**Legends for Supplementary Figures and Tables**

**Figure S1: Oxa-induced model of chronic atopic dermatitis.**

Data from two independent experiments with 3 mice per group unless otherwise stated for untreated (black) and Oxa-treated (red); each symbol represents an individual animal; measurements taken at termination of the experimental protocol shown in Figure 1A (day 14).

A. Representative images of ear pinnae from WT Oxa-treated (left) and WT control (right).
B. Representative H&E images of ear sections from untreated and Oxa-treated WT mice on termination of the experimental protocol shown in Figure 1A (day 14). Scale bar: 100μm. Plots: dermal and epidermal thickness of control and Oxa-treated WT.
C. Percentage of skin T-cells that express IFN-γ, IL-13 and IL-17 in control and Oxa-treated WT mice measured by intracellular cytokine staining and flow cytometry.
D. Serum IgE concentration from WT control and Oxa-treated WT mice, measured by ELISA.
E. Numbers per ear of skin $CD4^+$ and $CD8^+$ T-cells and $T_{regs}$ ($CD4^+CD25^+icFoxp3^+$) isolated from control and Oxa-treated mice measured by flow cytometry.
F. *Filaggrin*, *Ifng*, and *Il4* expression (QRT-PCR) in ear homogenates from control untreated WT and Rag1-KO; and Oxa-treated WT and Rag1-KO. Data were generated from two independent experiments with 3-6 mice per group and a 2-way ANOVA statistical analysis was performed.

Statistics: 2-tailed unpaired student's t-test unless otherwise stated. Plots: mean±SEM. *p<0.05, **p<0.01, ***p<0.001 and ****p<0.0001.

**Figure S2: Smo inhibition exacerbates skin inflammation upon induction of atopic dermatitis.**

Data from 7 mice per group (unless otherwise stated) for WT control (without Smo-inh, DMSO only, black) and Smo-inh-injected (red) mice; each symbol represents an individual animal.

A. Representative H&E images in absence of Oxa-treatment for skin from control (DMSO-only injected) and Smo-inh injected WT mice. Mice were injected with Smo-inhibitor daily for 14 days. Plots: percentage and number of skin leukocytes ($CD45^+$) and $CD4^+$ and $CD8^+$ T-cells from mice in the absence of Oxa-treatment from control and Smo-inh injected WT mice, measured by flow cytometry.
B. Percentage and number in Oxa-treated mice of skin $CD4^+$ and $CD8^+$T-cells from control or Smo-inh injected groups.
C. Percentage of skin $CD4^+$ and $CD8^+$ T-cells (gated on $CD45^+CD3^+\gamma\delta$TCR) (upper plots) and number of $CD4^+$ and $CD8^+$ T-cells isolated from ears (lower plots), from Oxa-treated WT mice from control (without Smo-inh,) and Smo-inh injected groups.
D. Percentage of skin $CD4^+$ T-cells that express IL4 and IL13 from Oxa-treated WT mice from control and Smo-inh injected groups, measured by intracellular cytokine staining.

Statistics: 2-tailed unpaired student's t-test. Plots:mean±SEM.

**Figure S3: T cell populations in Gli2ΔC2 and WT mice on induction of atopic dermatitis.**

Data from two independent experiments with at least 6 Oxa-treated mice per group. Black circles represent WT mice while red squares represent Gli2ΔC2 mice. Representative FACS plots of CD4 and CD8 staining of dLNs from Oxa-treated WT (left) and Gli2ΔC2 (right) mice. Plots: percentage of $CD4^+$ and $CD8^+$ T-cells in dLNs.

A. Percentage of $CD69^+$ cells gated on $CD4^+$ (left) or $CD8^+$ (right) from dLNs of Oxa-treated WT and Gli2ΔC2 mice.

Statistics: 2-tailed unpaired student's t-test. Plots: each symbol represents an individual mouse and plots show mean±SEM *p<0.05, **p<0.01 and ***p<0.001.

**Figure S4: T-cell populations in Gli2ΔN2 and WT mice on induction of atopic dermatitis.**

Data were generated from two independent experiments with at least 6 Oxa-treated mice per group. Black circles: WT; red squares: Gli2ΔN2; each symbol represents an individual mouse and plots show mean±SEM.

A. Representative FACS plots of dLNs from WT (left) and Gli2ΔN2 (right) Oxa-treated mice. Plots: percentage of $CD4^+$ and $CD8^+$ T-cells in dLNs of WT and Gli2ΔN2 mice.
B. Representative FACS plots showing CD62L and CD44 staining from dLN from WT (left) and Gli2ΔN2 (right) Oxa-treated mice, giving the percentage of cells in the regions shown. Plots: percentages of naïve ($CD62L^+CD44^-$), $T_{cm}$ ($CD62L^-CD44^+$) and $T_{effm}$ ($CD62L^+CD44^+$) $CD4^+$ and $CD8^+$ T-cells from dLNs of WT and Gli2ΔN2 treated mice.

Statistics: 2-tailed unpaired student's t-test. **p<0.01 and ****p<0.0001.

**Figure S5: Inhibition of Gli2-mediated transcription compromises immune regulation**

A-B, F: Plots: each symbol represents an individual animal for Gli2ΔN2 (black), WT (red) and Gli2ΔC2 (blue), showing mean±SEM.

A. Percentage of $T_{reg}$ ($CD4^+CD25^+Foxp3^+$) in dLNs from Oxa-treated Gli2ΔN2 WT and Gli2ΔC2.

B. Percentage of $Klrg1^+$ cells in the $CD4^+CD25^+Foxp3^+$ $T_{reg}$ population from dLNs of Oxa-treated Gli2ΔN2, WT and Gli2ΔC2 groups. Histograms:representative anti-Klrg staining from dLNs for the three experimental groups gated on $CD4^+CD25^+Foxp3^+$ $T_{reg}$ population.

C. Dot plots: gating strategy and percentage of cells in regions shown, for analysis of $T_{reg}$ populations ($CD4^+CD25^+icFoxp3^+$) from Oxa-treated WT, Gli2ΔN2 and Gli2ΔC2 dLNs. Histograms: icCTLA-4, cell surface CD44 and icKi67 staining gated on $CD4^+CD25^+Foxp3^+$ $T_{reg}$ cells. Percentage of cells in marker or region is given.

D. Time-line of antibody injections (anti-CD25 or control igG) and Oxa-treatment for experiment shown in Figure 7A-F.

E. Time-line of adoptive transfer of $T_{regs}$ and Oxa-application for experiment shown in Figure 7G-L.

F. Adoptive transfer experiments into Oxa-treated WT mice: purified $CD4^+CD25^+$ ($T_{reg}$) from spleens of Oxa-treated Gli2ΔN2 (Gli2ΔN2-adoptive-transfer group, black) or Gli2ΔC2 mice (Gli2ΔC2-adoptive-transfer group, blue) were injected into WT mice as shown in Figure S5E, and compared to Oxa-treated WT control mice (control group; labelled WT, red). Plots:

percentage of cells positive with ic cytokine staining, gating on $CD4^+$ T-cells, from skin from the three groups of mice at the end of Oxa-treatment (day 14). Statistics: A, B, F: one-way ANOVA; *$p<0.05$ and **$p<0.01$.

**Supplementary Tables**

**Table S1**: Gene list of intersection between 3000 genes that contributed most to PC2 and 1500 most DEG between RNA-seq datasets from Oxa-treated WT and Gli2ΔC2 skin CD4 T-cells.

**Table S2**: Gene list of intersection between 3000 genes that contributed most to PC2 and 2500 most DEG between RNA-seq datasets from Oxa-treated WT and Gli2ΔN2 skin CD4 T-cells.

**Table S3**: Expression values of *Shh* and *Gli3* in RNA-seq datasets from Oxa-treated WT, Gli2ΔC2 and Gli2ΔN2 skin CD4 T-cells.

