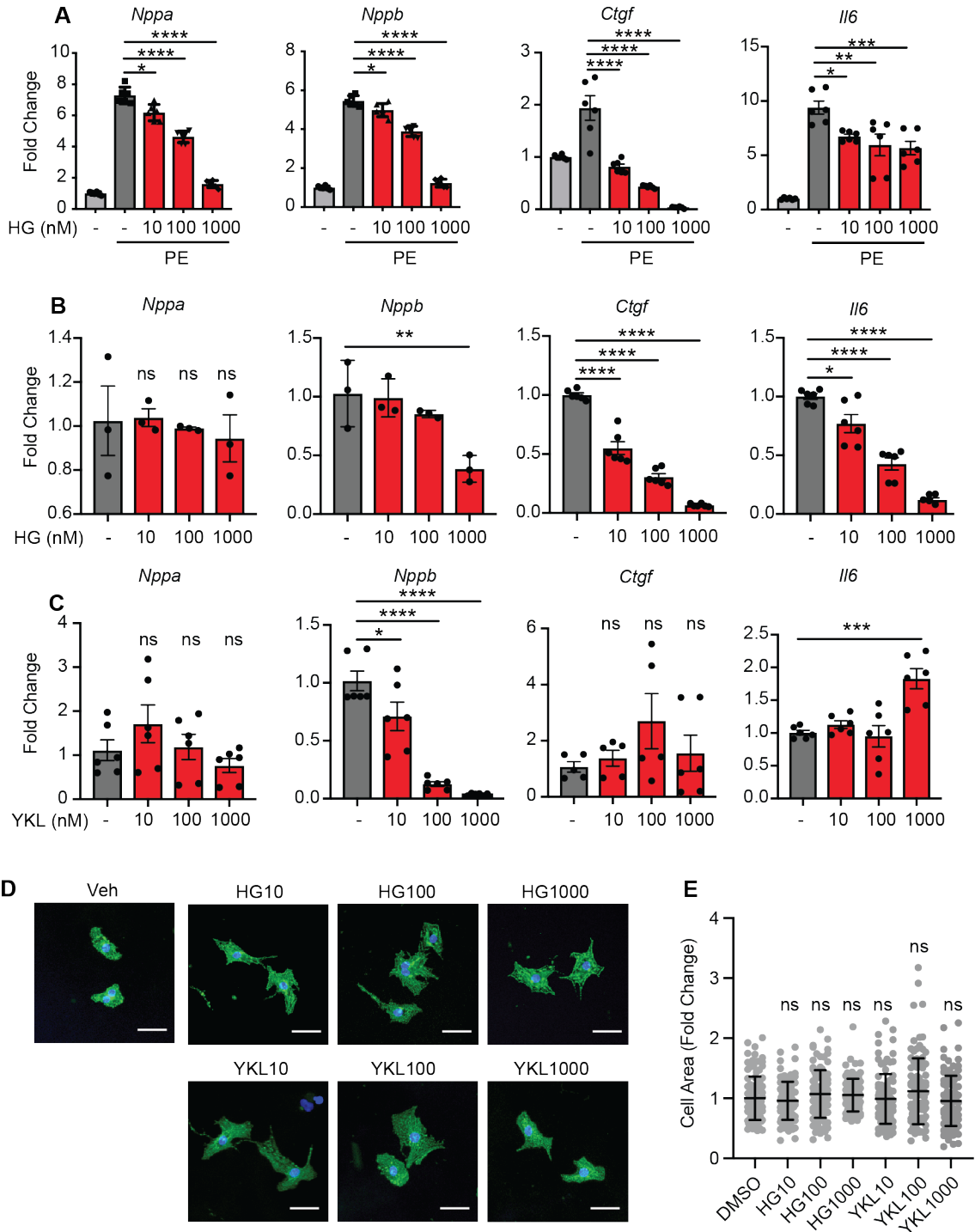
