# *Supplementary information*

Supplementary Table S1. The table shows proteins and their log2 fold change that were enriched in the ECM-receptor interaction.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Agrn | -0.72 |
| Cd44 | -0.40 |
| Chad | -0.47 |
| Col4a5 | -0.85 |
| Col6a1 | -0.78 |
| Col6a2 | -0.73 |
| Col6a3 | -0.70 |
| Dag1 | -0.26 |
| Fn1 | -0.50 |
| Gp1ba | -1.85 |
| Gp1bb | -1.88 |
| Gp5 | -1.92 |
| Hspg2 | -0.55 |
| Itga2b | -1.31 |
| Itga3 | -0.39 |
| Itga5 | -0.56 |
| Itga7 | 0.21 |
| Itgav | -0.38 |
| Itgb1 | -0.25 |
| Itgb3 | -0.29 |
| Itgb5 | -0.70 |
| Lama2 | -0.45 |

| | |
|---|---|
| Lama4 | -0.40 |
| Lamb2 | -0.45 |
| Sdc4 | -0.42 |
| Thbs3 | -0.71 |
| Tnc | -0.40 |
| Vtn | -1.07 |
| Vwf | -0.48 |
| Lamc3 | -0.34 |
| Tnxb | -1.06 |
| Col4a6 | -0.96 |
| Itga1 | 0.30 |
| Npnt | -0.54 |
| Lamc1 | -0.36 |
| Itga8 | -0.35 |
| Col6a6 | -0.68 |
| Col6a5 | -0.42 |

Supplementary Table S2. The table shows proteins and their log2 fold change that were enriched in pyruvate metabolism.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Adh5 | 0.27 |
| Aldh3a2 | 0.15 |
| Ldha | 0.16 |
| Ldhb | 0.44 |
| Me1 | 0.18 |
| Mdh2 | 0.50 |

| | |
|---|---|
| Mdh1 | 0.27 |
| Pkm | 0.23 |
| Acyp1 | 0.48 |
| Acss1 | 0.96 |
| Pck2 | 0.13 |
| Acyp2 | 0.37 |
| Grhpr | 0.51 |
| Glo1 | 0.20 |
| Acat1 | 0.28 |
| Acat2 | 0.38 |
| Aldh7a1 | 0.11 |

Supplementary Table S3. The table shows proteins and their log2 fold change that were enriched in hypertrophic cardiomyopathy.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Ace | -0.83 |
| Atp2a2 | 0.11 |
| Cacna2d1 | -0.43 |
| Dag1 | -0.26 |
| Des | -0.17 |
| Dmd | -0.13 |
| Dtna | -0.31 |
| Emd | -0.14 |
| Itga2b | -1.31 |
| Itga3 | -0.39 |
| Itga5 | -0.56 |

| | |
|---|---|
| Itga7 | 0.21 |
| Itgav | -0.38 |
| Itgb1 | -0.25 |
| Itgb3 | -0.29 |
| Itgb5 | -0.70 |
| Lama2 | -0.45 |
| Lmna | -0.11 |
| Mybpc3 | 4.11 |
| Prkab1 | -0.11 |
| Ryr2 | 0.23 |
| Sgca | -0.46 |
| Sgce | -0.35 |
| Sntb2 | -0.36 |
| Tgfb1 | -0.61 |
| Tgfb2 | -0.31 |
| Tnni3 | 3.87 |
| Tpm1 | 0.21 |
| Tpm2 | 0.39 |
| Sgcb | -0.24 |
| Sgcd | -0.22 |
| Sgcg | -0.38 |
| Tpm3 | 0.55 |
| Prkaa2 | 0.33 |
| Itga1 | 0.30 |
| Slc8a2 | -0.16 |
| Itga8 | -0.35 |

| | |
|---|---|
| Tpm4 | -0.22 |

Supplementary Table S4. The table shows proteins and their log2 fold change that were enriched in arrhythmogenic right ventricular cardiomyopathy.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Atp2a2 | 0.11 |
| Cacna2d1 | -0.43 |
| Ctnna1 | 0.25 |
| Ctnnb1 | 0.45 |
| Dag1 | -0.26 |
| Des | -0.17 |
| Dmd | -0.13 |
| Dtna | -0.31 |
| Emd | -0.14 |
| Itga2b | -1.31 |
| Itga3 | -0.39 |
| Itga5 | -0.56 |
| Itga7 | 0.21 |
| Itgav | -0.38 |
| Itgb1 | -0.25 |
| Itgb3 | -0.29 |
| Itgb5 | -0.70 |
| Jup | 0.34 |
| Lama2 | -0.45 |
| Lmna | -0.11 |
| Ryr2 | 0.23 |

| | |
|---|---|
| Sgca | -0.46 |
| Sgce | -0.35 |
| Sntb2 | -0.36 |
| Sgcb | -0.24 |
| Sgcd | -0.22 |
| Sgcg | -0.38 |
| Dsp | -0.33 |
| Itga1 | 0.30 |
| Slc8a2 | -0.16 |
| Ctnna3 | 0.49 |
| Itga8 | -0.35 |

Supplementary Table S5. The table shows proteins and their log2 fold change that were enriched in dilated cardiomyopathy.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Adcy7 | -0.26 |
| Atp2a2 | 0.11 |
| Cacna2d1 | -0.43 |
| Dag1 | -0.26 |
| Des | -0.17 |
| Dmd | -0.13 |
| Dtna | -0.31 |
| Emd | -0.14 |
| Itga2b | -1.31 |
| Itga3 | -0.39 |
| Itga5 | -0.56 |

| | |
|---|---|
| Itga7 | 0.21 |
| Itgav | -0.38 |
| Itgb1 | -0.25 |
| Itgb3 | -0.29 |
| Itgb5 | -0.70 |
| Lama2 | -0.45 |
| Lmna | -0.11 |
| Mybpc3 | 4.11 |
| Prkaca | 0.15 |
| Prkacb | 0.12 |
| Ryr2 | 0.23 |
| Sgca | -0.46 |
| Sgce | -0.35 |
| Sntb2 | -0.36 |
| Tgfb1 | -0.61 |
| Tgfb2 | -0.31 |
| Tnni3 | 3.87 |
| Tpm1 | 0.21 |
| Tpm2 | 0.39 |
| Sgcb | -0.24 |
| Sgcd | -0.22 |
| Sgcg | -0.38 |
| Tpm3 | 0.55 |
| Itga1 | 0.30 |
| Slc8a2 | -0.16 |
| Itga8 | -0.35 |

| | |
|---|---|
| Tpm4 | -0.22 |

Supplementary Table S6. The table shows proteins and their log2 fold change that were enriched in the cytoskeleton in muscle cells.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Agrn | -0.72 |
| Atp1b1 | -0.45 |
| Atp1b2 | 0.16 |
| Atp1b3 | -0.11 |
| Bgn | -0.41 |
| Capzb | 0.15 |
| Col4a5 | -0.85 |
| Col6a1 | -0.78 |
| Col6a2 | -0.73 |
| Col6a3 | -0.70 |
| Vcan | -0.46 |
| Csrp1 | 0.36 |
| Dag1 | -0.26 |
| Dcn | -0.29 |
| Des | -0.17 |
| Diaph1 | -0.35 |
| Dmd | -0.13 |
| Dtna | -0.31 |
| Emd | -0.14 |
| Eno1 | 0.33 |
| Eno2 | 0.34 |

| | |
|---|---|
| Fbln2 | -0.27 |
| Fhl1 | -0.17 |
| Fhl3 | -0.82 |
| Fn1 | -0.50 |
| Hspg2 | -0.55 |
| Itga2b | -1.31 |
| Itga3 | -0.39 |
| Itga5 | -0.56 |
| Itga7 | 0.21 |
| Itgav | -0.38 |
| Itgb1 | -0.25 |
| Itgb3 | -0.29 |
| Itgb5 | -0.70 |
| Jup | 0.34 |
| Lama2 | -0.45 |
| Lmna | -0.11 |
| Lmnb2 | -0.20 |
| Mybpc3 | 4.11 |
| Myh11 | 0.42 |
| Myh9 | -0.28 |
| Myl4 | 1.11 |
| Myom1 | 0.45 |
| Plec | -0.25 |
| Sgca | -0.46 |
| Sgce | -0.35 |
| Sntb2 | -0.36 |

| | |
|---|---|
| Sdc4 | -0.42 |
| Thbs3 | -0.71 |
| Tln1 | -0.10 |
| Tmod1 | 0.32 |
| Tnni3 | 3.87 |
| Tpm1 | 0.21 |
| Tpm2 | 0.39 |
| Vcl | -0.34 |
| Xirp1 | 0.31 |
| Zyx | -0.68 |
| Sgcb | -0.24 |
| Sgcd | -0.22 |
| Sgcg | -0.38 |
| Ldb3 | 0.24 |
| Pdlim4 | -0.31 |
| Myoz1 | 0.76 |
| Tpm3 | 0.55 |
| Syne1 | -0.10 |
| Flnc | -0.60 |
| Tmem43 | -0.44 |
| Daam2 | 0.52 |
| Sun1 | -0.25 |
| Myh10 | 0.14 |
| Lmod1 | 0.27 |
| Col4a6 | -0.96 |
| Myl9 | 0.36 |

| | |
|---|---|
| Dsp | -0.33 |
| Itga1 | 0.30 |
| Syne3 | -0.32 |
| Pdlim2 | -0.42 |
| Sun2 | -0.18 |
| Itga8 | -0.35 |
| Col6a6 | -0.68 |
| Syne2 | -0.28 |
| Tpm4 | -0.22 |
| Eno1b | 0.33 |
| Col6a5 | -0.42 |

Supplementary Table S7. The table shows proteins and their log2 fold change that were enriched in focal adhesion.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Akt1 | 0.17 |
| Akt2 | 0.15 |
| Capn2 | 0.08 |
| Ctnnb1 | 0.45 |
| Chad | -0.47 |
| Col4a5 | -0.85 |
| Col6a1 | -0.78 |
| Col6a2 | -0.73 |
| Col6a3 | -0.70 |
| Bcar1 | -0.39 |
| Crkl | -0.14 |

| | |
|---|---|
| Diaph1 | -0.35 |
| Egfr | -0.20 |
| Flt1 | -0.39 |
| Fn1 | -0.50 |
| Ilk | -0.21 |
| Itga2b | -1.31 |
| Itga3 | -0.39 |
| Itga5 | -0.56 |
| Itga7 | 0.21 |
| Itgav | -0.38 |
| Itgb1 | -0.25 |
| Itgb3 | -0.29 |
| Itgb5 | -0.70 |
| Lama2 | -0.45 |
| Lama4 | -0.40 |
| Lamb2 | -0.45 |
| Ppp1r12a | 0.20 |
| Pdgfrb | -0.12 |
| Pik3ca | -0.08 |
| Pip5k1a | -0.16 |
| Prkca | -0.23 |
| Prkcb | -0.42 |
| Ppp1ca | -0.11 |
| Ppp1cb | 0.27 |
| Ppp1cc | 0.11 |
| Pxn | -0.38 |

| | |
|---|---|
| Rock1 | 0.60 |
| Rock2 | 0.16 |
| Src | -0.32 |
| Thbs3 | -0.71 |
| Tln1 | -0.10 |
| Tnc | -0.40 |
| Vasp | -0.55 |
| Vcl | -0.34 |
| Vtn | -1.07 |
| Vwf | -0.48 |
| Zyx | -0.68 |
| Lamc3 | -0.34 |
| Vav3 | 0.56 |
| Parva | -0.18 |
| Myl12b | 0.29 |
| Pak4 | -0.20 |
| Pdgfd | -0.27 |
| Pik3cb | -0.14 |
| Tnxb | -1.06 |
| Col4a6 | -0.96 |
| Myl9 | 0.36 |
| Mylk | 0.36 |
| Rapgef1 | 0.16 |
| Itga1 | 0.30 |
| Actn1 | 0.26 |
| Parvb | -2.28 |

| | |
|---|---|
| Rap1b | -0.14 |
| Pak2 | -0.09 |
| Lamc1 | -0.36 |
| Mylk2 | -0.30 |
| Ppp1r12c | 0.37 |
| Itga8 | -0.35 |
| Col6a6 | -0.68 |
| Ppp1r12b | 0.35 |
| Col6a5 | -0.42 |

