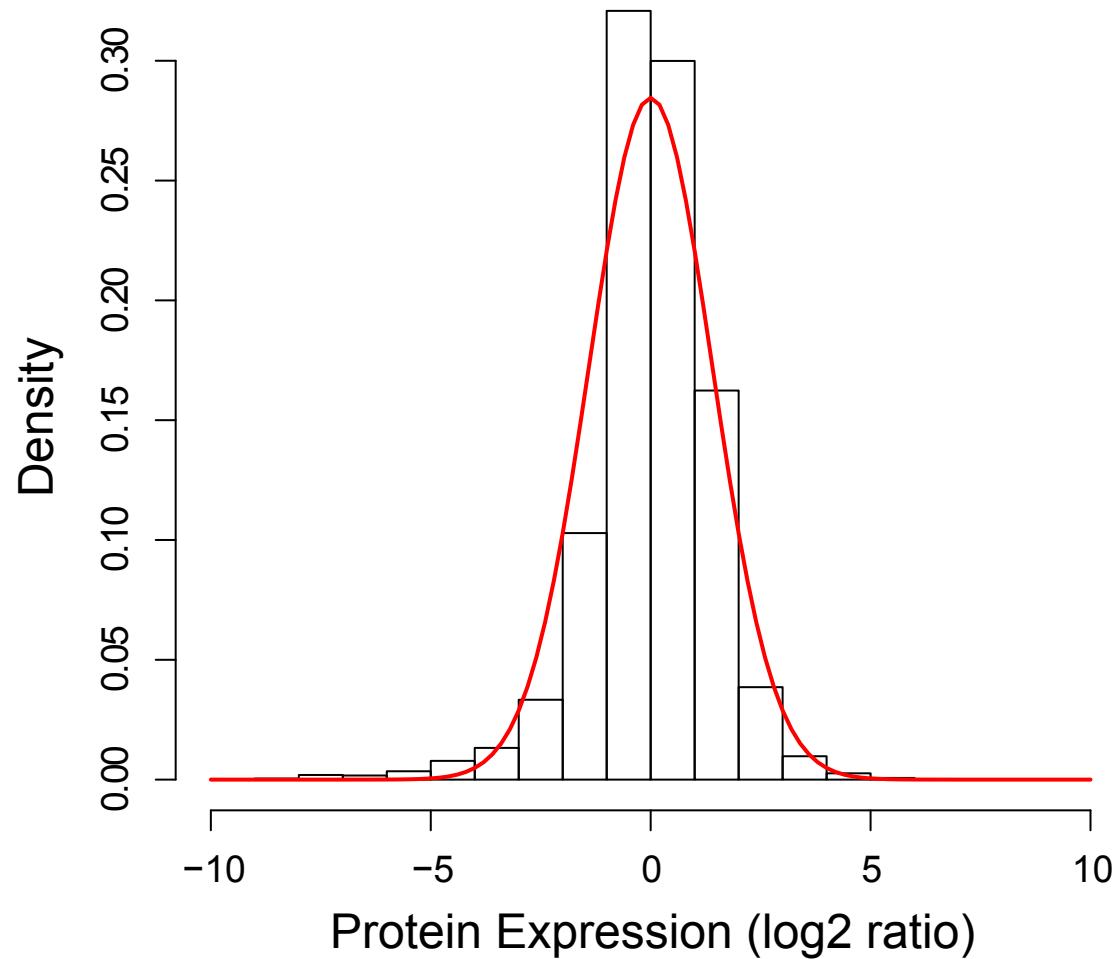
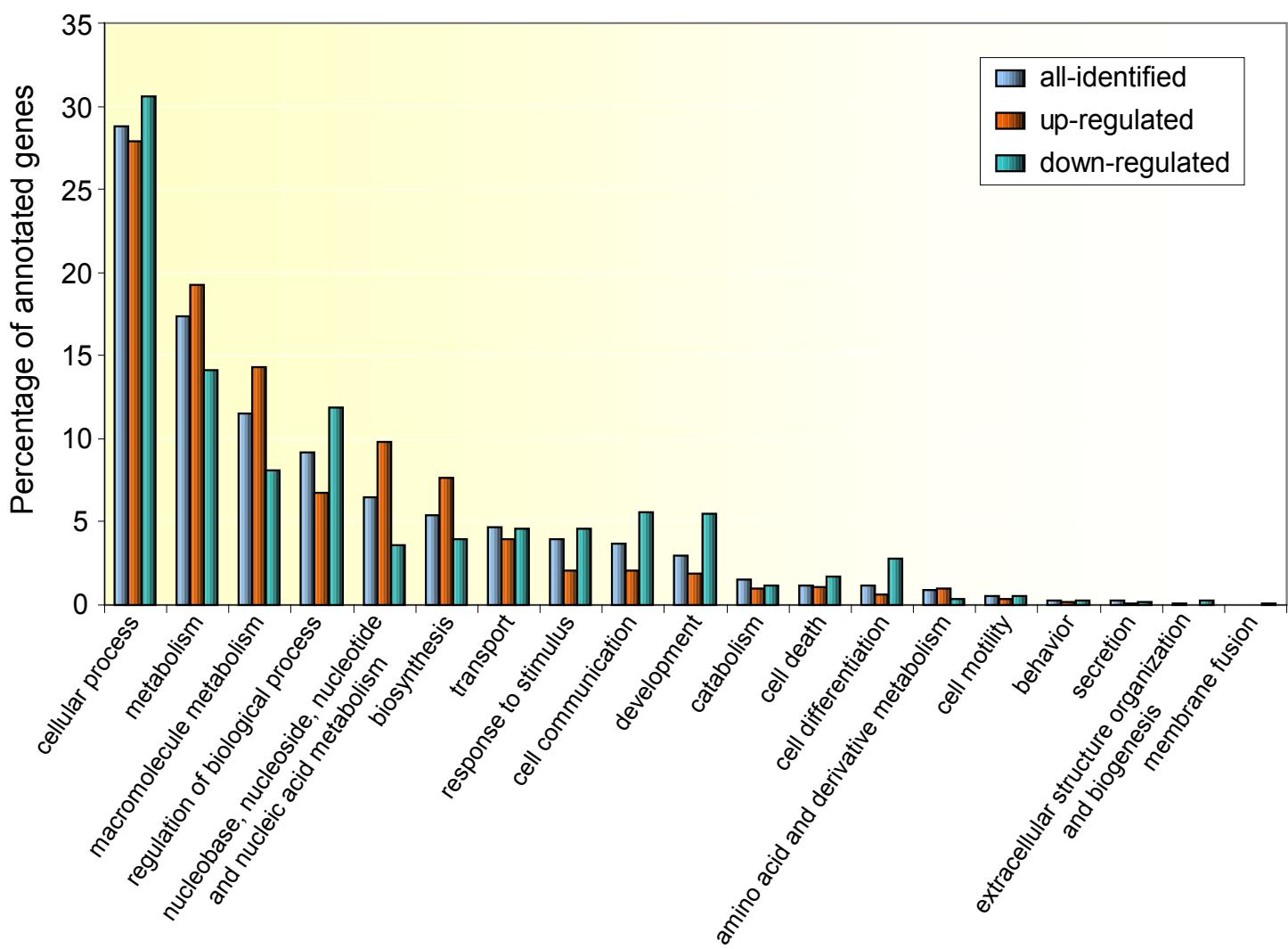


Supplemental Fig 1.



Supplemental Fig 1. The protein expression ratios (log2 transformed) between 4+ tumor and 1- tumor are in a normal distribution.

Supplemental Fig 2.



Supplemental Fig 2. GO functional categories of the identified proteins in low and high-risk neuroblastoma. GO functional categories of all ICAT identified proteins as well as different expressed proteins in 4+ and 1- tumors are represented by GOslim terms, which are a subset of GO and provide a higher level of annotation than the standard GO. Cellular process, metabolism, biosynthesis, regulation of biological processes are high in both up- and down-regulated protein groups. The processes involved in development, cell differentiation, cell death, and cell communication are relatively high in down-regulated protein group.

Supplemental Table 1. Additional Neuroblastoma Tumor Sample Information

| | AgeAtDiagnosis | Stage | MYCN_Status | Survival | Source | TestingType |
|--------------|----------------|-------|-------------|----------|--------|--------------|
| NB110 | 0.11 yrs | 1 | not amp | Alive | DZNSG | ICAT |
| NB108 | 5.56 yrs | 1 | not amp | Alive | DZNSG | Western Blot |
| NB109 | 0 yrs | 1 | not amp | Alive | DZNSG | Western Blot |
| NB111 | 3.74 yrs | 1 | not amp | Alive | DZNSG | Western Blot |
| NB112 | 0.5 yrs | 1 | not amp | Alive | DZNSG | Western Blot |
| NB113 | 11.22 yrs | 1 | not amp | Alive | DZNSG | Western Blot |
| NB103 | 1.56 yrs | 4 | amp | Dead | DZNSG | ICAT |
| NB535 | 1.04 yrs | 4 | amp | Dead | CHTN | Western Blot |
| NB545 | 3.36 yrs | 4 | amp | Dead | CHTN | Western Blot |
| NB547 | 1.54 yrs | 4 | amp | Dead | CHTN | Western Blot |
| NB561 | 0.55 yrs | 4 | amp | Dead | CHTN | Western Blot |
| NB581 | 1.58 yrs | 4 | amp | Dead | CHTN | Western Blot |

Note: DZNSG: German Cancer Research Center, CHTN: Cooperative Human Tissue Network

Supplemental Table 2: GSEA analysis of protein expression changes in neuroblastoma

| | NAME | SIZE | ES | NES | NOM p-val | FDR q-val |
|----------------------------|--|------|-------|-------|-----------|-----------|
| Up-regulated in 4+ tumor | MYC_TARGETS | 17 | 0.77 | 2.10 | 0.000 | 0.000 |
| | RIBOSOMAL_PROTEINS | 30 | 0.67 | 2.06 | 0.000 | 0.001 |
| | HSA03010_RIBOSOME | 24 | 0.70 | 2.04 | 0.000 | 0.001 |
| | ADIP_DIFF_CLUSTER4 | 15 | 0.71 | 1.87 | 0.000 | 0.009 |
| | ELECTRON_TRANSPORT_CHAIN | 22 | 0.65 | 1.85 | 0.001 | 0.009 |
| | HUMAN_MITODB_6_2002 | 77 | 0.52 | 1.87 | 0.000 | 0.010 |
| | HDAC1_COLON_BUT12HRS_DN | 20 | 0.64 | 1.82 | 0.000 | 0.013 |
| | HDAC1_COLON_BUT_DN | 45 | 0.54 | 1.78 | 0.000 | 0.021 |
| | HDAC1_COLON_BUT48HRS_DN | 19 | 0.63 | 1.78 | 0.001 | 0.021 |
| | HSA00190_OXIDATIVE_PHOSPHORYLATION | 22 | 0.61 | 1.75 | 0.000 | 0.024 |
| | MRNA_SPLICING | 16 | 0.65 | 1.76 | 0.005 | 0.025 |
| | MANALO_HYPOXIA_DN | 26 | 0.58 | 1.71 | 0.001 | 0.041 |
| | HDAC1_COLON_BUT16HRS_DN | 21 | 0.59 | 1.69 | 0.005 | 0.044 |
| | POD1_KO_UP | 75 | 0.47 | 1.69 | 0.001 | 0.046 |
| | PRMT5_KD_UP | 48 | 0.50 | 1.67 | 0.002 | 0.048 |
| | MOOTHA_VOXPHTOS | 15 | 0.64 | 1.68 | 0.008 | 0.048 |
| | UVB_NHEK2_UP | 20 | 0.60 | 1.67 | 0.005 | 0.050 |
| | STEMCELL_EMBRYONIC_UP | 264 | 0.41 | 1.66 | 0.000 | 0.052 |
| | MITOCHONDRIA | 81 | 0.45 | 1.65 | 0.002 | 0.057 |
| | STEMCELL_NEURAL_UP | 388 | 0.40 | 1.63 | 0.000 | 0.064 |
| | VHL_NORMAL_UP | 76 | 0.45 | 1.62 | 0.001 | 0.067 |
| | BHATTACHARYA_ESC_UP | 18 | 0.59 | 1.61 | 0.010 | 0.073 |
| | BRCA_PROGNOSIS_NEG | 17 | 0.59 | 1.60 | 0.015 | 0.082 |
| | HSA04110_CELL_CYCLE | 18 | 0.57 | 1.58 | 0.021 | 0.091 |
| | MRNA_PROCESSING.REACTOME | 33 | 0.49 | 1.57 | 0.017 | 0.094 |
| Down-regulated in 4+ tumor | HSA04514_CELL_ADHESION_MOLECULES | 18 | -0.71 | -2.30 | 0.000 | 0.001 |
| | HSA04360_AXON_GUIDANCE | 24 | -0.65 | -2.33 | 0.000 | 0.003 |
| | BRENTANI_CELL_ADHESION | 20 | -0.64 | -2.18 | 0.000 | 0.004 |
| | CELL_ADHESION_MOLECULE_ACTIVITY | 25 | -0.55 | -2.05 | 0.000 | 0.012 |
| | CELL_ADHESION | 29 | -0.50 | -1.97 | 0.000 | 0.020 |
| | HSA04610_COMPLEMENT_AND_COAGULATION_CASCADES | 38 | -0.48 | -1.95 | 0.006 | 0.020 |
| | AGEING BRAIN_UP | 34 | -0.48 | -1.89 | 0.000 | 0.023 |
| | CALCIUM_REGULATION_IN_CARDIAC_CELLS | 22 | -0.54 | -1.90 | 0.000 | 0.024 |
| | SMOOTH_MUSCLE_CONTRACTION | 20 | -0.50 | -1.76 | 0.009 | 0.055 |
| | AGEING_KIDNEY_UP | 51 | -0.39 | -1.72 | 0.007 | 0.064 |
| | HSC_MATURE_ADULT | 38 | -0.41 | -1.69 | 0.017 | 0.072 |

Supplemental Table 3. GSEA details for the leading edge subset of proteins in up-regulated gene set STEMCELL_NEURAL_UP

