

Supplementary Material

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Supplement Table S1: All proteins significantly decreased by 3-day $A\beta_{42}$ treatment (226)

| Protein Symbol | Description | Log₂ Fold Change | p-value |
|-----------------------|---|------------------------------------|----------------|
| LBR | lamin-B receptor | -1.272 | 2.68E-02 |
| SLC38A2 | PREDICTED: sodium-coupled neutral amino acid transporter 2 isoform X1 | -1.214 | 3.85E-02 |
| CBX3 | PREDICTED: chromobox protein homolog 3 isoform X1 | -6.644 | 2.37E-16 |
| NDUFA4L2 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 4-like 2 | -1.911 | 8.12E-09 |
| USMG5 | PREDICTED: up-regulated during skeletal muscle growth protein 5 | -1.862 | 5.41E-05 |
| SSR1 | PREDICTED: translocon-associated protein subunit alpha isoform X1 | -1.258 | 2.17E-04 |
| SLC7A1 | high affinity cationic amino acid transporter 1 | -6.644 | 2.37E-16 |
| TRAPPC10 | trafficking protein particle complex subunit 10 | -6.644 | 2.37E-16 |
| EBAG9 | PREDICTED: receptor-binding cancer antigen expressed on SiSo cells isoform X1 | -6.644 | 2.37E-16 |
| TCF12 | transcription factor 12 | -6.644 | 2.37E-16 |
| LARP4B | la-related protein 4B | -6.644 | 2.37E-16 |
| WARS | PREDICTED: tryptophan--tRNA ligase, cytoplasmic isoform X1 | -1.221 | 4.51E-02 |
| ALG9 | PREDICTED: alpha-1,2-mannosyltransferase ALG9 isoform X1 | -1.234 | 3.51E-02 |
| DNAJC16 | dnaJ homolog subfamily C member 16 precursor | -1.329 | 3.15E-03 |
| SMURF1 | PREDICTED: E3 ubiquitin-protein ligase SMURF1 isoform X1 | -6.644 | 2.37E-16 |
| RBM3 | PREDICTED: RNA-binding protein 3 isoform X2 | -1.523 | 4.88E-02 |
| VDAC3 | PREDICTED: voltage-dependent anion-selective channel protein 3 isoform X1 | -1.188 | 2.96E-02 |
| MTCH2 | mitochondrial carrier homolog 2 isoform 1x | -1.474 | 5.34E-06 |
| CPNE1 | copine 1 | -6.644 | 2.37E-16 |
| RGD1562394 | PREDICTED: 60S ribosomal protein L30-like | -6.644 | 2.37E-16 |
| RFC5 | replication factor C subunit 5 | -1.462 | 4.96E-03 |
| CTNNA2 | PREDICTED: catenin alpha-2 isoform X1 | -1.258 | 2.17E-02 |
| NIPA2 | PREDICTED: magnesium transporter NIPA2 isoform X1 | -0.905 | 1.08E-02 |
| PRSS1 | anionic trypsin-1 precursor | -1.396 | 5.70E-06 |
| NDUFV2 | NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial precursor | -1.120 | 4.57E-02 |
| CCHCR1 | coiled-coil alpha-helical rod protein 1 | -1.006 | 3.82E-02 |
| PPARD | PREDICTED: peroxisome proliferator-activated receptor delta isoform X1 | -2.000 | 8.57E-06 |

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| NOSIP | nitric oxide synthase-interacting protein | -1.358 | 2.77E-02 |
| TMEM126A | PREDICTED: transmembrane protein 126A isoform X1 | -6.644 | 2.37E-16 |
| VAPA | PREDICTED: vesicle-associated membrane protein-associated protein A isoform X1 | -0.727 | 3.79E-02 |
| SYNJ2BP | synaptojanin-2-binding protein | -1.419 | 3.59E-03 |
| RGD1305045 | PREDICTED: ER membrane protein complex subunit 7 isoform X1 | -6.644 | 2.37E-16 |
| OSTC | oligosaccharyltransferase complex subunit OSTC | -1.279 | 5.78E-03 |
| SLC25A13 | PREDICTED: calcium-binding mitochondrial carrier protein Aralar2 isoform X1 | -6.644 | 2.37E-16 |
| ABCB7 | ATP-binding cassette sub-family B member 7, mitochondrial | -1.231 | 1.72E-02 |
| NDUFC2 | NADH dehydrogenase [ubiquinone] 1 subunit C2 | -1.336 | 4.42E-02 |
| VDAC2 | PREDICTED: voltage-dependent anion-selective channel protein 2 isoform X1 | -0.855 | 3.40E-02 |
| UQCRC1 | cytochrome b-c1 complex subunit 1, mitochondrial precursor | -1.582 | 3.61E-12 |
| RAP1A | ras-related protein Rap-1A precursor | -6.644 | 2.37E-16 |
| TYMP | PREDICTED: thymidine phosphorylase isoform X1 | -1.737 | 6.55E-04 |
| COBRA1 | negative elongation factor B | -6.644 | 2.37E-16 |
| DSG3 | PREDICTED: desmoglein-3 isoform X1 | -1.201 | 2.51E-02 |
| UQCRH | cytochrome b-c1 complex subunit 6, mitochondrial | -2.506 | 1.41E-12 |
| PHB2 | prohibitin-2 | -1.591 | 1.93E-07 |
| COX6C | cytochrome c oxidase subunit 6C-2 | -1.751 | 5.08E-04 |
| HDHD2 | haloacid dehalogenase-like hydrolase domain-containing protein 2 precursor | -1.667 | 5.92E-04 |
| NDUFA9 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 9, mitochondrial | -1.868 | 5.13E-05 |
| LOC102548267 | PREDICTED: histocompatibility antigen 60b-like | -1.699 | 5.25E-04 |
| MYADM | myeloid-associated differentiation marker | -1.130 | 2.53E-03 |
| TRIAP1 | PREDICTED: TP53-regulated inhibitor of apoptosis 1 isoform X1 | -1.498 | 3.47E-06 |
| SEC62 | translocation protein SEC62 | -0.991 | 2.98E-02 |
| TOR1AIP1 | torsin-1A-interacting protein 1 | -1.248 | 2.05E-02 |
| ZFP819 | PREDICTED: zinc finger protein 175 isoform X2 | -1.214 | 3.82E-05 |
| UTP23 | rRNA-processing protein UTP23 homolog | -1.059 | 5.07E-03 |
| NDUFA5 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 5 | -1.020 | 1.09E-02 |
| DHRS7B | dehydrogenase/reductase SDR family member 7B | -6.644 | 2.37E-16 |
| NNT | PREDICTED: NAD(P) transhydrogenase, mitochondrial isoform X1 | -2.017 | 4.92E-06 |
| AMY1A | alpha-amylase 1 precursor | -0.819 | 3.54E-02 |
| NAPA | alpha-soluble NSF attachment protein | -0.806 | 1.34E-02 |

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|-----------|--|--------|----------|
| PTPLAD1 | very-long-chain (3R)-3-hydroxyacyl-CoA dehydratase 3 | -1.117 | 7.22E-04 |
| ATP5H | ATP synthase subunit d, mitochondrial | -1.932 | 2.37E-16 |
| COX5A | cytochrome c oxidase subunit 5A, mitochondrial precursor | -0.604 | 3.20E-02 |
| UQCRB | cytochrome b-c1 complex subunit 7 | -1.531 | 1.14E-05 |
| DENND3 | PREDICTED: DENN domain-containing protein 3 isoform X1 | -6.644 | 2.37E-16 |
| MEST | mesoderm-specific transcript homolog protein | -0.87 | 4.08E-02 |
| PDHA1 | pyruvate dehydrogenase E1 component subunit alpha, somatic form, mitochondrial precursor | -1.083 | 1.35E-05 |
| TRIM39 | PREDICTED: E3 ubiquitin-protein ligase TRIM39 isoform X1 | -0.837 | 3.54E-02 |
| UQCRFS1 | cytochrome b-c1 complex subunit Rieske, mitochondrial | -6.644 | 2.37E-16 |
| SSR4 | translocon-associated protein subunit delta precursor | -0.847 | 8.35E-03 |
| DDOST | dolichyl-diphosphooligosaccharide--protein glycosyltransferase 48 kDa subunit precursor | -0.793 | 1.44E-03 |
| SLC25A1 | tricarboxylate transport protein, mitochondrial precursor | -2.152 | 2.37E-16 |
| CBX1 | PREDICTED: chromobox protein homolog 1 isoform X1 | -6.644 | 2.37E-16 |
| ATP5C1 | ATP synthase subunit gamma, mitochondrial | -2.458 | 2.37E-16 |
| TMED10 | transmembrane emp24 domain-containing protein 10 precursor | -0.651 | 1.65E-02 |
| LOC680316 | PREDICTED: LOW QUALITY PROTEIN: cytochrome P450 11B1, mitochondrial-like isoform X2 | -0.991 | 4.63E-04 |
| APOOL | PREDICTED: MICOS complex subunit MIC27 isoform X1 | -1.671 | 9.74E-07 |
| DCUN1D5 | DCN1-like protein 5 | -0.873 | 4.78E-02 |
| TMPO | lamina-associated polypeptide 2, isoform beta | -1.077 | 5.78E-03 |
| LMNA | prelamin-A/C | -1.155 | 6.81E-07 |
| ATP6V0A1 | PREDICTED: V-type proton ATPase 116 kDa subunit a isoform X4 | -0.946 | 3.65E-04 |
| UQCRQ | cytochrome b-c1 complex subunit 8 | -1.791 | 2.75E-07 |
| ANO6 | PREDICTED: anoctamin-6 isoform X1 | -0.977 | 6.25E-04 |
| HAT1 | PREDICTED: histone acetyltransferase type B catalytic subunit isoform X1 | -6.644 | 2.37E-16 |
| FAM162A | PREDICTED: protein FAM162A isoform X1 | -1.415 | 1.42E-10 |
| COX4I2 | PREDICTED: cytochrome c oxidase subunit 4 isoform 2, mitochondrial isoform X1 | -1.45 | 7.46E-10 |
| TMX2 | thioredoxin-related transmembrane protein 2 precursor | -1.062 | 1.07E-03 |

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| GOLGA2 | PREDICTED: golgin subfamily A member 2 isoform X1 | -0.852 | 4.55E-02 |
| NDUFB10 | NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 10 | -0.908 | 2.40E-02 |
| TMEM43 | transmembrane protein 43 | -1.208 | 1.35E-03 |
| SLC25A22 | PREDICTED: mitochondrial glutamate carrier 1 isoform X1 | -6.644 | 2.37E-16 |
| TAGLN3 | transgelin-3 | -0.966 | 1.26E-04 |
| AFG3L2 | AFG3-like protein 2 | -1.065 | 3.05E-03 |
| SDHC | succinate dehydrogenase cytochrome b560 subunit, mitochondrial | -1.381 | 8.09E-03 |
| FUBP3 | PREDICTED: far upstream element-binding protein 3 isoform X1 | -0.905 | 2.17E-02 |
| ATP5E | ATP synthase subunit epsilon, mitochondrial | -0.855 | 4.46E-03 |
| SLC6A2 | sodium-dependent noradrenaline transporter | -1.133 | 2.66E-03 |
| SPCS2 | signal peptidase complex subunit 2 | -1.657 | 1.56E-07 |
| CENPJ | PREDICTED: centromere protein J isoform X1 | -0.96 | 3.74E-02 |
| SDHB | succinate dehydrogenase [ubiquinone] iron-sulfur subunit, mitochondrial precursor | -1.47 | 3.01E-07 |
| TDRKH | PREDICTED: tudor and KH domain-containing protein isoform X1 | -0.938 | 7.93E-03 |
| GET4 | Golgi to ER traffic protein 4 homolog | -1.466 | 1.33E-02 |
| HP | haptoglobin precursor | -6.644 | 2.37E-16 |
| GHR | PREDICTED: growth hormone receptor isoform X1 | -1.47 | 1.18E-02 |
| ANAPC4 | anaphase-promoting complex subunit 4 | -6.644 | 2.37E-16 |
| SDHA | succinate dehydrogenase [ubiquinone] flavoprotein subunit, mitochondrial precursor | -1.333 | 2.05E-09 |
| ABRACL | costars family protein ABRACL | -1.014 | 1.79E-04 |
| ATP5J2 | ATP synthase subunit f, mitochondrial | -2.077 | 2.37E-16 |
| NDUFA10 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial precursor | -1.023 | 1.05E-02 |
| CFL1 | cofilin-1 | -0.597 | 3.54E-02 |
| SEC11A | PREDICTED: signal peptidase complex catalytic subunit SEC11A isoform X2 | -1.388 | 2.37E-03 |
| LETM1 | LETM1 and EF-hand domain-containing protein 1, mitochondrial precursor | -0.980 | 7.45E-04 |
| TM9SF3 | PREDICTED: transmembrane 9 superfamily member 3 isoform X1 | -1.218 | 1.86E-05 |
| VDAC1 | voltage-dependent anion-selective channel protein 1 | -1.431 | 1.80E-09 |
| TRPV2 | transient receptor potential cation channel subfamily V member 2 | -1.262 | 1.70E-08 |
| ATP5B | ATP synthase subunit beta, mitochondrial precursor | -2.041 | 2.37E-16 |
| TOMM70A | mitochondrial import receptor subunit TOM70 | -1.155 | 4.46E-05 |
| MRPL9 | 39S ribosomal protein L9, mitochondrial | -1.515 | 3.44E-02 |
| TAP2 | antigen peptide transporter 2 precursor | -0.977 | 1.08E-02 |

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| PDHB | pyruvate dehydrogenase E1 component subunit beta, mitochondrial precursor | -1.117 | 5.06E-06 |
| NDUFA13 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 13 | -3.506 | 2.37E-16 |
| ATP5D | PREDICTED: ATP synthase subunit delta, mitochondrial isoform X1 | -3.047 | 2.37E-16 |
| EMC2 | ER membrane protein complex subunit 2 | -1.158 | 2.10E-03 |
| ATP13A1 | manganese-transporting ATPase 13A1 | -0.894 | 4.46E-02 |
| COMTD1 | catechol O-methyltransferase domain-containing protein 1 | -1.290 | 2.39E-03 |
| CISD1 | CDGSH iron-sulfur domain-containing protein 1 | -1.502 | 7.74E-07 |
| LOC103693780 | PREDICTED: 2-oxoglutarate dehydrogenase, mitochondrial isoform X2 | -0.642 | 1.88E-02 |
| ATP5F1 | ATP synthase F(0) complex subunit B1, mitochondrial precursor | -2.315 | 2.37E-16 |
| FIS1 | PREDICTED: mitochondrial fission 1 protein isoform X1 | -1.105 | 2.99E-03 |
| TMEM120A | transmembrane protein 120A | -1.127 | 1.28E-03 |
| WDR12 | PREDICTED: ribosome biogenesis protein WDR12 isoform X1 | -6.644 | 2.37E-16 |
| TAP1 | antigen peptide transporter 1 precursor | -1.404 | 1.35E-04 |
| PLP2 | proteolipid protein 2 | -1.381 | 3.50E-05 |
| DLAT | dihydrolipoyllysine-residue acetyltransferase component of pyruvate dehydrogenase complex, mitochondrial | -1.184 | 1.17E-05 |
| RPN1 | dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit 1 precursor | -0.651 | 1.64E-02 |
| ARF1 | PREDICTED: ADP-ribosylation factor 1 isoform X1 | -0.737 | 3.92E-03 |
| PAFAH1B1 | PREDICTED: platelet-activating factor acetylhydrolase IB subunit alpha isoform X1 | -0.573 | 4.88E-02 |
| SLC25A4 | ADP/ATP translocase 1 | -2.826 | 2.37E-16 |
| LDLRAP1 | low density lipoprotein receptor adapter protein 1 | -6.644 | 2.37E-16 |
| CKAP4 | PREDICTED: cytoskeleton-associated protein 4 isoform X1 | -0.813 | 9.58E-04 |
| ALB | serum albumin precursor | -1.431 | 7.83E-11 |
| ATP5L | ATP synthase subunit g, mitochondrial | -2.146 | 2.37E-16 |
| PHB | prohibitin | -1.966 | 2.37E-16 |
| UQCRC2 | cytochrome b-c1 complex subunit 2, mitochondrial precursor | -1.34 | 4.94E-06 |
| TM9SF4 | PREDICTED: transmembrane 9 superfamily member 4 isoform X1 | -0.889 | 2.73E-02 |
| RPN2 | PREDICTED: dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit 2 isoform X1 | -1.370 | 6.20E-10 |