Supplementary Table S8. The table shows proteins and their log2 fold change that were enriched in oxidative phosphorylation.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Atp5f1a | 0.27 |
| Atp5f1b | 0.20 |
| Atp5f1c | 0.31 |
| Atp5pb | 0.65 |
| Atp5pf | 1.10 |
| Atp5me | 0.63 |
| Atp6v1a | 0.11 |
| Atp6v1b2 | 0.17 |
| Atp6v0c | -0.68 |
| Cox4i1 | 0.64 |
| Cox5b | 0.57 |
| Cycs | 0.49 |
| Cytb | 0.46 |

| | |
|---|---|
| Ndufa4 | 0.44 |
| Ndufs4 | 0.35 |
| Atp5mg | 0.33 |
| Atp5po | 0.41 |
| Atp5mf | 0.46 |
| Atp5f1d | 0.30 |
| Ndufb5 | 0.80 |
| Sdhc | 0.33 |
| Ndufb9 | 0.40 |
| Atp6v1g1 | 0.26 |
| Atp6v1c1 | 0.15 |
| Ndufa12 | 0.42 |
| Ndufa7 | 0.57 |
| Cyc1 | 0.41 |
| Ndufb3 | 0.59 |
| Ndufb7 | 0.58 |
| Ndufb8 | 0.66 |
| Ndufa10 | 0.45 |
| Uqcrb | 0.89 |
| Ndufb4 | 0.80 |
| Ndufc2 | 0.49 |
| Ndufa5 | 0.67 |
| Ndufa8 | 0.46 |
| Ndufa11 | 0.38 |
| Atp5pd | 0.30 |
| Ndufv2 | 0.69 |

| | |
|---|---|
| Ppa2 | 0.20 |
| Ndufs7 | 0.46 |
| Lhpp | 0.30 |
| Ndufv3 | 0.78 |
| Cox4i2 | 1.27 |
| Atp6v1h | 0.11 |
| Cox6b1 | 0.63 |
| Ndufs2 | 0.33 |
| Ndufs1 | 0.37 |
| Ndufs6 | 0.55 |
| Ndufs6b | 0.55 |

Supplementary Table S9. The table shows proteins and their log2 fold change that were enriched in glycolysis/gluconeogenesis.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Adh5 | 0.27 |
| Aldh3a2 | 0.15 |
| Aldoa | 0.31 |
| Bpgm | -0.67 |
| Eno1 | 0.33 |
| Eno2 | 0.34 |
| Gpi1 | 0.30 |
| Ldha | 0.16 |
| Ldhb | 0.44 |
| Minpp1 | -0.33 |
| Pfkl | 0.09 |

| | |
|---|---|
| Pfkm | 0.24 |
| Pgam1 | 0.13 |
| Pgk1 | 0.27 |
| Pkm | 0.23 |
| Tpi1 | 0.19 |
| Pgam2 | 1.09 |
| Acss1 | 0.96 |
| Pck2 | 0.13 |
| Aldh7a1 | 0.11 |
| Galm | 0.15 |
| Eno1b | 0.33 |

Supplementary Table S10. The table shows proteins and their $log_2$ fold change that were enriched in diabetic cardiomyopathy.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Ace | -0.83 |
| Akt1 | 0.17 |
| Akt2 | 0.15 |
| Slc25a4 | 0.54 |
| Slc25a5 | 0.56 |
| Atp2a2 | 0.11 |
| Atp5f1a | 0.27 |
| Atp5f1b | 0.20 |
| Atp5f1c | 0.31 |
| Atp5pb | 0.65 |
| Atp5pf | 1.10 |

| | |
|---|---|
| Cox4i1 | 0.64 |
| Cox5b | 0.57 |
| Cyba | -0.28 |
| Gys1 | 0.38 |
| Smad2 | -0.24 |
| Mmp2 | -0.40 |
| Cytb | 0.46 |
| Ndufa4 | 0.44 |
| Ndufs4 | 0.35 |
| Pik3ca | -0.08 |
| Prkca | -0.23 |
| Prkcb | -0.42 |
| Prkcd | 0.45 |
| Plcb1 | -0.13 |
| Plcb4 | -0.14 |
| Ppp1ca | -0.11 |
| Ppp1cb | 0.27 |
| Ppp1cc | 0.11 |
| Ryr2 | 0.23 |
| Slc2a1 | -0.34 |
| Tgfb1 | -0.61 |
| Tgfb2 | -0.31 |
| Tgfbr1 | -0.41 |
| Tnni3 | 3.87 |
| Vdac1 | 0.31 |
| Vdac2 | 0.28 |

| | |
|---|---|
| Vdac3 | 0.19 |
| Atp5po | 0.41 |
| Atp5f1d | 0.30 |
| Ndufb5 | 0.80 |
| Sdhc | 0.33 |
| Ndufb9 | 0.40 |
| Ndufa12 | 0.42 |
| Ndufa7 | 0.57 |
| Cyc1 | 0.41 |
| Ndufb3 | 0.59 |
| Ndufb7 | 0.58 |
| Ndufb8 | 0.66 |
| Ndufa10 | 0.45 |
| Uqcrb | 0.89 |
| Ndufb4 | 0.80 |
| Ndufc2 | 0.49 |
| Ndufa5 | 0.67 |
| Ndufa8 | 0.46 |
| Ndufa11 | 0.38 |
| Atp5pd | 0.30 |
| Ndufv2 | 0.69 |
| Pik3cb | -0.14 |
| Ndufs7 | 0.46 |
| Ndufv3 | 0.78 |
| Cox4i2 | 1.27 |
| Cox6b1 | 0.63 |

| | |
|---|---|
| Ptpa | 0.32 |
| Ndufs2 | 0.33 |
| Ndufs1 | 0.37 |
| Pdk3 | 0.10 |
| Ndufs6 | 0.55 |
| Ndufs6b | 0.55 |

Supplementary Table S11. The table shows proteins and their $log_2$ fold change that were enriched in inositol phosphate metabolism.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Inppl1 | -0.29 |
| Minpp1 | -0.33 |
| Pik3ca | -0.08 |
| Pip4k2a | 0.51 |
| Pip5k1a | -0.16 |
| Plcb1 | -0.13 |
| Plcb4 | -0.14 |
| Inpp5k | 0.24 |
| Synj2 | -0.10 |
| Tpi1 | 0.19 |
| Mtmr7 | -1.43 |
| Impa1 | 0.28 |
| Plce1 | 0.96 |
| Pik3cb | -0.14 |
| Sacm1l | 0.17 |
| Inpp5f | -0.26 |

| | |
|---|---|
| Pi4kb | -0.20 |
| Pip4k2b | -0.19 |
| Pip4k2c | 0.29 |
| Inpp5a | 0.15 |
| Itpk1 | 0.38 |
| Inpp4a | 0.19 |

Supplementary Table S12. The table shows proteins and their $log_2$ fold change that were enriched in the regulation of actin cytoskeleton.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Akt1 | 0.17 |
| Akt2 | 0.15 |
| C9 | -0.46 |
| Bcar1 | -0.39 |
| Crkl | -0.14 |
| Diaph1 | -0.35 |
| Egfr | -0.20 |
| F2 | -0.65 |
| Fgf1 | 0.32 |
| Fgf2 | 0.17 |
| Fgfr1 | 0.20 |
| Fn1 | -0.50 |
| Gng12 | 1.05 |
| Itga2b | -1.31 |
| Itga3 | -0.39 |
| Itga5 | -0.56 |

| | |
|---|---|
| Itga7 | 0.21 |
| Itgav | -0.38 |
| Itgb1 | -0.25 |
| Itgb3 | -0.29 |
| Itgb5 | -0.70 |
| Msn | -0.12 |
| Myh11 | 0.42 |
| Myh9 | -0.28 |
| Ppp1r12a | 0.20 |
| Pdgfrb | -0.12 |
| Pik3ca | -0.08 |
| Pip4k2a | 0.51 |
| Pip5k1a | -0.16 |
| Ppp1ca | -0.11 |
| Ppp1cb | 0.27 |
| Ppp1cc | 0.11 |
| Pxn | -0.38 |
| Rdx | 0.12 |
| Rock1 | 0.60 |
| Rock2 | 0.16 |
| Slc9a1 | -0.47 |
| Src | -0.32 |
| Vcl | -0.34 |
| Map2k2 | 0.13 |
| Arhgef7 | 0.12 |
| Arpc1a | 0.28 |

| | |
|---|---|
| Vav3 | 0.56 |
| Myl12b | 0.29 |
| Arpc4 | 0.24 |
| C8g | -0.65 |
| Pak4 | -0.20 |
| Pdgfd | -0.27 |
| Wasl | -0.47 |
| Arpc5l | 0.29 |
| Pik3cb | -0.14 |
| Myh10 | 0.14 |
| Myl9 | 0.36 |
| Mylk | 0.36 |
| Pip4k2b | -0.19 |
| Itga1 | 0.30 |
| Actn1 | 0.26 |
| C7 | -0.40 |
| C8b | -0.53 |
| Pip4k2c | 0.29 |
| Git1 | -0.23 |
| Pak2 | -0.09 |
| Mylk2 | -0.30 |
| C8a | -0.52 |
| Ppp1r12c | 0.37 |
| Itga8 | -0.35 |
| Actr3b | 0.45 |
| Ssh3 | -0.16 |

| | |
|---|---|
| Abi2 | 0.24 |
| Ppp1r12b | 0.35 |

Supplementary Table S13. The table shows proteins and their $log_2$ fold change that were enriched in nucleotide metabolism.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Ada | 0.22 |
| Adk | -0.21 |
| Adsl | 0.15 |
| Adss1 | 0.58 |
| Ak4 | 1.34 |
| Entpd1 | -0.11 |
| Hprt1 | 0.20 |
| Nme1 | 0.25 |
| Nme2 | 0.32 |
| Enpp1 | 0.14 |
| Pnp | 0.30 |
| Dtymk | 0.55 |
| Uck1 | 0.39 |
| Ctps2 | -0.13 |
| Ak3 | 0.66 |
| Gmpr | 0.65 |
| Cmpk1 | 0.19 |
| Nt5c3b | 0.27 |
| Hddc2 | 0.32 |
| Nudt16 | 0.28 |

| | |
|---|---|
| Nt5c2 | 0.22 |
| Nme3 | 0.24 |
| Gmpr2 | 0.19 |
| Nme7 | 0.13 |
| Enpp3 | -0.27 |

Supplementary Table S14. The table shows proteins and their $log_2$ fold change that were enriched in cardiac muscle contraction.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Atp1b1 | -0.45 |
| Atp1b2 | 0.16 |
| Atp1b3 | -0.11 |
| Atp2a2 | 0.11 |
| Cacna2d1 | -0.43 |
| Casq2 | 2.30 |
| Cox4i1 | 0.64 |
| Cox5b | 0.57 |
| Hrc | 0.78 |
| Cytb | 0.46 |
| Myl4 | 1.11 |
| Ryr2 | 0.23 |
| Slc9a1 | -0.47 |
| Tnni3 | 3.87 |
| Tpm1 | 0.21 |
| Tpm2 | 0.39 |
| Tpm3 | 0.55 |

| | |
|---|---|
| Asph | -0.24 |
| Cyc1 | 0.41 |
| Uqcrb | 0.89 |
| Cox4i2 | 1.27 |
| Cox6b1 | 0.63 |
| Slc8a2 | -0.16 |
| Slc9a6 | -0.31 |
| Tpm4 | -0.22 |