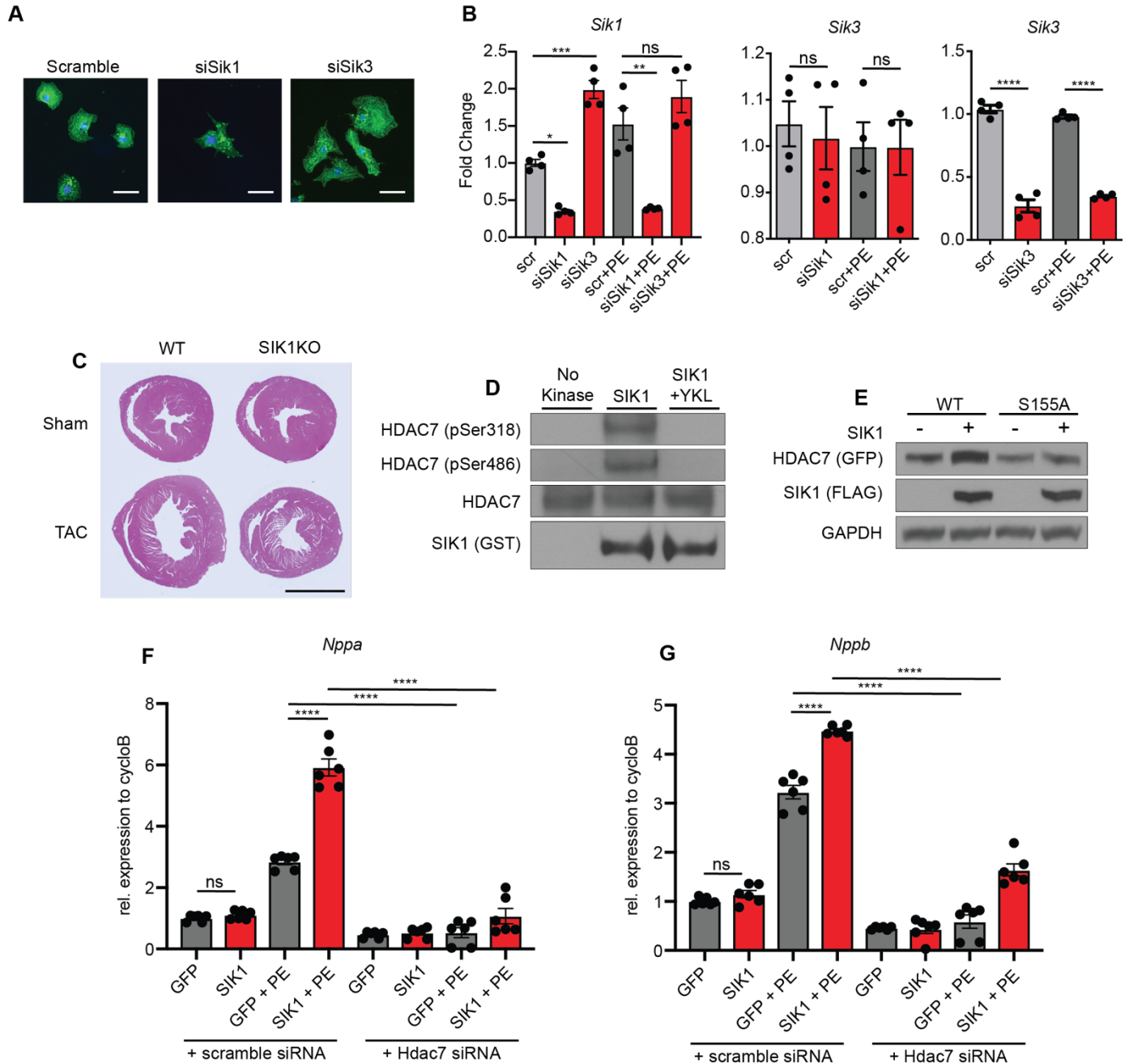