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| TMED7 | transmembrane emp24 domain-containing protein 7 precursor | -1.482 | 4.16E-08 |
| ATP5O | ATP synthase subunit O, mitochondrial precursor | -2.065 | 2.37E-16 |
| SLC25A11 | mitochondrial 2-oxoglutarate/malate carrier protein | -2.300 | 5.25E-13 |
| SLC25A5 | ADP/ATP translocase 2 | -2.245 | 2.37E-16 |
| SLC25A10 | mitochondrial dicarboxylate carrier | -1.191 | 8.09E-06 |
| ATP5I | ATP synthase subunit e, mitochondrial | -1.737 | 8.81E-12 |
| MPC2 | mitochondrial pyruvate carrier 2 isoform 1 | -1.751 | 3.03E-08 |
| ATP5A1 | ATP synthase subunit alpha, mitochondrial precursor | -1.857 | 2.37E-16 |
| RAB1 | ras-related protein Rab-1A | -0.630 | 2.19E-02 |
| SLC25A12 | PREDICTED: LOW QUALITY PROTEIN: calcium-binding mitochondrial carrier protein Aralar1 isoform X2 | -1.791 | 7.87E-13 |
| LOC100361457 ; ACTG1 | PREDICTED: actin, cytoplasmic 2 isoform X1 | -0.648 | 1.71E-02 |
| RSL1D1L1 | ribosomal L1 domain containing 1-like 1 | -2.245 | 1.62E-06 |
| EMC1 | PREDICTED: ER membrane protein complex subunit 1 isoform X1 | -0.881 | 3.27E-03 |
| SLC25A3 | phosphate carrier protein, mitochondrial isoform 2 precursor | -2.531 | 2.37E-16 |
| RTRAF | PREDICTED: UPF0568 protein C14orf166 homolog isoform X1 | -0.628 | 4.38E-02 |
| STT3A | PREDICTED: dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit STT3A isoform X1 | -1.026 | 4.81E-04 |
| CYC1 | cytochrome c-1 | -2.095 | 3.98E-12 |
| LOC683498 | PREDICTED: actin-like isoform X1 | -1.657 | 4.22E-04 |
| MLEC | malectin precursor | -1.211 | 1.57E-03 |
| YWHAH | 14-3-3 protein eta | -0.685 | 9.45E-03 |
| SLC25A24 | calcium-binding mitochondrial carrier protein SCaMC-1 | -1.723 | 1.98E-11 |
| MRPL17 | 39S ribosomal protein L17, mitochondrial isoform 1 precursor | -1.635 | 1.22E-03 |
| ACTC1 | actin, alpha cardiac muscle 1 | -0.876 | 2.87E-04 |
| TM9SF2 | transmembrane 9 superfamily member 2 precursor | -1.105 | 1.79E-03 |
| SORD | sorbitol dehydrogenase | -1.077 | 4.69E-02 |
| ATP8A1 | PREDICTED: phospholipid-transporting ATPase IA isoform X2 | -6.644 | 2.37E-16 |
| DNM1L | PREDICTED: dynamin-1-like protein isoform X1 | -6.644 | 2.37E-16 |
| RAB3C | ras-related protein Rab-3C | -6.644 | 2.37E-16 |
| KRAS | PREDICTED: GTPase KRas isoform X3 | -1.544 | 4.83E-02 |
| DDX4 | probable ATP-dependent RNA helicase DDX4 | -6.644 | 2.37E-16 |
| YIF1B | PREDICTED: protein YIF1B isoform X1 | -6.644 | 2.37E-16 |
| KRT19 | keratin, type I cytoskeletal 19 | -6.644 | 2.37E-16 |

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|--------------|---|--------|----------|
| SSR3 | translocon-associated protein subunit gamma | -6.644 | 2.37E-16 |
| MBOAT7 | lysophospholipid acyltransferase 7 | -6.644 | 2.37E-16 |
| MYL1 | PREDICTED: myosin light chain 1/3, skeletal muscle isoform X1 | -6.644 | 2.37E-16 |
| TWF2 | twincillin-2 | -6.644 | 2.37E-16 |
| LOC679739 | PREDICTED: NADH dehydrogenase [ubiquinone] iron-sulfur protein 6, mitochondrial | -6.644 | 2.37E-16 |
| ABCD1 | ATP-binding cassette sub-family D member 1 | -6.644 | 2.37E-16 |
| WAPAL | PREDICTED: LOW QUALITY PROTEIN: wings apart-like protein homolog isoform X4 | -6.644 | 2.37E-16 |
| KRT2 | PREDICTED: keratin, type II cytoskeletal 2 epidermal isoform X1 | -6.644 | 2.37E-16 |
| MRPL49 | 39S ribosomal protein L49, mitochondrial | -6.644 | 2.37E-16 |
| NDUFA7 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 7 | -6.644 | 2.37E-16 |
| EMC6 | PREDICTED: ER membrane protein complex subunit 6 isoform X1 | -6.644 | 2.37E-16 |
| CES1A | carboxylesterase 1-like precursor | -6.644 | 2.37E-16 |
| TMEM167A | PREDICTED: protein kish-A | -6.644 | 2.37E-16 |
| COMMD2 | COMM domain-containing protein 2 | -6.644 | 2.37E-16 |
| ATP5SL | PREDICTED: ATP synthase subunit s-like protein isoform X1 | -6.644 | 2.37E-16 |
| C1QBP | complement component 1 Q subcomponent-binding protein, mitochondrial precursor | -6.644 | 2.37E-16 |
| C2CD2 | C2 domain-containing protein 2 | -6.644 | 2.37E-16 |
| SLC12A6 | solute carrier family 12 member 6 | -6.644 | 2.37E-16 |
| KRT10 | PREDICTED: keratin, type I cytoskeletal 10 isoform X1 | -1.786 | 1.47E-03 |
| ZYG11B | PREDICTED: protein zyg-11 homolog B isoform X1 | -6.644 | 2.37E-16 |
| CHCHD4 | PREDICTED: mitochondrial intermembrane space import and assembly protein 40 | -6.644 | 2.37E-16 |
| KNTC1 | PREDICTED: kinetochore-associated protein 1 isoform X1 | -6.644 | 2.37E-16 |
| ABCB8 | ATP-binding cassette sub-family B member 8, mitochondrial precursor | -6.644 | 2.37E-16 |
| STAMBPL1 | AMSH-like protease | -6.644 | 2.37E-16 |
| LOC100359687 | PREDICTED: 39S ribosomal protein L1, mitochondrial isoform X1 | -6.644 | 2.37E-16 |
| MED14 | mediator of RNA polymerase II transcription subunit 14 | -6.644 | 2.37E-16 |
| NCBP1 | nuclear cap-binding protein subunit 1 | -6.644 | 2.37E-16 |
| ATP9B | PREDICTED: probable phospholipid-transporting ATPase IIB isoform X1 | -6.644 | 2.37E-16 |
| CDC37L1 | hsp90 co-chaperone Cdc37-like 1 | -6.644 | 2.37E-16 |

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| AKAP1 | A-kinase anchor protein 1, mitochondrial | -6.644 | 2.37E-16 |
| MFSD5 | molybdate-anion transporter precursor | -6.644 | 2.37E-16 |
| MAN1B1 | PREDICTED: endoplasmic reticulum mannosyl-oligosaccharide 1,2-alpha-mannosidase isoform X1 | -6.644 | 2.37E-16 |
| NDUFA12 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12 | -6.644 | 2.37E-16 |
| CCDC90B | coiled-coil domain-containing protein 90B, mitochondrial precursor | -6.644 | 2.37E-16 |
| MCU | calcium uniporter protein, mitochondrial precursor | -6.644 | 2.37E-16 |
| MRPL27 | 39S ribosomal protein L27, mitochondrial | -6.644 | 2.37E-16 |
| CLIC4 | chloride intracellular channel protein 4 | -6.644 | 2.37E-16 |
| NFATC2IP | NFATC2-interacting protein | -6.644 | 2.37E-16 |
| UQCR10 | ubiquinol-cytochrome c reductase complex 7.2kDa protein | -6.644 | 2.37E-16 |
| POLA1 | DNA polymerase alpha catalytic subunit | -6.644 | 2.37E-16 |
| TMEM160 | transmembrane protein 160 precursor | -6.644 | 2.37E-16 |
| SLC30A9 | zinc transporter 9 | -6.644 | 2.37E-16 |
| LIMA1 | PREDICTED: LIM domain and actin-binding protein 1 isoform X1 | -6.644 | 2.37E-16 |
| RGD1307554 | uncharacterized protein C19orf47 homolog | -6.644 | 2.37E-16 |
| PRIM1 | DNA primase small subunit isoform 1 | -6.644 | 2.37E-16 |
| MAPKAPK2 | PREDICTED: MAP kinase-activated protein kinase 2 isoform X1 | -6.644 | 2.37E-16 |
| ZFR2 | PREDICTED: zinc finger RNA-binding protein 2 isoform X1 | -6.644 | 2.37E-16 |
| TIMM29 | uncharacterized protein C19orf52 homolog | -6.644 | 2.37E-16 |
| CDIPT | PREDICTED: CDP-diacylglycerol--inositol 3-phosphatidyltransferase isoform X1 | -6.644 | 2.37E-16 |

Supplement Table S2: All proteins significantly increased by 3-day A β ₄₂ treatment (90)

| Protein Symbol | Description | Log₂ Fold Change | p-values |
|-----------------------|---|------------------------------------|-----------------|
| POLDIP3 | polymerase delta-interacting protein 3 | 1.232 | 4.23E-02 |
| BLOC1S6 | biogenesis of lysosome-related organelles complex 1 subunit 6 | 1.859 | 9.03E-05 |
| CADPS2 | PREDICTED: calcium-dependent secretion activator 2 isoform X1 | 2.163 | 1.55E-05 |
| GGACT | PREDICTED: gamma-glutamylaminecyclotransferase isoform X1 | 1.321 | 7.72E-03 |
| TROAP | tastin | 2.748 | 2.37E-16 |
| ATR | PREDICTED: serine/threonine-protein kinase ATR isoform X3 | 0.986 | 2.50E-02 |

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|--------------|--|-------|----------|
| PKIA | PREDICTED: cAMP-dependent protein kinase inhibitor alpha isoform X1 | 1.496 | 2.37E-02 |
| IL18RAP | PREDICTED: interleukin-18 receptor accessory protein | 2.357 | 2.37E-16 |
| LOC102556827 | PREDICTED: LOW QUALITY PROTEIN: uncharacterized protein LOC102556827 | 1.945 | 2.30E-04 |
| VKORC1L1 | PREDICTED: vitamin K epoxide reductase complex subunit 1-like protein 1 isoform X1 | 1.207 | 4.36E-03 |
| JPT1 | hematological and neurological expressed 1 protein | 1.938 | 1.26E-13 |
| LRP6 | PREDICTED: low-density lipoprotein receptor-related protein 6 isoform X1 | 1.634 | 1.50E-03 |
| PDXK | pyridoxal kinase | 1.416 | 1.08E-02 |
| LOC679594 | PREDICTED: ubiquitin-like | 1.209 | 4.31E-02 |
| CYP2J16 | PREDICTED: cytochrome P450 2J2-like | 0.846 | 5.20E-03 |
| MMP10 | stromelysin-2 precursor | 1.428 | 1.48E-02 |
| FAT1 | PREDICTED: protocadherin Fat 1 isoform X1 | 0.749 | 8.44E-03 |
| UBE2J1 | PREDICTED: ubiquitin-conjugating enzyme E2 J1 isoform X2 | 2.241 | 5.92E-04 |
| CHMP1A | charged multivesicular body protein 1a | 2.679 | 2.37E-16 |
| UFM1 | ubiquitin-fold modifier 1 precursor | 1.530 | 2.93E-06 |
| MYL12A | PREDICTED: myosin regulatory light chain RLC-A isoform X1 | 1.188 | 2.08E-04 |
| TMSB10 | PREDICTED: thymosin beta-10 | 1.692 | 8.70E-06 |
| SFRP5 | secreted frizzled-related protein 5 precursor | 2.369 | 2.15E-05 |
| NUTF2 | nuclear transport factor 2 | 0.723 | 4.69E-02 |
| CMC1 | PREDICTED: COX assembly mitochondrial protein homolog isoform X1 | 1.439 | 8.19E-03 |
| UBQLN1 | ubiquilin-1 | 0.677 | 4.57E-02 |
| PFN2 | profilin-2 | 0.711 | 1.92E-02 |
| ERC1 | PREDICTED: ELKS/Rab6-interacting/CAST family member 1 isoform X1 | 2.352 | 1.22E-11 |
| PIGY | protein preY, mitochondrial precursor | 1.825 | 1.26E-04 |
| AKR1A1 | alcohol dehydrogenase [NADP(+)] | 0.649 | 3.79E-02 |
| SLC43A2 | PREDICTED: large neutral amino acids transporter small subunit 4 isoform X1 | 2.518 | 1.98E-11 |
| MPPED2 | PREDICTED: metallophosphoesterase MPPED2 isoform X1 | 2.004 | 1.33E-03 |
| PLA2G3 | group 3 secretory phospholipase A2 precursor | 1.149 | 5.95E-04 |
| RGD1311595 | PREDICTED: uncharacterized protein KIAA2026 homolog isoform X1 | 1.617 | 5.08E-04 |
| CRH | corticoliberin precursor | 1.202 | 2.91E-02 |
| MYH14 | myosin-14 | 1.021 | 7.09E-03 |
| ATP5J | PREDICTED: ATP synthase-coupling factor 6, mitochondrial isoform X1 | 1.526 | 2.39E-03 |
| LOC103692831 | PREDICTED: 60S ribosomal protein L39 | 0.645 | 3.96E-02 |

| | | | |
|----------|---|-------|----------|
| HINT1 | histidine triad nucleotide-binding protein 1 | 1.732 | 1.05E-14 |
| PHLPP2 | PH domain leucine-rich repeat-containing protein phosphatase 2 | 1.108 | 1.62E-02 |
| TIMM8B | mitochondrial import inner membrane translocase subunit Tim8 B | 1.112 | 7.44E-03 |
| HHATL | protein-cysteine N-palmitoyltransferase HHAT-like protein | 2.144 | 1.32E-11 |
| ALMS1 | PREDICTED: Alstrom syndrome protein 1 isoform X4 | 2.209 | 1.36E-12 |
| TMEM106A | PREDICTED: transmembrane protein 106A isoform X1 | 2.717 | 3.96E-13 |
| ACSS2 | PREDICTED: acetyl-coenzyme A synthetase, cytoplasmic isoform X1 | 0.723 | 1.26E-02 |
| NPC2 | epididymal secretory protein E1 precursor | 1.163 | 3.00E-05 |
| RPL21 | 60S ribosomal protein L21 | 1.559 | 2.29E-03 |
| RPLP1 | PREDICTED: 60S acidic ribosomal protein P1 isoform X1 | 1.045 | 2.37E-05 |
| ATOX1 | copper transport protein ATOX1 | 1.094 | 1.78E-04 |
| DPYSL3 | dihydropyrimidinase-related protein 3 | 2.231 | 2.37E-16 |
| MYH9 | myosin-9 | 1.069 | 1.40E-05 |
| MTPN | myotrophin | 1.062 | 1.60E-05 |
| FKBP1A | peptidyl-prolyl cis-trans isomerase FKBP1A | 2.212 | 2.37E-16 |
| PSAP | prosaposin isoform B preproprotein | 0.801 | 3.48E-03 |
| GSTP1 | glutathione S-transferase P | 0.888 | 1.47E-03 |
| CSTF2 | PREDICTED: cleavage stimulation factor subunit 2 isoform X1 | 0.851 | 4.25E-02 |
| SCG5 | neuroendocrine protein 7B2 precursor | 1.259 | 3.85E-04 |
| NEFL | neurofilament light polypeptide | 0.902 | 1.11E-03 |
| CYP51 | lanosterol 14-alpha demethylase | 0.631 | 4.78E-02 |
| DBI | acyl-CoA-binding protein | 1.681 | 8.40E-14 |
| PPIA | PREDICTED: peptidyl-prolyl cis-trans isomerase A | 0.662 | 3.16E-02 |
| PCSK1N | PREDICTED: proSAAS | 1.422 | 1.88E-09 |
| MPP6 | PREDICTED: MAGUK p55 subfamily member 6 isoform X1 | 2.084 | 1.25E-05 |
| CROT | PREDICTED: peroxisomal carnitine O-octanoyltransferase isoform X1 | 1.754 | 3.36E-04 |
| DPY30 | protein dpy-30 homolog | 1.365 | 8.27E-07 |
| PARP14 | poly [ADP-ribose] polymerase 14 | 1.63 | 9.04E-03 |
| PEBP1 | phosphatidylethanolamine-binding protein 1 | 0.811 | 2.98E-03 |
| MYDGF | PREDICTED: myeloid-derived growth factor isoform X2 | 1.170 | 1.49E-05 |
| RPS27A | ubiquitin-40S ribosomal protein S27a | 1.141 | 2.36E-06 |
| BLOC1S2 | PREDICTED: biogenesis of lysosome-related organelles complex-1 subunit 2 isoform X2 | 1.799 | 4.28E-04 |
| EPB41L3 | band 4.1-like protein 3 | 6.644 | 2.37E-16 |

| | | | |
|--------------|--|-------|----------|
| MCTS2 | PREDICTED: malignant T-cell-amplified sequence 2 | 6.644 | 2.37E-16 |
| PPP2R5B | serine/threonine-protein phosphatase 2A 56 kDa regulatory subunit beta isoform | 6.644 | 2.37E-16 |
| TSC22D1 | TSC22 domain family protein 1 isoform 1 | 6.644 | 2.37E-16 |
| EPB4.1 | PREDICTED: protein 4.1 isoform X3 | 6.644 | 2.37E-16 |
| SLC44A2 | PREDICTED: choline transporter-like protein 2 isoform X1 | 6.644 | 2.37E-16 |
| FRMD4A | FERM domain-containing protein 4A | 6.644 | 2.37E-16 |
| GTF3C4 | general transcription factor 3C polypeptide 4 | 6.644 | 2.37E-16 |
| ANKRD44 | PREDICTED: serine/threonine-protein phosphatase 6 regulatory ankyrin repeat subunit B isoform X1 | 6.644 | 2.37E-16 |
| NSRP1 | nuclear speckle splicing regulatory protein 1 | 6.644 | 2.37E-16 |
| LOC103690059 | PREDICTED: LOW QUALITY PROTEIN: maltase-glucoamylase, intestinal-like isoform X1 | 6.644 | 2.37E-16 |
| IHH | Indian hedgehog protein precursor | 6.644 | 2.37E-16 |
| PDP1 | PREDICTED: pyruvate dehydrogenase [acetyl-transferring]-phosphatase 1, mitochondrial isoform X1 | 6.644 | 2.37E-16 |
| ITIH6 | PREDICTED: LOW QUALITY PROTEIN: inter-alpha-trypsin inhibitor heavy chain H6-like | 6.644 | 2.37E-16 |
| HPDL | 4-hydroxyphenylpyruvate dioxygenase-like protein | 6.644 | 2.37E-16 |
| ADAL | PREDICTED: adenosine deaminase-like protein isoform X1 | 6.644 | 2.37E-16 |
| PGLYRP3B | PREDICTED: peptidoglycan recognition protein 3 isoform X3 | 6.644 | 2.37E-16 |
| RGD1560289 | PREDICTED: uncharacterized protein C3orf20 homolog isoform X4 | 6.644 | 2.37E-16 |
| SCLY | PREDICTED: selenocysteine lyase isoform X1 | 6.644 | 2.37E-16 |
| MSL3 | PREDICTED: male-specific lethal 3 homolog isoform X1 | 6.644 | 2.37E-16 |

