**Figure 3 – Source data 1: Reference list for endothelial and mesenchymal genes indicated in the Figure 3B (EXE vs. SED) heat map.**

|  |  |  |
| --- | --- | --- |
| Gene   | Description | Reference # |
| *Malat1* | Metastasis Associated Lung Adenocarcinoma Transcript 1 | 1 |
| *Mgp* | Matrix Gla Protein | 2 |
| *Ankrd11* | Ankyrin Repeat Domain 11 | 3 |
| *Plcb4* | Phospholipase C Beta 4 | 4 |
| *Rock1* | Rho Associated Coiled-Coil Containing Protein Kinase 1 | 5 |
| *Adgrg6* | Adhesion G Protein-Coupled Receptor G6 | 6 |
| *Ppp4r3a* | Protein Phosphatase 4 Regulatory Subunit 3A | 7 |
| *Phip* | Pleckstrin Homology Domain Interacting Protein | 8 |
| *Clk1* | CDC Like Kinase 1 | 9 |
| *Ankrd12* | Ankyrin Repeat Domain 12 | 10 |
| *Ppl* | Periplakin | 11  |
| *Krit1* | KRIT1 Ankyrin Repeat Containing | 12, 13 |
| *Calcrl* | Calcitonin Receptor Like Receptor | 14 |
| *Apln* | Apelin | 15 |
| *Aplnr* | Apelin Receptor | 16 |
| *Vash1* | Vasohibin 1 | 17, 18 |
| *Fscn1* | Fascin Actin-Bundling Protein 1 | 19 |
| *Cd93* | CD93 Molecule | 20, 21 |
| *Vwa1* | Von Willebrand Factor A Domain Containing 1 | 22, 23 |
| *Adamts4* | ADAM Metallopeptidase With Thrombospondin Type 1 Motif 4 | 24 |
| *Sparc* | Secreted Protein Acidic And Cysteine Rich | 25 |
| *Col4a2* | Collagen Type IV Alpha 2 Chain | 26, 27 |
| *Cd34* | CD34 Molecule | 28, 29 |
| *Tuba1a* | Tubulin Alpha 1a | 30 |
| *Cx3cl1* | C-X3-C Motif Chemokine Ligand 1 | 31 |
| *Mest* | Mesoderm Specific Transcript | 32 |
| *Cnn2* | Calponin 2 | 33 |
| *Cd44* | CD44 Molecule (Indian Blood Group) | 34 |
| *Trp53* | Tumor Protein P53 | 35 |
| *Prex1* | Phosphatidylinositol-3,4,5-Trisphosphate Dependent Rac Exchange Factor 1 | 36 |
| *Hspg2* | Heparan Sulfate Proteoglycan 2 | 37 |
| *Tnfaip1* | TNF Alpha Induced Protein 1 | 38 |
| *Lamb1* | Laminin Subunit Beta 1 | 39 |
| *Ltbp4* | Latent Transforming Growth Factor Beta Binding Protein 4 | 40 |
| *Sept4* | Septin 4 | 41 |
| *Unc5b* | Unc-5 Netrin Receptor B | 42 |

**Figure 3 – Source data 1:** Reference list for endothelial and mesenchymal genes indicated in the Figure 3C (Aged vs. Young) heat map.