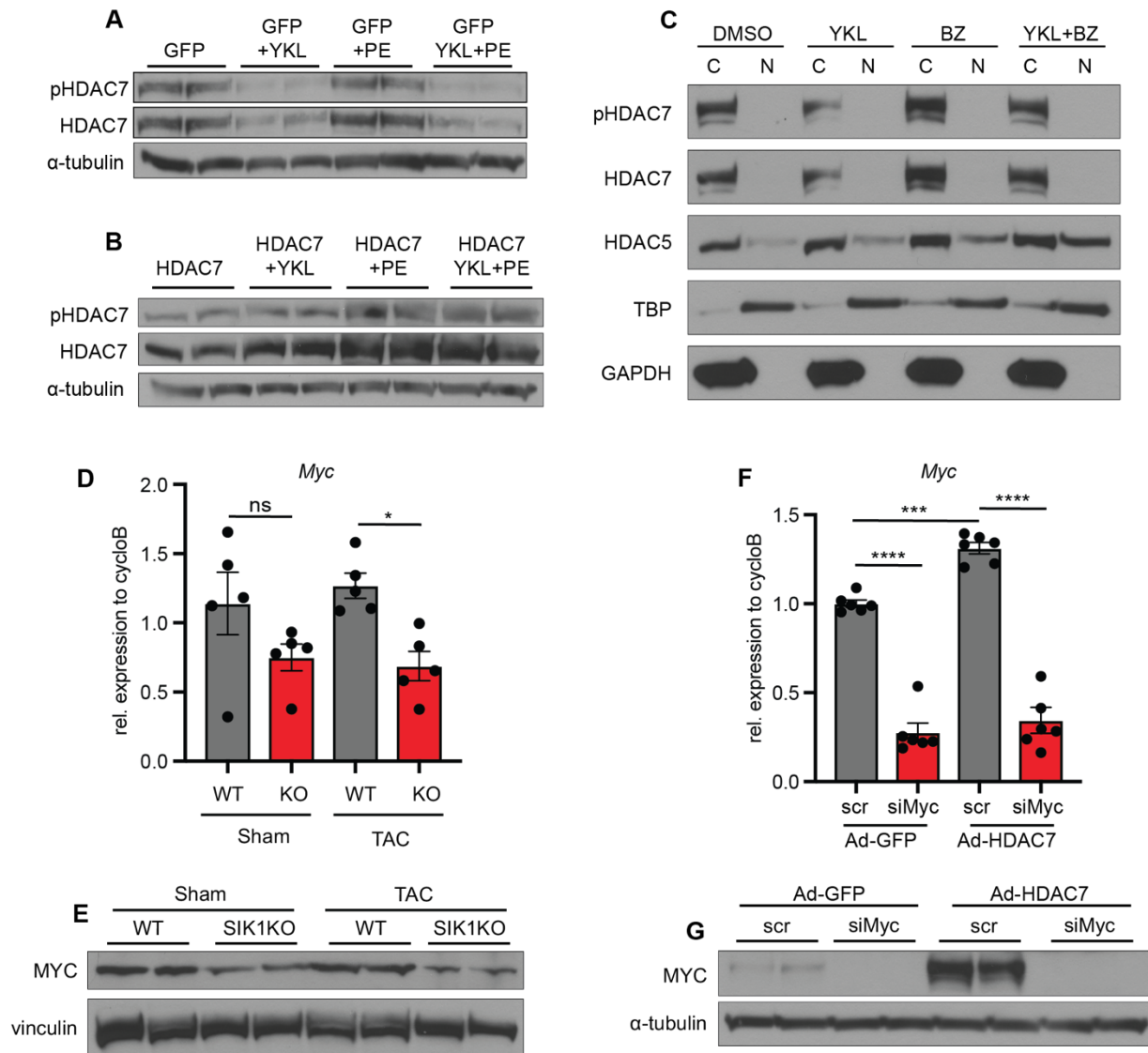
Supplemental Figure 1: (A-C) qRT-PCR expression for canonical heart failure associated genes. (n=4-6). Bars denote mean \pm SEM. (D) NRVM treated with HG or YKL (nM doses pictured) and immunostained for α -actinin (green) and nuclei (blue) Scale = 40um. Vehicle image from Figure 1A is reshown. (E) Cell area of NRVM. (n=100). Bars denote mean \pm SD. Control measurements from Figure 1B are reshown. *P<0.05, **P<0.01, ***P<0.001, ****P<0.0001 by one-way ANOVA with Tukey's multiple comparisons test.