Supplementary Table S15. The table shows proteins and their $log_2$ fold change that were enriched in thermogenesis.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Adcy7 | -0.26 |
| Atp5f1a | 0.27 |
| Atp5f1b | 0.20 |
| Atp5f1c | 0.31 |
| Atp5pb | 0.65 |
| Atp5pf | 1.10 |
| Atp5me | 0.63 |
| Cox4i1 | 0.64 |
| Cox5b | 0.57 |
| Cpt1a | 0.19 |
| Creb1 | -0.37 |
| Fgfr1 | 0.20 |
| Cytb | 0.46 |
| Ndufa4 | 0.44 |

| | |
|---|---|
| Ndufs4 | 0.35 |
| Prkaca | 0.15 |
| Prkacb | 0.12 |
| Prkab1 | -0.11 |
| Prkg1 | 0.32 |
| Smarca4 | -0.16 |
| Atp5mg | 0.33 |
| Atp5po | 0.41 |
| Sirt6 | 1.07 |
| Actl6a | -0.10 |
| Atp5mf | 0.46 |
| Tsc1 | -0.57 |
| Atp5f1d | 0.30 |
| Ndufb5 | 0.80 |
| Sdhc | 0.33 |
| Ndufb9 | 0.40 |
| Ndufa12 | 0.42 |
| Ndufa7 | 0.57 |
| Cyc1 | 0.41 |
| Ndufb3 | 0.59 |
| Ndufaf3 | 0.42 |
| Ndufb7 | 0.58 |
| Smarcd3 | -0.08 |
| Ndufb8 | 0.66 |
| Ndufa10 | 0.45 |
| Uqcrb | 0.89 |

| | |
|---|---|
| Smarcc2 | -0.08 |
| Ndufb4 | 0.80 |
| Ndufc2 | 0.49 |
| Ndufa5 | 0.67 |
| Ndufa8 | 0.46 |
| Ndufaf4 | 0.30 |
| Ndufaf5 | 0.87 |
| Ndufa11 | 0.38 |
| Atp5pd | 0.30 |
| Ndufv2 | 0.69 |
| Ndufaf7 | 0.31 |
| Ndufs7 | 0.46 |
| Cpt1c | -0.63 |
| Ndufv3 | 0.78 |
| Cox4i2 | 1.27 |
| Prkaa2 | 0.33 |
| Cox6b1 | 0.63 |
| Rps6ka3 | -0.18 |
| Ndufs2 | 0.33 |
| Ndufs1 | 0.37 |
| Ndufs6 | 0.55 |
| Ndufs6b | 0.55 |

Supplementary Table S16. The table shows proteins and their $log_2$ fold change that were enriched in the thyroid hormone signaling pathway.

| **Protein** | **Log2 Fold Change** |
|---|---|

| | |
|---|---|
| Akt1 | 0.17 |
| Akt2 | 0.15 |
| Atp1b1 | -0.45 |
| Atp1b2 | 0.16 |
| Atp1b3 | -0.11 |
| Atp2a2 | 0.11 |
| Ctnnb1 | 0.45 |
| Crebbp | -0.21 |
| Esr1 | -1.60 |
| Itgav | -0.38 |
| Itgb3 | -0.29 |
| Pfkl | 0.09 |
| Pfkm | 0.24 |
| Pik3ca | -0.08 |
| Prkaca | 0.15 |
| Prkacb | 0.12 |
| Prkca | -0.23 |
| Prkcb | -0.42 |
| Plcb1 | -0.13 |
| Plcb4 | -0.14 |
| Med1 | -0.23 |
| Ncor1 | -0.12 |
| Sin3a | -0.15 |
| Slc2a1 | -0.34 |
| Slc9a1 | -0.47 |
| Src | -0.32 |

| | |
|---|---|
| Stat1 | 0.32 |
| Map2k2 | 0.13 |
| Plce1 | 0.96 |
| Pik3cb | -0.14 |
| Hdac1 | -0.17 |

Supplementary Table S17. The table shows proteins and their $log_2$ fold change that were enriched in purine metabolism.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Ada | 0.22 |
| Adcy7 | -0.26 |
| Adk | -0.21 |
| Adsl | 0.15 |
| Adss1 | 0.58 |
| Ak4 | 1.34 |
| Entpd1 | -0.11 |
| Hprt1 | 0.20 |
| Nme1 | 0.25 |
| Nme2 | 0.32 |
| Pde1c | 1.51 |
| Enpp1 | 0.14 |
| Pnp | 0.30 |
| Papss1 | -0.21 |
| Papss2 | -0.33 |
| Nudt5 | 0.32 |
| Gucy1b1 | -0.17 |

| | |
|---|---|
| Pde3a | -0.36 |
| Ak3 | 0.66 |
| Gucy1a1 | -0.18 |
| Gmpr | 0.65 |
| Adprm | -1.99 |
| Paics | 0.23 |
| Hddc2 | 0.32 |
| Nudt16 | 0.28 |
| Nt5c2 | 0.22 |
| Nme3 | 0.24 |
| Gmpr2 | 0.19 |
| Prps2 | 0.15 |
| Nme7 | 0.13 |
| Enpp3 | -0.27 |
| Pfas | -0.27 |
| Pde4d | -0.47 |
| Pde5a | -0.15 |

Supplementary Table S18. The table shows proteins and their $log_2$ fold change that were enriched in non-alcoholic fatty liver disease.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Akt1 | 0.17 |
| Akt2 | 0.15 |
| Bax | 0.43 |
| Cox4i1 | 0.64 |
| Cox5b | 0.57 |

| | |
|---|---|
| Cycs | 0.49 |
| Eif2s1 | 0.24 |
| Cytb | 0.46 |
| Ndufa4 | 0.44 |
| Ndufs4 | 0.35 |
| Pik3ca | -0.08 |
| Prkab1 | -0.11 |
| Tgfb1 | -0.61 |
| Ndufb5 | 0.80 |
| Sdhc | 0.33 |
| Ndufb9 | 0.40 |
| Ndufa12 | 0.42 |
| Ndufa7 | 0.57 |
| Cyc1 | 0.41 |
| Ndufb3 | 0.59 |
| Ndufb7 | 0.58 |
| Ndufb8 | 0.66 |
| Ndufa10 | 0.45 |
| Uqcrb | 0.89 |
| Ndufb4 | 0.80 |
| Ndufc2 | 0.49 |
| Ndufa5 | 0.67 |
| Ndufa8 | 0.46 |
| Ndufa11 | 0.38 |
| Ndufv2 | 0.69 |
| Pik3cb | -0.14 |

| | |
|---|---|
| Ndufs7 | 0.46 |
| Ndufv3 | 0.78 |
| Cox4i2 | 1.27 |
| Prkaa2 | 0.33 |
| Cox6b1 | 0.63 |
| Ndufs2 | 0.33 |
| Ndufs1 | 0.37 |
| Irs2 | 0.96 |
| Ndufs6 | 0.55 |
| Ndufs6b | 0.55 |

Supplementary Table S19. The table shows proteins and their $log_2$ fold change that were enriched in protein processing in the endoplasmic reticulum.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Bax | 0.43 |
| Hyou1 | -0.24 |
| Pdia4 | -0.15 |
| Calr | -0.24 |
| Canx | -0.23 |
| Capn2 | 0.08 |
| Casp12 | -0.15 |
| Cryab | 0.27 |
| Ddost | -0.11 |
| Dnajc1 | -0.22 |
| Eif2s1 | 0.24 |
| Ganab | -0.13 |

| | |
|---|---|
| Pdia3 | -0.19 |
| Hspa5 | -0.21 |
| Hspa1l | -0.86 |
| Dnaja1 | -0.20 |
| Hspa1b | -0.94 |
| Hspa4l | -0.15 |
| Plaa | 0.12 |
| Rad23b | -0.16 |
| Rpn2 | -0.15 |
| Sec23a | -0.14 |
| Sel1l | -0.19 |
| Hsp90b1 | -0.20 |
| Ufd1 | 0.14 |
| Cul1 | 0.11 |
| Sec23b | -0.24 |
| Ero1a | -0.13 |
| Rbx1 | 0.61 |
| Dnajc10 | -0.34 |
| Lman2 | -0.19 |
| Ube2g1 | -0.29 |
| Erp29 | -0.22 |
| Stt3b | -0.11 |
| Sec31a | -0.13 |
| Sec24d | -0.23 |
| Tusc3 | -0.34 |
| Dnajb1 | -0.29 |

| | |
|---|---|
| Txndc5 | -0.17 |
| Sec13 | -0.14 |
| Bag2 | 0.20 |
| Man1b1 | -0.17 |
| Uggt1 | -0.18 |

Supplementary Table S20. The table shows proteins and their $log_2$ fold change that were enriched in endocytosis.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Ap2a1 | -0.20 |
| Ap2m1 | -0.11 |
| Capzb | 0.15 |
| Asap1 | -0.33 |
| Egfr | -0.20 |
| Epn1 | -0.16 |
| Epn2 | -0.38 |
| Eps15l1 | -0.13 |
| Hgs | -0.15 |
| Hspa1l | -0.86 |
| Hspa1b | -0.94 |
| Ldlr | -0.37 |
| Smad2 | -0.24 |
| Pip5k1a | -0.16 |
| Pml | 0.14 |
| Cyth3 | -0.18 |
| Rab11b | 0.13 |

| | |
|---|---|
| Rab5b | 0.17 |
| Rab7 | 0.13 |
| Sh3gl1 | -0.13 |
| Src | -0.32 |
| Tgfbr1 | -0.41 |
| Snf8 | 0.16 |
| Vps25 | 0.47 |
| Rab11fip5 | -0.24 |
| Vps37a | -0.52 |
| Rabep1 | -0.16 |
| Snx12 | 0.18 |
| Snx1 | 0.10 |
| Arpc1a | 0.28 |
| Ehd3 | -0.24 |
| Vta1 | 0.28 |
| Chmp3 | 0.22 |
| Vps28 | 0.31 |
| Arpc4 | 0.24 |
| Chmp2a | 0.17 |
| Vps26b | 0.15 |
| Snx4 | -0.13 |
| Snx5 | 0.09 |
| Smap2 | -0.20 |
| Vps36 | 0.27 |
| Ap2b1 | -0.18 |
| Wasl | -0.47 |

| | |
|---|---|
| Mvb12a | 0.27 |
| Arpc5l | 0.29 |
| Rab35 | 0.29 |
| Ehd4 | 0.13 |
| Ldlrap1 | -0.34 |
| Grk2 | 0.16 |
| Vps4a | 0.15 |
| Asap2 | -0.33 |
| Wipf1 | -0.35 |
| Eea1 | -0.18 |
| Git1 | -0.23 |
| Sh3glb2 | 0.21 |
| Spart | 0.15 |
| Iqsec1 | -0.22 |
| Ap2s1 | -0.19 |
| Actr3b | 0.45 |
| Ehd2 | -0.24 |
| Zfyve27 | 0.41 |