Supplement Table S3: Membrane proteins significantly decreased by 3-day A β ₄₂ treatment (163)

| Protein Symbol | Description | Log ₂ Fold Change | p-value |
|----------------|---|------------------------------|----------|
| LBR | lamin-B receptor | -1.272 | 2.68E-02 |
| SLC38A2 | PREDICTED: sodium-coupled neutral amino acid transporter 2 isoform X1 | -1.214 | 3.85E-02 |
| USMG5 | PREDICTED: up-regulated during skeletal muscle growth protein 5 | -1.862 | 5.41E-05 |
| SSR1 | PREDICTED: translocon-associated protein subunit alpha isoform X1 | -1.258 | 2.17E-04 |
| SLC7A1 | high affinity cationic amino acid transporter 1 | -6.644 | 2.37E-16 |

| | | | |
|--------------|--|--------|----------|
| EBAG9 | PREDICTED: receptor-binding cancer antigen expressed on SiSo cells isoform X1 | -6.644 | 2.37E-16 |
| LARP4B | la-related protein 4B | -6.644 | 2.37E-16 |
| ALG9 | PREDICTED: alpha-1,2-mannosyltransferase ALG9 isoform X1 | -1.234 | 3.51E-02 |
| DNAJC16 | dnaJ homolog subfamily C member 16 precursor | -1.329 | 3.15E-03 |
| SMURF1 | PREDICTED: E3 ubiquitin-protein ligase SMURF1 isoform X1 | -6.644 | 2.37E-16 |
| VDAC3 | PREDICTED: voltage-dependent anion-selective channel protein 3 isoform X1 | -1.188 | 2.96E-02 |
| MTCH2 | mitochondrial carrier homolog 2 isoform 1x | -1.474 | 5.34E-06 |
| CPNE1 | copine 1 | -6.644 | 2.37E-16 |
| CTNNA2 | PREDICTED: catenin alpha-2 isoform X1 | -1.258 | 2.17E-02 |
| NIPA2 | PREDICTED: magnesium transporter NIPA2 isoform X1 | -0.905 | 1.08E-02 |
| NDUFV2 | NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial precursor | -1.120 | 4.57E-02 |
| TMEM126A | PREDICTED: transmembrane protein 126A isoform X1 | -6.644 | 2.37E-16 |
| VAPA | PREDICTED: vesicle-associated membrane protein-associated protein A isoform X1 | -0.727 | 3.79E-02 |
| SYNJ2BP | synaptojanin-2-binding protein | -1.419 | 3.59E-03 |
| EMC7 | PREDICTED: ER membrane protein complex subunit 7 isoform X1 | -6.644 | 2.37E-16 |
| OSTC | oligosaccharyltransferase complex subunit OSTC | -1.279 | 5.78E-03 |
| SLC25A13 | PREDICTED: calcium-binding mitochondrial carrier protein Aralar2 isoform X1 | -6.644 | 2.37E-16 |
| ABCB7 | ATP-binding cassette sub-family B member 7, mitochondrial | -1.231 | 1.72E-02 |
| NDUFC2 | NADH dehydrogenase [ubiquinone] 1 subunit C2 | -1.336 | 4.42E-02 |
| VDAC2 | PREDICTED: voltage-dependent anion-selective channel protein 2 isoform X1 | -0.855 | 3.40E-02 |
| UQCRC1 | cytochrome b-c1 complex subunit 1, mitochondrial precursor | -1.582 | 3.61E-12 |
| RAP1A | ras-related protein Rap-1A precursor | -6.644 | 2.37E-16 |
| DSG3 | PREDICTED: desmoglein-3 isoform X1 | -1.201 | 2.51E-02 |
| UQCRH | cytochrome b-c1 complex subunit 6, mitochondrial | -2.506 | 1.41E-12 |
| PHB2 | prohibitin-2 | -1.591 | 1.93E-07 |
| COX6C | cytochrome c oxidase subunit 6C-2 | -1.751 | 5.08E-04 |
| HDHD2 | haloacid dehalogenase-like hydrolase domain-containing protein 2 precursor | -1.667 | 5.92E-04 |
| NDUFA9 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 9, mitochondrial | -1.868 | 5.13E-05 |
| LOC102548267 | PREDICTED: histocompatibility antigen 60b-like | -1.699 | 5.25E-04 |
| MYADM | myeloid-associated differentiation marker | -1.130 | 2.53E-03 |

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|----------|---|--------|----------|
| SEC62 | translocation protein SEC62 | -0.991 | 2.98E-02 |
| TOR1AIP1 | torsin-1A-interacting protein 1 | -1.248 | 2.05E-02 |
| NDUFA5 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 5 | -1.020 | 1.09E-02 |
| DHRS7B | dehydrogenase/reductase SDR family member 7B | -6.644 | 2.37E-16 |
| NNT | PREDICTED: NAD(P) transhydrogenase, mitochondrial isoform X1 | -2.017 | 4.92E-06 |
| NAPA | alpha-soluble NSF attachment protein | -0.806 | 1.34E-02 |
| PTPLAD1 | very-long-chain (3R)-3-hydroxyacyl-CoA dehydratase 3 | -1.117 | 7.22E-04 |
| ATP5H | ATP synthase subunit d, mitochondrial | -1.932 | 2.37E-16 |
| COX5A | cytochrome c oxidase subunit 5A, mitochondrial precursor | -0.604 | 3.20E-02 |
| UQCRB | cytochrome b-c1 complex subunit 7 | -1.531 | 1.14E-05 |
| MEST | mesoderm-specific transcript homolog protein | -0.870 | 4.08E-02 |
| UQCRFS1 | cytochrome b-c1 complex subunit Rieske, mitochondrial | -6.644 | 2.37E-16 |
| SSR4 | translocon-associated protein subunit delta precursor | -0.847 | 8.35E-03 |
| DDOST | dolichyl-diphosphooligosaccharide--protein glycosyltransferase 48 kDa subunit precursor | -0.793 | 1.44E-03 |
| SLC25A1 | tricarboxylate transport protein, mitochondrial precursor | -2.152 | 2.37E-16 |
| ATP5C1 | ATP synthase subunit gamma, mitochondrial | -2.458 | 2.37E-16 |
| TMED10 | transmembrane emp24 domain-containing protein 10 precursor | -0.651 | 1.65E-02 |
| APOOL | PREDICTED: MICOS complex subunit MIC27 isoform X1 | -1.671 | 9.74E-07 |
| TMPO | lamina-associated polypeptide 2, isoform beta | -1.077 | 5.78E-03 |
| LMNA | prelamin-A/C | -1.155 | 6.81E-07 |
| ATP6V0A1 | PREDICTED: V-type proton ATPase 116 kDa subunit a isoform X4 | -0.946 | 3.65E-04 |
| UQCRQ | cytochrome b-c1 complex subunit 8 | -1.791 | 2.75E-07 |
| ANO6 | PREDICTED: anoctamin-6 isoform X1 | -0.977 | 6.25E-04 |
| FAM162A | PREDICTED: protein FAM162A isoform X1 | -1.415 | 1.42E-10 |
| COX4I2 | PREDICTED: cytochrome c oxidase subunit 4 isoform 2, mitochondrial isoform X1 | -1.450 | 7.46E-10 |
| TMX2 | thioredoxin-related transmembrane protein 2 precursor | -1.062 | 1.07E-03 |
| GOLGA2 | PREDICTED: golgin subfamily A member 2 isoform X1 | -0.852 | 4.55E-02 |
| NDUFB10 | NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 10 | -0.908 | 2.40E-02 |
| TMEM43 | transmembrane protein 43 | -1.208 | 1.35E-03 |

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|--------------|--|--------|----------|
| SLC25A22 | PREDICTED: mitochondrial glutamate carrier 1 isoform X1 | -6.644 | 2.37E-16 |
| AFG3L2 | AFG3-like protein 2 | -1.065 | 3.05E-03 |
| SDHC | succinate dehydrogenase cytochrome b560 subunit, mitochondrial | -1.381 | 8.09E-03 |
| FUBP3 | PREDICTED: far upstream element-binding protein 3 isoform X1 | -0.905 | 2.17E-02 |
| ATP5E | ATP synthase subunit epsilon, mitochondrial | -0.855 | 4.46E-03 |
| SLC6A2 | sodium-dependent noradrenaline transporter | -1.133 | 2.66E-03 |
| SPCS2 | signal peptidase complex subunit 2 | -1.657 | 1.56E-07 |
| CENPJ | PREDICTED: centromere protein J isoform X1 | -0.960 | 3.74E-02 |
| SDHB | succinate dehydrogenase [ubiquinone] iron-sulfur subunit, mitochondrial precursor | -1.470 | 3.01E-07 |
| TDRKH | PREDICTED: tudor and KH domain-containing protein isoform X1 | -0.938 | 7.93E-03 |
| GHR | PREDICTED: growth hormone receptor isoform X1 | -1.470 | 1.18E-02 |
| SDHA | succinate dehydrogenase [ubiquinone] flavoprotein subunit, mitochondrial precursor | -1.333 | 2.05E-09 |
| ATP5J2 | ATP synthase subunit f, mitochondrial | -2.077 | 2.37E-16 |
| CFL1 | cofilin-1 | -0.597 | 3.54E-02 |
| SEC11A | PREDICTED: signal peptidase complex catalytic subunit SEC11A isoform X2 | -1.388 | 2.37E-03 |
| LETM1 | LETM1 and EF-hand domain-containing protein 1, mitochondrial precursor | -0.980 | 7.45E-04 |
| VDAC1 | voltage-dependent anion-selective channel protein 1 | -1.431 | 1.80E-09 |
| TRPV2 | transient receptor potential cation channel subfamily V member 2 | -1.262 | 1.70E-08 |
| ATP5B | ATP synthase subunit beta, mitochondrial precursor | -2.041 | 2.37E-16 |
| TOMM70A | mitochondrial import receptor subunit TOM70 | -1.155 | 4.46E-05 |
| TAP2 | antigen peptide transporter 2 precursor | -0.977 | 1.08E-02 |
| NDUFA13 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 13 | -3.506 | 2.37E-16 |
| ATP5D | PREDICTED: ATP synthase subunit delta, mitochondrial isoform X1 | -3.047 | 2.37E-16 |
| ATP13A1 | manganese-transporting ATPase 13A1 | -0.894 | 4.46E-02 |
| COMTD1 | catechol O-methyltransferase domain-containing protein 1 | -1.290 | 2.39E-03 |
| CISD1 | CDGSH iron-sulfur domain-containing protein 1 | -1.502 | 7.74E-07 |
| LOC103693780 | PREDICTED: 2-oxoglutarate dehydrogenase, mitochondrial isoform X2 | -0.642 | 1.88E-02 |
| ATP5F1 | ATP synthase F(0) complex subunit B1, mitochondrial precursor | -2.315 | 2.37E-16 |

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|----------|--|--------|----------|
| FIS1 | PREDICTED: mitochondrial fission 1 protein isoform X1 | -1.105 | 2.99E-03 |
| TMEM120A | transmembrane protein 120A | -1.127 | 1.28E-03 |
| TAP1 | antigen peptide transporter 1 precursor | -1.404 | 1.35E-04 |
| PLP2 | proteolipid protein 2 | -1.381 | 3.50E-05 |
| RPN1 | dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit 1 precursor | -0.651 | 1.64E-02 |
| ARF1 | PREDICTED: ADP-ribosylation factor 1 isoform X1 | -0.737 | 3.92E-03 |
| PAFAH1B1 | PREDICTED: platelet-activating factor acetylhydrolase IB subunit alpha isoform X1 | -0.573 | 4.88E-02 |
| SLC25A4 | ADP/ATP translocase 1 | -2.826 | 2.37E-16 |
| LDLRAP1 | low density lipoprotein receptor adapter protein 1 | -6.644 | 2.37E-16 |
| ATP5L | ATP synthase subunit g, mitochondrial | -2.146 | 2.37E-16 |
| PHB | prohibitin | -1.966 | 2.37E-16 |
| UQCRC2 | cytochrome b-c1 complex subunit 2, mitochondrial precursor | -1.340 | 4.94E-06 |
| RPN2 | PREDICTED: dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit 2 isoform X1 | -1.370 | 6.20E-10 |
| TMED7 | transmembrane emp24 domain-containing protein 7 precursor | -1.482 | 4.16E-08 |
| ATP5O | ATP synthase subunit O, mitochondrial precursor | -2.065 | 2.37E-16 |
| SLC25A11 | mitochondrial 2-oxoglutarate/malate carrier protein | -2.300 | 5.25E-13 |
| SLC25A5 | ADP/ATP translocase 2 | -2.245 | 2.37E-16 |
| SLC25A10 | mitochondrial dicarboxylate carrier | -1.191 | 8.09E-06 |
| ATP5I | ATP synthase subunit e, mitochondrial | -1.737 | 8.81E-12 |
| MPC2 | mitochondrial pyruvate carrier 2 isoform 1 | -1.751 | 3.03E-08 |
| ATP5A1 | ATP synthase subunit alpha, mitochondrial precursor | -1.857 | 2.37E-16 |
| RAB1 | ras-related protein Rab-1A | -0.630 | 2.19E-02 |
| SLC25A12 | PREDICTED: LOW QUALITY PROTEIN: calcium-binding mitochondrial carrier protein Aralar1 isoform X2 | -1.791 | 7.87E-13 |
| ACTG1 | PREDICTED: actin, cytoplasmic 2 isoform X1 | -0.648 | 1.71E-02 |
| RSL1D1L1 | ribosomal L1 domain containing 1-like 1 | -2.245 | 1.62E-06 |
| SLC25A3 | phosphate carrier protein, mitochondrial isoform 2 precursor | -2.531 | 2.37E-16 |
| STT3A | PREDICTED: dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit STT3A isoform X1 | -1.026 | 4.81E-04 |
| CYC1 | cytochrome c-1 | -2.095 | 3.98E-12 |
| MLEC | malectin precursor | -1.211 | 1.57E-03 |
| YWHAH | 14-3-3 protein eta | -0.685 | 9.45E-03 |
| SLC25A24 | calcium-binding mitochondrial carrier protein SCaMC-1 | -1.723 | 1.98E-11 |