**Table S4**: List of antibodies used in flow cytometry experiments.

Figure S1

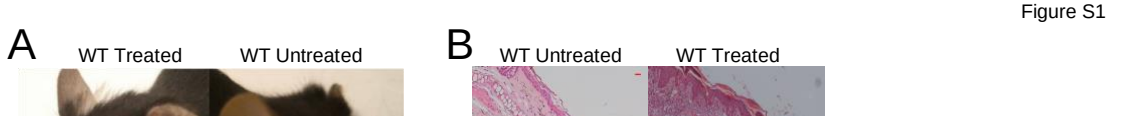
A
WT Treated
WT Untreated
B
WT Untreated
WT Treated
Dermal Thickness
Epidermal Thickness
µm
WT Untreated
WT Treated
C
%
IFNγ
IL13
IL17
WT Untreated
WT Treated
D
IgE (ng/ml)
E
CD4 T cells (x10³)
CD8 T cells (x10³)
Tregs (x10²)
F
Filaggrin/Hprt
Ifng/Hprt
Il4/Hprt
WT
Rag1-KO
Untreated
Treated

Figure S2

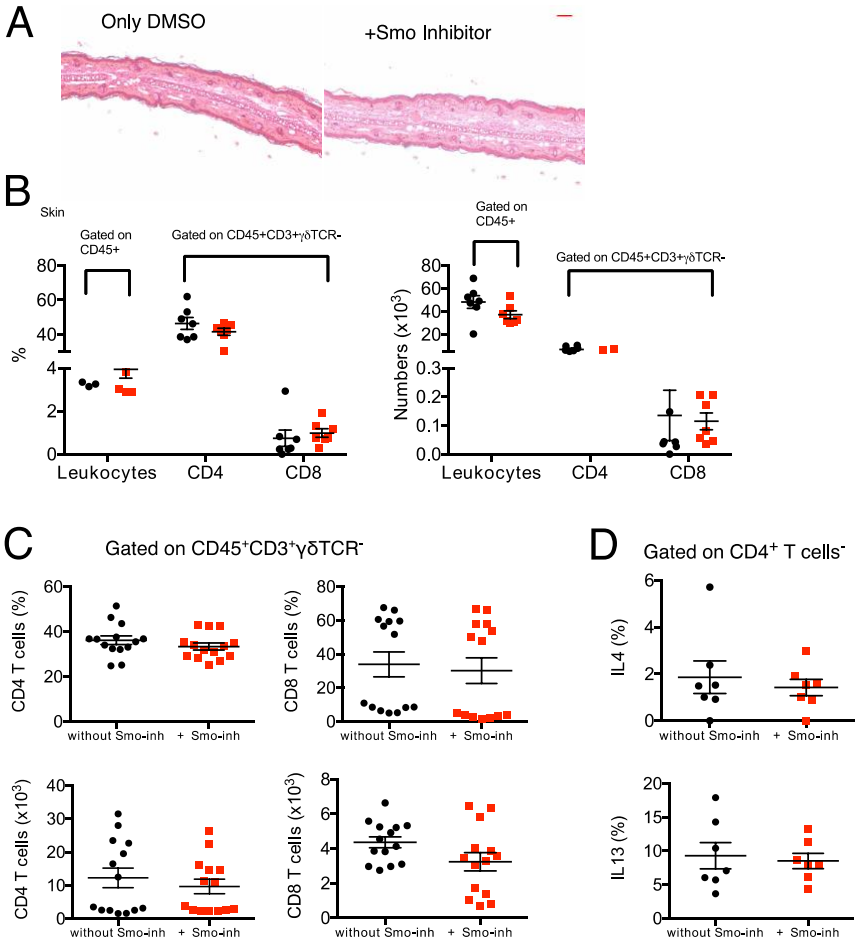
A
Only DMSO
+Smo Inhibitor
B
Skin
Gated on CD45+
Gated on CD45+CD3+γδTCR-
%
Numbers (x10³)
Leukocytes
CD4
CD8
C
Gated on CD45⁺CD3⁺γδTCR⁻
CD4 T cells (%)
CD8 T cells (%)
CD4 T cells (x10³)
CD8 T cells (x10³)
without Smo-inh
+ Smo-inh
D
Gated on CD4⁺ T cells⁻
IL 4 (%)
IL 13 (%)

Figure S3

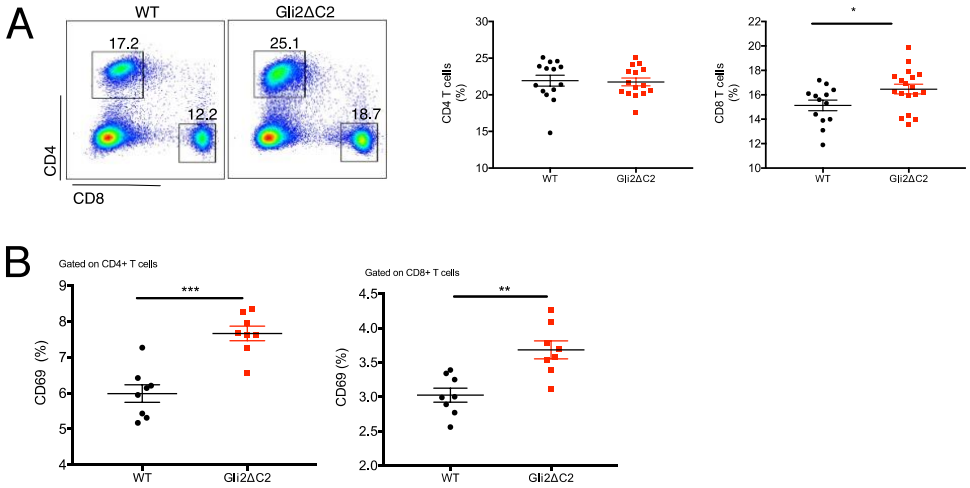
A
WT
Gli2ΔC2
17.2
12.2
25.1
18.7
CD4
CD8
CD4 T cells (%)
CD8 T cells (%)
*
WT
Gli2ΔC2
B
Gated on CD4+ T cells
Gated on CD8+ T cells
CD69 (%)
***
**
WT
Gli2ΔC2

Figure S4

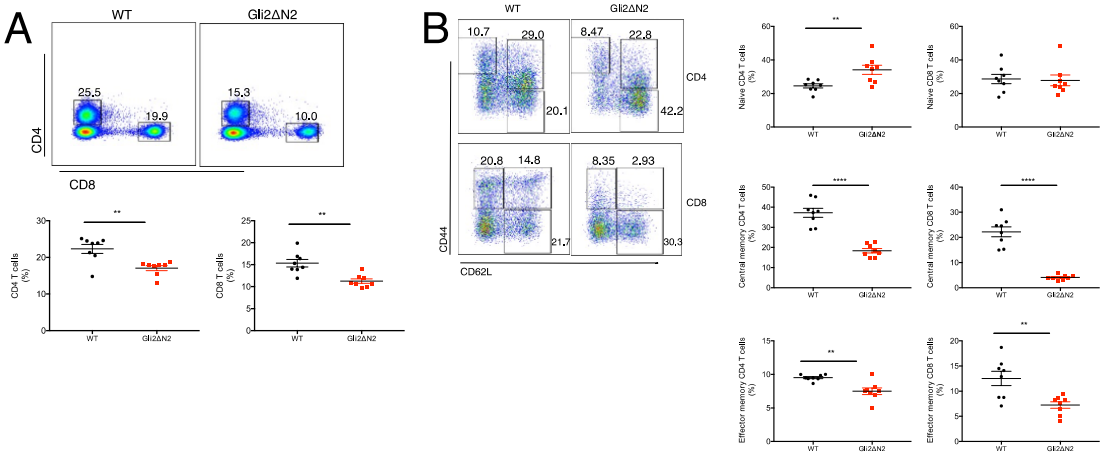
A
WT
Gli2ΔN2
25.5
19.9
15.3
10.0
CD4
CD8
CD4 T cells (%)
CD8 T cells (%)
**
WT
Gli2ΔN2
B
WT
Gli2ΔN2
10.7
29.0
20.1
8.47
22.8
42.2
CD4
20.8
14.8
21.7
8.35
2.93
30.3
CD8
CD44
CD62L
Naive CD4 T cells (%)
Naive CD8 T cells (%)
Central memory CD4 T cells (%)
Central memory CD8 T cells (%)
Effector memory CD4 T cells (%)
Effector memory CD8 T cells (%)
****

