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**SUPPLEMENTARY FIGURE LEGENDS**

**Supplement Figure 1: Validation of podocyte-specific *KLF15* expression in DOX-treated *PODTA;TRE-KLF15* mice. (A)** Map of the plasmid used to generate *TRE-KLF15* mice. *FLAG-KLF15* DNA fragment was cloned using restriction enzyme sites EcoRI and XbaI, and plasmid was linearized by PvuI enzyme and injected into embryonic stem cells. Restriction enzyme sites (PvuI, EcoRI, XbaI), Modified Tet Response Element (*TREmod*). Minimal CMV promoter (*P*minCMVΔ). Polyadenylation (Poly A). F1, R1, F2, R2 show location of forward and reverse primers used for genotyping. **(B)** *PODTA* and *PODTA;TRE-KLF15* mice were treated with DOX at 4 weeks of age and euthanized at 12 weeks of age. *KLF15* mRNA expression was measured for primary glomerular epithelial cells (PGEC), glomerular, tubular, and liver fractions (n=8, **p<0.01, Mann-Whitney test). **(C)** Protein was also extracted and Western blot analysis for KLF15 was performed for the PGEC and tubular fraction. The representative blot of three independent experiments is shown. Bottom panel shows the quantification of KLF15 by densitometry (n=8, **p<0.01, Mann-Whitney test). **(D)** Immunofluorescence staining for KLF15, WT1, and Hoechst was performed. The representative images of six independent experiments are shown in the left panel (X 20). In the right panel, the intensity of podocyte-specific KLF15 expression was quantified (n=6, **p<0.01, unpaired *t* test). Arrows show examples of increased KLF15 expression in WT1+ cells.

**Supplement Figure 2: Non-surviving DOX-treated *Tg26;PODTA* mice exhibit higher albuminuria than surviving DOX-treated *Tg26;PODTA* mice.** Albuminuria was measured at 10 weeks of age in both the surviving and non-surviving *Tg26;PODTA* and *Tg26;PODTA;TRE-KLF15* mice treated with DOX (n=4-8, **p<0.01, ***p<0.001, Kruskal-Wallis test with Dunn's post-test). ND- No Data.

**Supplement Figure 3: Podocyte-specific induction of *KLF15* reduces activation of parietal epithelial cells in *Tg26* mice.** *PODTA, PODTA;TRE-KLF15, Tg26;PODTA,* and *Tg26;PODTA;TRE-KLF15* mice were treated with DOX at 4 weeks of age and euthanized at 12 weeks of age. Immunofluorescence staining for CD44 and Hoechst was performed in all 4 groups. The representative images of five independent samples are shown in the top panel (X20). In the bottom panel, the percentage of CD44 positive glomeruli was quantified (n=4, *p<0.05 versus all other groups, Kruskal-Wallis test with Dunn's post-test).

**Supplement Figure 4: Podocyte-specific induction of *KLF15* attenuates interstitial fibrosis and inflammation in *Tg26* mice.** *PODTA, PODTA;TRE-KLF15, Tg26;PODTA,* and *Tg26;PODTA;TRE-KLF15* mice were treated with DOX at 4 weeks of age and euthanized at 12 weeks of age. Renal cortex was isolated and RNA extracted for real-time PCR. **(A)** *Fibronectin (Fn), Col1α1, Vimentin,* and *αSma* mRNA expression levels are shown relative to DOX-treated *PODTA* mice (n=6, *p<0.05, **p<0.01 versus all other groups, Kruskal-Wallis test with Dunn's post-test). **(B)** Immunostaining for αSMA was performed (with Hoechst staining). Left panel shows representative images from 6 mice in each group (X 20). 30 high-power-field images were selected and percent αSMA area stained was measured and quantified as a relative fold change to DOX-treated *PODTA* mice (right panel) (n=6, **p<0.01 versus all other groups, Kruskal-Wallis test with Dunn's post-test). **(C)** *Il-1, Tnf-α, Ifn-γ, Il-6, Tnfr1,* and *Tnfr2* mRNA expression levels are shown relative to DOX-treated *PODTA* mice (n=6, *p<0.05, **p<0.01, Kruskal-Wallis test with Dunn's post-test). **(D)** Immunostaining for Gr-1 was performed in all four groups and subsequently quantified by counting the number of Gr-1+ cells per HPF (n=6, *p<0.05, **p<0.01, Kruskal-Wallis test with Dunn's post-test).

**Supplement Figure 5: Podocyte-specific induction of *KLF15* attenuates activation of Wnt/β-catenin pathway in *Tg26* mice.** *PODTA*, *PODTA;TRE-KLF15*, *Tg26;PODTA*, and *Tg26;PODTA;TRE-KLF15* mice were treated with DOX at 4 weeks of age and euthanized at 12 weeks of age. Renal cortex was isolated and RNA extracted for real-time PCR. **(A)** *c-Myc, Tcf7l2,* and *Lef1* mRNA expression levels are shown relative to DOX-treated *PODTA* mice (n=6, *p<0.05, **p<0.01 versus all other groups, Kruskal-Wallis test with Dunn's post-test). **(B)** Immunostaining for Hoechst and Phospho-β-catenin (Ser552) were performed in all four groups.

Representative images from 6 mice in each group are shown (X 20). Arrowheads show nuclear localization of Phospho-β-catenin (Ser552).

**Supplement Figure 6: Confirmation of top differentially expressed transcripts.** *PODTA*, *PODTA;TRE-KLF15*, *Tg26;PODTA*, and *Tg26;PODTA;TRE-KLF15* mice were treated with DOX at 4 weeks of age and euthanized at 12 weeks of age. Glomeruli were isolated and RNA extracted for real-time PCR. Expression levels of differentially upregulated transcripts *Cdkn1c, Clic5, Inf2, Plcε1, Vegfa, Podxl, Neat1, Thbs1, and Egr1* mRNA are shown relative to DOX-treated *PODTA* mice (n=6, *p<0.05, **p<0.01, Kruskal-Wallis test with Dunn's post-test).

**Supplement Figure 7: Modulation of *WT1* expression in cultured human podocytes.** *WT1* knockdown in human podocytes was performed using lentiviral shRNAmir system with the following constructs, *WT1-shRNA1, WT1-shRNA2,* and *WT1-shRNA3*. *SC-shRNA* serves as the scramble control. **(A)** Real-time PCR was performed to confirm *WT1* knockdown (n=3, *p<0.05, **p<0.01, Kruskal-Wallis test with Dunn's post-test). **(B)** Western blot was performed to confirm *WT1* knockdown with quantification by densitometry (n=3, **p<0.01, Kruskal-Wallis test with Dunn's post-test). **(C)** Subsequently, we performed real-time pcr for the two isoforms of *WT1* (*+KTS* and *-KTS*) in isolated glomerular extracts from *PODTA*, *PODTA;TRE-KLF15*, *Tg26;PODTA*, and *Tg26;PODTA;TRE-KLF15* mice (n=4, *p<0.05, Kruskal-Wallis test with Dunn's post-test). Then, we overexpressed *WT1*(*+KTS*) in human podocytes using lentiORF-*WT1(+KTS)* clone. **(D)** Western blot was performed to confirm the increased expression of *WT1(+KTS)* after transfection in human podocytes. Representative blot of three independent experiments is shown.

**Supplement Figure 8: KLF15 and WT1 exhibit no protein-protein interactions under basal conditions.** HEK 293T cells were transfected with both V5 tag *KLF15* (*LentiORF-KLF15-V5*) and *WT1* (*LentiORF-WT1*), or *LentiORF-EV* as control. 48hrs after transfection, cells were harvested, cell lysate were immunoprecipitated by anti-V5 antibody and immunoblotted for WT1. 2% Input was immunoblotted for WT1, KLF15, and GAPDH. Representative blot of three independent experiments is shown.

**Supplement Figure 9: *KLF15* expression is reduced in human glomerular disease and mouse glomerular disease model. (A)** Gene expression level of *Klf15* gene were analyzed by quantitative real-time PCR, and represented as fold change in adriamycin treated glomeruli expression levels, relative to untreated wild-type levels. (n=4, *p<0.05, Mann-Whitney test). **(B)** Previously reported gene expression arrays from *Ju et al. 2015* were utilized to examine *KLF15* mRNA expression from the microdissected glomeruli of kidney biopsies with diabetic nephropathy and minimal change disease as compared with healthy living kidney donor specimens (**p<0.01, ***p<0.001, Kruskal-Wallis test with Dunn's post hoc test).

**Supplement Table 1: Quantification of Histological Changes**

| | % FSGS lesions | % Global Sclerosis | | Tubulo-interstitium | |
|---|---|---|---|---|---|
| | | | | Fibrosis Score | Inflammation Score |
| *PODTA* | - | - | | 0 | 0 |
| *PODTA; TRE-KLF15* | - | - | | 0 | 0 |
| *Tg26; PODTA* | 50.8 ± 5.0 | 13.4 ± 10.9 | | 2.5 ± 0.3 | 2.5 ± 0.3 |
| *Tg26; PODTA; TRE-KLF15* | 15.8 ± 3.1* | 0.7 ± 0.4** | | 0.8 ± 0.3** | 1.0 ± 0.0** |

**Fibrosis and Inflammation Score: 0 (none), 1 (<10%), 2 (10-25%), 3 (25-50%)**
**30 glomeruli per mouse, n=6 mice per group**
**All data are expressed as Mean ± SEM; *p<0.05, **p<0.01**

**Supplement Table 2: Upregulated differentially expressed transcripts**

| Gene Symbol | Description |
|---|---|
| *Sept11* | septin 11 |
| *Aplp1* | amyloid beta precursor like protein 1 |
| *Shisa3* | shisa family member 3 |
| *Lmo7* | LIM domain 7 |
| *Hipk2* | homeodomain interacting protein kinase 2 |
| *Neat1* | nuclear paraspeckle assembly transcript 1 (non-protein coding) |
| *Srrm2* | serine/arginine repetitive matrix 2 |
| *Arhgap24* | Rho GTPase activating protein 24 |
| *Arhgap32* | Rho GTPase activating protein 32 |
| *Wt1* | Wilms tumor 1 |
| *Axl* | AXL receptor tyrosine kinase |
| *Tef* | TEF, PAR bZIP transcription factor |
| *Amotl1* | angiomotin like 1 |
| *Epb4.1l5* | erythrocyte membrane protein band 4.1 like 5 |
| *Enpep* | glutamyl aminopeptidase |
| *Sema5a* | semaphorin 5A |
| *Adcy1* | adenylate cyclase 1 |
| *Csf1* | colony stimulating factor 1 |
| *Ahnak* | AHNAK nucleoprotein |
| *Abat* | 4-aminobutyrate aminotransferase |
| *Loxl2* | lysyl oxidase like 2 |
| *Uaca* | uveal autoantigen with coiled-coil domains and ankyrin repeats |
| *Galnt10* | polypeptide N-acetylgalactosaminyltransferase 10 |
| *Prex2* | phosphatidylinositol-3,4,5-trisphosphate dependent Rac exchange factor 2 |
| *Pak1* | p21 (RAC1) activated kinase 1 |
| *Ablim3* | actin binding LIM protein family member 3 |
| *Plcε1* | phospholipase C epsilon 1 |
| *Slc26a10* | solute carrier family 26 member 10 |
| *Kdr* | kinase insert domain receptor |
| *Dag1* | dystroglycan 1 |
| *B2m* | beta-2-microglobulin |
| *St3gal1* | ST3 beta-galactoside alpha-2,3-sialyltransferase 1 |
| *Arvcf* | ARVCF, delta catenin family member |
| *Abca2* | ATP binding cassette subfamily A member 2 |
| *Arhgef12* | Rho guanine nucleotide exchange factor 12 |
| *H2-d1* | histocompatibility 2, D region locus 1 |
| *Klf13* | Kruppel like factor 13 |
| *Igfbp5* | insulin like growth factor binding protein 5 |
| *Arhgef18* | Rho/Rac guanine nucleotide exchange factor 18 |
| *Arhgef17* | Rho guanine nucleotide exchange factor 17 |
| *Nr1d1* | nuclear receptor subfamily 1 group D member 1 |
| *Nr1d2* | nuclear receptor subfamily 1 group D member 2 |
| *Hspa12a* | heat shock protein family A (Hsp70) member 12A |
| *Mafb* | MAF bZIP transcription factor B |