| GENE_SYMBOL | GENE_TITLE | RANK_IN_GENE_LIST | RANK_METRIC_SCORE | RUNNING_ES | CORE_ENRICHMENT |
|-------------|--|-------------------|-------------------|------------|-----------------|
| ARFRP1 | ADP-ribosylation factor related protein 1 | 4 | 3.65 | 0.01 | Yes |
| SSRP1 | structure specific recognition protein 1 | 5 | 3.54 | 0.02 | Yes |
| MCM2 | MCM2 minichromosome maintenance deficient 2, mitotin (<i>S. cerevisiae</i>) | 11 | 3.30 | 0.02 | Yes |
| TRIO | triple functional domain (PTPRF interacting) | 20 | 3.16 | 0.02 | Yes |
| FBL | fibrillarin | 21 | 3.09 | 0.03 | Yes |
| RPS28 | ribosomal protein S28 | 22 | 3.06 | 0.04 | Yes |
| HSPD1 | heat shock 60kDa protein 1 (chaperonin) | 23 | 3.04 | 0.04 | Yes |
| HMG2B | high-mobility group box 2 | 25 | 2.99 | 0.05 | Yes |
| MCM5 | MCM5 minichromosome maintenance deficient 5, cell division cycle 46 (<i>S. cerevisiae</i>) | 27 | 2.91 | 0.06 | Yes |
| DTYMK | deoxythymidylate kinase (thymidylate kinase) | 30 | 2.86 | 0.06 | Yes |
| DDX21 | DEAD (Asp-Glu-Ala-Asp) box polypeptide 21 | 33 | 2.75 | 0.07 | Yes |
| NDUFAB1 | NADH dehydrogenase (ubiquinone) 1, alpha/beta subcomplex, 1, 8kDa | 34 | 2.75 | 0.08 | Yes |
| PRPS2 | phosphoribosyl pyrophosphate synthetase 2 | 35 | 2.67 | 0.08 | Yes |
| SMC4 | structural maintenance of chromosomes 4 | 36 | 2.64 | 0.09 | Yes |
| TBC1D15 | TBC1 domain family, member 15 | 43 | 2.54 | 0.09 | Yes |
| WDHD1 | WD repeat and HMG-box DNA binding protein 1 | 48 | 2.48 | 0.09 | Yes |
| PPA2 | pyrophosphatase (inorganic) 2 | 49 | 2.45 | 0.10 | Yes |
| DDX18 | DEAD (Asp-Glu-Ala-Asp) box polypeptide 18 | 51 | 2.43 | 0.11 | Yes |
| SART1 | squamous cell carcinoma antigen recognised by T cells | 53 | 2.41 | 0.11 | Yes |
| RPL10A | ribosomal protein L10a | 55 | 2.38 | 0.12 | Yes |
| PSMA7 | proteasome (prosome, macropain) subunit, alpha type, 7 | 57 | 2.36 | 0.12 | Yes |
| HMGFB1 | high-mobility group box 1 | 63 | 2.30 | 0.12 | Yes |
| NOLA2 | nucleolar protein family A, member 2 (H/ACA small nucleolar RNPs) | 67 | 2.28 | 0.13 | Yes |
| TMPO | thymopoietin | 69 | 2.26 | 0.13 | Yes |
| LRRCS9 | leucine rich repeat containing 59 | 70 | 2.25 | 0.14 | Yes |
| RAD21 | RAD21 homolog (<i>S. pombe</i>) | 74 | 2.20 | 0.14 | Yes |
| HSPA14 | heat shock 70kDa protein 14 | 75 | 2.20 | 0.15 | Yes |
| SCARB2 | scavenger receptor class B, member 2 | 77 | 2.19 | 0.15 | Yes |
| GPNPNT1 | glucosamine-phosphate N-acetyltransferase 1 | 79 | 2.18 | 0.15 | Yes |
| RRM1 | ribonucleotide reductase M1 polypeptide | 81 | 2.16 | 0.16 | Yes |
| PB1 | - | 85 | 2.13 | 0.16 | Yes |
| PKM2 | pyruvate kinase, muscle | 86 | 2.12 | 0.17 | Yes |
| NUP93 | nucleoporin 93kDa | 88 | 2.11 | 0.17 | Yes |
| UHFR1 | ubiquitin-like, containing PHD and RING finger domains, 1 | 89 | 2.11 | 0.18 | Yes |
| PPIB | peptidyl/prolyl isomerase B (cyclophilin B) | 90 | 2.10 | 0.18 | Yes |
| MTCH2 | mitochondrial carrier homolog 2 (<i>C. elegans</i>) | 94 | 2.06 | 0.19 | Yes |
| CBX5 | chromobox homolog 5 (HP1 alpha homolog, <i>Drosophila</i>) | 102 | 2.04 | 0.18 | Yes |
| APEX1 | APEX nuclease (multifunctional DNA repair enzyme) 1 | 109 | 2.01 | 0.18 | Yes |
| CKMT2 | creatine kinase, mitochondrial 2 (sarcomeric) | 111 | 2.00 | 0.19 | Yes |
| NMD3 | NMD3 homolog (<i>S. cerevisiae</i>) | 114 | 1.98 | 0.19 | Yes |
| CNN3 | calponin 3, acidic | 116 | 1.97 | 0.20 | Yes |
| PPA1 | pyrophosphatase (inorganic) 1 | 130 | 1.86 | 0.19 | Yes |
| CNBP | CCHC-type zinc finger, nucleic acid binding protein | 131 | 1.86 | 0.19 | Yes |
| NPM1 | nucleophosmin (nucleolar phosphoprotein B23, numatrin) | 133 | 1.85 | 0.20 | Yes |
| GRWD1 | glutamate-rich WD repeat containing 1 | 147 | 1.80 | 0.19 | Yes |
| DEK | DEK oncogene (DNA binding) | 148 | 1.78 | 0.20 | Yes |
| MCM4 | MCM4 minichromosome maintenance deficient 4 (<i>S. cerevisiae</i>) | 149 | 1.78 | 0.20 | Yes |
| ABC E1 | ATP-binding cassette, sub-family E (OABP), member 1 | 152 | 1.76 | 0.20 | Yes |
| JAM3 | junctional adhesion molecule 3 | 156 | 1.75 | 0.20 | Yes |
| NDUFV1 | NADH dehydrogenase (ubiquinone) flavoprotein 1, 51kDa | 160 | 1.73 | 0.21 | Yes |
| GLUD1 | glutamate dehydrogenase 1 | 162 | 1.73 | 0.21 | Yes |
| CACYBP | calycyclin binding protein | 163 | 1.72 | 0.21 | Yes |
| TSFM | Ts translation elongation factor, mitochondrial | 172 | 1.68 | 0.21 | Yes |
| DEC R1 | 2,4-dienoyl CoA reductase 1, mitochondrial | 179 | 1.65 | 0.21 | Yes |
| RSL1D1 | ribosomal L1 domain containing 1 | 192 | 1.60 | 0.20 | Yes |
| ACTL6A | actin-like 6A | 194 | 1.59 | 0.21 | Yes |
| FHL1 | four and a half LIM domains 1 | 195 | 1.59 | 0.21 | Yes |
| OXCT1 | 3-oxoacid CoA transferase 1 | 206 | 1.55 | 0.20 | Yes |
| DOCK7 | dedicator of cytokinesis 7 | 208 | 1.54 | 0.21 | Yes |
| DDX3X | DEAD (Asp-Glu-Ala-Asp) box polypeptide 3, X-linked | 210 | 1.54 | 0.21 | Yes |
| ASNS | asparagine synthetase | 211 | 1.53 | 0.22 | Yes |
| SFRS1 | splicing factor, arginine/serine-rich 1 (splicing factor 2, alternate splicing factor) | 214 | 1.52 | 0.22 | Yes |
| WDR5 | WD repeat domain 5 | 216 | 1.52 | 0.22 | Yes |
| RBBP4 | retinoblastoma binding protein 4 | 220 | 1.51 | 0.22 | Yes |
| H2AFY | H2A histone family, member Y | 222 | 1.50 | 0.22 | Yes |
| RRM2 | ribonucleotide reductase M2 polypeptide | 226 | 1.47 | 0.23 | Yes |
| PAPC1 | poly(A) binding protein, cytoplasmic 1 | 229 | 1.46 | 0.23 | Yes |
| SLC25A5 | solute carrier family 25 (mitochondrial carrier; adenine nucleotide translocator), member 5 | 231 | 1.46 | 0.23 | Yes |
| AKAP12 | A kinase (PRKA) anchor protein (gravin) 12 | 232 | 1.46 | 0.23 | Yes |
| TCEA1 | transcription elongation factor A (SII), 1 | 236 | 1.45 | 0.24 | Yes |
| NIT2 | nitrilase family, member 2 | 239 | 1.44 | 0.24 | Yes |
| AQR | aquarius homolog (mouse) | 241 | 1.43 | 0.24 | Yes |
| KARS | lysyl-tRNA synthetase | 242 | 1.43 | 0.24 | Yes |
| EFTUD2 | elongation factor Tu GTP binding domain containing 2 | 244 | 1.42 | 0.25 | Yes |
| EFTUD1 | elongation factor Tu GTP binding domain containing 1 | 246 | 1.42 | 0.25 | Yes |
| SYNCRIP | synaptotagmin binding, cytoplasmic RNA interacting protein | 248 | 1.42 | 0.25 | Yes |
| LAMA5 | laminin, alpha 5 | 259 | 1.38 | 0.25 | Yes |
| SFRS7 | splicing factor, arginine/serine-rich 7, 35kDa | 261 | 1.37 | 0.25 | Yes |
| TOMM70A | translocase of outer mitochondrial membrane 70 homolog A (<i>S. cerevisiae</i>) | 263 | 1.36 | 0.25 | Yes |
| GNPDA1 | glucosamine-6-phosphate deaminase 1 | 266 | 1.35 | 0.25 | Yes |
| GTPBP4 | GTP binding protein 4 | 272 | 1.35 | 0.25 | Yes |
| XRCC1 | X-ray repair complementing defective repair in Chinese hamster cells 1 | 273 | 1.34 | 0.26 | Yes |
| TXN | thioredoxin | 278 | 1.34 | 0.26 | Yes |
| PGK1 | phosphoglycerate kinase 1 | 279 | 1.33 | 0.26 | Yes |
| TM9SF2 | transmembrane 9 superfamily member 2 | 281 | 1.32 | 0.26 | Yes |
| LAP3 | leucine aminopeptidase 3 | 283 | 1.32 | 0.26 | Yes |
| BAG2 | BCL2-associated athanogene 2 | 286 | 1.31 | 0.27 | Yes |
| VDAC3 | voltage-dependent anion channel 3 | 289 | 1.31 | 0.27 | Yes |
| NKRF | NF-kappaB repressing factor | 291 | 1.30 | 0.27 | Yes |
| FUBP1 | far upstream element (FUSE) binding protein 1 | 303 | 1.28 | 0.26 | Yes |
| PHF5A | PHD finger protein 5A | 307 | 1.27 | 0.26 | Yes |
| RBM39 | RNA binding motif protein 39 | 310 | 1.27 | 0.26 | Yes |
| TUFM | Tu translation elongation factor, mitochondrial | 311 | 1.26 | 0.27 | Yes |
| PSMB1 | proteasome (prosome, macropain) subunit, beta type, 1 | 313 | 1.26 | 0.27 | Yes |
| EXOSC7 | exosome component 7 | 314 | 1.25 | 0.27 | Yes |
| EEF2 | eukaryotic translation elongation factor 2 | 317 | 1.25 | 0.27 | Yes |

| | | | | | |
|------------|---|-----|------|------|-----|
| RANBP5 | RAN binding protein 5 | 318 | 1.25 | 0.28 | Yes |
| PDIA3 | protein disulfide isomerase family A, member 3 | 320 | 1.24 | 0.28 | Yes |
| RECOL | RecQL protein-like (DNA helicase Q1-like) | 322 | 1.23 | 0.28 | Yes |
| NDUFS1 | NADH dehydrogenase (ubiquinone) Fe-S protein 1, 75kDa (NADH-coenzyme Q reductase | 323 | 1.22 | 0.29 | Yes |
| NASP | nuclear autoantigenic sperm protein (histone-binding) | 330 | 1.21 | 0.28 | Yes |
| ANP32E | acidic (leucine-rich) nuclear phosphoprotein 32 family, member E | 331 | 1.21 | 0.29 | Yes |
| NOP5/NOP58 | - | 332 | 1.21 | 0.29 | Yes |
| TNP01 | transpotin 1 | 333 | 1.21 | 0.29 | Yes |
| VBP1 | von Hippel-Lindau binding protein 1 | 334 | 1.21 | 0.30 | Yes |
| PSMA6 | proteasome (prosome, macropain) subunit, alpha type, 6 | 337 | 1.20 | 0.30 | Yes |
| SRPRB | signal recognition particle receptor, B subunit | 338 | 1.20 | 0.30 | Yes |
| MAT2A | methionine adenosyltransferase II, alpha | 339 | 1.20 | 0.30 | Yes |
| SRP19 | signal recognition particle 19kDa | 340 | 1.20 | 0.31 | Yes |
| ANP32A | acidic (leucine-rich) nuclear phosphoprotein 32 family, member A | 348 | 1.18 | 0.30 | Yes |
| DC2 | - | 352 | 1.18 | 0.30 | Yes |
| SFPQ | splicing factor proline/glutamine-rich (polypyrimidine tract binding protein associated) | 354 | 1.17 | 0.31 | Yes |
| EIF2S1 | eukaryotic translation initiation factor 2, subunit 1 alpha, 35kDa | 364 | 1.15 | 0.30 | Yes |
| PRPF4B | PRP4 pre-mRNA processing factor 4 homolog B (yeast) | 366 | 1.15 | 0.30 | Yes |
| PTN | pleiotrophin (heparin-binding growth factor 8, neurite growth-promoting factor 1) | 367 | 1.15 | 0.31 | Yes |
| NONO | non-POU domain containing, octamer-binding | 370 | 1.14 | 0.31 | Yes |
| SAFB | scaffold attachment factor B | 372 | 1.13 | 0.31 | Yes |
| TKT | transketolase (Wernicke-Korsakoff syndrome) | 373 | 1.13 | 0.31 | Yes |
| P4HB | procollagen-proline, 2-oxoglutarate 4-dioxygenase (proline 4-hydroxylase), beta polypeptid | 377 | 1.12 | 0.31 | Yes |
| PPP5C | protein phosphatase 5, catalytic subunit | 378 | 1.12 | 0.31 | Yes |
| SDHA | succinate dehydrogenase complex, subunit A, flavoprotein (Fp) | 383 | 1.12 | 0.31 | Yes |
| PPP4R2B | protein phosphatase 4, regulatory subunit 2 | 384 | 1.12 | 0.32 | Yes |
| HNRPA2B1 | heterogeneous nuclear ribonucleoprotein A2/B1 | 385 | 1.12 | 0.32 | Yes |
| STT3A | STT3, subunit of the oligosaccharyltransferase complex, homolog A (<i>S. cerevisiae</i>) | 387 | 1.11 | 0.32 | Yes |
| EIF3S9 | eukaryotic translation initiation factor 3, subunit 9 eta, 116kDa | 389 | 1.11 | 0.32 | Yes |
| CRYZ | crystallin, zeta (quinone reductase) | 390 | 1.11 | 0.33 | Yes |
| XRCC6 | X-ray repair complementing defective repair in Chinese hamster cells 6 (Ku autoantigen, 7i | 393 | 1.10 | 0.33 | Yes |
| EIF2S3 | eukaryotic translation initiation factor 2, subunit 3 gamma, 52kDa | 397 | 1.09 | 0.33 | Yes |
| ETFA | electron-transfer-flavoprotein, alpha polypeptide (glutaric aciduria II) | 402 | 1.08 | 0.33 | Yes |
| PDHA1 | pyruvate dehydrogenase (lipoamide) alpha 1 | 403 | 1.08 | 0.33 | Yes |
| MTX2 | metaxin 2 | 405 | 1.07 | 0.33 | Yes |
| GABPA | GA binding protein transcription factor, alpha subunit 60kDa | 411 | 1.06 | 0.33 | Yes |
| SR140 | - | 420 | 1.05 | 0.32 | Yes |
| PA2G4 | proliferation-associated 2G4, 38kDa | 425 | 1.04 | 0.32 | Yes |
| HNRPM | heterogeneous nuclear ribonucleoprotein M | 431 | 1.03 | 0.32 | Yes |
| CPSF2 | cleavage and polyadenylation specific factor 2, 100kDa | 432 | 1.03 | 0.32 | Yes |
| RANBP1 | RAN binding protein 1 | 433 | 1.03 | 0.33 | Yes |
| IMPDH2 | IMP (inosine monophosphate) dehydrogenase 2 | 435 | 1.02 | 0.33 | Yes |
| HINT1 | histidine triad nucleotide binding protein 1 | 438 | 1.02 | 0.33 | Yes |
| AP1G1 | adaptor-related protein complex 1, gamma 1 subunit | 442 | 1.00 | 0.33 | Yes |
| AHCY | S-adenosylhomocysteine hydrolase | 443 | 1.00 | 0.33 | Yes |
| PRPS1 | phosphoribosyl pyrophosphate synthetase 1 | 444 | 1.00 | 0.33 | Yes |
| HTATSF1 | HIV-1 Tat specific factor 1 | 445 | 1.00 | 0.34 | Yes |
| MCM7 | MCM7 minichromosome maintenance deficient 7 (<i>S. cerevisiae</i>) | 447 | 0.99 | 0.34 | Yes |
| TARDBP | TAR DNA binding protein | 448 | 0.99 | 0.34 | Yes |
| TMMSF3 | transmembrane 9 superfamily member 3 | 449 | 0.99 | 0.34 | Yes |
| CAD | carbamoyl-phosphate synthetase 2, aspartate transcarbamylase, and dihydroorotase | 451 | 0.98 | 0.35 | Yes |
| SF3B1 | splicing factor 3b, subunit 1, 155kDa | 453 | 0.98 | 0.35 | Yes |
| TCERG1 | transcription elongation regulator 1 | 455 | 0.97 | 0.35 | Yes |
| SHMT1 | serine hydroxymethyltransferase 1 (soluble) | 461 | 0.96 | 0.35 | Yes |
| HNRPH1 | heterogeneous nuclear ribonucleoprotein H1 (H) | 464 | 0.96 | 0.35 | Yes |
| LRPPRC | leucine-rich PPR-motif containing | 466 | 0.96 | 0.35 | Yes |
| VPS29 | vacuolar protein sorting 29 (yeast) | 467 | 0.96 | 0.35 | Yes |
| CHORDC1 | cysteine and histidine-rich domain (CHORD)-containing 1 | 469 | 0.96 | 0.35 | Yes |
| CYC1 | cytochrome c-1 | 471 | 0.95 | 0.35 | Yes |
| DLD | dihydrodipicolinate dehydrogenase | 475 | 0.94 | 0.35 | Yes |
| NUDT5 | nudix (nucleoside diphosphate linked moiety X)-type motif 5 | 478 | 0.94 | 0.36 | Yes |
| UBE1C | ubiquitin-activating enzyme E1C (UBA3 homolog, yeast) | 480 | 0.94 | 0.36 | Yes |
| ARIH2 | ariadne homolog 2 (<i>Drosophila</i>) | 482 | 0.93 | 0.36 | Yes |
| SAE1 | - | 483 | 0.93 | 0.36 | Yes |
| DLAT | dihydrodipicolinate S-acetyltransferase (E2 component of pyruvate dehydrogenase complex | 486 | 0.92 | 0.36 | Yes |
| MRPL3 | mitochondrial ribosomal protein L3 | 488 | 0.92 | 0.36 | Yes |
| XPO1 | exportin 1 (CRM1 homolog, yeast) | 491 | 0.91 | 0.36 | Yes |
| RHOA | ras homolog gene family, member A | 492 | 0.90 | 0.37 | Yes |
| CRKL | v-crk sarcoma virus CT10 oncogene homolog (avian)-like | 493 | 0.90 | 0.37 | Yes |
| PPID | peptidylprolyl isomerase D (cyclophilin D) | 494 | 0.90 | 0.37 | Yes |
| SEC24B | SEC24 related gene family, member B (<i>S. cerevisiae</i>) | 495 | 0.90 | 0.37 | Yes |
| CSTF3 | cleavage stimulation factor, 3' pre-RNA, subunit 3, 77kDa | 501 | 0.89 | 0.37 | Yes |
| COPB2 | coatomer protein complex, subunit beta 2 (beta prime) | 502 | 0.89 | 0.37 | Yes |
| CCT5 | chaperonin containing TCP1, subunit 5 (epsilon) | 504 | 0.89 | 0.37 | Yes |
| PDCD6IP | programmed cell death 6 interacting protein | 507 | 0.88 | 0.37 | Yes |
| IDH3A | isocitrate dehydrogenase 3 (NAD ⁺) alpha | 508 | 0.88 | 0.38 | Yes |
| SEC31A | SEC31 homolog A (<i>S. cerevisiae</i>) | 509 | 0.87 | 0.38 | Yes |
| ERH | enhancer of rudimentary homolog (<i>Drosophila</i>) | 514 | 0.87 | 0.38 | Yes |
| CUL4A | cullin 4A | 515 | 0.87 | 0.38 | Yes |
| SUGT1 | SGT1, suppressor of G2 allele of SKP1 (<i>S. cerevisiae</i>) | 519 | 0.86 | 0.38 | Yes |
| PGLS | 6-phosphogluconolactonase | 520 | 0.86 | 0.38 | Yes |
| XRCC5 | X-ray repair complementing defective repair in Chinese hamster cells 5 (double-strand-break repair, <i>recQL</i> -like) | 521 | 0.86 | 0.38 | Yes |
| EIF3S8 | eukaryotic translation initiation factor 3, subunit 8, 110kDa | 523 | 0.86 | 0.39 | Yes |
| HNRPK | heterogeneous nuclear ribonucleoprotein K | 526 | 0.85 | 0.39 | Yes |
| CSNK2B | casein kinase 2, beta polypeptide | 530 | 0.84 | 0.38 | Yes |
| PSPC1 | paraspeckle component 1 | 532 | 0.84 | 0.39 | Yes |
| IARS | isoleucine-tRNA synthetase | 534 | 0.83 | 0.39 | Yes |
| NUP35 | nucleoporin 35kDa | 536 | 0.83 | 0.39 | Yes |
| SMAD2 | SMAD, mother against DPP homolog 2 (<i>Drosophila</i>) | 537 | 0.82 | 0.39 | Yes |
| RNASEH2A | ribonuclease H2, subunit A | 549 | 0.81 | 0.38 | Yes |
| CCT8 | chaperonin containing TCP1, subunit 8 (theta) | 552 | 0.80 | 0.38 | Yes |
| MRPS18A | mitochondrial ribosomal protein S18A | 554 | 0.80 | 0.38 | Yes |
| STK24 | serine/threonine kinase 24 (STE20 homolog, yeast) | 555 | 0.80 | 0.39 | Yes |
| KPNB1 | karyopherin (importin) beta 1 | 556 | 0.79 | 0.39 | Yes |
| RUVBL2 | RuvB-like 2 (<i>E. coli</i>) | 557 | 0.79 | 0.39 | Yes |
| EEF1D | eukaryotic translation elongation factor 1 delta (guanine nucleotide exchange protein) | 560 | 0.79 | 0.39 | Yes |
| EIF3S6IP | eukaryotic translation initiation factor 3, subunit 6 interacting protein | 562 | 0.79 | 0.39 | Yes |
| RAN | RAN, member RAS oncogene family | 563 | 0.79 | 0.39 | Yes |
| HSPA4 | heat shock 70kDa protein 4 | 564 | 0.78 | 0.40 | Yes |