Figure S5

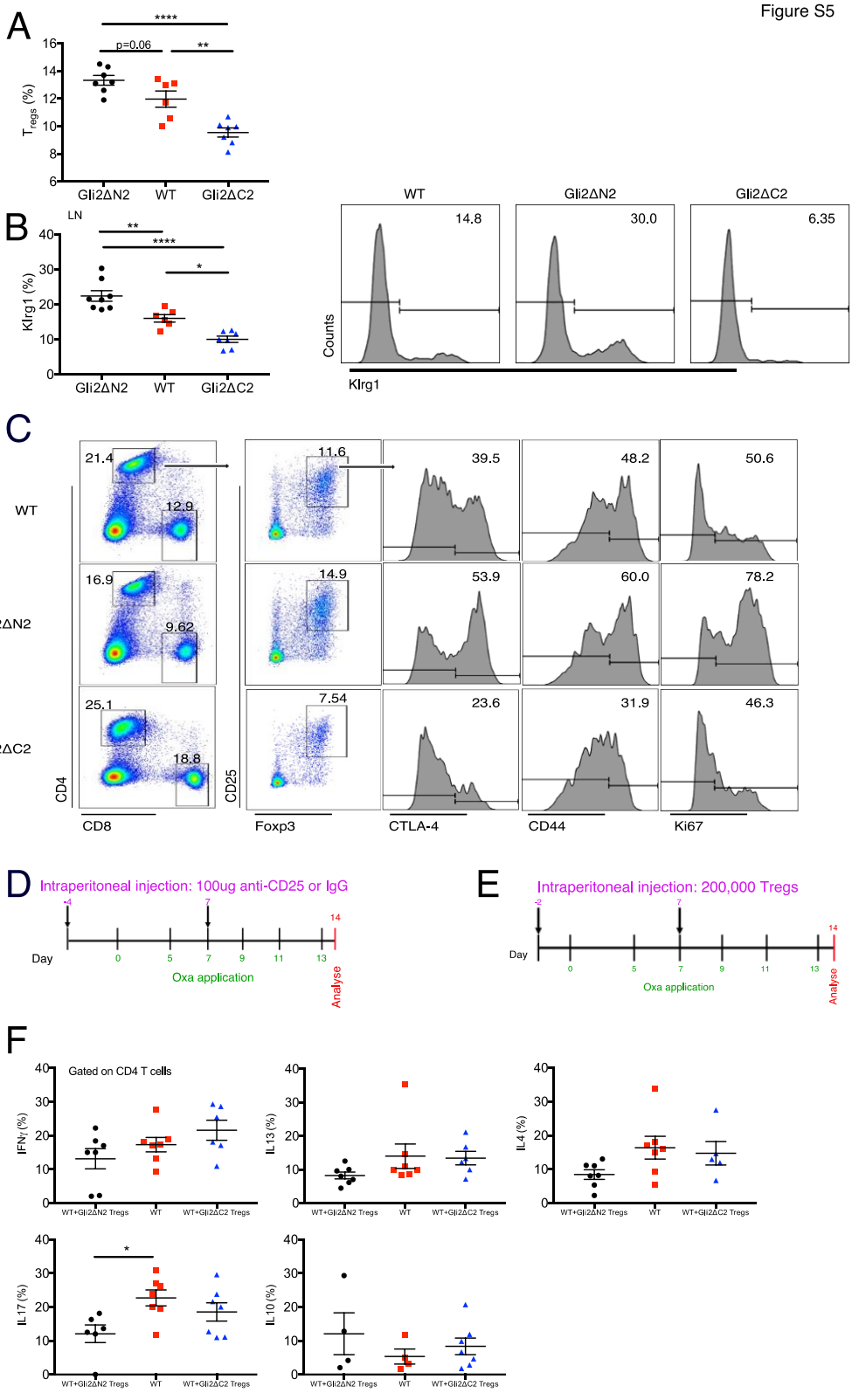
A
****
p=0.06
**
Tregs (%)
Gli2ΔN2
WT
Gli2ΔC2
B
LN
**
****
*
KIrg1 (%)
Gli2ΔN2
WT
Gli2ΔC2
WT
Gli2ΔN2
Gli2ΔC2
14.8
30.0
6.35
Counts
KIrg1
C
WT
Gli2ΔN2
Gli2ΔC2
21.4
12.9
16.9
9.62
25.1
18.8
CD4
CD8
11.6
14.9
7.54
CD25
Foxp3
39.5
53.9
23.6
CTLA-4
48.2
60.0
31.9
CD44
50.6
78.2
46.3
Ki67
D
Intraperitoneal injection: 100ug anti-CD25 or IgG
-4
7
14
Day
0
5
7
9
11
13
Oxa application
Analyse
E
Intraperitoneal injection: 200,000 Tregs
-2
7
14
Day
0
5
7
9
11
13
Oxa application
Analyse
F
Gated on CD4 T cells
IFNγ (%)
IL-13 (%)
IL-4 (%)
IL-17 (%)
IL-10 (%)
*
WT+Gli2ΔN2 Tregs
WT
WT+Gli2ΔC2 Tregs

**Table S1 (Relating to Figure 6)**: Gene list of intersection between 3000 genes that contributed most to PC2 and 1500 most DEG between RNAseq datasets from Oxa-treated WT and Gli2CΔ2 skin CD4 T cells

| | | | | | |
|---|---|---|---|---|---|
| Tspyl4 | Tbk1 | Flrt3 | Gtf2a2 | Ssu72 | Dlgap3 |
| Rbks | Vamp8 | Slu7 | Gng5 | Gnpnat1 | Dynlrb1 |
| N4bp2l1 | Cfp | Cxcl16 | Scarb2 | Bcl2a1a | C1qc |
| Ctsb | Anpep | Snx14 | Eapp | Ubb | Itfg1 |
| Cd3d | Grb2 | Rbm18 | Tspo | Snx6 | Ostf1 |
| Slc27a4 | Ciita | Sdf4 | Clec4n | Nrg1 | Mgl2 |
| Tspyl1 | Cox7b | Ormdl2 | Deb1 | Pcgf5 | Hist1h2bn |
| Abhd17b | Cstb | Sh3bgr | Mmp13 | Kctd1 | Polr2c |
| Adssl1 | Samsn1 | Commd9 | B2m | C1qb | Card9 |
| Ctss | Tgfbi | Cox4i1 | Ctsz | Pdxp | Ypel5 |
| Saraf | Pafah1b3 | AI837181 | C1qa | Cd86 | Clec7a |
| Fcgr2b | Siglech | Snx17 | Ptpn2 | P2rx4 | Mrc1 |
| Brdt | Il4i1 | Tdrd7 | Fam221a | Serpinb1a | Mzb1 |
| Cnot8 | Apool | Klk1 | Npc2 | Pi4kb | Cd68 |
| Zfp677 | Chmp1a | Srp9 | Cd74 | AF251705 | Ccr9 |
| Asb8 | Msr1 | Ms4a7 | Klre1 | Mitd1 | Zmat5 |
| Dyrk4 | Erbb3 | Dirc2 | Vimp | Galm | Esd |
| Paip2 | Nos2 | AI467606 | Pira6 | Iigp1 | Syp |
| Ndufv2 | Cep57l1 | Morc3 | Clec4d | Gcm2 | Klra3 |
| Emc4 | AW112010 | Aoah | Efhb | Atp6v1f | Lrrc8c |
| Timd4 | Amz1 | Kcnj16 | Pdhb | Jmjd6 | Mtfr1l |
| St7l | Spib | Efr3b | Sdcbp | Pcdhga7 | Sirpa |
| Mfsd1 | Tlr12 | Rfwd2 | Tarm1 | Zfr | Insig1 |
| Alkbh7 | Smim5 | Map1lc3b | Mkln1 | Atp5c1 | Vamp3 |
| Cib1 | Tmem63a | Tram1 | Ippk | Ak4 | Il12rb2 |
| Them4 | Vwa5a | Dnah7a | Vti1b | G6pdx | Apeh |
| Slc22a4 | Sqstm1 | Aox2 | AU019990 | Dthd1 | Ifltd1 |
| Rgs9bp | Phex | Gm15694 | Vdac2 | Fundc1 | Il1a |
| Rer1 | Kcnn4 | Rps6ka4 | Iqcg | Gk5 | Cd3g |
| Il1rn | Gm4262 | Mtch2 | Ilk | Acot13 | Adap2 |
| Tmem86a | Pnp | Eno1 | Plaur | Ermap | Polr3a |
| Ndufv3 | Eepd1 | Muc20 | Nfe2 | C3ar1 | Ly6a |
| Map6d1 | Mpeg1 | Hsd11b1 | Alg14 | Cebpa | Pcp2 |
| Blnk | Tmem43 | Pigu | Pknox1 | Fam173b | Dnah2 |
| Aip | Wscd1 | Prss2 | Sqle | Arfrp1 | Abt1 |
| Eif1 | Ctsh | Ctsd | Smad2 | Yipf3 | Dhrs9 |
| Slfn5 | Ccl24 | Hes5 | Stx8 | Psma1 | Syngr2 |
| Fhl2 | Zfp148 | Tor3a | Spry1 | Treml4 | Rhot1 |
| Sarnp | Arg1 | P2rx7 | Pja2 | Jtb | Fcrlb |
| Ginm1 | Etv5 | Necap2 | Ccdc71 | Snord22 | Ncf2 |
| Cd79b | Klf2 | Fcer1g | Snord89 | Ctrc | Pdcd10 |
| Tmx3 | Tyrobp | Scimp | Fcgr3 | Fdft1 | Sh2d3c |
| Srgn | Npy | Slc25a46 | Ggta1 | Klrc1 | Lnpep |
| Epb4.1l5 | Ddx58 | Itgb3bp | Krtcap2 | Mob2 | Gimap6 |
| Fdps | Hddc3 | Actr10 | Cd53 | Actr1a | Pgf |
| Gm5150 | Med21 | Uqcrb | Lamtor2 | Aig1 | Batf |
| Mvb12a | Arhgap17 | Qars | Ifit1bl1 | Snord4a | Cd48 |
| Atg14 | Wdr11 | Mmp19 | Cluap1 | B430306N03Rik | Mir3068 |
| Gm1045 | Susd3 | Wdr47 | Zbp1 | Lsm1 | Gbp5 |
| Acp6 | Gm1821 | Tnfrsf9 | Mob3b | Rtp4 | Psmb1 |
| Mrps6 | Gm14207 | Pdk1 | Ugp2 | Nsmce1 | Irg1 |
| Gngt2 | Zfp949 | Bard1 | Gpsm1 | Fam195b | Gm996 |
| Myl6 | Snap23 | Asah1 | Mdh1 | Stx3 | Tmbim4 |
| Chmp2a | Tmem9b | Zfp458 | Irf1 | Gabarap | Tsnax |
| Dynlt1f | Slc25a17 | Lrp12 | Sgpl1 | AA986860 | Ccdc66 |