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|-----------|--|--------|----------|
| MRPL17 | 39S ribosomal protein L17, mitochondrial isoform 1 precursor | -1.635 | 1.22E-03 |
| ACTC1 | actin, alpha cardiac muscle 1 | -0.876 | 2.87E-04 |
| TM9SF2 | transmembrane 9 superfamily member 2 precursor | -1.105 | 1.79E-03 |
| SORD | sorbitol dehydrogenase | -1.077 | 4.69E-02 |
| ATP8A1 | PREDICTED: phospholipid-transporting ATPase IA isoform X2 | -6.644 | 2.37E-16 |
| DNM1L | PREDICTED: dynamin-1-like protein isoform X1 | -6.644 | 2.37E-16 |
| RAB3C | ras-related protein Rab-3C | -6.644 | 2.37E-16 |
| KRAS | PREDICTED: GTPase KRas isoform X3 | -1.544 | 4.83E-02 |
| YIF1B | PREDICTED: protein YIF1B isoform X1 | -6.644 | 2.37E-16 |
| KRT19 | keratin, type I cytoskeletal 19 | -6.644 | 2.37E-16 |
| SSR3 | translocon-associated protein subunit gamma | -6.644 | 2.37E-16 |
| MBOAT7 | lysophospholipid acyltransferase 7 | -6.644 | 2.37E-16 |
| LOC679739 | PREDICTED: NADH dehydrogenase [ubiquinone] iron-sulfur protein 6, mitochondrial | -6.644 | 2.37E-16 |
| ABCD1 | ATP-binding cassette sub-family D member 1 | -6.644 | 2.37E-16 |
| KRT2 | PREDICTED: keratin, type II cytoskeletal 2 epidermal isoform X1 | -6.644 | 2.37E-16 |
| NDUFA7 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 7 | -6.644 | 2.37E-16 |
| EMC6 | PREDICTED: ER membrane protein complex subunit 6 isoform X1 | -6.644 | 2.37E-16 |
| TMEM167A | PREDICTED: protein kish-A | -6.644 | 2.37E-16 |
| C1QBP | complement component 1 Q subcomponent-binding protein, mitochondrial precursor | -6.644 | 2.37E-16 |
| C2CD2 | C2 domain-containing protein 2 | -6.644 | 2.37E-16 |
| SLC12A6 | solute carrier family 12 member 6 | -6.644 | 2.37E-16 |
| KRT10 | PREDICTED: keratin, type I cytoskeletal 10 isoform X1 | -1.786 | 1.47E-03 |
| KNTC1 | PREDICTED: kinetochore-associated protein 1 isoform X1 | -6.644 | 2.37E-16 |
| ABCB8 | ATP-binding cassette sub-family B member 8, mitochondrial precursor | -6.644 | 2.37E-16 |
| STAMBPL1 | AMSH-like protease | -6.644 | 2.37E-16 |
| MED14 | mediator of RNA polymerase II transcription subunit 14 | -6.644 | 2.37E-16 |
| ATP9B | PREDICTED: probable phospholipid-transporting ATPase IIB isoform X1 | -6.644 | 2.37E-16 |
| AKAP1 | A-kinase anchor protein 1, mitochondrial | -6.644 | 2.37E-16 |
| MFSD5 | molybdate-anion transporter precursor | -6.644 | 2.37E-16 |
| MAN1B1 | PREDICTED: endoplasmic reticulum mannosyl-oligosaccharide 1,2-alpha-mannosidase isoform X1 | -6.644 | 2.37E-16 |
| NDUFA12 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12 | -6.644 | 2.37E-16 |

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|---------|--|--------|----------|
| CCDC90B | coiled-coil domain-containing protein 90B, mitochondrial precursor | -6.644 | 2.37E-16 |
| MCU | calcium uniporter protein, mitochondrial precursor | -6.644 | 2.37E-16 |
| CLIC4 | chloride intracellular channel protein 4 | -6.644 | 2.37E-16 |
| UQCR10 | ubiquinol-cytochrome c reductase complex 7.2kDa protein | -6.644 | 2.37E-16 |
| TMEM160 | transmembrane protein 160 precursor | -6.644 | 2.37E-16 |
| SLC30A9 | zinc transporter 9 | -6.644 | 2.37E-16 |
| PRIM1 | DNA primase small subunit isoform 1 | -6.644 | 2.37E-16 |
| TIMM29 | uncharacterized protein C19orf52 homolog | -6.644 | 2.37E-16 |
| CDIPT | PREDICTED: CDP-diacylglycerol--inositol 3-phosphatidyltransferase isoform X1 | -6.644 | 2.37E-16 |

Supplement Table S4: Membrane proteins significantly increased by 3-day A β ₄₂ treatment (36)

| Protein Symbol | Description | Log₂ Fold Change | p-value |
|-----------------------|--|------------------------------------|----------------|
| BLOC1S6 | biogenesis of lysosome-related organelles complex 1 subunit 6 | 1.859 | 9.03E-05 |
| IL18RAP | PREDICTED: interleukin-18 receptor accessory protein | 2.357 | 2.37E-16 |
| VKORC1L1 | PREDICTED: vitamin K epoxide reductase complex subunit 1-like protein 1 isoform X1 | 1.207 | 4.36E-03 |
| JPT1 | hematological and neurological expressed 1 protein | 1.938 | 1.26E-13 |
| LRP6 | PREDICTED: low-density lipoprotein receptor-related protein 6 isoform X1 | 1.634 | 1.50E-03 |
| CYP2J16 | PREDICTED: cytochrome P450 2J2-like | 0.846 | 5.20E-03 |
| FAT1 | PREDICTED: protocadherin Fat 1 isoform X1 | 0.749 | 8.44E-03 |
| NUTF2 | nuclear transport factor 2 | 0.723 | 4.69E-02 |
| UBQLN1 | ubiquilin-1 | 0.677 | 4.57E-02 |
| ERC1 | PREDICTED: ELKS/Rab6-interacting/CAST family member 1 isoform X1 | 2.352 | 1.22E-11 |
| PIGY | protein preY, mitochondrial precursor | 1.825 | 1.26E-04 |
| AKR1A1 | alcohol dehydrogenase [NADP(+)] | 0.649 | 3.79E-02 |
| SLC43A2 | PREDICTED: large neutral amino acids transporter small subunit 4 isoform X1 | 2.518 | 1.98E-11 |
| MYH14 | myosin-14 | 1.021 | 7.09E-03 |
| ATP5J | PREDICTED: ATP synthase-coupling factor 6, mitochondrial isoform X1 | 1.526 | 2.39E-03 |
| HINT1 | histidine triad nucleotide-binding protein 1 | 1.732 | 1.05E-14 |
| PHLPP2 | PH domain leucine-rich repeat-containing protein phosphatase 2 | 1.108 | 1.62E-02 |
| TIMM8B | mitochondrial import inner membrane translocase subunit Tim8 B | 1.112 | 7.44E-03 |

| | | | |
|----------|---|-------|----------|
| HHATL | protein-cysteine N-palmitoyltransferase HHAT-like protein | 2.144 | 1.32E-11 |
| TMEM106A | PREDICTED: transmembrane protein 106A isoform X1 | 2.717 | 3.96E-13 |
| RPL21 | 60S ribosomal protein L21 | 1.559 | 2.29E-03 |
| MYH9 | myosin-9 | 1.069 | 1.40E-05 |
| FKBP1A | peptidyl-prolyl cis-trans isomerase FKBP1A | 2.212 | 2.37E-16 |
| GSTP1 | glutathione S-transferase P | 0.888 | 1.47E-03 |
| CYP51 | lanosterol 14-alpha demethylase | 0.631 | 4.78E-02 |
| DBI | acyl-CoA-binding protein | 1.681 | 8.40E-14 |
| PPIA | PREDICTED: peptidyl-prolyl cis-trans isomerase A | 0.662 | 3.16E-02 |
| MPP6 | PREDICTED: MAGUK p55 subfamily member 6 isoform X1 | 2.084 | 1.25E-05 |
| PARP14 | poly [ADP-ribose] polymerase 14 | 1.630 | 9.04E-03 |
| PEBP1 | phosphatidylethanolamine-binding protein 1 | 0.811 | 2.98E-03 |
| RPS27A | ubiquitin-40S ribosomal protein S27a | 1.141 | 2.36E-06 |
| BLOC1S2 | PREDICTED: biogenesis of lysosome-related organelles complex-1 subunit 2 isoform X2 | 1.799 | 4.28E-04 |
| EPB41L3 | band 4.1-like protein 3 | 6.644 | 2.37E-16 |
| EPB4.1 | PREDICTED: protein 4.1 isoform X3 | 6.644 | 2.37E-16 |
| SLC44A2 | PREDICTED: choline transporter-like protein 2 isoform X1 | 6.644 | 2.37E-16 |
| IHH | Indian hedgehog protein precursor | 6.644 | 2.37E-16 |

Supplement Table S5: A β ₄₂ proteomic results uploaded to Pathway Studio for GSEA

| Protein Symbol | Description | Entrez ID | Abundance Ratio | p-value |
|----------------|--|-----------|-----------------|----------|
| EPB41L3 | band 4.1-like protein 3 | 116724 | 100 | 2.37E-16 |
| MCTS2 | PREDICTED: malignant T-cell-amplified sequence 2 | 689500 | 100 | 2.37E-16 |
| PPP2R5B | serine/threonine-protein phosphatase 2A 56 kDa regulatory subunit beta isoform | 309179 | 100 | 2.37E-16 |
| TSC22D1 | TSC22 domain family protein 1 isoform 1 | 498545 | 100 | 2.37E-16 |
| EPB4.1 | PREDICTED: protein 4.1 isoform X3 | 313052 | 100 | 2.37E-16 |
| SLC44A2 | PREDICTED: choline transporter-like protein 2 isoform X1 | 363024 | 100 | 2.37E-16 |
| FRMD4A | FERM domain-containing protein 4A | 307128 | 100 | 2.37E-16 |
| GTF3C4 | general transcription factor 3C polypeptide 4 | 685539 | 100 | 2.37E-16 |
| ANKRD44 | PREDICTED: serine/threonine-protein phosphatase 6 regulatory ankyrin repeat subunit B isoform X1 | 301415 | 100 | 2.37E-16 |

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|--------------|---|-----------|-------|----------|
| NSRP1 | nuclear speckle splicing regulatory protein 1 | 303346 | 100 | 2.37E-16 |
| LOC103690059 | PREDICTED: LOW QUALITY PROTEIN: maltase-glucoamylase, intestinal-like isoform X1 | 103690059 | 100 | 2.37E-16 |
| IHH | Indian hedgehog protein precursor | 84399 | 100 | 2.37E-16 |
| PDP1 | PREDICTED: pyruvate dehydrogenase [acetyl-transferring]-phosphatase 1, mitochondrial isoform X1 | 54705 | 100 | 2.37E-16 |
| ITIH6 | PREDICTED: LOW QUALITY PROTEIN: inter-alpha-trypsin inhibitor heavy chain H6-like | 100912775 | 100 | 2.37E-16 |
| HPDL | 4-hydroxyphenylpyruvate dioxygenase-like protein | 313521 | 100 | 2.37E-16 |
| ADAL | PREDICTED: adenosine deaminase-like protein isoform X1 | 311352 | 100 | 2.37E-16 |
| PGLYRP3B | PREDICTED: peptidoglycan recognition protein 3 isoform X3 | 295180 | 100 | 2.37E-16 |
| RGD1560289 | PREDICTED: uncharacterized protein C3orf20 homolog isoform X4 | 500258 | 100 | 2.37E-16 |
| SCLY | PREDICTED: selenocysteine lyase isoform X1 | 363285 | 100 | 2.37E-16 |
| MSL3 | PREDICTED: male-specific lethal 3 homolog isoform X1 | 317464 | 100 | 2.37E-16 |
| TROAP | tastin | 300219 | 6.717 | 2.37E-16 |
| TMEM106A | PREDICTED: transmembrane protein 106A isoform X1 | 287722 | 6.574 | 3.96E-13 |
| CHMP1A | charged multivesicular body protein 1a | 365024 | 6.402 | 2.37E-16 |
| SLC43A2 | PREDICTED: large neutral amino acids transporter small subunit 4 isoform X1 | 287532 | 5.728 | 1.98E-11 |
| SFRP5 | secreted frizzled-related protein 5 precursor | 309377 | 5.165 | 2.15E-05 |
| IL18RAP | PREDICTED: interleukin-18 receptor accessory protein | 373540 | 5.122 | 2.37E-16 |
| ERC1 | PREDICTED: ELKS/Rab6-interacting/CAST family member 1 isoform X1 | 266806 | 5.104 | 1.22E-11 |
| UBE2J1 | PREDICTED: ubiquitin-conjugating enzyme E2 J1 isoform X2 | 297961 | 4.728 | 5.92E-04 |
| DPYSL3 | dihydropyrimidinase-related protein 3 | 25418 | 4.695 | 2.37E-16 |
| FKBP1A | peptidyl-prolyl cis-trans isomerase FKBP1A | 25639 | 4.632 | 2.37E-16 |

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|--------------|---|-----------|-------|----------|
| ALMS1 | PREDICTED: Alstrom syndrome protein 1 isoform X4 | 297408 | 4.624 | 1.36E-12 |
| CADPS2 | PREDICTED: calcium-dependent secretion activator 2 isoform X1 | 312166 | 4.48 | 1.55E-05 |
| HHATL | protein-cysteine N-palmitoyltransferase HHAT-like protein | 301073 | 4.421 | 1.32E-11 |
| MPP6 | PREDICTED: MAGUK p55 subfamily member 6 isoform X1 | 362359 | 4.24 | 1.25E-05 |
| MPPED2 | PREDICTED: metallophosphoesterase MPPED2 isoform X1 | 362185 | 4.011 | 1.33E-03 |
| LOC102556827 | PREDICTED: LOW QUALITY PROTEIN: uncharacterized protein LOC102556827 | 102556827 | 3.851 | 2.30E-04 |
| JPT1 | hematological and neurological expressed 1 protein | 287828 | 3.831 | 1.26E-13 |
| BLOC1S6 | biogenesis of lysosome-related organelles complex 1 subunit 6 | 317630 | 3.628 | 9.03E-05 |
| PIGY | protein preY, mitochondrial precursor | 502782 | 3.542 | 1.26E-04 |
| BLOC1S2 | PREDICTED: biogenesis of lysosome-related organelles complex-1 subunit 2 isoform X2 | 293938 | 3.479 | 4.28E-04 |
| CROT | PREDICTED: peroxisomal carnitine O-octanoyltransferase isoform X1 | 83842 | 3.374 | 3.36E-04 |
| HINT1 | histidine triad nucleotide-binding protein 1 | 690660 | 3.321 | 1.05E-14 |
| TMSB10 | PREDICTED: thymosin beta-10 | 100364435 | 3.231 | 8.70E-06 |
| DBI | acyl-CoA-binding protein | 25045 | 3.206 | 8.40E-14 |
| LRP6 | PREDICTED: low-density lipoprotein receptor-related protein 6 isoform X1 | 312781 | 3.103 | 1.50E-03 |
| PARP14 | poly [ADP-ribose] polymerase 14 | 303903 | 3.095 | 9.04E-03 |
| RGD1311595 | PREDICTED: uncharacterized protein KIAA2026 homolog isoform X1 | 309307 | 3.067 | 5.08E-04 |
| RPL21 | 60S ribosomal protein L21 | 79449 | 2.946 | 2.29E-03 |
| UFM1 | ubiquitin-fold modifier 1 precursor | 365797 | 2.887 | 2.93E-06 |
| ATP5J | PREDICTED: ATP synthase-coupling factor 6, mitochondrial isoform X1 | 94271 | 2.879 | 2.39E-03 |
| PKIA | PREDICTED: cAMP-dependent protein kinase inhibitor alpha isoform X1 | 114906 | 2.82 | 2.37E-02 |
| CMC1 | PREDICTED: COX assembly mitochondrial protein homolog isoform X1 | 363162 | 2.712 | 8.19E-03 |
| MMP10 | stromelysin-2 precursor | 117061 | 2.691 | 1.48E-02 |

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|-----------|--|---------------|-------|----------|
| PCSK1N | PREDICTED: proSAAS | 108348 172 | 2.679 | 1.88E-09 |
| PDXK | pyridoxal kinase | 83578 | 2.669 | 1.08E-02 |
| DPY30 | protein dpy-30 homolog | 286897 | 2.575 | 8.27E-07 |
| GGACT | PREDICTED: gamma-glutamylaminecyclotransferase isoform X1 | 290500 | 2.498 | 7.72E-03 |
| SCG5 | neuroendocrine protein 7B2 precursor | 25719 | 2.394 | 3.85E-04 |
| POLDIP3 | polymerase delta-interacting protein 3 | 315170 | 2.349 | 4.23E-02 |
| LOC679594 | PREDICTED: ubiquitin-like | 679594 | 2.311 | 4.31E-02 |
| VKORC1L1 | PREDICTED: vitamin K epoxide reductase complex subunit 1-like protein 1 isoform X1 | 103693 015 | 2.308 | 4.36E-03 |
| CRH | corticoliberin precursor | 81648 | 2.301 | 2.91E-02 |
| MYL12A | PREDICTED: myosin regulatory light chain RLC-A isoform X1 | 501203 | 2.279 | 2.08E-04 |
| MYDGF | PREDICTED: myeloid-derived growth factor isoform X2 | 501282 | 2.250 | 1.49E-05 |
| NPC2 | epididymal secretory protein E1 precursor | 286898 | 2.239 | 3.00E-05 |
| PLA2G3 | group 3 secretory phospholipase A2 precursor | 289733 | 2.217 | 5.95E-04 |
| RPS27A | ubiquitin-40S ribosomal protein S27a | 81777 | 2.205 | 2.36E-06 |
| TIMM8B | mitochondrial import inner membrane translocase subunit Tim8 B | 64372 | 2.162 | 7.44E-03 |
| PHLPP2 | PH domain leucine-rich repeat-containing protein phosphatase 2 | 498949 | 2.155 | 1.62E-02 |
| ATOX1 | copper transport protein ATOX1 | 84355 | 2.135 | 1.78E-04 |
| MYH9 | myosin-9 | 25745 | 2.098 | 1.40E-05 |
| MTPN | myotrophin | 79215 | 2.088 | 1.60E-05 |
| RPLP1 | PREDICTED: 60S acidic ribosomal protein P1 isoform X1 | 100360 522 | 2.064 | 2.37E-05 |
| MYH14 | myosin-14 | 308572 | 2.030 | 7.09E-03 |
| ATR | PREDICTED: serine/threonine-protein kinase ATR isoform X3 | 685055 | 1.980 | 2.50E-02 |
| NEFL | neurofilament light polypeptide | 83613 | 1.869 | 1.11E-03 |
| GSTP1 | glutathione S-transferase P | 24426 | 1.851 | 1.47E-03 |
| CSTF2 | PREDICTED: cleavage stimulation factor subunit 2 isoform X1 | 683927 | 1.804 | 4.25E-02 |
| CYP2J16 | PREDICTED: cytochrome P450 2J2-like | 502969 | 1.798 | 5.20E-03 |
| PEBP1 | phosphatidylethanolamine-binding protein 1 | 29542 | 1.754 | 2.98E-03 |
| PSAP | prosaposin isoform B preproprotein | 25524 | 1.742 | 3.48E-03 |