Supplementary Table S21. The table shows proteins and their $log_2$ fold change that were enriched in the extracellular region.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Abi3bp | -0.88 |
| Acan | -0.60 |
| Ace | -0.83 |
| Adamts1 | -1.58 |

| | |
|---|---|
| Adamtsl4 | -0.48 |
| Adamtsl5 | -0.46 |
| Aebp1 | -0.79 |
| Agrn | -0.72 |
| Ahsg | -0.49 |
| Ang | -0.44 |
| Angpt2 | -1.65 |
| Angptl2 | -0.49 |
| Apoa1 | -0.54 |
| Apoa4 | -0.65 |
| App | -1.03 |
| Atrn | -0.51 |
| Azgp1 | -0.42 |
| Bche | -0.65 |
| Bgn | -0.41 |
| Bmp1 | -1.47 |
| Bmp3 | -1.74 |
| C2 | -0.56 |
| C3 | -0.48 |
| C8a | -0.52 |
| C8b | -0.53 |
| C8g | -0.65 |
| C9 | -0.46 |
| Ccdc3 | -0.93 |
| Ccdc80 | -0.70 |
| Ccl9 | -0.44 |

| | |
|---|---|
| Ccn1 | -0.69 |
| Ccn2 | -0.68 |
| Cd109 | -1.12 |
| Cd9 | -1.24 |
| Ces2e | -0.94 |
| Cfb | -0.72 |
| Cfh | -0.73 |
| Cfi | -0.64 |
| Cfp | -1.27 |
| Chad | -0.47 |
| Clec11a | -0.44 |
| Clstn1 | -0.70 |
| Clu | -0.73 |
| Col15a1 | -0.82 |
| Col18a1 | -0.66 |
| Col4a6 | -0.96 |
| Col6a1 | -0.78 |
| Col6a2 | -0.73 |
| Col6a3 | -0.70 |
| Col6a6 | -0.68 |
| Cpn1 | -0.76 |
| Crp | -1.00 |
| Cyb5d2 | -0.63 |
| Cyp4a12b | -0.67 |
| Dkk3 | -0.51 |
| Ecm1 | -0.72 |

| | |
|---|---|
| Ecm2 | -0.52 |
| Efemp2 | -0.43 |
| Efna5 | -0.42 |
| F10 | -0.64 |
| F13a1 | -0.44 |
| F13b | -1.27 |
| F2 | -0.65 |
| F5 | -2.89 |
| Fetub | -0.48 |
| Fgl2 | -0.41 |
| Fibin | -0.98 |
| Fstl1 | -0.46 |
| Gas6 | -0.61 |
| Gc | -0.52 |
| Gp1ba | -1.85 |
| Gpc1 | -0.43 |
| Gpc4 | -0.44 |
| Gpc6 | -0.64 |
| Gpx3 | -0.57 |
| Hspg2 | -0.55 |
| Htra1 | -0.94 |
| Htra3 | -0.90 |
| Htra4 | -1.38 |
| Igfbp5 | -0.49 |
| Igfbp6 | -0.60 |
| Igfbp7 | -0.65 |

| | |
|---|---|
| Inhca | -0.50 |
| Itgbl1 | -0.64 |
| Itih1 | -0.60 |
| Itih4 | -0.69 |
| Kera | -0.73 |
| Lama2 | -0.45 |
| Lama4 | -0.40 |
| Lamb2 | -0.45 |
| Lamc1 | -0.36 |
| Lgals3 | -0.49 |
| Loxl1 | -0.59 |
| Loxl2 | -0.79 |
| Loxl3 | -0.69 |
| Lrrc17 | -1.24 |
| Ltbp3 | -0.45 |
| Ltbp4 | -0.56 |
| Mamdc2 | -1.44 |
| Masp1 | -1.47 |
| Masp2 | -0.82 |
| Matn2 | -0.79 |
| Mbl1 | -0.96 |
| Mbl2 | -0.64 |
| Mfap5 | -0.50 |
| Mfge8 | -0.75 |
| Mgp | -0.80 |
| Mmp17 | -0.81 |

| | |
|---|---|
| Mmp2 | -0.40 |
| Mmrn1 | -1.31 |
| Mst1 | -0.48 |
| Mug1 | -0.71 |
| Npnt | -0.54 |
| Ntn1 | -1.24 |
| Pam | -0.52 |
| Pamr1 | -0.56 |
| Pcif1 | -0.45 |
| Pcolce2 | -0.95 |
| Pdgfrl | -0.94 |
| Pf4 | -1.23 |
| Pkd1 | -0.40 |
| Plg | -0.73 |
| Pltp | -0.43 |
| Plxdc2 | -0.53 |
| Postn | -0.98 |
| Ppp1r13l | -0.55 |
| Prelp | -0.40 |
| Pros1 | -1.00 |
| Prss23 | -0.46 |
| Qpct | -0.97 |
| Qsox1 | -0.60 |
| Rbp4 | -0.43 |
| Rnase4 | -0.65 |
| Scube3 | -0.95 |

| | |
|---|---|
| Sdc4 | -0.42 |
| Sdcbp | -0.63 |
| Selenop | -1.52 |
| Selp | -1.57 |
| Sema3c | -0.88 |
| Sema3d | -4.29 |
| Sema3f | -0.55 |
| Serpina1a | -0.57 |
| Serpina1b | -0.53 |
| Serpina1d | -0.58 |
| Serpina3k | -0.47 |
| Serpina3n | -0.46 |
| Serpinb8 | -0.46 |
| Serpinc1 | -0.42 |
| Serpind1 | -0.75 |
| Serpine1 | -1.08 |
| Serpine2 | -0.97 |
| Serpinf2 | -0.98 |
| Serpini1 | -0.79 |
| Sfrp1 | -0.42 |
| Sfrp2 | -0.53 |
| Smoc1 | -0.95 |
| Smpdl3b | -0.45 |
| Sod3 | -0.84 |
| Sorl1 | -0.41 |
| Spon1 | -0.47 |

| | |
|---|---|
| Spon2 | -0.58 |
| Spp2 | -1.31 |
| Srpx2 | -0.64 |
| Sulf1 | -0.54 |
| Sulf2 | -0.89 |
| Tgfb1 | -0.61 |
| Tgfbi | -0.59 |
| Thbd | -0.64 |
| Thbs3 | -0.71 |
| Thsd4 | -0.66 |
| Timp2 | -0.41 |
| Timp3 | -0.67 |
| Tnxb | -1.06 |
| Trf | -0.44 |
| Ttr | -0.47 |
| Vcan | -0.46 |
| Vtn | -1.07 |
| Vwf | -0.48 |

Supplementary Table S22. The table shows proteins and their $log_2$ fold change that were enriched in extracellular spaces.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Acan | -0.60 |
| Ace | -0.83 |
| Adamtsl4 | -0.48 |
| Aebp1 | -0.79 |

| | |
|---|---|
| Agrn | -0.72 |
| Ahsg | -0.49 |
| Ang | -0.44 |
| Angpt2 | -1.65 |
| Angptl2 | -0.49 |
| Apoa1 | -0.54 |
| Apoa4 | -0.65 |
| App | -1.03 |
| Atrn | -0.51 |
| Azgp1 | -0.42 |
| Bche | -0.65 |
| Bgn | -0.41 |
| Bmp1 | -1.47 |
| Bmp3 | -1.74 |
| C2 | -0.56 |
| C3 | -0.48 |
| C8a | -0.52 |
| C8b | -0.53 |
| C8g | -0.65 |
| C9 | -0.46 |
| Ccdc80 | -0.70 |
| Ccl9 | -0.44 |
| Ccn1 | -0.69 |
| Ccn2 | -0.68 |
| Cd109 | -1.12 |
| Cd9 | -1.24 |

| | |
|---|---|
| Ces2e | -0.94 |
| Cfb | -0.72 |
| Cfh | -0.73 |
| Cfi | -0.64 |
| Chad | -0.47 |
| Clec11a | -0.44 |
| Clstn1 | -0.70 |
| Clu | -0.73 |
| Col15a1 | -0.82 |
| Col18a1 | -0.66 |
| Col4a6 | -0.96 |
| Col6a1 | -0.78 |
| Col6a2 | -0.73 |
| Col6a3 | -0.70 |
| Cpn1 | -0.76 |
| Crp | -1.00 |
| Cyp4a12b | -0.67 |
| Dkk3 | -0.51 |
| Ecm1 | -0.72 |
| Efemp2 | -0.43 |
| F10 | -0.64 |
| F2 | -0.65 |
| F5 | -2.89 |
| Fetub | -0.48 |
| Fstl1 | -0.46 |
| Gas6 | -0.61 |

| | |
|---|---|
| Gc | -0.52 |
| Gp1ba | -1.85 |
| Gpc4 | -0.44 |
| Gpx3 | -0.57 |
| Hspg2 | -0.55 |
| Htra1 | -0.94 |
| Igfbp5 | -0.49 |
| Igfbp6 | -0.60 |
| Igfbp7 | -0.65 |
| Inhca | -0.50 |
| Itgbl1 | -0.64 |
| Lama2 | -0.45 |
| Lama4 | -0.40 |
| Lamb2 | -0.45 |
| Lamc1 | -0.36 |
| Lgals3 | -0.49 |
| Loxl1 | -0.59 |
| Loxl2 | -0.79 |
| Loxl3 | -0.69 |
| Lrrc17 | -1.24 |
| Ltbp4 | -0.56 |
| Masp1 | -1.47 |
| Masp2 | -0.82 |
| Matn2 | -0.79 |
| Mbl1 | -0.96 |
| Mbl2 | -0.64 |

| | |
|---|---|
| Mfap5 | -0.50 |
| Mfge8 | -0.75 |
| Mgp | -0.80 |
| Mmp2 | -0.40 |
| Mst1 | -0.48 |
| Mug1 | -0.71 |
| Npnt | -0.54 |
| Pam | -0.52 |
| Pamr1 | -0.56 |
| Pf4 | -1.23 |
| Pkd1 | -0.40 |
| Plg | -0.73 |
| Pltp | -0.43 |
| Postn | -0.98 |
| Prelp | -0.40 |
| Pros1 | -1.00 |
| Prss23 | -0.46 |
| Qsox1 | -0.60 |
| Rbp4 | -0.43 |
| Rnase4 | -0.65 |
| Scube3 | -0.95 |
| Sdcbp | -0.63 |
| Selenop | -1.52 |
| Selp | -1.57 |
| Sema3c | -0.88 |
| Sema3d | -4.29 |

| | |
|---|---|
| Sema3f | -0.55 |
| Serpina1a | -0.57 |
| Serpina1b | -0.53 |
| Serpina1d | -0.58 |
| Serpina3k | -0.47 |
| Serpina3n | -0.46 |
| Serpinb8 | -0.46 |
| Serpinc1 | -0.42 |
| Serpind1 | -0.75 |
| Serpine1 | -1.08 |
| Serpine2 | -0.97 |
| Serpinf2 | -0.98 |
| Serpini1 | -0.79 |
| Sfrp1 | -0.42 |
| Sfrp2 | -0.53 |
| Smpdl3b | -0.45 |
| Sod3 | -0.84 |
| Sorl1 | -0.41 |
| Spon2 | -0.58 |
| Srpx2 | -0.64 |
| Sulf1 | -0.54 |
| Sulf2 | -0.89 |
| Tgfb1 | -0.61 |
| Tgfbi | -0.59 |
| Thbd | -0.64 |
| Thbs3 | -0.71 |

| | |
|---|---|
| Timp2 | -0.41 |
| Timp3 | -0.67 |
| Tnxb | -1.06 |
| Trf | -0.44 |
| Ttr | -0.47 |
| Vcan | -0.46 |
| Vtn | -1.07 |
| Vwf | -0.48 |

Supplementary Table S23. The table shows proteins and their $log_2$ fold change that were enriched in the extracellular matrix.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Abi3bp | -0.88 |
| Acan | -0.60 |
| Adamts1 | -1.58 |
| Adamtsl4 | -0.48 |
| Adamtsl5 | -0.46 |
| Agrn | -0.72 |
| Ahsg | -0.49 |
| Ang | -0.44 |
| Bgn | -0.41 |
| Bmp1 | -1.47 |
| Ccdc80 | -0.70 |
| Ccn1 | -0.69 |
| Ccn2 | -0.68 |
| Chad | -0.47 |

| | |
|---|---|
| Col15a1 | -0.82 |
| Col18a1 | -0.66 |
| Col4a6 | -0.96 |
| Col6a1 | -0.78 |
| Col6a2 | -0.73 |
| Col6a3 | -0.70 |
| Col6a6 | -0.68 |
| Ecm1 | -0.72 |
| Ecm2 | -0.52 |
| Efemp2 | -0.43 |
| Efna5 | -0.42 |
| F13a1 | -0.44 |
| F2 | -0.65 |
| Gp1ba | -1.85 |
| Gpc1 | -0.43 |
| Gpc4 | -0.44 |
| Gpc6 | -0.64 |
| Hspg2 | -0.55 |
| Htra1 | -0.94 |
| Igfbp6 | -0.60 |
| Igfbp7 | -0.65 |
| Itih1 | -0.60 |
| Itih4 | -0.69 |
| Lama2 | -0.45 |
| Lama4 | -0.40 |
| Lamb2 | -0.45 |

| | |
|---|---|
| Lamc1 | -0.36 |
| Lgals3 | -0.49 |
| Loxl1 | -0.59 |
| Loxl2 | -0.79 |
| Lrrc17 | -1.24 |
| Ltbp3 | -0.45 |
| Ltbp4 | -0.56 |
| Mamdc2 | -1.44 |
| Matn2 | -0.79 |
| Mbl2 | -0.64 |
| Mfap5 | -0.50 |
| Mfge8 | -0.75 |
| Mgp | -0.80 |
| Mmp17 | -0.81 |
| Mmp2 | -0.40 |
| Mmrn1 | -1.31 |
| Npnt | -0.54 |
| Ntn1 | -1.24 |
| Pcolce2 | -0.95 |
| Pf4 | -1.23 |
| Plg | -0.73 |
| Plxdc2 | -0.53 |
| Postn | -0.98 |
| Prelp | -0.40 |
| Sema3c | -0.88 |
| Serpina3k | -0.47 |

| | |
|---|---|
| Serpinc1 | -0.42 |
| Serpine1 | -1.08 |
| Serpine2 | -0.97 |
| Serpinf2 | -0.98 |
| Sfrp1 | -0.42 |
| Smoc1 | -0.95 |
| Sod3 | -0.84 |
| Spon1 | -0.47 |
| Spon2 | -0.58 |
| Srpx2 | -0.64 |
| Tgfb1 | -0.61 |
| Tgfbi | -0.59 |
| Thsd4 | -0.66 |
| Timp2 | -0.41 |
| Timp3 | -0.67 |
| Tnxb | -1.06 |
| Trf | -0.44 |
| Vcan | -0.46 |
| Vtn | -1.07 |
| Vwf | -0.48 |