Supplemental Table 4: GO analysis of differential expressed proteins in 4+ and 1- neuroblastoma tumor

| | Term | Count | PValue | FDR |
|---------------------------------|---|-------|----------|----------|
| Up-regulated in 4+ tumor | | | | |
| | GO:0006396~RNA processing | 52 | 1.67E-20 | 3.20E-19 |
| | GO:0022613~ribonucleoprotein complex biogenesis and assembly | 31 | 1.05E-15 | 1.91E-14 |
| | GO:0044237~cellular metabolic process | 271 | 2.98E-15 | 5.74E-14 |
| | GO:0006397~mRNA processing | 34 | 3.72E-15 | 7.01E-14 |
| | GO:0008152~metabolic process | 289 | 1.12E-14 | 2.14E-13 |
| | GO:0006412~translation | 52 | 1.46E-14 | 2.78E-13 |
| | GO:0044249~cellular biosynthetic process | 73 | 2.98E-14 | 5.69E-13 |
| | GO:0016071~mRNA metabolic process | 35 | 1.10E-13 | 2.10E-12 |
| | GO:0008380~RNA splicing | 30 | 1.57E-13 | 3.00E-12 |
| | GO:0010467~gene expression | 150 | 8.01E-13 | 1.53E-11 |
| | GO:0044238~primary metabolic process | 264 | 1.65E-12 | 3.15E-11 |
| | GO:0043170~macromolecule metabolic process | 237 | 1.06E-11 | 2.02E-10 |
| | GO:0042254~ribosome biogenesis and assembly | 18 | 4.28E-11 | 8.19E-10 |
| | GO:0009059~macromolecule biosynthetic process | 57 | 6.32E-11 | 1.21E-09 |
| | GO:0009058~biosynthetic process | 79 | 6.92E-11 | 1.32E-09 |
| | GO:0016043~cellular component organization and biogenesis | 116 | 1.03E-10 | 1.97E-09 |
| | GO:0000398~nuclear mRNA splicing, via spliceosome | 13 | 1.04E-07 | 1.99E-06 |
| | GO:0000377~RNA splicing, via transesterification reactions with bulged adenosine as nucleophile | 13 | 1.04E-07 | 1.99E-06 |
| | GO:0000375~RNA splicing, via transesterification reactions | 13 | 1.04E-07 | 1.99E-06 |
| | GO:0006996~organelle organization and biogenesis | 59 | 1.56E-07 | 2.98E-06 |
| | GO:0006364~rRNA processing | 12 | 2.98E-07 | 5.71E-06 |
| | GO:0016072~rRNA metabolic process | 12 | 4.84E-07 | 9.25E-06 |
| | GO:0006259~DNA metabolic process | 46 | 6.06E-07 | 1.16E-05 |
| | GO:0006457~protein folding | 23 | 8.36E-07 | 1.60E-05 |
| | GO:0009987~cellular process | 341 | 1.34E-06 | 2.57E-05 |
| | GO:0006139~nucleobase, nucleoside, nucleotide and nucleic acid metabolic process | 137 | 3.55E-06 | 6.79E-05 |
| | GO:004260~cellular macromolecule metabolic process | 122 | 6.65E-06 | 1.27E-04 |
| | GO:0006913~nucleocytoplasmic transport | 15 | 8.44E-06 | 1.61E-04 |
| | GO:0044267~cellular protein metabolic process | 120 | 9.12E-06 | 1.74E-04 |
| | GO:0051169~nuclear transport | 15 | 9.91E-06 | 1.90E-04 |
| | GO:0006144~purine base metabolic process | 5 | 1.06E-05 | 2.03E-04 |
| | GO:0006096~glycolysis | 10 | 1.53E-05 | 2.92E-04 |
| | GO:0006268~DNA unwinding during replication | 6 | 1.87E-05 | 3.57E-04 |
| | GO:0006605~protein targeting | 18 | 2.11E-05 | 4.03E-04 |
| | GO:0022618~protein-RNA complex assembly | 13 | 2.13E-05 | 4.08E-04 |
| | GO:0006260~DNA replication | 19 | 3.33E-05 | 6.36E-04 |
| | GO:0019538~protein metabolic process | 123 | 3.40E-05 | 6.49E-04 |
| | GO:0032392~DNA geometric change | 6 | 3.70E-05 | 7.08E-04 |
| | GO:0032508~DNA duplex unwinding | 6 | 3.70E-05 | 7.08E-04 |
| | GO:0006007~glucose catabolic process | 10 | 5.19E-05 | 9.93E-04 |
| | GO:0009113~purine base biosynthetic process | 4 | 5.32E-05 | 0.001 |
| | GO:0006414~translational elongation | 7 | 5.33E-05 | 0.001 |
| | GO:0000245~spliceosome assembly | 7 | 7.93E-05 | 0.002 |
| | GO:0065003~macromolecular complex assembly | 30 | 8.13E-05 | 0.002 |
| | GO:0042775~organelle ATP synthesis coupled electron transport | 9 | 8.51E-05 | 0.002 |
| | GO:0006120~mitochondrial electron transport, NADH to ubiquinone | 8 | 1.16E-04 | 0.002 |
| | GO:0006886~intracellular protein transport | 24 | 1.17E-04 | 0.002 |
| | GO:0022607~cellular component assembly | 31 | 1.22E-04 | 0.002 |
| | GO:0015931~nucleobase, nucleoside, nucleotide and nucleic acid transport | 11 | 1.38E-04 | 0.003 |
| | GO:0019320~hexose catabolic process | 10 | 1.59E-04 | 0.003 |
| | GO:0046365~monosaccharide catabolic process | 10 | 1.75E-04 | 0.003 |
| | GO:0042773~ATP synthesis coupled electron transport | 9 | 1.88E-04 | 0.004 |
| | GO:0046164~alcohol catabolic process | 10 | 2.09E-04 | 0.004 |
| | GO:0051276~chromosome organization and biogenesis | 23 | 2.10E-04 | 0.004 |
| | GO:0016070~RNA metabolic process | 101 | 2.30E-04 | 0.004 |
| | GO:0006323~DNA packaging | 20 | 2.69E-04 | 0.005 |
| | GO:0044271~nitrogen compound biosynthetic process | 11 | 2.80E-04 | 0.005 |
| | GO:0044275~cellular carbohydrate catabolic process | 11 | 3.02E-04 | 0.006 |
| | GO:0008652~amino acid biosynthetic process | 8 | 3.17E-04 | 0.006 |
| | GO:0043284~biopolymer biosynthetic process | 8 | 4.42E-04 | 0.008 |
| | GO:0009112~nucleobase metabolic process | 5 | 4.65E-04 | 0.009 |
| | GO:0046907~intracellular transport | 33 | 4.85E-04 | 0.009 |
| | GO:0016052~carbohydrate catabolic process | 11 | 4.96E-04 | 0.009 |
| | GO:0006325~establishment and/or maintenance of chromatin architecture | 19 | 5.95E-04 | 0.011 |
| | GO:0009309~amine biosynthetic process | 9 | 8.15E-04 | 0.015 |
| | GO:0009161~ribonucleoside monophosphate metabolic process | 5 | 9.35E-04 | 0.018 |
| | GO:0009156~ribonucleoside monophosphate biosynthetic process | 5 | 9.35E-04 | 0.018 |
| | GO:0046112~nucleobase biosynthetic process | 4 | 0.001 | 0.019 |
| | GO:0006839~mitochondrial transport | 7 | 0.001 | 0.020 |
| | GO:0045333~cellular respiration | 7 | 0.001 | 0.020 |
| | GO:0050658~RNA transport | 9 | 0.001 | 0.021 |
| | GO:0050657~nucleic acid transport | 9 | 0.001 | 0.021 |
| | GO:0051236~establishment of RNA localization | 9 | 0.001 | 0.021 |
| | GO:0009124~nucleoside monophosphate biosynthetic process | 5 | 0.001 | 0.022 |
| | GO:0009123~nucleoside monophosphate metabolic process | 5 | 0.001 | 0.022 |
| | GO:0017038~protein import | 10 | 0.001 | 0.024 |
| | GO:0006403~RNA localization | 9 | 0.001 | 0.024 |
| | GO:0006119~oxidative phosphorylation | 10 | 0.002 | 0.033 |
| | GO:0051641~cellular localization | 37 | 0.002 | 0.036 |

| | | | | |
|----------------------------|---|-----|----------|----------|
| | GO:0033036-macromolecule localization | 35 | 0.002 | 0.036 |
| | GO:0006006-glucose metabolic process | 10 | 0.002 | 0.039 |
| | GO:0051649-establishment of cellular localization | 36 | 0.002 | 0.041 |
| | GO:0007049-cell cycle | 36 | 0.003 | 0.052 |
| | GO:0051028-mRNA transport | 8 | 0.003 | 0.052 |
| | GO:0009060-aerobic respiration | 6 | 0.003 | 0.052 |
| | GO:0043623-cellular protein complex assembly | 7 | 0.003 | 0.056 |
| | GO:0016568-chromatin modification | 13 | 0.003 | 0.061 |
| | GO:0045184-establishment of protein localization | 31 | 0.004 | 0.068 |
| | GO:0046483-heterocycle metabolic process | 8 | 0.004 | 0.073 |
| | GO:0009168-purine ribonucleoside monophosphate biosynthetic process | 4 | 0.004 | 0.075 |
| | GO:0009167-purine ribonucleoside monophosphate metabolic process | 4 | 0.004 | 0.075 |
| | GO:0009127-purine nucleoside monophosphate biosynthetic process | 4 | 0.004 | 0.075 |
| | GO:0009126-purine nucleoside monophosphate metabolic process | 4 | 0.004 | 0.075 |
| | GO:0006376-mRNA splice site selection | 4 | 0.004 | 0.075 |
| | GO:0008104-protein localization | 32 | 0.005 | 0.085 |
| | GO:0006606-protein import into nucleus | 8 | 0.005 | 0.087 |
| | GO:0065002-intracellular protein transport across a membrane | 7 | 0.005 | 0.089 |
| | GO:0006261-DNA-dependent DNA replication | 9 | 0.005 | 0.089 |
| | GO:0006281-DNA repair | 15 | 0.005 | 0.092 |
| | GO:0006974-response to DNA damage stimulus | 17 | 0.005 | 0.092 |
| | GO:0043283-biopolymer metabolic process | 153 | 0.005 | 0.093 |
| | GO:0015031-protein transport | 29 | 0.005 | 0.095 |
| | GO:0051170-nuclear import | 8 | 0.005 | 0.099 |
| | GO:0000389-nuclear mRNA 3'-splice site recognition | 3 | 0.005 | 0.099 |
| <hr/> | | | | |
| Down-regulated in 4+ tumor | GO:0007155-cell adhesion | 23 | 2.58E-07 | 4.94E-06 |
| | GO:0022610-biological adhesion | 23 | 2.58E-07 | 4.94E-06 |
| | GO:0048731-system development | 34 | 2.91E-06 | 5.57E-05 |
| | GO:0048856-anatomical structure development | 38 | 4.77E-06 | 9.12E-05 |
| | GO:0031175-neurite development | 10 | 8.90E-06 | 1.70E-04 |
| | GO:0000902-cell morphogenesis | 16 | 1.31E-05 | 2.50E-04 |
| | GO:0032989-cellular structure morphogenesis | 16 | 1.31E-05 | 2.50E-04 |
| | GO:0007275-multicellular organismal development | 39 | 1.41E-05 | 2.71E-04 |
| | GO:0032990-cell part morphogenesis | 11 | 2.21E-05 | 4.23E-04 |
| | GO:0030030-cell projection organization and biogenesis | 11 | 2.21E-05 | 4.23E-04 |
| | GO:0048858-cell projection morphogenesis | 11 | 2.21E-05 | 4.23E-04 |
| | GO:0048812-neurite morphogenesis | 9 | 2.66E-05 | 5.09E-04 |
| | GO:0048667-neuron morphogenesis during differentiation | 9 | 2.66E-05 | 5.09E-04 |
| | GO:0048666-neuron development | 10 | 2.83E-05 | 5.40E-04 |
| | GO:0000904-cellular morphogenesis during differentiation | 9 | 4.46E-05 | 8.53E-04 |
| | GO:0032502-developmental process | 47 | 4.57E-05 | 8.73E-04 |
| | GO:0048699-generation of neurons | 11 | 1.26E-04 | 0.002 |
| | GO:0007409-axonogenesis | 8 | 1.40E-04 | 0.003 |
| | GO:0051258-protein polymerization | 6 | 1.98E-04 | 0.004 |
| | GO:0030182-neuron differentiation | 10 | 2.06E-04 | 0.004 |
| | GO:0022008-neurogenesis | 11 | 2.34E-04 | 0.004 |
| | GO:0005793-regulation of developmental process | 10 | 2.67E-04 | 0.005 |
| | GO:0009653-anatomical structure morphogenesis | 22 | 3.07E-04 | 0.006 |
| | GO:0048468-cell development | 23 | 4.21E-04 | 0.008 |
| | GO:0050767-regulation of neurogenesis | 5 | 4.41E-04 | 0.008 |
| | GO:0007399-nervous system development | 17 | 5.87E-04 | 0.011 |
| | GO:0042060-wound healing | 7 | 6.48E-04 | 0.012 |
| | GO:0032501-multicellular organismal process | 48 | 7.20E-04 | 0.014 |
| | GO:0009611-response to wounding | 12 | 7.87E-04 | 0.015 |
| | GO:0007010-cytoskeleton organization and biogenesis | 13 | 0.001 | 0.023 |
| | GO:0006066-alcohol metabolic process | 10 | 0.001 | 0.024 |
| | GO:0007596-blood coagulation | 6 | 0.001 | 0.024 |
| | GO:0050817-coagulation | 6 | 0.001 | 0.026 |
| | GO:0030154-cell differentiation | 28 | 0.002 | 0.029 |
| | GO:0048869-cellular developmental process | 28 | 0.002 | 0.029 |
| | GO:0007599-hemostasis | 6 | 0.002 | 0.030 |
| | GO:0006869-lipid transport | 6 | 0.002 | 0.031 |
| | GO:0044275-cellular carbohydrate catabolic process | 6 | 0.002 | 0.038 |
| | GO:0050770-regulation of axonogenesis | 4 | 0.002 | 0.041 |
| | GO:0044262-cellular carbohydrate metabolic process | 10 | 0.002 | 0.042 |
| | GO:0019318-hexose metabolic process | 7 | 0.002 | 0.043 |
| | GO:0005996-monosaccharide metabolic process | 7 | 0.003 | 0.050 |
| | GO:0016052-carbohydrate catabolic process | 6 | 0.003 | 0.050 |
| | GO:0051094-positive regulation of developmental process | 5 | 0.003 | 0.052 |
| | GO:0006007-glucose catabolic process | 5 | 0.003 | 0.052 |
| | GO:0050878-regulation of body fluid levels | 6 | 0.003 | 0.062 |
| | GO:0048513-organ development | 21 | 0.003 | 0.065 |
| | GO:0048518-positive regulation of biological process | 19 | 0.004 | 0.067 |
| | GO:0019320-hexose catabolic process | 5 | 0.005 | 0.086 |
| | GO:0046365-monosaccharide catabolic process | 5 | 0.005 | 0.089 |
| | GO:0065008-regulation of biological quality | 16 | 0.005 | 0.096 |
| | GO:0046164-alcohol catabolic process | 5 | 0.005 | 0.097 |
| | GO:0016043-cellular component organization and biogenesis | 35 | 0.005 | 0.099 |

