                                                                                                                                                                                                                       | 0.9 | 0.75  |
| PID_INTEGRIN_A9B1_PATHWAY                                                  | ADAM12   ADAM15   ADAM2   ADAM8   CSF2   CSF2RA   F13A1   FIGF   FN1   ITGA9   ITGB1   KCN115   PAOX   PXN   RAC1   SAT1   SPP1   SRC   TGM2   TNC   VCAM1   VEGFC                                                                                                                                                                                             | 0.9 | 0.75  |
| chr5q34                                                                    | ATP10B   CYFIP2   DRD1   DUSP1   FGF18   FLT4   FOXI1   GABRA1   GABRA6   GABRB2   GABRG2   GALNT10   KCNMB1   MAT2B   MSX2   NKX2-5   PANK3   RANBP17   WWCI1                                                                                                                                                                                                 | 0.9 | 0.625 |
| YAP1_UP                                                                    | ARHGEF10   C9orf95   CAMK4   CDIPT   CNP   COX8A   CXorf56   CYP4B1   DDB2   DLX5   FAM35A   FAM45A   FLOT1   GLTSCR1   GTPBP3   KKNK12   KIAA1033   LLGL1   MOC52   MSN   MYLK   NRAS   PRKACG   RAB40C   RHOQ   RPN2   SAMSN1   SEMA3C   SNAP23   SNX7   TEAD1   YWHAZ                                                                                       | 0.9 | 0.75  |
| DETECTION_OF_EXTERNAL_STIMULUS                                             | ABCA4   ACNA1F   CD1D   GRK1   GRM6   NR2E3   OPN15W   PDC   PDE6B   PGLYRP1   PGLYRP4   PITPNM1   RHO   SAG   TRPC3   UNC119                                                                                                                                                                                                                                  | 0.9 | 0.875 |
| IIZUKA_LIVER_CANCER_PROGRESSION_G2_G3_DN                                   | BAZ2A   CYBA   DAZAP2   LGSAL9   PIM2   PPT1   S100A13   SPINT1   TGFBI                                                                                                                                                                                                                                                                                        | 0.9 | 0.625 |
| MYLLYKANGAS_AMPLIFICATION_HOT_SPOT_29                                      | EGFR   ETV1   HOXA11   HOXA9   IKZF1   PMS2                                                                                                                                                                                                                                                                                                                    | 0.9 | 0.75  |
| COFACTOR_TRANSPORT                                                         | FOLR1   FOLR2   FOLR3   HPX   PDPN   PPT1   SLC19A1   SLC22A4   SLC22A5                                                                                                                                                                                                                                                                                        | 0.9 | 0.75  |
| SHARMA_PILOCYTIC_ASTROCYTOMA_LOCATION_DN                                   | CBS   IRX5   PAX3   RASSF2                                                                                                                                                                                                                                                                                                                                     | 0.9 | 0.625 |
| MODULE_134                                                                 | AVPR1A   BOKRB2   C3AR1   CSAR1   CCBP2   CCKAR   CCL13   CCR1   CCR2   CCR4   CCR5   CX3CR1   CXCR4   CXCR6   EDNRA   EDNRB   FPR1   GALR3   GP1BB   GPR17   HCRTR1   HTR7   MAS1   NPY1R   NPY5R   NTSR1   OPRK1   OXTR                                                                                                                                      | 0.9 | 0.75  |
| GNF2_SMC2L1                                                                | ASPM   BIRC5   BUB1   CCNA2   CCNB2   CDC20   CDCAC   CENPE   CENPF   CKS1B   CKS2   ESPL1   FOXM1   HMMR   KIF11   MCM3   MCM6   MYB12   NUSAP1   PCNA   PRIM1   RFC3   RFC4   RRM1   SMC2   SMC4   TOP2A   TTK   ZWINT                                                                                                                                       | 0.9 | 0.75  |
| chr15q14                                                                   | BAHD1   BUB1B   C15orf24   CASC5   CHSY1   GOLGA8A   GOLGA8B   GPR176   ITPKA   IVD   MEI52   NUSAP1   OIP5   PAK6   RPAP1   RTF1   RYR3   SNAP23   TTBK2   VPS39   ZFP106                                                                                                                                                                                     | 0.9 | 0.625 |
| MODULE_465                                                                 | ALDH3B2   BAZ1B   CS   CSAR1   CD24   CRISP1   DUSP6   FPR1   GTF2H2   PDE3B   RGS4   SYN3                                                                                                                                                                                                                                                                     | 0.9 | 0.625 |
| DAVICIONI_PAX_FOXO1_SIGNATURE_IN_ARMS_DN                                   | ATP2A1   CCL2   DUSP4   GAS2   IGFBR3   MOXD1   MYL6F   OLFML3   PHLDA1   PKIA   PLK2   RGS2   SPRY4   TCF4   TNNC2   TRIB2   ZFP36L2                                                                                                                                                                                                                          | 0.9 | 0.625 |
| MODULE_14                                                                  | ANGPT1   ANPEP   EPAS1   FGF1   FGF2   FGF6   FIGF   IL18   IL8   JAG1   MMP19   NRG1   T   TNFAIP2   TNFSF12                                                                                                                                                                                                                                                  | 0.9 | 0.625 |
| LYMPHOCYTE_DIFFERENTIATION                                                 | CD1D   CD30   CD4   CD79A   CEBPG   HDACA1   HDACS1   HDAC9   IL12B   IL2   IL4   IL7   INHA   INHB4   JAG2   LCK   NHEJ1   PTPRC   SART1   SOCS5   SPINK5   TPDS2   ZAP70                                                                                                                                                                                     | 0.9 | 0.75  |
| KRAS_5Q_UP.V1_UP                                                           | A2M   ADAM8   ANGPTL4   C11orf41   CALB1   CD1A   CDR1   CFHR2   CHGB   CXCL5   DHR59   DOCK4   DYNC111   ETV1   ETV5   FABP3   FGF9   GSG2   GLDC   GLRX   HEY1   HPN   HSD11B1   HTR7   IL13RA2   IL1RL1   ITGA2   ITGB2   KIF5C   LILRA6   LMO3   MMP11   NRCAM   PCDH8   PEG3   PPPB   RBP4   RELN   SCG3   SCG5   SNAP25   SNAP91   ST3GAL6   STC1   TERT | 0.9 | 0.625 |
| TSAI_DNAJB4_TARGETS_DN                                                     | BCAT1   CALD1   CD44   HMGAA2   NOLC1   SNAI2                                                                                                                                                                                                                                                                                                                  | 0.9 | 0.75  |
| PID_S1P_S1P3_PATHWAY                                                       | AKT1   AKT3   CXCR4   FLT1   GNA11   GNA12   GNA13   GNA14   GNA15   GNAI1   GNAI2   GNAI3   GNAO1   GNAQ   GNAZ   ITGAV   ITGB3   JAK2   MAPK1   MAPK3   PDGFRB   PDGFRB   RAC1   RHOA   SRC                                                                                                                                                                  | 0.9 | 0.625 |
| WENG_POR_TARGETS_LIVER_DN                                                  | ACOT2   APOA4   ATF5   BDH1   CCRNL4   CYP7B1   EHHADH   FABP2   FGF1   HSP90AA1   HSPH1   IGF1   RAB30   RETSAT   SDC4   SDS   VNN1                                                                                                                                                                                                                           | 0.9 | 0.625 |
| BIOCARTA_TCAOPTOSIS_PATHWAY                                                | CCR5   CD247   CD28   CD30   CD3E   CD3G   CD4   FAS   FASLG   TRA@                                                                                                                                                                                                                                                                                            | 0.9 | 0.625 |
| FOURNIER_ACINAR_DEVELOPMENT_LATE_DN                                        | ACTB   ACTN1   ASPM   AURKA   CDKN3   CEP55   CKS2   DUSP4   EIF4A1   EPHA2   FGFBR1   FOXM1   ODC1   RRM2   SERPINE2   TRIP13   TUBG1   VRK1   ZWILCH                                                                                                                                                                                                         | 0.9 | 0.625 |
| EGUCHI_CELL_CYCLE_RB1_TARGETS                                              | BUB1   CCNA2   CCNE2   CDC25C   CDCAC   CENPE   ECT2   FEN1   HMG82   KIF11   KIF18A   KIF20A   MCM2   MCM3   MCM4   MCM5   MCM6   MCM7   NEK2   SMC2   SMC4                                                                                                                                                                                                   | 0.9 | 0.75  |
| ACTIN_FILAMENT                                                             | ACTA1   ACTC1   ACTN2   ACTN3   AMOT   CD2AP   GAS2   IQGAP1   MYO1A   MYO1C   MYO3A   MYO6   MYO9B   PALD1   TSC1                                                                                                                                                                                                                                             | 0.9 | 0.75  |
| SIMBULAN_PARP1_TARGETS_DN                                                  | CCNA2   CCNB1   CCNB2   CDC20   DNMT1   HMG82   KRT14   NCAM1   PCNA   PRIM1   RANGAP1   SERPINH1   SET   SPP1   STMN1   TAGLN2   UBE25                                                                                                                                                                                                                        | 0.9 | 0.625 |
| PID_AURORA_A_PATHWAY                                                       | AKT1   ARHGEF7   AURKA   AURKAIP1   AURKB   BIRC5   BRCA1   CDC25B   CENPA   CKAP5   CPEB1   FZR1   GADD45A   GIT1   GSK3B   MDM2   NDE1   NFKBIA   OAZ1   PAK1   PPP2R5D   PRKACA   RAN   RASA1   TACC1   TACC3   TDRD7   TP53   TPX2                                                                                                                         | 0.9 | 0.75  |
| REACTOME_ACTIVATION_OF_RAC                                                 | GPC1   NCK1   NCK2   PAK1   PAK2   PAK4   PAK6   PAK7   RAC1   ROBO1   SLIT2   SOS1   SOS2                                                                                                                                                                                                                                                                     | 0.9 | 0.625 |
| MASRI_RESISTANCE_TO_TAMOXIFEN_AND_AROMATASE_INHIBITORS_UP                  | ABCA12   AGR2   AREG   ATRNL1   CYP26B1   DMD   ELOVL2   FHL1   GJA1   GREB1   KLK11   METTL7A   MGP   MYBL1   NPY1R   PDZK1   PGR   RMST   SULF1   TFF1                                                                                                                                                                                                       | 0.9 | 0.75  |
| WEBER_METHYLATED_LCP_IN_SPERM_UP                                           | CCIN   CST8   FSCN3   MS4A5   OAZ3   ODF1   TNP1   UBQLN3                                                                                                                                                                                                                                                                                                      | 0.9 | 0.625 |
| HOLLEMAN_VINCISTINE_RESISTANCE_ALL_UP                                      | ABHD3   CALU   C8orf273   CREB3L2   DSC3   EPOR   FKBP1A   GNS   KCNN1   KPNA2   LBH   PISD   PPM1B   PT4A3   RBMS1   RUFY3   SPATA2   SSH1   TCEB3   TRIM24   YRDC                                                                                                                                                                                            | 0.9 | 0.625 |
| BUCKANOVICH_T_LYMPHOCYTE_HOMING_ON_TUMOR_DN                                | ACTR6   ALDOA   ATP9A   DLK1   EDNRB   EMX2   ENPP2   HES1   KIAA0146   KIAA1609   MEG3   MPHOSPH9   MYBL1   NCOA1   PAPSS2   SAC3D1   SEC61G   SGCB   SLC14A1   ZNF423                                                                                                                                                                                        | 0.9 | 0.875 |
| REACTOME_LAGGING_STRAND_SYNTHESIS                                          | FEN1   LIG1   PCNA   POLA2   POLD1   POLD2   POLD3   POLD4   PRIM1   RFC2   RFC3   RFC4   RFC5   RPA1   RPA2   RPA3                                                                                                                                                                                                                                            | 0.9 | 0.625 |
| LI_CISPLATIN_RESISTANCE_UP                                                 | CDH2   OCLF   COL11A1   CYP1B1   EGLN3   EPHA3   GJA1   HAPLN1   IGF1R   ITM2A   KYN1   LPHN2   NEBL   PEG10   SMARCA2   TPFI2   TMEM2   TWIST1   ZBTB20                                                                                                                                                                                                       | 0.9 | 0.875 |
| REACTOME_GAP_JUNCTION_TRAFFICKING                                          | AP2M1   CLT1   CLTB   CLTC   CLTCL1   DAB2   DNM1   DNM2   GJA1   GJA10   GJA3   GJA4   GJA5   GJA8   GJB1   GJB3   GJB4   GJB5   GJB6   MYO6                                                                                                                                                                                                                  | 0.9 | 0.625 |
| chr14q12                                                                   | AKAP6   AP4S1   BAZ1A   CIDEB   CTSG   EGLN3   FOXA1   NOVA1   NPA33   NUBPL   OSGEP   PAX9   PKC2   SCFD1                                                                                                                                                                                                                                                     | 0.9 | 0.875 |
| chr21q11                                                                   | BTG3   CHODL   CNN2   MRPL39   NRIP1   SAMSN1   USP25                                                                                                                                                                                                                                                                                                          | 0.9 | 0.75  |
| BIOCARTA_PTC1_PATHWAY                                                      | CCNB1   CCNH   CDC25A   CDC25B   CDC25C   CDK7   MNAT1   SHH   XPO1                                                                                                                                                                                                                                                                                            | 0.9 | 0.625 |
| KEGG_GLYCOPHINGOLIPID_BIOSYNTHESIS_GANGLIO_SERIES                          | B3GALT4   B4GALNT1   GLB1   HEXA   HEXB   SLC33A1   ST3GAL1   ST3GAL2   ST3GAL5   ST6GALNAC4   ST6GALNAC5   ST8SIA1   ST8SIA5                                                                                                                                                                                                                                  | 0.9 | 0.625 |
| HASINA_NOL7_TARGETS_DN                                                     | ANGPT1   CD53   CD55   CD97   EGFR   EML1   JAG1   MET   SDC1   SDC2   TGFBR1                                                                                                                                                                                                                                                                                  | 0.9 | 0.75  |
| REICHERT_MITOSIS_LIN9_TARGETS                                              | ANAPC1   ASPM   AURKA   CALD1   CASC5   CCNB1   CCNF   CENPA   CENPE   CENPF   CEP55   FBXO5   HMG82   HMMR   KIF20A   KIF23   KIF2C   MKI67   MYO6   NUSAP1   PLK1   TOP2A   VCP1P1                                                                                                                                                                           | 0.9 | 0.625 |
| NAKAMURA_BRONCHIAL_AND_BRONCHIOLAR_EPITHELIA                               | DNAI2   FABP6   IQCG   LRRC4B   MUC4   SCGB1A1                                                                                                                                                                                                                                                                                                                 | 0.9 | 0.75  |
| CAFFAREL_RESPONSE_TO_THC_DN                                                | CALM3   CCNA2   CYP51A1   DHCR7   DHFR   DNAJA1   EBP   GIPC1   HSPA2   HSPA8   HSPH1   KIAA0101   KIAA0146   MCM3   MCM6   PABPC4   PP1F   RBM4   RRM2   SERPINB2   SESN1   TMEM109   TUBB   ZWINT                                                                                                                                                            | 0.9 | 0.875 |
| CYTOKINESIS                                                                | AURKC   BIRC5   BRCA2   DCTN3   DIAPH2   INCENP   MYH10   MYH9   NUSAP1   PRC1   RAB35   RACGAP1   RASA1   SEPT5   SEPT6                                                                                                                                                                                                                                       | 0.9 | 0.625 |
| KANG_GIST_WITH_PDGFR_A_DN                                                  | RPS6KA1   S100P   SVIL   TSPAN5                                                                                                                                                                                                                                                                                                                                | 0.9 | 0.875 |
| HUMMERICH_MALIGNANT_SKIN_TUMOR_UP                                          | CCND1   COL18A1   COL1A2   COTL1   ECM1   GRRP1   GSTA4   GSTO1   KRT13   KRT16   LTF   RHOG   S100A8   S100A9   SLPI                                                                                                                                                                                                                                          | 0.9 | 0.625 |
| MEIOSIS_I                                                                  | ATM   CHEK1   DMC1   LIG3   MRE11A   MSH4   MSH5   RAD1   RAD21   RAD50   RAD51   RAD52   RAD54B   SPO11   STAG3   SYCP1                                                                                                                                                                                                                                       | 0.9 | 0.75  |
| ACCGAGC_MIR-423                                                            | BCORL1   CDK10   DLGAP1   FGF2R2   HIC2   PABPC1   PABPC3   RAP2C                                                                                                                                                                                                                                                                                              | 0.9 | 0.625 |
| REACTOME_SEMA3A_PLEXIN_REPULSION_SIGNALING_BY_INHIBITING_INTEGRIN_ADHESION | FARP2   FES   FYN   NRP1   PI3K1C   PLXNA1   PLXNA2   PLXNA3   RAC1   RND1   RRAS   SEMA3A   TLN1                                                                                                                                                                                                                                                              | 0.9 | 0.625 |
| REACTOME_ACYL_CHAIN_REMODELLING_OF_PG                                      | LPGAT1   PLA2G10   PLA2G12A   PLA2G1B   PLA2G2A   PLA2G2D   PLA2G2E   PLA2G2F   PLA2G3   PLA2G4A   PLA2G5                                                                                                                                                                                                                                                      | 0.9 | 0.75  |
| MOTAMED_RESPONSE_TO_ANDROGEN_UP                                            | CYP4B1   IDS   SSH1   SULT1E1                                                                                                                                                                                                                                                                                                                                  | 0.9 | 0.75  |
| chr6q12                                                                    | BAI3   COL19A1   COL9A1   DDX43   ME1   PHF3   PTP4A1   RIMS1   SMAP1                                                                                                                                                                                                                                                                                          | 0.9 | 0.625 |
| chr11q22                                                                   | AASDHPT1   ACAT1   ATM   BIRC2   BIRC3   CASP4   CASP5   CRYAB   CUL5   DDX10   DRD2   EXPH5   FDX1   GRIA4   HSPB2   IL18   MMP10   MMP12   MMP13   MMP20   MMP3   MTMR2   NPAT   PDGFR   PGR   PPP2R1B   PTS   SLN   TECTA   TEX12   TMEM123   TRIM29                                                                                                        | 0.9 | 0.625 |
| GLUCAN_METABOLIC_PROCESS                                                   | DYRK2   EPM2A   GAA   GCK   GSK3B   GYG2   GYS2   MGAM   PYGB   PYGM                                                                                                                                                                                                                                                                                           | 0.9 | 0.625 |
| WUNDER_INFLAMMATORY_RESPONSE_AND_CHOLESTEROL_DN                            | ACTA1   ADIPOQ   ALB   CDKN1C   CXCL9   CYP2E1   HLA-A   HLA-DQA1   IGF1                                                                                                                                                                                                                                                                                       | 0.9 | 0.625 |
| FINETTI_BREAST_CANCER_KINOME_RED                                           | AURKA   AURKB   BUB1   BUB1B   CD07   CHEK1   MELK   NEK2   PBK   PLK1   PLK4   SRPK1   TTK   VRK1                                                                                                                                                                                                                                                             | 0.9 | 0.75  |
| PROTEIN_TETRAMERIZATION                                                    | AASS   ACTN2   ALDH5A1   APOE   ATP1F1   CDA   GPX3   HPRT1   IGF1R   INSR   TGM3   TP53   TRPV5                                                                                                                                                                                                                                                               | 0.9 | 1     |
| REACTOME_THE_ACTIVATION_OF_ARYLSULFATASES                                  | ARSA   ARSB   ARSE   ARSF   ARS1   STS                                                                                                                                                                                                                                                                                                                         | 0.9 | 0.625 |
| MITOCHONDRIAL_MEMBRANE_ORGANIZATION_AND_BIOGENESIS                         | BAK1   BCL2   BCL2L1   BIN1P3   DNIM1L   MFN2   OPA1   TAZ   TIMM50   TP53                                                                                                                                                                                                                                                                                     | 0.9 | 0.75  |
| THUM_MIR21_TARGETS_HEART_DISEASE_DN                                        | AQP4   ARHGAP26   CCRNL4   CENPF   FEMF1   PFKFB1   SLC7A1                                                                                                                                                                                                                                                                                                     | 0.9 | 0.625 |
| CALCIUM_INDEPENDENT_CELL_CELL_ADHESION                                     | CLDN1   CLDN10   CLDN11   CLDN14   CLDN15   CLDN16   CLDN17   CLDN18   CLDN3   CLDN4   CLDN5   CLDN6   CLDN7   CLDN8   CLDN9   CXCL1                                                                                                                                                                                                                           | 0.9 | 0.75  |
| WEST_ADRENOCORITICAL_TUMOR_MARKERS_DN                                      | AADAC   ADH1B   C3   CYP11B2   DCN   FBLN1   FOSB   GAS1   HSD3B2   IGFBR5   KCNQ1   LSP1   MFAP5   NOV   NR4A2   PDGFRA   RARRES2   SPON1   VSNL1   WNT4                                                                                                                                                                                                      | 0.9 | 0.75  |
| STAEGE_EWING_FAMILY_TUMOR                                                  | ADRB3   BCL11B   CCK   CCND1   CLEC11A   CYP26B1   DKK2   EGR2   EZH2   GDF10   ITM2A   JAK1   KCNA83   LECT1   NPY1R   NPY5R   OLFM1   PAPP1   PCDH11X   PCDH8   RNF141   SERF1A   STEAP1                                                                                                                                                                     | 0.9 | 0.75  |
| DER_IFN_ALPHA_RESPONSE_DN                                                  | CXCL17   FEZ1   PPAP2B                                                                                                                                                                                                                                                                                                                                         | 0.9 | 0.625 |
| CARBOHYDRATE_TRANSPORT                                                     | EDNRA   GH1   INS   FEA15   PPPB   SLC2A1   SLC2A2   SLC2A3   SLC2A4   SLC2A5   SLC2A8   SLC35A1   SLC35A2   SLC35A3   SLC37A4   SLC5A1   SORBS1                                                                                                                                                                                                               | 0.9 | 0.75  |
| TAKAYAMA_BOUND_BY_AR                                                       | CATSPER2   CDH2   MET   PGC   TES   UGT1A1                                                                                                                                                                                                                                                                                                                     | 0.9 | 0.75  |
| GNF2_TNFSF10                                                               | AIF1   APOBEC3A   ARRB2   CSAR1   CCR1   CLEC7A   CSF3R   DPEP2   EVI2B   FCGR2A   FPR1   HCK   IGSF6   LILRA2   LST1   LY96   MMDA   MYO1F   NC2F1   P2RY13   PLRA   PLXNC1   RGS2   S100A4   SDCBP   SECTM1   SP1   TLR1   TNFSF10   UBE2D1                                                                                                                  | 0.9 | 0.75  |
| STREICHER_LSM1_TARGETS_DN                                                  | DUSP7   ETS1   FGF2   FOXO2   FST   FZD8   ID1   IL15RA   IL1R2   IL1RAP   IL6   ITGB6   SFRP1   TGFBI   TNFRSF10B   ZNF232                                                                                                                                                                                                                                    | 0.9 | 0.625 |
| CELLULAR_POLYSACCHARIDE_METABOLIC_PROCESS                                  | CHIA   CHIT1   DYRK2   EPM2A   GAA   GCK   GSK3B   GYG2   GYS2   MGAM   PYGB   PYGM                                                                                                                                                                                                                                                                            | 0.9 | 0.75  |
| NUMATA_CSF3_SIGNALING_VIA_STAT3                                            | BCL2   BLNK   CCNE1   CEBPA   FLI1   HBE1   HTR3A   IL17RA   ITGAL   KIF3B   MADCAM1   MAP2K7   MKNK1   MST1R   NIN1   PTPN13   RORA   RUXN1   SRPK1   TFRC                                                                                                                                                                                                    | 0.9 | 0.875 |
| BIOCARTA_FIBRINOLYSIS_PATHWAY                                              | CPB2   F13A1   F2   F2R   FGA   FGB   FGG   PLAT   PLAU   PLG   SERPINB2   SERPINE1                                                                                                                                                                                                                                                                            | 0.9 | 0.75  |
