

Table S3

| Expr p-value | Expr Fold Change | ID     | Symbol   | Entrez Gene Name                                                                 | Location        | Type(s)                 |
|--------------|------------------|--------|----------|----------------------------------------------------------------------------------|-----------------|-------------------------|
| 0.0001       | -10000           | B2RQC6 | CAD      | carbamoyl-phosphate synthetase 2, aspartate transcarbamylase, and dihydroorotase | Cytoplasm       | enzyme                  |
| 0.0001       | -10000           | Q61656 | DDX5     | DEAD-box helicase 5                                                              | Nucleus         | enzyme                  |
| 0.0001       | -10000           | P13864 | DNMT1    | DNA methyltransferase 1                                                          | Nucleus         | enzyme                  |
| 0.0001       | -10000           | Q8BTM8 | FLNA     | filamin A                                                                        | Cytoplasm       | other                   |
| 0.0001       | -10000           | P11152 | LPL      | lipoprotein lipase                                                               | Cytoplasm       | enzyme                  |
| 0.0001       | -10000           | P97310 | MCM2     | minichromosome maintenance complex component 2                                   | Nucleus         | enzyme                  |
| 0.0001       | -10000           | Q5SUR0 | PFAS     | phosphoribosylformylglycinamide synthase                                         | Cytoplasm       | enzyme                  |
| 0.0001       | -10000           | Q6P4T2 | SNRNP200 | small nuclear ribonucleoprotein U5 subunit 200                                   | Nucleus         | enzyme                  |
| 0.0001       | -10000           | P05213 | TUBA1B   | tubulin alpha 1b                                                                 | Cytoplasm       | other                   |
| 0.0001       | -10000           | P99024 | TUBB     | tubulin beta class I                                                             | Cytoplasm       | other                   |
| 0.0001       | -10000           | P06179 |          |                                                                                  |                 |                         |
| 0.00013      | -7692.308        | P80314 | CCT2     | chaperonin containing TCP1 subunit 2                                             | Cytoplasm       | kinase                  |
| 0.00013      | -7692.308        | P60843 | EIF4A1   | eukaryotic translation initiation factor 4A1                                     | Cytoplasm       | translation regulator   |
| 0.00013      | -7692.308        | Q07797 | LGALS3BP | galectin 3 binding protein                                                       | Plasma Membrane | transmembrane receptor  |
| 0.00017      | -5882.353        | P11440 | CDK1     | cyclin dependent kinase 1                                                        | Nucleus         | kinase                  |
| 0.00022      | -4545.455        | P80316 | CCT5     | chaperonin containing TCP1 subunit 5                                             | Cytoplasm       | other                   |
| 0.00022      | -4545.455        | Q62318 | TRIM28   | tripartite motif containing 28                                                   | Nucleus         | transcription regulator |
| 0.00023      | -4347.826        | Q6PDQ2 | CHD4     | chromodomain helicase DNA binding protein 4                                      | Nucleus         | enzyme                  |
| 0.00027      | -3703.704        | Q62167 | DDX3X    | DEAD-box helicase 3 X-linked                                                     | Cytoplasm       | enzyme                  |
| 0.00031      | -3225.806        | Q8R1B4 | EIF3C    | eukaryotic translation initiation factor 3 subunit C                             | Cytoplasm       | translation regulator   |
| 0.00035      | -2857.143        | Q8K310 | MATR3    | matrin 3                                                                         | Nucleus         | other                   |
| 0.00043      | -2325.581        | Q9JHU4 | DYNC1H1  | dynein cytoplasmic 1 heavy chain 1                                               | Cytoplasm       | peptidase               |
| 0.00043      | -2325.581        | P49717 | MCM4     | minichromosome maintenance complex component 4                                   | Nucleus         | enzyme                  |
| 0.00053      | -1886.792        | Q6NZJ6 | EIF4G1   | eukaryotic translation initiation factor 4 gamma 1                               | Cytoplasm       | translation regulator   |
| 0.00054      | -1851.852        | Q7TPV4 | MYBBP1A  | MYB binding protein 1a                                                           | Nucleus         | transcription regulator |
| 0.00058      | -1724.138        | P25206 | MCM3     | minichromosome maintenance complex component 3                                   | Nucleus         | enzyme                  |
| 0.00062      | -1612.903        | Q61881 | MCM7     | minichromosome maintenance complex component 7                                   | Nucleus         | enzyme                  |
| 0.00064      | -1562.5          | D3Z158 | Qars     | glutamyl-tRNA synthetase                                                         | Cytoplasm       | enzyme                  |
| 0.00075      | -1333.333        | P12382 | PFKL     | phosphofructokinase, liver type                                                  | Cytoplasm       | kinase                  |
| 0.0011       | -909.091         | P80318 | CCT3     | chaperonin containing TCP1 subunit 3                                             | Cytoplasm       | other                   |
| 0.0012       | -833.333         | P52293 | KPNA2    | karyopherin subunit alpha 2                                                      | Nucleus         | transporter             |
| 0.0012       | -833.333         | Q9R1P4 | PSMA1    | proteasome subunit alpha 1                                                       | Cytoplasm       | peptidase               |
| 0.0013       | -769.231         | P62264 | RPS14    | ribosomal protein S14                                                            | Cytoplasm       | translation regulator   |