| | | | | | |
|---|---|---|---|---|---|
| Entpd3 | Lss | Nit2 | Rmnd1 | Hsdl2 | Ppil2 |
| Vegfa | Errfi1 | Arpc3 | Zfp383 | Flt3 | Mynn |
| Ssr1 | Lsp1 | Spg21 | Psenen | Phf11c | Sag |
| Nceh1 | Ptcd2 | Pomt2 | Nub1 | Wdr20 | Pot1a |
| Bphl | Stard10 | Crbn | Gm13830 | Nxpe4 | Rps6ka2 |
| Ndufa1 | Hectd2 | Arpc2 | Tgtp1 | Gm5148 | Tfcp2 |
| Gimap9 | Arl10 | Gpr137b | Fdx1l | Gm10872 | Sec22b |
| Usp40 | Selk | Got1 | AW146154 | Lgals9 | Csf2 |
| Msra | Mcts2 | Msrb1 | Bud31 | Cpne1 | Ninj2 |
| Ssr4 | Lgals3bp | Fxyd5 | Chmp5 | Chp1 | Cd6 |
| Tmem234 | Pex2 | Ralgps2 | Ccl20 | Cmpk2 | Rab7 |
| Gosr2 | Copg2 | Lilrb4a | B230217O12Rik | Panx1 | Phf11a |
| Tnfrsf13c | Tmem39a | Slc14a1 | Tmem8 | Hagh | Dapl1 |
| Ift88 | Myl12b | Irf9 | Nudt22 | Zfp512 | Ms4a4b |
| Trpm4 | Ubl3 | Tifa | Thap2 | Tmem258 | Wdr61 |
| Slc41a3 | Pld3 | Cd37 | Cyp51 | Ndufb3 | Mcph1 |
| Mrps11 | Cenpw | E2f8 | Ncl | Fam168b | Sema4d |
| Lig1 | Wbp11 | B4galnt4 | Brca1 | Rab11fip3 | Rqcd1 |
| Cnot4 | Gdpd3 | Lasp1 | Pim3 | Depdc1a | Kctd17 |
| Ctdp1 | Nupr1l | Hus1 | Tmem265 | Jagn1 | Crebbp |
| Tet2 | Sec14l2 | Dlgap5 | Cyp4f13 | Polr1b | Lnx2 |
| Ovol2 | Micall1 | Rfx1 | Surf2 | Ssc4d | Mospd3 |
| Gpr162 | Lrrc61 | Impad1 | Ipo13 | Purb | Man2a2 |
| Gemin4 | Tk1 | Wfikkn2 | Rrm1 | Heatr1 | Incenp |
| Ablim1 | Pwp1 | Hyal2 | Tamm41 | Ccnb2 | Cic |
| Map3k2 | Racgap1 | Mocs1 | Brd1 | Ubr4 | Srrm1 |
| Med14 | Zxdc | Slc12a2 | Pold2 | Slc29a1 | Pdss2 |
| Nucks1 | Srsf9 | Pfas | Krtcap3 | Ube2c | Ccdc6 |
| Ube2h | Il1rl1 | Ncapd3 | Prkch | Trp53bp2 | Hist1h1b |
| Unc5a | Rad51ap1 | Tst | Ranbp1 | Tsc22d4 | Pggt1b |
| Gpatch4 | Pa2g4 | Thoc1 | Rassf7 | Rasl11a | Ywhag |
| Hnrnpa3 | Patz1 | Tmem194b | Xpo4 | Mybl2 | Rfc1 |
| Set | Irf6 | Prune2 | H2afx | Nup93 | Myc |
| Slc7a7 | Mrps28 | Ksr1 | Gak | Ppp1r3f | Ssbp3 |
| Exd2 | Nat10 | Ubap2 | Rdx | Pkdcc | Tet3 |
| Itpr2 | Acadl | Snora65 | Smo | Baz1a | Pnn |
| Fmr1 | Nol6 | Paxip1 | Xxylt1 | Shmt1 | Ddhd1 |
| Pou2f1 | Smarcal1 | Naa40 | Nrf1 | Ehbp1l1 | Aurkb |
| Ppid | Skp2 | Klhdc4 | Tmpo | Aasdh | Ung |
| Csnk2a1 | Arhgap12 | Kif20b | Mtfr2 | Gcnt1 | Adcy3 |
| E2f7 | Ntpcr | Sec14l1 | Mmgt1 | Uhrf1bp1 | Fam53b |
| Zfp408 | Zfp36l2 | Qdpr | Ltb4r1 | Nploc4 | Usp48 |
| Ssh1 | Ipo7 | Gata3 | Fbxw7 | Camsap2 | Cenpf |
| Npm3 | Shcbp1 | Vti1a | Ttll10 | Atmin | Asxl1 |
| Cacnb1 | Hspa2 | Tgfbrap1 | Kif13b | Syce1l | Zfp276 |
| Msantd1 | Dbil5 | Zdhhc7 | Hs6st1 | Kmt2b | Plcxd1 |
| Mirlet7i | Mettl1 | Acad11 | Nup188 | Ruvbl1 | Tnp2 |
| Pprc1 | Tardbp | Gm16157 | Gm4532 | Zfp598 | Usp32 |
| Alg6 | C430002N11Rik | Msc | Depdc5 | Ncoa5 | Uhmk1 |
| Pced1a | Gins2 | Myo1h | Unc13d | Gcc2 | Coprs |
| Marf1 | Ube2t | Mrpl45 | Txlna | Moap1 | Cep170b |
| Ubr5 | Syne4 | Tomm40 | Coro2b | Mir6902 | Mir19a |
| Rmi2 | Elf4 | Slfn5os | Lrriq3 | B230319C09Rik | C330027C09Rik |