| REACTOME_SYNTHESIS_OF_VERY_LONG_CHAIN_FATTY_ACYL_COAS                      | ACSL1   ACSL3   ACSL4   ACSL5   ACSL6   ELOVL1   ELOVL2   ELOVL4   ELOVL5   ELOVL6   HSD17B12                                                                                                                                                                                                                                                                  | 0.9 | 0.625 |
| GUIETREZ_WALDENSTROEMS_MACROGLOBULINEMIA_1_DN                              | DUSP1   FAM46C   FOSB   HCK   IL6   NR4A2   S100A8   TNFRSF13B                                                                                                                                                                                                                                                                                                 | 0.9 | 0.625 |
| REACTOME_INTRINSIC_PATHWAY                                                 | A2M   C1QBp   F10   F11   F12   F2   F8   F9   GP1BA   GP1BB   GP5   GP9   KLB1   KNG1   PRCP   SERPING1   VWF                                                                                                                                                                                                                                                 | 0.9 | 0.625 |
| BALLIF_DEVELOPMENTAL_DISABILITY_P16_P12_DELETION                           | ALDOA   ATP2A1   CLN3   COG7   IL21R   IL4R   JMD5   SCNN1B   SCNN1G   TBX6                                                                                                                                                                                                                                                                                    | 0.9 | 0.75  |

|                                                              |                                                                                                                                                                                                                                                                                                                                                                           |     |       |
|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| MATZUK_OVULATION                                             | CEBPB   IL6ST   LFNG   NOS3   NR2C2   NR1P1   PDE3A   PDE4D   PGR   PTGS2   SCARB1   SIRT1   SULT1E1   YBX2                                                                                                                                                                                                                                                               | 0.9 | 0.875 |
| SASAI_TARGETS_OF_OXCR6_AND_PTCH1_UP                          | FOXD1   GDDP3   L1CAM   PLCB4   PPF1A4   SLC1A5   TTR   VGF   XIST                                                                                                                                                                                                                                                                                                        | 0.9 | 0.75  |
| GCM_ERCC4                                                    | ADCVAP1   CCR9   CD8B   COL14A1   CSN3   CSPG4   ERCC4   FANCC   FEMV   HMG2A   IFNA21   LYST   MPP2   NDUFA1   NRF1   PSG7   PTPRU   SLC14A2   SLC17A2   SLC18A1   SLC2A4   SLC30A3   SMARCD1   TAF1                                                                                                                                                                     | 0.9 | 0.75  |
| MODULE_194                                                   | ALDH1A1   ALDH1A2   ALDH1A3   ALDH3A1   ALDH3A2   ALDH3B1   ALDH3B2   ALDH4A1   ALDH5A1   ALDH6A1   ALDH7A1   ALDH9A1   AOX1   BKDHA   GAPDH5                                                                                                                                                                                                                             | 0.9 | 0.75  |
| HE_PTEN_TARGETS_DN                                           | CNGG2   JUNB   PSMD2   PTN   TGFA                                                                                                                                                                                                                                                                                                                                         | 0.9 | 0.75  |
| CELL_FATE_COMMITMENT                                         | EYK2   GLI2   IFRD1   JAG2   KLF4   MYEF2   NOTCH2   NOTCH4   POU6F2   SHH   SMAD2   TRIM15   WNT1                                                                                                                                                                                                                                                                        | 0.9 | 0.625 |
| PROTEIN_AMINO_ACID_AUTOPHOSPHORYLATION                       | ART1   CAMKK2   CDKL5   DYRK1A   EIF2AK1   EIF2AK3   IGF1R   INSR   LMTK2   MAP3K10   MAP3K11   MAP3K12   MAP3K13   MAP3K3   MAP3K9   MYO3A   PAK1   PAK2   SMG1   STK4   TAF1   TAOX3   TNK1   TTN                                                                                                                                                                       | 0.9 | 0.625 |
| PROTEIN_AUTOPROCESSING                                       | ACT1   CAMKK2   CDKL5   DYRK1A   EIF2AK1   EIF2AK3   IGF1R   INSR   LMTK2   MAP3K10   MAP3K11   MAP3K12   MAP3K13   MAP3K3   MAP3K9   MYO3A   PAK1   PAK2   SMG1   STK4   TAF1   TAOX3   TNK1   TTN                                                                                                                                                                       | 0.9 | 0.625 |
| chr10q26                                                     | ADAM12   ADAM8   ALDOA2   ATRNL1   BNP13   C10orf118   C10orf137   CTBP2   CUZD1   DHX32   DOCK1   ECHS1   EMX2   FAM53B   GFRA1   HSPA12A   HTRA1   IKZF5   INPP5A   INPP5F   KIAA1598   LHPP   MGMT   MKI67   MTG1   NHRAC2   OAT   PAOX   PLEKHA1   PNLP1   PNLP1RP1   PNLP1RP2   PPP2R2D   PTEN   PTPRE   RAB11FIP2   TACC2   TORD1   TUBGCP2   UTF1   VENTX   ZDHHC6 | 0.9 | 0.75  |
| YAP1_DN                                                      | ACOX2   APOBEC2   CACNB4   CDC8C7   CHCHD3   GPR50   GUCY2C   HEY1   IL4R   ITGA2   ITGBL1   KATNB1   LUMD1   MYLIP   MYO1B   PIGO   PRCC   RFX1   RHBDL1   SLC17A7   SLC6A5   SLC9A1   TAS2R7   TIMP3   UGT2B4   VSNL1   WBSCR16   ZBTB39                                                                                                                                | 0.9 | 1     |
| KREPPLE_CD99_TARGETS_DN                                      | BC1L22   HIPK3   INSG1   KIF21B   MLL   RABGAP1L                                                                                                                                                                                                                                                                                                                          | 0.9 | 0.625 |
| MODULE_211                                                   | AGA   CHIT1   MAMP1   MAMP10   MMP11   MMP13   MMP2   MMP3   MMP7   MMP9   PEPD                                                                                                                                                                                                                                                                                           | 0.9 | 0.75  |
| HUMMEL_BURKITTs_LYMPHOMA_DN                                  | ARHGAP25   BCL2A1   BCL3   CD40   CD44   CFLAR   CRIP1   CTSH   FBNP1   MDICF   NFKBIA   S100A11   SQSTM1   STAT3                                                                                                                                                                                                                                                         | 0.9 | 0.625 |
| SIMULAN_UV_RESPONSE_NORMAL_UP                                | CXCL2   CXCL3   EFNA1   ID2   IFI27   IL6   IL8   POLR2J   TNFSF9                                                                                                                                                                                                                                                                                                         | 0.9 | 0.875 |
| FINETT_BREAST_CANCER_KINOME_GREEN                            | BTX   FGR   HCK   ITK   JAK3   LCK   LYN   MAP4K1   PIM2   PRKQC   STK10   STK17B   SYK   ZAP70                                                                                                                                                                                                                                                                           | 0.9 | 0.75  |
| ST_INTERFERON_GAMMA_PATHWAY                                  | CISH   IFNG   IFNGR1   JAK1   JAK2   PLA2G2A   PTPRU   REG1A   STAT1                                                                                                                                                                                                                                                                                                      | 0.9 | 0.75  |
| REACTOME_RAS_ACTIVATION_UOPN_CA2_INFUX_THROUGH_NMDA_RECEPTOR | ACTN2   AKAP9   CALM1   CALM2   CALM3   CAMK2A   CAMK2B   CAMK2D   GRIN1   GRIN2A   GRIN2B   GRIN2C   GRIN2D   HRAS   NEFL   RASGRF1                                                                                                                                                                                                                                      | 0.9 | 0.75  |
| REACTOME_FGFR4_UGAND_BINDING_AND_ACTIVATION_MODULE_464       | FGF1   FGF17   FGF18   FGF2   FGF20   FGF23   FGFA   FGFB   FGF8   FGF9   FGFR4                                                                                                                                                                                                                                                                                           | 0.9 | 0.625 |
| INSOLUBLE_FRACTION                                           | ALDH1A1   ALDH1A2   ALDH1A3   ALDH3A1   ALDH3A2   ALDH3B1   ALDH3B2   ALDH4A1   ALDH5A1   ALDH6A1   ALDH7A1   ALDH9A1   AOX1   BKDHA                                                                                                                                                                                                                                      | 0.9 | 0.75  |
| POSITIVE_REGULATION_OF_LYMPHOCYTE_ACTIVATION                 | CLIC5   FAAH   GYS2   LOR   MAL   MDM2   PDE4A   PDE4B   PDE4D   PML   S100A12   TP53                                                                                                                                                                                                                                                                                     | 0.9 | 0.75  |
| WEBER_METHYLATED_LCP_IN_FIBROBLAST_UP                        | CD24   CD28   CD3E   CD47   EB13   ICOSLG   IL12A   IL12B   IL18   IL21   IL4   IL7   LCK   NCK1   NCK2   PTPRC   SART1   SIRPG   SOCS5   TGFBI   THY1   TNFSF13   ZAP70                                                                                                                                                                                                  | 0.9 | 0.75  |
| LOPEZ_MESOTHELIOMA_SURVIVAL_DN                               | CCIN   CST8   FSCN3   MSA45   OA23   ODF1   TNP1                                                                                                                                                                                                                                                                                                                          | 0.9 | 0.75  |
| REGULATION_OF_BLOOD_PRESSURE                                 | CHIA   CHIT1   CHST1   CHST7   DYRK2   EPM2A   GAA   GCK   GSK3B   GYG2   GYS2   MGAM   PYGB   PYGM                                                                                                                                                                                                                                                                       | 0.9 | 0.875 |
| REACTOME_GLYCOGEN_BREAKDOWN_GLYCOGENOLYSIS                   | CNNA1   CD24   COL5A1   ENAH   FOXJ3   NEK2   PLXNA3   PTPBL   TNJK   TLL12   TUBB3                                                                                                                                                                                                                                                                                       | 0.9 | 0.75  |
| chr16q11                                                     | ACE   ACVR1   AGT   AGTR2   ATP6AP2   CALCA   CHGA   CORIN   CYP11B2   GCGR   GNB3   NPPA   NPR2   PTGS1   PTGS2   REN   RENBP   SOD1   UTS2                                                                                                                                                                                                                              | 0.9 | 0.75  |
| REACTOME_OTHER_SEMAPHORIN_INTERACTIONS                       | ALB   ATP7B   FAF1   FTH1   GAA   LCK   MDR1   MX1   NFKBIE   NFKBIL1   PDIA2   PDIA3   PTPRC   S100A7   SRI   SUPT7L   THY1   TMSB4Y   TOPORS                                                                                                                                                                                                                            | 0.9 | 0.625 |
| AMINO_ACID_DERIVATIVE_BIOSYNTHETIC_PROCESS                   | ASMTL   BBOX1   CDO1   ETKN1   GAMT   GATM   OAZ1   PRG3   SLC5A7   TGF82                                                                                                                                                                                                                                                                                                 | 0.9 | 0.625 |
| PARK_TRETINOIN_RESPONSE_AND_PML_RARA_FUSION                  | ALOXASB   BIK   CD38   CERG6   CEBPE   ELF4   FGR   HMMH4   HOXA1   IDH1   IER3   IGFBP6   IRF1   JUND   LITAF   LSP1   NDRG1   PIK3CG   PIM1   PKN1   PSD9   RABPA   SEMA4D   SLA   SLC2A5   SP1   TNFAIP2   TNFSF1B   TOP1   UP1                                                                                                                                        | 0.9 | 0.625 |
| REACTOME_GLYCOGEN_BREAKDOWN_GLYCOGENOLYSIS                   | AGL   CALM1   CALM2   CALM3   GY1   GYG2   PGM1   PHKA1   PHKA2   PHKB   PHKG1   PHKG2   PYGB   PYGL   PYGM                                                                                                                                                                                                                                                               | 0.9 | 0.75  |
| chr16q11                                                     | DNAJA2   IRX5   NETO2   SHCBP1                                                                                                                                                                                                                                                                                                                                            | 0.9 | 0.625 |
| REACTOME_OTHER_SEMAPHORIN_INTERACTIONS                       | ITGB1   PLXNA1   PLXNA2   PLXNB3   PLXNC1   PLXND1   SEMA3E   SEMA4A   SEMA5A   SEMA6A   SEMA6D   SEMA7A   TREM2   TYROBP                                                                                                                                                                                                                                                 | 0.9 | 0.75  |
| MIKKELSEN_MCV6_LCP_WITH_H3K27ME3                             | BLNK   CAMK1G   CYP17A1   GZMA   LYZL6   MLC1   MYL2   OR1G1   OR2S2   PPY   RETN   SLC6A13   TG   TMSA5F5   TRPM2                                                                                                                                                                                                                                                        | 0.9 | 0.625 |
| ABDULRAHMAN_KIDNEY_CANCER_VHL_DN                             | ACTA2   ALDH1A1   ALDH3B1   ITGB3BP   MMP1   MTMR3   PALD   PDZK1P1   PJA2   RHOBTF1   SNRPN   STK11                                                                                                                                                                                                                                                                      | 0.9 | 0.875 |
| chr14q21                                                     | AKAP5   ARF6   ATP55   ATXN3   CDKL1   EIF2S1   ESR2   FKBP3   HIF1A   KHLDC2   LGALS3   MGAT2   NID2   NIN   PELI2   PNN   POLE2   PRPF39   RPL36AL   RTN1   SIX1   VS02   TRIM9                                                                                                                                                                                         | 0.9 | 0.75  |
| MODULE_73                                                    | CSF2RB   CXCR4   CXCR6   IL10RA   IL13RA2   IL15RA   IL18R1   IL1R1   IL1R2   IL1RAP   IL1RL1   IL2RA   IL2RB   IL2RG   IL3RA   IL4R   IL6R   IL7R   MYD88   TLR1   TLR2                                                                                                                                                                                                  | 0.9 | 0.75  |
| REACTOME_G1_S_SPECIFIC_TRANSCRIPTION                         | CNNA1   CCNE1   CDC25A   CDC6   CDT1   DHFR   E2F1   FBXO5   PCNA   RRM2   TFDP1   TK2   TYMS                                                                                                                                                                                                                                                                             | 0.9 | 0.75  |
| FARMER_BREAST_CANCER_CLUSTER_8                               | ERBB2   GRB7   PNMT                                                                                                                                                                                                                                                                                                                                                       | 0.9 | 0.875 |
| chrnp21                                                      | CACNA1F   Cxor21   Cxor27   CYBB   DMD   DYNLT3   GK   MAGEB1   MAGEB2   MAGEB3   MAGEB4   NR0B1   OTC   PRRG1   RPGR   SRPX   VENTXP1   XK                                                                                                                                                                                                                               | 0.9 | 0.75  |

|                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                |     |       |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| INTRAMOLECULAR_OXIDOREDUCTASE_ACTIVITY                                    | DCT   DDT   EBP   ERP29   GNPD1A1   HSD3B2   IDI1   MPI   P4HB   PDIA2   PDIA3   PDIA5   PDIA6   PTGDS   PTGES3   PTGIS   TP11                                                                                                                                                                                                                                                                                                 | 0.9 | 0.75  |
| CYCLASE_ACTIVITY                                                          | ADCY7   ADCY8   ADCY9   GUCY1A2   GUCY1A3   GUCY1B3   GUCY2C   GUCY2D   GUCY2F   RTCD1                                                                                                                                                                                                                                                                                                                                         | 0.9 | 0.75  |
| MYOFIBRIL                                                                 | ACTA1   DES   DMO   KRT19   MYBPC1   MYOM1   MYOZ2   NEB   SVIL   TNNC1   TNNI3   TNNT2   TPM1   TPM2   TPM3   TPM4   TTN   VCL                                                                                                                                                                                                                                                                                                | 0.9 | 0.875 |
| REACTOME_G2_M_DNA_DAMAGE_CHECKPOINT_MODULE_305                            | ATM   ATR   CCN81   CDC25C   CHEK1   CHEK2   WEE1                                                                                                                                                                                                                                                                                                                                                                              | 0.9 | 0.875 |
| YANG_MUC2_TARGETS_DUODENUM_3MO_DN                                         | ACAT1   AC01   AC02   ALDH1A1   ALDH1B1   ALDH2   ALDH3A2   ALDH9A1   BBOX1   DBT   ECHS1   EHHADH   FH   IDH2   MDH1   MDH2   SHMT1                                                                                                                                                                                                                                                                                           | 0.9 | 0.75  |
| GNF2_TM4SF2                                                               | CAT   CYP1A1   CYP2B6   CYP3A43   CYP4A11   EPHX2   FMO5   GLRX   GSTA4   GSTK1   GSTM1   GSTM4   GSTM5   GSTT1   ME1   NFE2L2   NQO1   POR   SULT1B1   SULT2B1   UGT2B17                                                                                                                                                                                                                                                      | 0.9 | 0.75  |
| chr13q14                                                                  | ATP2B2   BSN   CA11   DIRAS2   DNMI1   FAIM2   GNAO1   HPCAL4   KIF3C   NAP1L2   NMNAT2   PGDB5   PHYHIP   SH3GL2   SLC12A5   SNAP25   SNAP91   STXBP1   SV2A   SV2B   SYN1   TAGLN3   TSPAN7                                                                                                                                                                                                                                  | 0.9 | 0.875 |
| CALVET_IRINOTECAN_SENSITIVE_VS_RESISTANT_UP                               | ATP7B   CAB39L   CDC70   CDADC1   CKAP2   CPB2   CYSLTR2   DHRS12   DIAPH3   DLEU1   DLEU2   DNAJC15   ESD   FNDC3A   GTF2F2   GUCY1B2   HTR2A   INTS6   KPNA3   LCP1   LECT1   LRCH1   MED4   MLNR   MRPS31   MTRF1   NEK3   NUDT15   NUFIP1   OLFM4   OR7E37P   PCDH17   PCDH8   PCDH9   PHF11   POU4F1   RB1   RCBTB1   RCBTB2   RFXAP   RNASEH2B   SLC25A15   SLC25A30   TDRD3   THSD1   TNFSF11   TPT1   TSC22D1   ZC3H13 | 0.9 | 0.75  |
| BIOCARTA_NKT_PATHWAY                                                      | ATM   CD40LG   FLT1   PTN   RFC2                                                                                                                                                                                                                                                                                                                                                                                               | 0.9 | 0.625 |
| BIOCARTA_TH1TH2_PATHWAY                                                   | CCL3   CCL4   CCR1   CCR2   CCR3   CCR4   CCR5   CCR7   CD28   CD4   CD40LG   CSF2   CXCR3   CXCR4   IFNG   IFNGR1   IFNGR2   IL12A   IL12B   IL12RB1   IL12RB2   IL18   IL18R1   IL2   IL2RA   IL4   IL4R                                                                                                                                                                                                                     | 0.9 | 0.625 |
| BERGER_MBD2_TARGETS                                                       | AMY2A   CEL   PRSS2   REG1B   RNASE1   TFF2                                                                                                                                                                                                                                                                                                                                                                                    | 0.9 | 0.625 |
| WANG_TNF_TARGETS                                                          | BCL2L10   CD6   CD68   CSF2   CSF3   GDF15   GPR56   GSTT1   IL6   JUN   KRT35   LUMK1   MADCAM1   MMP13   MMP3   NFKBIA   NOTCH3   SELE   SELP   TNFAIP3   TRAF1   VCAM1   YY1                                                                                                                                                                                                                                                | 0.9 | 0.75  |
| REGULATION_OF_T_CELL_ACTIVATION                                           | CD24   CD28   CD3E   CD47   EB13   GLMN   ICOSLG   IL12B   IL18   IL21   IL4   IL7   LAT   LAX1   LCK   NCK1   NCK2   PTPRC   SART1   SFTPD   SIRPG   SIT1   SOCS5   SPINK5   THY1   ZAP70                                                                                                                                                                                                                                     | 0.9 | 0.75  |
| WEBER_METHYLATED_HCP_IN_FIBROBLAST_DN                                     | ADAM30   AURKC   BRDT   CABYR   CATSPER2   DAZL   DKKL1   GAPDHS   INSL6   LPIN1   MORC1   ODF2   PAPOLB   RPL10L   SOX30   SPACA1   SPO11   SYCP1   SYCP2   TCP11   TPE1   TRPM4   TULP2   ZPB9                                                                                                                                                                                                                               | 0.9 | 0.75  |
| TERAO_AOX4_TARGETS_HG_DN                                                  | CYP2F1   EGR1   ELOVL1   MAP2   STK25                                                                                                                                                                                                                                                                                                                                                                                          | 0.9 | 0.625 |
| HE_PTEEN_TARGETS_UP                                                       | AKT2   CCND3   CCN1   CDK6   CDKN1A   ECT2   ELK3   FGF1   ITGB1   MAF   MYCN   PDGFA   PLAGL1   RB1   TGFBR2   TP53                                                                                                                                                                                                                                                                                                           | 0.9 | 1     |
| REACTOME_PLATELET_ADHESION_TO_EXPOSED_COLLAGEN                            | COL1A1   COL1A2   FCER1G   FYN   GP1BA   GP1BB   GP5   GP9   ITGA2   ITGB1   LYN   VWF                                                                                                                                                                                                                                                                                                                                         | 0.9 | 0.75  |
| REACTOME_DNA_STRAND_ELONGATION                                            | FEN1   GINS1   GINS2   GINS4   LIG1   MCM2   MCM3   MCM4   MCM5   MCM6   MCM7   PCNA   POLA2   POLD1   POLD2   POLD3   POLD4   PRIM1   RFC2   RFC3   RFC4   RFC5   RPA1   RPA2   RPA3                                                                                                                                                                                                                                          | 0.9 | 0.625 |
| KAMIKUBO_MYELOID_MN1_NETWORK                                              | CPNE3   CRIP2   GAS2L1   MLT13   MN1   MTUS1   NCKAP1   PGRMC1   RAB27A   RAB32   RECQL   RGS12   TCF4   TGFBR1   TPM4   VAMP4                                                                                                                                                                                                                                                                                                 | 0.9 | 0.75  |
| GHANDHI_BYSTANDER_IRRADIATION_DN                                          | EPHA4   EPHB3   MAPT   MYH11   S100P   SLC5A3   SMAD6   WWOX                                                                                                                                                                                                                                                                                                                                                                   | 0.9 | 1     |
| REACTOME_NUCLEOTIDE_LIKE_PURINERGIC_RECEPTORS                             | ADORA1   ADORA2A   ADORA2B   ADORA3   GPR17   P2RY1   P2RY10   P2RY11   P2RY12   P2RY13   P2RY14   P2RY2   P2RY4   P2RY6                                                                                                                                                                                                                                                                                                       | 0.9 | 0.75  |
| WANG_NFKB_TARGETS                                                         | ACT1   ATP2A1   CASP7   CAV3   CHRN3   CISH   CMA1   CSRP3   FOXA2   HXA1   ITGB5   KRT36   MYH1   MYH7   MYL4   NOTCH1   RARG   SH3BP1   TNNC1   TNNI1   TNNT1   TRAF5                                                                                                                                                                                                                                                        | 0.9 | 0.625 |