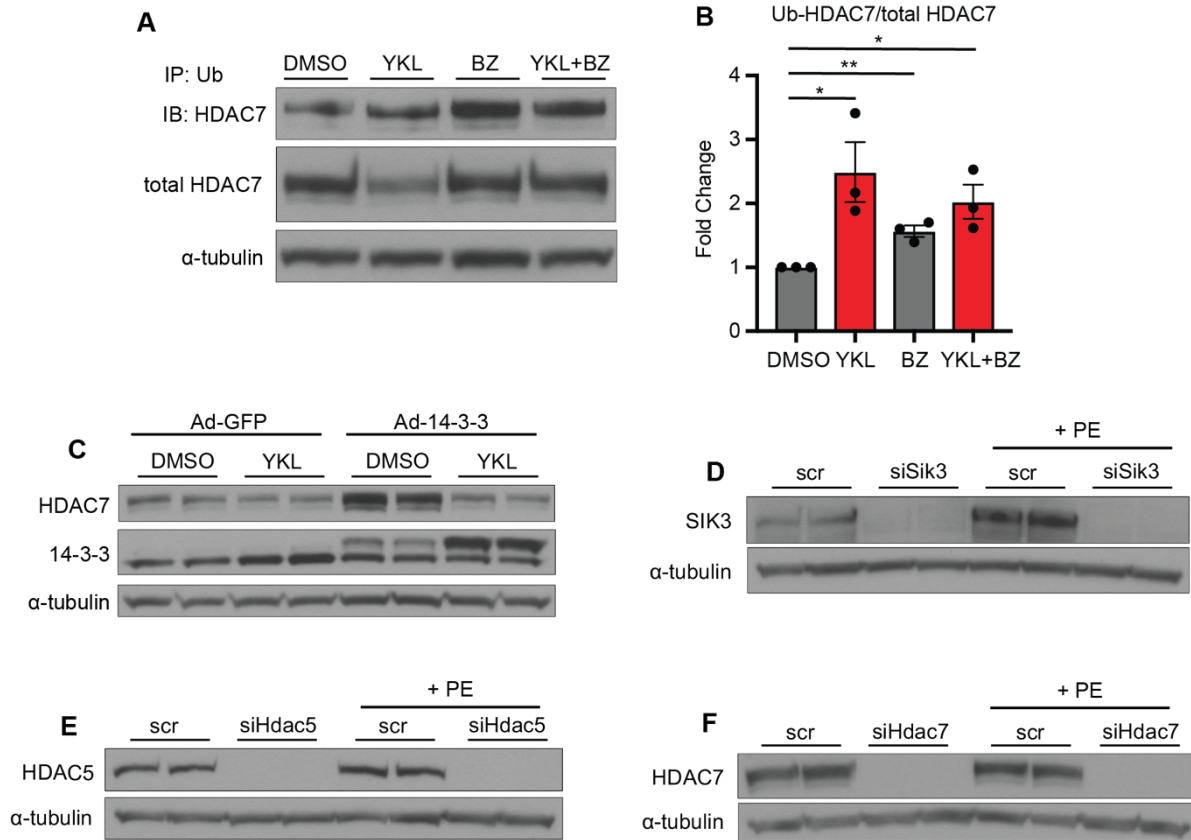
Supplemental Figure 2: (A) NRVM treated with siRNAs against *Sik1* or *Sik3* and immunostained for α -actinin (green) and nuclei (blue) Scale = 40um. Scramble image from Figure 2B is reshown. (B) qRT-PCR expression for *Sik1* and *Sik3* in setting of siSik1 or siSik3 transfection (n=4). (C) Representative H&E staining on cardiac tissue from WT or *Sik1*^{-/-} mice. Scale=3mm. (D) In vitro kinase assay with recombinant HDAC7 and GST-tagged SIK1 + YKL-05-099 (1uM) (representative western blots, n=3). (E) Cos7 cells were co-transfected with either WT HDAC7 or S155A HDAC7 + WT SIK1 plasmid or empty carrier plasmid. Cells were lysed 48 hours post transfection and assayed by western blotting (representative western blots, n=3). (F, G) qRT-PCR from NRVM infected with adenovirus expressing SIK1 followed by transfection of siRNA probes against *Hdac7* or scramble control (n=6). Data are shown as means \pm SEM unless noted. **P<0.01, ***P<0.001, ****P<0.0001 by one-way ANOVA with Tukey's multiple comparisons test.