| | | | | | |
|---|---|---|---|---|---|
| A930007I19Rik | Midn | Gbf1 | Evpl | Ncapg | Dclk2 |
| Traip | Firre | Ttyh3 | Tab1 | Memo1 | Pip4k2c |
| Tfpi | Gabrr1 | Gm15800 | E130307A14Rik | Zbtb42 | Amn1 |
| Arhgef17 | Ankdd1b | Phf7 | Nbeal2 | Gar1 | Gsta3 |
| Ndc1 | Ska1 | Tcf20 | Arhgef7 | Stk10 | A630089N07Rik |
| Cenpe | Rdh1 | Cryz | Alkbh4 | Cox7a1 | Lmtk2 |
| Stmn1 | Eomes | Nos1 | Syt12 | Dus2 | Inf2 |
| Myo6 | Sntg2 | Cntrob | Eif3a | Nin | Larp1 |
| Arfgef2 | Vrk1 | Mpi | Ckap2 | E2f1 | Hmga2 |
| Slc7a4 | Gm6277 | Mapk1ip1l | Wdr24 | Tmem39b | Zc3h4 |
| Snora3 | Kif7 | Ccdc34 | Dnah11 | Muc4 | Sass6 |
| Recql | Pom121 | Wbp1l | Gpatch8 | Gcnt4 | Plekhs1 |
| Cldn7 | Elmo3 | Pfdn2 | Plk4 | Gse1 | Scrn3 |
| Chd1 | Ppm1f | Tagln3 | Myb | Ubr2 | Nudc |
| Rab3a | Zfp91 | Kif18b | Dgkh | Plekhg3 | Tbc1d32 |
| Srsf10 | Olfr530 | Fadd | Gcfc2 | Ylpm1 | Mir6385 |
| Abhd1 | Syvn1 | Mrpl21 | Spire1 | Fam133b | L3hypdh |
| Gm10012 | Lrrc40 | BC003965 | Chek1 | Ehmt1 | Dnase1l1 |
| Espl1 | Tug1 | Ppfia1 | Polr2a | Rtel1 | Pum1 |
| Sfswap | Hk2 | Rock2 | Ulk1 | Zfp628 | Casc5 |
| Cdc25c | Vangl1 | Akap13 | Maml1 | Cdc20 | Pigo |
| Chchd6 | Gid4 | Cit | Ccbl2 | Csnk1d | Hbs1l |
| Taf15 | Ccdc173 | Trp53cor1 | Kpnb1 | Phf2 | Upf1 |
| Arhgap11a | Lrfn4 | Gpsm2 | Tbc1d2b | Gtf2ird2 | Dus1l |
| Rnf169 | Mki67 | Thrap3 | Macf1 | | |

**Table S2 (Relating to Figure 6)**: Gene list of intersection between 3000 genes that contributed most to PC2 and 2500 most DEG between RNAseq datasets from Oxa-treated WT and Gli2ΔN2 skin CD4 T cells.

| S1pr1 | Etf1 | Pycard | Rbm6 | Ercc6l | Sell | Dusp10 | Trim25 | Ccm2 | Pik3c3 | Stk38 |
|---|---|---|---|---|---|---|---|---|---|---|
| Ptcd3 | Vps37b | Bysl | Rbbp4 | Itgb1 | Nfkbie | Dffb | Ncaph2 | Pik3cd | Gramd3 | Traf5 |
| Slamf6 | Ccr7 | Zbtb6 | Atp1b3 | Mgst2 | Tmem71 | Btg2 | Slfn9 | Canx | Nsg2 | Smc3 |
| Trib2 | Vps36 | Nfkbiz | Chek2 | Add3 | Fam65b | Fam134b | Sap30l | Chordc1 | Bcl10 | F2rl1 |
| Stt3b | Itga4 | Mta2 | Alyref | Cdk7 | Nrp1 | Map4k4 | Trmt10a | Susd6 | Utp18 | Abce1 |
| Klhl6 | Gm17296 | Rexo4 | Rnf19a | Crlf3 | Anp32a | Cggbp1 | Rpf2 | Myo1f | Nhp2l1 | Cse1l |
| Vcp | Parvg | Xrn2 | Ptpra | Eif3m | Fam49a | Zfp605 | Sf3b3 | Mfsd6 | Slc25a33 | Clint1 |
| Ldlrap1 | Ubr7 | Zfp874a | Sidt1 | Ccdc25 | Ppa1 | Frmd4b | Xrcc5 | Snrpg | Epb4.1 | Asap1 |
| Gphn | Hnrnpa2b1 | Rasgrp2 | Tcf7 | Ttc13 | Uba1 | Pde2a | Nomo1 | Tgif1 | Tfe3 | Keap1 |
| Prkcq | Eif2b3 | Rbm44 | Tuba4a | Eif4a1 | Stip1 | Elf1 | Tox4 | Slain2 | Zc3hav1 | Pwp2 |
| Gpd1l | Tcp1 | Cdc42se1 | Ndufb2 | Carhsp1 | Aldh18a1 | Cradd | Trp53 | Hsph1 | Kdm5b | Bcl2a1b |
| Adss | Zfp748 | Noc2l | Isca1 | Galnt12 | AB124611 | Dtx3l | D930028M14Rik | Catsperd | Rras2 | Tktl1 |
| Mrps5 | Ncoa4 | Tnks2 | Gltp | Cenpo | Hmgb2 | Sp110 | Phf5a | Ddx31 | Me2 | Plrg1 |
| Usp38 | Gtpbp4 | Uso1 | Mgat2 | Idh3a | Stat5b | Aggf1 | Ss18 | Sipa1 | Api5 | Lrrn4 |
| Psmc2 | Gtf2i | Kcnab2 | Mto1 | Dis3 | Spidr | Atp5b | Csde1 | St6galnac1 | Cstf3 | Hspa9 |
| Zfr2 | Zfp12 | Gnpat | Il4ra | Nup37 | Sh3bgrl | Rnf4 | Ehhadh | Pik3r5 | Rnmt | Fbxo17 |
| Rcbtb1 | Dusp5 | Dpy19l1 | Ticrr | Lcp1 | Rrp9 | Serpinc1 | Cpt1a | Psma6 | Arl6ip1 | Gramd1b |
| Lipa | Med18 | Tesk1 | S1pr4 | Rangap1 | Slc4a7 | Wsb1 | Tnfaip3 | Rnf187 | Dennd2d | Tnfsf14 |
| Pxylp1 | Hspa4 | Prdm16 | Rassf2 | Ndufaf1 | Frg1 | Ubfd1 | Entpd5 | Polr2b | Eif4h | Cytip |
| Nr4a2 | Cmah | Suco | Mcm6 | Mrpl12 | Madd | Fam175b | Plscr1 | Fasn | Lrrc41 | Ppa2 |
| Nasp | Stk4 | Akt2 | Smarca5 | Ifnar1 | Zc3h12a | Jak1 | Inafm2 | Atad2b | Gm10336 | Uqcrc2 |
| Lfng | Gpr132 | Hprt | Ripk2 | Mthfd1l | Nefh | Ccng1 | Eif3l | Acsl5 | Marveld2 | Blmh |
| Chdh | Kars | Nadk2 | Gramd1c | Gimap3 | Papolg | Trpc4ap | Cct2 | Msn | Galnt10 | Cenpa |
| Slfn2 | Cnot1 | Phrf1 | Tnfrsf26 | Sla | Crebrf | Tomm70a | Llph | Fen1 | Arhgap1 | Nap1l4 |
| Fbl | Ets1 | Ap1b1 | Srfbp1 | Cd226 | Rbmxl1 | Evi2a | Rab3gap1 | Rasa3 | Nol12 | Eif2s1 |
| Fcf1 | Ndufa4 | Wdr3 | Zbtb11 | Il2 | Xpnpep1 | Tubgcp4 | Rpl21 | Satb1 | Top2b | Atp11b |
| Exoc6 | Hspa14 | Rnpep | Zfp472 | Slc44a2 | Cdc5l | Snx1 | Slc9a9 | Rbm10 | Nars2 | U2af1 |
| Orai1 | Twistnb | Gm1966 | Lrrc32 | Aqr | Xcr1 | Nup107 | Actr3 | Msh6 | Rpa1 | Rom1 |
| Nop2 | Lsm6 | Supv3l1 | Dnmt1 | Pole | Cdc25b | Atp2a2 | Gars | Atg4d | Arl5c | Ndufb5 |
| Tapt1 | Agfg1 | Cenpm | Arhgap15 | Stat4 | Wdr12 | Pus7l | Fbxo22 | Ppp1cc | Zfp101 | Psat1 |
| Polg2 | Skiv2l2 | Cyfip2 | Tdrp | Mri1 | Unc79 | Polr2j | Sar1a | Rpp40 | Zfp119a | Gimap4 |
| Fh1 | Fhit | Galnt7 | Siglecf | Spryd4 | Ppp2r5c | Slc19a1 | Rnf125 | Msl3 | Psmd14 | Cep78 |
| Pygb | Ppif | Mocs3 | Lpar3 | Bcl2a1d | Smap2 | Zkscan14 | Crem | Agap3 | Traf4 | Tpm4 |
| Nnt | Tfip11 | Zbtb24 | Cryl1 | Spn | G3bp1 | Mis12 | Ldha | Rps15a | Gpbp1 | Secisbp2 |
| Gtf3c1 | Prkra | Vipr1 | Acpp | Rars | Ndufs4 | Sh3kbp1 | Chchd1 | A930005H10Rik | Ift80 | Ramp3 |
| Uspl1 | Cmas | Slc12a7 | Rtn1 | Lpin2 | Gabpb1 | Nup210 | Casc1 | Tbc1d1 | Dhfr | Dpp4 |
| Stk17b | Ppp2ca | Iba57 | Herc4 | Ankrd13a | Pcid2 | Mettl4 | Ece2 | Npas1 | Myd88 | Ndc80 |