| KEGG_PENTOSE_AND_GLUCONATE_INTERCONVERSIONS                               | AKR1B1   CRYL1   DCKR   GUSB   RPE   UGDH   UGP2   UGT1A1   UGT1A10   UGT1A3   UGT1A4   UGT1A5   UGT1A6   UGT1A7   UGT1A8   UGT1A9   UGT2A1   UGT2A3   UGT2B15   UGT2B17   UGT2B28   UGT2B4   XYL8                                                                                                                                                                                                                             | 0.9 | 0.625 |
| WU_ALZHEIMER_DISEASE_UP                                                   | ABTB2   APEX2   BA12   CBAF2A3   CYP11B1   ENTDP1   FKBP1A   NRG1   PCDH9   STEAP1   TGM2                                                                                                                                                                                                                                                                                                                                      | 0.9 | 0.75  |
| MONOOXYGENASE_ACTIVITY                                                    | CYP11B1   CYP11B2   CYP17A1   CYP19A1   CYP1B1   CYP26A1   CYP27A1   CYP2A6   CYP2C18   CYP2J2   CYP39A1   CYP3A4   CYP46A1   CYP4A11   CYP4F2   CYP4F3   CYP4F8   CYP7B1   DOHH   FMO1   FMO2   KMO   NOS1   NOS3   PAH   TH1   TYR                                                                                                                                                                                           | 0.9 | 0.75  |
| IGLESIAS_E2F_TARGETS_DN                                                   | AMY2A   CASP9   CEL   DMBT1   GNMT   HIST1H1C   IGF1   ITIH4   LOR   MT2A   NNT   PRSS2   REG1B   REG3A                                                                                                                                                                                                                                                                                                                        | 0.9 | 0.875 |
| DONATO_CELL_CYCLE_TRETINOIN                                               | AB1   ATR   BTG2   MNT   TOB1                                                                                                                                                                                                                                                                                                                                                                                                  | 0.9 | 0.75  |
| MAINA_HYPOXIA_VHL_TARGETS_UP                                              | Csor13   CDKN1C   CLDN4   F3   SERPINE1   SLC16A3                                                                                                                                                                                                                                                                                                                                                                              | 0.9 | 0.625 |
| YANG_MUC2_TARGETS_DUODENUM_6MO_DN                                         | CAT   CYP2B6   CYP3A43   CYP4A11   EPHX2   FMO1   FMO5   GSTA4   GSTK1   GSTM1   GSTM4   GSTM5   GSTT1   ME1   NFE2L2   NQO1   POR   REG1A   UGT2B17                                                                                                                                                                                                                                                                           | 0.9 | 0.75  |
| AMIT_EGF_RESPONSE_20_HELA                                                 | BTG2   FOS   GADD45B   JUN   PILRB   PPP1R15A   PRKAR1B   ROCK2   SNAP25   TXNP1   ZC3H12A                                                                                                                                                                                                                                                                                                                                     | 0.9 | 0.75  |
| MIKKELSEN_MEF_ICP_WITH_H3K4ME3_AND_H3K27ME3                               | ADAM2   CACNB3   CNTNAP1   CORO1A   EMTL1   FRMD4A   KCNAA4   KCNJ2   KLHL1   MCHR1   MEIS1   NOL3   NOL4   NPY1R   NPY2R   OPCML   PAK7   PCSK1   PTPRR   ROBO2   SACS   SERPIN1   SYT1   TMEM100                                                                                                                                                                                                                             | 0.9 | 0.75  |
| YAGUE_PRETUMOR_DRUG_RESISTANCE_DN                                         | CALD1   COL8A1   DCHS1   FRMD4A   LTBP2   MMP2   TNS1   TRAM2                                                                                                                                                                                                                                                                                                                                                                  | 0.9 | 0.875 |
| MOREIRA_RESPONSE_TO_TSA_DN                                                | ALPL   CD247   CD3D   CD3E   CX3CR1   ENTDP2   FGF18   ICAM1   IL2RA   LAT   METAP2   NOTCH1   NOTCH2   OGDH   RARB   SLC3A2   WNT4   WNT7A                                                                                                                                                                                                                                                                                    | 0.9 | 0.875 |
| AMUNDSON_GAMMA_RADIATION_RESISTANCE                                       | BDKRB1   C1QB   CBLB   CCL7   CD40   CHGA   COL11A2   CRMP1   EDNRA   F11   IGF1R   KLRC3   P5G11   SLC22A4   TSPAN7   XRC1                                                                                                                                                                                                                                                                                                    | 0.9 | 0.875 |
| REACTOME_CRMP5_IN_SEMA3A_SIGNALING                                        | CDK5   CDK5R1   CRMP1   DPYSL2   DPYSL3   DPYSL4   FES   FYN   NRP1   PLXNA1   PLXNA2   PLXNA3   SEMA3A                                                                                                                                                                                                                                                                                                                        | 0.9 | 0.875 |
| SMID_BREAST_CANCER_ERBB2_DN                                               | FGFR2   GABRP   NPY1R   PMAIP1   SOX10                                                                                                                                                                                                                                                                                                                                                                                         | 0.9 | 0.75  |
| WALLACE_JAK2_TARGETS_UP                                                   | BIN1   C14orf1   CDC25B   CES2   CSF3   DGC6R   EPHB6   FAM50A   H1FX   KIF22   MGST3   MRPL12   OBSL1   PAK1   POLE   POLR2J   PPIH   PRPF6   PRSS2   PRSS3   TCEB3   TFDP1   TMEM109   TMPO                                                                                                                                                                                                                                  | 0.9 | 0.75  |
| ZEMBUTSU_SENSITIVITY_TO_MITOMYCIN                                         | AMPD1   ARHGAP26   CXO6A2   IL32   KRCC1   MMP3   OTC   PCDH1   PGLYRP1   RND3   S100A4   SHC2   TNFRSF14   TRAF2                                                                                                                                                                                                                                                                                                              | 0.9 | 0.875 |
| WORKSHECH_TUMOR_EVASION_AND_TOLEROGENICITY_DN                             | BAK1   IFNGH1   IL10   IL10RB1   IL1R2   IRF1   IRF3   IRF6   LSP1   SOCS1   SOCS3   TANK   TLR6                                                                                                                                                                                                                                                                                                                               | 0.9 | 0.875 |
| MODULE_89                                                                 | CENPA   H1FO   H2AFX   H2AFZ   HIST1H1C   HIST1H1T   HIST1H2AC   HIST1H2AE   HIST1H2BJ   HIST1H2BK   HIST1H2BL   HIST2H2AA3   HIST2H2BE                                                                                                                                                                                                                                                                                        | 0.9 | 0.625 |
| MAINA_VHL_TARGETS_UP                                                      | ALDH1A1   Csor13   CDKN1C   CNN1   DAB2   GLS   GPR56   MYL9   TAGLN                                                                                                                                                                                                                                                                                                                                                           | 0.9 | 0.75  |
| INTERMEDIATE_FILAMENT                                                     | BFSP2   DRD2   GFAP   INA   KRT1   KRT15   KRT17   KRT18   KRT19   KRT2   KRT3   KRT31   KRT5   KRT6A   LMNB1   NARF   NEFL   PKP1   PNN   VIM                                                                                                                                                                                                                                                                                 | 0.9 | 0.75  |
| INTERMEDIATE_FILAMENT_CYTOSKELETON                                        | BFSP2   DRD2   GFAP   INA   KRT1   KRT15   KRT17   KRT18   KRT19   KRT2   KRT3   KRT31   KRT5   KRT6A   LMNB1   NARF   NEFL   PKP1   PNN   VIM                                                                                                                                                                                                                                                                                 | 0.9 | 0.75  |
| SYNAPTOGENESIS                                                            | ACHE   COL4A4   NLGN1   NRCAM   PCDHB13   PCDHB13   PCDHB3   PCDHB6   POU4F1   UBB                                                                                                                                                                                                                                                                                                                                             | 0.9 | 0.75  |
| KONDO_COLON_CANCER_HCP_WITH_H3K27ME3                                      | IGHG1   RARB   YBX2                                                                                                                                                                                                                                                                                                                                                                                                            | 0.9 | 0.75  |
| ZEMBUTSU_SENSITIVITY_TO_NIMUSTINE                                         | AFB3   CKS2   CRKL   ETV4   EXT13   GJA5   GRIK3   KIF4A   MMP7   PABPC1   PGLYRP1   PRSS8   SIM1   TOB2                                                                                                                                                                                                                                                                                                                       | 0.9 | 0.625 |
| SCIEN_CELL_CYCLE_TARGETS_OF_TP53_AND_TP73_DN                              | AURKA   CCNA2   CCNB1   CNCF   CDC20   CDC25B   CDC25C   CDK2   CDKN3   CKS2   DTYMK   GOS2   GTSE1   KIF22   KIF23   MAPRE2   MCM6   MCM7   MYC   RAN   TPX2   UBE2C                                                                                                                                                                                                                                                          | 0.9 | 0.875 |
| GNF2_MKI67                                                                | ASPM   AURKA   BIRC5   CCNA2   CDC20   CENPA   CENPE   CENPF   ESPL1   FOXM1   HMMR   KIF11   KIF20A   MELK   MKI67   NUSAP1   PCNA   RRM1   RRM2   TOP2A   TPX2   UBE2C   ZWINT                                                                                                                                                                                                                                               | 0.9 | 0.75  |
| MODULE_203                                                                | CENPA   CHAF1B   H1FO   H2AFX   H2AFZ   HIST1H1A   HIST1H1C   HIST1H1T   HIST1H2AC   HIST1H2AE   HIST1H2BJ   HIST1H2BK   HIST1H2BL   HIST2H2AA3   HIST2H2BE                                                                                                                                                                                                                                                                    | 0.9 | 0.625 |
| CROONQUIST_STROMAL_STIMULATION_DN                                         | ANKRD17   CCR8   CD6C   GATM   GNA13   IGF1   NCF1   NFKB2   RHOBTB3   TRIM25   YY1   ZNF217                                                                                                                                                                                                                                                                                                                                   | 0.9 | 0.75  |
| NIELSEN_GIST_VS_SYNOVIAL_SARCOMA_DN                                       | AMPD3   BCHE   BHMT2   CA2   CASP1   CDC68   FGL2   GUCY1A3   LGALS3BP   METTL7A   NUPR1   PLAT   PRKCQ   RBPMS   SCRG1   SFRP1   TNFSF10                                                                                                                                                                                                                                                                                      | 0.9 | 0.75  |
| TAGHAVI_NEOPLASTIC_TRANSFORMATION                                         | ACTN4   FNLC   FOSB   HGS   MAP3K3   MCF2L   PDGFR   RAF1                                                                                                                                                                                                                                                                                                                                                                      | 0.9 | 1     |
| CHESLER_BRAIN_D6MIT15Q_QTL_TRANS                                          | ADRA2B   CALML5   CHRN3   GAD1   HTRA1   MAPK1   MAPK6   RELN   SLC6A1                                                                                                                                                                                                                                                                                                                                                         | 0.9 | 0.625 |
| BENNETT_SYSTEMIC_LUPUS_ERYTHEMATOSUS                                      | AP0BEC3   C2   CAMP   CKAP4   DEFA1   DEFA3   EIF2AK2   IFI35   IFI44L   IFI73   IFITM3   IRF7   ISG15   LGALS3BP   LY6E   MX1   MX2   OAS1   OAS2   OASL   PLSCR1   RNASE2   S100A8   SERPINC1   STAT1   TAP1   TDRD7   TNFSF10                                                                                                                                                                                               | 0.9 | 0.625 |
| TERAMOTO_OPN_TARGETS_CLUSTER_8                                            | HOMER2   KIAA0753   MAPT   NRCAM   NRGN   PRXK3   SERPINI1   SPPI                                                                                                                                                                                                                                                                                                                                                              | 0.9 | 0.625 |
| HOFFMANN_MYELODYSPLASTIC_SYNDROM_HIGH_RISK_UP                             | CELSR2   COIL   ELK1   KLF11   OGG1   PLCG1   PRKAR2A   PTPRS   TRAF6   ZMYM3                                                                                                                                                                                                                                                                                                                                                  | 0.9 | 0.875 |
| CERAMIDE_METABOLIC_PROCESS                                                | ASAH1   CERK   CLN3   CLNG   NEU3   NSMAF   SGLP1   UGCG                                                                                                                                                                                                                                                                                                                                                                       | 0.9 | 0.75  |
| TESAR_ALK_AND_JAK_TARGETS_MOUSE_ES_D4_DN                                  | LEFTY1   LEFTY2   NANOG   POU5F1   TDGF1                                                                                                                                                                                                                                                                                                                                                                                       | 0.9 | 0.625 |
| MODULE_143                                                                | B2M   HFE   HLA-A   HLA-B   HLA-C   HLA-DMB   HLA-DOA   HLA-DOB   HLA-DRA   HLA-DRB5   HLA-E   HLA-F   HLA-G                                                                                                                                                                                                                                                                                                                   | 0.8 | 0.875 |
| TAKADA_GASTRIC_CANCER_COPY_NUMBER_DN                                      | ADAM23   CAB39L   CDKN2A   CYSLTR2   DMRT1   FASTKD2   FHIT   FNDC3A   KCNV2   KIAA0020   MTAP   RB1   RCBTB2   RGS16   RNASEL   SH3GL2   SMARCA2   TEK   VLDLR   WWOX                                                                                                                                                                                                                                                         | 0.8 | 0.875 |
| WONG_ENDMETRIUM_CANCER_UP                                                 | ALPPL2   BST2   CCL20   CXCL5   DKK4   EPPK1   FOXA1   HP   IGF2BP3   KIF1A   LCN2   LTF   PITX1   S100A2   SAA2   SERPINA3   TFAP2A   TFF3   VIL1   ZIC1                                                                                                                                                                                                                                                                      | 0.8 | 0.75  |
| MEIOTIC_RECOMBINATION                                                     | ATM   CHEK1   DMC1   UG3   MRE11A   MSH4   MSH5   RAD21   RAD50   RAD51   RAD52   RAD54B   SPO11   SYP1                                                                                                                                                                                                                                                                                                                        | 0.9 | 0.625 |
| DELLA_RESPONSE_TO_TSA_AND_BUTYRATE                                        | CD20   CDK10   CDKN1A   CXCR4   DOR1   EPHB3   GADD45A   GATA2   GSTT1   HSPA1A   HSPB1   ICAM1   MAPRE1   NET1   NR4A1   POR   PRDX1   PRKCD   RHOA   RNH1   TOB1                                                                                                                                                                                                                                                             | 0.8 | 0.75  |
| REGULATION_OF_CATABOLIC_PROCESS                                           | ANGPTL3   CIDEA   ECD   EGLN2   FAF1   GAPDHS   HGS   INS   MDMA2   MDMA4   PFKL   PFKM   PPARA   PRKCG   STUB1                                                                                                                                                                                                                                                                                                                | 0.8 | 0.75  |
| CAFFAREL_RESPONSE_TO_THC_8HR_5_DN                                         | DNAI1   DNAI81   HSPA11   HSPA2   HSPA8   HSPH1   PABPC4   RDH11   RRM2                                                                                                                                                                                                                                                                                                                                                        | 0.8 | 0.75  |
| BIOCARTA_CALCINEURIN_PATHWAY                                              | CALM1   CALM2   CALM3   CDKN1A   GNAQ   MARCKS   NFATC1   NFATC3   NFATC4   PLCG1   PPP3CA   PPP3CB   PPP3CC   PRKCA   SP1   SP3                                                                                                                                                                                                                                                                                               | 0.8 | 0.875 |
| KYNG_ENVIRONMENTAL_STRESS_RESPONSE_DN                                     | CEP1T1   CNKSR1   COL17A1   CTNND1   FUT4   GA8BR1   KIAA0146   NCOR1   SGPL1   SLC30A5   SOX9   SYK   USP1   ZNF507                                                                                                                                                                                                                                                                                                           | 0.8 | 0.75  |
| chr10q21                                                                  | ANK3   ANXA2P3   BICC1   CDC6C   CTNNA3   DDYX1   EGR2   EIF4EBP2   GLUD1   HERC4   HTR7   NEUROG3   NFFR1   PAHA1   PPP3CB   PSAP   SGPL1   SIRT1   SLC25A16   TFAM   VPS26A   ZNF365   ZWINT                                                                                                                                                                                                                                 | 0.8 | 0.625 |
| REACTOME_GAMMA_CARBOXYLATION_TRANSPORT_AND_AMINO_TERMINAL_CLEAVAGE_OF_PRO | F10   F2   F7   F9   FURIN   GGCK   PROC   PROS1   PROZ   VKORC1                                                                                                                                                                                                                                                                                                                                                               | 0.8 | 0.75  |
| TEINS                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                |     |       |
| BIOCARTA_RB_PATHWAY                                                       | ATM   CDC25B   CDC25C   CDK2   CDK4   CHEK1   MAPK14   MYT1   RB1   TP53   WEE1   YWHAH                                                                                                                                                                                                                                                                                                                                        | 0.8 | 0.75  |
| chr1p14                                                                   | BDNF   CALCB   GAS2   HP55   KCNA4   KIF18A   LGR4   UN7C   LUZP2   SERGEF   SLC17A6   SPON1   USH1C                                                                                                                                                                                                                                                                                                                           | 0.8 | 0.875 |
| WIEHMANN_TELOMERE_SHORTENING_AND_CHRONIC_LIVER_DAMAGE_DN                  | CCL5   EGR1   HMGCR   NR1D2   S100A9                                                                                                                                                                                                                                                                                                                                                                                           | 0.8 | 0.625 |
| REACTOME_SHC1_EVENTS_IN_ERBB4_SIGNALING                                   | BTIC   ERBB4   EREG   GRB2   HBEFG   HRAS   KRAS   MAP2K1   MAP2K2   MAPK1   MAPK3   NRAS   NRG1   NRG2   RAF1   SHC1   SOS1   YWHAH                                                                                                                                                                                                                                                                                           | 0.8 | 0.625 |



|                                                                                |                                                                                                                                                                                                                                                                                                                                                                       |     |       |
|--------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| VOLTAGE_GATED_POTASSIUM_CHANNEL_ACTIVITY                                       | KCNA1   KCNA2   KCNA3   KCNA4   KCNA5   KCNB2   KCNC1   KCNC3   KCNC4   KCND3   KCNE1   KCNE2   KCNG2   KCNH1   KCNH2   KCNH4   KCNP2   KCNU1   KCNU10   KCNU12   KCNU14   KCNU15   KCNJ3   KCNJ4   KCNU5   KCNU6   KCNK1   KCNQ1   KCNQ2   KCNQ3   KCNS1   KCNS3                                                                                                     | 0.8 | 0.75  |
| REACTOME_RECYCLING_PATHWAY_OF_L1                                               | AP2A2   AP2B1   AP2M1   AP2S1   CLTA   CLTC   DNM1   DNM2   DPYSL2   KIAA1598   KIF4A   L1CAM   MAPK1   MSN   NUMB   RDX   RPS6KA1   RPS6KA2   RPS6KA3   RPS6KA4   RPS6KA5   RPS6KA6   SH3GL2   SRC                                                                                                                                                                   | 0.8 | 0.75  |
| GNF2_PAK2                                                                      | ACTR2   ACTR3   ADAM10   ARHGDIIB   ARPC3   ARPC5   BINP2   CAPZ1   CD53   CNOT8   DOCK2   ELF4   FMNL1   GMFG   HCLS1   MYD88   OSBP18   PAK2   PHF21A   RAF1   SELL   STAT6   TYK2   USP3   VAV1   WAS   ZCCHC6                                                                                                                                                     | 0.8 | 0.625 |
| FUJIWARA_PARK2_IN_LIVER_CANCER_UP_MODULE_90                                    | APF   APOA4   BAX   CCNE1   FST   GOLGA3   IL1RN   TNFRSF12A   CENPA   CHAF1A   CHAF1B   H1FO   H2AFX   H2AF2   HIST1H1A   HIST1H1C   HIST1H1T   HIST1H2AC   HIST1H2AE   HIST1H2BJ   HIST1H2BK   HIST1H2BL   HIST2H2AA3   HIST2H2BE   NAP1L3                                                                                                                          | 0.8 | 0.875 |
| MCCABE_HOXC6_TARGETS_UP                                                        | AMELY   BMP7   CHRNA2   IRAK4   PDE4DIP   SIPA1L1   SLC1A3                                                                                                                                                                                                                                                                                                            | 0.8 | 0.75  |
| CHOI_ATL_ACUTE_STAGE                                                           | ETV1   LHX2   MAGEA6   MBD1   MET                                                                                                                                                                                                                                                                                                                                     | 0.8 | 0.75  |
| KONDO_HYPOXIA                                                                  | CCR2   CTGF   FLT3LG   IL13   IL6   TIMP1   TTR                                                                                                                                                                                                                                                                                                                       | 0.8 | 0.875 |
| REACTOME_SYNTHESIS_SECRETION_AND_INACTIVATION_OF_GIP                           | DPP4   GATA4   GIP   ISL1   LOC653566   PAX6   PCSK1   SPCS1   SPCS2   SPCS3                                                                                                                                                                                                                                                                                          | 0.8 | 0.875 |
| YAO_TEMPORAL_RESPONSE_TO_PROGESTERONE_CLUSTER_5                                | ADM   ATF3   BASP1   BEK1   CNDP2   COL15A1   COL5A2   CX3CL1   CYP2E1   GAP43   HSPA1A   IER3   IL18R1   ISG20   KCNQ1   KLF10   KLF4   LCN2   NDUFB2   PKC1   PER1   RELN   S100G   SEPX1   USP2   WWC1   XDH                                                                                                                                                       | 0.8 | 0.875 |
| SODIUM_CHANNEL_ACTIVITY                                                        | ACCN1   CCNA15   PKD2   SCN11A   SCN1B   SCN2B   SCN4A   SCNSA   SCN7A   SCN9A   SCNN1B   SCNN1D   SCNN1G   SHROOM2                                                                                                                                                                                                                                                   | 0.8 | 0.75  |