| | |
|---|---|
| *Pbx1* | PBX homeobox 1 |
| *Lats2* | large tumor suppressor kinase 2 |
| *Ehd3* | EH domain containing 3 |
| *Tmem2* | transmembrane protein 2 |
| *Lphn2* | adhesion G protein-coupled receptor L2 |
| *Fat1* | FAT atypical cadherin 1 |
| *Serping1* | serpin family G member 1 |
| *Chst1* | carbohydrate sulfotransferase 1 |
| *Malat1* | metastasis associated lung adenocarcinoma transcript 1 (non-protein coding) |
| *Ccser2* | coiled-coil serine rich protein 2 |
| *Zfp106* | zinc finger protein 106 |
| *Myom2* | myomesin 2 |
| *Macf1* | microtubule-actin crosslinking factor 1 |
| *Calcrl* | calcitonin receptor like receptor |
| *Fam65a* | RHO family interacting cell polarization regulator 1 |
| *Cdc14a* | cell division cycle 14A |
| *Tmtc1* | transmembrane and tetratricopeptide repeat containing 1 |
| *Rasgrp3* | RAS guanyl releasing protein 3 |
| *Golim4* | golgi integral membrane protein 4 |
| *Helz2* | helicase with zinc finger 2 |
| *Podxl* | podocalyxin like |
| *Hivep1* | human immunodeficiency virus type I enhancer binding protein 1 |
| *Sbf2* | SET binding factor 2 |
| *C1qtnf1* | C1q and TNF related 1 |
| *Synpo* | synaptopodin |
| *Tspan2* | tetraspanin 2 |
| *Tns3* | tensin 3 |
| *Tmem150c* | transmembrane protein 150C |
| *Itga3* | integrin subunit alpha 3 |
| *Heg1* | heart development protein with EGF like domains 1 |
| *Agtr1a* | angiotensin II receptor type 1 |
| *Pard3b* | par-3 family cell polarity regulator beta |
| *Ptpn14* | protein tyrosine phosphatase, non-receptor type 14 |
| *Parva* | parvin alpha |
| *Mcc* | mutated in colorectal cancers |
| *Mtss1* | MTSS1, I-BAR domain containing |
| *Mertk* | MER proto-oncogene, tyrosine kinase |
| *Bmp7* | bone morphogenetic protein 7 |
| *Vegfa* | vascular endothelial growth factor A |
| *Inf2* | inverted formin, FH2 and WH2 domain containing |
| *Meis2* | Meis homeobox 2 |
| *Zeb2* | zinc finger E-box binding homeobox 2 |
| *Mapt* | microtubule associated protein tau |
| *Nes* | nestin |
| *Atp13a3* | ATPase 13A3 |
| *Ptprv* | protein tyrosine phosphatase, receptor type V, pseudogene |

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|---|---|
| *Clic5* | chloride intracellular channel 5 |
| *Ptprs* | protein tyrosine phosphatase, receptor type S |
| *Bmpr2* | bone morphogenetic protein receptor type 2 |
| *Npr3* | natriuretic peptide receptor 3 |
| *Ptpro* | protein tyrosine phosphatase, receptor type O |
| *Ildr2* | immunoglobulin like domain containing receptor 2 |
| *Pth1r* | parathyroid hormone 1 receptor |
| *Pcsk6* | proprotein convertase subtilisin/kexin type 6 |
| *Dpp4* | dipeptidyl peptidase 4 |
| *Dbp* | D-box binding PAR bZIP transcription factor |
| *Mecp2* | methyl-CpG binding protein 2 |
| *1700025g04rik* | RIKEN cDNA 1700025G04 gene |
| *Marveld1* | MARVEL domain containing 1 |
| *Hmbox1* | homeobox containing 1 |
| *Zc3h7b* | zinc finger CCCH-type containing 7B |
| *Sh3bgrl2* | SH3 domain binding glutamate rich protein like 2 |
| *Rhpn1* | rhophilin Rho GTPase binding protein 1 |
| *Man1a2* | mannosidase alpha class 1A member 2 |
| *Phactr2* | phosphatase and actin regulator 2 |
| *Cd300lg* | CD300 molecule like family member g |
| *Clic3* | chloride intracellular channel 3 |
| *Smyd1* | SET and MYND domain containing 1 |
| *Mpp5* | membrane palmitoylated protein 5 |
| *Tmod3* | tropomodulin 3 |
| *Per3* | period circadian regulator 3 |
| *Klf9* | Kruppel like factor 9 |
| *Tjp1* | tight junction protein 1 |
| *Nell2* | neural EGFL like 2 |
| *Myo1d* | myosin ID |
| *Nphs1* | NPHS1, nephrin |
| *Col4a3* | collagen type IV alpha 3 chain |
| *Nphs2* | NPHS2, podocin |
| *Per1* | period circadian regulator 1 |
| *Aldh1a2* | aldehyde dehydrogenase 1 family member A2 |
| *Ackr3* | atypical chemokine receptor 3 |
| *Gpr146* | G protein-coupled receptor 146 |
| *Angptl2* | angiopoietin like 2 |
| *Acpp* | acid phosphatase, prostate |
| *Fryl* | FRY like transcription coactivator |
| *Nrp1* | neuropilin 1 |
| *Hlf* | HLF, PAR bZIP transcription factor |
| *Cdkn1c* | cyclin dependent kinase inhibitor 1C |
| *Setd7* | SET domain containing lysine methyltransferase 7 |
| *Ston2* | stonin 2 |
| *Syne1* | spectrin repeat containing nuclear envelope protein 1 |
| *Tcf21* | transcription factor 21 |

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|---|---|
| *Leng8* | leukocyte receptor cluster member 8 |
| *Tenc1* | tensin 2 |
| *Sema3g* | semaphorin 3G |
| *H2-q4* | histocompatibility 2, Q region locus 4 |
| *H2-q1* | histocompatibility 2, Q region locus 1 |
| *Ddn* | dendrin |
| *H2-q2* | histocompatibility 2, Q region locus 2 |
| *Robo2* | roundabout guidance receptor 2 |
| *Speg* | SPEG complex locus |
| *Cyyr1* | cysteine and tyrosine rich 1 |
| *Mgat5* | mannosyl (alpha-1,6-)-glycoprotein beta-1,6-N-acetyl-glucosaminyltransferase |
| *Thsd7a* | thrombospondin type 1 domain containing 7A |
| *Colgalt2* | collagen beta(1-O)galactosyltransferase 2 |

**Supplement Table 3: Downregulated differentially expressed transcripts**

| Gene Symbol | Description |
|---|---|
| *Egf* | epidermal growth factor |
| *Eml1* | echinoderm microtubule associated protein like 1 |
| *Dkk2* | dickkopf WNT signaling pathway inhibitor 2 |
| *Col1a2* | collagen type I alpha 2 chain |
| *Col1a1* | collagen type I alpha 1 chain |
| *Hnrnpl* | heterogeneous nuclear ribonucleoprotein L |
| *Marcks* | myristoylated alanine rich protein kinase C substrate |
| *Spint2* | serine peptidase inhibitor, Kunitz type 2 |
| *Serbp1* | SERPINE1 mRNA binding protein 1 |
| *Cd9* | CD9 molecule |
| *Hspa1a* | heat shock protein family A (Hsp70) member 1A |
| *Vim* | vimentin |
| *Tek* | TEK receptor tyrosine kinase |
| *Uqcrc1* | ubiquinol-cytochrome c reductase core protein 1 |
| *Sparcl1* | SPARC like 1 |
| *Myl9* | myosin light chain 9 |
| *Hspa1b* | heat shock protein family A (Hsp70) member 1B |
| *Cyfip2* | cytoplasmic FMR1 interacting protein 2 |
| *Sgms2* | sphingomyelin synthase 2 |
| *Serpine2* | serpin family E member 2 |
| *Hnrnpu* | heterogeneous nuclear ribonucleoprotein U |
| *Atp5a1* | ATP synthase F1 subunit alpha |
| *Ghitm* | growth hormone inducible transmembrane protein |
| *Gls* | glutaminase |
| *Slc5a3* | solute carrier family 5 member 3 |
| *Adcy6* | adenylate cyclase 6 |
| *Zmiz1* | zinc finger MIZ-type containing 1 |
| *Capns1* | calpain small subunit 1 |
| *Wls* | wntless Wnt ligand secretion mediator |
| *Raly* | RALY heterogeneous nuclear ribonucleoprotein |
| *Jund* | JunD proto-oncogene, AP-1 transcription factor subunit |
| *Jag1* | jagged 1 |
| *Gabarapl1* | GABA type A receptor associated protein like 1 |
| *Napsa* | napsin A aspartic peptidase |
| *Mcam* | melanoma cell adhesion molecule |
| *Fosl2* | FOS like 2, AP-1 transcription factor subunit |
| *Ehd2* | EH domain containing 2 |
| *Ptp4a2* | protein tyrosine phosphatase type IVA, member 2 |
| *Hspg2* | heparan sulfate proteoglycan 2 |
| *Bcam* | basal cell adhesion molecule (Lutheran blood group) |
| *Tcn2* | transcobalamin 2 |
| *Prkar1a* | protein kinase cAMP-dependent type I regulatory subunit alpha |
| *Lgmn* | legumain |
| *Hyou1* | hypoxia up-regulated 1 |