Supplementary Table S24. The table shows proteins and their $log_2$ fold change that were enriched in the extracellular region part.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Abi3bp | -0.88 |
| Acan | -0.60 |

| | |
|---|---|
| Ace | -0.83 |
| Adamts1 | -1.58 |
| Adamtsl4 | -0.48 |
| Adamtsl5 | -0.46 |
| Aebp1 | -0.79 |
| Agrn | -0.72 |
| Ahsg | -0.49 |
| Ang | -0.44 |
| Angpt2 | -1.65 |
| Angptl2 | -0.49 |
| Apoa1 | -0.54 |
| Apoa4 | -0.65 |
| App | -1.03 |
| Atrn | -0.51 |
| Azgp1 | -0.42 |
| Bche | -0.65 |
| Bgn | -0.41 |
| Bmp1 | -1.47 |
| Bmp3 | -1.74 |
| C2 | -0.56 |
| C3 | -0.48 |
| C8a | -0.52 |
| C8b | -0.53 |
| C8g | -0.65 |
| C9 | -0.46 |
| Ccdc80 | -0.70 |

| | |
|---|---|
| Ccl9 | -0.44 |
| Ccn1 | -0.69 |
| Ccn2 | -0.68 |
| Cd109 | -1.12 |
| Cd9 | -1.24 |
| Ces2e | -0.94 |
| Cfb | -0.72 |
| Cfh | -0.73 |
| Cfi | -0.64 |
| Chad | -0.47 |
| Clec11a | -0.44 |
| Clstn1 | -0.70 |
| Clu | -0.73 |
| Col15a1 | -0.82 |
| Col18a1 | -0.66 |
| Col4a6 | -0.96 |
| Col6a1 | -0.78 |
| Col6a2 | -0.73 |
| Col6a3 | -0.70 |
| Col6a6 | -0.68 |
| Cpn1 | -0.76 |
| Crp | -1.00 |
| Cyp4a12b | -0.67 |
| Dkk3 | -0.51 |
| Ecm1 | -0.72 |
| Ecm2 | -0.52 |

| | |
|---|---|
| Efemp2 | -0.43 |
| Efna5 | -0.42 |
| F10 | -0.64 |
| F13a1 | -0.44 |
| F2 | -0.65 |
| F5 | -2.89 |
| Fetub | -0.48 |
| Fstl1 | -0.46 |
| Gas6 | -0.61 |
| Gc | -0.52 |
| Gp1ba | -1.85 |
| Gpc1 | -0.43 |
| Gpc4 | -0.44 |
| Gpc6 | -0.64 |
| Gpx3 | -0.57 |
| Hspg2 | -0.55 |
| Htra1 | -0.94 |
| Igfbp5 | -0.49 |
| Igfbp6 | -0.60 |
| Igfbp7 | -0.65 |
| Inhca | -0.50 |
| Itgbl1 | -0.64 |
| Itih1 | -0.60 |
| Itih4 | -0.69 |
| Lama2 | -0.45 |
| Lama4 | -0.40 |

| | |
|---|---|
| Lamb2 | -0.45 |
| Lamc1 | -0.36 |
| Lgals3 | -0.49 |
| Loxl1 | -0.59 |
| Loxl2 | -0.79 |
| Loxl3 | -0.69 |
| Lrrc17 | -1.24 |
| Ltbp3 | -0.45 |
| Ltbp4 | -0.56 |
| Mamdc2 | -1.44 |
| Masp1 | -1.47 |
| Masp2 | -0.82 |
| Matn2 | -0.79 |
| Mbl1 | -0.96 |
| Mbl2 | -0.64 |
| Mfap5 | -0.50 |
| Mfge8 | -0.75 |
| Mgp | -0.80 |
| Mmp17 | -0.81 |
| Mmp2 | -0.40 |
| Mmrn1 | -1.31 |
| Mst1 | -0.48 |
| Mug1 | -0.71 |
| Npnt | -0.54 |
| Ntn1 | -1.24 |
| Pam | -0.52 |

| | |
|---|---|
| Pamr1 | -0.56 |
| Pcif1 | -0.45 |
| Pcolce2 | -0.95 |
| Pf4 | -1.23 |
| Pkd1 | -0.40 |
| Plg | -0.73 |
| Pltp | -0.43 |
| Plxdc2 | -0.53 |
| Postn | -0.98 |
| Ppp1r13l | -0.55 |
| Prelp | -0.40 |
| Pros1 | -1.00 |
| Prss23 | -0.46 |
| Qsox1 | -0.60 |
| Rbp4 | -0.43 |
| Rnase4 | -0.65 |
| Scube3 | -0.95 |
| Sdcbp | -0.63 |
| Selenop | -1.52 |
| Selp | -1.57 |
| Sema3c | -0.88 |
| Sema3d | -4.29 |
| Sema3f | -0.55 |
| Serpina1a | -0.57 |
| Serpina1b | -0.53 |
| Serpina1d | -0.58 |

| | |
|---|---|
| Serpina3k | -0.47 |
| Serpina3n | -0.46 |
| Serpinb8 | -0.46 |
| Serpinc1 | -0.42 |
| Serpind1 | -0.75 |
| Serpine1 | -1.08 |
| Serpine2 | -0.97 |
| Serpinf2 | -0.98 |
| Serpini1 | -0.79 |
| Sfrp1 | -0.42 |
| Sfrp2 | -0.53 |
| Smoc1 | -0.95 |
| Smpdl3b | -0.45 |
| Sod3 | -0.84 |
| Sorl1 | -0.41 |
| Spon1 | -0.47 |
| Spon2 | -0.58 |
| Srpx2 | -0.64 |
| Sulf1 | -0.54 |
| Sulf2 | -0.89 |
| Tgfb1 | -0.61 |
| Tgfbi | -0.59 |
| Thbd | -0.64 |
| Thbs3 | -0.71 |
| Thsd4 | -0.66 |
| Timp2 | -0.41 |

| | |
|---|---|
| Timp3 | -0.67 |
| Tnxb | -1.06 |
| Trf | -0.44 |
| Ttr | -0.47 |
| Vcan | -0.46 |
| Vtn | -1.07 |
| Vwf | -0.48 |

Supplementary Table S25. The table shows proteins and their $log_2$ fold change that were enriched in the collagen-containing extracellular matrix.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Abi3bp | -0.88 |
| Acan | -0.60 |
| Adamts1 | -1.58 |
| Adamtsl4 | -0.48 |
| Adamtsl5 | -0.46 |
| Agrn | -0.72 |
| Ahsg | -0.49 |
| Ang | -0.44 |
| Bgn | -0.41 |
| Bmp1 | -1.47 |
| Ccdc80 | -0.70 |
| Col15a1 | -0.82 |
| Col18a1 | -0.66 |
| Col4a6 | -0.96 |
| Col6a1 | -0.78 |

| | |
|---|---|
| Col6a2 | -0.73 |
| Col6a3 | -0.70 |
| Col6a6 | -0.68 |
| Ecm1 | -0.72 |
| Ecm2 | -0.52 |
| Efemp2 | -0.43 |
| Efna5 | -0.42 |
| F13a1 | -0.44 |
| F2 | -0.65 |
| Gpc1 | -0.43 |
| Gpc4 | -0.44 |
| Gpc6 | -0.64 |
| Hspg2 | -0.55 |
| Htra1 | -0.94 |
| Igfbp6 | -0.60 |
| Igfbp7 | -0.65 |
| Itih1 | -0.60 |
| Itih4 | -0.69 |
| Lama2 | -0.45 |
| Lama4 | -0.40 |
| Lamb2 | -0.45 |
| Lamc1 | -0.36 |
| Lgals3 | -0.49 |
| Loxl1 | -0.59 |
| Loxl2 | -0.79 |
| Ltbp4 | -0.56 |

| | |
|---|---|
| Mamdc2 | -1.44 |
| Matn2 | -0.79 |
| Mfap5 | -0.50 |
| Mfge8 | -0.75 |
| Mgp | -0.80 |
| Mmrn1 | -1.31 |
| Npnt | -0.54 |
| Ntn1 | -1.24 |
| Pcolce2 | -0.95 |
| Pf4 | -1.23 |
| Plg | -0.73 |
| Plxdc2 | -0.53 |
| Postn | -0.98 |
| Prelp | -0.40 |
| Sema3c | -0.88 |
| Serpina3k | -0.47 |
| Serpinc1 | -0.42 |
| Serpine1 | -1.08 |
| Serpine2 | -0.97 |
| Serpinf2 | -0.98 |
| Sfrp1 | -0.42 |
| Smoc1 | -0.95 |
| Sod3 | -0.84 |
| Spon1 | -0.47 |
| Srpx2 | -0.64 |
| Tgfb1 | -0.61 |

| | |
|---|---|
| Tgfbi | -0.59 |
| Timp2 | -0.41 |
| Timp3 | -0.67 |
| Tnxb | -1.06 |
| Trf | -0.44 |
| Vcan | -0.46 |
| Vtn | -1.07 |
| Vwf | -0.48 |

Supplementary Table S26. The table shows proteins and their $log_2$ fold change that were enriched in the basement membrane.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Acan | -0.60 |
| Adamts1 | -1.58 |
| Agrn | -0.72 |
| Ang | -0.44 |
| Ccdc80 | -0.70 |
| Col15a1 | -0.82 |
| Col18a1 | -0.66 |
| Col4a6 | -0.96 |
| Efemp1 | -0.32 |
| Efna5 | -0.42 |
| Hspg2 | -0.55 |
| Lama2 | -0.45 |
| Lama4 | -0.40 |
| Lamb2 | -0.45 |

| | |
|---|---|
| Lamc1 | -0.36 |
| Loxl1 | -0.59 |
| Loxl2 | -0.79 |
| Matn2 | -0.79 |
| Npnt | -0.54 |
| Ntn1 | -1.24 |
| Papln | -0.35 |
| Serpinf1 | -0.36 |
| Smoc1 | -0.95 |
| Sparc | -0.32 |
| Tgfb2 | -0.31 |
| Tgfbi | -0.59 |
| Timp2 | -0.41 |
| Timp3 | -0.67 |
| Trf | -0.44 |
| Vtn | -1.07 |
| Vwa1 | -0.38 |