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|--------------|---|-----------|-------|----------|
| FAT1 | PREDICTED: protocadherin Fat 1 isoform X1 | 83720 | 1.681 | 8.44E-03 |
| NUTF2 | nuclear transport factor 2 | 291981 | 1.651 | 4.69E-02 |
| ACSS2 | PREDICTED: acetyl-coenzyme A synthetase, cytoplasmic isoform X1 | 311569 | 1.651 | 1.26E-02 |
| PFN2 | profilin-2 | 81531 | 1.637 | 1.92E-02 |
| UBQLN1 | ubiquilin-1 | 114590 | 1.599 | 4.57E-02 |
| PPIA | PREDICTED: peptidyl-prolyl cis-trans isomerase A | 100360977 | 1.582 | 3.16E-02 |
| AKR1A1 | alcohol dehydrogenase [NADP(+)] | 78959 | 1.568 | 3.79E-02 |
| LOC103692831 | PREDICTED: 60S ribosomal protein L39 | 103692831 | 1.564 | 3.96E-02 |
| CYP51 | lanosterol 14-alpha demethylase | 25427 | 1.549 | 4.78E-02 |
| PAFAH1B1 | PREDICTED: platelet-activating factor acetylhydrolase IB subunit alpha isoform X1 | 83572 | 0.672 | 4.88E-02 |
| CFL1 | cofilin-1 | 29271 | 0.661 | 3.54E-02 |
| COX5A | cytochrome c oxidase subunit 5A, mitochondrial precursor | 252934 | 0.658 | 3.20E-02 |
| RTRAF | PREDICTED: UPF0568 protein C14orf166 homolog isoform X1 | 302247 | 0.647 | 4.38E-02 |
| RAB1 | ras-related protein Rab-1A | 81754 | 0.646 | 2.19E-02 |
| LOC103693780 | PREDICTED: 2-oxoglutarate dehydrogenase, mitochondrial isoform X2 | 103693780 | 0.641 | 1.88E-02 |
| ACTG1 | PREDICTED: actin, cytoplasmic 2 isoform X1 | 287876 | 0.638 | 1.71E-02 |
| TMED10 | transmembrane emp24 domain-containing protein 10 precursor | 84599 | 0.637 | 1.65E-02 |
| RPN1 | dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit 1 precursor | 25596 | 0.637 | 1.64E-02 |
| YWHAH | 14-3-3 protein eta | 25576 | 0.622 | 9.45E-03 |
| VAPA | PREDICTED: vesicle-associated membrane protein-associated protein A isoform X1 | 58857 | 0.604 | 3.79E-02 |
| ARF1 | PREDICTED: ADP-ribosylation factor 1 isoform X1 | 64310 | 0.600 | 3.92E-03 |
| DDOST | dolichyl-diphosphooligosaccharide--protein glycosyltransferase 48 kDa subunit precursor | 313648 | 0.577 | 1.44E-03 |
| NAPA | alpha-soluble NSF attachment protein | 140673 | 0.572 | 1.34E-02 |
| CKAP4 | PREDICTED: cytoskeleton-associated protein 4 isoform X1 | 362859 | 0.569 | 9.58E-04 |
| AMY1A | alpha-amylase 1 precursor | 24203 | 0.567 | 3.54E-02 |

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|-----------|---|---------------|-------|----------|
| TRIM39 | PREDICTED: E3 ubiquitin-protein ligase TRIM39 isoform X1 | 309591 | 0.560 | 3.54E-02 |
| SSR4 | translocon-associated protein subunit delta precursor | 29435 | 0.556 | 8.35E-03 |
| GOLGA2 | PREDICTED: golgin subfamily A member 2 isoform X1 | 64528 | 0.554 | 4.55E-02 |
| VDAC2 | PREDICTED: voltage-dependent anion-selective channel protein 2 isoform X1 | 83531 | 0.553 | 3.40E-02 |
| ATP5E | ATP synthase subunit epsilon, mitochondrial | 245958 | 0.553 | 4.46E-03 |
| MEST | mesoderm-specific transcript homolog protein | 58827 | 0.547 | 4.08E-02 |
| DCUN1D5 | DCN1-like protein 5 | 315405 | 0.546 | 4.78E-02 |
| ACTC1 | actin, alpha cardiac muscle 1 | 29275 | 0.545 | 2.87E-04 |
| EMC1 | PREDICTED: ER membrane protein complex subunit 1 isoform X1 | 362643 | 0.543 | 3.27E-03 |
| TM9SF4 | PREDICTED: transmembrane 9 superfamily member 4 isoform X1 | 296279 | 0.540 | 2.73E-02 |
| ATP13A1 | manganese-transporting ATPase 13A1 | 290673 | 0.538 | 4.46E-02 |
| NIPA2 | PREDICTED: magnesium transporter NIPA2 isoform X1 | 308667 | 0.534 | 1.08E-02 |
| FUBP3 | PREDICTED: far upstream element-binding protein 3 isoform X1 | 362106 | 0.534 | 2.17E-02 |
| NDUFB10 | NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 10 | 681418 | 0.533 | 2.40E-02 |
| TDRKH | PREDICTED: tudor and KH domain-containing protein isoform X1 | 310652 | 0.522 | 7.93E-03 |
| ATP6V0A1 | PREDICTED: V-type proton ATPase 116 kDa subunit a isoform X4 | 29757 | 0.519 | 3.65E-04 |
| CENPJ | PREDICTED: centromere protein J isoform X1 | 305909 | 0.514 | 3.74E-02 |
| TAGLN3 | transgelin-3 | 103693 564 | 0.512 | 1.26E-04 |
| ANO6 | PREDICTED: anoctamin-6 isoform X1 | 315272 | 0.508 | 6.25E-04 |
| TAP2 | antigen peptide transporter 2 precursor | 103689 996 | 0.508 | 1.08E-02 |
| LETM1 | LETM1 and EF-hand domain-containing protein 1, mitochondrial precursor | 305457 | 0.507 | 7.45E-04 |
| SEC62 | translocation protein SEC62 | 294912 | 0.503 | 2.98E-02 |
| LOC680316 | PREDICTED: LOW QUALITY PROTEIN: cytochrome P450 11B1, mitochondrial-like isoform X2 | 680316 | 0.503 | 4.63E-04 |
| CCHCR1 | coiled-coil alpha-helical rod protein 1 | 406196 | 0.498 | 3.82E-02 |

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|----------|--|--------|-------|----------|
| ABRACL | costars family protein ABRACL | 685045 | 0.495 | 1.79E-04 |
| NDUFA5 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 5 | 25488 | 0.493 | 1.09E-02 |
| NDUFA10 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial precursor | 316632 | 0.492 | 1.05E-02 |
| STT3A | PREDICTED: dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit STT3A isoform X1 | 500972 | 0.491 | 4.81E-04 |
| UTP23 | rRNA-processing protein UTP23 homolog | 299900 | 0.480 | 5.07E-03 |
| TMX2 | thioredoxin-related transmembrane protein 2 precursor | 295701 | 0.479 | 1.07E-03 |
| AFG3L2 | AFG3-like protein 2 | 307350 | 0.478 | 3.05E-03 |
| TMPO | lamina-associated polypeptide 2, isoform beta | 25359 | 0.474 | 5.78E-03 |
| SORD | sorbitol dehydrogenase | 24788 | 0.474 | 4.69E-02 |
| PDHA1 | pyruvate dehydrogenase E1 component subunit alpha, somatic form, mitochondrial precursor | 29554 | 0.472 | 1.35E-05 |
| FIS1 | PREDICTED: mitochondrial fission 1 protein isoform X1 | 288584 | 0.465 | 2.99E-03 |
| TM9SF2 | transmembrane 9 superfamily member 2 precursor | 306197 | 0.465 | 1.79E-03 |
| PTPLAD1 | very-long-chain (3R)-3-hydroxyacyl-CoA dehydratase 3 | 300783 | 0.461 | 7.22E-04 |
| PDHB | pyruvate dehydrogenase E1 component subunit beta, mitochondrial precursor | 289950 | 0.461 | 5.06E-06 |
| NDUFV2 | NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial precursor | 81728 | 0.460 | 4.57E-02 |
| TMEM120A | transmembrane protein 120A | 288591 | 0.458 | 1.28E-03 |
| MYADM | myeloid-associated differentiation marker | 369016 | 0.457 | 2.53E-03 |
| SLC6A2 | sodium-dependent noradrenaline transporter | 83511 | 0.456 | 2.66E-03 |
| LMNA | prelamin-A/C | 60374 | 0.449 | 6.81E-07 |
| TOMM70A | mitochondrial import receptor subunit TOM70 | 304017 | 0.449 | 4.46E-05 |
| EMC2 | ER membrane protein complex subunit 2 | 362905 | 0.448 | 2.10E-03 |
| DLAT | dihydrolipoyllysine-residue acetyltransferase component of | 81654 | 0.440 | 1.17E-05 |

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|----------|--|--------|-------|----------|
| | pyruvate dehydrogenase complex, mitochondrial | | | |
| VDAC3 | PREDICTED: voltage-dependent anion-selective channel protein 3 isoform X1 | 83532 | 0.439 | 2.96E-02 |
| SLC25A10 | mitochondrial dicarboxylate carrier | 170943 | 0.438 | 8.09E-06 |
| DSG3 | PREDICTED: desmoglein-3 isoform X1 | 291752 | 0.435 | 2.51E-02 |
| TMEM43 | transmembrane protein 43 | 362401 | 0.433 | 1.35E-03 |
| MLEC | malectin precursor | 304543 | 0.432 | 1.57E-03 |
| SLC38A2 | PREDICTED: sodium-coupled neutral amino acid transporter 2 isoform X1 | 29642 | 0.431 | 3.85E-02 |
| ZFP819 | PREDICTED: zinc finger protein 175 isoform X2 | 308561 | 0.431 | 3.82E-05 |
| TM9SF3 | PREDICTED: transmembrane 9 superfamily member 3 isoform X1 | 309475 | 0.430 | 1.86E-05 |
| WARS | PREDICTED: tryptophan--tRNA ligase, cytoplasmic isoform X1 | 314442 | 0.429 | 4.51E-02 |
| ABCB7 | ATP-binding cassette sub-family B member 7, mitochondrial | 302395 | 0.426 | 1.72E-02 |
| ALG9 | PREDICTED: alpha-1,2-mannosyltransferase ALG9 isoform X1 | 367083 | 0.425 | 3.51E-02 |
| TOR1AIP1 | torsin-1A-interacting protein 1 | 246314 | 0.421 | 2.05E-02 |
| SSR1 | PREDICTED: translocon-associated protein subunit alpha isoform X1 | 361233 | 0.418 | 2.17E-04 |
| CTNNA2 | PREDICTED: catenin alpha-2 isoform X1 | 297357 | 0.418 | 2.17E-02 |
| TRPV2 | transient receptor potential cation channel subfamily V member 2 | 29465 | 0.417 | 1.70E-08 |
| LBR | lamin-B receptor | 89789 | 0.414 | 2.68E-02 |
| OSTC | oligosaccharyltransferase complex subunit OSTC | 362040 | 0.412 | 5.78E-03 |
| COMTD1 | catechol O-methyltransferase domain-containing protein 1 | 305685 | 0.409 | 2.39E-03 |
| DNAJC16 | dnaJ homolog subfamily C member 16 precursor | 362652 | 0.398 | 3.15E-03 |
| SDHA | succinate dehydrogenase [ubiquinone] flavoprotein subunit, mitochondrial precursor | 157074 | 0.397 | 2.05E-09 |
| NDUFC2 | NADH dehydrogenase [ubiquinone] 1 subunit C2 | 293130 | 0.396 | 4.42E-02 |
| UQCRC2 | cytochrome b-c1 complex subunit 2, mitochondrial precursor | 293448 | 0.395 | 4.94E-06 |
| NOSIP | nitric oxide synthase-interacting protein | 292894 | 0.390 | 2.77E-02 |

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|---------|--|-----------|-------|----------|
| RPN2 | PREDICTED: dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit 2 isoform X1 | 64701 | 0.387 | 6.20E-10 |
| SDHC | succinate dehydrogenase cytochrome b560 subunit, mitochondrial | 289217 | 0.384 | 8.09E-03 |
| PLP2 | proteolipid protein 2 | 302562 | 0.384 | 3.50E-05 |
| SEC11A | PREDICTED: signal peptidase complex catalytic subunit SEC11A isoform X2 | 65166 | 0.382 | 2.37E-03 |
| PRSS1 | anionic trypsin-1 precursor | 24691 | 0.380 | 5.70E-06 |
| TAP1 | antigen peptide transporter 1 precursor | 24811 | 0.378 | 1.35E-04 |
| FAM162A | PREDICTED: protein FAM162A isoform X1 | 360721 | 0.375 | 1.42E-10 |
| SYNJ2BP | synaptojanin-2-binding protein | 64531 | 0.374 | 3.59E-03 |
| VDAC1 | voltage-dependent anion-selective channel protein 1 | 83529 | 0.371 | 1.80E-09 |
| ALB | serum albumin precursor | 24186 | 0.371 | 7.83E-11 |
| COX4I2 | PREDICTED: cytochrome c oxidase subunit 4 isoform 2, mitochondrial isoform X1 | 84683 | 0.366 | 7.46E-10 |
| RFC5 | replication factor C subunit 5 | 304528 | 0.363 | 4.96E-03 |
| GET4 | Golgi to ER traffic protein 4 homolog | 288518 | 0.362 | 1.33E-02 |
| SDHB | succinate dehydrogenase [ubiquinone] iron-sulfur subunit, mitochondrial precursor | 298596 | 0.361 | 3.01E-07 |
| GHR | PREDICTED: growth hormone receptor isoform X1 | 25235 | 0.361 | 1.18E-02 |
| MTCH2 | mitochondrial carrier homolog 2 isoform 1x | 295922 | 0.360 | 5.34E-06 |
| TMED7 | transmembrane emp24 domain-containing protein 7 precursor | 252889 | 0.358 | 4.16E-08 |
| TRIAP1 | PREDICTED: TP53-regulated inhibitor of apoptosis 1 isoform X1 | 108348066 | 0.354 | 3.47E-06 |
| CISD1 | CDGSH iron-sulfur domain-containing protein 1 | 294362 | 0.353 | 7.74E-07 |
| MRPL9 | 39S ribosomal protein L9, mitochondrial | 310653 | 0.350 | 3.44E-02 |
| RBM3 | PREDICTED: RNA-binding protein 3 isoform X2 | 114488 | 0.348 | 4.88E-02 |
| UQCRB | cytochrome b-c1 complex subunit 7 | 362897 | 0.346 | 1.14E-05 |
| KRAS | PREDICTED: GTPase KRas isoform X3 | 24525 | 0.343 | 4.83E-02 |
| UQCRC1 | cytochrome b-c1 complex subunit 1, mitochondrial precursor | 301011 | 0.334 | 3.61E-12 |
| PHB2 | prohibitin-2 | 114766 | 0.332 | 1.93E-07 |

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|--------------|--|-----------|-------|----------|
| MRPL17 | 39S ribosomal protein L17, mitochondrial isoform 1 precursor | 171061 | 0.322 | 1.22E-03 |
| SPCS2 | signal peptidase complex subunit 2 | 293142 | 0.317 | 1.56E-07 |
| LOC683498 | PREDICTED: actin-like isoform X1 | 102552318 | 0.317 | 4.22E-04 |
| HDHD2 | haloacid dehalogenase-like hydrolase domain-containing protein 2 precursor | 361351 | 0.315 | 5.92E-04 |
| APOOL | PREDICTED: MICOS complex subunit MIC27 isoform X1 | 317191 | 0.314 | 9.74E-07 |
| LOC102548267 | PREDICTED: histocompatibility antigen 60b-like | 102547056 | 0.308 | 5.25E-04 |
| SLC25A24 | calcium-binding mitochondrial carrier protein SCaMC-1 | 310791 | 0.303 | 1.98E-11 |
| TYMP | PREDICTED: thymidine phosphorylase isoform X1 | 315219 | 0.300 | 6.55E-04 |
| ATP5I | ATP synthase subunit e, mitochondrial | 140608 | 0.300 | 8.81E-12 |
| COX6C | cytochrome c oxidase subunit 6C-2 | 54322 | 0.297 | 5.08E-04 |
| MPC2 | mitochondrial pyruvate carrier 2 isoform 1 | 100359982 | 0.297 | 3.03E-08 |
| KRT10 | PREDICTED: keratin, type I cytoskeletal 10 isoform X1 | 450225 | 0.290 | 1.47E-03 |
| UQCRQ | cytochrome b-c1 complex subunit 8 | 497902 | 0.289 | 2.75E-07 |
| SLC25A12 | PREDICTED: LOW QUALITY PROTEIN: calcium-binding mitochondrial carrier protein Aralar1 isoform X2 | 362145 | 0.289 | 7.87E-13 |
| ATP5A1 | ATP synthase subunit alpha, mitochondrial precursor | 65262 | 0.276 | 2.37E-16 |
| USMG5 | PREDICTED: up-regulated during skeletal muscle growth protein 5 | 103693430 | 0.275 | 5.41E-05 |
| NDUFA9 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 9, mitochondrial | 362440 | 0.274 | 5.13E-05 |
| NDUFA4L2 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 4-like 2 | 100362331 | 0.266 | 8.12E-09 |
| ATP5H | ATP synthase subunit d, mitochondrial | 641434 | 0.262 | 2.37E-16 |
| PHB | prohibitin | 25344 | 0.256 | 2.37E-16 |
| PPARD | PREDICTED: peroxisome proliferator-activated receptor delta isoform X1 | 25682 | 0.250 | 8.57E-06 |
| NNT | PREDICTED: NAD(P) transhydrogenase, mitochondrial isoform X1 | 310378 | 0.247 | 4.92E-06 |
| ATP5B | ATP synthase subunit beta, mitochondrial precursor | 171374 | 0.243 | 2.37E-16 |