| MODULE_431                                                                     | ALOX15   ALOX15B   ALOX5   CBR1   CBR3   DPPE1   GGT1   LTA4H   PLA2G10   PLA2G2A   PTGDS   PTGIS   PTGS2   TBXAS1   TGM2                                                                                                                                                                                                                                             | 0.8 | 0.875 |
| chr7q35                                                                        | ABCB8   ABCF2   ACCN3   AKR1B1   CHRM2   CNTNAP2   EZH2   FASTK   GSTK1   KCNH2   NOS3   OR2A20P   OR2A9P   OR2F1   PDIA4   PRKAG2   SLC4A2   SMARCD3   ZNF282                                                                                                                                                                                                        | 0.8 | 1     |
| PID_CD8TCRPATHWAY                                                              | AKT1   B2M   BCL10   CBL   CD247   CD28   CD3D   CD3E   CD3G   CD80   CD86   CD8A   CD8B   CHUK   CSK   FYN   GRAP2   GRB2   HLA-A   HRAS   IKBKB   IKBKG   KRAS   LAT   LCK   LCP2   MALTI   MAP3K14   MAP3K8   NRAS   PDPK1   PLCG1   PRF1   PRKCA   PRKCE   PRKCQ   PTPN6   PTPRC   RAP1A   RASGRP1   RASGRP2   SHC1   SOS1   STIM1   TRAF6   TRPV6   VAV1   ZAP70 | 0.8 | 0.875 |
| SENSORY_PERCEPTION_OF_CHEMICAL_STIMULUS PEDERSEN_METASTASIS_BY_ERBB2_ISOFORM_5 | CSAR1   CYBR54   GNAS   OMP   OR1D2   OR1D5   OR52A1   RTP4   SLIT2   TAS2R14   TAS2R16   TAS2R3   TAS2R4                                                                                                                                                                                                                                                             | 0.8 | 0.75  |
| FOURNIER_ACINAR_DEVELOPMENT_LATE_UP                                            | ANKRD57   EGLN3   FOS   HMGCS1   NAB1   NRAA1   NRA42   PTGER4   S100A10                                                                                                                                                                                                                                                                                              | 0.8 | 0.75  |
| YAMANAKA_GLOBLASTOMA_SURVIVAL_UP                                               | APOE   BBOX1   CRYAB   DSG3   GPNM8   KRT10   MAFB   SERPINA3   SOX4   TCF4                                                                                                                                                                                                                                                                                           | 0.8 | 0.75  |
| REACTOME_GRB2_EVENTS_IN_ERBB2_SIGNALING                                        | DYRK3   EMLIN2   ITGAS   LDHC   PKM2   RAB32   SLC2A3   SLN   TP11                                                                                                                                                                                                                                                                                                    | 0.8 | 1     |
|                                                                                | BTC   EGF   EGFR   ERBB2   ERBB4   ERG   GRB2   HBEGF   HRAS   KRAS   MAP2K1   MAP2K2   MAPK1   MAPK3   NRAS   NRG1   NRG2   RAF1   SOS1   YWHAB                                                                                                                                                                                                                      | 0.8 | 0.75  |
| HOFFMAN_CLOCK_TARGETS_DN                                                       | AVP   BDKRB2   CCL5   CHGA   GAB2   MGAT3   S100P   TNFRSF4   VTN                                                                                                                                                                                                                                                                                                     | 0.8 | 1     |
| BASAL_LAMINA                                                                   | ANG   CAV3   COLQ   DMD   LAMMA4   LAMB1   LAMB2   LAMC1   SGCA   SGCB   SGCD   SGCE   SGCG   SNTB1   SNTB2   SNTG1   SNTG2   SSPN                                                                                                                                                                                                                                    | 0.8 | 0.875 |
| MODULE_326                                                                     | AKR1C3   ALOX15   ALOX15B   ALOX5   ALOX5AP   CYP4F3   FASN   HPGD   LTA4H   PRKAB2   PTGDS   PTGIS   PTGS2                                                                                                                                                                                                                                                           | 0.8 | 0.625 |
| TERAMOTO_OPN_TARGETS_CLUSTER_1                                                 | ACTL68   ERBB3   GFOD2   HMGCR   IDH1   INSIG1   SCSDL   TTRC   TMEM508                                                                                                                                                                                                                                                                                               | 0.8 | 0.875 |
| OKAMOTO_LIVER_CANCER_MULTICENTRIC_OCCURRENCE_DN                                | CLEC10A   CYP1A2   PCOLCE   TAPBP   TRIM25                                                                                                                                                                                                                                                                                                                            | 0.8 | 0.875 |
| REACTOME_BILE_SALT_AND_ORGANIC_ANION_SLC_TRANSPORTERS                          | SLC13A1   SLC13A2   SLC13A3   SLC16A1   SLC16A3   SLC16A7   SLC16A8                                                                                                                                                                                                                                                                                                   | 0.8 | 0.875 |
| DAZARD_UV_RESPONSE_CLUSTER_G2                                                  | ATF3   ATF4   BAMB1   CCL20   CITED2   CLDN4   CSRP1   CTGF   CXCL2   CXCL3   GADD45A   HIST1H2AE   HIST1H2AJ   HIST2H2BE   IER3   IL8   INSUA   JUNB   JUND   LY6E   PHLD42   PMAIP1   PSMD8   TACSTD2   TOB1   TSTA3   TUBB2A   UBE25                                                                                                                               | 0.8 | 0.875 |
| LI_WILMS_TUMOR                                                                 | APOC1   CHRD1   CHST1   COL13A1   COL2A1   CRABP2   DBC1   ETV4   EYA1   FZD7   GLI3   GPR64   HAS2   HMGGA2   HOXA11   HOXA9   INHBB   LYPD1   MEOX1   MN1   NNAT   PAX2   PRAME   SALL2   SIX1   WASF3                                                                                                                                                              | 0.8 | 0.75  |
| REACTOME_STRIATED_MUSCLE_CONTRACTION                                           | ACTN2   DES   DMO   MYBP1   MYBP2   MYH3   MYH6   MYH8   MYL1   MYL2   MYL3   MYL4   NEB   TCAP   TMOD1   TNNC1   TNNC2   TNN1   TNN12   TNN13   TNNT1   TNNT2   TPM1   TPM2   TPM3   TPM4   VIM                                                                                                                                                                      | 0.8 | 0.875 |
| MODULE_373                                                                     | ABP1   ADH1A   ADH1B   ADH1C   ADH7   ALDH1A1   ALDH3A1   ALDH3A2   ALDH3B1   ALDH3B2   AOC3   AOX1   DBT   DDC   GOT1   GOT2   GSTZ1   HGD   HPD   MAOA   MAOB                                                                                                                                                                                                       | 0.8 | 0.75  |
| chr13q13                                                                       | ALG5   ELF1   EXOSC8   FAM48A   FRY   KIAA1704   MAB2111   NBEA   POSTN   SOHLH2   SPG20   TRPC4   UFM1   WBP4                                                                                                                                                                                                                                                        | 0.8 | 0.75  |
| PLASARI_TGFB1_TARGETS_1HR_DN                                                   | ALCAM   DDIT3   MEIS2   NFIB   PPP1R3C   TXNIP                                                                                                                                                                                                                                                                                                                        | 0.8 | 0.875 |
| RODRIGUES_NTN1_TARGETS_UP                                                      | BDNF   FBXO11   FHOD3   HOXD10   KITLG   LEF1   NFIB   NRXN3   PLXNC1   RDX   SATB2   SH3BGR1   SOCS2                                                                                                                                                                                                                                                                 | 0.8 | 0.75  |
| COURTOIS_SENESCENCE_TRIGGERS                                                   | AKT1   E2F1   E2F3   NF1   PTEN   ZHX2                                                                                                                                                                                                                                                                                                                                | 0.8 | 0.75  |
| INTERFERON_GAMMA_BIOSYNTHETIC_PROCESS                                          | CEBP6   EBI3   IL12B   IL18   INHA   INHBA   TLR3   TLR7   TLR8                                                                                                                                                                                                                                                                                                       | 0.8 | 0.625 |
| PRODUCTION_OF_MOLECULAR_MEDIATOR_OF_IMMUNE_RESPONSE                            | APOA1   APOA2   CD40LG   FOXP3   IL4   MALTI   MAP3K7   PTPRC   TGFBI   TNFSF13   TRAF2   TRAF6                                                                                                                                                                                                                                                                       | 0.8 | 0.625 |
| BRUSH_BORDER                                                                   | ATP6V0A4   B4GALT1   CLIC1   ITPR3   MYO1A   SJ                                                                                                                                                                                                                                                                                                                       | 0.8 | 0.875 |
| REGULATION_OF_SYNAPE_STRUCTURE_AND_ACTIVITY                                    | APOE   COL4A4   GRIK2   KLR8   NPTN   UBB   YWHAH                                                                                                                                                                                                                                                                                                                     | 0.8 | 0.75  |
| EXOCYTOSIS                                                                     | AKAP3   ARFGEF1   ARFGEF2   CADPS   CCL3   CCL5   CCL8   CPLX2   LIN7A   NLGN1   PKDREJ   RAB26   RABEPK   RIMS1   RPH3AL   SCIN   SCRN1   SEPT5   SNAP29   SYT1   VAMP3   VT1B   YKT6                                                                                                                                                                                | 0.8 | 0.875 |
| STEROID_BINDING                                                                | AKR1D1   ALDH1A1   APOA1   APOF   CAV1   CETP   ESR2   GC   HSD17B4   NPC2   OSBP   PGRMC1   PGRMC2   SCF2   SHBG   STARD3   SYP   TSP0                                                                                                                                                                                                                               | 0.8 | 0.875 |
| REACTOME_SYNTHESIS_SECRETION_AND_DEACYLATION_OF_GHRELIN                        | BCH1   GCG   GH1   INS   KLF4   LEP   LOC653566   PCSK1   PLA2G7   SPCS1   SPCS2   SPCS3                                                                                                                                                                                                                                                                              | 0.8 | 0.875 |
| HANN_RESISTANCE_TO_BCL2_INHIBITOR_UP                                           | ATP8B2   BRSK2   CDCD109B   CD81   D45234E   DCX   EF1A2   ELAVL3   FLNC   FSCN1   GPX2   HBA1   HOXB9   ITM2C   MT1F   MT1G   MXRAS   NPTX2   OLFM1   PCSK1N   PNMA2   RTN1   SCD   SST   STMN2   TAGLN2   TNFRSF8   VCX   ZNF91                                                                                                                                     | 0.8 | 0.75  |
| XU_HGF_TARGETS_INDUCED_BY_AKT1_6HR                                             | CYR61   ERBB2IP   ERG1   IFI6   IFT1   IRF7   ISG15   LSM5   MAFF   MX1   OAS3   PLAUR   PLSCR1   SLC9A1   THBS1   TSC2D2E                                                                                                                                                                                                                                            | 0.8 | 0.75  |
| KEGG_DNA_REPLICATION                                                           | FEN1   LIG1   MCM2   MCM3   MCM4   MCM5   MCM6   MCM7   PCNA   POLA2   POLD1   POLD2   POLD3   POLD4   POLE   POLE2   POLE3   PRIM1   RFC1   RFC2   RFC3   RFC4   RFC5   RNASEH1   RNASEH2A   RNASEH2B   RPA1   RPA2   RPA3   RPA4   SSBP1                                                                                                                            | 0.8 | 0.75  |
| MODULE_368                                                                     | CHRNE   SLC10A1   SLC10A2   SLC12A1   SLC12A3   SLC15A1   SLC16A2   SLC16A4   SLC16A6   SLC16A8   SLC17A2   SLC17A3   SLC34A1   SLC6A1   SLC6A3   SLC6A4   SLC6A7   TTR                                                                                                                                                                                               | 0.8 | 0.75  |
| SPIELMAN_LYMPHOBLAST_EUROPEAN_VS_ASIAN_2FC_UP                                  | ARPC4   ATP8B1   CORG   DPYSL2   FCER2   HDGFRP3   HSPB1   MEIS2   RGS20   ROBO1   STXBP2   TCF7   UGT2B17                                                                                                                                                                                                                                                            | 0.8 | 0.75  |
| BIOCARTA_CARDIACEGF_PATHWAY                                                    | ADAM12   AGT   AGTR1   EDN1   EDNRA   EDNRB   EGF   EGFR   FOS   HRAS   JUN   MYC   NFKB1   PLCG1   PRKCA   REL   RHOA                                                                                                                                                                                                                                                | 0.8 | 0.75  |
| REACTOME_VOLTAGE_GATED_POTASSIUM_CHANNELS                                      | KCNA1   KCNA2   KCNA3   KCNA4   KCNA5   KCNB1   KCNB2   KCNB3   KCNB1   KCNB2   KCNC1   KCNC2   KCNC3   KCNC4   KCND1   KCND2   KCND3   KCNF1   KCNG1   KCNG2   KCNH1   KCNH2   KCNH4   KCNH6   KCNH7   KCNQ1   KCNQ2   KCNQ3   KCNQ4   KCNS1   KCNS3   KCNV1   KCNV2                                                                                                 | 0.8 | 0.875 |
| MODULE_495                                                                     | CDC68   CDADCl   CKAP2   HGD   ICAM4   IL1RAP   LRN3   PVR12   RCBT82   RGS1   SULT1E1   XPNPEP2                                                                                                                                                                                                                                                                      | 0.8 | 0.875 |
| chr2p12                                                                        | CD8A   CD8B   CNMNB3   CTNNA2   CYP26B1   EIF2AK3   GGXY   GNL1   LRRTM4   LTBP1   PCBP1   REG1A   REG1B   REG3A   RPIA   SFTPB   SMYD5   SNRPG   VAMP8                                                                                                                                                                                                               | 0.8 | 0.75  |
| MODULE_267                                                                     | CHRNA2   CHRNA3   CHRNA4   CHRNB1   CHRNB2   CHRNB3   CHRNE   GLRA1   GLRA2   GLRA3   P2RX1   P2RX3   P2RX4   P2RX7                                                                                                                                                                                                                                                   | 0.8 | 0.625 |
| KEGG_DORSO_VENTRAL_AXIS_FORMATION                                              | CPEB1   EGFR   ETS1   ETS2   ETV6   ETV7   GRB2   KRAS   MAP2K1   MAPK1   MAPK3   NOTCH1   NOTCH2   NOTCH3   NOTCH4   PIWIL1   PIWIL2   SOS1   SOS2                                                                                                                                                                                                                   | 0.8 | 0.625 |
| REACTOME_FGFR_LIGAND_BINDING_AND_ACTIVATION                                    | FGF1   FGF17   FGF18   FGF2   FGF20   FGF22   FGF23   FGF3   FGF4   FGF5   FGF6   FGF7   FGF8   FGF9   FGFR1   FGFR2   FGF3   FGF4   KL                                                                                                                                                                                                                               | 0.8 | 0.875 |
| SCHWAB_TARGETS_OF_BMYB_POLYMORPHIC_VARIANTS_UP                                 | ACVR1B   CCND1   CDC25A   CDKN2C   CENPF   CUL4B   HIF3A   ING1   MDM2   NFATC3   RHOT2   RXRA                                                                                                                                                                                                                                                                        | 0.8 | 0.75  |
| RAY_ALZHEIMERS_DISEASE                                                         | CCL15   CCL18   CCL5   CCL7   EGF   GDNF   IGFBR6   IL11   IL1A   IL13   IL8   TNF   TNFRSF100                                                                                                                                                                                                                                                                        | 0.8 | 0.875 |
| chryq11                                                                        | BPY2   BPY2B   BPY2C   CDY1   CDY1B   CDY2A   CDY2B   DAZ1   DAZ2   DAZ3   DAZ4   DDX3Y   EIF1AY   ELNG4Y   PRY   RBMY1A1   RBMY1B   RBMY1D   RBMY1E   RBMY1F   RBMY1J   RBMY2FP   TMSB4Y   TTTY15   TTTY9A   TTTY9B   USP9Y   UTY   VCY   VCY1B   XKRY   XKRY2                                                                                                       | 0.8 | 0.75  |
| SODIUM_ION_TRANSPORT                                                           | SCN10A   SCN11A   SCN1B   SCN2B   SCN4A   SCNSA   SCN7A   SCN9A   SCNN1A   SCNN1D   SCNN1G   SLC17A2   SLC17A3   SLC17A4   SLC8A1                                                                                                                                                                                                                                     | 0.8 | 0.875 |
| TRANSMEMBRANE_RECEPTOR_PROTEIN_PHOSPHATASE_ACTIVITY                            | PTPRA   PTPRB   PTPRC   PTPRD   PTPRE   PTPRF   PTPRG   PTPRH   PTPRJ   PTPRK   PTPRM   PTPRN   PTPRN2   PTPRO   PTPRR   PTPRS   PTPRT   PTPRU   PTPZ1                                                                                                                                                                                                                | 0.8 | 0.875 |
| LIU_IL13_PRIMING_MODEL                                                         | CDYL   CHMP4A   CLCA1   EGFR   EGR1   EMP3   ETV5   FOS   JAG1   PLK3   RAB5B   ZNF264                                                                                                                                                                                                                                                                                | 0.8 | 0.75  |
| MCCABE_HOXC6_TARGETS_DN                                                        | APBB1   CNTN1   DCN   FAM45A   FGF2   PAK1   PDGFRA   PLXDC1   TNFAIP8   VCAM1   ZBTB7C   ZNF536                                                                                                                                                                                                                                                                      | 0.8 | 0.875 |
| REACTOME_INWARDLY_RECTIFYING_K_CHANNELS                                        | ABCC8   ABCG9   GABBR1   GABBR2   GNB1   GNB2   GNB3   GNG10   GNG12   GNG3   GNG4   GNG5   GNG7   GNGT1   GNGT2   KCNJ1   KCNJ10   KCNJ12   KCNJ14   KCNJ15   KCNJ16   KCNJ2   KCNJ3   KCNJ4   KCNJ5   KCNJ6   KCNJ8   KCNJ9                                                                                                                                         | 0.8 | 0.875 |
| REACTOME_TRAF6_MEDIATED_IRF7_ACTIVATION_IN_TLR7_8_OR_9_SIGNALING               | IRAK1   IRAK4   IRF7   MYD88   TLR7   TLR8   TRAF6   UBE2N                                                                                                                                                                                                                                                                                                            | 0.8 | 0.875 |
| DACOSTA_LOW_DOSE_UV_RESPONSE_VIA_ERCC3_XPCS_UP                                 | CTSZ   ELF1   FAS   FYXD2   HIST1H2AK   HIST2H2A3   ITPKA   LAMB3   MUSK   PINK1   POU2F3   PRDM2   PTPN22   SHROOM2   TK2   USH2A                                                                                                                                                                                                                                    | 0.8 | 0.75  |
| SMID_BREAST_CANCER_RELAPSE_IN_LIVER_DN                                         | ARN22   CFB   CPB1   DNAJC12   DNAJ1   ELOVL2   GLR8   PCSK6   RND2   STC2                                                                                                                                                                                                                                                                                            | 0.8 | 0.625 |
| ST_T_CELL_SIGNAL_TRANSDUCTION                                                  | CBL   CD28   CD3D   CSK   CTLA4   DAG1   DTYMK   EPHB2   GRAP2   GRB2   ITK   ITPKA   ITPKB   LAT   LCK   LCP2   MAPK1   NCK1   NFAT5   NFKB1   NFKB2   NFKBIA   NFKBIB   NFKBIE   NFKBIL1   PAK1   PAK2   PAK3   PAK4   PAK6   PAK7   PLCG1   PRDX1   PTPRC   RAF1   RASGRP1   RASGRP2   RASGRP3   SOS1   SOS2   VAV1   ZAP70                                        | 0.8 | 0.875 |
| COATED_VESICLE_MEMBRANE                                                        | AFPM   AP1G2   AP1S1   AP2S1   ARCN1   COPA   COPB1   COPB2   COPE   COPG   COPG2   COP21   EGFR   LDLRAP1   NECAP2                                                                                                                                                                                                                                                   | 0.8 | 0.75  |
| VESICLE_COAT                                                                   | AFPM   AP1G2   AP1S1   AP2S1   ARCN1   COPA   COPB1   COPB2   COPE   COPG   COPG2   COP21   EGFR   LDLRAP1   NECAP2                                                                                                                                                                                                                                                   | 0.8 | 0.75  |
| HASLINGER_B_CLL_WITH_11Q23_DELETION                                            | ADRBK2   AHR   ATM   BIRC2   CASP1   CNV1   CSPG5   CTSK   DDX10   DMXL2   FUT8   GLRA2   GSN   HIST1H2BG   H53ST1   PABPC4   PDSK7   PICALM   PPP2R1B   SLC4A7   UBE4A                                                                                                                                                                                               | 0.8 | 0.875 |
| POSITIVE_REGULATION_OF_DNA_METABOLIC_PROCESS                                   | CEBP6   ERG   GLI1   GLI2   IL4   PPARGC1A   PRKCG   RAD51   TGFBI   TNFSF13   UBE2N                                                                                                                                                                                                                                                                                  | 0.8 | 0.875 |
| MODULE_148                                                                     | ACOX1   AKR1C3   ALOX15   ALOX15B   ALOX5   ALOX5AP   CYP4F3   HPGD   LTA4H   PTGDS   PTGIS   PTGS2                                                                                                                                                                                                                                                                   | 0.8 | 0.75  |
| SCIAN_CELL_CYCLE_TARGETS_OF_TP53_AND_TP73_UP                                   | CDKN1A   GAS2L1   HRAS   JAG2   LTBP2   NEDD9   SFN   TP53                                                                                                                                                                                                                                                                                                            | 0.8 | 0.75  |
| SHARMA_ASTROCYTOMA_WITH_NF1_SYNDROM                                            | C21orf7   CLEC3B   GPR98   IFNGR1   SRGAP2                                                                                                                                                                                                                                                                                                                            | 0.8 | 0.75  |
| REACTOME_EICOSANOID_LIGAND_BINDING_RECEPTORS                                   | CYSLTR1   CYSLTR2   GPR17   GPR44   LTBR4   LTBR42   PTGDR   PTGER1   PTGER2   PTGER3   PTGER4   PTGFR   PTGIR   TBXA2R                                                                                                                                                                                                                                               | 0.8 | 0.75  |
| WEBER_METHYLATED_IN_COLOM_CANCER                                               | ADAM12   ALXA   DAP   FOXF1   GATA3   PAX6   RPS27L   SHH   TGFBI2   WWTR1                                                                                                                                                                                                                                                                                            | 0.8 | 0.75  |
| MORPHOGENESIS_OF_AN_EPITHELIUM                                                 | BCL10   CELSR1   DMBT1   EHF   ELF3   GLI2   KRT3   KRT4   LMO4   SPINK5   TIMELESS   UPK1A   UPK1B   UPK2   UPK3A                                                                                                                                                                                                                                                    | 0.8 | 0.875 |
| chr3q24                                                                        | CHST2   CPB1   FETUB   GWPS   GPR87   GYG1   P2RY13   PLOD2   PLSCR2   PLSCR4   ZIC1   ZIC4                                                                                                                                                                                                                                                                           | 0.8 | 0.875 |
| chr13q32                                                                       | DCT   DNAJC3   DOCK9   DZ1P1   FARP1   GPC5   GPC6   GPR18   PCCA   TGD5   TM9SF2   TPP2                                                                                                                                                                                                                                                                              | 0.8 | 0.625 |
| BYSTRYKH_HEMATOPOIESIS_STEM_CELL_RUNX1                                         | ACVRL1   CD55   CSF3R   DAD1   EPHB3   IL12RB2   PGR   PHOX2B   PTGFR                                                                                                                                                                                                                                                                                                 | 0.8 | 0.75  |

|                                                                     |                                                                                                                                                                                                                                                                                                                                     |     |       |