Table S3

|        |          |            |        |                                                                                                 |                     |             |
|--------|----------|------------|--------|-------------------------------------------------------------------------------------------------|---------------------|-------------|
| 0.0014 | -714.286 | P19096     | FASN   | fatty acid synthase                                                                             | Cytoplasm           | enzyme      |
| 0.0014 | -714.286 | P06869     | PLAU   | plasminogen activator, urokinase                                                                | Extracellular Space | peptidase   |
| 0.0015 | -666.667 | Q9JIK5     | DDX21  | DEXD-box helicase 21                                                                            | Nucleus             | enzyme      |
| 0.0016 | -625     | Q9CZU3     | MTREX  | Mtr4 exosome RNA helicase                                                                       | Nucleus             | other       |
| 0.0023 | -434.783 | Q9EPU0     | UPF1   | UPF1, RNA helicase and ATPase                                                                   | Nucleus             | enzyme      |
| 0.0024 | -416.667 | P70460     | VASP   | vasodilator stimulated phosphoprotein                                                           | Plasma Membrane     | other       |
| 0.0025 | -400     | A0A0R4J0V5 | POLR2A | RNA polymerase II subunit A                                                                     | Nucleus             | enzyme      |
| 0.0032 | -312.5   | P80315     | CCT4   | chaperonin containing TCP1 subunit 4                                                            | Cytoplasm           | other       |
| 0.0033 | -303.03  | P52480     | PKM    | pyruvate kinase M1/2                                                                            | Cytoplasm           | kinase      |
| 0.0034 | -294.118 | Q78PY7     | SND1   | staphylococcal nuclease and tudor domain containing 1                                           | Nucleus             | enzyme      |
| 0.0035 | -285.714 | Q91W50     | CSDE1  | cold shock domain containing E1                                                                 | Cytoplasm           | enzyme      |
| 0.0037 | -270.27  | G5E924     | HNRNPL | heterogeneous nuclear ribonucleoprotein L                                                       | Nucleus             | other       |
| 0.0038 | -263.158 | Q9QXS1     | PLEC   | plectin                                                                                         | Cytoplasm           | other       |
| 0.0041 | -243.902 | Q02053     | UBA1   | ubiquitin like modifier activating enzyme 1                                                     | Cytoplasm           | enzyme      |
| 0.0042 | -238.095 | Q08288     | LYAR   | Ly1 antibody reactive                                                                           | Plasma Membrane     | other       |
| 0.0042 | -238.095 | Q6ZQH8     | NUP188 | nucleoporin 188                                                                                 | Nucleus             | other       |
| 0.0043 | -232.558 | Q6ZQ08     | CNOT1  | CCR4-NOT transcription complex subunit 1                                                        | Cytoplasm           | other       |
| 0.0045 | -222.222 | P11983     | TCP1   | t-complex 1                                                                                     | Cytoplasm           | other       |
| 0.0062 | -161.29  | Q501J6     | DDX17  | DEAD-box helicase 17                                                                            | Nucleus             | enzyme      |
| 0.0071 | -140.845 | Q6PGC1     | DHX29  | DEXH-box helicase 29                                                                            | Cytoplasm           | enzyme      |
| 0.0074 | -135.135 | P55097     | CTSK   | cathepsin K                                                                                     | Cytoplasm           | peptidase   |
| 0.0078 | -128.205 | O70194     | EIF3D  | eukaryotic translation initiation factor 3 subunit D                                            | Cytoplasm           | other       |
| 0.0087 | -114.943 | O70469     | DOK2   | docking protein 2                                                                               | Plasma Membrane     | other       |
| 0.0087 | -114.943 | P52431     | POLD1  | DNA polymerase delta 1, catalytic subunit                                                       | Nucleus             | enzyme      |
| 0.0087 | -114.943 | F8VPK0     | TTC37  | tetratricopeptide repeat domain 37                                                              | Nucleus             | other       |
| 0.0094 | -106.383 | ALBU_HUMAN | ALB    | albumin                                                                                         | Extracellular Space | transporter |
| 0.0095 | -105.263 | Q91V55     | RPS5   | ribosomal protein S5                                                                            | Cytoplasm           | other       |
| 0.0096 | -104.167 | O88844     | IDH1   | isocitrate dehydrogenase (NADP(+)) 1, cytosolic                                                 | Cytoplasm           | enzyme      |
| 0.01   | -100     | P70168     | KPNB1  | karyopherin subunit beta 1                                                                      | Nucleus             | transporter |
| 0.01   | -100     | Q922D8     | MTHFD1 | methylenetetrahydrofolate dehydrogenase, cyclohydrolase and formyltetrahydrofolate synthetase 1 | Cytoplasm           | enzyme      |
| 0.011  | -90.909  | Q99PV0     | PRPF8  | pre-mRNA processing factor 8                                                                    | Nucleus             | other       |
| 0.011  | -90.909  | P63276     | RPS17  | ribosomal protein S17                                                                           | Cytoplasm           | other       |
| 0.012  | -83.333  | Q6P542     | ABCF1  | ATP binding cassette subfamily F member 1                                                       | Cytoplasm           | transporter |