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|------------|---|-----------|-------|----------|
| ATP5O | ATP synthase subunit O, mitochondrial precursor | 192241 | 0.239 | 2.37E-16 |
| ATP5J2 | ATP synthase subunit f, mitochondrial | 690441 | 0.237 | 2.37E-16 |
| CYC1 | cytochrome c-1 | 300047 | 0.234 | 3.98E-12 |
| ATP5L | ATP synthase subunit g, mitochondrial | 300677 | 0.226 | 2.37E-16 |
| SLC25A1 | tricarboxylate transport protein, mitochondrial precursor | 29743 | 0.225 | 2.37E-16 |
| SLC25A5 | ADP/ATP translocase 2 | 25176 | 0.211 | 2.37E-16 |
| RSL1D1L1 | ribosomal L1 domain containing 1-like 1 | 108348298 | 0.211 | 1.62E-06 |
| SLC25A11 | mitochondrial 2-oxoglutarate/malate carrier protein | 64201 | 0.203 | 5.25E-13 |
| ATP5F1 | ATP synthase F(0) complex subunit B1, mitochondrial precursor | 100911417 | 0.201 | 2.37E-16 |
| ATP5C1 | ATP synthase subunit gamma, mitochondrial | 116550 | 0.182 | 2.37E-16 |
| UQCRH | cytochrome b-c1 complex subunit 6, mitochondrial | 366448 | 0.176 | 1.41E-12 |
| SLC25A3 | phosphate carrier protein, mitochondrial isoform 2 precursor | 245959 | 0.173 | 2.37E-16 |
| SLC25A4 | ADP/ATP translocase 1 | 85333 | 0.141 | 2.37E-16 |
| ATP5D | PREDICTED: ATP synthase subunit delta, mitochondrial isoform X1 | 245965 | 0.121 | 2.37E-16 |
| NDUFA13 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 13 | 100911483 | 0.088 | 2.37E-16 |
| CBX3 | PREDICTED: chromobox protein homolog 3 isoform X1 | 297093 | 0.010 | 2.37E-16 |
| SLC7A1 | high affinity cationic amino acid transporter 1 | 25648 | 0.010 | 2.37E-16 |
| TRAPPC10 | trafficking protein particle complex subunit 10 | 309678 | 0.010 | 2.37E-16 |
| EBAG9 | PREDICTED: receptor-binding cancer antigen expressed on SiSo cells isoform X1 | 299864 | 0.010 | 2.37E-16 |
| TCF12 | transcription factor 12 | 25720 | 0.010 | 2.37E-16 |
| LARP4B | la-related protein 4B | 307070 | 0.010 | 2.37E-16 |
| SMURF1 | PREDICTED: E3 ubiquitin-protein ligase SMURF1 isoform X1 | 690516 | 0.010 | 2.37E-16 |
| CPNE1 | copine 1 | 362249 | 0.010 | 2.37E-16 |
| RGD1562394 | PREDICTED: 60S ribosomal protein L30-like | 364129 | 0.010 | 2.37E-16 |
| TMEM126A | PREDICTED: transmembrane protein 126A isoform X1 | 293113 | 0.010 | 2.37E-16 |

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|-----------|---|---------------|-------|----------|
| EMC7 | PREDICTED: ER membrane protein complex subunit 7 isoform X1 | 296050 | 0.010 | 2.37E-16 |
| SLC25A13 | PREDICTED: calcium-binding mitochondrial carrier protein Aralar2 isoform X1 | 362322 | 0.010 | 2.37E-16 |
| RAP1A | ras-related protein Rap-1A precursor | 295347 | 0.010 | 2.37E-16 |
| COBRA1 | negative elongation factor B | 311796 | 0.010 | 2.37E-16 |
| DHRS7B | dehydrogenase/reductase SDR family member 7B | 287380 | 0.010 | 2.37E-16 |
| DENND3 | PREDICTED: DENN domain-containing protein 3 isoform X1 | 315055 | 0.010 | 2.37E-16 |
| UQCRCF1 | cytochrome b-c1 complex subunit Rieske, mitochondrial | 291103 | 0.010 | 2.37E-16 |
| CBX1 | PREDICTED: chromobox protein homolog 1 isoform X1 | 360609 | 0.010 | 2.37E-16 |
| HAT1 | PREDICTED: histone acetyltransferase type B catalytic subunit isoform X1 | 296501 | 0.010 | 2.37E-16 |
| SLC25A22 | PREDICTED: mitochondrial glutamate carrier 1 isoform X1 | 309111 | 0.010 | 2.37E-16 |
| HP | haptoglobin precursor | 24464 | 0.010 | 2.37E-16 |
| ANAPC4 | anaphase-promoting complex subunit 4 | 305420 | 0.010 | 2.37E-16 |
| WDR12 | PREDICTED: ribosome biogenesis protein WDR12 isoform X1 | 363237 | 0.010 | 2.37E-16 |
| LDLRAP1 | low density lipoprotein receptor adapter protein 1 | 500564 | 0.010 | 2.37E-16 |
| ATP8A1 | PREDICTED: phospholipid-transporting ATPase IA isoform X2 | 289615 | 0.010 | 2.37E-16 |
| DNM1L | PREDICTED: dynamin-1-like protein isoform X1 | 114114 | 0.010 | 2.37E-16 |
| RAB3C | ras-related protein Rab-3C | 171058 | 0.010 | 2.37E-16 |
| DDX4 | probable ATP-dependent RNA helicase DDX4 | 310090 | 0.010 | 2.37E-16 |
| YIF1B | PREDICTED: protein YIF1B isoform X1 | 103689 986 | 0.010 | 2.37E-16 |
| KRT19 | keratin, type I cytoskeletal 19 | 360626 | 0.010 | 2.37E-16 |
| SSR3 | translocon-associated protein subunit gamma | 81784 | 0.010 | 2.37E-16 |
| MBOAT7 | lysophospholipid acyltransferase 7 | 308309 | 0.010 | 2.37E-16 |
| MYL1 | PREDICTED: myosin light chain 1/3, skeletal muscle isoform X1 | 56781 | 0.010 | 2.37E-16 |
| TWF2 | twinfilin-2 | 684352 | 0.010 | 2.37E-16 |
| LOC679739 | PREDICTED: NADH dehydrogenase [ubiquinone] iron-sulfur protein 6, mitochondrial | 100912 599 | 0.010 | 2.37E-16 |

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|--------------|--|-----------|-------|----------|
| ABCD1 | ATP-binding cassette sub-family D member 1 | 363516 | 0.010 | 2.37E-16 |
| WAPAL | PREDICTED: LOW QUALITY PROTEIN: wings apart-like protein homolog isoform X4 | 290577 | 0.010 | 2.37E-16 |
| KRT2 | PREDICTED: keratin, type II cytoskeletal 2 epidermal isoform X1 | 406228 | 0.010 | 2.37E-16 |
| MRPL49 | 39S ribosomal protein L49, mitochondrial | 309176 | 0.010 | 2.37E-16 |
| NDUFA7 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 7 | 299643 | 0.010 | 2.37E-16 |
| EMC6 | PREDICTED: ER membrane protein complex subunit 6 isoform X1 | 287477 | 0.010 | 2.37E-16 |
| CES1A | carboxylesterase 1-like precursor | 679817 | 0.010 | 2.37E-16 |
| TMEM167A | PREDICTED: protein kish-A | 100363808 | 0.010 | 2.37E-16 |
| COMMD2 | COMM domain-containing protein 2 | 688478 | 0.010 | 2.37E-16 |
| ATP5SL | PREDICTED: ATP synthase subunit s-like protein isoform X1 | 361520 | 0.010 | 2.37E-16 |
| C1QBP | complement component 1 Q subcomponent-binding protein, mitochondrial precursor | 29681 | 0.010 | 2.37E-16 |
| C2CD2 | C2 domain-containing protein 2 | 304055 | 0.010 | 2.37E-16 |
| SLC12A6 | solute carrier family 12 member 6 | 691209 | 0.010 | 2.37E-16 |
| ZYG11B | PREDICTED: protein zyg-11 homolog B isoform X1 | 362559 | 0.010 | 2.37E-16 |
| CHCHD4 | PREDICTED: mitochondrial intermembrane space import and assembly protein 40 | 312559 | 0.010 | 2.37E-16 |
| KNTC1 | PREDICTED: kinetochore-associated protein 1 isoform X1 | 304477 | 0.010 | 2.37E-16 |
| ABCB8 | ATP-binding cassette sub-family B member 8, mitochondrial precursor | 362302 | 0.010 | 2.37E-16 |
| STAMBPL1 | AMSH-like protease | 687696 | 0.010 | 2.37E-16 |
| LOC100359687 | PREDICTED: 39S ribosomal protein L1, mitochondrial isoform X1 | 100359687 | 0.010 | 2.37E-16 |
| MED14 | mediator of RNA polymerase II transcription subunit 14 | 317343 | 0.010 | 2.37E-16 |
| NCBP1 | nuclear cap-binding protein subunit 1 | 298075 | 0.010 | 2.37E-16 |
| ATP9B | PREDICTED: probable phospholipid-transporting ATPase IIB isoform X1 | 291411 | 0.010 | 2.37E-16 |
| CDC37L1 | hsp90 co-chaperone Cdc37-like 1 | 293886 | 0.010 | 2.37E-16 |
| AKAP1 | A-kinase anchor protein 1, mitochondrial | 114124 | 0.010 | 2.37E-16 |
| MFSD5 | molybdate-anion transporter precursor | 315329 | 0.010 | 2.37E-16 |

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|------------|--|--------|-------|----------|
| MAN1B1 | PREDICTED: endoplasmic reticulum mannosyl-oligosaccharide 1,2-alpha-mannosidase isoform X1 | 499751 | 0.010 | 2.37E-16 |
| NDUFA12 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12 | 299739 | 0.010 | 2.37E-16 |
| CCDC90B | coiled-coil domain-containing protein 90B, mitochondrial precursor | 308820 | 0.010 | 2.37E-16 |
| MCU | calcium uniporter protein, mitochondrial precursor | 294560 | 0.010 | 2.37E-16 |
| MRPL27 | 39S ribosomal protein L27, mitochondrial | 287635 | 0.010 | 2.37E-16 |
| CLIC4 | chloride intracellular channel protein 4 | 83718 | 0.010 | 2.37E-16 |
| NFATC2IP | NFATC2-interacting protein | 308983 | 0.010 | 2.37E-16 |
| UQCRC1 | ubiquinol-cytochrome c reductase complex 7.2kDa protein | 685322 | 0.010 | 2.37E-16 |
| POLA1 | DNA polymerase alpha catalytic subunit | 85241 | 0.010 | 2.37E-16 |
| TMEM160 | transmembrane protein 160 precursor | 292654 | 0.010 | 2.37E-16 |
| SLC30A9 | zinc transporter 9 | 498358 | 0.010 | 2.37E-16 |
| LIMA1 | PREDICTED: LIM domain and actin-binding protein 1 isoform X1 | 300228 | 0.010 | 2.37E-16 |
| RGD1307554 | uncharacterized protein C19orf47 homolog | 292739 | 0.010 | 2.37E-16 |
| PRIM1 | DNA primase small subunit isoform 1 | 246327 | 0.010 | 2.37E-16 |
| MAPKAPK2 | PREDICTED: MAP kinase-activated protein kinase 2 isoform X1 | 289014 | 0.010 | 2.37E-16 |
| ZFR2 | PREDICTED: zinc finger RNA-binding protein 2 isoform X1 | 314639 | 0.010 | 2.37E-16 |
| TIMM29 | uncharacterized protein C19orf52 homolog | 315463 | 0.010 | 2.37E-16 |
| CDIPT | PREDICTED: CDP-diacylglycerol--inositol 3-phosphatidyltransferase isoform X1 | 192260 | 0.010 | 2.37E-16 |

Supplement Table S6: Mitochondrial proteins significantly decreased by 3-day $A\beta_{42}$ treatment (95):

| Protein Symbol | Description | Log ₂ Fold Change | p-value |
|----------------|---|------------------------------|----------|
| USMG5 | PREDICTED: up-regulated during skeletal muscle growth protein 5 | -1.862 | 5.41E-05 |
| SMURF1 | PREDICTED: E3 ubiquitin-protein ligase SMURF1 isoform X1 | -6.644 | 2.37E-16 |

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|----------|--|--------|----------|
| VDAC3 | PREDICTED: voltage-dependent anion-selective channel protein 3 isoform X1 | -1.188 | 2.96E-02 |
| MTCH2 | mitochondrial carrier homolog 2 isoform 1x | -1.474 | 5.34E-06 |
| NDUFV2 | NADH dehydrogenase [ubiquinone] flavoprotein 2, mitochondrial precursor | -1.120 | 4.57E-02 |
| TMEM126A | PREDICTED: transmembrane protein 126A isoform X1 | -6.644 | 2.37E-16 |
| SYNJ2BP | synaptojanin-2-binding protein | -1.419 | 3.59E-03 |
| SLC25A13 | PREDICTED: calcium-binding mitochondrial carrier protein Aralar2 isoform X1 | -6.644 | 2.37E-16 |
| ABCB7 | ATP-binding cassette sub-family B member 7, mitochondrial | -1.231 | 1.72E-02 |
| NDUFC2 | NADH dehydrogenase [ubiquinone] 1 subunit C2 | -1.336 | 4.42E-02 |
| VDAC2 | PREDICTED: voltage-dependent anion-selective channel protein 2 isoform X1 | -0.855 | 3.40E-02 |
| UQCRC1 | cytochrome b-c1 complex subunit 1, mitochondrial precursor | -1.582 | 3.61E-12 |
| UQCRH | cytochrome b-c1 complex subunit 6, mitochondrial | -2.506 | 1.41E-12 |
| PHB2 | prohibitin-2 | -1.591 | 1.93E-07 |
| COX6C | cytochrome c oxidase subunit 6C-2 | -1.751 | 5.08E-04 |
| NDUFA9 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 9, mitochondrial | -1.868 | 5.13E-05 |
| TRIAP1 | PREDICTED: TP53-regulated inhibitor of apoptosis 1 isoform X1 | -1.498 | 3.47E-06 |
| NDUFA5 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 5 | -1.020 | 1.09E-02 |
| NNT | PREDICTED: NAD(P) transhydrogenase, mitochondrial isoform X1 | -2.017 | 4.92E-06 |
| PTPLAD1 | very-long-chain (3R)-3-hydroxyacyl-CoA dehydratase 3 | -1.117 | 7.22E-04 |
| ATP5H | ATP synthase subunit d, mitochondrial | -1.932 | 2.37E-16 |
| COX5A | cytochrome c oxidase subunit 5A, mitochondrial precursor | -0.604 | 3.20E-02 |
| UQCRB | cytochrome b-c1 complex subunit 7 | -1.531 | 1.14E-05 |
| PDHA1 | pyruvate dehydrogenase E1 component subunit alpha, somatic form, mitochondrial precursor | -1.083 | 1.35E-05 |
| TRIM39 | PREDICTED: E3 ubiquitin-protein ligase TRIM39 isoform X1 | -0.837 | 3.54E-02 |
| UQCRFS1 | cytochrome b-c1 complex subunit Rieske, mitochondrial | -6.644 | 2.37E-16 |
| SLC25A1 | tricarboxylate transport protein, mitochondrial precursor | -2.152 | 2.37E-16 |
| ATP5C1 | ATP synthase subunit gamma, mitochondrial | -2.458 | 2.37E-16 |
| APOOL | PREDICTED: MICOS complex subunit MIC27 isoform X1 | -1.671 | 9.74E-07 |

