

Additional File 6. Transcripts identified by Ingenuity Pathway Analysis in the Cardiovascular Function and Development category, which was the most enriched biological function in the KO data. Transcripts dysregulated $>0.75\log_2[\text{fold change}]$ in the aortic endothelium of KO and WT mice after 8 weeks of HFD vs. chow-fed controls were analyzed by IPA.

Cardiac Output		
WT		ADRA2A,ADIPOQ,AGT,DBP,IGF1,Klk1b1 (includes others),NRG1 (includes EG:112400),PDCD1,PNPLA2
KO		ABCC9,ADIPOQ,ADRA1D,ADRA2B,ARNTL,ARSB,ATP2A2,CACNB3,CACNA1G,COL4A3,DBP,EDNRA,ELN,EPHX2,FKBP1B,HLF,IGF1,IRS1,MRVI1,OXSR1,PRKCA,PTGER2,PTGES,PTGIR,SLC6A2,SNTA1,TBXA2R,WNK4
Migration		
WT		ADIPOQ,AGT,HMMR,IGF1,NRG1 (includes EG:112400),PF4,THBS1
KO		ADIPOQ,ARHGEF4,BMX,ELN,F3,FGFR1,IGF1,MMP2,PDGFRA,S100A4,S1PR2,SLIT2,SLIT3,TGFB3
CV Morphology		
WT		ADIPOQ,HEYL,MKL2,MYH10,NRG1 (includes EG:112400),NTRK3,PDCD1,PNPLA2,THBS1
KO		ADIPOQ,ADRA2B,ARSB,ATP2A2,B9D1,BCL2,CACNB3,CAV3,CNN1 (includes EG:1264),COL15A1,COL4A3,COL8A2,CYP2E1, EAF2,ECE2,EDNRA,ELN,EPHA3,F3,FGFR1,FKBP1B,GDF1,HEYL,IGF1,LEFTY1,MDK,MKL2,MMP2,NKX2-3,NTF3,NTRK3,PDGFRA,PLCE1,PRKCA,PRRX2,S1PR2,SGCD,SLC2A4,TBXA2R,TGFB3,THPO,TNFRSF11B
Growth and Proliferation		
WT		ADAMTS8,ADIPOQ,ADRA2A,AGT,ARNT,BIRC5,C5,CLEC1B,COL3A1,EPHB2,FOXS1,HEG1,HEYL,IGF1,JAM3,MKL2,NRG1 (includes EG:112400),PBX1,PF4,THBS1
KO		ADAMTS2,ADAMTS8,ADIPOQ,ADRA2B,ADRA2C,ANG,ARHGEF4,ARNTL,ATP2A2,BCL-2,BMX,C5,C6,COL15A1,COL1A1 (includes EG:1277),COL4A3,COL8A2,E2F1,EAF2,EDNRA,ELN,EPHB2,EPHB3,ESR1,F3,FGFR1,FOXS1,GPC1,HEYL,IGF1,INHBA,IRS1,LAMA2,LEFTY1,MDK,MKL2,MMP2,NKX2-3,PDGFRA,PRRX2,PTGER2,PTGES,PTGIR,PTPRF,S100A4,S1PR2,SLIT2,SLIT3,TBXA2R,TEAD4,TNFRSF11B
Vasculogenesis		
WT		ADAMTS8,ADIPOQ,ADRA2A,AGT,ARNT,BIRC5,EPHB2,HEG1,HEYL,IGF1,JAM3,MKL2,NRG1 (includes EG:112400),PBX1,PF4,THBS1
KO		ADAMTS2,ADAMTS8,ADIPOQ,ADRA2B,ADRA2C,ANG,ANGPTL2,ARHGEF4,ARNTL,B4GALNT1,BMX,C5,C6,COL15A1,COL1A1 (includes EG:1277),COL8A2,E2F1,EAF2,EDNRA,ELN,EPHB2,EPHB3,ESR1,FGFR1,GPC1,HEYL,HYOU1,IGF1,INHBA,IRS1,LAMA2,LEFTY1,MDK,MKL2,MMP2,NKX2-3,PDGFRA,PRRX2,PTGER2,PTGES,PTGIR,S100A4,S1PR2,SLIT2,SLIT3,TBXA2R,TEAD4,THY1,TNFRSF11B
CV System Function		
WT		CACNA1G,JPH2,Klk1b1 (includes others),NRG1 (includes EG:112400),PDCD1,PNPLA2
KO		ADRA1D,CACNA1G,COL15A1,ELN,EPHA3,JPH2,KCNA1,MMP2,NTF3,PTGIR,SGCD,TBXA2R
Vasoconstriction		
WT		AGT
KO		ABCC9,ADRA1D,ADRA2B,EDNRA,PTGER2,TBXA2R