Supplementary Table S27. The table shows proteins and their $log_2$ fold change that were enriched in cell projection.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Aak1 | -0.22 |
| Ablim1 | -0.34 |
| Acvrl1 | -0.35 |
| Adam10 | -0.34 |
| Asap1 | -0.33 |

| | |
|---|---|
| Aspn | -0.36 |
| Atp2b4 | -0.35 |
| Bcar1 | -0.39 |
| Bmpr2 | -0.33 |
| Cd44 | -0.40 |
| Cdh13 | -0.33 |
| Cep170 | -0.31 |
| Cnn3 | -0.34 |
| Cpe | -0.33 |
| Creb1 | -0.37 |
| Ctsl | -0.31 |
| Diaph1 | -0.35 |
| Dmtn | -0.34 |
| Dpysl5 | -0.32 |
| Dtna | -0.31 |
| Dysf | -0.31 |
| Fus | -0.36 |
| Gabra3 | -0.37 |
| Gja5 | -0.35 |
| Igsf8 | -0.33 |
| Itga3 | -0.39 |
| Itga8 | -0.35 |
| Itgav | -0.38 |
| Ldlrap1 | -0.34 |
| Lrp1 | -0.35 |
| Mfsd10 | -0.37 |

| | |
|---|---|
| Nptn | -0.35 |
| Nradd | -0.32 |
| Osbpl3 | -0.35 |
| Pdlim4 | -0.31 |
| Phactr4 | -0.33 |
| Ptgs1 | -0.39 |
| Ptprs | -0.31 |
| Pxn | -0.38 |
| Rasgrp2 | -0.34 |
| Rilp | -0.33 |
| Serpinf1 | -0.36 |
| Sgce | -0.35 |
| Sh2b1 | -0.36 |
| Slc9a6 | -0.31 |
| Snap29 | -0.35 |
| Src | -0.32 |
| Tgfb2 | -0.31 |
| Wipf1 | -0.35 |

Supplementary Table S28. The table shows proteins and their $log_2$ fold change that were enriched in plasma membrane-bound cell projection.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Acvrl1 | -0.35 |
| Adam10 | -0.34 |
| Bmpr2 | -0.33 |
| Cd44 | -0.40 |

| | |
|---|---|
| Cdh13 | -0.33 |
| Cpe | -0.33 |
| Creb1 | -0.37 |
| Bcar1 | -0.39 |
| Ctsl | -0.31 |
| Asap1 | -0.33 |
| Diaph1 | -0.35 |
| Dtna | -0.31 |
| Dmtn | -0.34 |
| Gabra3 | -0.37 |
| Itga3 | -0.39 |
| Itgav | -0.38 |
| Lrp1 | -0.35 |
| Ptgs1 | -0.39 |
| Ptprs | -0.31 |
| Pxn | -0.38 |
| Rasgrp2 | -0.34 |
| Serpinf1 | -0.36 |
| Nptn | -0.35 |
| Sgce | -0.35 |
| Sh2b1 | -0.36 |
| Src | -0.32 |
| Tgfb2 | -0.31 |
| Dysf | -0.31 |
| Pdlim4 | -0.31 |
| Dpysl5 | -0.32 |

| | |
|---|---|
| Nradd | -0.32 |
| Snap29 | -0.35 |
| Mfsd10 | -0.37 |
| Cnn3 | -0.34 |
| Ldlrap1 | -0.34 |
| Phactr4 | -0.33 |
| Igsf8 | -0.33 |
| Ablim1 | -0.34 |
| Fus | -0.36 |
| Slc9a6 | -0.31 |
| Itga8 | -0.35 |
| Aak1 | -0.22 |
| Rilp | -0.33 |
| Atp2b4 | -0.35 |
| Cep170 | -0.31 |

Supplementary Table S29. The table shows proteins and their $log_2$ fold change that were enriched in nucleosomes.

| **Protein** | **Log2 Fold Change** |
|---|---|
| H4c1 | -0.22 |
| H4c11 | -0.22 |
| H4c12 | -0.22 |
| H4c14 | -0.22 |
| H4c16 | -0.22 |
| H4c17 | -0.22 |
| H4c18 | -0.22 |

| | |
|---|---|
| H4c2 | -0.22 |
| H4c3 | -0.22 |
| H4c4 | -0.22 |
| H4c6 | -0.22 |
| H4c8 | -0.22 |
| H4c9 | -0.22 |

Supplementary Table S30. The table shows proteins and their $log_2$ fold change that were enriched in nuclear nucleosomes.

| **Protein** | **Log2 Fold Change** |
|---|---|
| H4c1 | -0.22 |
| H4c11 | -0.22 |
| H4c12 | -0.22 |
| H4c14 | -0.22 |
| H4c16 | -0.22 |
| H4c17 | -0.22 |
| H4c18 | -0.22 |
| H4c2 | -0.22 |
| H4c3 | -0.22 |
| H4c4 | -0.22 |
| H4c6 | -0.22 |
| H4c8 | -0.22 |
| H4c9 | -0.22 |

Supplementary Table S31. The table shows proteins and their $log_2$ fold change that were enriched in the extracellular matrix structural constituent conferring tensile strength.

| Protein | Log2 Fold Change |
|---|---|
| Col15a1 | -0.824 |
| Col18a1 | -0.66 |
| Col4a6 | -0.96 |
| Col6a1 | -0.778 |
| Col6a2 | -0.728 |
| Col6a3 | -0.7 |
| Col6a6 | -0.684 |

Supplementary Table S32. The table shows proteins and their $log_2$ fold change that were enriched in serine-type endopeptidase activity.

| Protein | Log2 Fold Change |
|---|---|
| C2 | -0.564 |
| Cfb | -0.722 |
| Cfi | -0.644 |
| F10 | -0.642 |
| F2 | -0.652 |
| Htra1 | -0.94 |
| Htra3 | -0.904 |
| Htra4 | -1.382 |
| Masp1 | -1.47 |
| Masp2 | -0.824 |
| Mmp2 | -0.404 |
| Mst1 | -0.484 |
| Pamr1 | -0.558 |
| Plg | -0.732 |

| | |
|---|---|
| Prss23 | -0.462 |

Supplementary Table S33. The table shows proteins and their $log_2$ fold change that were enriched in enzyme inhibitor activity.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Agrn | -0.724 |
| Ahsg | -0.492 |
| Apoa1 | -0.542 |
| App | -1.034 |
| C3 | -0.476 |
| Cabin1 | -1.066 |
| Cd109 | -1.118 |
| F13b | -1.272 |
| Fetub | -0.484 |
| Gas6 | -0.606 |
| Inhca | -0.496 |
| Itih1 | -0.598 |
| Itih4 | -0.688 |
| Itprip | -0.442 |
| Mgat5 | -0.434 |
| Mug1 | -0.712 |
| Serpina1a | -0.57 |
| Serpina1b | -0.528 |
| Serpina1d | -0.578 |
| Serpina3k | -0.474 |
| Serpina3n | -0.464 |

| | |
|---|---|
| Serpinb8 | -0.462 |
| Serpinc1 | -0.418 |
| Serpind1 | -0.752 |
| Serpine1 | -1.076 |
| Serpine2 | -0.966 |
| Serpinf2 | -0.978 |
| Serpini1 | -0.788 |
| Timp2 | -0.414 |
| Timp3 | -0.666 |

Supplementary Table S34. The table shows proteins and their $log_2$ fold change that were enriched in endopeptidase inhibitor activity.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Ahsg | -0.83 |
| App | -1.58 |
| C3 | -0.79 |
| Cd109 | -0.60 |
| Fetub | -1.65 |
| Gas6 | -0.72 |
| Itih1 | -0.49 |
| Itih4 | -0.44 |
| Mug1 | -0.54 |
| Serpina1a | -0.65 |
| Serpina1b | -1.03 |
| Serpina1d | -0.42 |
| Serpina3k | -0.51 |

| | |
|---|---|
| Serpina3n | -0.42 |
| Serpinb8 | -0.65 |
| Serpinc1 | -0.41 |
| Serpind1 | -1.47 |
| Serpine1 | -0.56 |
| Serpine2 | -0.48 |
| Serpinf2 | -0.46 |
| Serpini1 | -1.24 |
| Timp2 | -0.73 |
| Timp3 | -0.64 |

Supplementary Table S35. The table shows proteins and their $log_2$ fold change that were enriched in the extracellular matrix structural constituent.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Abi3bp | -0.876 |
| Agrn | -0.724 |
| Bgn | -0.41 |
| Col15a1 | -0.824 |
| Col18a1 | -0.66 |
| Col4a6 | -0.96 |
| Col6a1 | -0.778 |
| Col6a2 | -0.728 |
| Col6a3 | -0.7 |
| Col6a6 | -0.684 |
| Ecm1 | -0.72 |
| Efemp2 | -0.43 |

| | |
|---|---|
| Hspg2 | -0.548 |
| Igfbp6 | -0.596 |
| Igfbp7 | -0.646 |
| Lama2 | -0.452 |
| Lama4 | -0.402 |
| Lamb2 | -0.446 |
| Lamc1 | -0.358 |
| Ltbp4 | -0.562 |
| Matn2 | -0.786 |
| Mfap5 | -0.496 |
| Mfge8 | -0.75 |
| Mmrn1 | -1.308 |
| Npnt | -0.542 |
| Ntn1 | -1.242 |
| Pcolce2 | -0.946 |
| Postn | -0.978 |
| Prelp | -0.4 |
| Spon1 | -0.466 |
| Srpx2 | -0.636 |
| Tgfbi | -0.594 |
| Tnxb | -1.056 |
| Vcan | -0.462 |
| Vtn | -1.074 |
| Vwf | -0.482 |

Supplementary Table S36. The table shows proteins and their $\log_2$ fold change that were enriched in glycosaminoglycan binding.

| Protein | Log2 Fold Change |
|---|---|
| Abi3bp | -0.876 |
| Acan | -0.602 |
| Adamts1 | -1.58 |
| Adamtsl5 | -0.456 |
| Agrn | -0.724 |
| Ang | -0.438 |
| Aplp2 | -0.606 |
| App | -1.034 |
| Bgn | -0.41 |
| Ccdc80 | -0.704 |
| Ccn1 | -0.69 |
| Ccn2 | -0.676 |
| Cfh | -0.732 |
| Ecm2 | -0.518 |
| F2 | -0.652 |
| Fstl1 | -0.462 |
| Mamdc2 | -1.44 |
| Pcolce2 | -0.946 |
| Pf4 | -1.23 |
| Postn | -0.978 |
| Prelp | -0.4 |
| Selp | -1.574 |
| Serpinc1 | -0.418 |
| Serpind1 | -0.752 |
| Serpine2 | -0.966 |

| | |
|---|---|
| Sfrp1 | -0.424 |
| Sulf1 | -0.542 |
| Sulf2 | -0.886 |
| Thbs3 | -0.714 |
| Tnxb | -1.056 |
| Vcan | -0.462 |
| Vtn | -1.074 |

Supplementary Table S37. The table shows proteins and their $log_2$ fold change that were enriched in heparin binding.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Abi3bp | -0.876 |
| Adamts1 | -1.58 |
| Adamtsl5 | -0.456 |
| Ang | -0.438 |
| Aplp2 | -0.606 |
| App | -1.034 |
| Ccdc80 | -0.704 |
| Ccn1 | -0.69 |
| Ccn2 | -0.676 |
| Cfh | -0.732 |
| Ecm2 | -0.518 |
| F2 | -0.652 |
| Fstl1 | -0.462 |
| Pcolce2 | -0.946 |
| Pf4 | -1.23 |

| | |
|---|---|
| Postn | -0.978 |
| Prelp | -0.4 |
| Selp | -1.574 |
| Serpinc1 | -0.418 |
| Serpind1 | -0.752 |
| Serpine2 | -0.966 |
| Sfrp1 | -0.424 |
| Thbs3 | -0.714 |
| Tnxb | -1.056 |
| Vtn | -1.074 |

Supplementary Table S38. The table shows proteins and their $log_2$ fold change that were enriched in serine-type peptidase activity.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Ace | -0.834 |
| C2 | -0.564 |
| Cfb | -0.722 |
| Cfi | -0.644 |
| F10 | -0.642 |
| F2 | -0.652 |
| Htra1 | -0.94 |
| Htra3 | -0.904 |
| Htra4 | -1.382 |
| Masp1 | -1.47 |
| Masp2 | -0.824 |
| Mmp2 | -0.404 |

| | |
|---|---|
| Mst1 | -0.484 |
| Pamr1 | -0.558 |
| Plg | -0.732 |
| Prss23 | -0.462 |

