Supplementary Table S3

(FC>1 elevated in UNT group, FC<1 elevated in WT group)

Section 1.1. Glycolysis, male UNT vs male WT mice

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protein | Code | Name | SWATH | |
|  | | | P\_value | FC |
| P06745 | Gpi | Glucose-6-phosphate isomerase | 0.0043 | 3.2287 |
| P05064 | Aldoa | Fructose-bisphosphate aldolase A | 0.0375 | 18.7808 |
| P13707 | Gpd1 | Glycerol-3-phosphate dehydrogenase [NAD(+)], cytoplasmic | 0.0520 | 1.4896 |
| Q9D0F9 | Pgm1 | Phosphoglucomutase-1 | 0.0205 | 1.9249 |
| P17182 | Eno1 | Alpha-enolase | 0.0121 | 0.2793 |
| P21550 | Eno3 | Beta-enolase | 0.0525 | 4.5256 |
| P06151 | Ldha | L-lactate dehydrogenase A chain | 0.0434 | 9.0581 |
| P16125 | Ldhb | L-lactate dehydrogenase B chain | 0.0089 | 2.5319 |

Section 1.2. TCA. male UNT vs male WT mice

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protein | Code | Name | SWATH | |
|  | | | P\_value | FC |
| Q9D051 | Pdhb | Pyruvate dehydrogenase E1 component subunit beta, mitochondrial | 0.0362 | 0.3913 |
| Q9D6R2 | Idh3a | Isocitrate dehydrogenase [NAD] subunit alpha, mitochondrial | 0.0144 | 3.4270 |
| Q8K2B3 | Sdha | Succinate dehydrogenase [ubiquinone] flavoprotein subunit, mitochondrial | 0.0327 | 2.6715 |
| P08249 | Mdh2 | Malate dehydrogenase, mitochondrial | 0.0426 | 19.0472 |

Section 1.3. OXPHOS, male UNT vs maleWT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protein | Code | Name | SWATH | |
|  | | | P\_value | FC |
| Complex I | | | | |
| Q9CQZ5 | Ndufa6 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 6 | 0.0246 | 86.5140 |
| Q9ERS2 | Ndufa13 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 13 | 0.0166 | 8.1749 |
| Q9CQJ8 | Ndufb9 | NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 9 | 0.0246 | 3.3900 |
| Q9CQ54 | Ndufc2 | NADH dehydrogenase [ubiquinone] 1 subunit C2 | 0.0452 | 3.5213 |
| Q91VD9 | Ndufs1 | NADH-ubiquinone oxidoreductase 75 kDa subunit, mitochondrial | 0.0199 | 2.0976 |
| Q91YT0 | Ndufv1 | NADH dehydrogenase [ubiquinone] flavoprotein 1, mitochondrial | 0.0340 | 3.9303 |
| Protein | Code | Name | SWATH | |
|  | | | P\_value | FC |
| Complex II | | | | |
| Q8K2B3 | Sdha | Succinate dehydrogenase [ubiquinone] flavoprotein subunit, mitochondrial | 0.0327 | 2.6715 |
| Q9CQA3 | Sdhb | Succinate dehydrogenase [ubiquinone] iron-sulfur subunit, mitochondrial | 0.0028 | 14.5768 |
| Complex III | | | | |
| Q9CR68 | Uqcrfs1 | Cytochrome b-c1 complex subunit Rieske, mitochondrial | 0.0552 | 1.5274 |
|  |  | Complex IV |  |  |
| P12787 | Cox5a | Cytochrome c oxidase subunit 5A, mitochondrial | 0.0106 | 5.6382 |
| P43023 | Cox6a2 | Cytochrome c oxidase subunit 6A2, mitochondrial | 0.0177 | 5.1320 |
| P56391 | Cox6b1 | Cytochrome c oxidase subunit 6B1 | 0.0034 | 2.5879 |
| P48771 | Cox7a2 | Cytochrome c oxidase subunit 7A2, mitochondrial | 0.0359 | 5.1496 |
| ATP synthase Complex V | | | | |
| Q9D3D9 | Atp5f1d | ATP synthase subunit delta, mitochondrial | 0.0039 | 5.1416 |
| P56135 | Atp5mf | ATP synthase subunit f, mitochondrial | 0.0369 | 12.1206 |
| Q9CQQ7 | Atp5pb | ATP synthase F(0) complex subunit B1, mitochondrial | 0.0228 | 2.1821 |
| Q9DCX2 | Atp5pd | ATP synthase subunit d, mitochondrial | 0.0017 | 2.1766 |
| Q9DB20 | Atp5po | ATP synthase subunit O, mitochondrial | 0.0309 | 6.7524 |
| Q78IK2 | Atp5mk | ATP synthase membrane subunit K, mitochondrial | 0.0457 | 0.2169 |