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|----------|--|--------|----------|
| UQCRCQ | cytochrome b-c1 complex subunit 8 | -1.791 | 2.75E-07 |
| FAM162A | PREDICTED: protein FAM162A isoform X1 | -1.415 | 1.42E-10 |
| COX4I2 | PREDICTED: cytochrome c oxidase subunit 4 isoform 2, mitochondrial isoform X1 | -1.450 | 7.46E-10 |
| NDUFB10 | NADH dehydrogenase [ubiquinone] 1 beta subcomplex subunit 10 | -0.908 | 2.40E-02 |
| SLC25A22 | PREDICTED: mitochondrial glutamate carrier 1 isoform X1 | -6.644 | 2.37E-16 |
| AFG3L2 | AFG3-like protein 2 | -1.065 | 3.05E-03 |
| SDHC | succinate dehydrogenase cytochrome b560 subunit, mitochondrial | -1.381 | 8.09E-03 |
| ATP5E | ATP synthase subunit epsilon, mitochondrial | -0.855 | 4.46E-03 |
| SDHB | succinate dehydrogenase [ubiquinone] iron-sulfur subunit, mitochondrial precursor | -1.470 | 3.01E-07 |
| TDRKH | PREDICTED: tudor and KH domain-containing protein isoform X1 | -0.938 | 7.93E-03 |
| GHR | PREDICTED: growth hormone receptor isoform X1 | -1.470 | 1.18E-02 |
| SDHA | succinate dehydrogenase [ubiquinone] flavoprotein subunit, mitochondrial precursor | -1.333 | 2.05E-09 |
| ATP5J2 | ATP synthase subunit f, mitochondrial | -2.077 | 2.37E-16 |
| NDUFA10 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 10, mitochondrial precursor | -1.023 | 1.05E-02 |
| LETM1 | LETM1 and EF-hand domain-containing protein 1, mitochondrial precursor | -0.980 | 7.45E-04 |
| VDAC1 | voltage-dependent anion-selective channel protein 1 | -1.431 | 1.80E-09 |
| ATP5B | ATP synthase subunit beta, mitochondrial precursor | -2.041 | 2.37E-16 |
| TOMM70A | mitochondrial import receptor subunit TOM70 | -1.155 | 4.46E-05 |
| MRPL9 | 39S ribosomal protein L9, mitochondrial | -1.515 | 3.44E-02 |
| PDHB | pyruvate dehydrogenase E1 component subunit beta, mitochondrial precursor | -1.117 | 5.06E-06 |
| NDUFA13 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 13 | -3.506 | 2.37E-16 |
| ATP5D | PREDICTED: ATP synthase subunit delta, mitochondrial isoform X1 | -3.047 | 2.37E-16 |
| EMC2 | ER membrane protein complex subunit 2 | -1.158 | 2.10E-03 |
| COMTD1 | catechol O-methyltransferase domain-containing protein 1 | -1.290 | 2.39E-03 |
| CISD1 | CDGSH iron-sulfur domain-containing protein 1 | -1.502 | 7.74E-07 |
| ATP5F1 | ATP synthase F(0) complex subunit B1, mitochondrial precursor | -2.315 | 2.37E-16 |
| FIS1 | PREDICTED: mitochondrial fission 1 protein isoform X1 | -1.105 | 2.99E-03 |
| TAP1 | antigen peptide transporter 1 precursor | -1.404 | 1.35E-04 |

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|--------------|--|--------|----------|
| DLAT | dihydrolipoyllysine-residue acetyltransferase component of pyruvate dehydrogenase complex, mitochondrial | -1.184 | 1.17E-05 |
| SLC25A4 | ADP/ATP translocase 1 | -2.826 | 2.37E-16 |
| ATP5L | ATP synthase subunit g, mitochondrial | -2.146 | 2.37E-16 |
| PHB | prohibitin | -1.966 | 2.37E-16 |
| UQCRC2 | cytochrome b-c1 complex subunit 2, mitochondrial precursor | -1.340 | 4.94E-06 |
| ATP5O | ATP synthase subunit O, mitochondrial precursor | -2.065 | 2.37E-16 |
| SLC25A11 | mitochondrial 2-oxoglutarate/malate carrier protein | -2.300 | 5.25E-13 |
| SLC25A5 | ADP/ATP translocase 2 | -2.245 | 2.37E-16 |
| SLC25A10 | mitochondrial dicarboxylate carrier | -1.191 | 8.09E-06 |
| ATP5I | ATP synthase subunit e, mitochondrial | -1.737 | 8.81E-12 |
| MPC2 | mitochondrial pyruvate carrier 2 isoform 1 | -1.751 | 3.03E-08 |
| ATP5A1 | ATP synthase subunit alpha, mitochondrial precursor | -1.857 | 2.37E-16 |
| SLC25A12 | PREDICTED: LOW QUALITY PROTEIN: calcium-binding mitochondrial carrier protein Aralar1 isoform X2 | -1.791 | 7.87E-13 |
| SLC25A3 | phosphate carrier protein, mitochondrial isoform 2 precursor | -2.531 | 2.37E-16 |
| CYC1 | cytochrome c-1 | -2.095 | 3.98E-12 |
| SLC25A24 | calcium-binding mitochondrial carrier protein SCaMC-1 | -1.723 | 1.98E-11 |
| MRPL17 | 39S ribosomal protein L17, mitochondrial isoform 1 precursor | -1.635 | 1.22E-03 |
| SORD | sorbitol dehydrogenase | -1.077 | 4.69E-02 |
| DNM1L | PREDICTED: dynamin-1-like protein isoform X1 | -6.644 | 2.37E-16 |
| KRAS | PREDICTED: GTPase KRas isoform X3 | -1.544 | 4.83E-02 |
| LOC679739 | PREDICTED: NADH dehydrogenase [ubiquinone] iron-sulfur protein 6, mitochondrial | -6.644 | 2.37E-16 |
| ABCD1 | ATP-binding cassette sub-family D member 1 | -6.644 | 2.37E-16 |
| MRPL49 | 39S ribosomal protein L49, mitochondrial | -6.644 | 2.37E-16 |
| NDUFA7 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 7 | -6.644 | 2.37E-16 |
| ATP5SL | PREDICTED: ATP synthase subunit s-like protein isoform X1 | -6.644 | 2.37E-16 |
| C1QBP | complement component 1 Q subcomponent-binding protein, mitochondrial precursor | -6.644 | 2.37E-16 |
| CHCHD4 | PREDICTED: mitochondrial intermembrane space import and assembly protein 40 | -6.644 | 2.37E-16 |
| ABCB8 | ATP-binding cassette sub-family B member 8, mitochondrial precursor | -6.644 | 2.37E-16 |
| LOC100359687 | PREDICTED: 39S ribosomal protein L1, mitochondrial isoform X1 | -6.644 | 2.37E-16 |

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|---------|--|--------|----------|
| NCBP1 | nuclear cap-binding protein subunit 1 | -6.644 | 2.37E-16 |
| AKAP1 | A-kinase anchor protein 1, mitochondrial | -6.644 | 2.37E-16 |
| NDUFA12 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 12 | -6.644 | 2.37E-16 |
| CCDC90B | coiled-coil domain-containing protein 90B, mitochondrial precursor | -6.644 | 2.37E-16 |
| MCU | calcium uniporter protein, mitochondrial precursor | -6.644 | 2.37E-16 |
| MRPL27 | 39S ribosomal protein L27, mitochondrial | -6.644 | 2.37E-16 |
| CLIC4 | chloride intracellular channel protein 4 | -6.644 | 2.37E-16 |
| UQCRC1 | ubiquinol-cytochrome c reductase complex 7.2kDa protein | -6.644 | 2.37E-16 |
| TMEM160 | transmembrane protein 160 precursor | -6.644 | 2.37E-16 |

Supplement Table S7: Mitochondrial proteins significantly increased by 3-day A β ₄₂ treatment (13)

| Protein Symbol | Description | Log₂ Fold Change | p-value |
|-----------------------|---|------------------------------------|----------------|
| CMC1 | PREDICTED: COX assembly mitochondrial protein homolog isoform X1 | 2.71 | 8.19E-03 |
| PIGY | protein preY, mitochondrial precursor | 3.54 | 1.26E-04 |
| ATP5J | PREDICTED: ATP synthase-coupling factor 6, mitochondrial isoform X1 | 2.88 | 2.39E-03 |
| TIMM8B | mitochondrial import inner membrane translocase subunit Tim8 B | 2.16 | 7.44E-03 |
| MYH9 | myosin-9 | 2.10 | 1.40E-05 |
| PSAP | prosaposin isoform B preproprotein | 1.74 | 3.48E-03 |
| GSTP1 | glutathione S-transferase P | 1.85 | 1.47E-03 |
| DBI | acyl-CoA-binding protein | 3.21 | 8.40E-14 |
| CROT | PREDICTED: peroxisomal carnitine O-octanoyltransferase isoform X1 | 3.37 | 3.36E-04 |
| PEBP1 | phosphatidylethanolamine-binding protein 1 | 1.75 | 2.98E-03 |
| BLOC1S2 | PREDICTED: biogenesis of lysosome-related organelles complex-1 subunit 2 isoform X2 | 3.48 | 4.28E-04 |
| GTF3C4 | general transcription factor 3C polypeptide 4 | 100.00 | 2.37E-16 |
| PDP1 | PREDICTED: pyruvate dehydrogenase [acetyl-transferring]-phosphatase 1, mitochondrial isoform X1 | 100.00 | 2.37E-16 |

Supplement Table S8: Nuclear proteins significantly decreased by 3-day A β ₄₂ treatment (64)

| Protein Symbol | Description | Log₂ Fold Change | p-value |
|-----------------------|--|------------------------------------|----------------|
| LBR | lamin-B receptor | -1.272 | 2.68E-02 |
| CBX3 | PREDICTED: chromobox protein homolog 3 isoform X1 | -6.644 | 2.37E-16 |
| TCF12 | transcription factor 12 | -6.644 | 2.37E-16 |
| WARS | PREDICTED: tryptophan--tRNA ligase, cytoplasmic isoform X1 | -1.221 | 4.51E-02 |
| RBM3 | PREDICTED: RNA-binding protein 3 isoform X2 | -1.523 | 4.88E-02 |
| VDAC3 | PREDICTED: voltage-dependent anion-selective channel protein 3 isoform X1 | -1.188 | 2.96E-02 |
| MTCH2 | mitochondrial carrier homolog 2 isoform 1x | -1.474 | 5.34E-06 |
| CPNE1 | copine 1 | -6.644 | 2.37E-16 |
| RFC5 | replication factor C subunit 5 | -1.462 | 4.96E-03 |
| PPARD | PREDICTED: peroxisome proliferator-activated receptor delta isoform X1 | -2.000 | 8.57E-06 |
| NOSIP | nitric oxide synthase-interacting protein | -1.358 | 2.77E-02 |
| VDAC2 | PREDICTED: voltage-dependent anion-selective channel protein 2 isoform X1 | -0.855 | 3.40E-02 |
| COBRA1 | negative elongation factor B | -6.644 | 2.37E-16 |
| PHB2 | prohibitin-2 | -1.591 | 1.93E-07 |
| NDUFA9 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 9, mitochondrial | -1.868 | 5.13E-05 |
| TOR1AIP1 | torsin-1A-interacting protein 1 | -1.248 | 2.05E-02 |
| ZFP819 | PREDICTED: zinc finger protein 175 isoform X2 | -1.214 | 3.82E-05 |
| PDHA1 | pyruvate dehydrogenase E1 component subunit alpha, somatic form, mitochondrial precursor | -1.083 | 1.35E-05 |
| SLC25A1 | tricarboxylate transport protein, mitochondrial precursor | -2.152 | 2.37E-16 |
| CBX1 | PREDICTED: chromobox protein homolog 1 isoform X1 | -6.644 | 2.37E-16 |
| TMPO | lamina-associated polypeptide 2, isoform beta | -1.077 | 5.78E-03 |
| LMNA | prelamin-A/C | -1.155 | 6.81E-07 |
| GOLGA2 | PREDICTED: golgin subfamily A member 2 isoform X1 | -0.852 | 4.55E-02 |
| TMEM43 | transmembrane protein 43 | -1.208 | 1.35E-03 |
| TAGLN3 | transgelin-3 | -0.966 | 1.26E-04 |
| FUBP3 | PREDICTED: far upstream element-binding protein 3 isoform X1 | -0.905 | 2.17E-02 |
| GHR | PREDICTED: growth hormone receptor isoform X1 | -1.470 | 1.18E-02 |
| ANAPC4 | anaphase-promoting complex subunit 4 | -6.644 | 2.37E-16 |
| ATP5J2 | ATP synthase subunit f, mitochondrial | -2.077 | 2.37E-16 |
| CFL1 | cofilin-1 | -0.597 | 3.54E-02 |
| VDAC1 | voltage-dependent anion-selective channel protein 1 | -1.431 | 1.80E-09 |

| | | | |
|----------|---|--------|----------|
| ATP5B | ATP synthase subunit beta, mitochondrial precursor | -2.041 | 2.37E-16 |
| PDHB | pyruvate dehydrogenase E1 component subunit beta, mitochondrial precursor | -1.117 | 5.06E-06 |
| NDUFA13 | NADH dehydrogenase [ubiquinone] 1 alpha subcomplex subunit 13 | -3.506 | 2.37E-16 |
| EMC2 | ER membrane protein complex subunit 2 | -1.158 | 2.10E-03 |
| ATP5F1 | ATP synthase F(0) complex subunit B1, mitochondrial precursor | -2.315 | 2.37E-16 |
| TMEM120A | transmembrane protein 120A | -1.127 | 1.28E-03 |
| WDR12 | PREDICTED: ribosome biogenesis protein WDR12 isoform X1 | -6.644 | 2.37E-16 |
| PAFAH1B1 | PREDICTED: platelet-activating factor acetylhydrolase IB subunit alpha isoform X1 | -0.573 | 4.88E-02 |
| SLC25A4 | ADP/ATP translocase 1 | -2.826 | 2.37E-16 |
| ALB | serum albumin precursor | -1.431 | 7.83E-11 |
| PHB | prohibitin | -1.966 | 2.37E-16 |
| ATP5O | ATP synthase subunit O, mitochondrial precursor | -2.065 | 2.37E-16 |
| SLC25A11 | mitochondrial 2-oxoglutarate/malate carrier protein | -2.300 | 5.25E-13 |
| SLC25A5 | ADP/ATP translocase 2 | -2.245 | 2.37E-16 |
| SLC25A10 | mitochondrial dicarboxylate carrier | -1.191 | 8.09E-06 |
| MPC2 | mitochondrial pyruvate carrier 2 isoform 1 | -1.751 | 3.03E-08 |
| ACTG1 | PREDICTED: actin, cytoplasmic 2 isoform X1 | -0.648 | 1.71E-02 |
| RTRAF | PREDICTED: UPF0568 protein C14orf166 homolog isoform X1 | -0.628 | 4.38E-02 |
| CYC1 | cytochrome c-1 | -2.095 | 3.98E-12 |
| DDX4 | probable ATP-dependent RNA helicase DDX4 | -6.644 | 2.37E-16 |
| WAPAL | PREDICTED: LOW QUALITY PROTEIN: wings apart-like protein homolog isoform X4 | -6.644 | 2.37E-16 |
| KRT2 | PREDICTED: keratin, type II cytoskeletal 2 epidermal isoform X1 | -6.644 | 2.37E-16 |
| C1QBP | complement component 1 Q subcomponent-binding protein, mitochondrial precursor | -6.644 | 2.37E-16 |
| C2CD2 | C2 domain-containing protein 2 | -6.644 | 2.37E-16 |
| KRT10 | PREDICTED: keratin, type I cytoskeletal 10 isoform X1 | -1.786 | 1.47E-03 |
| ABCB8 | ATP-binding cassette sub-family B member 8, mitochondrial precursor | -6.644 | 2.37E-16 |
| MED14 | mediator of RNA polymerase II transcription subunit 14 | -6.644 | 2.37E-16 |
| NCBP1 | nuclear cap-binding protein subunit 1 | -6.644 | 2.37E-16 |
| CLIC4 | chloride intracellular channel protein 4 | -6.644 | 2.37E-16 |
| NFATC2IP | NFATC2-interacting protein | -6.644 | 2.37E-16 |
| POLA1 | DNA polymerase alpha catalytic subunit | -6.644 | 2.37E-16 |
| SLC30A9 | zinc transporter 9 | -6.644 | 2.37E-16 |

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|----------|--|--------|----------|
| MAPKAPK2 | PREDICTED: MAP kinase-activated protein kinase 2 isoform X1 | -6.644 | 2.37E-16 |
|----------|--|--------|----------|

Supplement Table S9: Nuclear proteins significantly increased by 3-day $A\beta_{42}$ treatment (22)

| Protein Symbol | Description | Log2 Fold Change | p-value |
|----------------|---|------------------|----------|
| ATR | PREDICTED: serine/threonine-protein kinase ATR isoform X3 | 0.986 | 1.01E-04 |
| PKIA | PREDICTED: cAMP-dependent protein kinase inhibitor alpha isoform X1 | 1.496 | 2.36E-01 |
| JPT1 | hematological and neurological expressed 1 protein | 1.938 | 3.29E-10 |
| PDXK | pyridoxal kinase | 1.416 | 3.32E-01 |
| FAT1 | PREDICTED: protocadherin Fat 1 isoform X1 | 0.749 | 2.55E-02 |
| UFM1 | ubiquitin-fold modifier 1 precursor | 1.530 | 8.23E-05 |
| NUTF2 | nuclear transport factor 2 | 0.723 | 1.15E-01 |
| UBQLN1 | ubiquilin-1 | 0.677 | 1.47E-01 |
| HINT1 | histidine triad nucleotide-binding protein 1 | 1.732 | 7.77E-10 |
| MYH9 | myosin-9 | 1.069 | 9.46E-05 |
| MTPN | myotrophin | 1.062 | 2.87E-02 |
| GSTP1 | glutathione S-transferase P | 0.888 | 1.08E-01 |
| SCG5 | neuroendocrine protein 7B2 precursor | 1.259 | 5.87E-03 |
| DBI | acyl-CoA-binding protein | 1.681 | 2.40E-09 |
| PPIA | PREDICTED: peptidyl-prolyl cis-trans isomerase A | 0.662 | 1.04E-01 |
| DPY30 | protein dpy-30 homolog | 1.365 | 3.27E-05 |
| PEBP1 | phosphatidylethanolamine-binding protein 1 | 0.811 | 6.71E-02 |
| RPS27A | ubiquitin-40S ribosomal protein S27a | 1.141 | 4.65E-06 |
| BLOC1S2 | PREDICTED: biogenesis of lysosome-related organelles complex-1 subunit 2 isoform X2 | 1.799 | 7.68E-01 |
| TSC22D1 | TSC22 domain family protein 1 isoform 1 | 6.644 | 2.12E-16 |
| GTF3C4 | general transcription factor 3C polypeptide 4 | 100.00 | 2.12E-16 |
| NSRP1 | nuclear speckle splicing regulatory protein 1 | 100.00 | 2.12E-16 |