Supplementary Table S39. The table shows proteins and their $log_2$ fold change that were enriched in serine hydrolase activity.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Ace | -0.834 |
| C2 | -0.564 |
| Cfb | -0.722 |
| Cfi | -0.644 |
| F10 | -0.642 |
| F2 | -0.652 |
| Htra1 | -0.94 |
| Htra3 | -0.904 |
| Htra4 | -1.382 |
| Masp1 | -1.47 |
| Masp2 | -0.824 |
| Mmp2 | -0.404 |
| Mst1 | -0.484 |
| Pamr1 | -0.558 |
| Plg | -0.732 |
| Prss23 | -0.462 |

Supplementary Table S40. The table shows proteins and their $log_2$ fold change that were enriched in peptidase inhibitor activity.

| Protein | Log2 Fold Change |
|---|---|
| Ahsg | -0.492 |
| App | -1.034 |
| C3 | -0.476 |
| Cd109 | -1.118 |
| Fetub | -0.484 |
| Gas6 | -0.606 |
| Itih1 | -0.598 |
| Itih4 | -0.688 |
| Mug1 | -0.712 |
| Serpina1a | -0.57 |
| Serpina1b | -0.528 |
| Serpina1d | -0.578 |
| Serpina3k | -0.474 |
| Serpina3n | -0.464 |
| Serpinb8 | -0.462 |
| Serpinc1 | -0.418 |
| Serpind1 | -0.752 |
| Serpine1 | -1.076 |
| Serpine2 | -0.966 |
| Serpinf2 | -0.978 |
| Serpini1 | -0.788 |
| Timp2 | -0.414 |
| Timp3 | -0.666 |

Supplementary Table S41. The table shows proteins and their $log_2$ fold change that were enriched in blood coagulation.

| Protein | Log2 Fold Change |
|---|---|
| Cd9 | -1.24 |
| F10 | -0.64 |
| F13b | -1.27 |
| F2 | -0.65 |
| F5 | -2.89 |
| Gp1ba | -1.85 |
| Gp1bb | -1.88 |
| Gp5 | -1.92 |
| Serpind1 | -0.75 |
| Serpine1 | -1.08 |
| Plg | -0.73 |
| Serpinf2 | -0.98 |
| Pros1 | -1.00 |
| Selp | -1.57 |
| Serpine2 | -0.97 |
| Thbd | -0.64 |
| Pf4 | -1.23 |
| Mmrn1 | -1.31 |
| Treml1 | -1.80 |
| Mpig6b | -3.05 |

Supplementary Table S42. The table shows proteins and their $log_2$ fold change that were enriched in hemostasis.

| Protein | Log2 Fold Change |
|---|---|
| Cd9 | -1.24 |

| | |
|---|---|
| F10 | -0.64 |
| F13b | -1.27 |
| F2 | -0.65 |
| F5 | -2.89 |
| Gp1ba | -1.85 |
| Gp1bb | -1.88 |
| Gp5 | -1.92 |
| Serpind1 | -0.75 |
| Serpine1 | -1.08 |
| Plg | -0.73 |
| Serpinf2 | -0.98 |
| Pros1 | -1.00 |
| Selp | -1.57 |
| Serpine2 | -0.97 |
| Thbd | -0.64 |
| Pf4 | -1.23 |
| Mmrn1 | -1.31 |
| Treml1 | -1.80 |
| Mpig6b | -3.05 |

Supplementary Table S43. The table shows proteins and their $log_2$ fold change that were enriched in the regulation of blood coagulation.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Cd9 | -1.24 |
| F2 | -0.65 |
| Gp1ba | -1.85 |

| | |
|---|---|
| Gp5 | -1.92 |
| Serpine1 | -1.08 |
| Plg | -0.73 |
| Serpinf2 | -0.98 |
| Pros1 | -1.00 |
| Selp | -1.57 |
| Serpine2 | -0.97 |
| Thbd | -0.64 |

Supplementary Table S44. The table shows proteins and their $log_2$ fold change that were enriched in the negative regulation of blood coagulation.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Cd9 | -1.24 |
| F2 | -0.65 |
| Gp1ba | -1.85 |
| Gp5 | -1.92 |
| Serpine1 | -1.08 |
| Plg | -0.73 |
| Serpinf2 | -0.98 |
| Pros1 | -1.00 |
| Serpine2 | -0.97 |
| Thbd | -0.64 |

Supplementary Table S45. The table shows proteins and their $log_2$ fold change that were enriched in coagulation.

| **Protein** | **Log2 Fold Change** |
|---|---|

| | |
|---|---|
| Cd9 | -1.24 |
| F10 | -0.64 |
| F13b | -1.27 |
| F2 | -0.65 |
| F5 | -2.89 |
| Gp1ba | -1.85 |
| Gp1bb | -1.88 |
| Gp5 | -1.92 |
| Serpind1 | -0.75 |
| Serpine1 | -1.08 |
| Plg | -0.73 |
| Serpinf2 | -0.98 |
| Pros1 | -1.00 |
| Selp | -1.57 |
| Serpine2 | -0.97 |
| Thbd | -0.64 |
| Pf4 | -1.23 |
| Mmrn1 | -1.31 |
| Treml1 | -1.80 |
| Mpig6b | -3.05 |

Supplementary Table S46. The table shows proteins and their $log_2$ fold change that were enriched in the regulation of coagulation.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Cd9 | -1.24 |
| F2 | -0.65 |

| | |
|---|---|
| Gp1ba | -1.85 |
| Gp5 | -1.92 |
| Serpine1 | -1.08 |
| Plg | -0.73 |
| Serpinf2 | -0.98 |
| Pros1 | -1.00 |
| Selp | -1.57 |
| Serpine2 | -0.97 |
| Thbd | -0.64 |

Supplementary Table S47. The table shows proteins and their $log_2$ fold change that were enriched in the negative regulation of coagulation.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Cd9 | -1.24 |
| F2 | -0.65 |
| Gp1ba | -1.85 |
| Gp5 | -1.92 |
| Serpine1 | -1.08 |
| Plg | -0.73 |
| Serpinf2 | -0.98 |
| Pros1 | -1.00 |
| Serpine2 | -0.97 |
| Thbd | -0.64 |

Supplementary Table S48. The table shows proteins and their $log_2$ fold change that were enriched in the regulation of body fluid levels.

| Protein | Log2 Fold Change |
|---|---|
| Cd9 | -1.24 |
| F10 | -0.64 |
| F13b | -1.27 |
| F2 | -0.65 |
| F5 | -2.89 |
| Gp1ba | -1.85 |
| Gp1bb | -1.88 |
| Gp5 | -1.92 |
| Serpind1 | -0.75 |
| Serpine1 | -1.08 |
| Plg | -0.73 |
| Serpinf2 | -0.98 |
| Pros1 | -1.00 |
| Selp | -1.57 |
| Serpine2 | -0.97 |
| Thbd | -0.64 |
| Pf4 | -1.23 |
| Mmrn1 | -1.31 |
| Treml1 | -1.80 |
| Mpig6b | -3.05 |

Supplementary Table S49. The table shows proteins and their $log_2$ fold change that were enriched in the negative regulation of wound healing.

| Protein | Log2 Fold Change |
|---|---|
| Cd9 | -1.24 |

| | |
|---|---|
| F2 | -0.65 |
| Gp1ba | -1.85 |
| Gp5 | -1.92 |
| Serpine1 | -1.08 |
| Plg | -0.73 |
| Serpinf2 | -0.98 |
| Pros1 | -1.00 |
| Serpine2 | -0.97 |
| Thbd | -0.64 |
| Cd109 | -1.12 |

Supplementary Table S50. The table shows proteins and their $log_2$ fold change that were enriched in the regulation of hemostasis.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Cd9 | -1.24 |
| F2 | -0.65 |
| Gp1ba | -1.85 |
| Gp5 | -1.92 |
| Serpine1 | -1.08 |
| Plg | -0.73 |
| Serpinf2 | -0.98 |
| Pros1 | -1.00 |
| Selp | -1.57 |
| Serpine2 | -0.97 |
| Thbd | -0.64 |

Supplementary Table S51. The table shows proteins and their $log_2$ fold change that were enriched in the negative regulation of hemostasis.

| Protein | Log2 Fold Change |
|---|---|
| Cd9 | -1.24 |
| F2 | -0.65 |
| Gp1ba | -1.85 |
| Gp5 | -1.92 |
| Serpine1 | -1.08 |
| Plg | -0.73 |
| Serpinf2 | -0.98 |
| Pros1 | -1.00 |
| Serpine2 | -0.97 |
| Thbd | -0.64 |

Supplementary Table S52. The table shows proteins and their $log_2$ fold change that were enriched in the negative regulation of response to wounding.

| Protein | Log2 Fold Change |
|---|---|
| Cd9 | -1.24 |
| F2 | -0.65 |
| Gp1ba | -1.85 |
| Gp5 | -1.92 |
| Serpine1 | -1.08 |
| Plg | -0.73 |
| Serpinf2 | -0.98 |
| Pros1 | -1.00 |
| Serpine2 | -0.97 |

| | |
|---|---|
| Thbd | -0.64 |
| Cd109 | -1.12 |

Supplementary Table S53. The table shows proteins and their $log_2$ fold change that were enriched in organellar ribosomes.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Mrpl13 | 0.36 |
| Mrpl44 | 0.37 |
| Mrps30 | 0.37 |
| Mrpl4 | 0.37 |
| Mrpl58 | 0.38 |
| Mrps31 | 0.43 |
| Mrps21 | 0.43 |
| Mrpl46 | 0.45 |
| Mrpl27 | 0.48 |
| Mrpl34 | 0.49 |
| Mrpl38 | 0.52 |
| Mrpl19 | 0.52 |
| Mrpl41 | 0.53 |
| Mrpl14 | 0.55 |
| Mrpl22 | 0.56 |
| Ndufa7 | 0.57 |
| Mrpl40 | 0.57 |
| Mrpl17 | 0.78 |
| Chchd1 | 0.84 |
| Mrpl12 | 1.07 |

Supplementary Table S54. The table shows proteins and their $log_2$ fold change that were enriched in an organellar large ribosomal subunit.

| Protein | Log2 Fold Change |
|---|---|
| Mrpl13 | 0.36 |
| Mrpl44 | 0.37 |
| Mrps30 | 0.37 |
| Mrpl4 | 0.37 |
| Mrpl58 | 0.38 |
| Mrpl46 | 0.45 |
| Mrpl27 | 0.48 |
| Mrpl34 | 0.49 |
| Mrpl38 | 0.52 |
| Mrpl19 | 0.52 |
| Mrpl41 | 0.53 |
| Mrpl14 | 0.55 |
| Mrpl22 | 0.56 |
| Mrpl40 | 0.57 |
| Mrpl17 | 0.78 |
| Mrpl12 | 1.07 |

Supplementary Table S55. The table shows proteins and their $log_2$ fold change that were enriched in the mitochondrial respiratory chain.

| Protein | Log2 Fold Change |
|---|---|
| Cyc1 | 0.41 |
| Ndufa12 | 0.42 |
| Ndufa10 | 0.45 |

| | |
|---|---|
| Ndufs7 | 0.46 |
| Ndufa7 | 0.57 |
| Cox5b | 0.57 |
| Ndufb7 | 0.58 |
| Cox4i1 | 0.64 |
| Ndufb8 | 0.66 |
| Ndufv2 | 0.69 |
| Ndufv3 | 0.78 |
| Ndufb5 | 0.80 |
| Ndufb4 | 0.80 |
| Uqcrb | 0.89 |