Section 1.4. Beta oxidation, male UNT vs male WT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protein | Code | Name | SWATH | |
|  | | | P\_value | FC |
| P50544 | Acadvl | Very long-chain specific acyl-CoA dehydrogenase, mitochondrial | 0.0226 | 3.4695 |
| P42125 | Eci1 | Enoyl-CoA delta isomerase 1, mitochondrial | 0.0023 | 0.6253 |
| P11404 | Fabp3 | Fatty acid-binding protein, heart | 0.0490 | 33.7581 |

Section 2.1. ROS, male UNT vs male WT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protein | Code | Name | SWATH | Protein |
|  | | | P\_value | FC |
| P08228 | Sod1 | Superoxide dismutase [Cu-Zn] | 0.0160 | 9.8360 |
| P35700 | Prdx1 | Peroxiredoxin-1 | 0.0069 | 3.4018 |
| Q61171 | Prdx2 | Peroxiredoxin-2 | 0.0051 | 8.0147 |
| P20108 | Prdx3 | Thioredoxin-dependent peroxide reductase, mitochondrial | 0.0265 | 24.7061 |
| P99029 | Prdx5 | Peroxiredoxin-5 | 0.0263 | 6.4456 |
| P27005 | S100a8 | Protein S100-A8 | 0.0062 | 2.9169 |
| P31725 | S100a9 | Protein S100-A9 | 0.0300 | 17.3367 |

Section 2.2. Iron transport, male UNT vs male WT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protein | Code | Name | SWATH | |
|  | | | P\_value | FC |
| Q921I1 | Tf | Serotransferrin | 0.004 | 4.455 |
| Q91WS0 | Cisd1 | CDGSH iron-sulfur domain-containing protein 1 | 0.023 | 7.278 |
| P09528 | Fth1 | Ferritin heavy chain | 0.029 | 17.2605 |
| P04247 | Mb | Myoglobin | 0.0455 | 33.4430 |
| P02088 | Hbb-b1 | Hemoglobin subunit beta-1 | 0.043 | 7.706 |
| Q61646 | Hp | Haptoglobin | 0.012 | 2.706 |
| Q91X72 | Hpx | Hemopexin | 0.002 | 7.352 |

Section 2.3. DNA damage, male UNT vs male WT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protein | Code | Name | SWATH | |
|  | | | P\_value | FC |
| P17751 | Tpi1 | Triosephosphate isomerase | 0.0225 | 16.6208 |
| P0CG50 | Ubb | Polyubiquitin-B | 0.0088 | 39.5216 |
| P61089 | Ube2n | Ubiquitin-conjugating enzyme E2 N | 0.0386 | 3.9333 |

Section 3.1. Nucleocytoplasmic traffic of macromolecules and e histones, male UNT vs Mtol WT.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protein | Code | Name | SWATH | |
|  | | | P\_value | FC |
| P10922 | H1-0 | Histone H1.0 | 2.09E-06 | 15.7769 |
| P43275 | H1-1 | Histone H1.1 | 0.0124 | 2.6155 |
| P15864 | H1-2 | Histone H1.2 | 0.0158 | 14.7239 |
| P43274 | H1-4 | Histone H1.4 | 0.0263 | 32.3093 |
| Q3THW5 | H2az2 | Histone H2A.V | 0.0332 | 10.3191 |
| P62806 | H4c1 | Histone H4 | 0.0276 | 22.0122 |

Section 3.2. Ribosomes, male UNT vs male WT.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protein | Code | Name | SWATH | |
|  | | | P\_value | FC |
| P97461 | Rps5 | 40S ribosomal protein S5 | 0.0178 | 9.3185 |
| P62270 | Rps18 | 40S ribosomal protein S18 | 0.0358 | 3.2491 |
| Q9CZX8 | Rps19 | 40S ribosomal protein S19 | 0.0317 | 1.9008 |
| P60867 | Rps20 | 40S ribosomal protein S20 | 0.0305 | 2.0351 |
| P62852 | Rps25 | 40S ribosomal protein S25 | 0.0425 | 5.4571 |
| P35979 | Rpl12 | 60S ribosomal protein L12 | 0.0281 | 6.4042 |