| Trp53inp1 | Spata2l | Smg8 | Sema3e | Nxnl1 | Rsl24d1 | Tpp2 | Sub1 | Rab8a | Acss1 | Dscc1 |
|---|---|---|---|---|---|---|---|---|---|---|
| Lbr | Cog6 | Zap70 | Ier5 | Zscan29 | Prmt5 | Txnrd1 | Mpzl3 | Ccdc53 | Mfsd2a | B3gat3 |
| Wdr75 | Thg1l | Ermn | Ifngr1 | Simc1 | Nolc1 | Nab2 | Fgd6 | Rbm19 | Pbdc1 | Gcat |
| Snhg6 | Il2ra | B3galt4 | Dpp8 | Zfp456 | Cabin1 | Tbrg4 | Sart1 | Tmem64 | Capn11 | Prkacb |
| Ppat | Fam129a | Snip1 | Actg2 | Pnpla2 | Gtf2b | Mrpl1 | Eif3d | Farsb | Glipr2 | Nup153 |
| Maff | Helz | Mboat7 | Pramef8 | Eif3g | Dus4l | Tmem186 | Lrrc20 | Fam78a | Samhd1 | Agpat1 |
| Cd1d1 | Fastkd1 | Grb7 | Arl5b | Tbc1d9b | Gpr18 | Zswim3 | Nbn | Rpl7l1 | Stag1 | Pycr2 |
| BC030867 | Gadd45gip1 | Rpf1 | Ruvbl2 | Srprb | Mov10 | Slc16a3 | Psmb10 | Hspd1 | Top2a | St6galnac4 |
| Prep | Nfatc1 | Colq | Hmgn2 | Hsp90b1 | Ppan | Galk2 | Srsf7 | Chtop | Atg4b | Snord33 |
| Cep72 | Nsl1 | Acss2 | Rsl1 | Dennd4c | Sp140 | Lpxn | Zrsr1 | Hnrnpc | Capza1 | Brix1 |
| E2f2 | Cndp2 | Gm14634 | Ssrp1 | Gemin5 | Cnbp | Kpna3 | A630072M18Rik | Serpinb9 | Ghitm | Carf |
| St8sia6 | Lrrc66 | Gen1 | Rnf225 | Bub1 | Ppp2r1b | Vta1 | Coq10b | Zmat1 | Rpl37a | Pes1 |
| Seh1l | Slc35e1 | Zswim4 | Zbtb45 | Dtx1 | Usp14 | Lsm11 | Cox17 | Gabrr2 | Rragd | Sestd1 |
| Flna | Dnph1 | Ndrg1 | Kif11 | Prmt3 | Smarcd2 | Rbbp8 | Ccnb1 | Mlec | Rpp14 | Armc3 |
| Smtn | Spdl1 | Pja1 | Slbp | Ndufc1 | N6amt1 | Tm2d3 | Asb5 | Ccne2 | Rassf3 | Snord35b |
| Ccnf | Mogs | Stt3a | Wdr43 | Slfn1 | Chaf1b | Il17ra | Orc1 | Hmces | Saysd1 | Dcaf7 |
| Tbc1d14 | Larp7 | Mir425 | Prr5l | Cd7 | Ubqln1 | Ing5 | Heatr5a | Fiz1 | Zfp62 | Mrpl18 |
| Ppil1 | Mesdc1 | Pgk1 | Gatad2b | Fam101b | Mrpl24 | Map3k11 | Sema4d | Arpc5 | Mmachc | Rnf32 |
| Abr | Ints7 | Dkc1 | Lysmd3 | Ripk3 | Arap1 | Noa1 | Prdm15 | Tmem173 | Syncrip | Rsl1d1 |
| Iqgap2 | Pgpep1l | Psmd13 | Sfxn1 | Ppargc1b | Actl6a | Ncl | Gch1 | Med16 | Slc37a1 | Ankrd13b |
| Rnf103 | Map3k5 | F830016B08Rik | Xpot | Zfp574 | Aunip | Rrm2 | Ash2l | Atg16l2 | Cactin | Igtp |
| Pepd | Mcm7 | Noxa1 | Psmb8 | Lnx2 | Tmem171 | Abcf1 | Dennd6a | Cdc42 | Lyar | Myg1 |
| Spata7 | Golm1 | Pcbp1 | Avl9 | Ern1 | Hccs | Atp1a1 | Rad54l | Polr1b | Gpr25 | Spef1 |
| Suv39h2 | Gbp2 | Ssr2 | Txndc9 | Ms4a6b | Fkbp15 | Dnajc28 | Gemin4 | Hnrnph2 | Il5 | Tars |
| Terc | Cpsf3 | Gtpbp1 | Tnfrsf13b | Eif2s3x | Ddx46 | Zfp939 | Sec24d | Ms4a4b | Fbxo28 | P2ry12 |
| F8a | Champ1 | U2af2 | Apobec2 | Mon1b | Gpr34 | Acacb | Upf2 | Kdm5c | Cited2 | Cab39l |
| Jagn1 | Hadhb | Lmnb1 | Dusp12 | Shq1 | Bub1b | Aco1 | Elf2 | Ccdc117 | Lgals3bp | Cryba4 |
| Usf2 | Fgd3 | Rasd2 | F630028O10Rik | Stk25 | Gpx1 | Apln | Il17a | Sat1 | Mafb | Anxa11 |
| Fnbp4 | Lgals1 | Zfp287 | Ilkap | Spg7 | Klhl28 | Fer | AW549877 | Slc4a2 | Rfx2 | Slc35d2 |
| Zfp579 | Srrm2 | Dip2b | Scoc | Spon1 | Dhx58 | Rab12 | Tpgs2 | Lrrfip1 | Alox5ap | Col5a3 |
| Atp2b4 | Hexdc | Wwc1 | Smpd1 | Fam102b | Tef | Fam193a | Setd6 | Zfp948 | Ldb1 | Maf |
| Itm2c | Slc22a5 | Csf2rb | Coq4 | Atg3 | Snx30 | Grk4 | Zfp189 | Dnajc4 | Sik1 | Fam199x |
| Dbp | Kctd12 | Zfp414 | Cdc42ep3 | Nthl1 | Acadm | Scai | Tbce | Kdm4d | Rbak | Eaf2 |
| Arl14ep | Vps13d | Araf | Areg | Syt11 | Mllt6 | Jund | Gtpbp2 | Themis2 | Per1 | Slc25a51 |
| Isca2 | Ubxn8 | Brd4 | Fam213b | Rnu11 | Mboat4 | Gnai2 | Atp9b | Igflr1 | Tmem109 | Plcb3 |
| Rhoc | Dmrta1 | Myo1c | Guk1 | Dctn2 | Kmt2d | Dctn5 | Klf5 | Rnf130 | Aamdc | Ctsf |