Supplemental Table 5: GO analysis of differential expressed genes with correlated mRNA and protein expression

| | Term | Count | PValue | FDR |
|-----------------------------------|---|-------|----------|----------|
| Up-regulated in 4+ tumor | GO:0006396-RNA processing | 33 | 1.58E-16 | 2.11E-15 |
| | GO:0022613-ribonucleoprotein complex biogenesis and assembly | 23 | 1.77E-15 | 3.40E-14 |
| | GO:0044237-cellular metabolic process | 146 | 7.38E-15 | 1.42E-13 |
| | GO:0008152-metabolic process | 154 | 1.61E-14 | 3.08E-13 |
| | GO:0044238-primary metabolic process | 142 | 1.55E-12 | 2.96E-11 |
| | GO:0042254-ribosome biogenesis and assembly | 15 | 2.31E-12 | 4.43E-11 |
| | GO:0043170-macromolecule metabolic process | 129 | 1.04E-11 | 2.00E-10 |
| | GO:0044249-cellular biosynthetic process | 43 | 1.74E-11 | 3.33E-10 |
| | GO:0006412-translation | 31 | 3.61E-11 | 6.91E-10 |
| | GO:0010467-gene expression | 83 | 8.48E-11 | 1.62E-09 |
| | GO:0009058-biosynthetic process | 48 | 2.83E-10 | 5.42E-09 |
| | GO:0006364-rRNA processing | 11 | 2.99E-09 | 5.72E-08 |
| | GO:0009059-macromolecule biosynthetic process | 34 | 4.41E-09 | 8.44E-08 |
| | GO:0016072-rRNA metabolic process | 11 | 4.75E-09 | 9.09E-08 |
| | GO:0008380-RNA splicing | 17 | 8.90E-09 | 1.70E-07 |
| | GO:0006397-mRNA processing | 18 | 9.26E-09 | 1.77E-07 |
| | GO:0016071-mRNA metabolic process | 19 | 2.11E-08 | 4.04E-07 |
| | GO:0006139-nucleobase, nucleoside, nucleotide and nucleic acid metabolic process | 77 | 1.56E-06 | 2.98E-05 |
| | GO:0006260-DNA replication | 14 | 7.06E-06 | 1.35E-04 |
| | GO:0009987-cellular process | 170 | 1.05E-05 | 2.01E-04 |
| | GO:0044260-cellular macromolecule metabolic process | 67 | 1.48E-05 | 2.83E-04 |
| | GO:0000398-nuclear mRNA splicing, via spliceosome | 8 | 1.78E-05 | 3.40E-04 |
| | GO:0000377-RNA splicing, via transesterification reactions with bulged adenosine as nucleophile | 8 | 1.78E-05 | 3.40E-04 |
| | GO:0000375-RNA splicing, via transesterification reactions | 8 | 1.78E-05 | 3.40E-04 |
| | GO:0044267-cellular protein metabolic process | 66 | 1.82E-05 | 3.49E-04 |
| | GO:0006259-DNA metabolic process | 26 | 1.99E-05 | 3.80E-04 |
| | GO:0006268-DNA unwinding during replication | 5 | 2.15E-05 | 4.12E-04 |
| | GO:0032392-DNA geometric change | 5 | 3.69E-05 | 7.05E-04 |
| | GO:0032508-DNA duplex unwinding | 5 | 3.69E-05 | 7.05E-04 |
| | GO:0006144-purine base metabolic process | 4 | 5.18E-05 | 9.90E-04 |
| | GO:0019538-protein metabolic process | 67 | 6.28E-05 | 0.001 |
| | GO:0006096-glycolysis | 7 | 7.99E-05 | 0.002 |
| | GO:0006996-organelle organization and biogenesis | 30 | 1.12E-04 | 0.002 |
| | GO:0016070-RNA metabolic process | 57 | 1.15E-04 | 0.002 |
| | GO:0006007-glucose catabolic process | 7 | 1.85E-04 | 0.004 |
| | GO:0016043-cellular component organization and biogenesis | 52 | 2.08E-04 | 0.004 |
| | GO:0006261-DNA-dependent DNA replication | 8 | 2.91E-04 | 0.006 |
| | GO:0019320-hexose catabolic process | 7 | 4.02E-04 | 0.008 |
| | GO:0022618-protein-RNA complex assembly | 8 | 4.02E-04 | 0.008 |
| | GO:0046365-monosaccharide catabolic process | 7 | 4.28E-04 | 0.008 |
| | GO:0046164-alcohol catabolic process | 7 | 4.86E-04 | 0.009 |
| | GO:0022607-cellular component assembly | 18 | 6.39E-04 | 0.012 |
| | GO:0009112-nucleobase metabolic process | 4 | 7.67E-04 | 0.015 |
| | GO:0009113-purine base biosynthetic process | 3 | 7.89E-04 | 0.015 |
| | GO:0065003-macromolecular complex assembly | 17 | 8.17E-04 | 0.016 |
| | GO:0006520-amino acid metabolic process | 12 | 8.95E-04 | 0.017 |
| | GO:0009161-ribonucleoside monophosphate metabolic process | 4 | 0.001 | 0.024 |
| | GO:0009156-ribonucleoside monophosphate biosynthetic process | 4 | 0.001 | 0.024 |
| | GO:0006913-nucleocytoplasmic transport | 8 | 0.001 | 0.026 |
| | GO:0006457-protein folding | 11 | 0.001 | 0.027 |
| | GO:0051169-nuclear transport | 8 | 0.002 | 0.028 |
| | GO:0009124-nucleoside monophosphate biosynthetic process | 4 | 0.002 | 0.028 |
| | GO:0009123-nucleoside monophosphate metabolic process | 4 | 0.002 | 0.028 |
| | GO:0044275-cellular carbohydrate catabolic process | 7 | 0.002 | 0.033 |
| | GO:0009064-glutamine family amino acid metabolic process | 5 | 0.002 | 0.034 |
| | GO:0043283-biopolymer metabolic process | 82 | 0.002 | 0.040 |
| | GO:0016052-carbohydrate catabolic process | 7 | 0.002 | 0.045 |
| | GO:0006006-glucose metabolic process | 7 | 0.003 | 0.047 |
| | GO:0044265-cellular macromolecule catabolic process | 12 | 0.003 | 0.051 |
| | GO:0006399-tRNA metabolic process | 7 | 0.003 | 0.058 |
| | GO:0007049-cell cycle | 21 | 0.004 | 0.067 |
| | GO:0008652-amino acid biosynthetic process | 5 | 0.004 | 0.069 |
| | GO:0006281-DNA repair | 10 | 0.004 | 0.074 |
| | GO:0006519-amino acid and derivative metabolic process | 12 | 0.004 | 0.082 |
| | GO:0006284-base-excision repair | 4 | 0.004 | 0.082 |
| | GO:0046112-nucleobase biosynthetic process | 3 | 0.005 | 0.084 |
| | GO:0006974-response to DNA damage stimulus | 11 | 0.005 | 0.084 |
| | GO:0006270-DNA replication initiation | 4 | 0.005 | 0.099 |
| Down-regulated in 4+ tumor | GO:0048856-anatomical structure development | 20 | 1.38E-07 | 2.64E-06 |
| | GO:0007275-multicellular organismal development | 20 | 5.57E-07 | 1.07E-05 |
| | GO:0032502-developmental process | 23 | 9.05E-07 | 1.73E-05 |
| | GO:0048812-neurite morphogenesis | 7 | 1.49E-06 | 2.85E-05 |
| | GO:0048667-neuron morphogenesis during differentiation | 7 | 1.49E-06 | 2.85E-05 |
| | GO:0032990-cell part morphogenesis | 8 | 1.51E-06 | 2.89E-05 |
| | GO:0030030-cell projection organization and biogenesis | 8 | 1.51E-06 | 2.89E-05 |

Supplemental Table 6: mRNA and protein expression data measured by Affymetrix and ICAT

| Symbol | GeneID | mRNA expression | Log ₂ ratio (4+ / 1-) |
|---------|--------|-----------------|----------------------------------|
| | | | Protein expression |
| A1BG | 1 | 0.410 | 0.149 |
| A2M | 2 | -0.884 | -0.918 |
| AAMP | 14 | -0.244 | 0.161 |
| AARS | 16 | -0.063 | 0.494 |
| ABCE1 | 6059 | 1.784 | 1.760 |
| ABHD12 | 26090 | -0.204 | 1.188 |
| ABR | 29 | -0.744 | -2.051 |
| ACAD8 | 27034 | 0.058 | -1.884 |
| ACADVL | 37 | -1.142 | -0.475 |
| ACAN | 176 | 0.066 | -0.660 |
| ACAT1 | 38 | -0.077 | 1.582 |
| ACAT2 | 39 | 0.439 | 0.371 |
| ACIN1 | 22985 | 0.084 | 0.213 |
| ACLY | 47 | -0.608 | -0.664 |
| ACO2 | 50 | -0.071 | -0.151 |
| ACOT7 | 11332 | -0.467 | -0.357 |
| ACP2 | 53 | -0.533 | 0.066 |
| ACSL1 | 2180 | 1.342 | 1.601 |
| ACSL4 | 2182 | -0.133 | 0.644 |
| ACTB | 60 | -0.071 | 0.087 |
| ACTL6A | 86 | 2.070 | 1.590 |
| ACTL6B | 51412 | -0.863 | 0.103 |
| ACTN1 | 87 | 0.363 | 1.118 |
| ACTN4 | 81 | 0.034 | 0.874 |
| ACTR1B | 10120 | -0.589 | -0.079 |
| ACTR2 | 10097 | -0.493 | 0.164 |
| ACTR3 | 10096 | 0.196 | 0.217 |
| ADAR | 103 | -0.187 | 0.842 |
| ADD1 | 118 | -0.428 | -0.652 |
| ADD2 | 119 | 0.221 | -0.264 |
| ADFP | 123 | 0.612 | 0.023 |
| ADH5 | 128 | 0.818 | 0.601 |
| ADK | 132 | 0.437 | 0.354 |
| ADNP | 23394 | 0.224 | 0.184 |
| ADO | 84890 | 0.534 | 1.034 |
| ADRM1 | 11047 | -0.132 | 0.283 |
| ADSS | 159 | 0.511 | -0.420 |
| AFG3L2 | 10939 | 0.349 | 1.458 |
| AFM | 173 | 0.150 | -1.670 |
| AGRN | 375790 | -2.562 | 0.760 |
| AGTPBP1 | 23287 | -0.030 | -1.143 |
| AHCY | 191 | 2.158 | 1.001 |
| AHCYL1 | 10768 | 0.345 | -0.091 |
| AIP | 9049 | 0.650 | 0.724 |
| AKAP1 | 8165 | 0.873 | 1.871 |
| AKAP12 | 9590 | -0.053 | 1.459 |
| AKAP9 | 10142 | 0.471 | 0.034 |
| AKR1A1 | 10327 | 0.306 | -0.502 |
| AKR1B1 | 231 | 0.366 | 0.438 |
| AKR7A2 | 8574 | -0.296 | -0.321 |
| AKT2 | 208 | 0.045 | -0.933 |
| ALAD | 210 | -0.640 | -0.201 |
| ALB | 213 | -0.701 | -0.699 |
| ALCAM | 214 | -2.008 | -2.047 |
| ALDH1L2 | 160428 | 1.058 | 0.207 |
| ALDH2 | 217 | -0.044 | -0.027 |
| ALDH4A1 | 8659 | -0.337 | -0.855 |
| ALDH5A1 | 7915 | 0.461 | 0.208 |
| ALDH9A1 | 223 | 0.242 | -0.126 |
| ALDOA | 226 | 0.974 | 1.283 |
| ALK | 238 | 1.950 | 1.462 |
| AMBp | 259 | -0.056 | -1.151 |
| AMPD2 | 271 | 0.059 | 0.727 |
| ANK1 | 286 | -1.028 | -0.842 |
| ANK2 | 287 | 0.247 | -0.214 |
| ANKFY1 | 51479 | -0.816 | -0.634 |

| | | | |
|----------|--------|--------|--------|
| ANKHD1 | 54882 | 0.325 | 1.023 |
| ANKRD17 | 26057 | 0.386 | 0.665 |
| ANKRD28 | 23243 | 0.599 | -0.406 |
| ANP32A | 8125 | 1.169 | 1.183 |
| ANP32E | 81611 | 1.401 | 1.212 |
| ANXA2 | 302 | -1.480 | -2.816 |
| ANXA4 | 307 | -0.152 | 3.271 |
| ANXA7 | 310 | -0.173 | -0.698 |
| AOF2 | 23028 | -0.126 | 1.231 |
| AP1B1 | 162 | -0.154 | 0.128 |
| AP1G1 | 164 | -0.002 | 1.001 |
| AP2A1 | 160 | -0.358 | -0.434 |
| AP2A2 | 161 | -0.293 | -0.151 |
| AP2B1 | 163 | 0.213 | -0.863 |
| AP2M1 | 1173 | -0.194 | -0.176 |
| AP3D1 | 8943 | -0.143 | 0.463 |
| AP3M1 | 26985 | -0.020 | 0.370 |
| AP3M2 | 10947 | 0.066 | -0.163 |
| APEH | 327 | 0.109 | -0.448 |
| APEX1 | 328 | 1.447 | 2.012 |
| APLP1 | 333 | -0.749 | 1.123 |
| APOA1BP | 128240 | 0.431 | 0.593 |
| APOB | 338 | -0.165 | 0.077 |
| APOE | 348 | -0.997 | -1.502 |
| APOM | 55937 | 0.280 | -0.699 |
| APP | 351 | 0.056 | 2.283 |
| AQR | 9716 | 0.407 | 1.428 |
| ARCN1 | 372 | 0.372 | 0.422 |
| ARFGEF1 | 10565 | -0.071 | -0.534 |
| ARFRP1 | 10139 | -0.572 | 3.653 |
| ARHGAP29 | 9411 | 2.045 | -0.361 |
| ARHGEF2 | 9181 | 0.112 | -0.502 |
| ARHGEF7 | 8874 | -0.043 | 0.009 |
| ARIH1 | 25820 | 0.491 | 0.108 |
| ARIH2 | 10425 | 0.189 | 0.930 |
| ARL3 | 403 | -0.221 | -0.176 |
| ARMET | 7873 | 0.805 | 1.683 |
| ARPC1A | 10552 | 0.744 | 0.283 |
| ARPC1B | 10095 | 0.127 | 0.332 |
| ARPC2 | 10109 | -0.319 | 0.178 |
| ARPC5 | 10092 | -0.217 | -0.851 |
| ARRB1 | 408 | -0.354 | -0.151 |
| ARRB2 | 409 | -0.314 | -0.273 |
| ARS2 | 51593 | -0.079 | 0.296 |
| ASCC3L1 | 23020 | -0.236 | 1.760 |
| ASL | 435 | -0.583 | -0.438 |
| ASMTL | 8623 | 0.210 | 0.933 |
| ASNA1 | 439 | 0.202 | 0.118 |
| ASNS | 440 | 0.888 | 1.533 |
| ASRGL1 | 80150 | 0.505 | 0.679 |
| ASS1 | 445 | 0.718 | 2.581 |
| ATF7IP | 55729 | -0.044 | 1.567 |
| ATG7 | 10533 | 0.154 | 0.169 |
| ATIC | 471 | 1.550 | 1.282 |
| ATP1A1 | 476 | -0.218 | -0.188 |
| ATP1A3 | 478 | -1.537 | -0.528 |
| ATP1B1 | 481 | 0.062 | -0.377 |
| ATP2A2 | 488 | -0.538 | 1.071 |
| ATP2B4 | 493 | -1.038 | -2.829 |
| ATP2C1 | 27032 | 0.318 | -1.303 |
| ATP5C1 | 509 | 0.646 | 0.273 |
| ATP5O | 539 | 0.995 | 0.115 |
| ATP6V1C1 | 528 | -0.578 | -1.209 |
| ATP8A1 | 10396 | -0.449 | -1.582 |
| ATP9A | 10079 | -0.220 | -0.475 |
| ATPAF2 | 91647 | -0.182 | 1.077 |
| ATRN | 8455 | -0.057 | -0.756 |
| ATXN10 | 25814 | 0.067 | 0.077 |
| AZGP1 | 563 | -0.018 | -0.151 |
| BAG1 | 573 | 0.201 | 1.190 |
| BAG2 | 9532 | 0.150 | 1.310 |

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|-----------|--------|--------|--------|
| BAG5 | 9529 | 0.725 | 0.453 |
| BAT1 | 7919 | 0.174 | 0.665 |
| BAZ1B | 9031 | 0.133 | 3.766 |
| BCKDHB | 594 | -0.103 | 0.283 |
| BGN | 633 | -1.589 | -1.319 |
| BIRC6 | 57448 | 0.289 | 0.045 |
| BLMH | 642 | -0.465 | 0.208 |
| BOLA2 | 552900 | 0.716 | 0.927 |
| BOP1 | 23246 | 0.701 | 2.298 |
| BPGM | 669 | 0.187 | -1.455 |
| BPNT1 | 10380 | 0.027 | 0.623 |
| BRUNOL4 | 56853 | -1.613 | -1.046 |
| BRWD1 | 54014 | 0.308 | 0.502 |
| BRWD2 | 55717 | -0.346 | -1.769 |
| BTAF1 | 9044 | 0.294 | 1.070 |
| BTD | 686 | -0.018 | 0.183 |
| BUB3 | 9184 | 0.795 | 0.426 |
| BUD31 | 8896 | 0.807 | 0.095 |
| C11orf68 | 83638 | 0.210 | 0.892 |
| C14orf166 | 51637 | 1.212 | 0.663 |
| C14orf4 | 64207 | -0.794 | 0.301 |
| C17orf49 | 124944 | -0.028 | 0.236 |
| C1orf128 | 57095 | -0.657 | -1.516 |
| C1orf163 | 65260 | 0.088 | 2.860 |
| C1orf27 | 54953 | 0.306 | 0.886 |
| C1R | 715 | -0.288 | -0.711 |
| C1S | 716 | -0.146 | -0.759 |
| C2 | 717 | -0.477 | -0.448 |
| C20orf27 | 54976 | 0.535 | 0.874 |
| C20orf3 | 57136 | 0.085 | 0.169 |
| C21orf33 | 8209 | 0.128 | 0.413 |
| C2orf3 | 6936 | 0.611 | 2.188 |
| C3orf10 | 55845 | 0.702 | 0.541 |
| C4orf27 | 54969 | 1.439 | 1.510 |
| C5 | 727 | 0.219 | -0.293 |
| C6orf115 | 58527 | 0.830 | 0.034 |
| C7orf50 | 84310 | 0.102 | 2.141 |
| C8B | 732 | 0.385 | 0.789 |
| C8orf55 | 51337 | 0.107 | 0.586 |
| C8orf82 | 414919 | 0.524 | -1.461 |
| C9orf125 | 84302 | 0.163 | 0.971 |
| C9orf142 | 286257 | 0.135 | 1.087 |
| CA3 | 761 | -1.130 | 2.510 |
| CACNA2D1 | 781 | -0.060 | 0.189 |
| CACYBP | 27101 | 0.878 | 1.724 |
| CAD | 790 | -0.227 | 0.984 |
| CADM1 | 23705 | -0.818 | -2.767 |
| CADM2 | 253559 | -0.148 | -0.521 |
| CADM4 | 199731 | -0.466 | 0.231 |
| CADPS | 8618 | -1.203 | -1.201 |
| CALR | 811 | 0.135 | 1.050 |
| CAND1 | 55832 | 0.315 | 0.571 |
| CAND2 | 23066 | -0.120 | -1.442 |
| CANX | 821 | 0.335 | 1.012 |
| CAP1 | 10487 | -0.997 | -0.981 |
| CAPN1 | 823 | -0.181 | -0.370 |
| CAPN2 | 824 | 0.198 | -0.151 |
| CAPNS1 | 826 | -0.396 | -0.079 |
| CAPZA2 | 830 | 0.074 | 0.135 |
| CAPZB | 832 | -0.660 | -0.227 |
| CAST | 831 | -0.001 | -0.852 |
| CAT | 847 | 0.787 | -0.502 |
| CBR3 | 874 | 0.386 | -0.079 |
| CBS | 875 | 0.503 | 2.336 |
| CBX5 | 23468 | 0.377 | 2.037 |
| CCT2 | 10576 | 0.749 | 0.808 |
| CCT3 | 7203 | 0.745 | 0.502 |
| CCT4 | 10575 | 0.698 | 0.462 |
| CCT5 | 22948 | 0.739 | 0.889 |
| CCT7 | 10574 | 0.910 | 0.533 |
| CCT8 | 10694 | -0.069 | 0.799 |