Section 3.3. Proteosome, male UNT vs male WT

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Protein | | Code | Name | SWATH | |
|  | | | | P\_value | FC |
| P97372 | Psme2 | | Proteasome activator complex subunit 2 | 0.0009 | 2.0607 |

Section 3.4. Vesicular transport, male UNT vs male WT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protein | Code | Name | SWATH | |
|  | | | P\_value | FC |
| P35278 | Rab5c | Ras-related protein Rab-5C | 0.0026 | 4.2406 |
| P46638 | Rab11b | Ras-related protein Rab-11B | 0.0040 | 2.4525 |
| Q9CYZ2 | Tpd52l2 | Tumor protein D54 | 0.0383 | 7.4121 |

Section 3.5. Lysosome, male UNT vs male WT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protein | Code | Name | SWATH | |
|  | | | P\_value | FC |
| Lysosome membrane | | | | |
| P24668 | M6pr | Cation-dependent mannose-6-phosphate receptor | 0.0047 | 3.2882 |
| P11438 | Lamp1 | Lysosome-associated membrane glycoprotein 1 | 0.0098 | 2.7102 |
| P16045 | Lgals1 | Galectin-1 | 0.0179 | 9.2213 |
| P16110 | Lgals3 | Galectin-3 | 0.0260 | 3.2915 |
| Lysosomal enzymes | | | | |
| Q9WV54 | Asah1 | Acid ceramidase | 0.0527 | 0.1694 |

Section 3.6. Cytoskeleton, male UNT vs male WT

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Protein | Code | Name | | SWATH | |
|  | | | | P\_value | FC |
| P0DP28 | Calm3 | Calmodulin-3 | | 0.0244 | 0.1649 |
| P68134 | Acta1 | Actin, alpha skeletal muscle | | 0.0527 | 0.1694 |
| P10833 | Rras | Ras-related protein R-Ras | | 0.0029 | 2.6307 |
| Q62234 | Myom1 | Myomesin-1 | | 0.0376 | 0.4040 |
| P97457 | Myfpl | Myosin regulatory light chain 2, skeletal muscle isoform | | 0.0188 | 9.3929 |
| P51667 | Myl2 | Myosin regulatory light chain 2, ventricular/cardiac muscle isoform | | 0.0371 | 5.4004 |
| Q61792 | Lasp1 | LIM and SH3 domain protein 1 | | 0.0050 | 3.2746 |
| P20801 | Tnnc2 | Troponin C, skeletal muscle | | 0.0301 | 0.2303 |
| Q80X90 | Flnb | Filamin-B | | 0.0466 | 0.4545 |
| P47754 | Capza2 | | F-actin-capping protein subunit alpha-2 | 0.0335 | 2.2634 |
| P26039 | Tln1 | | Talin-1 | 0.0309 | 1.7377 |
| Q9QUI0 | Rhoa | | Transforming protein RhoA | 0.0080 | 4.4309 |
| Q9ESM6 | Gdpd2 | | Glycerophosphoinositol inositolphosphodiesterase GDPD2 | 0.0305 | 0.0173 |
| Q9JM76 | Arpc3 | | Actin-related protein 2/3 complex subunit 3 | 0.0012 | 3.9724 |
| Q9CPW4 | Arpc5 | | Actin-related protein 2/3 complex subunit 5 | 0.0179 | 9.5173 |
| Q9D898 | Arpc5l | | Actin-related protein 2/3 complex subunit 5-like protein | 0.0088 | 3.0402 |

Section 4.1. Extracellular matrix, hyaluronan and proteoglycans, male UNT vs male WT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protein | Code | Name | SWATH | |
|  | | | P\_value | FC |
| Proteoglycans | | | | |
| Hyalectans | | | | |
| Q9QUP5 | Hapln1 | Hyaluronan and proteoglycan link protein 1 | 0.0140 | 1.7277 |
| Small Leucine-rich proteoglycans | | | | |
| Class I |
| P28654 | Dcn | Decorin | 0.0005 | 3.0871 |
| Class II |
| P50608 | Fmod | Fibromodulin | 0.0450 | 6.9376 |
| P51885 | Lum | Lumican | 0.0175 | 20.7626 |
| Q9JK53 | Prelp | Prolargin | 0.0174 | 15.2827 |
| O35367 | Kera | Keratocan | 0.0383 | 12.1981 |
| Class IV |
| O55226 | Chad | Chondroadherin | 0.0446 | 2.0533 |