|---------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| MACLACHLAN_BRCA1_TARGETS_UP                                         | ARHGDI4   CDC34   CDK4   CDKN1A   DDIT3   GADD45A   GAPDH   IGFBP2   IGFBP4   KRT2   LFNG   MET   PCNA   RAC1   RHOA   TIMP1   TIMP2   TOP1   TOP2A   XRC6C                                                                                                                                                                         | 0.8 | 0.75  |
| MODULE_462                                                          | AKR1C3   ALOX15   ALOX15B   ALOX5   ALOX5AP   CYP4F3   FDXR   HPGD   HSD17B4   LTA4H   MGS2   PTGDS   PTGIS   PTGS2   UGDH                                                                                                                                                                                                          | 0.8 | 0.875 |
| REACTOME_ACTIVATION_OF_THE_PRE_REPLICATIVE_COMPLEX                  | CDC6   CDC7   CDK2   CDT1   DBF4   MCM10   MCM2   MCM3   MCM4   MCM5   MCM6   MCM7   POLA2   POLE   POLE2   PRIM1   RPA1   RPA2   RPA3   RPA4                                                                                                                                                                                       | 0.8 | 0.625 |
| HEIDENBLAD_AMPLIFIED_IN_SOFT_TISSUE_CANCER                          | APOA2   CDK4   JUN   MAT1A   MDM2   POU1F1   PTPRT   SRC   TOP1   VGLL3   YEATS4                                                                                                                                                                                                                                                    | 0.8 | 0.75  |
| VOLTAGE_GATED_SODIUM_CHANNEL_ACTIVITY                               | CACNA1S   PKD2   SCN11A   SCN1B   SCN2B   SCN4A   SCN5A   SCN7A   SCN9A                                                                                                                                                                                                                                                             | 0.8 | 0.75  |
| POSITIVE_REGULATION_OF_T_CELL_ACTIVATION                            | CD24   CD28   CD3E   CD47   EB13   ICOSLG   IL12B   IL18   IL21   IL4   IL7   LCK   NCK1   NCK2   PTPRC   SART1   SIRPG   SOCS5   THY1   ZAP70                                                                                                                                                                                      | 0.8 | 0.75  |
| ORGANIC_ANION_TRANSMEMBRANE_TRANSPORTER_ACTIVITY                    | ABCC2   ABCC3   ABCC5   SLC22A11   SLC22A6   SLC22A7   SLC22A8   SLC01A2   SLC01B1   SLC01B3                                                                                                                                                                                                                                        | 0.8 | 0.75  |
| RAMJAUUN_APOPTOSIS_VI_TGFB1_VIA_SMAD4_DN                            | ATM   BCL2L1   CASP7   DAPK1   EGN3   EYA2   MAPK8IP1   TNFRSF10B                                                                                                                                                                                                                                                                   | 0.8 | 0.75  |
| MODULE_265                                                          | CSF2RB   CSF3R   CXCR4   CXCR6   F3   GHR   IFNGR1   IFNGR2   IL10RA   IL13RA1   IL13RA2   IL15RA   IL18R1   IL1R1   IL1RAP   IL1RL1   IL2RB   IL2RG   IL3RA   IL4R   IL6R   IL6ST   IL7R   LEPR   MYD88   TLR1   TLR2                                                                                                              | 0.8 | 1     |
| MODULE_162                                                          | EBP   SLC10A1   SLC10A2   SLC12A1   SLC12A3   SLC15A1   SLC15A2   SLC16A2   SLC16A4   SLC16A7   SLC17A2   SLC24A1   SLC34A1   SLC5A5   SLC6A1   SLC6A11   SLC6A2   SLC6A3   SLC6A4                                                                                                                                                  | 0.8 | 0.75  |
| HEMATOPOIETIN_INTERFERON_CLASSD200_DOMAIN_CYTOKINE_RECEPTOR_BINDING | CNTF   CSF2   CSF3   CTF1   GH1   IFNA13   IFNA14   IFNA16   IFNA17   IFNA2   IFNA21   IFNA4   IFNA4   IFNA5   IFNA7   IFNA8   IFNG   IL12B   IL2   IL21   IL25   IL3   IL4   IL5   IL7   OSM   PRL   SDCBP                                                                                                                         | 0.8 | 0.875 |
| PID_P38ALPHABETAPATHWAY                                             | BLK   CDC42   DUSP1   DUSP10   DUSP8   FGR   FYN   HCK   LCK   LYN   MAP2K3   MAP2K4   MAP2K6   MAP3K12   MAP3K3   MAPK11   MAPK14   PAK1   PAK2   PAK3   PRKG1   RAC1   RALA   RALB   RIPK1   SRC   TRAF6   YES1                                                                                                                   | 0.8 | 0.875 |
| MAINA_VHL_TARGETS_DN                                                | BNIP3   CCND1   CLDN4   CTGF   DECR1   ENO2   F3   GALST3   GBE1   GN44   MAF   MXI1   PSG1   SLC16A3   SPARC   TNFSF10                                                                                                                                                                                                             | 0.8 | 0.625 |
| AGCGCTT,MIR-518F,MIR-518E,MIR-518A                                  | AUTS2   BET1L   CAPN3   CPEB1   EGR3   HMP19   MCF2L   NRXN1   PTPRU   RAP1B   SON                                                                                                                                                                                                                                                  | 0.8 | 0.875 |
| LOPEZ_MESOTHELIOMA_SURVIVAL_OVERALL_UP                              | ADH1B   CF1   FAM117A   IL6R   METTL7A   ST6GAL1                                                                                                                                                                                                                                                                                    | 0.8 | 0.75  |
| SU_KIDNEY                                                           | AQP2   CLCN5   CUBN   ENPEP   FMO1   HES2   KCNJ1   KL   POU3F4   SLC12A1   SLC17A1   SLC22A2   SLC6A13   XPNPEP2                                                                                                                                                                                                                   | 0.8 | 0.75  |
| LAU_APOPTOSIS_CDKN2A_DN                                             | AKT1   BAG1   FAIM   MCL1   TIMP3                                                                                                                                                                                                                                                                                                   | 0.8 | 0.75  |
| ACETYLCHOLINE_BINDING                                               | ANXA9   CHRM2   CHRM4   CHRM5   CHRNA1   CHRNA2   CHRNA3   CHRNA4   CHRNA5   CHRNA6   CHRNA7   CHRNB1   CHRNB2   CHRNB4   CHRNE                                                                                                                                                                                                     | 0.8 | 0.75  |
| REACTOME_PHOSPHORYLATION_OF_CD3_AND_TCR_ZETA_CHAINS                 | CD247   CD3D   CD3E   CD3G   CD4   CSK   HLA-DPA1   HLA-DPB1   HLA-DQA1   HLA-DQA2   HLA-DRB1   HLA-DRB5   LCK   PTPRC                                                                                                                                                                                                              | 0.8 | 0.75  |
| DYSTROPHIN_ASSOCIATED_GLYCOPROTEIN_COMPLEX                          | CAV3   DMD   LAMB1   SGCA   SGCB   SGCD   SGCE   SGCJ   SNTB1   SNTB2   SNTG1   SNTG2   SSPN                                                                                                                                                                                                                                        | 0.8 | 0.75  |
| SITE_OF_POLARIZED_GROWTH                                            | ANG   APBB1   APBB2   CDK5   CDK5R1   ERC2   MAPT   PRKCI   THY1                                                                                                                                                                                                                                                                    | 0.8 | 0.875 |
| REACTOME_PROCESSIVE_SYNTHESIS_ON_THE_LAGGING_STRAND                 | FEN1   LIG1   PCNA   POLA2   POLD1   POLD2   POLD3   POLD4   PRIM1   RPA1   RPA2   RPA3                                                                                                                                                                                                                                             | 0.8 | 0.75  |
| NIKOLSKY_BREAST_CANCER_Z0P13_AMPLICON                               | ATRN   C20orf27   CENPB   GFRA4   SILEC1                                                                                                                                                                                                                                                                                            | 0.8 | 0.75  |
| chr1q31                                                             | ASPM   B3GALT2   BCAN   CACNA1S   CFHR2   CFHR5   CHIT1   CRB1   F13B   FAM5C   GLUL   IKBKKE   IL10   IPO9   LAMC1   LAMC2   MYOG   NEK7   PKFB2   PHLD43   PI3R   PSEN2   PTPRC   RGS1   RGS13   RGS2   TNNI1   TROVE2                                                                                                            | 0.8 | 0.875 |
| NEURON_PROJECTION                                                   | ACTN2   CDH13   CDK5   CDK5R1   CLN3   GHSR   MAPT   MARK4   NEFH   NEFL   NF1   PPT1   SOD1   SYNP0   TGF82                                                                                                                                                                                                                        | 0.8 | 0.875 |
| MCBRYAN_TERMINAL_END_BUD_UP                                         | CNN1   EGR2   EHF   IGFBP2   LY6D   MYH11   SDC1   SFRP1   TNFRSF12A   TNS1                                                                                                                                                                                                                                                         | 0.8 | 0.75  |
| NAKAMURA_LUNG_CANCER_DIFFERENTIATION_MARKERS                        | CLDN5   DNAI2   FABP6   HIGD1B   IQCG   LRR48   MUC4   RARRES2   SCGB1A1   SFTPA2   SFTPB   SFTPC                                                                                                                                                                                                                                   | 0.8 | 0.75  |
| V\$ROAZ_01                                                          | BEX1   CDKN1A   DUSP7   HEBP2   NGRAP1   RASAL2   TIMMSO                                                                                                                                                                                                                                                                            | 0.8 | 0.625 |
| IM_SREBF1A_TARGETS                                                  | ACACB   ATOX1   SREBF1   ULK2                                                                                                                                                                                                                                                                                                       | 0.8 | 0.875 |
| REACTOME_POL_SWITCHING                                              | PCNA   POLA2   POLD1   POLD2   POLD3   POLD4   PRIM1   RFC2   RFC3   RFC4   RFC5                                                                                                                                                                                                                                                    | 0.8 | 0.75  |
| TORCHIA_TARGETS_OF_EWSR1_FL11_FUSION_TOP20_UP                       | ALOX5   APOE   CA8   CDA1   CPNE7   EPS8   FMO1   HMGCS2   MEST   NDRG2   NRIP3   NUDT11   PHLD42   SERPINB2   SLAMF1   SLC6A20   ZNF185                                                                                                                                                                                            | 0.8 | 0.625 |
| DORMOY_ELAVL1_TARGETS                                               | ACTB   BAAT   BAG2   CCNA2   CCND3   CDC7   CDK2   CDKN3   CNNM2   EDNRA   IL6   MYT1   PDCD10   PDCD1LG2   RBM8A   SPAG9                                                                                                                                                                                                           | 0.8 | 0.625 |
| COATED_MEMBRANE                                                     | AFTPH   AP1G2   AP1S1   AP2S1   AP3S1   ARCNI   COPA   COPB1   COPB2   COPE   COPG   COPG2   COPZ1   EGFR   LDLRAP1   NECAP2                                                                                                                                                                                                        | 0.8 | 0.75  |
| MEMBRANE_COAT                                                       | AFTPH   AP1G2   AP1S1   AP2S1   AP3S1   ARCNI   COPA   COPB1   COPB2   COPE   COPG   COPG2   COPZ1   EGFR   LDLRAP1   NECAP2                                                                                                                                                                                                        | 0.8 | 0.75  |
| SHIN_B_CELL_LYMPHOMA_CLUSTER_5                                      | B2M   BCL3   CDK4   CEBPB   CITA   FGF4   GF11   HMG82   HOXA9   HOXD1   IL21   IL6   RAG2   RASGRF1   SOCS3   TNF   VPREB1                                                                                                                                                                                                         | 0.8 | 0.75  |
| GLYCOPHINGOLIPID_METABOLIC_PROCESS                                  | B4GALNT1   CLN3   CLNG   GLA   LARGE   NEU3   PSAP   ST8SIA1   ST8SIA3   ST8SIA5   UGCG                                                                                                                                                                                                                                             | 0.8 | 0.875 |
| chr1p12                                                             | FAM46C   HBXIP   NHLH2   PHGDH   SLC16A1   VTCN1   WDR3                                                                                                                                                                                                                                                                             | 0.8 | 0.625 |
| VANDESLSUIS_COMMD1_TARGETS_GROUP_4_UP                               | APP   APOA1   APOC2   APOE   APOM   CA4   KRT18   KRT8   LGMN   NR6A1   S100G   SLC2A1   SLC2A3   SPINK1   TCF5   TTR                                                                                                                                                                                                               | 0.8 | 0.875 |
| REACTOME_AKT_PHOSPHORYLATES_TARGETS_IN_THE_CYTOSOL                  | AKT1   AKT2   AKT3   BAD   CASP9   CDKN1A   CDKN1B   CHUK   GSK3A   MDM2   TSC2                                                                                                                                                                                                                                                     | 0.8 | 1     |
| PID_HNF3BPATHTWAY                                                   | ABCC8   ACADM   ACADVL   AFP   AKT1   ALA51   ALB   ALDOB   APOA1   BDH1   CEBPA   CEBPB   CEPD   CPT1A   CPT1B   CREB1   DLK1   F2   FOXA1   FOXA2   FOXF1   G6PC   GCK   HMGCS1   HNF4A   IGFBP1   INS   NF1   NR3C1   PCK1   PKLR   SLC2A2   SP1   TAT   TFR1   TTR   UCP2                                                       | 0.8 | 0.875 |
| SPIELMAN_LYMPHOBLAST_EUROPEAN_VS_ASIAN_2FC_DN                       | ADM   ARL4C   CD38   CLEC2B   CLEC2D   CTSS   DNAJB9   EXOC5   IGFBP1   IL32   LEF1   MAN2A1   NFIL3   PDE4B   PTPRO   SLC2A5   STS   TMPPRS53   WDFC2                                                                                                                                                                              | 0.8 | 0.875 |
| VOLTAGE_GATED_CALCIUM_CHANNEL_COMPLEX                               | CACNA1B   CACNA1C   CACNA1D   CACNA1E   CACNA1F   CACNA1G   CACNA1H   CACNA1S   CACNA2D1   CACNB1   CACNB2   CACNB3   CACNB4   CACNG1   CACNG2                                                                                                                                                                                      | 0.8 | 0.75  |
| WEBER_METHYLATED_HCP_IN_SPERM_DN                                    | ADAM30   AURKC   BRDT   CABYR   DMRT1   INSL6   MORC1   PAPOLB   PIAS2   RPL10L   SOX30   SPA17   SPAG6   SPO11   SYCP1   SYCP2   TULP2   ZPBP                                                                                                                                                                                      | 0.8 | 0.75  |
| MODULE_367                                                          | AGTR1   AVPR1A   BDKRB1   BDKRB2   C3AR1   CCKBR   CCR1   CCR2   CCR5   CXCL13   CXCR4   DGKA   DGKI   EDNRB   F2RL2   GAP43   GNA15   HTR2B   LTBR4   OXTR   P2RY1   P2RY2   P2RY6   PLCD1   PRKD3   RHO   SAG                                                                                                                     | 0.8 | 0.75  |
| chr3q                                                               | CBLB   CLDN16   CLDN18   HGD   PCYT1A   SLC33A1                                                                                                                                                                                                                                                                                     | 0.8 | 0.75  |
| REACTOME_IJONOTROPIC_ACTIVITY_OF_KAINATE_RECEPTORS                  | CALM1   CALM2   CALM3   DLG1   DLG3   GRIK1   GRIK2   GRIK3   GRIK4   GRIK5   NCALD                                                                                                                                                                                                                                                 | 0.8 | 0.75  |
| MAP_KINASE_KINASE_ACTIVITY                                          | MAP3K10   MAP3K11   MAP3K13   MAP3K3   MAP3K4   MAP3K5   MAP3K6   MAP3K7   MAP3K9   ZAK                                                                                                                                                                                                                                             | 0.8 | 0.625 |
| MODULE_424                                                          | APHO   CITA   FCR1A   FCEB1   FCEB2   FCBG2A   FCBG3A   FCBGRT   IGLL1   KIR3DL1   LGALS3   LILRB3   MS4A2   PSG3   TLR1   TLR3                                                                                                                                                                                                     | 0.8 | 0.75  |
| FERRANDO_HOX11_NEIGHBORS                                            | ADA   CCNA2   CD1A   CD1B   CD1C   CD1D   CD1E   DNTT   ERCC1   HPRT1   MAD1L1   MCM4   MCM5   MME   MTHFD1   PTPRF   RPA1   STMN1   TK1   TLX1   TOP2A   TYMS   UNG                                                                                                                                                                | 0.8 | 0.875 |
| NIELSEN_SYNOVIAL_SARCOMA_UP                                         | APBA2   COL2A1   COL9A2   CPA3   ECEL1   ENC1   KNCQ2   KIF1A   NPTX2   OLFM1   PRAME   RGS6   TGF82   TLE3   VEZF1                                                                                                                                                                                                                 | 0.8 | 0.875 |
| TRAYNOR_RETT_SYNDROM_DN                                             | AMIGO2   CDH13   COMP   CRIPI   ENPP1   GREM2   IGFBP5   ITGA6   KLF5   MAB21L1   P4HA2   PTPRF   RUNX1   SLC26A2                                                                                                                                                                                                                   | 0.8 | 0.75  |
| COFACTOR_CATABOLIC_PROCESS                                          | AC02   ALDH1L1   BLVRA   NNT   PDHB   SDHA   SDHB   SDHC   SDHD   UGT1A1                                                                                                                                                                                                                                                            | 0.8 | 0.875 |
| CONRAD_GERMLINE_STEM_CELL                                           | DAZL   DD4X   FSTL1   SAT1   SPAG9   TSGA10   TSPY1   TSPY2   ZP3                                                                                                                                                                                                                                                                   | 0.8 | 0.625 |
| MYLLYKANGAS_AMPLIFICATION_HOT_SPOT_6                                | MAP2K4   PER1   RABEP1   TP53                                                                                                                                                                                                                                                                                                       | 0.8 | 0.625 |
| CHASSOT_SKIN_WOUND                                                  | EGR1   EGR2   EGR3   FOS   FOSB   ID3   JUN   JUNB   KLF2   REL                                                                                                                                                                                                                                                                     | 0.8 | 0.875 |
| REACTOME_ROLE_OF_SECOND_MESSENGERS_IN_NETRIN1_SIGNALING             | DCC   NTN1   PITPNA   PLCG1   TRPC3   TRPC4   TRPC5   TRPC6   TRPC7                                                                                                                                                                                                                                                                 | 0.8 | 0.75  |
| PATTERN_RECOGNITION_RECEPTOR_ACTIVITY                               | CD14   CLEC7A   CLEC1C2   DMBT1   MARCO   PGLYRP1   PGLYRP4   TLR2                                                                                                                                                                                                                                                                  | 0.8 | 0.875 |
| MODULE_575                                                          | ADORA3   C5   C7   C8B   EDNRA   GZMA   GZMB   GZMH   GZMM   LYZ   MMD   PRF1                                                                                                                                                                                                                                                       | 0.8 | 0.875 |
| BRUNEAU_HEART_GREAT_VESSELS_AND_VALVULOGENESIS                      | JAG1   NKG2-5   NOTCH1   NOTCH2   PTPN11   TBX1   TFAP2B                                                                                                                                                                                                                                                                            | 0.8 | 0.625 |
| MADAN_DPPA4_TARGETS                                                 | ABCB1   AURKC   CA4   CALB2   CHFR   DAZL   DD4X   DNAJC6   DPPA4   GAD1   GLI1   GPX2   HCK   HOOK1   IQCG   MEP1B   MYO1F   NEFH   NEUROD1   PRPF39   PRRC1   RASIP1   RNF17   SLC25A31   SNAP19   SOHLH2   SPINK1   TEK   TTPA                                                                                                   | 0.8 | 0.875 |
| CELL_PROJECTION_BIOGENESIS                                          | ACTN2   ARFIP2   CD2AP   CDC42   CDC42EP1   CDC42EP2   CDC42EP4   CDH13   CYFIP1   DNAI2   FGD1   FGD2   FGD6   OPHN1   PCNT   RAC1   RAC3   THBS4   VCL                                                                                                                                                                            | 0.8 | 0.75  |
| chr15q15                                                            | AP4E1   CAPN3   CHAC1   CKMT1A   CKMT1B   DNAJC17   DUOX2   DUT   ELL3   EP842   FLJ10038   GATM   GCHFR   LCM2T   LTK   MAP1A   MAPKBP1   MFAPI1   MGA   MYE2   PDIA3   PLCB2   RAB27A   RAD51   RASGRP1   SERF2   SLC12A1   SLC28A2   SORD   SPATA5L1   SQORDL   TGM5   THBS1   TLN2   TMEM62   TMEM87A   TP53BP1   TYRO3   WDR76 | 0.8 | 0.875 |
| REACTOME_TRAFFICKING_OF_GLUR2_CONTAINING_AMPA_RECEPTORS             | AP2A2   AP2B1   AP2M1   AP2S1   GRIA1   GRIA2   GRIA3   GRIA4   GRIP2   NSF   PICK1   PRKCA   PRKCG                                                                                                                                                                                                                                 | 0.8 | 0.75  |
| REACTOME_TERMINATION_OF_O_GLYCAN_BIOSYNTHESIS                       | MUC13   MUC16   MUC2   MUC3B   MUC4   MUC5AC   MUC5B   MUC6   MUC7   ST3GAL1   ST3GAL2   ST6GAL2   ST6GALNAC2   ST6GALNAC4                                                                                                                                                                                                          | 0.8 | 0.75  |
| MOROSSETTI_FACIOSCAPULOHUMERAL_MUSCULAR_DISTROPHY_DN                | ALDH1A1   ASS1   CDC42EP3   FUC1A   INA   KBTBD10   OXTR   PDLIM3   PPL   RARRES2   VAMP8   WIF1                                                                                                                                                                                                                                    | 0.8 | 1     |
| KORKOLA_EMBRYONIC_CARCINOMA_VS_SEMINOMA_DN                          | CPEB1   DMD   ELAVL2   FBNS1   GIP   KCNV2   KIT   MAGEB2   OSBP3   PCSK1N   PDPN   PRAME   SLC43A1   SOX17   ST7L   TCL1A   XIIST                                                                                                                                                                                                  | 0.8 | 0.75  |
| chr11q                                                              | ARFGF1   GRIK4   RBM14   TMPPRS5                                                                                                                                                                                                                                                                                                    | 0.8 | 0.75  |
| SANCHEZ_MDM2_TARGETS                                                | C10orf116   CCND1   CDKN1A   FCBGRT   HIST2H2AA3   HIST2H2BE   IGFBP6   IL13RA2   IL1RN   INHBB   RABAC1   RNF113A   TIMP1                                                                                                                                                                                                          | 0.8 | 0.75  |
| ACTIN_FILAMENT_POLYMERIZATION                                       | ANG   ARF6   CDC42EP2   GSN   LAT51   NCK1   NCK2   RAC1   RASA1   TMSB4Y   WASF1   WASF3                                                                                                                                                                                                                                           | 0.8 | 0.75  |
| GENERATION_OF_A_SIGNAL_INVOLVED_IN_CELL_CELL_SIGNALING              | BAIAP3   GCK   GHRH   GHSR   GRM4   HRH3   IL11   INHA   INHBA   INHBB   KCNMB4   LIF   NLGN1   OSM   RAB3A   RIMS1   SCG5   SEPT5   SNAP25   SNAIP   STX1A   SYN3   SYT1   TBX3                                                                                                                                                    | 0.8 | 0.75  |
| MATZUK_EARLY_ANTRAL_FOLLICLE                                        | AHR   CCND2   DDR2   FSHR   IGF1   NOS1   NR2C2   PCYT1B   SH2B1   SRC   TAF4B   THBS1   UBE3A                                                                                                                                                                                                                                      | 0.8 | 1     |
| YANG_MUC2_TARGETS_DUODENUM_6MO_UP                                   | GPX2   GSR   LCN2   MBL2   MMP7   PLA2G2A   PLA2G5   REG3A                                                                                                                                                                                                                                                                          | 0.8 | 0.75  |
| MURAKAMI_UV_RESPONSE_1HR_DN                                         | EGR1   IL6   ITGB7   NIN1   ROCK1   SMO   TNFR   VTN                                                                                                                                                                                                                                                                                | 0.8 | 0.875 |
| OXYGEN_BINDING                                                      | ALB   CYP11A1   CYP17A1   CYP19A1   CYP11A1   CYP1A2   CYP1B1   CYP26A1   CYP2A6   CYP2A7   CYP2C18   CYP2C19   CYP2E1   CYP2F1   CYP3A4   CYP3A5   CYP3A7   CYP4B1   EGLN2   HBB   NOXA                                                                                                                                            | 0.8 | 0.75  |
| PROTEIN_POLYMERIZATION                                              | ANG   ARF6   CDC42EP2   CENPJ   GSN   LAT51   MAPRE1   MAPT   NCK1   NCK2   RAC1   RASA1   SPRR2C   TMSB4Y   TPPP   WASF1   WASF3                                                                                                                                                                                                   | 0.8 | 1     |