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|----------|--------|--------|--------|
| CD14 | 929 | -0.114 | 0.611 |
| CD36 | 948 | -0.546 | 0.488 |
| CD44 | 960 | -1.774 | -1.705 |
| CD55 | 1604 | 0.297 | 0.217 |
| CD59 | 966 | -0.323 | -0.163 |
| CD93 | 22918 | -1.361 | -0.933 |
| CDC37 | 11140 | -0.048 | -0.420 |
| CDC42 | 998 | -0.036 | 0.283 |
| CDC42EP4 | 23580 | -1.201 | -1.042 |
| CDH2 | 1000 | 0.111 | 0.463 |
| CENPB | 1059 | 0.051 | 0.310 |
| CEP170 | 9859 | 0.196 | 1.063 |
| CFH | 3075 | -0.295 | -0.079 |
| CFHR2 | 3080 | -0.475 | 0.066 |
| CFI | 3426 | -0.314 | 0.371 |
| CFL1 | 1072 | 0.207 | 0.506 |
| CHCHD6 | 84303 | 0.807 | 1.073 |
| CHD4 | 1108 | 0.169 | 1.611 |
| CHGA | 1113 | 0.161 | 1.128 |
| CHGB | 1114 | -0.912 | -2.209 |
| CHN1 | 1123 | 0.397 | 0.291 |
| CHORDC1 | 26973 | 0.280 | 0.956 |
| CISD1 | 55847 | 0.279 | 1.720 |
| CISD2 | 493856 | 1.025 | 1.867 |
| CKAP5 | 9793 | 0.832 | 2.034 |
| CKB | 1152 | 0.660 | 1.807 |
| CKMT2 | 1160 | -0.347 | 2.001 |
| CLASP2 | 23122 | -0.126 | -0.201 |
| CLEC3B | 7123 | -0.231 | -0.005 |
| CLIC1 | 1192 | -0.205 | -0.266 |
| CLIC2 | 1193 | 0.500 | 4.435 |
| CLIC4 | 25932 | 0.081 | 0.023 |
| CLSTN1 | 22883 | -1.509 | 0.327 |
| CLTB | 1212 | -0.298 | -0.091 |
| CLTC | 1213 | -0.183 | 0.502 |
| CLU | 1191 | -1.436 | -1.073 |
| CNBP | 7555 | 1.732 | 1.855 |
| CNN2 | 1265 | -0.159 | -0.249 |
| CNN3 | 1266 | 1.668 | 1.970 |
| CNNM2 | 54805 | -0.279 | -0.253 |
| CNOT1 | 23019 | 0.258 | 1.061 |
| CNP | 1267 | -0.111 | -0.280 |
| CNPY3 | 10695 | 0.179 | 1.217 |
| CNTN1 | 1272 | -1.662 | -1.877 |
| COIL | 8161 | 1.216 | 0.611 |
| COL1A1 | 1277 | -4.024 | -0.842 |
| COL3A1 | 1281 | -3.578 | -0.067 |
| COL4A1 | 1282 | -1.937 | -0.810 |
| COL4A2 | 1284 | -1.619 | -1.561 |
| COL6A1 | 1291 | -0.831 | -0.279 |
| COMM5 | 28991 | 0.302 | 0.098 |
| COMP | 1311 | -0.941 | 0.814 |
| COPA | 1314 | -0.260 | 0.425 |
| COPB1 | 1315 | 0.812 | -0.109 |
| COPB2 | 9276 | 0.543 | 0.892 |
| COPG | 22820 | 0.146 | 0.498 |
| COPG2 | 26958 | 1.241 | -0.116 |
| COPS4 | 51138 | -0.148 | 0.295 |
| COPS6 | 10980 | 0.063 | 0.487 |
| CORO1A | 11151 | -0.286 | 0.012 |
| CORO1C | 23603 | 0.351 | 0.747 |
| COX17 | 10063 | 0.705 | 1.861 |
| COX6B1 | 1340 | 0.984 | 0.405 |
| CP | 1356 | 0.368 | 0.510 |
| CPNE3 | 8895 | 0.098 | 0.236 |
| CPSF2 | 53981 | 0.173 | 1.029 |
| CPSF3 | 51692 | 1.234 | 1.608 |
| CRABP2 | 1382 | 0.358 | 2.409 |
| CRBN | 51185 | 0.623 | 0.034 |
| CRELD1 | 78987 | 0.057 | 0.291 |
| CRIP2 | 1397 | -2.402 | -2.233 |

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|--------|--------|--------|--------|
| CRKL | 1399 | 0.368 | 0.904 |
| CRMP1 | 1400 | -0.296 | -0.363 |
| CRYZ | 1429 | 1.285 | 1.112 |
| CSDE1 | 7812 | 0.264 | 0.128 |
| CSE1L | 1434 | 1.048 | 0.610 |
| CSNK2B | 1460 | 0.677 | 0.839 |
| CSRP1 | 1465 | 0.631 | -2.292 |
| CSTF2 | 1478 | 0.407 | 0.536 |
| CSTF3 | 1479 | 0.573 | 0.892 |
| CTBP1 | 1487 | 0.129 | 0.479 |
| CTCF | 10664 | 0.678 | -0.228 |
| CTNNA2 | 1496 | -0.895 | -0.502 |
| CTNNB1 | 1499 | 0.746 | 0.264 |
| CTNND1 | 1500 | -0.095 | 0.517 |
| CTPS | 1503 | 0.117 | 0.740 |
| CTSC | 1075 | -0.699 | -0.290 |
| CTSD | 1509 | -0.433 | 0.061 |
| CTTN | 2017 | 0.439 | -0.580 |
| CUL2 | 8453 | 0.447 | -0.079 |
| CUL4A | 8451 | 0.401 | 0.867 |
| CUL5 | 8065 | 0.779 | 0.542 |
| CXADR | 1525 | 0.063 | 0.077 |
| CXXC1 | 30827 | -0.082 | 0.609 |
| CYB5R1 | 51706 | -0.245 | -0.628 |
| CYC1 | 1537 | 0.678 | 0.950 |
| CYTH1 | 9267 | -0.387 | -0.201 |
| DARS | 1615 | 1.008 | 0.087 |
| DAZAP1 | 26528 | 1.029 | 0.630 |
| DBH | 1621 | -0.380 | 0.686 |
| DBN1 | 1627 | -0.276 | -0.253 |
| DBNL | 28988 | -0.449 | -0.280 |
| DC2 | 58505 | 1.581 | 1.178 |
| DCLK1 | 9201 | -0.277 | 1.872 |
| DCTN1 | 1639 | -0.725 | -0.351 |
| DCX | 1641 | 0.920 | 1.413 |
| DCXR | 51181 | 0.961 | 0.950 |
| DDA1 | 79016 | 0.246 | 0.818 |
| DDAH1 | 23576 | -0.364 | -0.810 |
| DDAH2 | 23564 | -0.646 | -0.114 |
| DDB1 | 1642 | 0.272 | 0.909 |
| DDI2 | 84301 | -0.069 | -0.727 |
| DDOST | 1650 | -0.237 | 0.849 |
| DDT | 1652 | 0.409 | -0.114 |
| DDX1 | 1653 | 0.472 | 0.454 |
| DDX17 | 10521 | -0.021 | 1.183 |
| DDX18 | 8886 | 0.871 | 2.431 |
| DDX19B | 11269 | 0.438 | 0.700 |
| DDX21 | 9188 | 1.271 | 2.752 |
| DDX23 | 9416 | 0.446 | 2.193 |
| DDX27 | 55661 | 0.143 | 2.215 |
| DDX39 | 10212 | 1.413 | 1.829 |
| DDX3X | 1654 | 0.364 | 1.537 |
| DDX41 | 51428 | 0.097 | 0.713 |
| DDX5 | 1655 | 0.229 | 1.446 |
| DDX6 | 1656 | 0.631 | 1.154 |
| DECRI | 1666 | 0.824 | 1.655 |
| DEFA1 | 1667 | -1.644 | 0.296 |
| DEK | 7913 | 1.013 | 1.781 |
| DEPDC5 | 9681 | -0.206 | -0.767 |
| DERA | 51071 | -1.107 | 0.192 |
| DFFA | 1676 | -0.339 | -0.733 |
| DHX15 | 1665 | 1.062 | 0.852 |
| DHX9 | 1660 | 0.509 | 1.283 |
| DIAPH1 | 1729 | -0.236 | 0.354 |
| DIS3 | 22894 | 1.135 | 1.273 |
| DIS3L2 | 129563 | 0.459 | -0.055 |
| DKC1 | 1736 | 1.696 | 1.586 |
| DLAT | 1737 | 0.758 | 0.921 |
| DLD | 1738 | 0.101 | 0.945 |
| DLK1 | 8788 | 4.520 | -0.794 |
| DMXL2 | 23312 | 0.199 | -0.377 |

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| DNAJA2 | 10294 | 0.690 | 0.319 |
| DNAJA3 | 9093 | 0.578 | 0.479 |
| DNAJB1 | 3337 | 2.311 | -0.240 |
| DNAJC12 | 56521 | 0.529 | -0.568 |
| DNAJC6 | 9829 | -0.578 | -0.693 |
| DNPEP | 23549 | 0.111 | 0.108 |
| DOCK7 | 85440 | 0.364 | 1.544 |
| DPYSL2 | 1808 | -0.450 | -0.266 |
| DPYSL3 | 1809 | -1.095 | -1.821 |
| DPYSL4 | 10570 | -0.315 | -0.688 |
| DPYSL5 | 56896 | -0.617 | -0.488 |
| DRAP1 | 10589 | 0.631 | 0.555 |
| DST | 667 | -0.432 | 0.405 |
| DSTN | 11034 | 0.253 | -0.530 |
| DTYMK | 1841 | 1.132 | 2.859 |
| DUS3L | 56931 | 0.149 | 1.354 |
| DUT | 1854 | 1.230 | 3.306 |
| DYNC1H1 | 1778 | -0.359 | 0.630 |
| DYNC1LI2 | 1783 | -0.111 | 0.431 |
| DYNLL1 | 8655 | -0.189 | -0.033 |
| ECH1 | 1891 | -0.026 | 0.864 |
| ECM1 | 1893 | -0.439 | -0.096 |
| EDC4 | 23644 | 0.077 | 0.217 |
| EEF1A1 | 1915 | 0.253 | 1.388 |
| EEF1A2 | 1917 | -0.229 | 0.737 |
| EEF1B2 | 1933 | 1.552 | 1.203 |
| EEF1D | 1936 | 1.132 | 0.786 |
| EEF1G | 1937 | -0.352 | 1.354 |
| EEF2 | 1938 | 0.427 | 1.246 |
| EFEMP1 | 2202 | -0.036 | -0.745 |
| EFEMP2 | 30008 | -0.367 | -1.488 |
| EFTUD1 | 79631 | 1.040 | 1.422 |
| EFTUD2 | 9343 | 0.064 | 1.423 |
| EGF | 1950 | -0.513 | 0.258 |
| EHMT2 | 10919 | 0.101 | 1.405 |
| EIF2B3 | 8891 | -0.068 | 0.422 |
| EIF2B5 | 8893 | 0.310 | 0.397 |
| EIF2C1 | 26523 | -0.386 | 0.035 |
| EIF2S1 | 1965 | 0.951 | 1.154 |
| EIF2S3 | 1968 | 0.830 | 1.087 |
| EIF3A | 8661 | 0.411 | 0.653 |
| EIF3B | 8662 | 0.755 | 1.113 |
| EIF3C | 8663 | 1.426 | 0.855 |
| EIF3EIP | 51386 | 0.376 | 0.786 |
| EIF3G | 8666 | 0.962 | 0.601 |
| EIF3I | 8668 | 0.125 | 0.915 |
| EIF3K | 27335 | 0.605 | 0.799 |
| EIF4A1 | 1973 | 0.643 | 0.103 |
| EIF4G1 | 1981 | -0.112 | 0.641 |
| EIF4H | 7458 | 0.602 | 1.221 |
| EIF5A | 1984 | 0.436 | 0.518 |
| EIF5B | 9669 | 0.583 | 0.686 |
| EIF6 | 3692 | -0.418 | 0.556 |
| ELAC2 | 60528 | 0.083 | 0.740 |
| ELAVL2 | 1993 | 0.122 | -0.139 |
| ELAVL3 | 1995 | 0.004 | 1.840 |
| EML2 | 24139 | -0.449 | 1.217 |
| EML4 | 27436 | 0.009 | 0.541 |
| ENAH | 55740 | 0.305 | 1.128 |
| ENO2 | 2026 | -0.686 | 0.397 |
| ENPP2 | 5168 | -0.310 | 0.727 |
| EPB41 | 2035 | -0.029 | -0.664 |
| EPB41L1 | 2036 | -1.975 | 0.430 |
| EPB41L3 | 23136 | -2.893 | -2.797 |
| EPB42 | 2038 | -0.189 | -1.000 |
| EPHA5 | 2044 | -0.457 | -2.664 |
| EPHB3 | 2049 | -0.836 | -1.233 |
| EPHX2 | 2053 | -0.377 | -0.159 |
| EPM2AIP1 | 9852 | 0.567 | 0.526 |
| EPRS | 2058 | 0.657 | 0.413 |
| ERAP1 | 51752 | -0.429 | -0.873 |

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| ERH | 2079 | 0.545 | 0.867 |
| ERO1L | 30001 | 0.169 | 0.198 |
| ESD | 2098 | 0.818 | 0.485 |
| ETFA | 2108 | 1.690 | 1.077 |
| ETFB | 2109 | -0.263 | 1.296 |
| EXDL2 | 55218 | 0.122 | 0.754 |
| EXOC1 | 55763 | 0.518 | 1.082 |
| EXOC8 | 149371 | 0.686 | 1.717 |
| EXOSC2 | 23404 | 0.870 | 1.560 |
| EXOSC7 | 23016 | 0.812 | 1.255 |
| EXOSC8 | 11340 | 0.756 | 1.341 |
| EXOSC9 | 5393 | 1.133 | 1.707 |
| F11 | 2160 | -0.668 | 0.874 |
| F12 | 2161 | 1.185 | -0.214 |
| F13B | 2165 | 0.104 | -1.406 |
| F9 | 2158 | -0.669 | 0.178 |
| FABP5 | 2171 | 0.179 | 0.283 |
| FAM164A | 51101 | -0.315 | 0.012 |
| FAM44A | 259282 | 0.495 | 0.734 |
| FAM62A | 23344 | -0.766 | -0.801 |
| FAM91A1 | 157769 | -0.068 | 1.830 |
| FARP1 | 10160 | 0.082 | -0.201 |
| FARSA | 2193 | 0.710 | 1.341 |
| FARSB | 10056 | 0.711 | 1.962 |
| FASN | 2194 | -0.027 | 1.498 |
| FBL | 2091 | 2.246 | 3.086 |
| FBLN1 | 2192 | 1.203 | 1.367 |
| FBN1 | 2200 | -0.002 | -0.767 |
| FBXO30 | 84085 | -0.329 | -1.217 |
| FBXO7 | 25793 | 0.132 | -0.699 |
| FDPS | 2224 | 0.108 | 0.035 |
| FECH | 2235 | 0.070 | -0.293 |
| FERMT2 | 10979 | 0.540 | -3.510 |
| FETUB | 26998 | -0.296 | -0.502 |
| FGA | 2243 | -0.009 | -2.244 |
| FGB | 2244 | 0.080 | -2.189 |
| FGFBP2 | 83888 | 0.697 | -0.214 |
| FGG | 2266 | 0.071 | -2.225 |
| FHL1 | 2273 | -0.073 | 1.590 |
| FHOD1 | 29109 | -0.188 | -0.314 |
| FKBP1A | 2280 | 0.095 | 0.319 |
| FKBP4 | 2288 | 0.799 | 2.014 |
| FKBP5 | 2289 | 0.282 | 0.699 |
| FKBP8 | 23770 | -0.147 | -0.121 |
| FLAD1 | 80308 | 0.051 | -0.715 |
| FLII | 2314 | -1.055 | -0.472 |
| FLNA | 2316 | 0.159 | 0.713 |
| FLNB | 2317 | -0.099 | 2.564 |
| FLNC | 2318 | 0.820 | 3.240 |
| FLOT1 | 10211 | -0.350 | -0.652 |
| FN1 | 2335 | -2.900 | 1.686 |
| FN3KRP | 79672 | 0.544 | 0.615 |
| FNTA | 2339 | 0.888 | 0.962 |
| FREQ | 23413 | 0.102 | 0.740 |
| FSCN1 | 6624 | -0.011 | 0.077 |
| FTH1 | 2495 | 0.003 | -2.354 |
| FTO | 79068 | -0.092 | 1.035 |
| FUBP1 | 8880 | 0.297 | 1.278 |
| FXYD6 | 53826 | -0.070 | 0.336 |
| G6PD | 2539 | 0.277 | -0.474 |
| GAA | 2548 | -0.868 | -0.151 |
| GABPA | 2551 | 0.364 | 1.061 |
| GALK1 | 2584 | 0.005 | -1.185 |
| GAPDH | 2597 | 0.789 | 1.169 |
| GARNL4 | 23108 | -0.561 | 0.178 |
| GART | 2618 | 0.511 | 1.219 |
| GATM | 2628 | -0.017 | -0.432 |
| GCLC | 2729 | 0.262 | -0.406 |
| GCLM | 2730 | 0.460 | -0.652 |
| GCN1L1 | 10985 | -0.157 | 0.945 |
| GDI1 | 2664 | -0.074 | 0.479 |