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|---|---|
| *Cryab* | crystallin alpha B |
| *Ogdh* | oxoglutarate dehydrogenase |
| *Gabarap* | GABA type A receptor-associated protein |
| *Rpl4* | ribosomal protein L4 |
| *Cfh* | complement factor H |
| *Ctbp1* | C-terminal binding protein 1 |
| *Tril* | TLR4 interactor with leucine rich repeats |
| *Atp5c1* | ATP synthase F1 subunit gamma |
| *Abca13* | ATP binding cassette subfamily A member 13 |
| *Rpl8* | ribosomal protein L8 |
| *C3* | complement C3 |
| *Hsph1* | heat shock protein family H (Hsp110) member 1 |
| *Alkbh5* | alkB homolog 5, RNA demethylase |
| *Prdx5* | peroxiredoxin 5 |
| *Gja5* | gap junction protein alpha 5 |
| *Ier2* | immediate early response 2 |
| *Serpinh1* | serpin family H member 1 |
| *Junb* | JunB proto-oncogene, AP-1 transcription factor subunit |
| *Trp53inp2* | Tumor Protein P53 Inducible Nuclear Protein 2 |
| *Dusp6* | dual specificity phosphatase 6 |
| *Jun* | Jun proto-oncogene, AP-1 transcription factor subunit |
| *Anxa2* | annexin A2 |
| *Tpi1* | triosephosphate isomerase 1 |
| *Dusp1* | dual specificity phosphatase 1 |
| *Jup* | junction plakoglobin |
| *Anxa5* | annexin A5 |
| *Emp1* | epithelial membrane protein 1 |
| *Fn1* | fibronectin 1 |
| *Glud1* | glutamate dehydrogenase 1 |
| *Gprc5c* | G protein-coupled receptor class C group 5 member C |
| *Col3a1* | collagen type III alpha 1 chain |
| *Fxyd2* | FXYD domain containing ion transport regulator 2 |
| *Gas6* | growth arrest specific 6 |
| *Hoxd8* | homeobox D8 |
| *Btg2* | BTG anti-proliferation factor 2 |
| *Tinagl1* | tubulointerstitial nephritis antigen like 1 |
| *Tfcp2l1* | transcription factor CP2 like 1 |
| *Rpn1* | ribophorin I |
| *Cltc* | clathrin heavy chain |
| *Acat1* | acetyl-CoA acetyltransferase 1 |
| *Iqgap1* | IQ motif containing GTPase activating protein 1 |
| *Litaf* | lipopolysaccharide induced TNF factor |
| *Aebp1* | AE binding protein 1 |
| *Hsd11b2* | hydroxysteroid 11-beta dehydrogenase 2 |
| *Ldhd* | lactate dehydrogenase D |
| *Ldhb* | lactate dehydrogenase B |

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|---|---|
| *Epcam* | epithelial cell adhesion molecule |
| *Ldha* | lactate dehydrogenase A |
| *Csrp1* | cysteine and glycine rich protein 1 |
| *Timp3* | TIMP metallopeptidase inhibitor 3 |
| *Mdh2* | malate dehydrogenase 2 |
| *Stat3* | signal transducer and activator of transcription 3 |
| *Fos* | Fos proto-oncogene, AP-1 transcription factor subunit |
| *Bgn* | biglycan |
| *Aes* | amino-terminal enhancer of split |
| *Tm9sf3* | transmembrane 9 superfamily member 3 |
| *Tmem59* | transmembrane protein 59 |
| *Ddb1* | damage specific DNA binding protein 1 |
| *Tm9sf2* | transmembrane 9 superfamily member 2 |
| *Col4a1* | collagen type IV alpha 1 chain |
| *Col4a2* | collagen type IV alpha 2 chain |
| *Adam15* | ADAM metallopeptidase domain 15 |
| *Fosb* | FosB proto-oncogene, AP-1 transcription factor subunit |
| *Dld* | dihydrolipoamide dehydrogenase |
| *Eng* | endoglin |
| *Oat* | ornithine aminotransferase |
| *Grn* | granulin precursor |
| *Rplp0* | ribosomal protein lateral stalk subunit P0 |
| *Prss23* | serine protease 23 |
| *Slc8a1* | solute carrier family 8 member A1 |
| *Mdh1* | malate dehydrogenase 1 |
| *Tnks1bp1* | tankyrase 1 binding protein 1 |
| *Tpm4* | tropomyosin 4 |
| *Gpr56* | adhesion G protein-coupled receptor G1 |
| *Hnrnpab* | heterogeneous nuclear ribonucleoprotein A/B |
| *Ppp1cb* | protein phosphatase 1 catalytic subunit beta |
| *Slc25a39* | solute carrier family 25 member 39 |
| *Ly6a* | lymphocyte antigen 6 complex, locus A |
| *Ly6e* | lymphocyte antigen 6 family member E |
| *Plxnb2* | plexin B2 |
| *Pkp4* | plakophilin 4 |
| *Sqstm1* | sequestosome 1 |
| *Fkbp4* | FK506 binding protein 4 |
| *Agrn* | agrin |
| *Rhcg* | Rh family C glycoprotein |
| *Gtf2i* | general transcription factor IIi |
| *Slc27a2* | solute carrier family 27 member 2 |
| *Aldh1l1* | aldehyde dehydrogenase 1 family member L1 |
| *Dlst* | dihydrolipoamide S-succinyltransferase |
| *Ucp2* | uncoupling protein 2 |
| *Clu* | clusterin |
| *Papss1* | 3'-phosphoadenosine 5'-phosphosulfate synthase 1 |

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|---|---|
| *Defb1* | defensin beta 1 |
| *Hsp90b1* | heat shock protein 90 beta family member 1 |
| *Ctgf* | connective tissue growth factor |
| *Cdh5* | cadherin 5 |
| *Zfp36* | ZFP36 ring finger protein |
| *Tubb5* | tubulin beta class I |
| *Lamp2* | lysosomal associated membrane protein 2 |
| *Lamp1* | lysosomal associated membrane protein 1 |
| *Cdh1* | cadherin 1 |
| *Flna* | filamin A |
| *Cfl1* | cofilin 1 |
| *Flnb* | filamin B |
| *Spp1* | secreted phosphoprotein 1 |
| *Rps3* | ribosomal protein S3 |
| *Slc38a2* | solute carrier family 38 member 2 |
| *F2r* | coagulation factor II thrombin receptor |
| *Igfbp4* | insulin like growth factor binding protein 4 |
| *Igfbp3* | insulin like growth factor binding protein 3 |
| *Eef2* | eukaryotic translation elongation factor 2 |
| *Kifc3* | kinesin family member C3 |
| *Mal* | mal, T cell differentiation protein |
| *Ncl* | nucleolin |
| *Arpc2* | actin related protein 2/3 complex subunit 2 |
| *Esam* | endothelial cell adhesion molecule |
| *Eif4g2* | eukaryotic translation initiation factor 4 gamma 2 |
| *Notch3* | notch 3 |
| *Clstn1* | calsyntenin 1 |
| *Tacstd2* | tumor associated calcium signal transducer 2 |
| *Fgf1* | fibroblast growth factor 1 |
| *Bag1* | BCL2 associated athanogene 1 |
| *Igfbp7* | insulin like growth factor binding protein 7 |
| *Efhd1* | EF-hand domain family member D1 |
| *Kl* | klotho |
| *Gpx1* | glutathione peroxidase 1 |
| *Slc14a2* | solute carrier family 14 member 2 |
| *Gpx3* | glutathione peroxidase 3 |
| *Angpt2* | angiopoietin 2 |
| *Kcnj16* | potassium voltage-gated channel subfamily J member 16 |
| *Cdc42bpb* | CDC42 binding protein kinase beta |
| *Cd24a* | CD24 molecule |
| *Cpe* | carboxypeptidase E |
| *Itga9* | integrin subunit alpha 9 |
| *Pecam1* | platelet and endothelial cell adhesion molecule 1 |
| *Itga8* | integrin subunit alpha 8 |
| *Aco2* | aconitase 2 |
| *Tmbim6* | transmembrane BAX inhibitor motif containing 6 |

| | |
|---|---|
| *Cd248* | CD248 molecule |
| *Serinc3* | serine incorporator 3 |
| *Eif4b* | eukaryotic translation initiation factor 4B |
| *Slc25a4* | solute carrier family 25 member 4 |
| *Slc25a3* | solute carrier family 25 member 3 |
| *Clcnkb* | chloride voltage-gated channel Kb |
| *Kng2* | kininogen 2 |
| *Cyr61* | cysteine rich angiogenic inducer 61 |
| *Lbh* | limb bud and heart development |
| *Atp5d* | ATP synthase F1 subunit delta |
| *Atp5b* | ATP synthase F1 subunit beta |
| *Psap* | prosaposin |
| *Cox4i1* | cytochrome c oxidase subunit 4I1 |
| *Emilin1* | elastin microfibril interfacer 1 |
| *Eif4h* | eukaryotic translation initiation factor 4H |
| *Mcl1* | MCL1, BCL2 family apoptosis regulator |
| *Slc13a3* | solute carrier family 13 member 3 |
| *Eif3a* | eukaryotic translation initiation factor 3 subunit A |
| *Limch1* | LIM and calponin homology domains 1 |
| *Cpt1a* | carnitine palmitoyltransferase 1A |
| *Cyp4b1* | cytochrome P450 family 4 subfamily B member 1 |
| *Cdc42* | cell division cycle 42 |
| *Klf2* | Kruppel like factor 2 |
| *Pkm* | pyruvate kinase M1/2 |
| *Klf6* | Kruppel like factor 6 |
| *Ppap2a* | phospholipid phosphatase 1 |
| *Txnip* | thioredoxin interacting protein |
| *Kap* | cyclin dependent kinase inhibitor 3 |
| *P4hb* | prolyl 4-hydroxylase subunit beta |
| *Pi16* | peptidase inhibitor 16 |
| *Met* | MET proto-oncogene, receptor tyrosine kinase |
| *Kctd12* | potassium channel tetramerization domain containing 12 |
| *Slc25a5* | solute carrier family 25 member 5 |
| *Itgb1* | integrin subunit beta 1 |
| *Wdr1* | WD repeat domain 1 |
| *Hsp90ab1* | heat shock protein 90 alpha family class B member 1 |
| *Furin* | furin, paired basic amino acid cleaving enzyme |
| *Nckap1* | NCK associated protein 1 |
| *Dysf* | dysferlin |
| *Syne2* | spectrin repeat containing nuclear envelope protein 2 |
| *Thbd* | thrombomodulin |
| *Ednrb* | endothelin receptor type B |
| *Adamts1* | ADAM metallopeptidase with thrombospondin type 1 motif 1 |
| *Itgav* | integrin subunit alpha V |
| *Kcnj1* | potassium voltage-gated channel subfamily J member 1 |
| *Hnrnpa0* | heterogeneous nuclear ribonucleoprotein A0 |