Supplement Table S10: Genomic Enrichment Analysis Results

| Chromosome Region | Percent Overlap | Overlapping Entities | p-value | Associated Phenotype | Number Genes on the Chromosome |
|-------------------|-----------------|---------------------------------|----------|--------------------------|--------------------------------|
| 1p13.2 | 1 | <i>ATP5PB</i> <i>RAP1A</i> | 2.33E-02 | Autism spectrum disorder | 18 |
| 1p13.3 | 1 | <i>SLC25A24</i> <i>RAP1A</i> | 2.66E-02 | Coronary artery disease | |
| 1p33-p32 | 22 | <i>AKR1A1</i> | 1.76E-04 | Renal hypodysplasia | |

| | | | | | |
|---------|----|--|----------|--|---|
| | | <i>EPB41</i> | | | |
| 1p34.1 | 1 | <i>AKR1A1</i> <i>HPDL</i> | 2.16E-02 | Hypercholesterolemia | |
| 1p36.1 | 10 | <i>DNAJC16</i> <i>DDOST</i> | 8.26E-04 | Developmental and intellectual delay and deficits Seizures Cranio-facial abnormalities | |
| 1p36.11 | 1 | <i>CLIC4</i> <i>LDLRAP1</i> | 3.99E-02 | | |
| 1p36.13 | 1 | <i>EMC1</i> <i>SDHB</i> | 3.35E-02 | | |
| 1p36.21 | 1 | <i>DNAJC16</i> <i>UQCRHL</i> | 2.16E-02 | | |
| 1q21 | 3 | <i>MRPL9</i> <i>PGLYRP3</i> <i>TDRKH</i> | 1.05E-03 | Developmental delay Epilepsy Microcephaly | |
| 1q21.3 | 1 | <i>PGLYRP3</i> <i>TDRKH</i> <i>MRPL9</i> | 1.67E-02 | | |
| 1q24.2 | 2 | <i>TOR1AIP1</i> <i>MPC2</i> | 1.30E-02 | Microcephaly Intellectual deficit Short stature | |
| 2q37.3 | 1 | <i>SCLY</i> <i>NDUFA10</i> | 4.41E-02 | Brachydactyly Schizophrenia Round face | 2 |
| 3p25.1 | 4 | <i>TMEM43</i> <i>CHCHD4</i> <i>C3ORF20</i> | 4.94E-04 | Breast cancer recurrence | 7 |
| 3q21.1 | 6 | <i>PARP14</i> <i>FAM162A</i> | 2.07E-03 | Type 2 Diabetes Abnormal bone mineral density | |
| 3q25.1 | 2 | <i>PFN2</i> <i>COMMD2</i> | 1.30E-02 | Microcephaly Developmental delay Facial dysmorphism | |
| 4p13 | 4 | <i>SLC30A9</i> <i>ATP8A1</i> | 4.21E-03 | Autism spectrum disorder Developmental delays | 4 |
| 4q35 | 15 | <i>FAT1</i> <i>SLC25A4</i> | 3.80E-04 | Facio-Scapulo-Humeral Dystrophy | |
| 5p15.33 | 2 | <i>NDUFS6</i> <i>SDHA</i> | 1.71E-02 | Cri-Du-Chat Syndrome Lung cancer | 8 |
| 5q11.2 | 1 | <i>RAB3C</i> <i>DDX4</i> | 2.93E-02 | Developmental delay Heart defects Short stature | |
| 5q31.1 | 1 | <i>VDAC1</i> <i>UQCRQ</i> | 3.64E-02 | Developmental delay Short stature Encephalopathy | |

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|---------|---|--|----------|--|----|
| | | | | Congenital heart defects | |
| 5q32 | 2 | <i>ATOX1</i> <i>DPYSL3</i> | 2.08E-02 | Schizophrenia Netherton syndrome | |
| 6p21.3 | 1 | <i>TRIM39</i> <i>TAP1</i> <i>CCHCR1</i> | 1.48E-02 | Autoimmune disease | 3 |
| 7q22.1 | 1 | <i>SMURF1</i> <i>ATP5MF</i> <i>FIS1</i> | 1.25E-02 | Myelodysplasia Acute myeloid leukemia | 5 |
| 7q31.32 | 5 | <i>CADPS2</i> <i>NDUFA5</i> | 3.13E-03 | Autism spectrum disorder Psychosis | |
| 9p24.1 | 2 | <i>KIAA2026</i> <i>CDC37L1</i> | 1.23E-02 | Hodgkin lymphoma Schizoaffective disorder Bipolar disorder | 6 |
| 9q34 | 3 | <i>NELFB</i> <i>MAN1B1</i> | 6.33E-03 | Intellectual deficits Epilepsy | |
| 9q34.11 | 1 | <i>FUBP3</i> <i>GOLGA2</i> | 3.02E-02 | | |
| 10q22.1 | 1 | <i>MCU</i> <i>PSAP</i> | 2.12E-02 | Autism spectrum disorder | 6 |
| 10q22.2 | 2 | <i>VDAC2</i> <i>COMTD1</i> | 1.08E-02 | | |
| 10q24.1 | 3 | <i>TM9SF3</i> <i>SFRP5</i> | 6.10E-03 | Ectrodactyly | |
| 11q13 | 2 | <i>MRPL49</i> <i>GSTP1</i> <i>CFL1</i> | 1.88E-03 | Breast cancer Oropharyngeal carcinoma | 12 |
| 11q13.1 | 1 | <i>MRPL49</i> <i>CFL1</i> <i>PPP2R5B</i> | 5.77E-03 | | |
| 11q14.1 | 3 | <i>TMEM126A</i> <i>NDUFC2</i> <i>CCDC90B</i> | 1.47E-03 | Microcephaly Developmental delay Short stature | |
| 11q22.3 | 1 | <i>DCUN1D5</i> <i>MMP10</i> | 2.20E-02 | Intellectual deficits Developmental delay Facial dysmorphism | |
| 11q23.1 | 4 | <i>ALG9</i> <i>DLAT</i> <i>TIMM8B</i> | 5.37E-04 | Breast cancer | |
| 12p13.3 | 7 | <i>ERC1</i> <i>NDUFA9</i> | 1.80E-03 | Hypertension Nasopharyngeal carcinoma | |

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|----------|---|--|----------|---|----|
| 12q13.3 | 2 | <i>NDUFA4L2</i> <i>ATP5F1B</i> | 1.57E-02 | Craniofacial abnormalities Sarcoidosis | |
| 12q13.12 | 2 | <i>TROAP</i> <i>LIMA1</i> | 1.97E-02 | Asthma | |
| 12q22 | 2 | <i>NDUFA12</i> <i>TMPO</i> | 1.46E-02 | Major depressive disorder | |
| 12q23.1 | 2 | <i>SLC25A3</i> <i>TMPO</i> | 1.14E-02 | Major depressive disorder Darier's disease | |
| 12q24.23 | 3 | <i>RFC5</i> <i>PEBP1</i> | 6.33E-03 | Facial dysmorphism Developmental delay Heart defects | |
| 12q24.31 | 1 | <i>KNTC1</i> <i>MLEC</i> | 4.78E-02 | Developmental delay Facial dysmorphisms | |
| 13q32.3 | 3 | <i>TM9SF2</i> <i>GGACT</i> | 7.04E-03 | Craniofacial dysmorphisms Intellectual deficits Cardiac defects Holoprosencephaly | 2 |
| 14q24.3 | 1 | <i>NPC2</i> <i>TMED10</i> | 4.46E-02 | Facial dysmorphism Developmental delay Epilepsy | 2 |
| 15q14 | 2 | <i>SLC12A6</i> <i>ACTC1</i> <i>EMC7</i> | 1.69E-03 | Autism spectrum disorder Heart defect Developmental delay | 5 |
| 15q21.1 | 2 | <i>SORD</i> <i>BLOC1S6</i> | 1.89E-02 | Breast cancer | |
| 16q22.2 | 4 | <i>HP</i> <i>PHLPP2</i> | 5.22E-03 | Facial dysmorphism Intellectual deficit Schizophrenia Epilepsy | 2 |
| 17p13.2 | 2 | <i>SLC25A11</i> <i>EMC6</i> <i>C1QBP</i> | 2.20E-03 | Cholangiocarcinoma | 11 |
| 17p13.3 | 3 | <i>SLC43A2</i> <i>SLC25A11</i> <i>PAFAH1B1</i> <i>C1QBP</i> | 2.27E-04 | Autism spectrum disorder Intellectual deficits Craniofacial abnormalities | |
| 17q21 | 3 | <i>PHB</i> <i>ATP6V0A1</i> | 6.33E-03 | Breast cancer Developmental delay Kyphoscoliosis | |
| 17q21.33 | 2 | <i>PHB</i> <i>MRPL27</i> | 1.20E-02 | | |
| 17q25 | 5 | <i>ATP5H</i> | 3.30E-03 | | |

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|----------|---|--|----------|---|----|
| | | <i>ACTG1</i> | | Pancreatic cancer | |
| 17q25.1 | 1 | <i>ATP5H</i> <i>HN1</i> | 4.46E-02 | | |
| 18p11.22 | 3 | <i>NDUFV2</i> <i>VAPA</i> | 6.10E-03 | Lung cancer | |
| 18p11.31 | 2 | <i>EPB41L3</i> <i>MYL12B</i> | 1.02E-02 | Microcephaly Intellectual deficits Craniofacial abnormalities | 6 |
| 18q21.1 | 2 | <i>ATP5F1A</i> <i>HDHD2</i> | 1.78E-02 | Pancreatic Cancer | |
| 19p13.11 | 1 | <i>ATP13A1</i> <i>NDUFA13</i> | 4.57E-02 | Ectrodactyly | |
| 19p13.2 | 1 | <i>SLC44A2</i> <i>NDUFA7</i> <i>TIMM29</i> <i>NDUFA13</i> | 5.99E-03 | Developmental delay Craniofacial dysmorphisms | 11 |
| 19p13.3 | 0 | <i>MYDGF</i> <i>ZFR2</i> <i>ATP5F1D</i> | 3.74E-02 | | |
| 19q13.33 | 1 | <i>MYH14</i> <i>NOSIP</i> <i>NAPA</i> | 1.48E-02 | Developmental delay Intellectual deficits | |
| 20q11.21 | 1 | <i>TM9SF4</i> <i>COX4I2</i> | 2.20E-02 | Intellectual deficits Facial dysmorphisms | |
| 20q11.22 | 2 | <i>ACSS2</i> <i>CPNE1</i> | 1.23E-02 | Developmental delay Intellectual deficits Facial dysmorphisms Melanoma | 4 |
| 21q22.3 | 1 | <i>PDXK</i> <i>C2CD2</i> <i>TRAPPC10</i> | 1.14E-02 | Down's syndrome Autism spectrum disorder Facial dysmorphisms | 3 |
| 22q12.2 | 1 | <i>UQCR10</i> <i>PLA2G3</i> | 2.20E-02 | Craniofacial dysmorphism Microcephaly Developmental delay Intellectual deficits | 2 |
| Xp11.23 | 1 | <i>RBM3</i> <i>PLP2</i> | 4.20E-02 | Intellectual deficit Developmental delay Syndactyly | 2 |

Supplement Table S11: ER proteins significantly decreased by 3-day $A\beta_{42}$ treatment (33):

| Protein Symbol | Description | Log₂ Fold Change | p-value |
|-----------------------|--|------------------------------------|----------------|
| SSR1 | PREDICTED: translocon-associated protein subunit alpha isoform X1 | -1.258 | 2.17E-04 |
| ALG9 | PREDICTED: alpha-1,2-mannosyltransferase ALG9 isoform X1 | -1.234 | 3.51E-02 |
| VDAC3 | PREDICTED: voltage-dependent anion-selective channel protein 3 isoform X1 | -1.188 | 2.96E-02 |
| VAPA | PREDICTED: vesicle-associated membrane protein-associated protein A isoform X1 | -0.727 | 3.79E-02 |
| OSTC | oligosaccharyltransferase complex subunit OSTC | -1.279 | 5.78E-03 |
| DHRS7B | dehydrogenase/reductase SDR family member 7B | -6.644 | 2.37E-16 |
| PTPLAD1 | very-long-chain (3R)-3-hydroxyacyl-CoA dehydratase 3 | -1.117 | 7.22E-04 |
| MEST | mesoderm-specific transcript homolog protein | -0.870 | 4.08E-02 |
| SSR4 | translocon-associated protein subunit delta precursor | -0.847 | 8.35E-03 |
| DDOST | dolichyl-diphosphooligosaccharide--protein glycosyltransferase 48 kDa subunit precursor | -0.793 | 1.44E-03 |
| TMED10 | transmembrane emp24 domain-containing protein 10 precursor | -0.651 | 1.65E-02 |
| TMEM43 | transmembrane protein 43 | -1.208 | 1.35E-03 |
| HP | haptoglobin precursor | -6.644 | 2.37E-16 |
| TAP2 | antigen peptide transporter 2 precursor | -0.977 | 1.08E-02 |
| EMC2 | ER membrane protein complex subunit 2 | -1.158 | 2.10E-03 |
| FIS1 | PREDICTED: mitochondrial fission 1 protein isoform X1 | -1.105 | 2.99E-03 |
| TAP1 | antigen peptide transporter 1 precursor | -1.404 | 1.35E-04 |
| RPN1 | dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit 1 precursor | -0.651 | 1.64E-02 |
| CKAP4 | PREDICTED: cytoskeleton-associated protein 4 isoform X1 | -0.813 | 9.58E-04 |
| ALB | serum albumin precursor | -1.431 | 7.83E-11 |
| RPN2 | PREDICTED: dolichyl-diphosphooligosaccharide--protein glycosyltransferase subunit 2 isoform X1 | -1.370 | 6.20E-10 |
| TMED7 | transmembrane emp24 domain-containing protein 7 precursor | -1.482 | 4.16E-08 |
| RAB1 | ras-related protein Rab-1A | -0.630 | 2.19E-02 |
| EMC1 | PREDICTED: ER membrane protein complex subunit 1 isoform X1 | -0.881 | 3.27E-03 |
| MLEC | malectin precursor | -1.211 | 1.57E-03 |
| ATP8A1 | PREDICTED: phospholipid-transporting ATPase 1A isoform X2 | -6.644 | 2.37E-16 |
| DNM1L | PREDICTED: dynamin-1-like protein isoform X1 | -6.644 | 2.37E-16 |
| SSR3 | translocon-associated protein subunit gamma | -6.644 | 2.37E-16 |

| | | | |
|---------|---|--------|----------|
| EMC6 | PREDICTED: ER membrane protein complex subunit 6 isoform X1 | -6.644 | 2.37E-16 |
| MAN1B1 | PREDICTED: endoplasmic reticulum mannosyl-oligosaccharide 1,2- α -mannosidase isoform X1 | -6.644 | 2.37E-16 |
| CLIC4 | chloride intracellular channel protein 4 | -6.644 | 2.37E-16 |
| SLC30A9 | zinc transporter 9 | -6.644 | 2.37E-16 |
| CDIPT | PREDICTED: CDP-diacylglycerol--inositol 3-phosphatidyltransferase isoform X1 | -6.644 | 2.37E-16 |

Supplement Table S12: ER proteins significantly decreased by 3-day $A\beta_{42}$ treatment (9)

| Protein Symbol | Description | Log₂ Fold Change | p-value |
|-----------------------|--|------------------------------------|----------------|
| VKORC1L1 | PREDICTED: vitamin K epoxide reductase complex subunit 1-like protein 1 isoform X1 | 1.207 | 4.36E-03 |
| UFM1 | ubiquitin-fold modifier 1 precursor | 1.530 | 2.93E-06 |
| UBQLN1 | ubiquilin-1 | 0.677 | 4.57E-02 |
| ERC1 | PREDICTED: ELKS/Rab6-interacting/CAST family member 1 isoform X1 | 2.352 | 1.22E-11 |
| HHATL | protein-cysteine <i>N</i> -palmitoyltransferase HHAT-like protein | 2.144 | 1.32E-11 |
| FKBP1A | peptidyl-prolyl cis-trans isomerase FKBP1A | 2.212 | 2.37E-16 |
| CYP51 | lanosterol 14- α demethylase | 0.631 | 4.78E-02 |
| DBI | acyl-CoA-binding protein | 1.681 | 8.40E-14 |
| PEBP1 | phosphatidylethanolamine-binding protein 1 | 0.811 | 2.98E-03 |