| MARSON_FOXP3_CORE_DIRECT_TARGETS                                    | CD2   DUSP6   GADD45B   GPR171   IL2   IRF8   ITK   JAK2   MAPRE2   MYC   POU2AF1   PTPN22   S100A6   TNFRSF9   UCP2   ZAP70                                                                                                                                                                                                        | 0.8 | 0.875 |
| REACTOME_ORGANIC_CATION_ANION_ZWITTERION_TRANSPORT                  | SLC22A1   SLC22A11   SLC22A18   SLC22A2   SLC22A3   SLC22A4   SLC22A5   SLC22A6   SLC22A7   SLC22A8                                                                                                                                                                                                                                 | 0.8 | 0.75  |
| WEBER_METHYLATED_LCP_IN_FIBROBLAST_DN                               | AKAP3   CYLC2   PGK2   TEX15   TSGA10   UBQLN3                                                                                                                                                                                                                                                                                      | 0.8 | 1     |

|                                                                             |                                                                                                                                                                                                                                                                        |     |       |
|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| ZHAN_MULTIPLE_MYELOMA_PR_UP                                                 | ASPM   AURKA   BIRC5   BRP44   BUB1B   CCNB1   CCNB2   EZF8   EZH2   FOXM1   KIAA0101   KIF14   KPNA2   MAGEA1   MAGEA3   MAGEA6   MCM10   NEK2   NUSAP1   PRC1   PRR11   RACGAP1   RFC4   RRM2   SLC19A1   TOP2A   TPX2   TRIP13   TSR1   TTK   TYMS   UBE2C   ZWILCH | 0.8 | 0.75  |
| TURASHVILI_BREAST_CARCINOMA_DUCTAL_VS_LOBULAR_DN                            | ASPN   MAOB   MID1   SEC24A   VTCN1                                                                                                                                                                                                                                    | 0.8 | 0.875 |
| SCHAVOLT_TARGETS_OF_TP53_AND_TP63                                           | BAX   CASP1   CDKN1A   EPHA2   FAS   FDXR   MDM2   PCNA   PMAIP1   PODXL   SERPINB5   SFN   TP53I3                                                                                                                                                                     | 0.8 | 1     |
| BIOCARTA_SKP2E2F_PATHWAY                                                    | CCNA1   CCNE1   CDC34   CDK2   CUL1   EZF1   R81   SKP2   TDFP1                                                                                                                                                                                                        | 0.8 | 0.875 |
| SCHLESINGER_H3K27ME3_IN_NORMAL_AND_METHYLATED_IN_CANCER                     | AMPH   AQP5   COL1A1   CHRRT2   DES   GAD2   GDF10   GNAL   GPR6   GRIA4   GRM6   GRM7   HBA2   HOXA9   HOXD12   HS3ST2   HTR1A   KCNA1   MYT1   NEUROG3   PCDHAC1   PCDHGB5   POU4F3   SFRP4   SOCS1   TRHDE                                                          | 0.8 | 0.75  |
| T_CELL_DIFFERENTIATION                                                      | CD1D   CD3D   CD4   IL12B   IL2   IL7   JAG2   LCK   NHEJ1   PTPRC   SART1   SOCS5   SPINK5   ZAP70                                                                                                                                                                    | 0.8 | 0.75  |
| BODY_FLUID_SECRETION                                                        | CEL   COPA   GUCA1B   KNG1   NPPB   NPR1   SLC22A2   SLC22A4   SLC34A1   VIP                                                                                                                                                                                           | 0.8 | 0.875 |
| REACTOME_RECYCLING_OF_BILE_ACIDS_AND_SALTS                                  | ABCB11   ABCG3   ALB   BAAT   FABP6   SLC10A1   SLC10A2   SLC27A5   SLC01A2   SLC01B1   SLC01B3                                                                                                                                                                        | 0.8 | 0.75  |
| TESAR_JAK_TARGETS_MOUSE_ES_D3_UP                                            | BCL2   CER1   FGF5   FGF8   FOXA2   T                                                                                                                                                                                                                                  | 0.8 | 0.625 |
| MODULE_330                                                                  | ACTA1   ACTC1   CACNG1   CALD1   CHRN81   CKMT2   CLCN1   CRYAB   CXCL12   DSTN   FKBP1B   FLJ1   FYXD1   GJA1   GJA5   GNAO1   GSN   HRC   KCNA1   MYL3   NOS1   OXTR   PLN   RYR1   SSPN   TMSB4Y   TRDN   VIPR1                                                     | 0.8 | 0.875 |
| ZHU_SKIL_TARGETS_DN                                                         | BIRC5   CCNA2   CCND3   CCNE2   CDKN2C   EMP1   TGFBF3   TIAF1   TJP2                                                                                                                                                                                                  | 0.8 | 0.75  |
| FREDERICK_PRKCI_TARGETS                                                     | ALDH1A1   KYNU   MMP10   OR2H1   PRKCI   SMC1B   STC1                                                                                                                                                                                                                  | 0.8 | 0.875 |
| BUSA_SAM68_TARGETS_UP                                                       | CND1   CDKN2A   MAPK11   NR2F1   NR3C1   NR4A1   PAWR                                                                                                                                                                                                                  | 0.8 | 0.75  |
| LU_TUMOR_VASCULATURE_DN                                                     | ABI3BP   GREB1   ITM2A   MAOB   OGN   PLN   PRKAR2B   SELE                                                                                                                                                                                                             | 0.8 | 0.75  |
| MODULE_328                                                                  | CD14   CHRNA2   CHRNA3   CHRNA4   CHRNA7   CHRN1   CHRN81   CHRN83   FOLR1   FOLR3   GLRA1   GLRA2   GLRA3   P2RX3   P2RX4                                                                                                                                             | 0.8 | 0.75  |
| EXCITATORY_EXTRACELLULAR_LIGAND_GATED_ION_CHANNEL_ACTIVITY                  | CHRNA1   CHRNA2   CHRNA3   CHRNA4   CHRNA6   CHRNA7   CHRN2   CHRN3   CHRN4   CHRN8   CHRN9   GLRA1   GLRA2   GLRB   HTR3A   HTR3B   P2RX1   P2RX3   P2RX4   P2RX7                                                                                                     | 0.8 | 0.75  |
| EXTRACELLULAR_LIGAND_GATED_ION_CHANNEL_ACTIVITY                             | CHRNA1   CHRNA2   CHRNA3   CHRNA4   CHRNA6   CHRNA7   CHRN2   CHRN3   CHRN4   CHRN8   CHRN9   GLRA1   GLRA2   GLRB   HTR3A   HTR3B   P2RX1   P2RX3   P2RX4   P2RX7                                                                                                     | 0.8 | 0.75  |
| LEARNING_AND_OR_MEMORY                                                      | ACSL4   ADCY8   APOE   CRH   CRHBP   DLG4   FYN   GALR2   GALT3   IL1RAPL1   KLR8   NF1   S100B   VLDLR                                                                                                                                                                | 0.8 | 0.75  |
| NAKAMURA_LUNG_CANCER                                                        | ATP10B   AURKA   COL11A1   MCM6   SCG5   TFP12   TM6SF4   TOP2A                                                                                                                                                                                                        | 0.8 | 0.75  |
| MILICIC_FAMILIAL_ADENOMATOUS_POLYPOSIS_DN                                   | C3   CCL19   CCL21   CR2   CXCL13   DARC   FBNI1   MYL9   PPY                                                                                                                                                                                                          | 0.8 | 0.875 |
| MODULE_333                                                                  | ABCA7   ACP2   ALDH1B1   ATP7B   AZGP1   CELSR2   CFI   CRY1   EPHX2   GCSH   GPD1   HMG2N2   IGF1   KHK   NOS1   PLEKH82   SOD1   TRPM1   YTHDF2   ZC3H3                                                                                                              | 0.8 | 0.75  |
| SMID_BREAST_CANCER_RELAPSE_IN_PLEURA_UP                                     | CHN2   CXCL14   GJA1   OD23   SYNGR3                                                                                                                                                                                                                                   | 0.8 | 0.875 |
| WEST_ADRENOCHORTICAL_TUMOR_MARKERS_UP                                       | ASPM   BARO1   DTL   FGF84   IL32   KIF20A   MED8   MVK   NEK2   NPTX2   PCSK6   PDE4B   PMAIP1   PRC1   RRM2   SLC2A6   SQLE   STC1   TOP2A   UBE2S                                                                                                                   | 0.8 | 0.875 |
| SCHURINGA_STAT5A_TARGETS_DN                                                 | AIM1   BCL6   CASP1   CD44   CD48   CEBPAA   CTSG   CXCR4   FOSL2   IGHV1-69   KIAA0146   MPO   MYCN   PECAM1   TRBC1   TYROBP                                                                                                                                         | 0.8 | 0.625 |
| REACTOME_PRESYNAPTIC_NICOTINIC_ACETYLCHOLINE_RECEPTORS                      | CHRNA1   CHRNA2   CHRNA3   CHRNA4   CHRNA5   CHRNA6   CHRN2   CHRN3   CHRN4   CHRN8   CHRN9   CHRN9G                                                                                                                                                                   | 0.8 | 0.75  |
| SIG_REGULATION_OF_THE_ACTIN_CYTOSKELETON_BY_RHO_GTPASES                     | ACTG1   ACTG2   ACTR2   ACTR3   AKT1   ANGPTL2   CDC42   CFL1   FLNA   FLNC   FSCN1   FSCN2   FSCN3   GDI1   GDI2   LIMK1   MYH2   MYLK   PAK1   PAK2   PAK3   PAK4   PAK6   PAK7   PFN1   PFN2   RHO   ROCK1   ROCK2   RPS4X   VASP   WASF1   WASL                    | 0.8 | 0.875 |
| ENERGY_RESERVE_METABOLIC_PROCESS                                            | ADRB3   DYRK2   EPM2A   GAA   GCK   GPTT1   GPTT2   GSK3B   GYG2   GYS2   LEP   LEPR   PYGB   PYGM   TREH                                                                                                                                                              | 0.8 | 1     |
| LINDGREN_BLADDER_CANCER_CLUSTER_2A_UP                                       | ABL1   ADRB1   DDO   DGKQ   LAD1   RAB25   S100A4   SLCG                                                                                                                                                                                                               | 0.8 | 1     |
| CORNFIED_ENVELOPE                                                           | ANXA1   CDSN   CSTA   DSP   EVPL   IVL   LOR   SEL   SPRR1A   SPRR1B   SPRR3   TGM1                                                                                                                                                                                    | 0.8 | 0.875 |
| REACTOME_TETRAHYDROBIOPTERIN_BH4_SYNTHESIS_RECYCLING_SALVAGE_AND_REGULATION | AKT1   CALM1   CALM2   CALM3   DHFR   GCH1   GCHFR   HSP90A1   NOS3   PRKG2   PTS   SPR                                                                                                                                                                                | 0.8 | 1     |
| DAZARD_UV_RESPONSE_CLUSTER_G28                                              | ANXA2   ATF3   CDC85B   CCL20   CITED2   CTGF   CXCL2   CXCL3   GADD45A   GADD45B   H1FX   HIST1H2AI   IER3   IL8   INSL4   MT1G   PHLD2A   PMAIP1   PTGS2   TACSTD2                                                                                                   | 0.8 | 0.75  |
| LIANG_SILENCED_BY_METHYLATION_DN                                            | CCNA2   CDKN3   CXCL12   EZH2   FOXM1   HMG2B   KIAA0101   KIF11   MCM2   MKI67                                                                                                                                                                                        | 0.8 | 0.75  |
| MODULE_396                                                                  | CLCN3   CLCNKA   CLIC2   FXYD3   GABRA2   GABRA3   GABRA6   GABRG2   GLRA2   GLRB   SLC12A2   SLC26A3                                                                                                                                                                  | 0.8 | 0.75  |
| chr4q35                                                                     | ACSL1   DCTD   F11   FRG1   ING2   KLBK1   LRP2B   MLF1P   MTNR1A   OD23   PDIM3   SLC25A4   SORBS2   TLR3   WWDC2                                                                                                                                                     | 0.8 | 0.875 |
| HERNANDEZ_ABERRANT_MITOSIS_BY_DOCETACEL_4NM_UP                              | CD53   CDKN1A   FGG   GEM   GHR   HIST2H2BE   HLF   MAF   MAGEA12   MITF   NEUROD1   NTSE   POSTN   PRAME   RASGRP1   TIMP3   TNFRSF11B   TYRP1   WDR44                                                                                                                | 0.8 | 0.875 |
| MARSHALL_VIRAL_INFECTION_RESPONSE_UP                                        | CTSS   DDI4   GPR56   ISG20   ITGAE   RPS25                                                                                                                                                                                                                            | 0.8 | 0.75  |
| REGULATED_SECRETORY_PATHWAY                                                 | BAIAP3   GRM4   HRH3   KCNM84   NLGN1   RAB3A   RIMS1   SEPT5   SNCAIP   SYN3   SYT1   TMED10                                                                                                                                                                          | 0.8 | 0.75  |
| MODULE_293                                                                  | B2M   HLA-A   HLA-B   HLA-C   HLA-DMB   HLA-DOA   HLA-DRA   HLA-DRB5   HLA-E   HLA-F   HLA-G                                                                                                                                                                           | 0.8 | 0.875 |
| GESERICK_TERT_TARGETS_DN                                                    | BTG2   DUSP6   EGR2   ELN   FOSB   GADD45B   GADD45G   HBEGF   HEY1   IER3   JUNB   KLF10   KLF4   KLF9   NFKB1   NR4A1   SIAH2   ZFP36                                                                                                                                | 0.8 | 0.875 |
| MYLYKANGAS_AMPLIFICATION_HOT_SPOT_21                                        | ATF1   CDK4   DDI3   HMG2A   HOXC11   HOXC13                                                                                                                                                                                                                           | 0.8 | 0.625 |
| chryp11                                                                     | AMELY   PCDH11Y   PRKY   RPS4Y1   SRY   TBL1Y   TSPY2   TTTY1   TTTY2   ZFY                                                                                                                                                                                            | 0.8 | 0.625 |
| CHAN_INTERFERON_PRODUCING_DENDRITIC_CELL                                    | FASLG   GZMA   GZMB   GZMK   GZMM   KLR1   KLRD1   KLRG1   KLRK1   NCR1   NKX2   PRF1                                                                                                                                                                                  | 0.7 | 0.625 |
| BYSTRYKH_HEMATOPOIESIS_STEM_CELL_IL3RA                                      | BCAP31   CCND3   GATA1   GUCY1A1   MLL   RAC1   VEGFB                                                                                                                                                                                                                  | 0.7 | 0.75  |
| GNF2_BUB1                                                                   | ASF1B   ASPM   AURKB   BUB1   BUB1B   CCNB2   CDC20   CDC48   CDT1   CENPE   CHAF1B   CKS1B   ESPL1   FOXM1   GMNN   HMMR   KIF20A   KIF2C   MCM4   MELK   PLK1   RANBP1   RRM2   SMC2   SPAG5                                                                         | 0.7 | 0.75  |
| FRIDMAN_SENESCENCE_DN                                                       | ALDH1A1   BM11   CCNB1   CDC25B   COL3A1   EZF4   EGR1   ID1   LAMA1   LDB2   MARCKS   WISP1                                                                                                                                                                           | 0.7 | 0.875 |
| REACTOME_TRANSPORT_OF_VITAMINS_NUCLEOSIDES_AND_RELATED_MOLECULES            | ALB   AVP   SLC27A6   SLC28A1   SLC28A2   SLC28A3   SLC29A1   SLC29A2   SLC29A3   SLC33A1   SLC35A1   SLC35A2   SLC35A3   SLC35C1   SLC35D2   SLC5A6   SLC01A2   SLC01B1   SLC01B3   SLC01C1   SLC02A1   SLC02B1   SLC03A1   SLC04A1   SLC04C1                         | 0.7 | 0.875 |
| chr6q16                                                                     | ASCC3   EPHA7   FBXL4   FHL5   FUT9   GPR63   GRIK2   MANEA   PNRC1   POU3F2   PRDM13   RRGTT   SIM1   UBE2J1                                                                                                                                                          | 0.7 | 0.75  |
| REACTOME_INHIBITION_OF_VOLTAGE_GATED_CA2_CHANNELS_VIA_GBETA_GAMMA_SUBUNIT   | GABBR1   GABBR2   GNB1   GNB2   GNB3   GNG10   GNG12   GNG3   GNG4   GNG5   GNG7   GNGT1   GNGT2   KCNJ10   KCNJ12   KCNJ15   KCNJ16   KCNJ2   KCNJ3   KCNJ4   KCNJ5   KCNJ6   KCNJ9                                                                                   | 0.7 | 0.75  |
| VOLTAGE_GATED_CALCIUM_CHANNEL_ACTIVITY                                      | CACNA1A   CACNA1B   CACNA1C   CACNA1D   CACNA1E   CACNA1F   CACNA1G   CACNA1H   CACNA1S   CACNA2D1   CACNB1   CACNB2   CACNB3   CACNB4   CACNG1   CACNG2   CACNG4   CACNG5                                                                                             | 0.7 | 0.75  |
| NAKAMURA_ALVEOLAR_EPITHELIUM                                                | CFD   CLDN5   HGD1B   RARRES2                                                                                                                                                                                                                                          | 0.7 | 0.75  |
| VALK_AML_WITH_11Q23_REARRANGED                                              | APOC2   C1orf54   C2orf103   C3orf14   CACNA2D3   CES1   DACH1   HIF1A   ITGA7   KCNE1L   LOC283683   MSLN   NXT2   P2RY2   PENK   RET   TGM5   TKT11   TRPM4   UVRAG                                                                                                  | 0.7 | 0.875 |
| HUMMERICH_BENIGN_SKIN_TUMOR_UP                                              | FABP5   FAM57A   GLRX   GSTA4   GSTO1   KRT13   KRT16   RHOG   S100A8   S100A9   SERPIND1   SLPI   TGM3   USP25   ZNF205                                                                                                                                               | 0.7 | 0.75  |
| S_PATH                                                                      | ABL1   APBB1   APBB2   CD71   CDK2AP1   DDX11   POLD1   PTPRC   RCC1   TIMELESS   TIPIN                                                                                                                                                                                | 0.7 | 0.875 |
| BIOCARTA_CTL_PATHWAY                                                        | B2M   CD247   CD3D   CD3E   CD3G   FAS   FASLG   GZMB   HLA-A   ICAM1   ITGAL   ITGB2   PRF1   TRA@                                                                                                                                                                    | 0.7 | 0.875 |
| BOYAUUT_LIVER_CANCER_SUBCLASS_G12_DN                                        | ABCG2   ACSL5   ADI1   ALDH1L1   FAH   GSKR   GSTA3   HGD   HHLA3   HLF   PIK3CG   QDPR                                                                                                                                                                                | 0.7 | 0.875 |
| MODULE_382                                                                  | ADM   AGT   CALCA   CCK   CCL25   CGA   CGB   CHGB   CSH2   GCG   GIP   IGF1   IGF2   INHA   INHBA   LHB   NPY   NTS   PENK   PNOC   POMC   PPY   SST   STC1   STC2   TRH   TSHB   VIP                                                                                 | 0.7 | 0.625 |
| MEISSNER_BRAIN_HCP_WITH_H3_UNMETHYLATED                                     | ACTL7B   CAMKK2   DDX4   DES   DPEP3   EPPK1   FKBP6   FSTL3   KCNG1   MOSC1   MSH4   OMP   PAPOLB   PDHA2   RNF17   SLC25A31   SPEG   SPO11   SYCP1   SYCP2   TAF7L   TDRD1   TNFRSF25   TTC22                                                                        | 0.7 | 0.875 |
| KEGG_TAURINE_AND_HYPOTAURINE_METABOLISM                                     | BAAT   CDO1   CSAD   GAD1   GAD2   GGT1                                                                                                                                                                                                                                | 0.7 | 0.875 |
| CARBOHYDRATE_CATABOLIC_PROCESS                                              | ALDOA   ALDOB   CHIT1   ECD   GAA   GAPDH5   GBA3   GNPD1A   GNS   GUSB   HK1   HYL4A   MGAM   PFKFB1   PFKL   PFKM   PGD   PGLS   PYGB   TKT11   TREH                                                                                                                 | 0.7 | 1     |
| CELLULAR_CARBOHYDRATE_CATABOLIC_PROCESS                                     | ALDOA   ALDOB   CHIT1   ECD   GAA   GAPDH5   GBA3   GNPD1A   GNS   GUSB   HK1   HYL4A   MGAM   PFKFB1   PFKL   PFKM   PGD   PGLS   PYGB   TKT11   TREH                                                                                                                 | 0.7 | 1     |
| MODULE_478                                                                  | APOH   FCER1A   FCER1G   FCER2   FCGR2A   FCGR3A   FCGR7   IGLL1   LGALS3   LILRB2   LILRB3   P4HA2   P4HB   PLOD1   PLOD2   PLOD3   PSG3   TLR3                                                                                                                       | 0.7 | 1     |
| REACTOME_SIGNALING_BY_FGFR3_MUTANTS                                         | FGF1   FGF17   FGF18   FGF2   FGF20   FGF23   FGF4   FGF5   FGF8   FGF9   FGFR3                                                                                                                                                                                        | 0.7 | 0.75  |
| TRACEY_RESISTANCE_TO_IFNA2_UP                                               | C1orf9   IL28B   MAL   MET                                                                                                                                                                                                                                             | 0.7 | 0.875 |
| BIOCARTA_ACTINY_PATHWAY                                                     | AB12   ACTA1   ACTR2   ACTR3   ARPC1A   ARPC1B   ARPC2   ARPC3   ARPC4   ARPC5   NCK1   NCKAP1   NTRK1   PIR   PSMA7   RAC1   WASF1   WASF3   WASL                                                                                                                     | 0.7 | 1     |
| MARSON_FOXP3_TARGETS_STIMULATED_UP                                          | ADAM10   ANXA1   CRTAM   DAP   EEA1   GPR171   IL2   ITK   JAK2   LPXN   MBP   MLLT3   PHF6   POU2AF1   PTGER4   PTPN22   SLC17A6   SLC25A24   TMPPRS11E   TNFSF14   ZAP70   ZFP36L1                                                                                   | 0.7 | 0.875 |
| MIKKELSEN_IPS_ICP_WITH_H3K27ME3                                             | ABCA4   ADCY6   BATF   CD72   CHST1   CNTNAP1   CNTNAP2   CPLX3   CXCL10   EPN3   FGF14   FXYD7   GF1B   HOXB3   KCNJ9   KRT1   MCCR3   NOLA   NR2F2   NR5A1   PAX5   PDE1C   PRSS16   SLAMF8   TFAF2B   THBS2   TMEM100   TNF   TNNC2   TRPC5   UPK3A   VTN   ZIC4    | 0.7 | 0.75  |
| MODULE_320                                                                  | BRCA1   CCNA1   CENPE   DDX11   ESPL1   ILF3   KIF11   KIF23   MAPT   MID1   MSH5   PTTG1   RAD21   RAN   SMC2   TTK   ZW10                                                                                                                                            | 0.7 | 0.875 |
| BAFNA_MUCA_TARGETS_DN                                                       | HTR1B   PKP3   TNLN1                                                                                                                                                                                                                                                   | 0.7 | 0.75  |
| REGULATION_OF_NEUROTRANSMITTER_LEVELS                                       | ALDH9A1   BAIAP3   COLQ   GCH1   GCHFR   GDNF   GRM4   HPR1T   HRH3   KCNM84   NLGN1   PRG3   RAB3A   RIMS1   SEPT5   SLC1A3   SLC5A7   SLC6A4   SNCAIP   SYN3   SYT1   TGFB2                                                                                          | 0.7 | 0.875 |
| WEBER_METHYLATED_LCP_IN_SPERM_DN                                            | AKAP3   CYLC2   PGK2   TEX15   TSGA10                                                                                                                                                                                                                                  | 0.7 | 1     |
| BIOCARTA_EPHA4_PATHWAY                                                      | ACTA1   EPHA4   EPHB1   FYN   ITGB1   LICAM   LYN   RAP1B   SELP                                                                                                                                                                                                       | 0.7 | 1     |
| MODULE_354                                                                  | AHCY   ALDH1L1   CA1   CA2   CA3   CA4   CASA   CA6   CA7   CA8   CB5   CTH   MTHFD1   OAT   PAH   PTPRG   PTPRZ1   SDS                                                                                                                                                | 0.7 | 0.75  |
| BYSTRYKH_HEMATOPOIESIS_STEM_CELL_FLU1                                       | DBF4   FANGC   FLT3   HCL1   IL1RL1   MYIF   RAB5B   TAP2                                                                                                                                                                                                              | 0.7 | 0.75  |
| APICAL_PLASMA_MEMBRANE                                                      | AKAP7   AQP2   ATP6V0A4   ATP8B1   CFTR   MAL   RHCG   SHROOM2   SLC30A5   STX3                                                                                                                                                                                        | 0.7 | 0.75  |
| MIKKELSEN_ES_LCP_WITH_H3K27ME3                                              | CACNA1S   CRYBB1   HTR3B   IL13   KCNN1   MYL2   PDE2A   PPY   TREM2                                                                                                                                                                                                   | 0.7 | 0.75  |
| NEUROTRANSMITTER_SECRETION                                                  | BAUR3   GRM4   HRH3   KCNM84   NLGN1   RAB3A   RIMS1   SEPT5   SNCAIP   SYN3   SYT1                                                                                                                                                                                    | 0.7 | 0.75  |
| OHASHI_AURKB_TARGETS                                                        | AURKB   CDC48   CENPA   DES   INCENP   KIF2C   RACGAP1   VIM                                                                                                                                                                                                           | 0.7 | 0.875 |
| HINATA_NFKB_TARGETS_KERATINOCYTE_DN                                         | C19orf21   CALB1   CCACAM6   DAPK1   DSG3   DUSP4   GPRC5A   HYL1   KLR6   KLR7   PPL   PTHLH   RGS2   RIMS2   RUNX1   SEEL   SIL17B1   THBS1   UPK1B   ZNF185                                                                                                         | 0.7 | 0.875 |
| REACTOME_STEROID_HORMONES                                                   | AKR1B1   CGA   CUBN   CYP11A1   CYP11B1   CYP11B2   CYP17A1   CYP19A1   CYP21A2   CYP24A1   CYP27B1   CYP281   GC   HSD11B1   HSD17B1   HSD17B3   HSD3B1   LGMN   LHB   POMC   SRD5A1   SRD5A2   STAR   STAROS                                                         | 0.7 | 0.875 |
| REACTOME_METABOLISM_OF_STEROID_HORMONES_AND_VITAMINS_A_AND_D                | AKR1B1   BCMO1   CGA   CLP5   CUBN   CYP11A1   CYP11B1   CYP11B2   CYP17A1   CYP19A1   CYP21A2   CYP24A1   CYP27B1   CYP281   GC   HSD11B1   HSD17B1   HSD17B3   HSD3B1   HSD3B2   LGMN   LHB   LRAT   LRP2   PNLP   POMC   RDM11   SRD5A1   SRD5A2   STAR   STAROS    | 0.7 | 0.875 |

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| REACTOME_UNWINDING_OF_DNA                            | GINS1   GINS2   GINS4   MCM2   MCM3   MCM4   MCM5   MCM6   MCM7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0.7 | 0.875 |
| SHIN_B_CELL_LYMPHOMA_CLUSTER_9                       | BC11A   CD19   CD40   CD79A   GATA1   HMGB3   HOXA4   IKZF3   IRF8   MMP13   PAX5   REL   S100A9   SPIB   TAL1   TLX1   WNT2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0.7 | 0.875 |