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| GDI2 | 2665 | 0.897 | -0.010 |
| GEMIN5 | 25929 | 0.789 | 1.662 |
| GFPT1 | 2673 | -0.212 | -0.780 |
| GFRA2 | 2675 | 0.627 | 3.777 |
| GFRA3 | 2676 | -2.280 | -2.212 |
| GGCT | 79017 | 0.977 | 0.630 |
| GIT1 | 28964 | -0.533 | 0.077 |
| GLA | 2717 | 0.150 | -0.528 |
| GLCCI1 | 113263 | 0.770 | 1.164 |
| GLG1 | 2734 | -0.731 | 0.354 |
| GLIPR2 | 152007 | 0.700 | 0.752 |
| GLO1 | 2739 | 0.784 | 0.001 |
| GLUD1 | 2746 | 0.345 | 1.730 |
| GLUL | 2752 | 0.079 | 0.593 |
| GMPPB | 29925 | 0.476 | -0.409 |
| GMPR | 2766 | 0.313 | -0.756 |
| GMPS | 8833 | 2.720 | 1.418 |
| GNA11 | 2767 | -0.226 | -0.553 |
| GNAI1 | 2770 | -0.530 | -1.887 |
| GNAI3 | 2773 | 0.768 | -0.604 |
| GNAO1 | 2775 | -1.203 | -0.640 |
| GNAQ | 2776 | -0.125 | -0.076 |
| GNAS | 2778 | -0.079 | -0.377 |
| GNAZ | 2781 | -0.796 | -0.737 |
| GNB1 | 2782 | -0.937 | -1.185 |
| GNB2 | 2783 | -0.104 | -0.652 |
| GNB2L1 | 10399 | 0.581 | 0.953 |
| GNE | 10020 | 0.847 | 0.169 |
| GNG2 | 54331 | -0.422 | -1.933 |
| GNG4 | 2786 | 0.920 | 0.190 |
| GNL1 | 2794 | -0.258 | 0.319 |
| GNPDA1 | 10007 | 0.456 | 1.354 |
| GNPNAT1 | 64841 | 1.847 | 2.177 |
| GORASP2 | 26003 | 0.611 | -0.222 |
| GOT2 | 2806 | 0.772 | 2.280 |
| GPD2 | 2820 | 0.157 | -0.188 |
| GPHN | 10243 | 0.946 | 0.376 |
| GPI | 2821 | 0.067 | 0.861 |
| GPKOW | 27238 | 0.296 | -2.049 |
| GPS1 | 2873 | 0.016 | 0.203 |
| GRB2 | 2885 | -0.012 | 0.990 |
| GRHPR | 9380 | 0.747 | 0.149 |
| GRN | 2896 | -0.882 | -0.984 |
| GRWD1 | 83743 | 0.595 | 1.796 |
| GSN | 2934 | -0.404 | -0.293 |
| GSR | 2936 | 0.264 | 0.483 |
| GSS | 2937 | 0.223 | 0.045 |
| GSTM1 | 2944 | -0.022 | -0.033 |
| GSTM2 | 2946 | 0.129 | -0.377 |
| GSTM3 | 2947 | 0.162 | 0.304 |
| GSTO1 | 9446 | 1.429 | -0.616 |
| GSTP1 | 2950 | 0.496 | 0.454 |
| GTF2I | 2969 | -0.249 | 1.118 |
| GTF3C1 | 2975 | 0.042 | -0.800 |
| GTF3C3 | 9330 | 1.179 | -2.410 |
| GTPBP4 | 23560 | 0.970 | 1.347 |
| H2AFY | 9555 | 0.236 | 1.500 |
| H2AFY2 | 55506 | 0.498 | 0.644 |
| HABP2 | 3026 | -0.241 | 0.045 |
| HADHA | 3030 | 0.292 | 0.322 |
| HAGH | 3029 | -0.014 | -0.293 |
| HARS2 | 23438 | -0.177 | -0.434 |
| HAT1 | 8520 | 1.014 | 0.615 |
| HBB | 3043 | 0.042 | 0.962 |
| HBE1 | 3046 | -0.272 | -2.028 |
| HBG1 | 3047 | -2.348 | -3.303 |
| HBS1L | 10767 | 0.273 | 0.273 |
| HBZ | 3050 | 0.139 | -2.996 |
| HCFC1 | 3054 | 0.231 | 0.968 |
| HDGF | 3068 | 0.584 | 0.665 |
| HDHD1A | 8226 | -0.230 | -1.241 |

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| HEATR2 | 54919 | 0.804 | 2.504 |
| HECA | 51696 | -0.228 | -0.688 |
| HGF | 3082 | 1.891 | 1.301 |
| HIBCH | 26275 | 0.120 | -0.434 |
| HINT1 | 3094 | 1.027 | 1.020 |
| HINT3 | 135114 | -0.975 | -0.306 |
| HK1 | 3098 | -0.591 | -0.176 |
| HK2 | 3099 | 2.271 | 2.616 |
| HLA-A | 3105 | -1.248 | -2.389 |
| HLA-DRB1 | 3123 | -1.548 | -2.140 |
| HLTF | 6596 | 1.040 | 1.754 |
| HMGB1 | 3146 | 0.701 | 2.296 |
| HMGB2 | 3148 | 1.577 | 2.990 |
| HMGCL | 3155 | 0.058 | -1.233 |
| HNRNPA1 | 3178 | 0.385 | 0.683 |
| HNRNPA2B1 | 3181 | 0.384 | 1.116 |
| HNRNPA3 | 220988 | 0.417 | 0.430 |
| HNRNPC | 3183 | 0.870 | 1.341 |
| HNRNPD | 3184 | 0.934 | 0.644 |
| HNRNPF | 3185 | 0.347 | 3.503 |
| HNRNPH1 | 3187 | 0.110 | 0.962 |
| HNRNPK | 3190 | 0.474 | 0.849 |
| HNRNPL | 3191 | 0.743 | 1.541 |
| HNRNPM | 4670 | 0.216 | 1.034 |
| HNRNPR | 10236 | -0.488 | 0.556 |
| HNRNPU | 3192 | 0.399 | 1.198 |
| HNRPDL | 9987 | 0.375 | 0.623 |
| HP | 3240 | 0.043 | 1.123 |
| HPRT1 | 3251 | 0.832 | 0.861 |
| HRG | 3273 | -0.405 | 1.301 |
| HSD17B10 | 3028 | 0.421 | 1.123 |
| HSP90AA1 | 3320 | 0.461 | 1.203 |
| HSP90AB1 | 3326 | 0.418 | 1.092 |
| HSP90B1 | 7184 | 0.700 | -2.116 |
| HSPA14 | 51182 | 0.432 | 2.203 |
| HSPA1B | 3304 | 1.298 | 0.108 |
| HSPA4 | 3308 | 1.062 | 0.776 |
| HSPA4L | 22824 | 0.446 | 0.669 |
| HSPA8 | 3312 | 0.574 | 0.696 |
| HSPA9 | 3313 | 0.671 | 1.669 |
| HSPC152 | 51504 | 1.424 | 1.626 |
| HSPD1 | 3329 | 1.176 | 3.045 |
| HSPH1 | 10808 | 1.018 | 1.526 |
| HTATSF1 | 27336 | 0.484 | 0.998 |
| HUWE1 | 10075 | -0.049 | 0.974 |
| HYOU1 | 10525 | -0.146 | 1.341 |
| IAH1 | 285148 | 0.712 | 0.571 |
| IARS | 3376 | 1.183 | 0.830 |
| ICA1 | 3382 | 0.735 | -0.033 |
| ICAM1 | 3383 | -0.092 | 0.637 |
| IDE | 3416 | 0.124 | 0.118 |
| IDH1 | 3417 | -0.258 | -0.201 |
| IDH2 | 3418 | 0.498 | 1.113 |
| IDH3A | 3419 | 0.568 | 0.880 |
| IFI30 | 10437 | -0.137 | 0.812 |
| IFIT5 | 24138 | 0.049 | 2.496 |
| IGF2 | 3481 | 1.166 | 0.568 |
| IGF2BP3 | 10643 | 0.352 | 0.149 |
| IGF2R | 3482 | 0.004 | 0.319 |
| IGFBP2 | 3485 | 2.155 | 0.336 |
| IGFBP7 | 3490 | -2.150 | 0.923 |
| IGFBPL1 | 347252 | 1.409 | 2.042 |
| IGHA1 | 3493 | -0.333 | 1.349 |
| IGHG1 | 3500 | 0.376 | -0.356 |
| IGJ | 3512 | 0.005 | 0.045 |
| IGL@ | 3535 | -0.016 | 0.759 |
| IGSF3 | 3321 | -0.080 | -0.240 |
| ILF3 | 3609 | 0.781 | 1.158 |
| ILKAP | 80895 | -0.092 | 0.564 |
| IMPDH2 | 3615 | 0.704 | 1.025 |
| IPO4 | 79711 | 0.653 | 1.418 |

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| IPO5 | 3843 | 1.149 | 1.246 |
| IPO9 | 55705 | 0.041 | 0.273 |
| IREB2 | 3658 | 0.487 | -1.434 |
| IRGQ | 126298 | 0.088 | 0.593 |
| ITFG1 | 81533 | -0.183 | 0.198 |
| ITGA2B | 3674 | -0.052 | -0.091 |
| ITGB1 | 3688 | 0.217 | -0.789 |
| ITGB2 | 3689 | -0.983 | -1.734 |
| ITGB3 | 3690 | -0.557 | -0.335 |
| ITIH2 | 3698 | -0.204 | -1.139 |
| ITPA | 3704 | -0.055 | 0.362 |
| ITPR1 | 3708 | 0.703 | 1.984 |
| IVD | 3712 | 0.065 | 0.139 |
| JAM3 | 83700 | 0.464 | 1.754 |
| JTV1 | 7965 | 1.120 | 0.726 |
| KALRN | 8997 | 0.085 | 0.727 |
| KARS | 3735 | 1.315 | 1.426 |
| KBTBD6 | 89890 | 0.069 | 0.379 |
| KHSRP | 8570 | 0.031 | 0.734 |
| KIAA0152 | 9761 | -0.340 | 0.319 |
| KIAA0329 | 9895 | -0.491 | -1.958 |
| KIAA1576 | 57687 | -0.837 | -1.576 |
| KIAA1967 | 57805 | 0.015 | 0.626 |
| KIDINS220 | 57498 | -0.195 | -0.377 |
| KIF21A | 55605 | 0.588 | 0.808 |
| KIF5B | 3799 | 0.196 | -0.102 |
| KIF5C | 3800 | -0.547 | 0.227 |
| KIFC1 | 3833 | 1.348 | -1.093 |
| KLC1 | 3831 | -0.241 | 0.066 |
| KLHL15 | 80311 | 0.335 | -0.593 |
| KPNA1 | 3836 | 0.200 | -0.372 |
| KPNA4 | 3840 | 0.765 | -0.448 |
| KPNB1 | 3837 | 0.644 | 0.793 |
| KRT10 | 3858 | 0.250 | -1.225 |
| KSR1 | 8844 | -0.356 | -0.586 |
| L1CAM | 3897 | -0.877 | -1.241 |
| LACTB2 | 51110 | 0.888 | 0.713 |
| LAMA5 | 3911 | 0.054 | 1.382 |
| LAMB1 | 3912 | 0.404 | -0.022 |
| LAMC1 | 3915 | -0.013 | -0.227 |
| LAMP1 | 3916 | -0.832 | 0.533 |
| LANCL1 | 10314 | 0.090 | 0.128 |
| LANCL2 | 55915 | -0.064 | -0.240 |
| LAP3 | 51056 | 1.333 | 1.319 |
| LASP1 | 3927 | -0.226 | -1.099 |
| LCP1 | 3936 | -0.575 | -1.336 |
| LDHB | 3945 | 1.157 | -0.365 |
| LGALS1 | 3956 | -0.203 | -0.392 |
| LGALS3BP | 3959 | -0.281 | 2.438 |
| LIG3 | 3980 | 0.498 | -0.381 |
| LIMCH1 | 22998 | 1.534 | 0.586 |
| LIN7C | 55327 | 0.274 | -0.139 |
| LMAN2L | 81562 | -0.042 | 0.188 |
| LONP1 | 9361 | 0.866 | 0.830 |
| LPA | 4018 | -0.738 | -1.100 |
| LPCAT1 | 79888 | -0.179 | 0.533 |
| LRP1 | 4035 | -0.415 | 0.837 |
| LRPPRC | 10128 | 1.158 | 0.962 |
| LRRC40 | 55631 | -0.013 | -0.638 |
| LRRC47 | 57470 | -0.540 | -0.377 |
| LRRC59 | 55379 | 0.823 | 2.246 |
| LSM4 | 25804 | 1.313 | 0.608 |
| LTA4H | 4048 | 0.953 | 0.001 |
| LTBP1 | 4052 | -0.481 | 0.707 |
| LTBP2 | 4053 | -0.659 | 0.586 |
| LUC7L2 | 51631 | 0.230 | 1.747 |
| LUM | 4060 | -0.477 | -0.789 |
| MAD1L1 | 8379 | -0.096 | -0.342 |
| MAP1B | 4131 | -0.135 | 0.824 |
| MAP2 | 4133 | -0.295 | -1.249 |
| MAP2K4 | 6416 | -0.555 | -1.362 |

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| MAPK1 | 5594 | -0.388 | 0.098 |
| MAPK8 | 5599 | 0.014 | 0.418 |
| MAPK8IP3 | 23162 | -0.267 | 0.405 |
| MAPRE1 | 22919 | 0.424 | 0.091 |
| MAPT | 4137 | -1.566 | -1.126 |
| MAR5 | 54708 | 0.358 | 0.870 |
| MARCKSL1 | 65108 | -0.460 | 0.740 |
| MASP1 | 5648 | -0.187 | -0.652 |
| MASP2 | 10747 | -0.753 | -1.363 |
| MAT2A | 4144 | -0.108 | 1.200 |
| MAT2B | 27430 | 0.336 | 1.305 |
| MATR3 | 9782 | 0.351 | 1.026 |
| MCAM | 4162 | -0.594 | -0.502 |
| MCCC2 | 64087 | -0.057 | 1.406 |
| MCM2 | 4171 | 2.279 | 3.298 |
| MCM3 | 4172 | 1.531 | -1.201 |
| MCM4 | 4173 | 1.173 | 1.780 |
| MCM5 | 4174 | 1.581 | 2.914 |
| MCM6 | 4175 | 1.943 | 3.398 |
| MCM7 | 4176 | 1.030 | 0.990 |
| MCTS1 | 28985 | 1.897 | 1.354 |
| MDH1 | 4190 | 0.495 | 0.397 |
| MDH2 | 4191 | 0.566 | 2.064 |
| MDK | 4192 | 1.241 | 2.916 |
| MDN1 | 23195 | 0.698 | 2.009 |
| ME2 | 4200 | 0.710 | 1.045 |
| MED12 | 9968 | 0.396 | -0.010 |
| MED20 | 9477 | -0.215 | 1.319 |
| MED8 | 112950 | -0.440 | -1.204 |
| MEMO1 | 51072 | 0.263 | 0.789 |
| MEPCE | 56257 | 0.255 | -0.044 |
| METAP1 | 23173 | 1.026 | 2.332 |
| METAP2 | 10988 | 0.971 | 0.159 |
| MFN2 | 9927 | -0.955 | -1.391 |
| MGC3207 | 84245 | 0.124 | -0.524 |
| MIF | 4282 | 0.566 | 1.039 |
| MLLT4 | 4301 | -0.681 | 1.287 |
| MMP2 | 4313 | 0.139 | 0.773 |
| MPO | 4353 | -0.795 | 1.409 |
| MPP1 | 4354 | 0.125 | -0.882 |
| MPST | 4357 | 1.366 | 0.831 |
| MRPL3 | 11222 | 1.590 | 0.915 |
| MRPS18A | 55168 | 0.314 | 0.799 |
| MRPS9 | 64965 | 1.229 | 0.413 |
| MRTO4 | 51154 | 0.449 | 1.804 |
| MSH6 | 2956 | 0.911 | -1.026 |
| MST1 | 4485 | -0.294 | -0.335 |
| MTA1 | 9112 | -0.120 | 1.270 |
| MTAP | 4507 | 0.352 | 1.392 |
| MTCH2 | 23788 | 0.423 | 2.065 |
| MTHFD1 | 4522 | 0.550 | 0.277 |
| MTMR9 | 66036 | -0.484 | 0.861 |
| MTPN | 136319 | 1.854 | 0.269 |
| MTX2 | 10651 | 0.316 | 1.074 |
| MTX3 | 345778 | 0.923 | 1.571 |
| MXRA5 | 25878 | -0.031 | 3.269 |
| MYH10 | 4628 | 0.198 | 1.487 |
| MYH9 | 4627 | -0.707 | 0.135 |
| NA | 57671 | -1.044 | 1.314 |
| NA | 196515 | -0.384 | 0.494 |
| NAMPT | 10135 | 0.842 | 1.438 |
| NAPA | 8775 | -0.067 | 0.149 |
| NARS | 4677 | 0.597 | 1.799 |
| NASP | 4678 | 0.205 | 1.212 |
| NAV1 | 89796 | -0.206 | 0.310 |
| NCAM1 | 4684 | -0.369 | -0.363 |
| NCAN | 1463 | 3.244 | 2.134 |
| NCBP1 | 4686 | 0.234 | 0.768 |
| NCL | 4691 | 0.528 | 1.799 |
| NDRG1 | 10397 | 0.026 | -0.079 |
| NDUFA10 | 4705 | -0.308 | 1.024 |

