

Table S1. Oligonucleotide sequences

| Application | Target | Forward Primer | Reverse Primer |
|--|----------------------|---|---|
| q-RT-PCR | Rat <i>Hmox1</i> | 5'-GAT GGC CTC CTT GTA CCA TAT C-3' | 5'-AGC TCC TCA GGG AAG TAG AG-3' |
| | Rat <i>Srxn1</i> | 5'-GGG TTC CGT TCT TCA GTC TAT G-3' | 5'-CTT GTC TCC GAG TCC ATC TTT C-3' |
| | Rat <i>Txnrd1</i> | 5'-CGG GAG AAG AAG GTT GTC TAT G-3' | 5'-GAA CCG CTC TGC TGA GTA AA-3' |
| | Rat <i>Nrf2</i> | 5'-GCT ATT TTC CAT TCC CGA GTT AC-3' | 5'-ATT GCT GTC CAT CTC TGT CAG-3' |
| | Rat <i>Hdac4</i> | 5'-CAG CTC CCT TGA CCA GAG CTC-3' | 5'-TAA GCC TTG ACC GTA ATT TCA G-3' |
| | Rat <i>Hdac5</i> | 5'-TCA CCG CAA AAC TCC TAC AG -3' | 5'-ATG GCG GTC AAG TCA TGA-3' |
| | Rat <i>Hdac9</i> | 5'-GAG AGG CAT CGC AGA GAG C-3' | 5'-CCC ACG GAA TGA TTC TTT CCA-3' |
| Cloning KEAP1 | | 5'-GAA GGA TCC CAG CCA GAT CCC AGG CCT AGC-3' | 5'-CAA CTC GAG TCA ACA GGT ACA GTT CTG CTG-3' |
| Oligos for human HDAC5 H1006A site mutation | | 5'-GCC CTG GAG GGA GGC GCT GAC TTG ACC GCC ATC TGT G- 3' | 5'-CAC AGA TGG CGG TCA AGT CAG CGC CTC CCT CCA GGG C-3' |
| shRNA oligos annealed and ligated into pENTR/U6 | shControl | 5'-ACC GCG CGA TAG CGC TAA TAA TTT CTC GAG AAA TTA TTA GCG CTA TCG CGC-3' | 5'-AAA AGC GCG ATA GCG CTA ATA ATT TCT CGA GAA ATT ATT AGC GCT ATC GCG C-3' |
| | shHD5 #1 | 5'-CAC CGC TAC GAC AAT GGG AAC TTC TCG AAA GAA GTT CCC ATT GTC GTA GC -3' | 5'-AAA AGC TAC GAC AAT GGG AAC TTC TTT CGA GAA GTT CCC ATT GTC GTA GC-3' |
| | shHD5 #2 | 5'-CAC CGG ACA GTA GTG ATG CCC ATT GCG AAC AAT GGG CAT CAC TAC TGT CC -3' | 5'-AAA AGG CAA GTT CAT GAG CAC ATC CTT CGG GAT GTG CTC ATG AAC TTG CC-3' |
| | shHD4 | 5'-CAC CGC ACC TCA GCA AGA TGA TTT CCG AAG AAA TCA TCT TGC TGA GGT GC-3' | 5'-AAA AGC ACC TCA GCA AGA TGA TTT CTT CGG AAA TCA TCT TGC TGA GGT GC-3' |
| | shHD9 | 5'-CAC CGC CAG TAT GGA AGT GGC ATT GCG AAC AAT GCC ACT TCC ATA CTG GC-3' | 5'-AAA AGC CAG TAT GGA AGT GGC ATT GTT CGC AAT GCC ACT TCC ATA CTG GC-3' |

Table S2

| REAGENT or RESOURCE | SOURCE | IDENTIFIER |
|---|--------------------------|---------------|
| Antibodies | | |
| HMOX1 (1:1000) | Enzo Life Sciences | ADI-SPA-895-D |
| HDAC4 (1:1000) | Cell Signaling | 5392 |
| HDAC5 (1:1000) | Cell Signaling | 20458 |
| NRF2 (1:1000) | Cell Signaling | 12721 |
| Normal rabbit IgG (10 µg) | Cell Signaling | 2729S |
| KEAP1 (1:1000) | Proteintech Group, Inc | 10503-2-AP |
| α-actinin (1:1000; IF) | Sigma | A7811 |
| FLAG M2-HRP (1:2000) | Sigma | A8592 |
| Calnexin (1:500) | Santa Cruz Biotechnology | sc-11397 |
| α-tubulin (1:1000) | Santa Cruz Biotechnology | sc-23948 |
| MEF-2 (1:500) | Santa Cruz Biotechnology | sc-313 |
| Normal mouse IgG (10 µg) | Santa Cruz Biotechnology | Sc-2025 |
| Rabbit-HRP (1:2000) | Southern Biotech | 4050-05 |
| Mouse-HRP (1:2000) | Southern Biotech | 1031-05 |
| Chemicals and kits | | |
| Bovine serum albumin, Fraction V | Akron | AK8905 |
| TMP195 | Cellagen Technologies | C-8619 |
| TMP269 | Cellagen Technologies | C-8626 |
| DMEM | Corning | 10-017 |
| DMEM with high glucose | Corning | 10-013 |
| MEM | Corning | 10-010 |
| Penicillin-Streptomycin-L-Glutamine | Corning | 30-009-CI |
| AI-1 | Focus | 10-1471 |
| MEM | Gibco | 11575 |
| Opti-MEM™ I Reduced Serum Medium | Gibco | 31985 |
| Fetal Bovine Serum (FBS) | Gemini Bio Products | 100-106 |
| Bovine Calf Serum | Gemini Bio Products | 100-506 |
| Nutridoma™-SP | Roche | 11011375001 |
| Lipofectamine™ 3000 transfection reagent | ThermoFisher | L3000008 |
| Lipofectamine™ RNAiMAX Transfection Reagent | ThermoFisher | 13778150 |