| | |
|---|---|
| *Slc25a25* | solute carrier family 25 member 25 |
| *Ephb4* | EPH receptor B4 |
| *Slc12a3* | solute carrier family 12 member 3 |
| *Tmem52b* | transmembrane protein 52B |
| *Actn4* | actinin alpha 4 |
| *Slc12a1* | solute carrier family 12 member 1 |
| *Slc12a2* | solute carrier family 12 member 2 |
| *Cnbp* | CCHC-type zinc finger nucleic acid binding protein |
| *Amfr* | autocrine motility factor receptor |
| *Krt7* | keratin 7 |
| *Sepp1* | selenoprotein P |
| *Tm4sf1* | transmembrane 4 L six family member 1 |
| *Sfrp2* | secreted frizzled related protein 2 |
| *Calm2* | calmodulin 2 |
| *Tln1* | talin 1 |
| *Pfn1* | profilin 1 |
| *Calm1* | calmodulin 1 |
| *App* | amyloid beta precursor protein |
| *Lrp2* | LDL receptor related protein 2 |
| *Tagln* | transgelin |
| *Lrp5* | LDL receptor related protein 5 |
| *Eltd1* | adhesion G protein-coupled receptor L4 |
| *Aqp6* | aquaporin 6 |
| *Aqp3* | aquaporin 3 (Gill blood group) |
| *Sfrp1* | secreted frizzled related protein 1 |
| *Aqp1* | aquaporin 1 (Colton blood group) |
| *Aqp2* | aquaporin 2 |
| *Actb* | actin beta |
| *Bsg* | basigin (Ok blood group) |
| *Egr1* | early growth response 1 |
| *Insr* | insulin receptor |
| *Arrdc3* | arrestin domain containing 3 |
| *Slc34a1* | solute carrier family 34 member 1 |
| *Wnk4* | WNK lysine deficient protein kinase 4 |
| *Mep1a* | meprin A subunit alpha |
| *Ezr* | ezrin |
| *Itm2b* | integral membrane protein 2B |
| *Itm2c* | integral membrane protein 2C |
| *Sparc* | secreted protein acidic and cysteine rich |
| *Slc22a6* | solute carrier family 22 member 6 |
| *Pcdh12* | protocadherin 12 |
| *Acsm2* | acyl-CoA synthetase medium chain family member 2A |
| *Pcbp1* | poly(rC) binding protein 1 |
| *Wfdc2* | WAP four-disulfide core domain 2 |
| *Pttg1ip* | PTTG1 interacting protein |
| *Tns1* | tensin 1 |

| | |
|---|---|
| *Pkhd1* | PKHD1, fibrocystin/polyductin |
| *Tspan9* | tetraspanin 9 |
| *Pcbp2* | poly(rC) binding protein 2 |
| *Fth1* | ferritin heavy chain 1 |
| *Atp6v0a4* | ATPase H+ transporting V0 subunit a4 |
| *Glul* | glutamate-ammonia ligase |
| *Apoe* | apolipoprotein E |
| *Cd14* | CD14 molecule |
| *Sec62* | SEC62 homolog, preprotein translocation factor |
| *Rps14* | ribosomal protein S14 |
| *Ctsb* | cathepsin B |
| *Rhoa* | ras homolog family member A |
| *Tsc22d1* | TSC22 domain family member 1 |
| *Akr1a1* | aldo-keto reductase family 1 member A1 |
| *Gnb2l1* | receptor for activated C kinase 1 |
| *Rhob* | ras homolog family member B |
| *Ptprf* | protein tyrosine phosphatase, receptor type F |
| *Id3* | inhibitor of DNA binding 3, HLH protein |
| *2310022b05rik* | RIKEN cDNA 2310022B05 gene |
| *Pabpc1* | poly(A) binding protein cytoplasmic 1 |
| *Rab1* | ribonuclease A family member 4 |
| *Calr* | calreticulin |
| *Aldob* | aldolase, fructose-bisphosphate B |
| *Aldoa* | aldolase, fructose-bisphosphate A |
| *Sgk1* | serum/glucocorticoid regulated kinase 1 |
| *Ptpru* | protein tyrosine phosphatase, receptor type U |
| *Clic4* | chloride intracellular channel 4 |
| *Slc44a2* | solute carrier family 44 member 2 |
| *Cited2* | Cbp/p300 interacting transactivator with Glu/Asp rich carboxy-terminal domain 2 |
| *Klk1* | kallikrein 1 |
| *Acy3* | aminoacylase 3 |
| *Sdc4* | syndecan 4 |
| *Tmprss2* | transmembrane serine protease 2 |
| *Csde1* | cold shock domain containing E1 |
| *Umod* | uromodulin |
| *Cx3cl1* | C-X3-C motif chemokine ligand 1 |
| *Ptprg* | protein tyrosine phosphatase, receptor type G |
| *Socs3* | suppressor of cytokine signaling 3 |
| *Nnt* | nicotinamide nucleotide transhydrogenase |
| *Rap1b* | RAP1B, member of RAS oncogene family |
| *Ctsl* | cathepsin L |
| *Mlec* | malectin |
| *Lmcd1* | LIM and cysteine rich domains 1 |
| *Pck1* | phosphoenolpyruvate carboxykinase 1 |
| *Sptbn1* | spectrin beta, non-erythrocytic 1 |
| *Ctsd* | cathepsin D |

| | |
|---|---|
| *Tmem176a* | transmembrane protein 176A |
| *Tmem176b* | transmembrane protein 176B |
| *Ap2b1* | adaptor related protein complex 2 beta 1 subunit |
| *Sorbs2* | sorbin and SH3 domain containing 2 |
| *Ppp2ca* | protein phosphatase 2 catalytic subunit alpha |
| *Fkbp1a* | FK506 binding protein 1A |
| *Hnrnpa2b1* | heterogeneous nuclear ribonucleoprotein A2/B1 |
| *Canx* | calnexin |
| *Dync1h1* | dynein cytoplasmic 1 heavy chain 1 |
| *Gdi2* | GDP dissociation inhibitor 2 |
| *Ctnnb1* | catenin beta 1 |
| *Ptms* | parathymosin |
| *Crip2* | cysteine rich protein 2 |
| *Nudt4* | nudix hydrolase 4 |
| *Gnai2* | G protein subunit alpha i2 |
| *Cst3* | cystatin C |
| *Rn45s* | 45S pre-ribosomal RNA |
| *Ftl1* | ferritin light chain 1 |
| *Acadm* | acyl-CoA dehydrogenase medium chain |
| *Camk2n1* | calcium/calmodulin dependent protein kinase II inhibitor 1 |
| *Stab1* | stabilin 1 |
| *Ctnna1* | catenin alpha 1 |
| *Rac1* | Rac family small GTPase 1 |
| *4833439l19rik* | RIKEN cDNA 4833439L19 gene |
| *Sptan1* | spectrin alpha, non-erythrocytic 1 |
| *Ankrd13a* | ankyrin repeat domain 13A |
| *Cct5* | chaperonin containing TCP1 subunit 5 |
| *Car2* | carbonic anhydrase 2 |
| *Cd74* | CD74 molecule |
| *Aplp2* | amyloid beta precursor like protein 2 |
| *Shisa5* | shisa family member 5 |
| *Lifr* | LIF receptor alpha |
| *Atp1b1* | ATPase Na+/K+ transporting subunit beta 1 |
| *Gdf10* | growth differentiation factor 10 |
| *Sdha* | succinate dehydrogenase complex flavoprotein subunit A |
| *Eef1a1* | eukaryotic translation elongation factor 1 alpha 1 |
| *Mir6236* | microRNA 6236 |
| *Myadm* | myeloid associated differentiation marker |
| *Amotl2* | angiomotin like 2 |
| *Lrp10* | LDL receptor related protein 10 |
| *Ivns1abp* | influenza virus NS1A binding protein |
| *Plvap* | plasmalemma vesicle associated protein |
| *Cd81* | CD81 molecule |
| *Scnn1a* | sodium channel epithelial 1 alpha subunit |
| *Zfp36l1* | ZFP36 ring finger protein like 1 |
| *Hdlbp* | high density lipoprotein binding protein |

| | |
|---|---|
| *Gimap6* | GTPase, IMAP family member 6 |
| *Atp1a1* | ATPase Na+/K+ transporting subunit alpha 1 |
| *Ndrg1* | N-myc downstream regulated 1 |
| *Cox6a1* | cytochrome c oxidase subunit 6A1 |
| *Fbln5* | fibulin 5 |
| *Nt5e* | 5'-nucleotidase ecto |
| *Efnb2* | ephrin B2 |
| *Car12* | carbonic anhydrase 12 |
| *S1pr3* | sphingosine-1-phosphate receptor 3 |
| *Myh11* | myosin heavy chain 11 |
| *Pdia4* | protein disulfide isomerase family A member 4 |
| *Pdia3* | protein disulfide isomerase family A member 3 |
| *Cyp2j5* | cytochrome P450, family 2, subfamily j, polypeptide 5 |
| *Cd93* | CD93 molecule |
| *Idh2* | isocitrate dehydrogenase (NADP(+)) 2, mitochondrial |
| *Dstn* | destrin, actin depolymerizing factor |
| *Pdia6* | protein disulfide isomerase family A member 6 |
| *Picalm* | phosphatidylinositol binding clathrin assembly protein |
| *Prpf8* | pre-mRNA processing factor 8 |
| *Gnb1* | G protein subunit beta 1 |
| *Gnb2* | G protein subunit beta 2 |
| *Gnas* | GNAS complex locus |
| *Uba1* | ubiquitin like modifier activating enzyme 1 |
| *Cdh16* | cadherin 16 |
| *Mfge8* | milk fat globule-EGF factor 8 protein |
| *Vcl* | vinculin |
| *Atp6v1a* | ATPase H+ transporting V1 subunit A |
| *Ddx5* | DEAD-box helicase 5 |
| *Wwc1* | WW and C2 domain containing 1 |
| *Lpl* | lipoprotein lipase |
| *Plau* | plasminogen activator, urokinase |
| *Plat* | plasminogen activator, tissue type |
| *Ltbp4* | latent transforming growth factor beta binding protein 4 |
| *Ltbp1* | latent transforming growth factor beta binding protein 1 |
| *Nr4a1* | nuclear receptor subfamily 4 group A member 1 |
| *Tgm2* | transglutaminase 2 |
| *Cald1* | caldesmon 1 |
| *Rgs2* | regulator of G protein signaling 2 |
| *Cobll1* | cordon-bleu WH2 repeat protein like 1 |
| *Ggt1* | gamma-glutamyltransferase 1 |
| *Hspa9* | heat shock protein family A (Hsp70) member 9 |
| *Cbx6* | chromobox 6 |
| *Hspa5* | heat shock protein family A (Hsp70) member 5 |
| *Mmp2* | matrix metallopeptidase 2 |
| *Msn* | moesin |
| *Cav1* | caveolin 1 |

| | |
|---|---|
| *Lamb2* | laminin subunit beta 2 |
| *Lamb1* | laminin subunit beta 1 |
| *Tapbp* | TAP binding protein |
| *Acta2* | actin, alpha 2, smooth muscle, aorta |
| *Mmrn2* | multimerin 2 |
| *Chpt1* | choline phosphotransferase 1 |
| *Acox1* | acyl-CoA oxidase 1 |
| *Alpl* | alkaline phosphatase, liver/bone/kidney |
| *Myh9* | myosin heavy chain 9 |
| *Ndufs2* | NADH:ubiquinone oxidoreductase core subunit S2 |
| *Plec* | plectin |
| *Rtn3* | reticulon 3 |
| *Rtn4* | reticulon 4 |
| *Ddx3x* | DEAD-box helicase 3, X-linked |
| *Nid1* | nidogen 1 |
| *Ywhae* | tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein epsilon |
| *Lamc1* | laminin subunit gamma 1 |
| *Ehhadh* | enoyl-CoA hydratase and 3-hydroxyacyl CoA dehydrogenase |
| *Chd4* | chromodomain helicase DNA binding protein 4 |
| *Hk1* | hexokinase 1 |
| *Calb1* | calbindin 1 |
| *Cyp26b1* | cytochrome P450 family 26 subfamily B member 1 |
| *Lasp1* | LIM and SH3 protein 1 |
| *Ywhaz* | tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein zeta |
| *Twsg1* | twisted gastrulation BMP signaling modulator 1 |
| *Vdac1* | voltage dependent anion channel 1 |
| *Keg1* | glycine N-acyltransferase-like protein Keg1 |
| *Lama5* | laminin subunit alpha 5 |
| *Ybx1* | Y-box binding protein 1 |
| *Atp2a3* | ATPase sarcoplasmic/endoplasmic reticulum Ca2+ transporting 3 |
| *Atp2a2* | ATPase sarcoplasmic/endoplasmic reticulum Ca2+ transporting 2 |
| *Thbs1* | thrombospondin 1 |
| *Slc4a4* | solute carrier family 4 member 4 |
| *Atp5g3* | ATP synthase membrane subunit c locus 3 |
| *Pkd2* | polycystin 2, transient receptor potential cation channel |
| *Arhgdia* | Rho GDP dissociation inhibitor alpha |
| *Gpi1* | phosphatidylinositol glycan anchor biosynthesis class Q |
| *Oxct1* | 3-oxoacid CoA-transferase 1 |
| *Eps8l2* | EPS8 like 2 |