|  |  |  |
| --- | --- | --- |
| Gene | Description | Reference # |
| *Npr3* | Natriuretic Peptide Receptor 3 | 43, 44 |
| *Tagln2* | Transgelin 2 | 45 |
| *Vim* | Vimentin | 46 |
| *Msn* | Moesin | 47-49 |
| *Socs5* | Suppressor Of Cytokine Signaling 5 | 50 |
| *Vcam1* | Vascular adhesion molecule 1 | 51 |
| *Notch4* | Notch Receptor 4 | 29, 52 |
| *Stat6* | Signal Transducer And Activator Of Transcription 6 | 53 |
| *Adamtsl4* | ADAMTS Like 4 | 54 |
| *Jag2* | Jagged Canonical Notch Ligand 2 | 29 |
| *Cdh13* | Cadherin 13 | 55, 56 |
| *Hif1a* | Hypoxia Inducible Factor 1 Subunit Alpha | 29 |
| *Ism1* | Isthmin 1 | 57, 58 |
| *Tbx3* | T-Box Transcription Factor 3 | 59 |
| *Tgfa* | Transforming Growth Factor Alpha | 60 |
| *Furin* | Furin, Paired Basic Amino Acid Cleaving Enzyme | 61 |
| *Eng* | Endoglin | 62, 63 |
| *Smad6* | SMAD Family Member 6 | 64, 65 |
| *Smad7* | SMAD Family Member 7 | 64, 65 |
| *Sox17* | SRY-Box Transcription Factor 17 | 66 |
| *Tead1* | TEA Domain Transcription Factor 1 | 29, 67 |
| *Tead2* | TEA Domain Transcription Factor 2 | 29,67 |
| *Klf3* | Kruppel Like Factor 3 | 68, 69 |
| *Klf4* | Kruppel Like Factor 4 | 70 |
| *Sulf1* | Sulfatase 1 | 71 |
| *Wt1* | WT1 Transcription Factor | 72, 73 |
| *Ankrd1* | Ankyrin Repeat Domain 1 | 74, 75 |
| *Cd247* | CD247 Molecule | 76 |
| *Hbegf* | Heparin Binding EGF Like Growth Factor | 77 |
| *Vegfc* | Vascular Endothelial Growth Factor C | 70, 78 |
| *Nos2* | Nitric Oxide Synthase 2 | 79 |
| *Nrarp* | NOTCH Regulated Ankyrin Repeat Protein | 80 |
| *Rgs2* | Regulator of G Protein Signaling 2 | 81 |
| *Cldn5* | Claudin 5 | 82 |
| *Kit* | KIT Proto-Oncogene, Receptor Tyrosine Kinase | 83 |
| *Cd200* | CD200 Molecule | 84 |
| *Gja4* | Gap Junction Protein Alpha 4 | 85, 86 |
| *Nog* | Noggin | 87, 88 |
| *Ets1* | Ets Proto-Oncogene 1, Transcription factor | 89, 90 |
| *Hes1* | Hes Family BHLH Transcription Factor 1 | 91 |

**Figure 3 – Source data 1:** Reference list for endothelial and mesenchymal genes indicated in the Figure 3D (HFD vs. Chow) heat map.

|  |  |  |
| --- | --- | --- |
| Gene | Description | Reference # |
| *Apln* | Apelin | 15 |
| *Vwa1* | Von Willebrand Factor A Domain Containing 1 | 23, 24 |
| *Tuba1a* | Tubulin Alpha 1a | 31 |
| *Ezh2* | Enhancer Of Zeste 2 Polycomb Repressive Complex 2 Subunit | 74 |
| *Fsd2* | Fibronectin Type III And SPRY Domain Containing 2 | 92-94 |
| *Mest* | Mesoderm Specific Transcript | 33 |
| *Angptl4* | Angiopoietin Like 4 | 95 |
| *Me1* | Malic Enzyme 1 | 96 |
| *Cldn5* | Claudin 5 | 82 |
| *Ankrd1* | Ankyrin Repeat Domain 1 | 74, 75 |
| *E2f1* | E2F Transcription Factor 1 | 97 |
| *Hey1* | Hes Related Family BHLH Transcription Factor With YRPW Motif 1 | 52, 98 |
| *Fndc5* | Fibronectin Type III Domain Containing 5 | 99 |
| *Dsp* | Desmoplakin | 100 |
| *Trp53inp2* | Tumor Protein P53 Inducible Nuclear Protein 2 | 101 |
| *Cd36* | CD36 Molecule | 102 |
| *Hist4h4* | Histone H4 | 74, 98 |
| *Xbp1* | X-Box Binding Protein 1 | 103 |
| *Inhbb* | Inhibin Subunit Beta B  | 104 |
| *Podxl* | Podocalyxin Like | 105 |
| *Egr1* | Early Growth Response 1 | 106 |
| *L1cam* | L1 Cell Adhesion Molecule | 107 |
| *Rarg* | Retinoic Acid Receptor Gamma | 108 |
| *Ace* | Angiotensin I Converting Enzyme | 109 |
| *Apoe* | Apolipoprotein E | 110 |
| *Mkl2* | Myocardin-like protein 2 | 111 |
| *Tln2* | Talin 2 | 112 |
| *Pdgfrb* | Platelet Derived Growth Factor Receptor Beta | 113 |
| *Igfbp3* | Insulin Like Growth Factor Binding Protein 3 | 114 |

**Figure 3 – Source data 1:** Reference list for endothelial and mesenchymal genes indicated in the Figure 3E (TAC (2) vs. Sham) heat map.