| | | |
|---|---------------------------------|------------------------------|
| MitoSOX™ red mitochondrial superoxide indicator | ThermoFisher | M36008 |
| Halt™ Protease and Phosphatase Inhibitor Single-Use Cocktail (100X) | ThermoFisher | 78443 |
| N-Acetyl-L-Cysteine | Sigma | N9165 |
| Trichostatin A | Sigma | T8552 |
| Penicillin G (PCN) K salt | Sigma | P7794 |
| Vitamin B12 | Sigma | V6629 |
| siRNA #1 for Rat NRF2 | Sigma | NM_031789/SASI_Rn01_00089762 |
| siRNA #2 for Rat NRF2 | Sigma | NM_031789/SASI_Rn01_00089764 |
| Ampicillin (Sodium) | Gold Biotechnology | A-301-5 |
| Kanamycin | Gold Biotechnology | K-120-5 |
| I-1985 | Bachem | 4060676 |
| I-1875 | Bachem | 4033972 |
| ZLPA | Genscript | Ref. 41 |
| Anti-DYKDDDDK IP Resin | Genscript | L00425 |
| Protein A/G Plus Agarose | Santa Cruz Biotechnology | sc-2003 |
| QIAzol Lysis Reagent | Qiagen | 79306 |
| RNeasy Plus Mini Kit | Qiagen | 74134 |
| Cell fractionation kit | Abcam | Ab109719 |
| 1-bromo-3-chloropropane (BCP) | Molecular Research Center, Inc. | BP151 |

Reagents for PCR & Cloning

| | | |
|--|--------------------|---------|
| DreamTaq Green PCR Master Mix | ThermoFisher | K1081 |
| Verso cDNA Synthesis Kit | ThermoFisher | AB1453B |
| BLOCK-iT™ U6 RNAi Entry Vector Kit | ThermoFisher | K494500 |
| pAd/BLOCK-iT™-DEST RNAi Gateway vector | ThermoFisher | V49220 |
| pAd/CMV/V5-DEST™ Gateway™ Vector Kit | ThermoFisher | V49320 |
| PowerUp™ SYBR™ Green Master Mix | Applied Biosystems | A25778 |
| PFUTurbo DNA Polymerase | Agilent | 600250 |
| T4 DNA Ligase | NEB | M0202S |

Figure S1

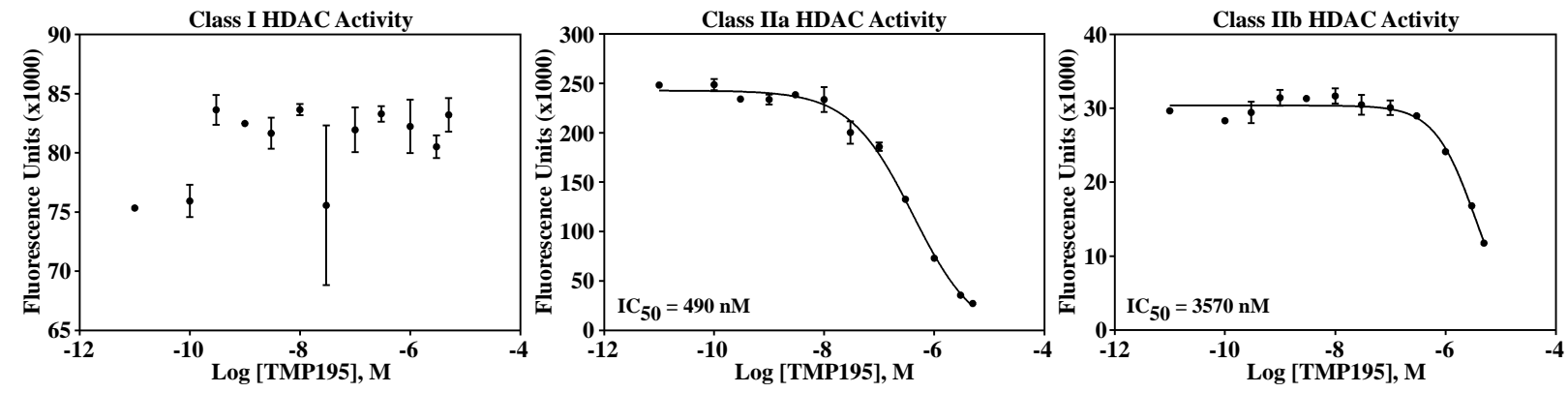


Figure S2