**Supplement Table 4: Upregulated differentially expressed transcripts with KLF15 binding sites (*Tg26;PODTA;TRE-KLF15* vs. *Tg26;PODTA* mice)**

| Gene Symbol | Description | Binding Sites |
|---|---|---|
| ***Meis2*** | Meis Homeobox 2 | 19 |
| ***Nphs1*** | Nephrin | 15 |
| ***Arhgef18*** | Rho/Rac Guanine Nucleotide Exchange Factor 18 | 8 |
| ***Hivep1*** | Human Immunodeficiency Virus Type I Enhancer Binding Protein 1 | 7 |
| ***Wt1*** | Wilms Tumor 1 | 7 |
| ***Cdkn1c*** | Cyclin Dependent Kinase Inhibitor 1C | 6 |
| ***Inf2*** | Inverted Formin, FH2 And WH2 Domain Containing | 6 |
| ***Nell2*** | Neural EGFL Like 2 | 4 |
| ***Cdc14a*** | Cell Division Cycle 14A | 3 |
| ***Hmbox1*** | Homeobox Containing 1 | 3 |
| ***Neat1*** | Nuclear Paraspeckle Assembly Transcript 1 (Non-Protein Coding) | 3 |
| ***Npr3*** | Natriuretic Peptide Receptor 3 | 3 |
| ***Tenc1*** | Tensin 2 | 3 |
| ***Aplp1*** | Amyloid Beta Precursor Like Protein 1 | 2 |
| ***Clic5*** | Chloride Intracellular Channel 5 | 2 |
| ***Hipk2*** | Homeodomain Interacting Protein Kinase 2 | 2 |
| ***Ildr2*** | Immunoglobulin Like Domain Containing Receptor 2 | 2 |
| ***Per1*** | Period Circadian Clock 1 | 2 |
| ***Per3*** | Period Circadian Clock 3 | 2 |
| ***Phactr2*** | Phosphatase And Actin Regulator 2 | 2 |
| ***Robo2*** | Roundabout Guidance Receptor 2 | 2 |
| ***Serping1*** | Serpin Family G Member 1 | 2 |
| ***Speg*** | SPEG Complex Locus | 2 |
| ***St3gal1*** | ST3 Beta-Galactoside Alpha-2,3-Sialyltransferase 1 | 2 |
| ***Abat*** | 4-Aminobutyrate Aminotransferase | 1 |
| ***B2m*** | Beta-2-Microglobulin | 1 |
| ***Clic3*** | Chloride Intracellular Channel 3 | 1 |
| ***Ddn*** | Dendrin | 1 |
| ***Fam65a*** | RHO Family Interacting Cell Polarization Regulator 1 | 1 |
| ***Hlf*** | HLF, PAR BZIP Transcription Factor | 1 |
| ***Kdr*** | Kinase Insert Domain Receptor | 1 |
| ***Klf13*** | Kruppel Like Factor 13 | 1 |
| ***Lats2*** | Large Tumor Suppressor Kinase 2 | 1 |
| ***Leng8*** | Leukocyte Receptor Cluster Member 8 | 1 |
| ***Lmo7*** | LIM Domain 7 | 1 |
| ***Mafb*** | MAF BZIP Transcription Factor B | 1 |
| ***Malat1*** | Metastasis Associated Lung Adenocarcinoma Transcript 1 (Non-Protein Coding) | 1 |
| ***Man1a2*** | Mannosidase Alpha Class 1A Member 2 | 1 |
| ***Mecp2*** | Methyl-CpG Binding Protein 2 | 1 |
| ***Mertk*** | MER Proto-Oncogene, Tyrosine Kinase | 1 |

| | | |
|---|---|---|
| ***Nphs2*** | Podocin | 1 |
| ***Nr1d1*** | Nuclear Receptor Subfamily 1 Group D Member 1 | 1 |
| ***Plce1*** | Phospholipase C Epsilon 1 | 1 |
| ***Rhpn1*** | Rhophilin Rho GTPase Binding Protein 1 | 1 |
| ***Sema5a*** | Semaphorin 5A | 1 |
| ***Setd7*** | SET Domain Containing Lysine Methyltransferase 7 | 1 |
| ***Sh3bgrl2*** | SH3 Domain Binding Glutamate Rich Protein Like 2 | 1 |
| ***Synpo*** | Synaptopodin | 1 |
| ***Tef*** | TEF, PAR BZIP Transcription Factor | 1 |
| ***Tspan2*** | Tetraspanin 2 | 1 |

**Supplement Table 5: Primer Sequences for genotyping**

| Gene | Forward primer | Reverse primer |
|---|---|---|
| *TRE-KLF15-1* | AATAGGCGTATCACGAGGCCCTTCG | TTCTCGTCCACTGGAAGTAAG |
| *TRE-KLF15-2* | ACTCAGGTGTGAAGCCGTAC | CTCGAGGCAGTGAAAAAAATGC |
| *NPHS2-rtTA* | GAACAACGCCAAGTCATTCCG | TACGCAGCCCAGTGTAAAGTGG |
| *Tg26* | AGAATCGCAAAACCAGCCG | TATCAGCACTTGTGGAGATGGGGG |

**Supplement Table 6: Primer Sequences for Real-Time PCR**

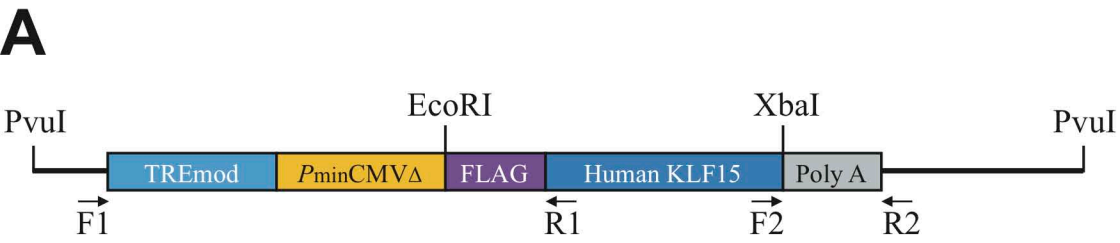
| Gene | Forward primer | Reverse primer |
|---|---|---|
| *HsKLF15* | GTTGGGTATCTGGGTGATAGGC | TGAGAGTCGGGACTGGAACAG |
| *Klf15* | AGAGCAGCCACCTCAAGGCCCA | TCACACCCGAGTGAGATCGCCGGT |
| *Nef* | CAGTATCTCGAGACCTAGAA | TAGCTTGTAGCACCATCCAA |
| *Vpr* | TGAAACTTACGGGGATACTTGG | GTCGAGTAACGCCTATTCTGC |
| *Nephrin* | GTGCCCTGAAGGACCCTACT | CCTGTGGATCCCTTTGACAT |
| *Podocin* | CCATAAGGCCAGATGAGGAA | GATTCTCTTCACTGCCACCG |
| *Synaptopodin* | CTTTGGGGAAGAGGCCGATTG | GTTTTCGGTGAAGCTTGTGC |
| *Wt1* | GAGAGCCAGCCTACCATCC | GGGTCCTCGTGTTTGAAGGAA |
| *Fn* | ATGGTACAGCTGATCCTGCC | GCCCTGGTTTGTACCTGCTA |
| *Col1a1* | GCTCTTTTTAGATACTGTGGTGAGGAA | GTTTCCACGTCTCACCATTG |
| *Vimentin* | GGATCAGCTCACCAACGACA | GGTCAAGACGTGCCAGAGAA |
| α-*Sma* | GAGGCACCACTGAACCCTAA | CATCTCCAGAGTCCAGCACA |
| *Il-1* | CAGGATGAGGACATGAGCACC | CTCTGCAGACTCAAACTCCAC |
| *Il-6* | GACAAAGCCAGAGTCCTTCAGAGAG | CTAGGTTTGCCGAGTAGATCTC |
| *Tnf*-α | ATGAGCACAGAAAGCATGATC | TACAGGCTTGTCACTCGAATT |
| *Ifn*-γ | TCAAGTGGCATAGATGTGGAAGAA | TGGCTCTGCAGGATTTTCATG |
| *Tnfr1* | TGAGTGCGTCCCTTGCAGCCA | AACCAGGGGCAACAGCACCGCA |
| *Tnfr2* | TGGGGGCCATCCCCAAGCAAGA | TGACGTGGGTCCCGTGGCTT |
| *Cdkn1c* | GCGCAAACGTCTGAGATGAGT | AGAGTTCTTCCATCGTCCGCT |
| *Clic5* | AACACCGTGCAAAAGAGAGGC | GACAGTTGCCAATGCTTTCCC |
| *Inf2* | GGCTGTGTGTGATCCAGTGA | ACGGAGTTTGGGTTTCTCGG |
| *Plce1* | AAGCTGTCCCATGTACCAGAAG | TTTCGATGGATGGGTTTTGTGC |
| *Vegfa* | CACAGCAGATGTGAATGCAG | TTTACACGTCTGCGGATCTT |
| *Podxl* | TCCTAAGGCCGTGTATGAGC | GATGCCATGCAGACGATG |
| *Thbs1* | GGCGATGCCTGTGCTGT | TGTTGTCACAAGTGTCCCCT |
| *c-Myc* | GAGCTCCTCGAGCTGTTTGA | GCATCGTCGTGGCTGTCT |
| *Tcf7l2* | TCGCCAGCACACATCGTT | AGATATCTGGAGGCTGCGGA |
| *Lef1* | AGCCTGTTTATCCCATCACG | TGTTACAATAGCTGGATGAGGG |
| *Neat1* | TGGAGCCCCTGCCAGTGTGA | AGGCCGCTGTCTCCTCCAGG |
| *Egr1* | GACGAGTTATCCCAGCCAAA | GGCAGAGGAAGACGATGAAG |
| *Gapdh* | GCCATCAACGACCCCTTCAT | ATGATGACCCGTTTGGCTCC |
| *β-actin* | GTTCCGATGCCCTGAGGCTCTT | CGTCACACTTCATGATGGAATTGA |