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|------------|--------|--------|--------|
| NDUFA4 | 4697 | 0.569 | 0.034 |
| NDUFA8 | 4702 | 1.189 | 2.264 |
| NDUFAB1 | 4706 | 1.367 | 2.747 |
| NDUFB10 | 4716 | 0.737 | -0.450 |
| NDUFB7 | 4713 | 0.119 | 2.159 |
| NDUFS1 | 4719 | 0.082 | 1.222 |
| NDUFS5 | 4725 | 0.340 | 3.165 |
| NDUFS6 | 4726 | 0.424 | 1.732 |
| NDUFSV1 | 4723 | 0.360 | 1.734 |
| NEK7 | 140609 | -0.058 | -1.151 |
| NEK9 | 91754 | 0.233 | 1.061 |
| NELL2 | 4753 | 0.109 | 2.908 |
| NFASC | 23114 | -0.509 | -1.249 |
| NFXL1 | 152518 | 2.333 | 0.898 |
| NHP2L1 | 4809 | 0.364 | 1.945 |
| NIF3L1 | 60491 | 1.140 | 0.843 |
| NIPSNAP1 | 8508 | -0.008 | -0.021 |
| NISCH | 11188 | -0.316 | 0.255 |
| NIT1 | 4817 | -0.276 | -0.847 |
| NIT2 | 56954 | 1.342 | 1.438 |
| NKRF | 55922 | 0.310 | 1.305 |
| NLN | 57486 | 0.113 | -0.080 |
| NMD3 | 51068 | 0.498 | 1.976 |
| NNT | 23530 | 0.503 | 0.715 |
| NOL5A | 10528 | -0.556 | 2.064 |
| NOLA2 | 55651 | 0.666 | 2.280 |
| NONO | 4841 | 0.816 | 1.136 |
| NOP5/NOP58 | 51602 | 1.121 | 1.208 |
| NP | 4860 | 0.946 | -0.188 |
| NPC2 | 10577 | 0.316 | -0.873 |
| NPEPPS | 9520 | -0.573 | -0.420 |
| NPM1 | 4869 | 1.897 | 1.846 |
| NPTN | 27020 | 0.021 | -1.628 |
| NRCAM | 4897 | -1.487 | -1.634 |
| NRD1 | 4898 | -0.185 | 0.169 |
| NRP1 | 8829 | -1.127 | -2.806 |
| NSD1 | 64324 | -0.036 | 2.754 |
| NSUN2 | 54888 | 0.295 | 0.704 |
| NTRK1 | 4914 | -5.049 | -2.413 |
| NUBP1 | 4682 | 0.247 | -0.221 |
| NUDCD1 | 84955 | 1.347 | 0.805 |
| NUDT15 | 55270 | 1.654 | 0.900 |
| NUDT5 | 11164 | 1.737 | 0.939 |
| NUMA1 | 4926 | -0.622 | 1.973 |
| NUP153 | 9972 | 0.322 | 1.397 |
| NUP155 | 9631 | 0.922 | 0.812 |
| NUP160 | 23279 | 0.305 | 1.278 |
| NUP205 | 23165 | 1.267 | 1.243 |
| NUP35 | 129401 | 1.219 | 0.830 |
| NUP43 | 348995 | 0.654 | 1.252 |
| NUP93 | 9688 | 0.353 | 2.110 |
| NUTF2 | 10204 | 0.358 | -0.176 |
| OGDH | 4967 | -0.316 | 0.169 |
| OLA1 | 29789 | 0.160 | 0.399 |
| OSBPL11 | 114885 | 0.439 | 2.560 |
| OSBPL1A | 114876 | 0.453 | 0.886 |
| OSBPL9 | 114883 | -0.252 | -1.080 |
| OTUB1 | 55611 | 0.025 | 0.362 |
| OXA1L | 5018 | 0.364 | 1.805 |
| OXCT1 | 5019 | -0.019 | 1.550 |
| P4HB | 5034 | 0.531 | 1.123 |
| PA2G4 | 5036 | 0.947 | 1.045 |
| PABPC1 | 26986 | 0.870 | 1.463 |
| PABPN1 | 8106 | -0.049 | 0.345 |
| PAF1 | 54623 | 0.699 | -0.067 |
| PAFAH1B1 | 5048 | -0.265 | 0.217 |
| PAICS | 10606 | 1.340 | 2.380 |
| PAIP1 | 10605 | 0.716 | 1.098 |
| PALLD | 23022 | 0.107 | -0.044 |
| PANK2 | 80025 | 0.846 | -0.893 |
| PARK7 | 11315 | 0.227 | -0.151 |

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| PATZ1 | 23598 | 0.193 | 0.240 |
| PBRM1 | 55193 | 0.170 | 2.128 |
| PCBP1 | 5093 | 0.496 | 0.849 |
| PCBP2 | 5094 | 0.180 | 0.623 |
| PCBP3 | 54039 | -0.843 | 0.422 |
| PCCB | 5096 | 1.214 | 0.590 |
| PCIF1 | 63935 | -0.008 | -1.258 |
| PCMT1 | 5110 | -0.046 | -0.073 |
| PCNA | 5111 | 2.060 | 3.534 |
| PCOLCE | 5118 | 1.207 | 3.248 |
| PCYT2 | 5833 | -0.060 | -1.560 |
| PDCD6IP | 10015 | 0.536 | 0.882 |
| PDCL3 | 79031 | 0.702 | 0.098 |
| PDHA1 | 5160 | 0.985 | 1.077 |
| PDIA3 | 2923 | -0.466 | 1.236 |
| PDLIM4 | 8572 | 1.214 | 1.405 |
| PDS5A | 23244 | 0.487 | 1.869 |
| PDXDC1 | 23042 | -0.315 | 0.713 |
| PDXK | 8566 | 0.025 | -0.363 |
| PDXP | 57026 | -0.178 | 0.608 |
| PEBP1 | 5037 | 0.352 | 0.786 |
| PECAM1 | 5175 | -0.562 | -3.256 |
| PEPD | 5184 | -0.235 | 0.066 |
| PEX11B | 8799 | -0.241 | 0.707 |
| PF4V1 | 5197 | -0.103 | 0.529 |
| PFAS | 5198 | 0.981 | 0.979 |
| PFDN5 | 5204 | 0.304 | 1.081 |
| PFKL | 5211 | -0.772 | -0.434 |
| PFKM | 5213 | 0.624 | 1.069 |
| PFKP | 5214 | 0.545 | 0.163 |
| PFN1 | 5216 | 0.134 | 0.623 |
| PFN2 | 5217 | 0.393 | 0.740 |
| PGAM1 | 5223 | -0.012 | 0.034 |
| PGD | 5226 | -0.415 | -1.010 |
| PGK1 | 5230 | 1.689 | 1.327 |
| PGK2 | 5232 | -0.369 | -2.546 |
| PGLS | 25796 | -0.016 | 0.861 |
| PGLYRP2 | 114770 | 0.011 | -0.888 |
| PGM1 | 5236 | 0.863 | -6.278 |
| PGM3 | 5238 | 0.685 | -0.981 |
| PGRMC1 | 10857 | 0.564 | 1.895 |
| PHB | 5245 | 1.015 | 2.069 |
| PHF5A | 84844 | 1.351 | 1.273 |
| PHF6 | 84295 | 0.615 | 1.558 |
| PHGDH | 26227 | 3.401 | 1.818 |
| PHIP | 55023 | 0.302 | -0.201 |
| PHYHIPL | 84457 | 0.039 | -0.079 |
| PI16 | 221476 | -0.221 | -2.095 |
| PIN1 | 5300 | 0.352 | 0.057 |
| PIP5K1C | 23396 | -0.718 | -0.528 |
| PITPNA | 5306 | -0.416 | 0.217 |
| PITPNB | 23760 | 0.177 | 0.510 |
| PITPNC1 | 26207 | 0.825 | 1.156 |
| PKM2 | 5315 | 0.641 | 2.117 |
| PLAA | 9373 | 0.775 | 0.370 |
| PLEC1 | 5339 | -0.940 | -0.502 |
| PLS1 | 5357 | 0.446 | 0.156 |
| PLXNB2 | 23654 | -0.446 | -2.767 |
| PLXNC1 | 10154 | -0.766 | -0.461 |
| PM20D2 | 135293 | 0.728 | -2.573 |
| PML | 5371 | 0.133 | -0.027 |
| POLD1 | 5424 | 0.429 | 0.651 |
| POR | 5447 | -0.457 | -1.520 |
| POSTN | 10631 | -0.461 | 1.754 |
| PPA1 | 5464 | 1.461 | 1.861 |
| PPA2 | 27068 | 1.554 | 2.452 |
| PPAT | 5471 | 2.322 | 2.802 |
| PPCDC | 60490 | -0.019 | 0.264 |
| PPIA | 5478 | 0.582 | 0.950 |
| PPIB | 5479 | 1.113 | 2.103 |
| PPID | 5481 | 0.947 | 0.904 |

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| PPM1A | 5494 | 0.830 | -0.711 |
| PPM1E | 22843 | 0.658 | 0.939 |
| PPM1G | 5496 | 0.022 | 0.510 |
| PPME1 | 51400 | -0.098 | -0.079 |
| PPP1CA | 5499 | 0.015 | 0.541 |
| PPP1CB | 5500 | 0.017 | 0.098 |
| PPP2CA | 5515 | -0.110 | 0.327 |
| PPP2R1A | 5518 | -0.061 | 0.159 |
| PPP2R5B | 5526 | -0.635 | 0.502 |
| PPP2R5C | 5527 | 0.326 | 0.354 |
| PPP2R5D | 5528 | -0.255 | -1.217 |
| PPP2R5E | 5529 | 0.557 | 1.159 |
| PPP4R2 | 151987 | 0.693 | 1.118 |
| PPP5C | 5536 | 0.094 | 1.123 |
| PPP6C | 5537 | 0.702 | 0.818 |
| PPT1 | 5538 | -0.342 | -0.649 |
| PPWD1 | 23398 | 0.495 | 0.573 |
| PRDX2 | 7001 | 0.398 | -0.126 |
| PRDX4 | 10549 | 2.805 | 3.493 |
| PRDX5 | 25824 | 0.417 | 0.945 |
| PRDX6 | 9588 | 0.962 | -1.291 |
| PREP | 5550 | 0.729 | 0.703 |
| PREPL | 9581 | -0.152 | -1.209 |
| PRKAR2A | 5576 | -0.062 | -0.823 |
| PRKAR2B | 5577 | -0.399 | -1.482 |
| PRKCA | 5578 | 0.416 | -0.151 |
| PRKCB | 5579 | -1.604 | -2.770 |
| PRKCE | 5581 | -1.291 | -1.468 |
| PRKCI | 5584 | 0.303 | -0.126 |
| PRKCSH | 5589 | 0.153 | 1.287 |
| PRKDC | 5591 | 0.708 | 1.050 |
| PRMT1 | 3276 | 1.055 | 1.564 |
| PRMT5 | 10419 | 1.134 | 0.707 |
| PRNPIP | 79033 | -0.598 | -0.370 |
| PROS1 | 5627 | 0.099 | 0.405 |
| PRPF3 | 9129 | 1.342 | 1.855 |
| PRPF4B | 8899 | 0.844 | 1.154 |
| PRPH | 5630 | -1.550 | -2.810 |
| PRPS1 | 5631 | 1.111 | 0.998 |
| PRPS2 | 5634 | 1.370 | 2.672 |
| PRR6 | 201161 | 0.763 | 1.123 |
| PRSS12 | 8492 | 1.779 | 1.574 |
| PSAP | 5660 | -1.215 | -0.163 |
| PSAT1 | 29968 | 1.012 | 0.549 |
| PSMA1 | 5682 | 0.845 | 0.719 |
| PSMA5 | 5686 | 0.160 | 0.369 |
| PSMA6 | 5687 | 1.287 | 1.203 |
| PSMA7 | 5688 | 0.680 | 2.364 |
| PSMB1 | 5689 | 0.654 | 1.259 |
| PSMB3 | 5691 | 0.269 | 0.113 |
| PSMC3 | 5702 | 0.425 | -1.204 |
| PSMC4 | 5704 | 0.162 | 0.023 |
| PSMC5 | 5705 | 0.297 | 0.181 |
| PSMD1 | 5707 | 0.098 | 0.586 |
| PSMD11 | 5717 | -0.445 | 0.077 |
| PSMD12 | 5718 | 0.955 | 0.219 |
| PSMD2 | 5708 | 0.273 | 0.446 |
| PSMD4 | 5710 | 0.304 | -0.079 |
| PSMD6 | 9861 | 0.213 | 0.371 |
| PSMD9 | 5715 | 0.013 | 0.034 |
| PSME1 | 5720 | 0.141 | -0.176 |
| PSME4 | 23198 | 0.548 | -0.489 |
| PSPC1 | 55269 | 0.365 | 0.837 |
| PSPH | 5723 | -0.270 | 0.345 |
| PTBP1 | 5725 | 1.598 | 3.036 |
| PTGES3 | 10728 | -0.073 | 0.720 |
| PTK7 | 5754 | 0.217 | 0.984 |
| PTN | 5764 | -0.290 | 1.149 |
| PTPN1 | 5770 | 0.018 | 0.422 |
| PTPN11 | 5781 | 0.047 | 1.614 |
| PTPN23 | 25930 | -0.314 | 0.219 |

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|----------|--------|--------|--------|
| PUF60 | 22827 | 0.203 | 1.193 |
| PURB | 5814 | 0.132 | 0.118 |
| PVRL1 | 5818 | -0.063 | -0.981 |
| PYCR1 | 5831 | 0.624 | 1.909 |
| PYGB | 5834 | -0.400 | -1.475 |
| PZP | 5858 | 0.043 | 0.193 |
| QARS | 5859 | 0.013 | -0.321 |
| QDPR | 5860 | -0.086 | -0.335 |
| QSOX1 | 5768 | -0.040 | 2.523 |
| RAB10 | 10890 | -0.086 | -0.044 |
| RAB14 | 51552 | 0.105 | -0.240 |
| RAB18 | 22931 | -0.145 | 0.454 |
| RAB21 | 23011 | -0.055 | 0.354 |
| RAB22A | 57403 | 0.053 | 0.760 |
| RAB2B | 84932 | 0.052 | 0.601 |
| RAB3GAP1 | 22930 | 0.048 | 0.310 |
| RAB7A | 7879 | -0.005 | 1.169 |
| RABGAP1 | 23637 | -0.160 | 0.487 |
| RABGGTA | 5875 | 0.185 | -0.114 |
| RABL4 | 11020 | -0.367 | -0.092 |
| RAC1 | 5879 | 0.278 | 0.461 |
| RAD21 | 5885 | 0.372 | 2.205 |
| RAN | 5901 | 0.959 | 0.786 |
| RANBP1 | 5902 | 0.642 | 1.026 |
| RANBP2 | 5903 | 0.232 | 1.169 |
| RANBP9 | 10048 | 0.208 | 0.178 |
| RANGAP1 | 5905 | -0.557 | -0.079 |
| RAP1B | 5908 | -0.034 | -0.406 |
| RAP1GDS1 | 5910 | 0.377 | 0.082 |
| RARS | 5917 | 0.068 | -1.963 |
| RASA1 | 5921 | 0.130 | 0.076 |
| RBBP4 | 5928 | 0.547 | 1.506 |
| RBM17 | 84991 | 0.492 | 1.434 |
| RBM39 | 9584 | 0.439 | 1.266 |
| RBM4 | 5936 | 0.742 | 0.805 |
| RBM42 | 79171 | 0.029 | 1.217 |
| RBP1 | 5947 | -1.333 | 1.413 |
| RCC1 | 1104 | 1.098 | 2.087 |
| RCC2 | 55920 | 0.016 | 1.585 |
| RDH13 | 112724 | 0.100 | 0.541 |
| RECQL | 5965 | 0.769 | 1.226 |
| RELA | 5970 | 0.349 | 0.550 |
| RFTN1 | 23180 | -0.607 | -1.317 |
| RG9MTD1 | 54931 | 1.043 | 1.349 |
| RHOA | 387 | 0.620 | 0.904 |
| RHOB | 388 | -0.753 | -1.136 |
| RING1 | 6015 | -0.289 | 0.264 |
| RNASE1 | 6035 | 1.003 | 2.212 |
| RNASE4 | 6038 | -0.129 | 1.718 |
| RNASEH2A | 10535 | 1.886 | 0.805 |
| RNASET2 | 8635 | 0.007 | 0.463 |
| RNF114 | 55905 | 0.993 | 0.747 |
| RNH1 | 6050 | -0.631 | -0.293 |
| RNPEP | 6051 | 0.382 | 0.255 |
| ROCK2 | 9475 | 0.498 | -0.930 |
| ROD1 | 9991 | -0.746 | -0.981 |
| RPA1 | 6117 | 0.319 | 0.077 |
| RPIA | 22934 | 0.826 | -0.126 |
| RPL10 | 6134 | 0.335 | 1.545 |
| RPL10A | 4736 | 0.680 | 2.384 |
| RPL11 | 6135 | 0.328 | 1.762 |
| RPL12 | 6136 | 1.008 | 1.469 |
| RPL14 | 9045 | 1.001 | 2.111 |
| RPL17 | 6139 | 0.669 | 0.549 |
| RPL18A | 6142 | 0.938 | 2.061 |
| RPL23 | 9349 | 0.103 | 1.947 |
| RPL27A | 6157 | 0.698 | 1.050 |
| RPL3 | 6122 | 0.526 | 1.770 |
| RPL30 | 6156 | 0.426 | 2.284 |
| RPL32 | 6161 | 0.766 | 2.103 |
| RPL34 | 6164 | 0.528 | 2.020 |

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| RPL4 | 6124 | 0.696 | 0.967 |
| RPL5 | 6125 | 0.180 | 1.183 |
| RPL7A | 6130 | 0.956 | 1.637 |
| RPL9 | 6133 | 0.437 | 1.103 |
| RPLP0 | 6175 | 0.614 | 2.061 |
| RPN1 | 6184 | 0.221 | 1.047 |
| RPS11 | 6205 | 0.813 | 0.518 |
| RPS16 | 6217 | 0.716 | 0.623 |
| RPS17 | 6218 | 0.962 | 1.626 |
| RPS2 | 6187 | 0.734 | 1.747 |
| RPS21 | 6227 | 1.181 | 1.349 |
| RPS27L | 51065 | 1.896 | 1.154 |
| RPS28 | 6234 | 0.145 | 3.062 |
| RPS3 | 6188 | 0.966 | 1.532 |
| RPS3A | 6189 | 0.549 | 1.627 |
| RPS4X | 6191 | 0.531 | 1.700 |
| RPS4Y1 | 6192 | 4.531 | 3.262 |
| RPS5 | 6193 | 1.017 | 1.665 |
| RPS6 | 6194 | 0.840 | 1.178 |
| RPS8 | 6202 | 0.354 | 2.026 |
| RPSA | 3921 | 0.911 | 1.250 |
| RRM1 | 6240 | 1.773 | 2.156 |
| RRM2 | 6241 | 3.085 | 1.471 |
| RRP1 | 8568 | -0.074 | 0.020 |
| RRP1B | 23076 | 0.581 | 0.960 |
| RSF1 | 51773 | 0.347 | 0.487 |
| RSL1D1 | 26156 | 1.353 | 1.603 |
| RTN4 | 57142 | -0.149 | 0.818 |
| RUVBL1 | 8607 | 1.334 | 0.679 |
| RUVBL2 | 10856 | 1.221 | 0.793 |
| SAE1 | 10055 | 0.679 | 0.930 |
| SAFB | 6294 | 0.425 | 1.128 |
| SAFB2 | 9667 | 0.430 | 0.549 |
| SAMHD1 | 25939 | 0.012 | 0.001 |
| SAMM50 | 25813 | 0.838 | 0.397 |
| SAPS2 | 9701 | -0.853 | -0.240 |
| SARM1 | 23098 | -0.644 | -0.528 |
| SARS | 6301 | 0.769 | 1.471 |
| SART1 | 9092 | 0.685 | 2.409 |
| SART3 | 9733 | 0.180 | 0.620 |
| SBF1 | 6305 | -0.660 | -1.151 |
| SBF2 | 81846 | 0.167 | 0.593 |
| SCARB2 | 950 | 0.166 | 2.191 |
| SCFD1 | 23256 | 0.523 | 0.178 |
| SCLY | 51540 | -0.223 | -0.446 |
| SCRN1 | 9805 | -1.008 | -0.761 |
| SDCCAG10 | 10283 | 0.413 | 1.188 |
| SDHA | 6389 | 0.303 | 1.118 |
| SDHB | 6390 | -0.404 | 0.371 |
| SEC13 | 6396 | 0.417 | 0.895 |
| SEC23IP | 11196 | -0.218 | 0.273 |
| SEC24A | 10802 | 0.560 | 0.283 |
| SEC24B | 10427 | 1.341 | 0.904 |
| SEC24C | 9632 | -0.342 | 0.166 |
| SEC31A | 22872 | 0.674 | 0.874 |
| SEC63 | 11231 | -0.487 | -0.119 |
| SEL1L | 6400 | 0.174 | -0.067 |
| SELENBP1 | 8991 | 0.076 | -0.832 |
| SELL | 6402 | -0.065 | -1.014 |
| SEMA4C | 54910 | -0.190 | -1.273 |
| SEMA4D | 10507 | -0.291 | -4.206 |
| SEMA7A | 8482 | -0.058 | 0.354 |
| SEP15 | 9403 | 0.969 | 0.502 |
| SEP2 | 4735 | 0.352 | 2.543 |
| SEP5 | 5413 | -0.912 | 0.630 |
| SEP7 | 989 | 0.096 | 1.623 |
| SERPINA1 | 5265 | -0.734 | 0.198 |
| SERPINF1 | 5176 | 2.758 | 1.670 |
| SERPINF2 | 5345 | 0.116 | -0.676 |
| SERPING1 | 710 | 0.221 | -0.010 |
| SF1 | 7536 | 0.228 | 1.113 |