Supplementary Table S56. The table shows proteins and their $log_2$ fold change that were enriched in the mitochondrial matrix.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Mrpl13 | 0.36 |
| Ivd | 0.36 |
| Mrpl44 | 0.37 |
| Mrps30 | 0.37 |
| Mrpl4 | 0.37 |
| Cbr4 | 0.37 |
| Mrpl58 | 0.38 |
| Pam16 | 0.38 |
| Tsfm | 0.40 |
| Hsd17b8 | 0.42 |
| Hsd17b10 | 0.42 |

| | |
|---|---|
| Mrps31 | 0.43 |
| Mrps21 | 0.43 |
| Grpel1 | 0.44 |
| Mrpl46 | 0.45 |
| Rida | 0.47 |
| Mrpl27 | 0.48 |
| Mrpl34 | 0.49 |
| Mdh2 | 0.50 |
| Mrpl38 | 0.52 |
| Mrpl19 | 0.52 |
| Mrpl41 | 0.53 |
| Dtymk | 0.55 |
| Mrpl14 | 0.55 |
| Polg2 | 0.55 |
| Slc25a5 | 0.56 |
| Mrpl22 | 0.56 |
| Ndufa7 | 0.57 |
| Clpp | 0.57 |
| Mrpl40 | 0.57 |
| Gstk1 | 0.59 |
| Sod2 | 0.64 |
| Ak3 | 0.66 |
| Mrpl17 | 0.78 |
| Chchd1 | 0.84 |
| Hmgcs2 | 0.88 |
| Acss1 | 0.96 |

| | |
|---|---|
| Mrpl12 | 1.07 |
| Ak4 | 1.34 |

Supplementary Table S57. The table shows proteins and their $log_2$ fold change that were enriched in mitochondrial ribosomes.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Mrpl13 | 0.36 |
| Mrpl44 | 0.37 |
| Mrps30 | 0.37 |
| Mrpl4 | 0.37 |
| Mrpl58 | 0.38 |
| Mrps31 | 0.43 |
| Mrps21 | 0.43 |
| Mrpl46 | 0.45 |
| Mrpl27 | 0.48 |
| Mrpl34 | 0.49 |
| Mrpl38 | 0.52 |
| Mrpl19 | 0.52 |
| Mrpl41 | 0.53 |
| Mrpl14 | 0.55 |
| Mrpl22 | 0.56 |
| Ndufa7 | 0.57 |
| Mrpl40 | 0.57 |
| Mrpl17 | 0.78 |
| Chchd1 | 0.84 |
| Mrpl12 | 1.07 |

Supplementary Table S58. The table shows proteins and their $log_2$ fold change that were enriched in mitochondrial large ribosomal subunits.

| Protein | Log2 Fold Change |
|---|---|
| Mrpl13 | 0.36 |
| Mrpl44 | 0.37 |
| Mrps30 | 0.37 |
| Mrpl4 | 0.37 |
| Mrpl58 | 0.38 |
| Mrpl46 | 0.45 |
| Mrpl27 | 0.48 |
| Mrpl34 | 0.49 |
| Mrpl38 | 0.52 |
| Mrpl19 | 0.52 |
| Mrpl41 | 0.53 |
| Mrpl14 | 0.55 |
| Mrpl22 | 0.56 |
| Mrpl40 | 0.57 |
| Mrpl17 | 0.78 |
| Mrpl12 | 1.07 |

Supplementary Table S59. The table shows proteins and their $log_2$ fold change that were enriched in mitochondrial parts.

| Protein | Log2 Fold Change |
|---|---|
| Mrpl13 | 0.36 |
| Ivd | 0.36 |
| Mrpl44 | 0.37 |

| | |
|---|---|
| Mrps30 | 0.37 |
| Chchd4 | 0.37 |
| Mrpl4 | 0.37 |
| Cbr4 | 0.37 |
| Mrpl58 | 0.38 |
| Slc25a3 | 0.38 |
| Pam16 | 0.38 |
| Tsfm | 0.40 |
| Atp5po | 0.41 |
| Cyc1 | 0.41 |
| Ndufaf3 | 0.42 |
| Ndufa12 | 0.42 |
| Hsd17b8 | 0.42 |
| Hsd17b10 | 0.42 |
| Mrps31 | 0.43 |
| Mrps21 | 0.43 |
| Bax | 0.43 |
| Grpel1 | 0.44 |
| Mrpl46 | 0.45 |
| Slc25a40 | 0.45 |
| Ndufa10 | 0.45 |
| Endog | 0.45 |
| Ndufs7 | 0.46 |
| Cytb | 0.46 |
| Atp5mf | 0.46 |
| Rida | 0.47 |

| | |
|---|---|
| Nipsnap2 | 0.47 |
| Mrpl27 | 0.48 |
| Mrpl34 | 0.49 |
| Apoo | 0.49 |
| Mdh2 | 0.50 |
| Mrpl38 | 0.52 |
| Mrpl19 | 0.52 |
| Mrpl41 | 0.53 |
| Slc25a11 | 0.54 |
| Dmpk | 0.54 |
| Slc25a4 | 0.54 |
| Dtymk | 0.55 |
| Mrpl14 | 0.55 |
| Polg2 | 0.55 |
| Slc25a5 | 0.56 |
| Mrpl22 | 0.56 |
| Ndufa7 | 0.57 |
| Clpp | 0.57 |
| Cox5b | 0.57 |
| Mrpl40 | 0.57 |
| Ndufb7 | 0.58 |
| Gstk1 | 0.59 |
| Atp5me | 0.63 |
| Sod2 | 0.64 |
| Cox4i1 | 0.64 |
| Atp5pb | 0.65 |

| | |
|---|---|
| Ndufb8 | 0.66 |
| Ak3 | 0.66 |
| Ndufv2 | 0.69 |
| Mcur1 | 0.73 |
| Ndufv3 | 0.78 |
| Mrpl17 | 0.78 |
| Ndufb5 | 0.80 |
| Ndufb4 | 0.80 |
| Chchd1 | 0.84 |
| Ndufaf5 | 0.87 |
| Hmgcs2 | 0.88 |
| Uqcrb | 0.89 |
| Fis1 | 0.91 |
| Acss1 | 0.96 |
| Mrpl12 | 1.07 |
| Mrs2 | 1.08 |
| Atp5pf | 1.10 |
| Ak4 | 1.34 |
| Arl2bp | 2.40 |

Supplementary Table S60. The table shows proteins and their $log_2$ fold change that were enriched in mitochondrial membrane parts.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Slc25a3 | 0.38 |
| Pam16 | 0.38 |
| Atp5po | 0.41 |

| | |
|---|---|
| Cyc1 | 0.41 |
| Ndufa12 | 0.42 |
| Grpel1 | 0.44 |
| Ndufa10 | 0.45 |
| Ndufs7 | 0.46 |
| Cytb | 0.46 |
| Atp5mf | 0.46 |
| Apoo | 0.49 |
| Dmpk | 0.54 |
| Ndufa7 | 0.57 |
| Cox5b | 0.57 |
| Ndufb7 | 0.58 |
| Atp5me | 0.63 |
| Cox4i1 | 0.64 |
| Atp5pb | 0.65 |
| Ndufb8 | 0.66 |
| Ndufv2 | 0.69 |
| Mcur1 | 0.73 |
| Ndufv3 | 0.78 |
| Ndufb5 | 0.80 |
| Ndufb4 | 0.80 |
| Ndufaf5 | 0.87 |
| Uqcrb | 0.89 |
| Fis1 | 0.91 |
| Atp5pf | 1.10 |

Supplementary Table S61. The table shows proteins and their $log_2$ fold change that were enriched in the respiratory chain.

| Protein | Log2 Fold Change |
|---|---|
| Cyc1 | 0.41 |
| Ndufa12 | 0.42 |
| Ndufa10 | 0.45 |
| Ndufs7 | 0.46 |
| Cytb | 0.46 |
| Ndufa7 | 0.57 |
| Cox5b | 0.57 |
| Ndufb7 | 0.58 |
| Cox4i1 | 0.64 |
| Ndufb8 | 0.66 |
| Ndufv2 | 0.69 |
| Ndufv3 | 0.78 |
| Ndufb5 | 0.80 |
| Ndufb4 | 0.80 |
| Uqcrb | 0.89 |

Supplementary Table S62. The table shows proteins and their $log_2$ fold change that were enriched in inner mitochondrial membrane protein complexes.

| Protein | Log2 Fold Change |
|---|---|
| Pam16 | 0.38 |
| Atp5po | 0.41 |
| Cyc1 | 0.41 |
| Ndufa12 | 0.42 |

| | |
|---|---|
| Grpel1 | 0.44 |
| Ndufa10 | 0.45 |
| Ndufs7 | 0.46 |
| Atp5mf | 0.46 |
| Apoo | 0.49 |
| Ndufa7 | 0.57 |
| Cox5b | 0.57 |
| Ndufb7 | 0.58 |
| Atp5me | 0.63 |
| Cox4i1 | 0.64 |
| Atp5pb | 0.65 |
| Ndufb8 | 0.66 |
| Ndufv2 | 0.69 |
| Ndufv3 | 0.78 |
| Ndufb5 | 0.80 |
| Ndufb4 | 0.80 |
| Uqcrb | 0.89 |
| Atp5pf | 1.10 |

Supplementary Table S63. The table shows proteins and their $log_2$ fold change that were enriched in respiratory chain complexes.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Cyc1 | 0.41 |
| Ndufa12 | 0.42 |
| Ndufa10 | 0.45 |
| Ndufs7 | 0.46 |

| | |
|---|---|
| Cytb | 0.46 |
| Ndufa7 | 0.57 |
| Cox5b | 0.57 |
| Ndufb7 | 0.58 |
| Cox4i1 | 0.64 |
| Ndufb8 | 0.66 |
| Ndufv2 | 0.69 |
| Ndufv3 | 0.78 |
| Ndufb5 | 0.80 |
| Ndufb4 | 0.80 |
| Uqcrb | 0.89 |

Supplementary Table S64. The table shows proteins and their $log_2$ fold change that were enriched in oxidoreductase complexes.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Cbr4 | 0.37 |
| Cyc1 | 0.41 |
| Ndufa12 | 0.42 |
| Ndufa10 | 0.45 |
| Ndufs7 | 0.46 |
| Cytb | 0.46 |
| Ndufa7 | 0.57 |
| Ndufb7 | 0.58 |
| Ndufb8 | 0.66 |
| Ndufv2 | 0.69 |
| Ndufv3 | 0.78 |

| | |
|---|---|
| Ndufb5 | 0.80 |
| Ndufb4 | 0.80 |
| Uqcrb | 0.89 |

Supplementary Table S65**.** Expression of proteins downregulated in both Myh11$^{\Delta K/\Delta K}$ aortas and zyxin knockout VSMCs after stretch stimulation.

| **Protein** | **Log2 Fold Change** |
|---|---|
| Aoc3 | -0.292 |
| C2 | -0.564 |
| Cfi | -0.644 |
| Epn1 | -0.16 |
| Fkbp7 | -0.204 |
| Frg1 | -0.208 |
| Gbp2 | -0.144 |
| Itga5 | -0.558 |
| Slc3a2 | -0.25 |
| Mfge8 | -0.75 |
| Foxk1 | -0.16 |
| Numbl | -0.142 |
| Pdgfrb | -0.124 |
| Rab23 | -0.156 |
| Rasa3 | -0.384 |
| Nptn | -0.346 |
| Sin3b | -0.152 |
| Sdc4 | -0.42 |
| Angptl2 | -0.494 |

| | |
|---|---|
| Adgre5 | -0.454 |
| Igfbp7 | -0.646 |
| Tor3a | -0.194 |
| Snrnp27 | -0.282 |
| Dnajc10 | -0.338 |
| Tbc1d20 | -0.124 |
| Wls | -0.192 |
| Pdgfrl | -0.938 |
| Ctc1 | -0.196 |
| Antxr1 | -0.266 |
| Rab43 | -1.074 |
| Thap12 | -0.294 |
| Wasl | -0.474 |
| Dnm1l | -0.172 |
| Uvrag | -0.256 |
| Avl9 | -0.312 |
| Stk17b | -0.674 |
| Rab28 | -0.248 |
| Pi4kb | -0.2 |
| Slc8a2 | -0.16 |
| Cd99l2 | -0.234 |
| Zfp280c | -0.268 |
| Ttc28 | -0.248 |
| Cfap36 | -0.244 |
| Fcho2 | -0.408 |
| Lims2 | -0.164 |

| | |
|---|---|
| Mavs | -0.36 |
| Prr14 | -0.198 |
| Fez1 | -1.508 |
| Slc9a6 | -0.314 |
| Vwa1 | -0.376 |
| Mical2 | -0.15 |
| Prr14 | -0.198 |
| Fez1 | -1.508 |
| Slc9a6 | -0.314 |
| Vwa1 | -0.376 |
| Mical2 | -0.15 |