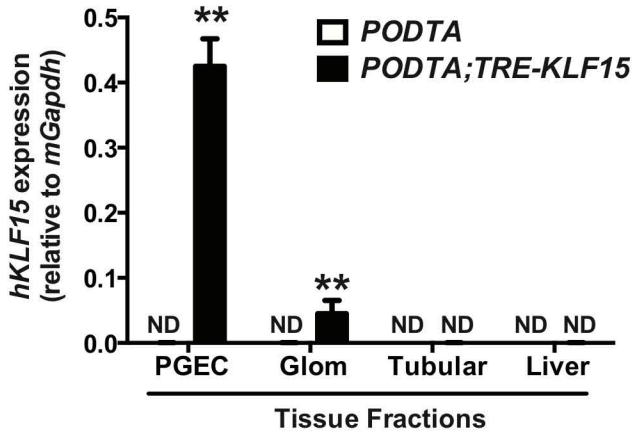
**Supplement Table 7: ChIP Primer Sequences for Real-Time PCR**

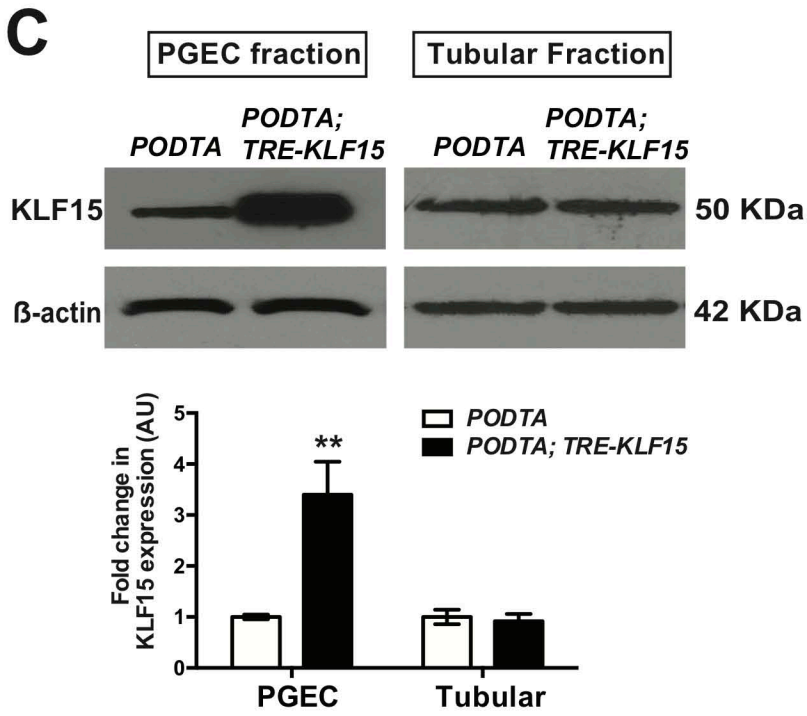
| ChIP Primers | Forward | Reverse |
|---|---|---|
| WT1 ChIP Primer set 1 (-584 to -485 bp)* | GACCTCTGGAACCCACAAAG | TTGAGTCTGGCTCTTGCTTC |
| WT1 ChIP Primer set 2 (-857 to -740 bp)* | CCGGAATATACGCAGGCTTT | GTTTCCCTTTCCAGTGAGGAATA |
| WT1 ChIP Primer set 3 (-1224 to -1115 bp)* | AGAAGATCCAAAAACCAAACCA | TTCGCTAAATCTGACTCCCTTC |

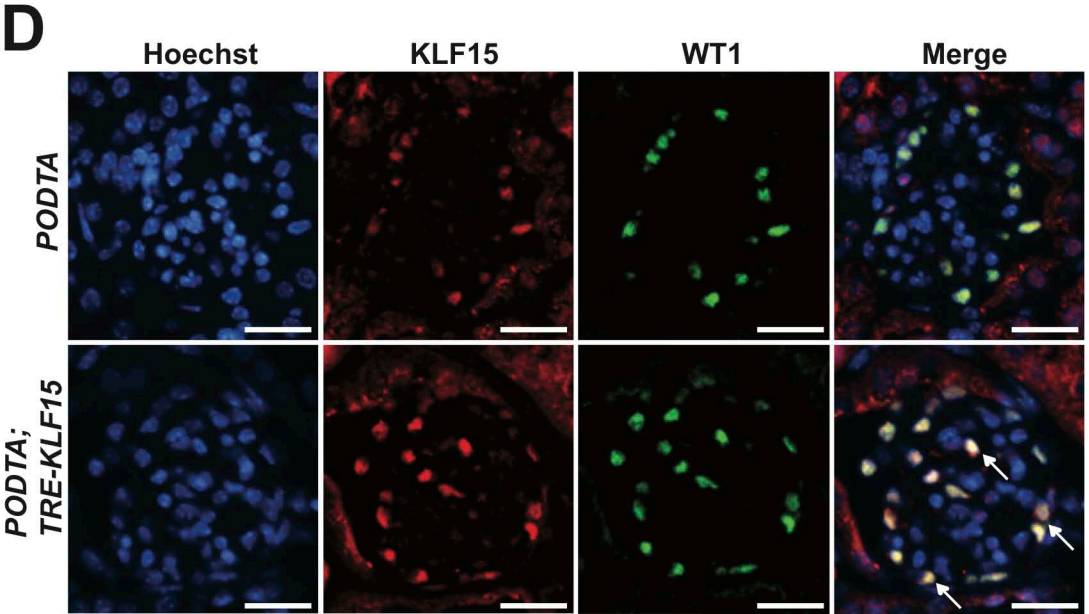
* Distance to transcription start site (TSS) of WT1