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| SF3A1 | 10291 | 0.090 | 1.310 |
| SF3A2 | 8175 | 0.276 | 1.183 |
| SF3B1 | 23451 | -0.116 | 0.979 |
| SFPQ | 6421 | 0.016 | 1.174 |
| SFRS1 | 6426 | 0.824 | 1.522 |
| SFRS7 | 6432 | 0.397 | 1.371 |
| SGSH | 6448 | -0.481 | -0.863 |
| SGTA | 6449 | 0.479 | 0.734 |
| SH2D3C | 10044 | -0.162 | 0.139 |
| SHMT1 | 6470 | 0.069 | 0.963 |
| SKP1 | 6500 | 0.186 | 0.118 |
| SLC25A12 | 8604 | -0.154 | 1.220 |
| SLC25A24 | 29957 | -0.069 | 1.140 |
| SLC25A4 | 291 | -0.075 | 1.560 |
| SLC25A5 | 292 | 1.772 | 1.462 |
| SLC44A2 | 57153 | -0.725 | 1.003 |
| SLIT2 | 9353 | 0.015 | 1.111 |
| SMAD2 | 4087 | 0.409 | 0.824 |
| SMAD4 | 4089 | 0.281 | 0.963 |
| SMARCA1 | 6594 | 0.082 | 0.799 |
| SMARCC2 | 6601 | -0.474 | 0.737 |
| SMC1A | 8243 | -0.329 | 1.670 |
| SMC3 | 9126 | 0.195 | -0.261 |
| SMC4 | 10051 | 2.940 | 2.639 |
| SNRPB | 6628 | 1.538 | 2.015 |
| SNRPD2 | 6633 | 1.824 | 1.820 |
| SNRPD3 | 6634 | 0.848 | 0.064 |
| SNX6 | 58533 | 0.756 | 0.236 |
| SOD1 | 6647 | 0.389 | 0.159 |
| SON | 6651 | 0.169 | 1.274 |
| SORD | 6652 | 1.212 | 0.760 |
| SORL1 | 6653 | -0.780 | -0.406 |
| SORT1 | 6272 | -0.001 | 1.288 |
| SPARC | 6678 | -3.876 | 1.648 |
| SPCS2 | 9789 | 0.457 | 0.899 |
| SPIN1 | 10927 | 0.242 | 1.502 |
| SPTA1 | 6708 | -0.143 | -0.767 |
| SPTAN1 | 6709 | -0.420 | 1.747 |
| SPTB | 6710 | -0.203 | -0.883 |
| SPTBN1 | 6711 | -0.284 | -0.281 |
| SPTBN2 | 6712 | -0.541 | -0.593 |
| SPTLC2 | 9517 | 0.201 | -1.764 |
| SR140 | 23350 | 1.435 | 1.050 |
| SRC | 6714 | -0.218 | 0.192 |
| SRGAP3 | 9901 | -0.613 | -0.556 |
| SRI | 6717 | 0.362 | 0.537 |
| SRM | 6723 | 0.122 | 1.426 |
| SRP19 | 6728 | 0.601 | 1.198 |
| SRP68 | 6730 | 0.577 | 0.630 |
| SRP72 | 6731 | 0.791 | 0.734 |
| SRP9 | 6726 | 0.469 | 1.327 |
| SRPRB | 58477 | 0.615 | 1.203 |
| SRR | 63826 | -0.020 | -0.920 |
| SSB | 6741 | 0.794 | 0.675 |
| SSRP1 | 6749 | 0.939 | 3.541 |
| SSU72 | 29101 | -0.201 | -0.050 |
| ST13 | 6767 | 0.706 | 0.454 |
| STAG2 | 10735 | 1.522 | 0.661 |
| STAM | 8027 | 0.139 | -0.328 |
| STIP1 | 10963 | 0.619 | 0.164 |
| STK10 | 6793 | 0.133 | -1.879 |
| STK24 | 8428 | 0.114 | 0.796 |
| STK39 | 27347 | 0.246 | 0.128 |
| STOM | 2040 | -0.341 | -0.010 |
| STON2 | 85439 | 0.074 | 0.734 |
| STRAP | 11171 | 0.150 | 0.454 |
| STRN4 | 29888 | -0.301 | -0.579 |
| STT3A | 3703 | 1.134 | 1.113 |
| STT3B | 201595 | 0.239 | -2.887 |
| STX12 | 23673 | -1.135 | -1.722 |
| STXBP1 | 6812 | -0.434 | -0.488 |

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|----------|--------|--------|--------|
| SUCLA2 | 8803 | 0.371 | 0.188 |
| SUCLG1 | 8802 | 0.099 | 0.255 |
| SUGT1 | 10910 | 0.573 | 0.861 |
| SUPT16H | 11198 | 0.406 | 1.921 |
| SUPT6H | 6830 | -0.754 | 0.413 |
| SYNCRIP | 10492 | 1.155 | 1.418 |
| SYNE2 | 23224 | 0.058 | 1.310 |
| SYP | 6855 | -0.345 | -0.280 |
| TAGLN2 | 8407 | -0.537 | -1.560 |
| TALDO1 | 6888 | 0.622 | 0.255 |
| TANC2 | 26115 | 0.051 | 0.574 |
| TAOK2 | 9344 | -0.047 | 0.159 |
| TARDBP | 23435 | 0.302 | 0.990 |
| TATDN1 | 83940 | 1.131 | 1.522 |
| TBC1D1 | 23216 | 0.078 | 0.181 |
| TBC1D13 | 54662 | -0.103 | 1.796 |
| TBC1D15 | 64786 | 0.525 | 2.541 |
| TBC1D24 | 57465 | -0.190 | 0.164 |
| TBC1D5 | 9779 | 0.736 | 1.651 |
| TBCB | 1155 | -0.046 | 0.292 |
| Tbcc | 6903 | 0.011 | 0.217 |
| TCEA1 | 6917 | 0.049 | 1.450 |
| TCEB1 | 6921 | 0.805 | 0.494 |
| TCEB2 | 6923 | 0.450 | 0.533 |
| TCERG1 | 10915 | 0.259 | 0.973 |
| TCP1 | 6950 | 0.830 | 0.471 |
| TDRKH | 11022 | -0.050 | -0.314 |
| TES | 26136 | 1.459 | 1.635 |
| TF | 7018 | -0.848 | -0.044 |
| TFAP2B | 7021 | -0.285 | 1.358 |
| TFRC | 7037 | 2.362 | 2.560 |
| TGFB1I1 | 7041 | 0.627 | -1.190 |
| TGFBI | 7045 | -0.286 | 0.586 |
| TGM2 | 7052 | -0.280 | -1.441 |
| TH | 7054 | -0.741 | -0.293 |
| THBS1 | 7057 | -0.570 | 0.529 |
| THBS2 | 7058 | 0.509 | 0.962 |
| THBS4 | 7060 | 0.557 | 1.098 |
| THOC2 | 57187 | 1.134 | 1.296 |
| THOC6 | 79228 | 0.966 | 1.962 |
| THOP1 | 7064 | 1.001 | 1.164 |
| THSD7A | 221981 | -0.782 | -0.441 |
| THUMPD1 | 55623 | 0.936 | 1.260 |
| THY1 | 7070 | -0.450 | -0.528 |
| TIMP9 | 26520 | 1.903 | 3.169 |
| TIMP2 | 7077 | -0.015 | 0.615 |
| TKT | 7086 | 1.484 | 1.128 |
| TLE1 | 7088 | 0.176 | 0.602 |
| TLE3 | 7090 | 0.404 | 3.264 |
| TLN1 | 7094 | -0.178 | -0.114 |
| TLN2 | 83660 | -1.760 | -1.573 |
| TM9SF2 | 9375 | -0.004 | 1.323 |
| TM9SF3 | 56889 | 0.262 | 0.990 |
| TMED9 | 54732 | -0.585 | 0.127 |
| TMEM132A | 54972 | -0.655 | 0.630 |
| TMEM31 | 203562 | 0.074 | -1.498 |
| TMPO | 7112 | 0.641 | 2.262 |
| TNC | 3371 | -0.685 | -1.461 |
| TNKS1BP1 | 85456 | -0.049 | 1.271 |
| TNPO1 | 3842 | 0.658 | 1.208 |
| TNPO3 | 23534 | 0.138 | 0.556 |
| TOMM70A | 9868 | 0.928 | 1.362 |
| TOP1 | 7150 | 0.334 | 1.821 |
| TP53BP1 | 7158 | 0.247 | -0.335 |
| TPI1 | 7167 | 0.788 | 0.909 |
| TPM2 | 7169 | -0.907 | 1.045 |
| TPP2 | 7174 | 0.999 | 0.430 |
| TPPP | 11076 | -1.316 | -0.067 |
| TPPP3 | 51673 | -1.693 | -3.217 |
| TRAP1 | 10131 | 1.831 | 2.309 |
| TRAPPC10 | 7109 | -0.324 | 0.142 |

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| TRAPPC4 | 51399 | -0.079 | -1.069 |
| TRIAP1 | 51499 | 1.688 | 2.038 |
| TRIM28 | 10155 | 0.744 | 0.727 |
| TRIO | 7204 | -0.019 | 3.165 |
| TRIP12 | 9320 | 0.496 | 1.283 |
| TRMT1 | 55621 | 1.037 | 1.659 |
| TROVE2 | 6738 | 0.443 | -1.818 |
| TSFM | 10102 | 0.476 | 1.683 |
| TSPAN18 | 90139 | 0.656 | 0.413 |
| TSTA3 | 7264 | -0.031 | -3.106 |
| TTLL12 | 23170 | 0.772 | 0.765 |
| TUBA1A | 7846 | -0.246 | -0.873 |
| TUBA3C | 7278 | -0.287 | -1.100 |
| TUBA4A | 7277 | -0.991 | -0.488 |
| TUBB | 203068 | -0.145 | -1.343 |
| TUBG1 | 7283 | -0.141 | 1.187 |
| TUFM | 7284 | 0.272 | 1.260 |
| TXN | 7295 | 1.777 | 1.336 |
| TXNDC1 | 81542 | 0.939 | -0.551 |
| TXNDC17 | 84817 | 0.388 | -0.962 |
| TXNDC4 | 23071 | 0.059 | 0.714 |
| TXNDC5 | 81567 | 0.458 | 1.374 |
| TXNRD2 | 10587 | -0.421 | 0.601 |
| TYMP | 1890 | -0.566 | -1.000 |
| U2AF2 | 11338 | 0.468 | 0.345 |
| UBA1 | 7317 | -0.203 | 0.310 |
| UBA2 | 10054 | 0.429 | 1.422 |
| UBA3 | 9039 | 0.261 | 0.936 |
| UBE2F | 140739 | 0.174 | 0.397 |
| UBE2K | 3093 | 0.299 | 0.763 |
| UBE2L3 | 7332 | 0.182 | 0.465 |
| UBE2M | 9040 | 0.403 | 1.181 |
| UBE2O | 63893 | 0.055 | 0.246 |
| UBE2Z | 65264 | -0.228 | 0.547 |
| UBE3A | 7337 | 0.457 | 0.243 |
| UBQLN4 | 56893 | -0.198 | -0.215 |
| UBR1 | 197131 | 0.234 | -0.178 |
| UBR4 | 23352 | -0.498 | 0.056 |
| UBR5 | 51366 | 0.301 | 1.082 |
| UBR7 | 55148 | 1.357 | -0.607 |
| UBTF | 7343 | -0.371 | 1.149 |
| UCHL1 | 7345 | -0.208 | 0.001 |
| UFC1 | 51506 | 0.371 | -0.810 |
| UGCG1 | 56886 | -0.131 | 0.288 |
| UHRF1 | 29128 | 2.361 | 2.107 |
| UIMC1 | 51720 | 0.029 | 1.451 |
| UNC5C | 8633 | 0.197 | 0.663 |
| UNK | 85451 | -0.066 | 0.767 |
| UQCRC1 | 7384 | 0.583 | 1.514 |
| UQCRH | 7388 | 0.348 | 1.484 |
| UROD | 7389 | -0.601 | -1.427 |
| USO1 | 8615 | 0.938 | 0.149 |
| USP14 | 9097 | 0.171 | -0.110 |
| USP15 | 9958 | -0.019 | -0.293 |
| USP24 | 23358 | -0.089 | 0.292 |
| USP47 | 55031 | 0.464 | 0.454 |
| USP7 | 7874 | 0.517 | 0.971 |
| USP9X | 8239 | 0.114 | -0.091 |
| VARS | 7407 | 0.242 | 0.430 |
| VAT1 | 10493 | -1.297 | -1.475 |
| VBP1 | 7411 | 1.389 | 1.208 |
| VCAM1 | 7412 | -1.796 | -0.604 |
| VCAN | 1462 | 2.446 | 2.338 |
| VCL | 7414 | -0.406 | -0.503 |
| VCP | 7415 | 0.053 | 0.034 |
| VDAC1 | 7416 | 0.899 | 2.207 |
| VDAC2 | 7417 | 0.860 | 0.364 |
| VDAC3 | 7419 | 0.538 | 1.305 |
| VEZF1 | 7716 | 0.587 | 0.720 |
| VLDLR | 7436 | 1.353 | 0.554 |
| VPRBP | 9730 | -0.044 | 0.044 |

| | | | |
|----------|--------|--------|--------|
| VPS13C | 54832 | -0.847 | 0.354 |
| VPS28 | 51160 | -0.664 | 0.502 |
| VPS29 | 51699 | -0.090 | 0.962 |
| VPS35 | 55737 | 0.411 | -0.789 |
| VSNL1 | 7447 | 1.404 | 2.405 |
| VTA1 | 51534 | 0.436 | 0.405 |
| VTN | 7448 | -0.507 | -0.377 |
| VWF | 7450 | -0.250 | -0.722 |
| WARS | 7453 | -0.370 | 0.310 |
| WASF1 | 8936 | 0.560 | 0.665 |
| WDFY1 | 57590 | -0.026 | 0.273 |
| WDHD1 | 11169 | 0.598 | 2.484 |
| WDR1 | 9948 | 0.145 | 0.188 |
| WDR22 | 8816 | 0.082 | 0.281 |
| WDR46 | 9277 | 0.573 | 0.330 |
| WDR47 | 22911 | -0.114 | -0.085 |
| WDR5 | 11091 | 0.506 | 1.522 |
| WDR68 | 10238 | 0.107 | 1.604 |
| WDR76 | 79968 | 0.732 | -0.242 |
| WDR77 | 79084 | 0.287 | 0.651 |
| WDR82 | 80335 | 0.261 | 1.050 |
| WDR92 | 116143 | -0.199 | 3.685 |
| WNK1 | 65125 | -0.297 | -0.903 |
| WRNIP1 | 56897 | 0.224 | 0.637 |
| XAB2 | 56949 | 0.578 | 0.132 |
| XPO1 | 7514 | 0.266 | 0.909 |
| XPO7 | 23039 | -0.055 | -0.061 |
| XRCC1 | 7515 | 0.605 | 1.342 |
| XRCC5 | 7520 | 0.648 | 0.861 |
| XRCC6 | 2547 | -0.276 | 1.098 |
| YARS | 8565 | -0.180 | -3.434 |
| YWHAE | 7531 | -0.150 | 0.767 |
| YWHAG | 7532 | -0.188 | 0.454 |
| YWAH | 7533 | -0.368 | -0.214 |
| YWHAQ | 10971 | -0.073 | 0.118 |
| YWHAZ | 7534 | -0.183 | 0.127 |
| ZC3HAV1 | 56829 | -0.323 | 1.058 |
| ZC3HAV1L | 92092 | 0.153 | 0.893 |
| ZCCHC3 | 85364 | 0.375 | 0.720 |
| ZFHX3 | 463 | -0.193 | 2.045 |
| ZFR | 51663 | 0.291 | 1.055 |
| ZFYVE20 | 64145 | 0.172 | 0.340 |
| ZFYVE9 | 9372 | -0.424 | -0.055 |
| ZMIZ1 | 57178 | -0.534 | 0.340 |
| ZNF10 | 7556 | 0.059 | -1.539 |
| ZNF280C | 55609 | 1.750 | 1.521 |
| ZNF292 | 23036 | 0.442 | 0.947 |
| ZNF295 | 49854 | 1.235 | -0.490 |
| ZNF428 | 126299 | -0.617 | 0.016 |
| ZNF462 | 58499 | 0.253 | 0.226 |
| ZNF512 | 84450 | 0.041 | 1.020 |
| ZRANB2 | 9406 | 0.361 | 0.045 |
| ZYX | 7791 | -0.309 | -0.448 |