Section 4.2. Extracellular matrix, Collagens, male UNT vs male WT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protein | Code | Name | SWATH | |
|  | | | P\_value | FC |
| Fibrillar collagen | | | | |
| P11087 | Col1a1 | Collagen alpha-1(I) chain | 0.0137 | 24.3614 |
| Q01149 | Col1a2 | Collagen alpha-2(I) chain | 0.0360 | 70.2564 |
| P28481 | Col2a1 | Collagen alpha-1(II) chain | 0.0120 | 2.1669 |
| Q61245 | Col11a1 | Collagen alpha-1(XI) chain | 0.0187 | 12.4530 |
| Q64739 | Col11a2 | Collagen alpha-2(XI) chain | 0.0161 | 10.7360 |

Section 4.3. Extracellular matrix: matricellular proteins, male UNT vs male WT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protein | Code | Name | SWATH | |
|  | | | P\_value | FC |
| Extracellular matrix targeting | | | | |
| P35441 | Thbs1 | Thrombospondin-1 | 0.0309 | 10.4717 |
| Q05793 | Hspg2 | Basement membrane-specific heparan sulfate proteoglycan core protein | 0.0346 | 2.8603 |

Section 4.4. Extracellular matrix: extracellular matrix proteases, male UNT vs male WT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protein | Code | Name | SWATH | |
|  | | | P\_value | FC |
| Extracellular matrix proteases | | | | |
| Metzincin | | | | |
| P41245 | Mmp9 | Matrix metalloproteinase-9 | 0.0125 | 5.5616 |
| Plasminogen/plasmin system | | | | |
| P07759 | Serpina3k | Serine protease inhibitor A3K | 0.0413 | 1.0905 |
| Q9D154 | Serpinb1a | Leukocyte elastase inhibitor A | 0.0264 | 2.9116 |
| P97298 | Serpinf1 | Pigment epithelium-derived factor | 0.0469 | 9.2363 |
| Cathepsins proteases | | | | |
| Aspartic proteases | | | | |
| P18242 | Ctsd | Cathepsin D | 0.0489 | 5.5031 |
| Cysteine proteases | | | | |
| P49935 | Ctsh | Pro-cathepsin H | 0.0226 | 3.8861 |

Section 4.5. Extracellular matrix: extracellular matrix receptor, male UNT vs male WT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protein | Code | Name | SWATH | |
|  | | | P\_value | FC |
| Integrins | | | | |
| Q61738 | Itga7 | Integrin alpha-7 | 0.0140 | 1.9660 |
| P05555 | Itgam | Integrin alpha-M | 0.0038 | 3.7745 |
| P43406 | Itgav | Integrin alpha-V | 0.0018 | 3.5819 |
| P11835 | Itgb2 | Integrin beta-2 | 0.0266 | 2.6178 |
| P29533 | Vcam1 | Vascular cell adhesion protein 1 | 0.0375 | 0.3312 |

Section 4.6. Extracellular matrix: discoidin domain receptors, male UNT vs male WT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protein | Code | Name | SWATH | |
|  | | | P\_value | FC |
| P60766 | Cdc42 | Cell division control protein 42 | 0.0287 | 2.5824 |

Section 4.7. Extracellular matrix: CD receptors, male UNT vs male WT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protein | Code | Name | SWATH | |
|  | | | P\_value | FC |
| P31428 | Dpep1 | Dipeptidase 1 | 0.0258 | 79.0435 |

Section 5.1. Other proteins of interest, male UNT vs male WT

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Protein | Code | Name | SWATH | |
|  | | | P\_value | FC |
| O70622 | Rtn2 | Reticulon-2 | 0.0388 | 4.6641 |
| Q9QXC1 | Fetub | Fetuin-B | 0.0420 | 11.0009 |
| P07724 | Alb | Albumin | 0.0332 | 27.5579 |
| Q6P8J7 | Ckmt2 | Creatine kinase S-type, mitochondrial | 0.0354 | 8.4023 |