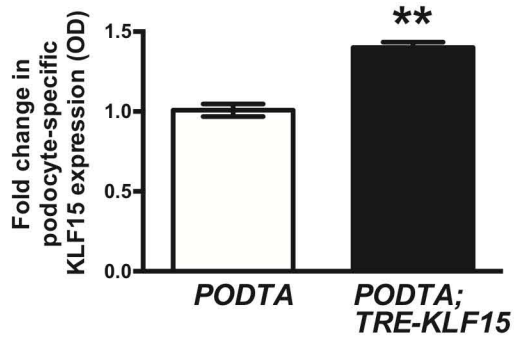
# Supplement Figure 1



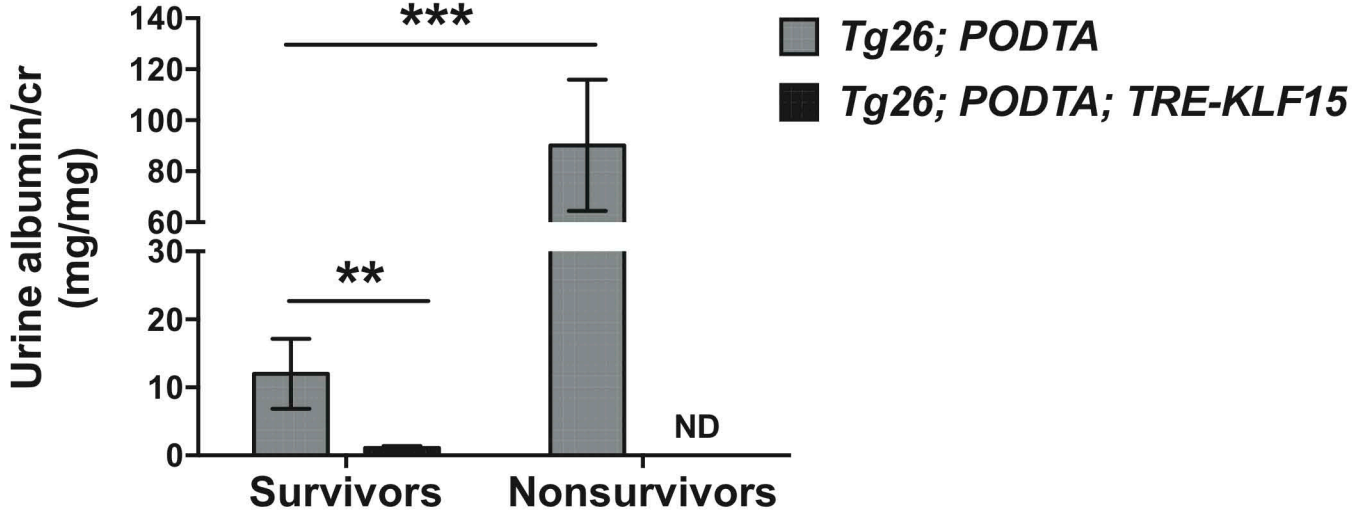



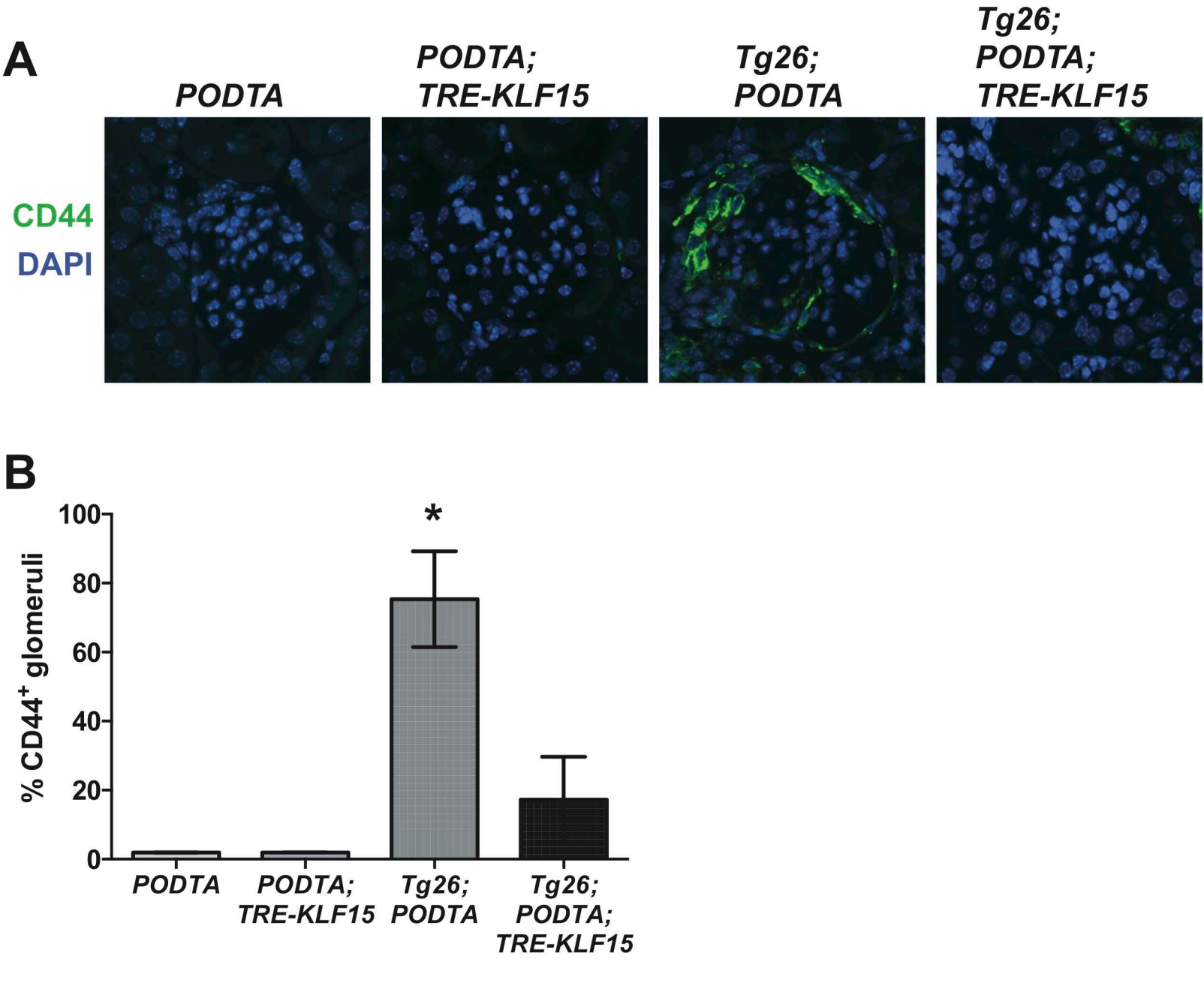



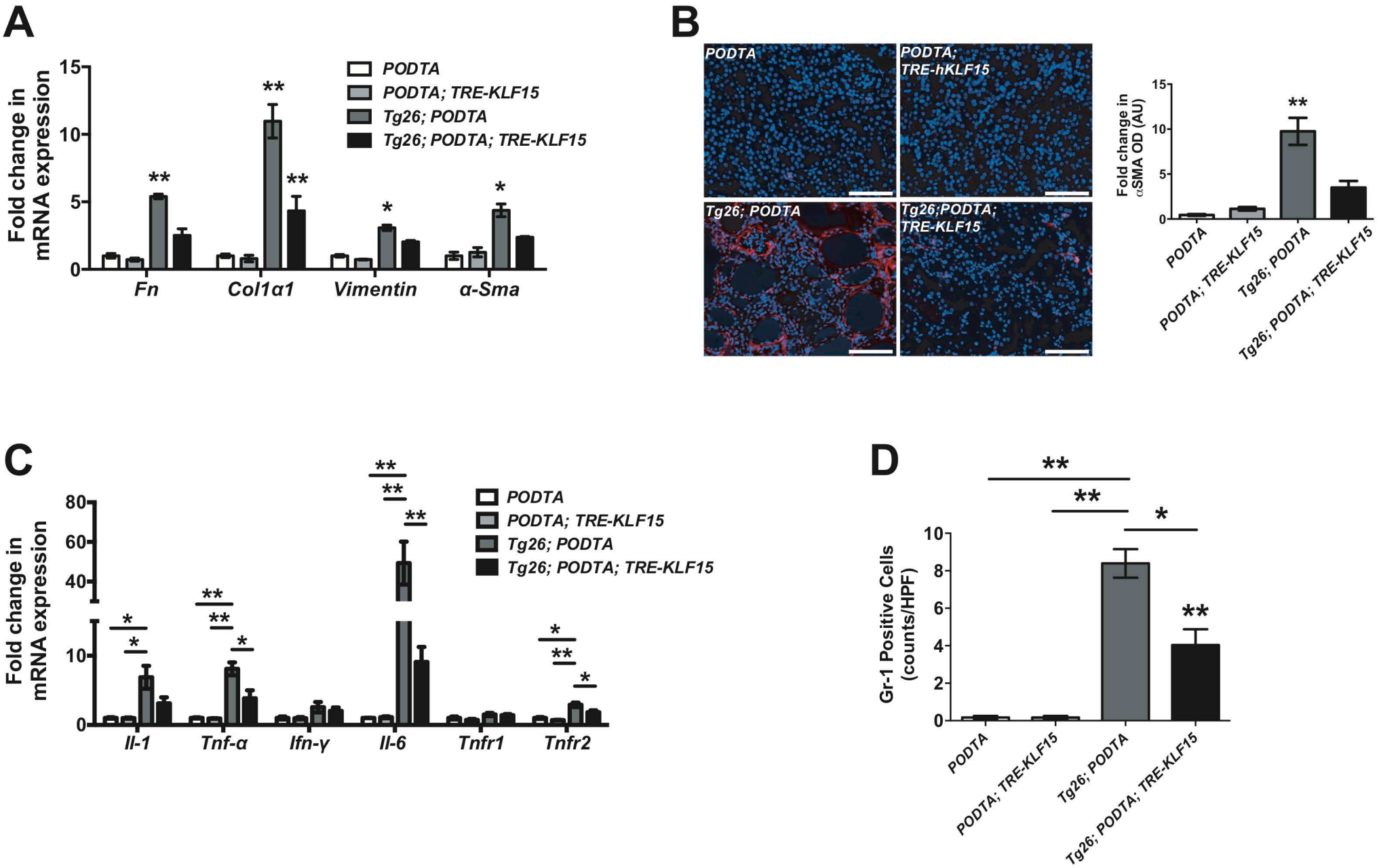
# Supplement Figure 2



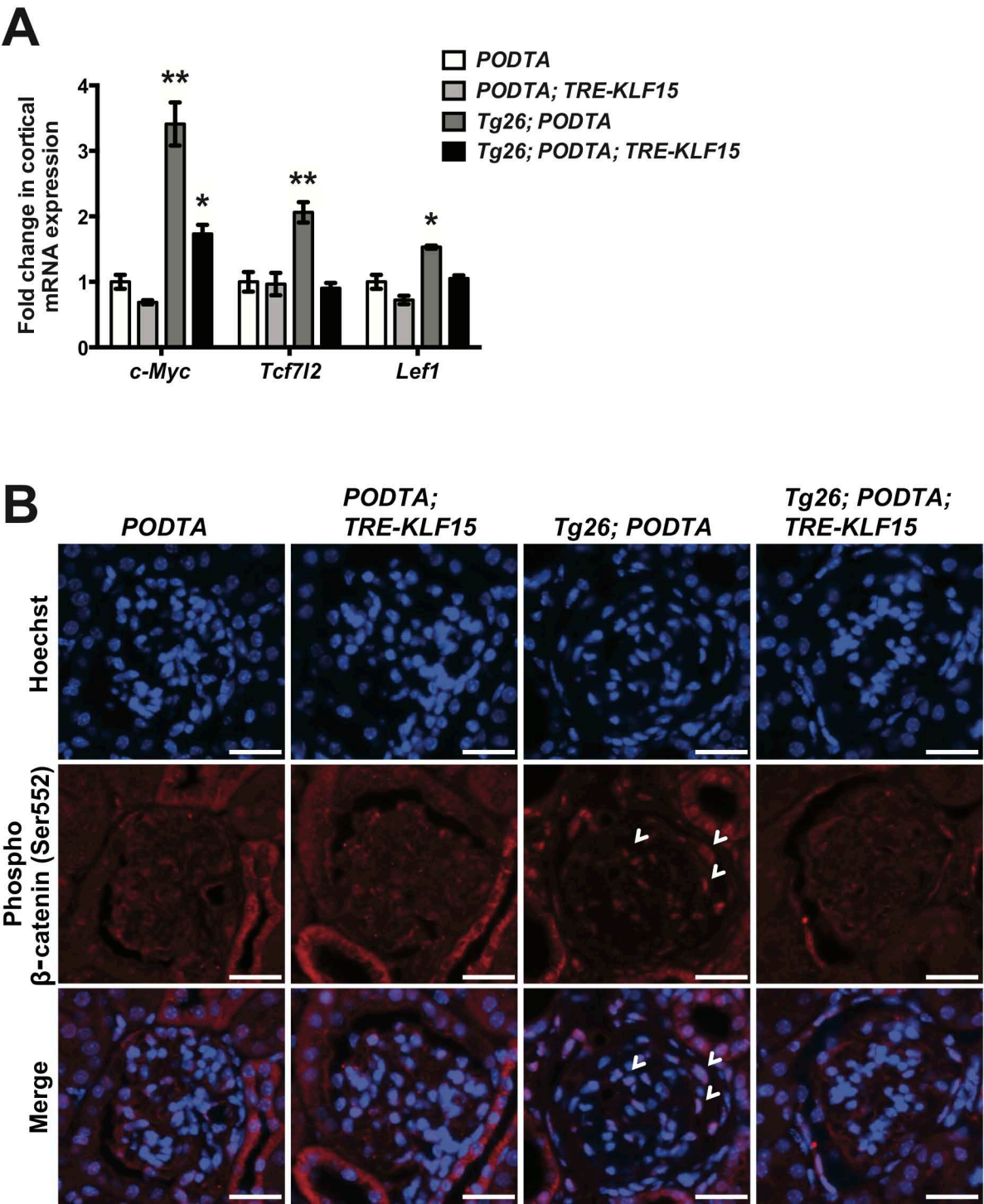
# Supplement Figure 3



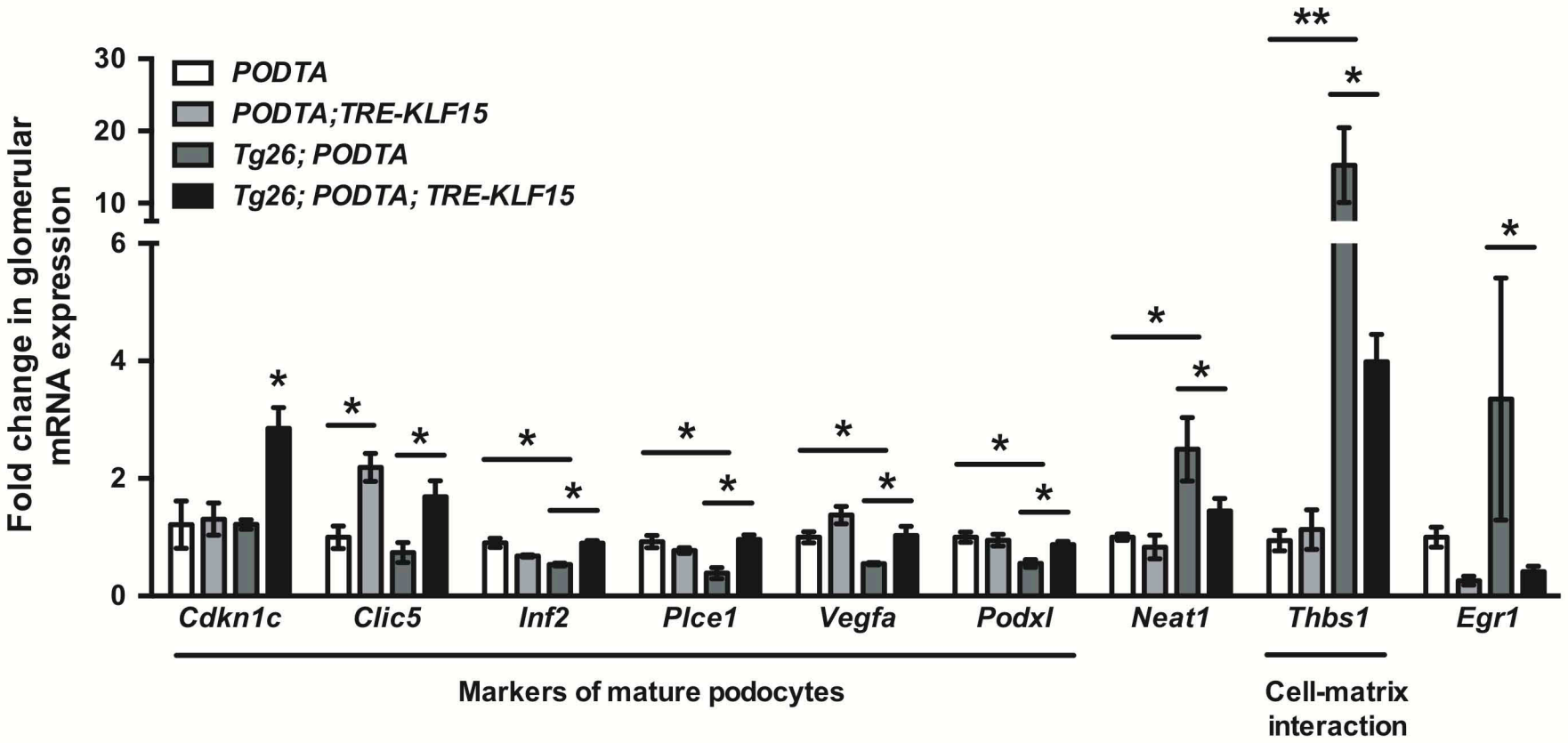