| HOMOPHILIC_CELL_ADHESION                             | AMIGO2   CD84   CDH5   ITGB1   NPTN   PKD1   PVRL1   PVRL2   PVRL3   ROBO1   ROBO2   TRO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.7 | 1     |
| MONTERO_THYROID_CANCER_POOR_SURVIVAL_UP              | ASPM   BIRC5   CCNB2   CENPA   CEP55   DIAPH3   NUSAP1   PRC1   PXDN   RRM2   UBE2C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.7 | 0.75  |
| MIKKELSEN_IP5_LCP_WITH_H3K4ME3_AND_H3K27ME3          | CDH7   FUT7   SLC16A8   SLC17A7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0.7 | 0.75  |
| ACGCACA_MIR-210                                      | ACVR1B   EFNA3   GPD1L   SCR1T                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.7 | 0.75  |
| SU_PLACENTA                                          | ACVR2B   ADAM12   CYP19A1   DLX5   EGFR   EMX1   ETV3   FLT1   GALE   GCM1   GJAS   HMGB3   HOXB3   INS4   KISS1   LAGE3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.7 | 0.75  |
| AMINE_RECEPTOR_ACTIVITY                              | MAGEA10   MSX2   PAPP2   PDPN   PHLDA2   PSG9   SERPINB2   SLC16A5   TLX2   VGLL1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               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|                                                      | ADRA1A   ADRA1B   ADRA1D   ADRA2A   ADRA2B   ADRA2C   ADRB1   ADRB2   ADRB3   CHRM2   CHRM4   CHRM5   DRD1   DRD2   DRD3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.7 | 0.75  |
|                                                      | DRD4   DRD5   HRH1   HRH2   HRH3   HTR1A   HTR1B   HTR1D   HTR1E   HTR1F   HTR2A   HTR2B   HTR3B   HTR4   HTR5A   HTR6   HTR7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |     |       |
| YANG_BCL3_TARGETS_DN                                 | CACNA1G   CNTNAP1   GRP   IUPF   PTGIS   SH2B2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.7 | 0.875 |
| REACTOME_ACETYLCHOLINE_BINDING_AND_DOWNSTREAM_EVENTS | CHRFAM7A   CHRNA1   CHRNA2   CHRNA3   CHRNA4   CHRNA5   CHRNA6   CHRNA7   CHRNA9   CHRN2   CHRN3   CHRN4   CHRNA5   CHRN6   CHRN7   CHRN8   CHRN9   CHRN10   CHRN11   CHRN12   CHRN13   CHRN14   CHRN15   CHRN16   CHRN17   CHRN18   CHRN19   CHRN20   CHRN21   CHRN22   CHRN23   CHRN24   CHRN25   CHRN26   CHRN27   CHRN28   CHRN29   CHRN30   CHRN31   CHRN32   CHRN33   CHRN34   CHRN35   CHRN36   CHRN37   CHRN38   CHRN39   CHRN40   CHRN41   CHRN42   CHRN43   CHRN44   CHRN45   CHRN46   CHRN47   CHRN48   CHRN49   CHRN50   CHRN51   CHRN52   CHRN53   CHRN54   CHRN55   CHRN56   CHRN57   CHRN58   CHRN59   CHRN60   CHRN61   CHRN62   CHRN63   CHRN64   CHRN65   CHRN66   CHRN67   CHRN68   CHRN69   CHRN70   CHRN71   CHRN72   CHRN73   CHRN74   CHRN75   CHRN76   CHRN77   CHRN78   CHRN79   CHRN80   CHRN81   CHRN82   CHRN83   CHRN84   CHRN85   CHRN86   CHRN87   CHRN88   CHRN89   CHRN90   CHRN91   CHRN92   CHRN93   CHRN94   CHRN95   CHRN96   CHRN97   CHRN98   CHRN99   CHRN100   CHRN101   CHRN102   CHRN103   CHRN104   CHRN105   CHRN106   CHRN107   CHRN108   CHRN109   CHRN110   CHRN111   CHRN112   CHRN113   CHRN114   CHRN115   CHRN116   CHRN117   CHRN118   CHRN119   CHRN120   CHRN121   CHRN122   CHRN123   CHRN124   CHRN125   CHRN126   CHRN127   CHRN128   CHRN129   CHRN130   CHRN131   CHRN132   CHRN133   CHRN134   CHRN135   CHRN136   CHRN137   CHRN138   CHRN139   CHRN140   CHRN141   CHRN142   CHRN143   CHRN144   CHRN145   CHRN146   CHRN147   CHRN148   CHRN149   CHRN150   CHRN151   CHRN152   CHRN153   CHRN154   CHRN155   CHRN156   CHRN157   CHRN158   CHRN159   CHRN160   CHRN161   CHRN162   CHRN163   CHRN164   CHRN165   CHRN166   CHRN167   CHRN168   CHRN169   CHRN170   CHRN171   CHRN172   CHRN173   CHRN174   CHRN175   CHRN176   CHRN177   CHRN178   CHRN179   CHRN180   CHRN181   CHRN182   CHRN183   CHRN184   CHRN185   CHRN186   CHRN187   CHRN188   CHRN189   CHRN190   CHRN191   CHRN192   CHRN193   CHRN194   CHRN195   CHRN196   CHRN197   CHRN198   CHRN199   CHRN200   CHRN201   CHRN202   CHRN203   CHRN204   CHRN205   CHRN206   CHRN207   CHRN208   CHRN209   CHRN210   CHRN211   CHRN212   CHRN213   CHRN214   CHRN215   CHRN216   CHRN217   CHRN218   CHRN219   CHRN220   CHRN221   CHRN222   CHRN223   CHRN224   CHRN225   CHRN226   CHRN227   CHRN228   CHRN229   CHRN230   CHRN231   CHRN232   CHRN233   CHRN234   CHRN235   CHRN236   CHRN237   CHRN238   CHRN239   CHRN240   CHRN241   CHRN242   CHRN243   CHRN244   CHRN245   CHRN246   CHRN247   CHRN248   CHRN249   CHRN250   CHRN251   CHRN252   CHRN253   CHRN254   CHRN255   CHRN256   CHRN257   CHRN258   CHRN259   CHRN260   CHRN261   CHRN262   CHRN263   CHRN264   CHRN265   CHRN266   CHRN267   CHRN268   CHRN269   CHRN270   CHRN271   CHRN272   CHRN273   CHRN274   CHRN275   CHRN276   CHRN277   CHRN278   CHRN279   CHRN280   CHRN281   CHRN282   CHRN283   CHRN284   CHRN285   CHRN286   CHRN287   CHRN288   CHRN289   CHRN290   CHRN291   CHRN292   CHRN293   CHRN294   CHRN295   CHRN296   CHRN297   CHRN298   CHRN299   CHRN300   CHRN301   CHRN302   CHRN303   CHRN304   CHRN305   CHRN306   CHRN307   CHRN308   CHRN309   CHRN310   CHRN311   CHRN312   CHRN313   CHRN314   CHRN315   CHRN316   CHRN317   CHRN318   CHRN319   CHRN320   CHRN321   CHRN322   CHRN323   CHRN324   CHRN325   CHRN326   CHRN327   CHRN328   CHRN329   CHRN330   CHRN331   CHRN332   CHRN333   CHRN334   CHRN335   CHRN336   CHRN337   CHRN338   CHRN339   CHRN340   CHRN341   CHRN342   CHRN343   CHRN344   CHRN345   CHRN346   CHRN347   CHRN348   CHRN349   CHRN350   CHRN351   CHRN352   CHRN353   CHRN354   CHRN355   CHRN356   CHRN357   CHRN358   CHRN359   CHRN360   CHRN361   CHRN362   CHRN363   CHRN364   CHRN365   CHRN366   CHRN367   CHRN368   CHRN369   CHRN370   CHRN371   CHRN372   CHRN373   CHRN374   CHRN375   CHRN376   CHRN377   CHRN378   CHRN379   CHRN380   CHRN381   CHRN382   CHRN383   CHRN384   CHRN385   CHRN386   CHRN387   CHRN388   CHRN389   CHRN390   CHRN391   CHRN392   CHRN393   CHRN394   CHRN395   CHRN396   CHRN397   CHRN398   CHRN399   CHRN400   CHRN401   CHRN402   CHRN403   CHRN404   CHRN405   CHRN406   CHRN407   CHRN408   CHRN409   CHRN410   CHRN411   CHRN412   CHRN413   CHRN414   CHRN415   CHRN416   CHRN417   CHRN418   CHRN419   CHRN420   CHRN421   CHRN422   CHRN423   CHRN424   CHRN425   CHRN426   CHRN427   CHRN428   CHRN429   CHRN430   CHRN431   CHRN432   CHRN433   CHRN434   CHRN435   CHRN436   CHRN437   CHRN438   CHRN439   CHRN440   CHRN441   CHRN442   CHRN443   CHRN444   CHRN445   CHRN446   CHRN447   CHRN448   CHRN449   CHRN450   CHRN451   CHRN452   CHRN453   CHRN454   CHRN455   CHRN456   CHRN457   CHRN458   CHRN459   CHRN460   CHRN461   CHRN462   CHRN463   CHRN464   CHRN465   CHRN466   CHRN467   CHRN468   CHRN469   CHRN470   CHRN471   CHRN472   CHRN473   CHRN474   CHRN475   CHRN476   CHRN477   CHRN478   CHRN479   CHRN480   CHRN481   CHRN482   CHRN483   CHRN484   CHRN485   CHRN486   CHRN487   CHRN488   CHRN489   CHRN490   CHRN491   CHRN492   CHRN493   CHRN494   CHRN495   CHRN496   CHRN497   CHRN498   CHRN499   CHRN500   CHRN501   CHRN502   CHRN503   CHRN504   CHRN505   CHRN506   CHRN507   CHRN508   CHRN509   CHRN510   CHRN511   CHRN512   CHRN513   CHRN514   CHRN515   CHRN516   CHRN517   CHRN518   CHRN519   CHRN520   CHRN521   CHRN522   CHRN523   CHRN524   CHRN525   CHRN526   CHRN527   CHRN528   CHRN529   CHRN530   CHRN531   CHRN532   CHRN533   CHRN534   CHRN535   CHRN536   CHRN537   CHRN538   CHRN539   CHRN540   CHRN541   CHRN542   CHRN543   CHRN544   CHRN545   CHRN546   CHRN547   CHRN548   CHRN549   CHRN550   CHRN551   CHRN552   CHRN553   CHRN554   CHRN555   CHRN556   CHRN557   CHRN558   CHRN559   CHRN560   CHRN561   CHRN562   CHRN563   CHRN564   CHRN565   CHRN566   CHRN567   CHRN568   CHRN569   CHRN570   CHRN571   CHRN572   CHRN573   CHRN574   CHRN575   CHRN576   CHRN577   CHRN578   CHRN579   CHRN580   CHRN581   CHRN582   CHRN583   CHRN584   CHRN585   CHRN586   CHRN587   CHRN588   CHRN589   CHRN590   CHRN591   CHRN592   CHRN593   CHRN594   CHRN595   CHRN596   CHRN597   CHRN598   CHRN599   CHRN600   CHRN601   CHRN602   CHRN603   CHRN604   CHRN605   CHRN606   CHRN607   CHRN608   CHRN609   CHRN610   CHRN611   CHRN612   CHRN613   CHRN614   CHRN615   CHRN616   CHRN617   CHRN618   CHRN619   CHRN620   CHRN621   CHRN622   CHRN623   CHRN624   CHRN625   CHRN626   CHRN627   CHRN628   CHRN629   CHRN630   CHRN631   CHRN632   CHRN633   CHRN634   CHRN635   CHRN636   CHRN637   CHRN638   CHRN639   CHRN640   CHRN641   CHRN642   CHRN643   CHRN644   CHRN645   CHRN646   CHRN647   CHRN648   CHRN649   CHRN650   CHRN651   CHRN652   CHRN653   CHRN654   CHRN655   CHRN656   CHRN657   CHRN658   CHRN659   CHRN660   CHRN661   CHRN662   CHRN663   CHRN664   CHRN665   CHRN666   CHRN667   CHRN668   CHRN669   CHRN670   CHRN671   CHRN672   CHRN673   CHRN674   CHRN675   CHRN676   CHRN677   CHRN678   CHRN679   CHRN680   CHRN681   CHRN682   CHRN683   CHRN684   CHRN685   CHRN686   CHRN687   CHRN688   CHRN689   CHRN690   CHRN691   CHRN692   CHRN693   CHRN694   CHRN695   CHRN696   CHRN697   CHRN698   CHRN699   CHRN700   CHRN701   CHRN702   CHRN703   CHRN704   CHRN705   CHRN706   CHRN707   CHRN708   CHRN709   CHRN710   CHRN711   CHRN712   CHRN713   CHRN714   CHRN715   CHRN716   CHRN717   CHRN718   CHRN719   CHRN720   CHRN721   CHRN722   CHRN723   CHRN724   CHRN725   CHRN726   CHRN727   CHRN728   CHRN729   CHRN730   CHRN731   CHRN732   CHRN733   CHRN734   CHRN735   CHRN736   CHRN737   CHRN738   CHRN739   CHRN740   CHRN741   CHRN742   CHRN743   CHRN744   CHRN745   CHRN746   CHRN747   CHRN748   CHRN749   CHRN750   CHRN751   CHRN752   CHRN753   CHRN754   CHRN755   CHRN756   CHRN757   CHRN758   CHRN759   CHRN760   CHRN761   CHRN762   CHRN763   CHRN764   CHRN765   CHRN766   CHRN767   CHRN768   CHRN769   CHRN770   CHRN771   CHRN772   CHRN773   CHRN774   CHRN775   CHRN776   CHRN777   CHRN778   CHRN779   CHRN780   CHRN781   CHRN782   CHRN783   CHRN784   CHRN785   CHRN786   CHRN787   CHRN788   CHRN789   CHRN790   CHRN791   CHRN792   CHRN793   CHRN794   CHRN795   CHRN796   CHRN797   CHRN798   CHRN799   CHRN800   CHRN801   CHRN802   CHRN803   CHRN804   CHRN805   CHRN806   CHRN807   CHRN808   CHRN809   CHRN810   CHRN811   CHRN812   CHRN813   CHRN814   CHRN815   CHRN816   CHRN817   CHRN818   CHRN819   CHRN820   CHRN821   CHRN822   CHRN823   CHRN824   CHRN825   CHRN826   CHRN827   CHRN828   CHRN829   CHRN830   CHRN831   CHRN832   CHRN833   CHRN834   CHRN835   CHRN836   CHRN837   CHRN838   CHRN839   CHRN840   CHRN841   CHRN842   CHRN843   CHRN844   CHRN845   CHRN846   CHRN847   CHRN848   CHRN849   CHRN850   CHRN851   CHRN852   CHRN853   CHRN854   CHRN855   CHRN856   CHRN857   CHRN858   CHRN859   CHRN860   CHRN861   CHRN862   CHRN863   CHRN864   CHRN865   CHRN866   CHRN867   CHRN868   CHRN869   CHRN870   CHRN871   CHRN872   CHRN873   CHRN874   CHRN875   CHRN876   CHRN877   CHRN878   CHRN879   CHRN880   CHRN881   CHRN882   CHRN883   CHRN884   CHRN885   CHRN886   CHRN887   CHRN888   CHRN889   CHRN890   CHRN891   CHRN892   CHRN893   CHRN894   CHRN895   CHRN896   CHRN897   CHRN898   CHRN899   CHRN900   CHRN901   CHRN902   CHRN903   CHRN904   CHRN905   CHRN906   CHRN907   CHRN908   CHRN909   CHRN910   CHRN911   CHRN912   CHRN913   CHRN914   CHRN915   CHRN916   CHRN917   CHRN918   CHRN919   CHRN920   CHRN921   CHRN922   CHRN923   CHRN924   CHRN925   CHRN926   CHRN927   CHRN928   CHRN929   CHRN930   CHRN931   CHRN932   CHRN933   CHRN934   CHRN935   CHRN936   CHRN937   CHRN938   CHRN939   CHRN940   CHRN941   CHRN942   CHRN943   CHRN944   CHRN945   CHRN946   CHRN947   CHRN948   CHRN949   CHRN950   CHRN951   CHRN952   CHRN953   CHRN954   CHRN955   CHRN956   CHRN957   CHRN958   CHRN959   CHRN960   CHRN961   CHRN962   CHRN963   CHRN964   CHRN965   CHRN966   CHRN967   CHRN968   CHRN969   CHRN970   CHRN971   CHRN972   CHRN973   CHRN974   CHRN975   CHRN976   CHRN977   CHRN978   CHRN979   CHRN980   CHRN981   CHRN982   CHRN983   CHRN984   CHRN985   CHRN986   CHRN987   CHRN988   CHRN989   CHRN990   CHRN991   CHRN992   CHRN993   CHRN994   CHRN995   CHRN996   CHRN997   CHRN998   CHRN999   CHRN1000 | 0.7 | 0.75  |
| MODULE_415                                           | ALB   AQP9   GABRB3   GABRP   GJB1   KCNJ3   P2RX1   SLC10A1   SLC16A2   SLC37A4   SLC6A1   SLC9A5   TTR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 0.7 | 0.875 |
| REGULATION_OF_HEART_CONTRACTION                      | ACTC1   ADORA3   CACNA1H   CHRM2   CYP2J2   DES   DMPK   HSPB7   KCNE1   KCNE1L   KCNE2   KCNG2   KCNH2   KCNP2   KCNJ12   KCNQ1   MYH6   MYH7   RYR2   SCN5A   SRI   TGF2   TNNT2   TPM1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.7 | 0.75  |
| REACTOME_CREATION_OF_C4_AND_C2_ACTIVATORS            | C1QA   C1QB   C1S   CRP   MASP1   MASP2   MBL2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.7 | 0.75  |
| GNF2_MYL3                                            | ACTC1   AK1   CASQ2   CKMT2   COX6A2   COX7A1   CSRP3   DES   FABP3   FHL2   HRC   HSPB7   ITGB1BP3   MYBPC3   MYH6   MYH7   MYL2   MYL3   MYL7   MYO22   NKX2-5   NPPA   PGAM2   POPDC2   PTP4A3   SGCA   SLC4A3   SYNPO2L   TNNC1   TNN13   TNNT2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.7 | 0.75  |
| REACTOME_DIGESTION_OF_DIETARY_CARBOHYDRATE           | AMY1A   AMY1B   AMY1C   AMY2A   AMY2B   LCT   MGAM   SI   TREH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.7 | 0.75  |
| chr6q                                                | AIM1   CASP8A2   CD24   HEY2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0.7 | 0.875 |
| GALL_TP53_TARGETS_APOPTOTIC_DN                       | CHEK1   FADD   HUS1   NOL3   TNFRSF10B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.7 | 1     |
| YIH_RESPONSE_TO_ARSENITE_CS                          | CLL2   CRABP2   DARC   KRT15   L1CAM   MAP2K1   PGF   PLAU   PML   TNFAIP6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.7 | 1     |
| GNF2_CASP4                                           | ACTR2   ARPC3   B2M   CASP4   CMTM6   DIAZAP2   ELF4   GMFG   GMIP   HCL1   HLA-B   ICAM3   IQGAP1   LAPTM5   PSTPIP1   RIN3   SELL   SH3BGR1   STAT6   TCIRG1   WAS   ZCCHC7   ZFP36L2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.7 | 0.625 |
| chr15q11                                             | ACTC1   APBA2   ATP10A   CYFIP1   EHD4   GABRA5   GABRB3   GABRG3   GOLGA8C   GOLGA8E   GREM1   HDGFRP3   HERC2P2   IPW   LOC283683   MAGEL2   MAN2C1   MKRN3   NDN   NDUFAF1   NIP2A   OCA2   PAR-SN   PAR5   PLA2G4B   PPP1R14D   RASL12   SNORD108   SNORD64   TUBGCP5   UBE3A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0.7 | 1     |
| KIM_MYCL1_AMPLIFICATION_TARGETS_DN                   | AHNAK   C1orf61   CD42EP1   CMTM6   FKBP9   GRHL2   GSTM4   KIF3B   LOC202181   MT1X   NRAS   OAT   PHTF1   RUNX1   VANG1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.7 | 0.75  |
| MODULE_501                                           | ACTN3   APC5   ASGR1   BST1   CASP1   CD1C   CHRN8A   DUSP2   EDN3   HBEGF   LTBR   MMP14   PDXK   SEMA3C   SERPINB8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 0.7 | 0.875 |
| MIKHAYLOVA_OXIDATIVE_STRESS_RESPONSE_VIA_VHL_DN      | AKR1B1   CALU   CTSD   HSPB1   OAT   PGAM1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.7 | 1     |
| MOOTHA_GLYCOGEN_METABOLISM                           | AGL   G6PC   GAA   GBE1   GCKR   GSK3B   GY1   GYG2   GYS1   GYS2   PHKA2   PPP1CA   PPP1CB   PPP1CC   PPP1R2   PPP1R3A   PPP1R3D   PYGL   PYGM   SLC37A4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 0.7 | 0.75  |
| CHEOK_RESPONSE_TO_HD_MTX_UP                          | ABLIM1   ANXA2   ARL4C   ATM   AZU1   BAX   CTSB   DEFA4   FLNA   HHLA1   IL32   LYZ   MPO   MYLK   NFKB2   OLFM4   S100A4   S100A8   S100A9   SLC1A4   TRBC1   TYROBP                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.7 | 1     |
| OZANNE_AP1_TARGETS_UP                                | ARPC1B   CAPG   CD44   DNMT1   EGFR   ENPP2   HDAC3   KBTBD10   LGALS3   MMP1   MMP3   MMP9   PRKCQ   SPARC   STAT6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0.7 | 0.75  |
| BIOCARTA_TOB1_PATHWAY                                | CD247   CD47   CD3D   CD3E   CD3G   IFNG   IL2   IL2RA   IL4   SMAD3   SMAD4   TGF21   TGF22   TGF23   TGF24   TGF25   TGF26   TGF27   TGF28   TGF29   TGF30   TGF31   TGF32   TGF33   TGF34   TGF35   TGF36   TGF37   TGF38   TGF39   TGF40   TGF41   TGF42   TGF43   TGF44   TGF45   TGF46   TGF47   TGF48   TGF49   TGF50   TGF51   TGF52   TGF53   TGF54   TGF55   TGF56   TGF57   TGF58   TGF59   TGF60   TGF61   TGF62   TGF63   TGF64   TGF65   TGF66   TGF67   TGF68   TGF69   TGF70   TGF71   TGF72   TGF73   TGF74   TGF75   TGF76   TGF77   TGF78   TGF79   TGF80   TGF81   TGF82   TGF83   TGF84   TGF85   TGF86   TGF87   TGF88   TGF89   TGF90   TGF91   TGF92   TGF93   TGF94   TGF95   TGF96   TGF97   TGF98   TGF99   TGF100   TGF101   TGF102   TGF103   TGF104   TGF105   TGF106   TGF107   TGF108   TGF109   TGF110   TGF111   TGF112   TGF113   TGF114   TGF115   TGF116   TGF117   TGF118   TGF119   TGF120   TGF121   TGF122   TGF123   TGF124   TGF125   TGF126   TGF127   TGF128   TGF129   TGF130   TGF131   TGF132   TGF133   TGF134   TGF135   TGF136   TGF137   TGF138   TGF139   TGF140   TGF141   TGF142   TGF143   TGF144   TGF145   TGF146   TGF147   TGF148   TGF149   TGF150   TGF151   TGF152   TGF153   TGF154   TGF155   TGF156   TGF157   TGF158   TGF159   TGF160   TGF161   TGF162   TGF163   TGF164   TGF165   TGF166   TGF167   TGF168   TGF169   TGF170   TGF171   TGF172   TGF173   TGF174   TGF175   TGF176   TGF177   TGF178   TGF179   TGF180   TGF181   TGF182   TGF183   TGF184   TGF185   TGF186   TGF187   TGF188   TGF189   TGF190   TGF191   TGF192   TGF193   TGF194   TGF195   TGF196   TGF197   TGF198   TGF199   TGF200   TGF201   TGF202   TGF203   TGF204   TGF205   TGF206   TGF207   TGF208   TGF209   TGF210   TGF211   TGF212   TGF213   TGF214   TGF215   TGF216   TGF217   TGF218   TGF219   TGF220   TGF221   TGF222   TGF223   TGF224   TGF225   TGF226   TGF227   TGF228   TGF229   TGF230   TGF231   TGF232   TGF233   TGF234   TGF235   TGF236   TGF237   TGF238   TGF239   TGF240   TGF241   TGF242   TGF243   TGF244   TGF245   TGF246   TGF247   TGF248   TGF249   TGF250   TGF251   TGF252   TGF253   TGF254   TGF255   TGF256   TGF257   TGF258   TGF259   TGF260   TGF261   TGF262   TGF263   TGF264   TGF265   TGF266   TGF267   TGF268   TGF269   TGF270   TGF271   TGF272   TGF273   TGF274   TGF275   TGF276   TGF277   TGF278   TGF279   TGF280   TGF281   TGF282   TGF283   TGF284   TGF285   TGF286   TGF287   TGF288   TGF289   TGF290   TGF291   TGF292   TGF293   TGF294   TGF295   TGF296   TGF297   TGF298   TGF299   TGF300   TGF301   TGF302   TGF303   TGF304   TGF305   TGF306   TGF307   TGF308   TGF309   TGF310   TGF311   TGF312   TGF313   TGF314   TGF315   TGF316   TGF317   TGF318   TGF319   TGF320   TGF321   TGF322   TGF323   TGF324   TGF325   TGF326   TGF327   TGF328   TGF329   TGF330   TGF331   TGF332   TGF333   TGF334   TGF335   TGF336   TGF337   TGF338   TGF339   TGF340   TGF341   TGF342   TGF343   TGF344   TGF345   TGF346   TGF347   TGF348   TGF349   TGF350   TGF351   TGF352   TGF353   TGF354   TGF355   TGF356   TGF357   TGF358   TGF359   TGF360   TGF361   TGF362   TGF363   TGF364   TGF365   TGF366   TGF367   TGF368   TGF369   TGF370   TGF371   TGF372   TGF373   TGF374   TGF375   TGF376   TGF377   TGF378   TGF379   TGF380   TGF381   TGF382   TGF383   TGF384   TGF385   TGF386   TGF387   TGF388   TGF389   TGF390   TGF391   TGF392   TGF393   TGF394   TGF395   TGF396   TGF397   TGF398   TGF399   TGF400   TGF401   TGF402   TGF403   TGF404   TGF405   TGF406   TGF407   TGF408   TGF409   TGF410   TGF411   TGF412   TGF413   TGF414   TGF415   TGF416   TGF417   TGF418   TGF419   TGF420   TGF421   TGF422   TGF423   TGF424   TGF425   TGF426   TGF427   TGF428   TGF429   TGF430   TGF431   TGF432   TGF433   TGF434   TGF435   TGF436   TGF437   TGF438   TGF439   TGF440   TGF441   TGF442   TGF443   TGF444   TGF445   TGF446   TGF447   TGF448   TGF449   TGF450   TGF451   TGF452   TGF453   TGF454   TGF455   TGF456   TGF457   TGF458   TGF459   TGF460   TGF461   TGF462   TGF463   TGF464   TGF465   TGF466   TGF467   TGF468   TGF469   TGF470   TGF471   TGF472   TGF473   TGF474   TGF475   TGF476   TGF477   TGF478   TGF479   TGF480   TGF481   TGF482   TGF483   TGF484   TGF485   TGF486   TGF487   TGF488   TGF489   TGF490   TGF491   TGF492   TGF493   TGF494   TGF495   TGF496   TGF497   TGF498   TGF499   TGF500   TGF501   TGF502   TGF503   TGF504   TGF505   TGF506   TGF507   TGF508   TGF509   TGF510   TGF511   TGF512   TGF513   TGF514   TGF515   TGF516   TGF517   TGF518   TGF519   TGF520   TGF521   TGF522   TGF523   TGF524   TGF525   TGF526   TGF527   TGF528   TGF529   TGF530   TGF531   TGF532   TGF533   TGF534   TGF535   TGF536   TGF537   TGF538   TGF539   TGF540   TGF541   TGF542   TGF543   TGF544   TGF545   TGF546   TGF547   TGF548   TGF549   TGF550   TGF551   TGF552   TGF553   TGF554   TGF555   TGF556   TGF557   TGF558   TGF559   TGF560   TGF561   TGF562   TGF563   TGF564   TGF565   TGF566   TGF567   TGF568   TGF569   TGF570   TGF571   TGF572   TGF573   TGF574   TGF575   TGF576   TGF577   TGF578   TGF579   TGF580   TGF581   TGF582   TGF583   TGF584   TGF585   TGF586   TGF587   TGF588   TGF589   TGF590   TGF591   TGF592   TGF593   TGF594   TGF595   TGF596   TGF597   TGF598   TGF599   TGF600   TGF601   TGF602   TGF603   TGF604   TGF605   TGF606   TGF607   TGF608   TGF609   TGF610   TGF611   TGF612   TGF613   TGF614   TGF615   TGF616   TGF617   TGF618   TGF619   TGF620   TGF621   TGF622   TGF623   TGF624   TGF625   TGF626   TGF627   TGF628   TGF629   TGF630   TGF631   TGF632   TGF633   TGF634   TGF635   TGF636   TGF637   TGF638   TGF639   TGF640   TGF641   TGF                                                                                                                                                                                                                                                                                                                                                              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|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| DN_TRETINOIN_RESPONSE_DN                                            | ABI3BP   C3AR1   CLTC   GREM1   P2RY2   PFN1                                                                                                                                                                                                                                   | 0.6 | 0.875 |
| NEUROPEPTIDE_SIGNALING_PATHWAY                                      | AGRP   ECEL1   GALT3   GALT3   GLRA1   GLRA2   GLRB   GRP   HCRTR1   HCRTR2   NMUR1   NPFF                                                                                                                                                                                     | 0.6 | 0.75  |
| PID_EPHA_FWDPATHWAY                                                 | ARHGEF15   BLK   CBL   CDK5   CRK   CRKL   EFNA1   EFNA2   EFNA3   EFNA5   EPHA1   EPHA2   EPHA3   EPHA4   EPHA5   EPHA7   FGR   FYN   HCK   LCK   LYN   PIK3CG   PIK3RS   PLCG1   RHOA   ROCK1   SRC   VAV2   VAV3   YES1                                                     | 0.6 | 0.875 |
| CALVERT_IRINOTECAN_SENSITIVE_VS_REVERTED_UP                         | GMFB   PGF   PURA   RAC1   VIM                                                                                                                                                                                                                                                 | 0.6 | 0.625 |
| GABA_RECEPTOR_ACTIVITY                                              | GABBR1   GABBR2   GABRA1   GABBR1   GABBR2   GABRB3   GABRD   GABRE   GABRP   GABRR1   GABRR2                                                                                                                                                                                  | 0.6 | 0.75  |
| chr9p23                                                             | CER1   TLN1   TYRP1                                                                                                                                                                                                                                                            | 0.6 | 0.875 |
| XENOBOTIC_METABOLIC_PROCESS                                         | CYP3A4   NQO1   NR1I2   S100A12   UGT1A6   UGT1A9   UGT2B15   UGT2B28   UGT2B4                                                                                                                                                                                                 | 0.6 | 1     |
| G_PROTEIN_SIGNALING_ADENYLATE_CYCLASE_INHIBITING_PATHWAY            | CHRM5   CORT   DRD2   GRM4   MCHR1   NPY1R   NPY2R   OPRK1   OPRL1   RGS1                                                                                                                                                                                                      | 0.6 | 0.75  |
| NADELLA_PKRARIA_TARGETS_DN                                          | ACTA2   CDH2   ETS1   HMGGA2   LEF1   SNAI2                                                                                                                                                                                                                                    | 0.6 | 1     |
| GLUTAMATE_SIGNALING_PATHWAY                                         | CDK5R1   GRIA3   GRIA4   GRID2   GRIK1   GRIK2   GRIK3   GRIK4   GRIN2A   GRIN2B   GRIN2C   GRM4   GRM5   GRM6   HOMER1   HOMER2   HOMER3                                                                                                                                      | 0.6 | 0.75  |
| MIKKELSEN_ES_HCP_WITH_H3_UNMETHYLATED                               | ABCC9   BAHC1   BRD1   CACNG2   CAMK2A   CRYGA   DPEP3   DUSP13   EDAR   FGF6   FSCN2   FXD2   JPH2   MFAF2   NOS1   PALMD   PCDHA9   PDHA2   PIWILL1   PLCE1   PSD3   RASGRP3   RBM28   RHP3A   SLC2A9   SST   SSTR2   SYP   TEX11   TEX13B   TNFRSF9   TRPC3   TRPM1   TSSK2 | 0.6 | 0.75  |
| ITO_PTTG1_TARGETS_DN                                                | ARHGAP1   ARHGAD1   EIF4A1   FSCN1   ITGA5   PSMO2   PTTG1   RHOG   RRAS                                                                                                                                                                                                       | 0.6 | 1     |
| EPITHELIAL_CELL_DIFFERENTIATION                                     | DMBT1   EHF   ELF3   KRT3   KRT4   SPINK5   UPK1A   UPK1B   UPK2   UPK3A                                                                                                                                                                                                       | 0.6 | 0.875 |
| KIM_MVCL1_AMPULIFICATION_TARGETS_UP                                 | CD19   CDK5R1   GPR27   HPCAL4   KCND2   MYCL1   NDRG4   NEFL   NELL2   PRSS12   RHOBTB3                                                                                                                                                                                       | 0.6 | 1     |
| WONG_ENDOMETRIAL_CANCER_LATE                                        | CXCL9   FAM46C   GADD45G   GH1   IGHG1   IGJ   IL23A   LY2   PTPRC   SERPINA3                                                                                                                                                                                                  | 0.6 | 0.625 |
| REACTOME_PECAM1_INTERACTIONS                                        | FYN   ITGAV   ITGB3   LCK   LYN   PECAM1   PLCG1   PTPN6   SRC   YES1                                                                                                                                                                                                          | 0.6 | 1     |
| WEBER_METHYLATED_ICP_IN_SPERM_UP                                    | ACTL7B   ANKRD7   PRM2   PRSS21   TDRD1   TSSK2                                                                                                                                                                                                                                | 0.6 | 0.875 |
| MIKKELSEN_NPC_ICP_WITH_H3K27ME3                                     | FXYD7   HOXB13   MATN1   MLPH   POU2AF1   PVALB                                                                                                                                                                                                                                | 0.6 | 0.75  |
| REACTOME_NA_CL_DEPENDENT_NEUROTRANSMITTER_TRANSPORTERS              | SLC18A1   SLC22A2   SLC6A1   SLC6A11   SLC6A12   SLC6A14   SLC6A15   SLC6A2   SLC6A20   SLC6A3   SLC6A5   SLC6A6   SLC6A7   SLC6A9                                                                                                                                             | 0.6 | 0.875 |
| AKAP_PART_OF_CELL                                                   | AKAP7   AQP2   ATP6V0A4   ATP8B1   CFTR   MAL   PDZD3   RHCG   SHROOM2   SLC30A5   STX3   USH1C                                                                                                                                                                                | 0.6 | 0.75  |
| KEGG_ASCORBATE_AND_ALDARATE_METABOLISM                              | ALDH1   ALDH2   ALDH3A2   ALDH7A1   ALDH9A1   UGDH   UGT1A1   UGT1A10   UGT1A3   UGT1A4   UGT1A5   UGT1A6   UGT1A7   UGT1A8   UGT1A9   UGT2A1   UGT2A3   UGT2B15   UGT2B17   UGT2B28   UGT2B4                                                                                  | 0.6 | 0.875 |
| REACTOME_FGFR1_LIGAND_BINDING_AND_ACTIVATION                        | FGF1   FGF17   FGF2   FGF20   FGF22   FGF23   FGF3   FGF4   FGF5   FGF6   FGF8   FGF9   FGF11                                                                                                                                                                                  | 0.6 | 0.875 |
| REACTOME_SIGNALING_BY_ACTIVATED_POINT_MUTANTS_OF_FGFR1              | FGF1   FGF17   FGF2   FGF20   FGF23   FGF4   FGF5   FGF6   FGF8   FGF9   FGF11                                                                                                                                                                                                 | 0.6 | 0.875 |
| GROWTH_CONE                                                         | ANG   APBB1   APBB2   CDK5   CDK5R1   ERC2   MAPT   THY1                                                                                                                                                                                                                       | 0.6 | 1     |
| NEUROPEPTIDE_BINDING                                                | CKAR   CKBR   GALT1   GALT2   GALT3   HCRTR2   MC2R   MCHR1   NMBR   NMUR1   NPY6R   SSTR1   SSTR2   SSTR3   SSTR4   SSTR5   TACR1   TACR2   TACR3                                                                                                                             | 0.6 | 0.875 |