| Zfp362 | Rtn4ip1 | Wbp5 | Ppp1r12c | Aktip | Mbnl2 | Atp6v0b | Efna3 | Gpr62 | Cd44 | Exoc1 |
|---|---|---|---|---|---|---|---|---|---|---|
| Hist1h3a | Usp11 | Mapk8 | Gpr160 | Rasl11b | Rhbdd3 | Crtc2 | Ndrg2 | Use1 | Alg5 | Snord15b |
| Mapkapk5 | Stk19 | Dnmbp | Habp4 | Pqlc1 | Fam117a | Itih5 | Oxr1 | Gm5796 | Fancl | Tbc1d23 |
| Gnb4 | R3hdm2 | Plcg2 | Zfp511 | Sh3rf1 | Arhgap5 | Klhl5 | Peg13 | Fth1 | Ctla2a | Fez1 |
| Hist1h2bp | Aldh6a1 | Neb | Calca | Ctnnbip1 | Amigo1 | Clec9a | Rybp | Arpc5l | Fhod1 | Zdhhc23 |
| Il1r2 | Ptms | Pnrc2 | Gm16894 | Gigyf1 | Synpo | Ddx26b | Lima1 | Ech1 | Ryr1 | Cish |
| Dcaf15 | Rab9 | Irak3 | Xkr8 | Ing4 | Camta1 | Aldh2 | Ppcdc | Dennd1c | Tmem222 | Cpne2 |
| Tle6 | Rab11a | Son | Atxn2l | Tmem203 | Tcf7l1 | Ptges3l | Tmem231 | Dnajc25 | Ptbp2 | Gna11 |
| Cetn4 | Tpsab1 | Bptf | Enpp4 | Mafg | Rasgrf2 | Rabac1 | Ttc14 | Gm20257 | Rnf149 | Spin1 |
| C1rl | Gfra4 | Particl | Jade1 | Actr1b | Phc1 | Pgrmc1 | Impact | Kif3a | B930018H19Rik | Sgcb |
| Vps16 | Rpp21 | Klf7 | Med15 | Lat2 | Nucb2 | Oxld1 | Cobll1 | Nus1 | Txndc17 | Ubash3b |
| Hnrnpdl | Arnt2 | Fabp12 | Vat1 | Edaradd | Slc2a1 | Itga3 | Ripk4 | Mettl20 | Zfp273 | Tgfb1 |
| Dusp6 | Izumo4 | Lpcat2 | Fam71e1 | Cdkn1b | Ccdc142 | Adra2a | Egfr | Dnal4 | Gemin2 | Olfr56 |
| Laptm4b | Snora41 | Gad1 | Chchd3 | Lekr1 | Kdf1 | Birc2 | Klf4 | Lmntd2 | Sult5a1 | Tmbim1 |
| Ddx3y | Ppp3ca | Mdm4 | Nav2 | Tmx1 | Gm166 | Dennd6b | Stxbp1 | Fcho2 | Bmyc | Tmod4 |
| Gpx4 | Tada2b | Zfp607 | Zglp1 | Mmp8 | Tnip2 | Trp53i11 | Rev1 | Pla2g12a | Picalm | Pip5k1c |
| Ppp1r1b | Slc16a4 | Cldnd2 | Tmem256 | Dfna5 | Unkl | B230219D22Rik | Snord42a | Pcdhgb6 | LOC106740 | Tmem216 |
| Snora81 | Chadl | Eri3 | Dcbld1 | Qser1 | Anxa1 | Fam124a | Uba5 | Fst | B3gat2 | Gramd1a |
| Ikbip | Gm15787 | Mprip | Tmc3 | Axl | Cbx7 | Loh12cr1 | Ccr8 | Tnfrsf1a | Ano1 | Snapin |
| Ptgs2 | Efemp2 | C330013E15Rik | Kcnk7 | Cd200r1 | Aqp5 | Acadsb | Kif1b | Wfdc21 | Tia1 | Styx |
| Gdf5 | Frzb | Ogg1 | Tmed4 | Il17d | Rtn4 | Reg3g | Slc8a1 | Tnk2 | Fundc2 | Snord73a |
| Cnot10 | Hist1h1d | Ikzf2 | Pid1 | Cacna1g | Dclre1a | Dpep1 | Phf20 | Ptch1 | Cd14 | Meis1 |
| Adgrl1 | AI429214 | Cracr2b | Tmem138 | Ccnl1 | Hacd1 | Kifc5b | Gpc6 | Duoxa1 | Malat1 | Snhg5 |
| Eif4e3 | Ssbp4 | Eif2s3y | Zfp219 | Zfp354c | Tspan11 | Tmem9 | Pik3r1 | Ddit3 | Arl4c | Chst4 |
| Cd160 | Apoe | Scamp3 | Emilin2 | Adarb1 | Ppil6 | Arrdc1 | Snx7 | Hist2h2ac | Nfic | Chst7 |
| Efnb1 | Slc50a1 | Dusp3 | Pdgfa | Igfbp4 | Gm5547 | Pcyox1 | Pcyt1a | Vasn | Itgb8 | Rasip1 |
| Tep1 | Pbx4 | Ppp1r9b | Fam13c | Ift74 | Rhbdf1 | Pde1b | Anxa4 | P3h1 | Fam46c | Tmcc3 |
| Cpsf7 | Slc30a4 | Ccdc157 | B4galt4 | Fxyd3 | Cdh24 | Trim29 | Klrg2 | Il10rb | Klrg1 | Gab1 |
| Olfm1 | Tmeff2 | Tceal8 | Ubxn11 | Fabp7 | Ccl6 | Scube1 | Hyi | Get4 | Irs2 | Emp3 |
| Nqo1 | Pim1 | Bcr | Atraid | Kifap3 | Zfp120 | Susd2 | Ankrd13d | Mgst1 | Smoc2 | Ppp1r3c |
| Ankrd37 | Cfap36 | Gm5088 | Cadm1 | Plcl1 | Rnf217 | Tspan2 | Gfpt2 | Tubg2 | Pts | Ace |
| Maob | Rai14 | Tcf15 | D830031N03Rik | Rab37 | Col1a2 | Klhl4 | Prss35 | Wls | Irx2 | Mir5107 |
| Sncg | Zkscan3 | Diap1 | Erdr1 | Fkbp3 | Fgd5 | Bnc2 | Vegfb | Ecm1 | Apobec3 | Tox |
| Lgals6 | Whamm | Pik3r3 | Kcne4 | Acot12 | Plekhm2 | Arg2 | Galc | Fam180a | Hecw2 | Plcd1 |
| Zfp382 | Rc3h1 | Fermt1 | Ppp2r5b | Robo4 | Nisch | Fkbp1b | Evi5 | Pttg1ip | Slc5a3 | Irx5 |
| Man2c1os | Dstn | Btbd19 | Tubb6 | Rasal2 | Glis2 | Smim20 | Chmp6 | Slc6a4 | Gm16712 | Sox6 |
| Timp2 | Thbs1 | Gm10416 | Egr1 | Tmem54 | Kcna3 | Rhob | Cnn3 | Arhgef15 | Sash1 | Adh7 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Fgfrl1 | Itfg3 | Col1a1 | Olfml2b | Trip10 | Lgr4 | Pdzk1 | Ube2g1 | Gadd45g | Ttc16 | Id2 |
| Dock9 | Ift81 | Cebpzos | Fgl2 | Sgce | Hdc | Sectm1a | Rnf11 | Lincpint | Ttc30b | Mxra8 |
| Mpped2 | Zak | Spag17 | Atrx | Gjb4 | Dynlt1b | Ptprb | Ptpn23 | Sparcl1 | Xlr4c | Dynlt3 |
| Tmem60 | Cd109 | Ddit4 | Rasgrp3 | Cd8a | Rcan1 | Zc3h7a | Fut7 | Ankrd16 | Scn11a | Egln3 |
| Scamp1 | Rgcc | Siah2 | Ntrk2 | Sdr16c6 | Eid1 | Rnf170 | Kmt2c | Nts | Sgms1 | Ptpn5 |
| Slc35e4 | Tspan15 | Fxyd7 | Zfhx4 | Mfsd9 | Azin2 | Adgrg1 | Rab6a | Sphk1 | Fut8 | Inha |
| Sepn1 | R3hdm1 | E230029C05Rik | Gsn | Cmtm7 | P3h3 | Edn3 | Gap43 | Ltbp3 | Fbxl12 | Atp1a2 |
| Mapre3 | Phlda1 | Pgs1 | Cep164 | Slc25a38 | Baiap3 | Adamts4 | Stx4a | Adgra2 | Adam15 | Cd200r4 |
| Lrrn2 | Nicn1 | Efnb2 | Clip2 | Fgf7 | Mdk | Sox5 | Mir7079 | Trmt13 | Timp4 | Cxcl5 |
| Rac3 | Magi1 | Htra4 | Kif27 | Fam132a | Palld | Sod2 | Creb3l4 | S100a6 | Galt | Id4 |
| Zdhhc1 | Pdzd2 | Bcar1 | Fam213a | E230013L22Rik | Pcp4l1 | Eif4a2 | Mia | Arhgef28 | Col4a1 | Gem |
| Arhgap21 | Gm2a | Tacstd2 | Atpif1 | Tspan18 | Il10 | Acaca | Rgs5 | Gja4 | Arl5a | Gstm7 |
| Plagl1 | Arl4a | Pdp1 | Ptov1 | Gm9776 | Dcakd | Ndfip2 | Zc2hc1a | Ciart | Trove2 | Adam8 |
| Gstt1 | Col16a1 | Apc | Phactr2 | Klf9 | Il9r | Prickle3 | C1ra | Praf2 | Megf6 | Slc35f5 |
| Lpar1 | Clec2d | Fbln2 | Ldlrad3 | Gm20605 | Gpihbp1 | Rell1 | Pi16 | Dusp22 | Lhfp | Igf1 |
| Cald1 | Islr | Msx1 | Gli2 | Pcolce | Pcbp4 | Adgrg3 | Scd1 | Ulk2 | Mmp23 | Me1 |
| Clk2 | Ltbp2 | Fkbp7 | F5 | Ccdc102a | Adamts2 | Thbs2 | Gstm4 | Ebf1 | Entpd2 | Jun |
| Tmed10 | Fgfr1 | Btg1 | Loxl3 | Pdgfrb | Cyb5r3 | Foxe1 | Hoxaas2 | Dlx5 | Klhl29 | Ly6g6c |
| Dusp1 | Ptgis | Lims2 | Slc27a3 | Csf1 | Leprot | Mast4 | Ebi3 | Fzd9 | Lmo1 | Gpr4 |
| Ccdc3 | Peg12 | Acap1 | Dgat2 | Trim16 | Tnnt1 | Ap3m2 | Cyp27a1 | Ddr2 | Mrc2 | Ccnl2 |
| Ncmap | Lpin3 | Ormdl3 | Mmrn2 | Clec11a | Epc1 | Polm | Tagln | Ghr | Fam19a5 | Gm14005 |
| Msrb3 | Parp4 | Gstm1 | A430105I19Rik | Tex9 | Lman2l | E4f1 | Sorbs3 | Eva1b | Dact3 | Etl4 |
| Crip2 | Dtx3 | Ift43 | Col3a1 | Zmym6 | Col2a1 | Pou3f1 | Pxdc1 | Phf21a | Fbxo25 | Spats2 |
| Hes1 | E230016M11Rik | Zfp36 | Kdr | Ptn | Gm17745 | Jkamp | Capns2 | Ucma | Tmem134 | Pvrl3 |
| Pcgf2 | Trf | Syt15 | Crmp1 | Hrh1 | Ralgapa1 | Npr1 | Siah1a | Pcdhb9 | Unc119 | Pdlim7 |
| Krt5 | Uggt2 | Ehd2 | Lox | Scara5 | Dlgap4 | Cxcl2 | Ptprv | Cd302 | Pmp22 | Bmp6 |
| Rab24 | Ophn1 | Dpysl3 | Lyz1 | Chad | I730030J21Rik | Itgb5 | St3gal2 | Apold1 | Ndn | Sgms2 |
| Krt28 | Sdc4 | Hist1h2ac | Dennd5b | Caskin2 | Cx3cl1 | Emp2 | Rhbdl2 | S100b | Camk1 | Gcnt2 |
| Sult1a1 | Sprr2a3 | Il13ra1 | Fos | Slc39a13 | Klf6 | Stap2 | Naprt | Slc16a9 | Ceacam1 | Sectm1b |
| Afap1l1 | Uty | Srsf5 | Vstm4 | Msantd3 | Des | Fcgrt | Snx9 | Mylk | Hist1h2bg | Myoc |
| Dmd | G0s2 | Pde4c | Gata2 | Grb10 | Sox17 | Bmpr1a | Comp | Cyp1b1 | Cemip | Pkig |
| Zfp28 | Ecm2 | Sfrp2 | Slfn8 | Vim | Car7 | Hist1h1c | Prkar1b | Tbcb | Slc26a8 | Slc20a2 |
| Nfia | Mall | Trp63 | Fmo1 | Twist2 | Rgs14 | Col20a1 | Arhgap29 | Ogn | Gfap | Pag1 |
| Tmem255b | Tjp1 | Cd81 | Cdh13 | H1f0 | Fmod | Osr2 | Armcx1 | Wdr34 | Bmi1 | Ppap2b |
| Dpysl2 | Mecom | Pcsk1 | Crispld2 | Mtss1l | Prr29 | Epn3 | Acot1 | Ido1 | Car8 | Egfl7 |
| Lzts2 | Cox4i2 | Stx2 | Bmp5 | Aldoart1 | Lyz2 | Ushbp1 | Col6a3 | Apod | Sox9 | Aldh3a1 |
| Notch3 | Olfr558 | Tmtc3 | Fam171a1 | Ypel3 | Zbtb10 | Cfh | Fam217b | Cdo1 | Pcdh12 | Fkbp14 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Pth1r | Ptk7 | Lrrc17 | Npr2 | Ccdc85b | Tmem44 | Cgnl1 | Nfib | Dsc3 | Ago1 | Ccnd1 |
| Thbs4 | Cda | Rgma | BC031361 | Rian | Sap25 | Kank3 | Gp1bb | Pvrl2 | Gm19466 | Wif1 |
| Chil1 | Serpinf1 | D6Ertd527e | Tle2 | Spns2 | Sh3bgrl2 | Adcy9 | Gpha2 | Fzd1 | Paqr6 | Twist1 |
| Lamc3 | Col12a1 | Pdgfrl | Rab40b | Arhgef19 | Dkk3 | Peg3 | Pla2g5 | Antxr1 | Mmp16 | Wtip |
| Meis2 | Nexn | Mfap3l | Klra2 | Eln | Hpgd | Corin | Col6a2 | Luc7l2 | Hilpda | Plp1 |
| Mpz | Nrn1 | Gm10406 | Tpm2 | Lmna | Rgs11 | Prrt2 | F11r | | | |