# Supplement Figure 4



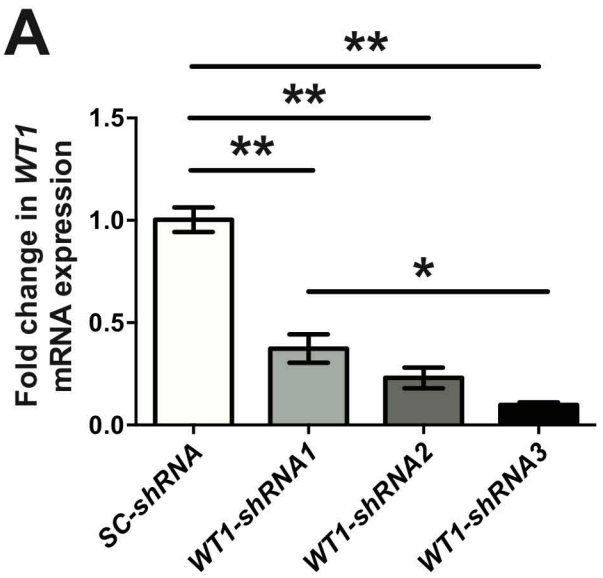
# Supplement Figure 5

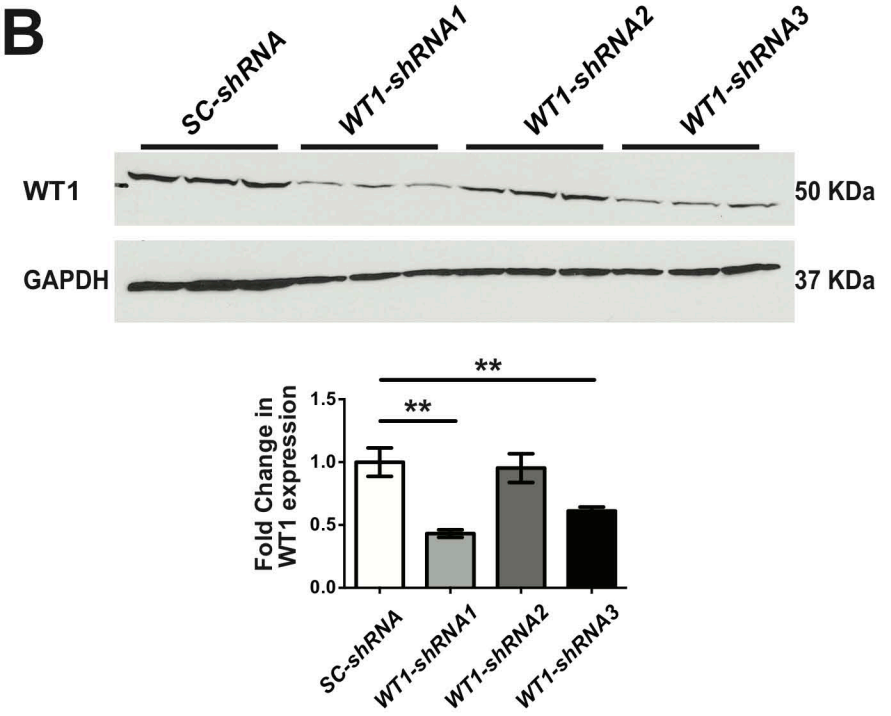


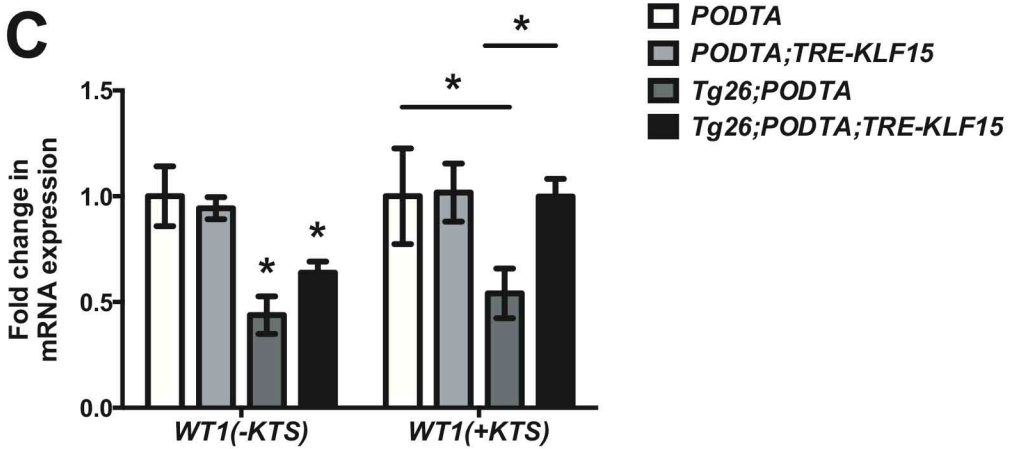
# Supplement Figure 6

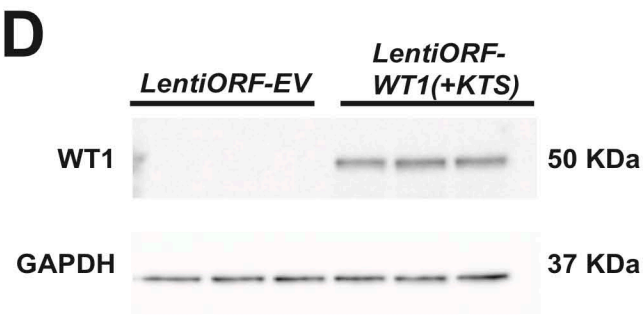


# Supplement Figure 7

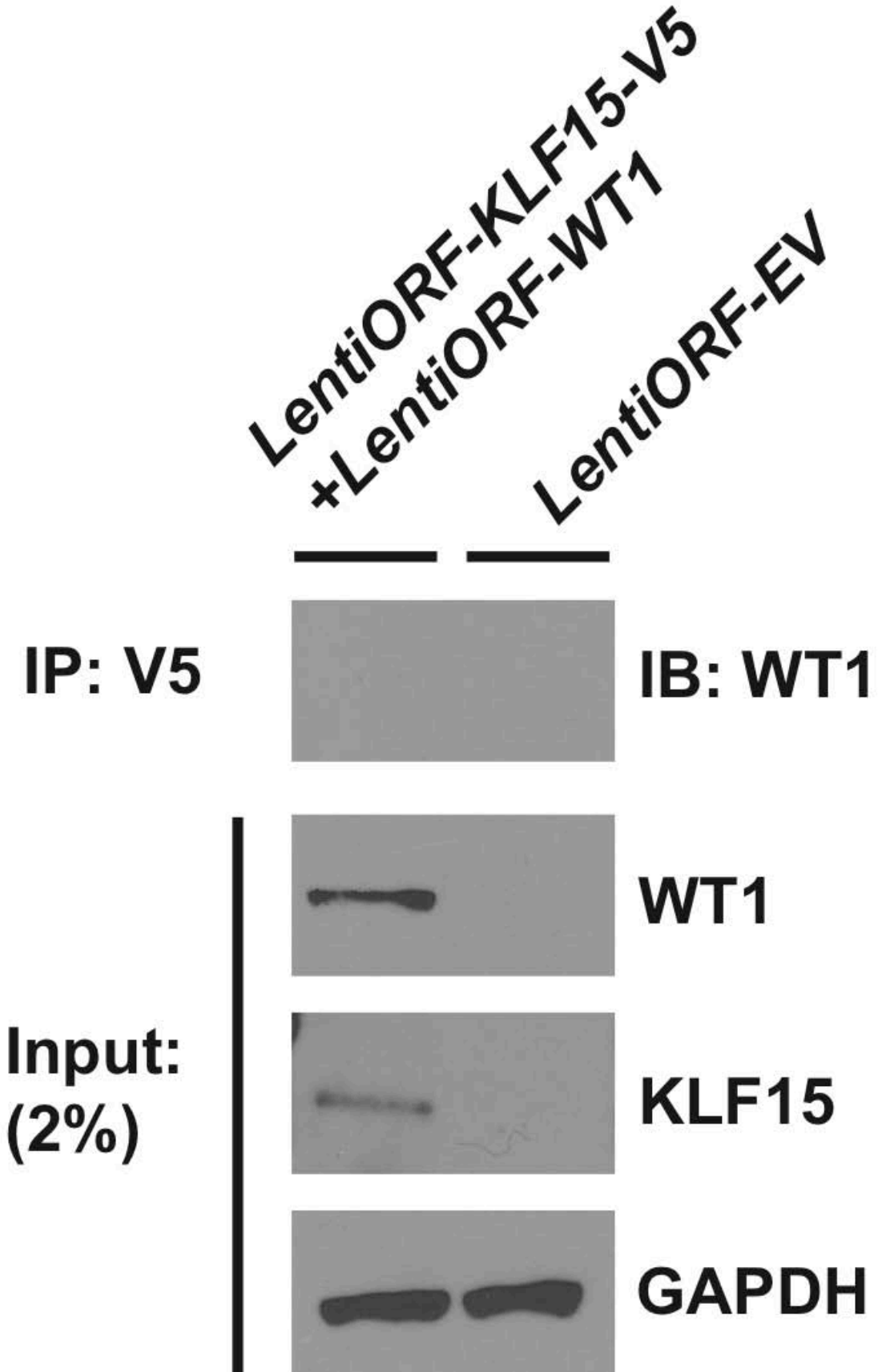


# Supplement Figure 8



# Supplement Figure 9