Supplemental Figure 3: (A, B) Western blotting for total and phosphorylated HDAC7 in NRVM treated with adenovirus expressing HDAC7 or GFP control. α -tubulin used as loading control (representative western blots, n=3). (C) Western blotting of cytoplasmic (C) and nuclear (N) fractions of NRVM treated with 1 μ M YKL-05-099 + 5nM bortezomib (BZ). TATA-box binding protein (TBP) and GAPDH used as nuclear and cytoplasmic markers, respectively. (representative western blots, n=3). (D) qRT-PCR (n=5) and (E) western blotting (representative western blots, n=4) for c-Myc expression in WT and SIK1 KO sham/TAC left ventricular cardiac tissue. (F) qRT-PCR (n=6) and (G) western blotting (representative western blots, n=4) for c-Myc expression in NRVM infected with Ad-GFP or Ad-HDAC7 followed by transfection of siRNA against c-Myc or scramble control. Data are shown as means + SEM. *P<0.05, **P<0.01, ***P<0.001, ****P<0.0001 by one-way ANOVA with Tukey's multiple comparisons test.



Supplemental Figure 4: (A) Immunoprecipitation of NRVM lysates with ubiquitin affinity beads followed by immunoblotting of HDAC7. NRVM were treated with YKL-05-099 (1 μ M) and bortezomib (5nM) (n=3). (B) Ratio of ubiquitinated-HDAC7 to total-HDAC7 (n=3). (C) Western blot for HDAC7 in NRVM infected with Ad-HA-14-3-3 or Ad-GFP followed by treatment with YKL-05-099 (1 μ M) (representative western blots, n=4). (D-F) Western blot for verification of SIK3 (D), HDAC5 (E), and HDAC7 (F) knockdown (representative western blots, n=4). Data are shown as means \pm SEM. *P<0.05, **P<0.01 by one-way ANOVA with Tukey's multiple comparisons test.



Supplemental Table 1: List of qRT-PCR primers used**All probes are from the Roche Universal Probe Library*

Gene	Species	Forward Primer	Reverse Primer	TaqMan Probe No.*
<i>Nppa</i>	Rat, Mouse	CACAGATCTGATGGATTTCAAGA	CCTCATCTTCTACCGGCATC	#25
<i>Nppb</i>	Rat	GTCAGTCGCTTGGGCTGT	CCAGAGCTGGGGAAAGAAG	#13
<i>Ctgf</i>	Rat	GCTGACCTAGAGGAAAACATTAAGA	CCGGTAGGTCTTCACACTGG	#129
<i>Ilf6</i>	Rat	CCCTTCAGGAACAGCTATGAA	ACAACATCAGTCCCAAGAAGG	#20
<i>Ppib</i>	Rat	ACGTGGTTTTTCGGCAAAGT	CTTGGTGTTCTCCACCTTCC	#97
<i>Sik1</i>	Rat, Mouse	GCTCAACCCTCCTTGCATAA	GTTCCCTCCGAGGGACTCA	#63
<i>Sik2</i>	Rat, Mouse	TGCAGCCCCAGAAGTCTTT	GAACAACCTCCATGCTCCAT	#74
<i>Sik3</i>	Rat, Mouse	GTACCAGCAGGAGCAGCAC	GGGCTGAGGAGGACAAATAGA	#65
<i>Hdac7</i>	Rat	TACCTGGCTGCTTTCAGGAT	ACCAGGTCTGGAGCAAACCTC	#9
<i>c-Myc</i>	Rat	GCTCCTCGCGTTATTTGAG	GCATCGTCGTGACTGTCTG	#10
<i>Nppb</i>	Mouse	GTCAGTCGTTTGGGCTGTAAC	AGACCCAGGCAGAGTCAGAA	#71
<i>Ctgf</i>	Mouse	TGACCTGGAGGAAAACATTAAGA	AGCCCTGTATGTCTTCACACTG	#71
<i>Ilf6</i>	Mouse	GCTACCAAACCTGGATATAATCAGGA	CCAGGTAGCTATGGTACTCCAGAA	#6
<i>Ppib</i>	Mouse	TTCTTCATAACCACAGTCAAGACC	ACCTTCCGTACCACATCCAT	#20

Supplemental Table 2: List of TaqMan Gene Expression Assays used

Human *B2M* and *NPPB* qRT-PCR were performed with pre-validated commercial TaqMan master mixes as detailed below:

Gene	Species	Taqman Assay ID	Vendor	Catalogue #
<i>B2M</i>	Human	Hs00187842_m1	ThermoFisher	4331182
<i>NPPB</i>	Human	Hs01057466_g1	ThermoFisher	4331182