**Table S3 (Relating to Figure 6)**: Expression values of Shh and Gli3 in RNAseq datasets from Oxa-treated WT, Gli2ΔC2 and Gli2ΔN2 skin CD4 T cells.

| | 1 WT-CD4 | 2 WT-CD4 | 1 Gli2ΔC2-CD4 | 2 Gli2ΔC2-CD4 | 1 Gli2ΔN2-CD4 | 2 Gli2ΔN2-CD4 |
|---|---|---|---|---|---|---|
| Shh | 0 | 0 | 0 | 0 | 0 | 0 |
| Gli3 | 0 | 0 | 0 | 0 | 0 | 0 |

**Table S4: (Relating to Materials and Methods):** Table shows mouse and human antibodies, their clones and the company where they were purchased from.

| | Antibody | Clone | Company |
|---|---|---|---|
| Mouse | antiSmad2+Smad3 (Phospho T8) | Ab63399 | Abcam |
| | CD3 | 17A2 | Biolegend |
| | CD4 | RM4-5 | Biolegend |
| | CD8 | 53-6.7 | Biolegend |
| | CD11b | M1/70 | Biolegend |
| | CD11c | N418 | Biolegend |
| | CD44 | IM7 | eBioscience |
| | CD45 | 30-F11 | Biolegend |
| | CD62L | MEL-14 | eBioscience |
| | CD69 | H1-2F3 | Biolegend |
| | CTLA-4 | UC10-4B9 | Biolegend |
| | donkey anti-rabbit PE secondary antibody | Poly4064 | Biolegend |
| | F4/80 | BM8 | Biolegend |
| | Foxp3 | MF-14 | Biolegend |
| | IFN-γ | XMG1.2 | Biolegend |
| | IL4 | 11B11 | Biolegend |
| | IL5 | TRFK5 | Biolegend |
| | IL10 | JES5-16E3 | Biolegend |
| | IL13 | eBio13A | eBioscience |
| | IL17 | TC11-18H10.1 | Biolegend |
| | Ki67 | 16A8 | Biolegend |
| | Klrg1 | 2Fl/KLRG1 | Biolegend |
| | LAP | BC96 | Biolegend |
| | MHCII | M5/114.15.2 | Biolegend |
| | SiglecF | E50-2440 | BD Pharmigen |
| | γδTCR | GL3 | Biolegend |
| Human | CD4 | RPA-T4 | Biolegend |
| | CD25 | BC96 | Biolegend |
| | FOXP3 | 236A/E7 | Biolegend |