| NEUROPEPTIDE_RECEPTOR_ACTIVITY                                      | CKAR   CKBR   GALT1   GALT2   GALT3   HCRTR2   MC2R   MCHR1   NMBR   NMUR1   NPY6R   SSTR1   SSTR2   SSTR3   SSTR4   SSTR5   TACR1   TACR2   TACR3                                                                                                                             | 0.6 | 0.875 |
| EHLERS_ANEUPLOIDY_DN                                                | CA14   CNH1A   FZD9   GABRB3   GMPR   LYR6   PRELP   PTHR2                                                                                                                                                                                                                     | 0.6 | 0.75  |
| FEEDING_BEHAVIOR                                                    | AGRP   CKAR   CKBR   FYN   GALT2   GALT3   GCG   GHSR   HCRTR1   HCRTR2   HTR2C   LEP   MC4R   MCHR1   NPY   PMCH   PPYR1   PYY                                                                                                                                                | 0.6 | 0.875 |
| GNF2_SRR1B                                                          | CRNN   CSTA   CSTB   EVPL   IL1RN   KRT13   KRT16   KRT4   LY6D   PITX1   PKP1   PPL   RHCG   S100A7   SERPINB13   SPINK5   SPRR1A   SPRR1B   SPRR2C   SPRR3   TGM1   TGM3                                                                                                     | 0.6 | 0.75  |
| REACTOME_ACTIVATED_POINT_MUTANTS_OF_FGFR2                           | FGF1   FGF17   FGF18   FGF2   FGF20   FGF22   FGF23   FGF3   FGF4   FGF5   FGF6   FGF7   FGF8   FGF9   FGF12                                                                                                                                                                   | 0.6 | 0.75  |
| SMID_BREAST_CANCER_RELAPSE_IN_LIVER_UP                              | CG1C   CRLF1   FGB   KYNV   PPP1R1A   S100A8                                                                                                                                                                                                                                   | 0.6 | 0.75  |
| ROLEF_GLI5_TARGETS                                                  | ABCC8   CHGA   CTRL   FOXJ1   FRZB   G6PC2   GCG   IAPP   INS   ISL1   LDLR   MAFB   NEUROD1   NEUROG3   NKX6-1   PAX4   PAX6   PCSK2   PPP1R1A   PPY   PSMB10   PYY   RBP4   RIMS3   SCG5   SCGN   SLC2A2   SLC2A5   SLIT3   SRP9   SST   SYT13   VDR                         | 0.6 | 0.75  |
| DETECTION_OF_BIOTIC_STIMULUS                                        | CD1D   CRTAM   PGLYRP1   PGLYRP4                                                                                                                                                                                                                                               | 0.6 | 0.75  |
| GENTLES_LEUKEMIC_STEM_CELL_DN                                       | CLL5   CCNA1   CD38   CLC   CPA3   CSTA   KIAA0101   MS4A3   OLFM4   RNASE2   RNASE3   STAR   ZWINT                                                                                                                                                                            | 0.6 | 1     |
| SAENZ_DETOX_PATHWAY_AND_CARCINOGENESIS_DN                           | ABCC2   CYP2B6   CYP2C19   CYP2C8   CYP3A4   CYP4B1   CYP4F12   GSK1   GSTO1   GSTT1   SLCO2A1   VDR                                                                                                                                                                           | 0.6 | 1     |
| ENDOTHELIAL_CELL_MIGRATION                                          | AMOT   CALCA   CDH13   DYH   NF1   PLG   PRSS3   S100A2   S100P   SCG2   TNFSF12                                                                                                                                                                                               | 0.6 | 1     |
| MODULE_545                                                          | AKAP4   ALPL   CDH13   MAO   FOXF2   HCRTR1   HOXD9   IL18R1   H2AFK   IL1R1   IL1RL1   JAKMIP2   SERPINAS   SOX30   TLR2   UBB   UGT1A4   VGLL1                                                                                                                               | 0.6 | 0.875 |
| REACTOME_AMINE_DERIVED_HORMONES                                     | AANAT   CGA   DBH   DDC   DIO1   DIO2   DIO3   PNMT   SLC5A5   TH   TPH1   TPO   TSHB                                                                                                                                                                                          | 0.6 | 0.75  |
| SENSORY_PERCEPTION_OF_TASTE                                         | RT4   TAS2R14   TAS2R16   TAS2R3   TAS2R4                                                                                                                                                                                                                                      | 0.6 | 0.75  |
| NICOTINIC_ACETYLCHOLINE_ACTIVATED_CATION_SELECTIVE_CHANNEL_ACTIVITY | CHRNA1   CHRNA2   CHRNA3   CHRNA4   CHRNA6   CHRNA7   CHRN2B   CHRN3B   CHRN4B   CHRN5   CHRNE                                                                                                                                                                                 | 0.6 | 0.75  |
| NICOTINIC_ACETYLCHOLINE_GATED_RECEPTOR_CHANNEL_COMPLEX              | CHRNA1   CHRNA2   CHRNA3   CHRNA4   CHRNA6   CHRNA7   CHRN2B   CHRN3B   CHRN4B   CHRN5   CHRNE                                                                                                                                                                                 | 0.6 | 0.75  |
| LY_AGING_MIDDLE_DN                                                  | CNNA2   CCNB1   CCNF   CDC20   CENPA   CENPF   FOXM1   H2AFK   HMGN2   KIF11   KIF23   KIF2C   MYBL2   PLK1   PTGS2   UBE2C                                                                                                                                                    | 0.6 | 0.875 |
| BIOCARTA_P53_PATHWAY                                                | APAF1   ATM   BAX   BCL2   CCND1   CCNE1   CDK2   CDK4   CDKN1A   E2F1   GADD45A   MDM2   PCNA   RB1   TIMP3   TP53                                                                                                                                                            | 0.6 | 1     |
| GNF2_MYL2                                                           | ACT1   ACTN2   CASQ2   CKMT2   COX6A2   COX7A1   CSRP3   DES   FABP3   FLNC   HRC   HSPB7   ITGB1BP3   MB   MYBPC3   MYH6   MYH7   MYL2   MYL3   MYL7   MYO22   NPPA   PGAM2   POPDC2   PTP4A3   RPL3L   SLC25A4   SYNPOZL   TCAP   TNNC1   TNNI3   TNNT2                      | 0.6 | 0.75  |
| BIOCARTA_GABA_PATHWAY                                               | DNM1   GABARAP   GABRA1   GABRA2   GABRA3   GABRA4   GABRA5   GABRA6   GPHN   SRC                                                                                                                                                                                              | 0.6 | 0.875 |
| REACTOME_FGFR2_LIGAND_BINDING_AND_ACTIVATION                        | FGF1   FGF17   FGF18   FGF2   FGF20   FGF23   FGF4   FGF5   FGF6   FGF8   FGF9   FGF12                                                                                                                                                                                         | 0.6 | 0.75  |
| chr2p                                                               | ACTR2   CP51   HAAO   MIPHOSEPH10   SDC1   SIX2   VSNL1                                                                                                                                                                                                                        | 0.6 | 1     |
| CHEN_HOXA5_TARGETS_6HR_UP                                           | EGR1   GADD45B   IER2   IL8   KLF10   PTN   SAT1   SNAI2   TIPARP   ZNF35                                                                                                                                                                                                      | 0.6 | 1     |
| HONRAADO_BREAST_CANCER_BRCA1_VS_BRCA2                               | BCL2   BIRC5   CCNB1   CCNB1   CCND1   CCNE1   CDKN2A   EGFR   KRT5   KRT8   MDM2   MKI67   PGR   RAD50   SKP2   TOP2A   TP53   VIM                                                                                                                                            | 0.6 | 1     |
| SA_G1_AND_S_PHASES                                                  | ARF1   ARF3   CCND1   CDK2   CDK4   CDKN1A   CDKN1B   CDKN2A   CFL1   E2F1   E2F2   MDM2   NKT1   PRB1   TP53                                                                                                                                                                  | 0.6 | 0.875 |
| MARIADASON_RESPONSE_TO_BUTYRATE_CURCUMIN_SULINDAC_TAUSSA_1          | FOS   GNAI2   GRN   MT1E   TH13B   MYH9   PLCB4   SAT1   TMSB4X                                                                                                                                                                                                                | 0.6 | 0.875 |
| GAUSSMANN_MLL_AFA_FUSION_TARGETS_B_DN                               | ADH7   NUPR1   PLSCR4   SH3BP5   TAF9B   TRIP12   WNT5A                                                                                                                                                                                                                        | 0.6 | 1     |
| YANG_MUC2_TARGETS_COLON_3MO_DN                                      | CYP3A43   FMO3   FMO5   GSTT1   POR                                                                                                                                                                                                                                            | 0.6 | 1     |
| REACTOME_CD28_DEPENDENT_VAV1_PATHWAY                                | CD28   CD80   CD86   CDC42   FYN   GRB2   LCK   PAK1   PAK2   RAC1   VAV1                                                                                                                                                                                                      | 0.6 | 1     |
| REGULATION_OF_INTERFERON_GAMMA_BIOSYNTHETIC_PROCESS                 | CEBPB   EB13   IL12B   INHA   INHBA   ILR3   TLR7   TLR8                                                                                                                                                                                                                       | 0.6 | 1     |
| HOFFMANN_MYELODYSPLASTIC_SYNDROM_HIGH_RISK_DN                       | AZU1   CD1E   CD8B   CLC   DYRK2   GPR12   HLF   IFNAR1   MTMR11   PF4   PIK3CG   PPBP   PRG2   PRKAA1   STAT2   UPK3A   ZNF117                                                                                                                                                | 0.6 | 0.875 |
| MIKKELSEN_ES_LCP_WITH_H3K4ME3_AND_H3K27ME3                          | FUT7   GALT3TA   SLC16A8   SLC17A7   STRA6                                                                                                                                                                                                                                     | 0.6 | 0.75  |
| BIOCARTA_SALMONELLA_PATHWAY                                         | ACTA1   ACTR2   ACTR3   APC13A   APC1B   APC2   APC3   APC4   APC5   CDC42   RAC1   WASF1   WASL                                                                                                                                                                               | 0.6 | 0.875 |
| MYLLYKANGAS_AMPULIFICATION_HOT_SPOT_5                               | AP5SR1   HLF   PRKARIA                                                                                                                                                                                                                                                         | 0.6 | 1     |
| GUENTHER_GROWTH_SPHERICAL_VS_ADHERENT_UP                            | BA11   BA12   CCND2   CELSR2   CRMP1   CSPG5   DLL3   GPR56   GRIA2   LPHN3   MAP2   METRN   NES   OLIG2   PCSK1N   PTPRZ1   SHC3                                                                                                                                              | 0.5 | 0.875 |
| WEBER_METHYLATED_ICP_IN_FIBROBLAST                                  | ACTL7B   ADAM18   ADAM2   ANKRD7   DDX4   HISTH13T   LDHC   PDHA2   PRAME   PRM2   PRSS21   RNF17   TCEB3B   TDRD1   TEX12   TSSK2                                                                                                                                             | 0.5 | 0.75  |
| REACTOME_ANDROGEN_BIOSYNTHESIS                                      | CGA   CYP17A1   CYP17B1   HSD3B1   HSD3B2   LHB   POMC   SRD5A1   SRD5A2                                                                                                                                                                                                       | 0.5 | 1     |
| REACTOME_TANDEM_PORE_DOMAIN_POTASSIUM_CHANNELS                      | CKNK1   CKNK10   CKNK13   CKNK2   CKNK3   CKNK7                                                                                                                                                                                                                                | 0.5 | 0.75  |
| SEMBA_FHIT_TARGETS_DN                                               | ASPM   BIRC5   CENPF   CLN6   DTYMK   ECT2   MNS1   PLK4   SPAG5                                                                                                                                                                                                               | 0.5 | 0.75  |
| KHETCHOUMIAN_TRIM24_TARGETS_DN                                      | ALDH1A1   AR   CYP26A1   CYP7A1   FGF1   PRLR   SLC10A1                                                                                                                                                                                                                        | 0.5 | 1     |
| MODULE_141                                                          | CLNKC1   CLC2   FXYD3   GABRA1   GABRA2   GABRA5   GABRA6   GABRG2   GLRA1   GLRA2   GLRB   SLC12A2   SLC12A3   SLC26A3   SLC34A1   VAMP1                                                                                                                                      | 0.5 | 0.875 |
| AGARWAL_AKT_PATHWAY_TARGETS                                         | EGF   MMP2   MDM1   PTGS2   SP1   TGFA   VEGFB   VEGFC                                                                                                                                                                                                                         | 0.5 | 1     |
| BIOCARTA_SRRCPPT_PATHWAY                                            | CNB1B   CDC25A   CDC25B   CDC25C   CSK   GRB2   PRKCA   PTPRA   SRC                                                                                                                                                                                                            | 0.5 | 0.875 |
| REACTOME_CLASS_C_3_METABOTROPIC_GLUTAMATE_PHEROMONE_RECEPTORS       | CASR   GABBR1   GABBR2   GRM1   GRM2   GRM3   GRM4   GRM6   GRM7   GRM8                                                                                                                                                                                                        | 0.5 | 0.875 |
| RESPONSE_TO_XENOBOTIC_STIMULUS                                      | AHR   CYP3A4   NQO1   NR1I2   S100A12   UGT1A6   UGT1A9   UGT2B15   UGT2B28   UGT2B4                                                                                                                                                                                           | 0.5 | 1     |
| PIEPLI_LG11_TARGETS_UP                                              | BCL2L11   CST7   CTNNA2   DR13   EPHAS   FGF13   FGL2   HLF   HMGH3   MAF   MAGEA5   NNT   RYR2   TIMP3   TNFRSF11B                                                                                                                                                            | 0.5 | 0.875 |
| KEGG_MATURITY_ONSET_DIABETES_OF_THE_YOUNG                           | FOXAK2   GCK   HES1   HHX4   HNF4A   HNF4G   IAPP   INS   NEUROD1   NEUROG3   NKX2-2   NKX6-1   NR5A2   ONECUT1   PAX4   PAX6   PKLR   SLC2A2                                                                                                                                  | 0.5 | 0.75  |
| IGARASHI_ATF4_TARGETS_UP                                            | ASB4   EGR1   ITFG2                                                                                                                                                                                                                                                            | 0.5 | 0.875 |
| REACTOME_GABA_A_RECEPTOR_ACTIVATION                                 | ARHGEF9   GABRA1   GABRA2   GABRA3   GABRA4   GABRA5   GABRA6   GABRB1   GABRB2   GABRB3   GABRG2   GABRG3                                                                                                                                                                     | 0.5 | 0.75  |
| RESPONSE_TO_STEROID_HORMONE_STIMULUS                                | ABCA2   BRCA1   BRCA2   CALCR   CD24   GATA3   GSTM3   KRT19                                                                                                                                                                                                                   | 0.5 | 0.875 |
| REICHERT_G1S_REGULATORS_AS_P13K_TARGETS                             | CNNA2   CCND2   CCNE2   CDC25A   CDC25C   CDK2   CDKN1A   SKP2                                                                                                                                                                                                                 | 0.5 | 0.75  |
| ZHOU_PANCREATIC_ENDOCRINE_PROGENITOR                                | ISL1   MAFB   MLXIPL   MYT1   NEUROD1   NEUROG3   NKX2-2   NKX6-1   PAX4   PAX6   POU3F4   VDR                                                                                                                                                                                 | 0.5 | 0.875 |
| TESAR_JAK_TARGETS_MOUSE_ES_D3_DN                                    | DAZL   ESRRB   NR0B1   PECAM1   PIWILL2   TBX3                                                                                                                                                                                                                                 | 0.5 | 1     |
| AULIA_IL22_AND_IL17A_SIGNALING                                      | CCL3   CSF3   CXCL1   CXCL5   CXCL9   DUOX2   IL19   S100A12   S100A7                                                                                                                                                                                                          | 0.5 | 1     |
| REACTOME_OPSINS                                                     | OPN1LW   OPN1MW   OPN1MW2   OPN1SW   OPN3   RGR   RHO   RRH                                                                                                                                                                                                                    | 0.5 | 0.875 |
| GNF2_MSN                                                            | ACTR3   ADAM10   ADAM8   APC2   APC5   CAP1   CAP2A1   CDC42   CLIC1   ELF4   EMP3   HCL1S   IQGAP1   ITGB2   LASP1   MSN   OSTF1   PFN1   RAP1B   RAP2B   STAT6   TGFBI   WAS   ZCCHC6                                                                                        | 0.5 | 0.625 |
| REACTOME_LIGAND_GATED_ION_CHANNEL_TRANSPORT                         | ARHGEF9   GABRA1   GABRA2   GABRA3   GABRA4   GABRA5   GABRA6   GABRB1   GABRB2   GABRB3   GABRG2   GABRG3   GABRR1   GABRR2   GLRA1   GLRA2   GLRA3   GLRB   HTR3A   HTR3B                                                                                                    | 0.5 | 0.75  |
| METABOTROPIC_GLUTAMATE_GABA_B_LIKE_RECEPTOR_ACTIVITY                | GABBR1   GABBR2   GRM1   GRM2   GRM3   GRM4   GRM5   GRM6   GRM7   GRM8                                                                                                                                                                                                        | 0.5 | 0.75  |
| MODULE_298                                                          | DRD2   DSP   INA   JAK1   KRT13   KRT14   KRT15   KRT16   KRT17   KRT18   KRT19   KRT2   KRT32   KRT33B   KRT35   KRT4   KRT5   KRT6A   KRT6B   KRT7   KRT8   KRT85   KRT86   NEFL   PTGDS   SPRR1B                                                                            | 0.5 | 0.875 |
| chr1q12                                                             | DDR2   DPT   LMNA   MEFD2   MTMR11   NUOT4P1   S100A4   S100A8   SF3B4   TRIM45                                                                                                                                                                                                | 0.5 | 1     |
| GLUTAMATE_RECEPTOR_ACTIVITY                                         | GABR5   GABBR2   GRIA1   GRIA2   GRIK1   GRIK2   GRIK3   GRIK4   GRIK5   GRIN2A   GRIN2B   GRIN2C   GRM1   GRM2   GRM3   GRM4   GRM5   GRM6   GRM7   GRM8                                                                                                                      | 0.5 | 0.75  |
| GNF2_SERPINI2                                                       | AQP8   CEL   CELP   CLPS   CPA1   CPA2   CPB1   CTRB1   CTCR   CTRL   PDIA2   PLA2G1B   PNLP   PNLPURP1   PNLPURP2   PRSS1   PRSS2   PRSS3   SERPINI2   SPINK1   TRY6                                                                                                          | 0.5 | 0.875 |

|                                                                      |                                                                                                                                       |     |       |
|----------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| ADENYLATE_CYCLASE_ACTIVATION                                         | ACR   ADCY7   ADCYAP1   ADORA2B   ADORA3   ADRB1   ADRB2   ADRB3   AVPR2   CALCA   CAP1   CAP2   CRHR1   EDNRA   GHRHR   GIPR         | 0.5 | 1     |
| IONOTROPIC_GLUTAMATE_RECEPTOR_ACTIVITY                               | GLP1R   GNAS   P2RY11                                                                                                                 |     |       |
| IMMUNOLOGICAL_SYNAPSE                                                | GRIA1   GRIA2   GRIK1   GRIK2   GRIK3   GRIK4   GRIK5   GRIN2A   GRIN2B   GRIN2C                                                      | 0.5 | 0.75  |
| WEBER_METHYLATED_ICP_IN_SPERM_DN                                     | BCL10   CD247   CD79A   GZMA   GZMB   LAT   MYH9   SYK   TRAT1   ZAP70                                                                | 0.5 | 1     |
| BIOCARTA_TCRA_PATHWAY                                                | ADAM18   ADAM2   DDX4   HIST1H1T   LDHC   PDHA2   PRAME   RNF17   TCEB3B   TEX12                                                      | 0.5 | 0.75  |
| REGULATION_OF_ENDOCYTOSIS                                            | CD247   CD3D   CD3E   CD3G   CD4   FYN   HLA-DRA   HLA-DRB1   LCK   PTPRC   TRA@   ZAP70                                              | 0.5 | 1     |
| MODULE_454                                                           | AHSG   AP2S1   ARF6   AZU1   CBL   CDH13   GATA2   LDLRAP1   PACSIN3   PPT1   RAC1   SFTPD   STON1   ZFYVE16                          | 0.5 | 1     |
| TESAR_ALK_TARGETS_EPISC_3D_UP                                        | ADORA2A   ADORA2B   ADORA3   ADRB2   CALCA   CAP1   CAP2   EDNRA   GHRHR   GIPR                                                       | 0.5 | 0.875 |
| MODULE_68                                                            | DCX   GBX2   MSX1   NES   SOX1   TUBB3   ZIC1                                                                                         | 0.5 | 0.75  |
| KUMAMOTO_RESPONSE_TO_NUTLIN_3A_DN                                    | DRD2   DSP   INA   KRT1   KRT13   KRT14   KRT15   KRT16   KRT17   KRT18   KRT19   KRT2   KRT32   KRT33B   KRT35   KRT4   KRT5   KRT6A | 0.5 | 0.875 |
| JI_CARCINOGENESIS_BY_KRAS_AND_STK11_UP                               | KRT6B   KRT7   KRT8   KRT85   KRT86   NEFL   SPRR1B   VIM                                                                             |     |       |
| GNF2_SPINK1                                                          | CASC5   CCNA2   CCNB1   CDC20   CDKN3   CENPF   CKS2   KIF2C   KIFC1   SPAG5                                                          | 0.5 | 0.875 |
| HEIDENBLAD_AMPLIFIED_IN_BONE_CANCER                                  | ADAM8   BNC1   COL17A1   GPR87   KRT5   KRT6A   LYPD3   PKP1   PPBP   TFAP2A   TIAM1                                                  | 0.5 | 1     |
| INWARD_RECTIFIER_POTASSIUM_CHANNEL_ACTIVITY                          | CEL   CFTR   CLPS   CPA1   CPA2   CPB1   CTRB1   CTRC   CTRL   CUZD1   GP2   PDIA2   PLA2G1B   PNLIP   PNLIPRP1   PNLIPRP2   PRSS1    | 0.4 | 0.875 |
| MIKKELSEN_PARTIALLY_REPROGRAMMED_TO_PLURIPOTENCY                     | PRSS2   PRSS3   REG1A   REG1B   SERPINI2   SPINK1   TRY6                                                                              |     |       |
| TESAR_ALK_AND_JAK_TARGETS_MOUSE_ES_D4_UP                             | CCND2   CDK4   FGF23   FGF6   MAT1A   MDM2   STK38L                                                                                   | 0.4 | 1     |
| CGGTGTG,MIR-220                                                      | KCNJ1   KCNJ10   KCNJ12   KCNJ14   KCNJ15   KCNJ3   KCNJ4   KCNJ5   KCNJ6   KCNK1                                                     | 0.4 | 1     |
| TESAR_ALK_TARGETS_EPISC_4D_UP                                        | CCND1   CDH13   CDKN1A   CDKN2A   FOXD1   PERP   PHOX2B   SYNE2   TFAP2A                                                              | 0.4 | 1     |
| TESAR_ALK_TARGETS_HUMAN_ES_5D_UP                                     | DCX   MSX1   PAX6   TUBB3   ZIC1                                                                                                      | 0.4 | 0.75  |
| ZEILSTRA_CD44_TARGETS_UP                                             | GPX1   LHX2   PAX2   SPTBN4   THRB   WHSC1                                                                                            | 0.4 | 1     |
| TASTE_RECEPTOR_ACTIVITY                                              | DCX   MSX1   NES   PAX6   TH   TUBB3   ZIC1                                                                                           | 0.4 | 0.75  |
| MCBRYAN_TERMINAL_END_BUD_DN                                          | GBX2   MSX1   PAX6   SOX1   ZIC1                                                                                                      | 0.3 | 0.75  |
| WAGSCHAL_EHMT2_TARGETS_UP                                            | AGT   BOK   CAPN2   HTRA1   TNFRSF14   TNFRSF21                                                                                       | 0.3 | 1     |
| LIU_CDX2_TARGETS_DN                                                  | TAS2R1   TAS2R10   TAS2R13   TAS2R14   TAS2R16   TAS2R3   TAS2R4   TAS2R7   TAS2R8   TAS2R9                                           | 0.3 | 1     |
| MODULE_215                                                           | CORO1A   ETS1   GSN   IGHHM   LCK   NRIP1   PHGDH                                                                                     | 0.3 | 1     |
| chr4q33                                                              | CDKN1A   CFTR   DAZL   KLK12   NPPB   NXF3   PDHA2   TFP12                                                                            | 0.3 | 1     |
| chr21p11                                                             | HES1   KRT1   KRT14   KRT15   KRT19   KRT9   SOX2   SPRR3                                                                             | 0.3 | 1     |
| REACTOME_E2F_ENABLED_INHIBITION_OF_PRE_REPLICATION_COMPLEX_FORMATION | CHRN83   GABRA2   GABRA5   GABRA6   GABRB1   GABRB2   GABRB3   GABRD   GABRG2   GABRP   GLRA1   GLRA2   GLRA3   GLRB   HTR3A          | 0.3 | 0.75  |
| BRUNEAU_SEPTATION_ATRIAL                                             | C4orf27   GLRA3   HAND2   MORF4   VEGFC                                                                                               | 0.3 | 1     |
| ZHOU_PANCREATIC_BETA_CELL                                            | BAGE   TPTE                                                                                                                           | 0.3 | 0.875 |
| ABBUD_LIF_SIGNALING_2_DN                                             | CCNB1   CDC25A                                                                                                                        | 0.3 | 1     |
| chr1q                                                                | GATA4   MYH6   NKX2-5   TBX5                                                                                                          | 0.3 | 0.875 |
| CAFFAREL_RESPONSE_TO_THC_8HR_3_UP                                    | FOXA1   HNF4A   ISL1   NEUROD1   NKX2-2   NKX6-1   PAX6                                                                               | 0.2 | 0.75  |
| FIGUEROA_AML_METHYLATION_CLUSTER_7_DN                                | CGA   CITED2   PITX2   PTHLH   SCN1A                                                                                                  | 0.2 | 0.875 |
|                                                                      | ARPC5   KCNJ10                                                                                                                        | 0.1 | 0.875 |
|                                                                      | RHOB                                                                                                                                  | 0.1 | 0.875 |
|                                                                      | TACR3                                                                                                                                 | 0.0 | 0.875 |