|  |  |  |
| --- | --- | --- |
| Gene | Description | Reference # |
| *Spry4* | Sprouty RTK Signalling Antagonists | 115 |
| *Mmp14* | Matrix Metallopeptidase 14 | 116 |
| *Tnc* | Tenascin C | 117, 118 |
| *Fn1* | Fibronectin 1 | 119 |
| *Vim* | Vimentin | 120 |
| *Emilin1* | Elastin Microfibril Interfacer 1 | 121, 122 |
| *Col4a1* | Collagen Type IV Alpha 1 Chain | 28 |
| *Tgfb1* | Transforming Growth Factor Beta 1 | 123, 124 |
| *Tgfbr2* | Transforming Growth Factor Beta Receptor 2 | 123, 124 |
| *Ltbp3* | Latent Transforming Growth Factor Beta Binding Protein 3 | 40 |
| *Bmp2* | Bone Morphogenetic Protein 2 | 125 |
| *Lamb1* | Laminin Subunit Beta 1 | 39 |
| *Msn* | Moesin | 47-49 |
| *Sele* | Selectin E  | 126 |
| *Acta1* | Alpha-Actin-1 | 127 |
| *Tagln2* | Transgelin 2 | 45 |
|  *Hif1a* | Hypoxia Inducible Factor 1 Subunit Alpha | 29 |
| *Adamts4* | ADAM Metallopeptidase With Thrombospondin Type 1 Motif 4 | 25 |
| *Nrp2* | Neuropilin 2 | 128 |
| *Esm1* | Endothelial Cell Specific Molecule 1 | 129-131 |
| *Apln* | Apelin | 15 |
| *Cd34* | CD34 Molecule | 132, 133 |
| *Vash1* | Vasohibin 1 | 17, 18 |
| *Vwa1* | Von Willebrand Factor A Domain Containing 1 | 23, 24 |
| *Epas1* | Endothelial PAS Domain Protein 1 | 134 |
| *Apoe* | Apolipoprotein E | 110 |
| *Angpt2* | Angiopoietin | 135 |
| *Id2* | Inhibitor of DNA Binding 2 | 136 |
| *Id3* | Inhibitor of DNA Binding 3, HLH protein | 136 |
| *Efnb1* | Ephrin B1 | 137 |
| *Igf1r* | Insulin Like Growth Factor 1 Receptor | 138 |

**Figure 3 – Source data 1:** Reference list for endothelial and mesenchymal genes indicated in the Figure F (TAC (7) vs. Sham) heat map.

|  |  |  |
| --- | --- | --- |
| Gene | Description | Reference# |
| *Spry4* | Sprouty RTK Signaling Antagonist 4 | 115 |
| *Esm1* | Endothelial Cell Specific Molecule 1 | 129-131 |
| *Epha2* | EPH Receptor A2 | 137 |
| *Socs5* | Suppressor Of Cytokine Signaling 5 | 50 |
| *Sele* | Selectin E | 126 |
| *Acta1* | Alpha-Actin-1 | 127 |
| *Nostrin* | Nitric Oxide Synthase Trafficking | 139 |
| *Esam* | Endothelial Cell Adhesion Molecule | 140 |
| *Cd34* | CD34 molecule  | 132, 133 |
| *Tgfb1* | Transforming Growth Factor Beta 1 | 123, 124 |
| *Tnfaip2* | TNF Alpha Induced Protein 2 | 141 |
| *Ankrd1* | Ankyrin Repeat Domain 1 | 25,26 |
| *Mmp14* | Matrix Metallopeptidase 14 | 116 |
| *Vwf* | Von Willebrand Factor | 142 |
| *Col4a1* | Collagen Type IV Alpha 1 Chain | 27, 28 |
| *Tnc* | Tenascin C | 117, 118 |
| *Col4a2* | Collagen Type IV Alpha 2 Chain | 27, 28 |
| *Stat3* | Signal Transducer And Activator Of Transcription 3 | 143 |
| *Ecm1* | Extracellular Matrix Protein 1 | 144 |
| *Zeb1* | Zinc Finger E-Box Binding Homeobox 1 | 143 |
| *Emilin1* | Elastin Microfibril Interfacer 1 | 121, 122 |
| *Sparc* | Secreted Protein Acidic And Cysteine Rich | 26 |
| *Dsp* | Desmoplakin | 100 |
| *Notch3* | NOTCH Receptor 3 | 113, 144 |
| *Pdgfrb* | Platelet Derived Growth Factor Receptor Beta | 113 |
| *Epha4* | EPH Receptor 4 | 137 |
| *Ddr2* | Discoidin Domain Receptor Tyrosine Kinase 2 | 145 |
| *Zeb2* | Zinc Finger E-Box Binding Homeobox 2 | 70 |
| *Apoe* | Apolipoprotein E | 110 |
| *Sox7* | SRY-Box Transcription Factor 7 | 146 |
| *Cxcl9* | C-X-C Motif Chemokine Ligand 9 | 147 |

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