Table S3

|       |         |                |          |                                                                                                                |           |                            |
|-------|---------|----------------|----------|----------------------------------------------------------------------------------------------------------------|-----------|----------------------------|
| 0.013 | -76.923 | Q9DCL9         | PAICS    | phosphoribosylaminoimidazole<br>carboxylase and<br>phosphoribosylaminoimidazolesuc<br>cinocarboxamide synthase | Cytoplasm | enzyme                     |
| 0.014 | -71.429 | Q8CGC7         | EPRS     | glutamyl-prolyl-tRNA synthetase                                                                                | Cytoplasm | enzyme                     |
| 0.014 | -71.429 | Q3THS6         | MAT2A    | methionine adenosyltransferase<br>2A                                                                           | Cytoplasm | enzyme                     |
| 0.014 | -71.429 | P52432         | POLR1C   | RNA polymerase I and III subunit<br>C                                                                          | Nucleus   | enzyme                     |
| 0.015 | -66.667 | Q922F4         | TUBB6    | tubulin beta 6 class V                                                                                         | Cytoplasm | other                      |
| 0.016 | -62.5   | A0A1B0GSU<br>0 | ALDH16A1 | aldehyde dehydrogenase 16 family<br>member A1                                                                  | Cytoplasm | enzyme                     |
| 0.016 | -62.5   | P97311         | MCM6     | minichromosome maintenance<br>complex component 6                                                              | Nucleus   | enzyme                     |
| 0.017 | -58.824 | Q9QXK3         | COPG2    | coatamer protein complex subunit<br>gamma 2                                                                    | Cytoplasm | transporter                |
| 0.017 | -58.824 | P97855         | G3BP1    | G3BP stress granule assembly<br>factor 1                                                                       | Nucleus   | enzyme                     |
| 0.017 | -58.824 | Q3THK7         | GMPS     | guanine monophosphate synthase                                                                                 | Nucleus   | enzyme                     |
| 0.017 | -58.824 | Q3V4D5         | NAA10    | N(alpha)-acetyltransferase 10,<br>NatA catalytic subunit                                                       | Nucleus   | enzyme                     |
| 0.017 | -58.824 | Q8BK67         | RCC2     | regulator of chromosome<br>condensation 2                                                                      | Nucleus   | other                      |
| 0.018 | -55.556 | V9GXQ2         | Gm17087  | predicted gene 17087                                                                                           | Other     | other                      |
| 0.018 | -55.556 | P14206         | RPSA     | ribosomal protein SA                                                                                           | Cytoplasm | translation<br>regulator   |
| 0.019 | -52.632 | Q9D8N0         | EEF1G    | eukaryotic translation elongation<br>factor 1 gamma                                                            | Cytoplasm | translation<br>regulator   |
| 0.019 | -52.632 | P23116         | EIF3A    | eukaryotic translation initiation<br>factor 3 subunit A                                                        | Cytoplasm | other                      |
| 0.02  | -50     | Q80ZX0         | SEC24B   | SEC24 homolog B, COPII coat<br>complex component                                                               | Cytoplasm | transporter                |
| 0.02  | -50     | Q8VIJ6         | SFPQ     | splicing factor proline and<br>glutamine rich                                                                  | Nucleus   | transcription<br>regulator |
| 0.021 | -47.619 | Q924C1         | XPO5     | exportin 5                                                                                                     | Nucleus   | transporter                |
| 0.022 | -45.455 | P07901         | HSP90AA1 | heat shock protein 90 alpha family<br>class A member 1                                                         | Cytoplasm | enzyme                     |
| 0.023 | -43.478 | Q9ERK4         | CSE1L    | chromosome segregation 1 like                                                                                  | Nucleus   | transporter                |
| 0.023 | -43.478 | Q6A0A9         | FAM120A  | family with sequence similarity<br>120A                                                                        | Cytoplasm | other                      |
| 0.023 | -43.478 | Q8CFI7         | POLR2B   | RNA polymerase II subunit B                                                                                    | Nucleus   | enzyme                     |
| 0.023 | -43.478 | Q99LF4         | RTCB     | RNA 2',3'-cyclic phosphate and 5'-<br>OH ligase                                                                | Cytoplasm | enzyme                     |
| 0.024 | -41.667 | P50247         | AHCY     | adenosylhomocysteinase                                                                                         | Cytoplasm | enzyme                     |
| 0.024 | -41.667 | P42932         | CCT8     | chaperonin containing TCP1<br>subunit 8                                                                        | Cytoplasm | enzyme                     |
| 0.024 | -41.667 | Q8C3J5         | DOCK2    | dedicator of cytokinesis 2                                                                                     | Cytoplasm | other                      |
| 0.024 | -41.667 | Q6PDI5         | ECPAS    | Ecm29 proteasome adaptor and<br>scaffold                                                                       | Cytoplasm | other                      |
| 0.024 | -41.667 | P51410         | RPL9     | ribosomal protein L9                                                                                           | Nucleus   | other                      |
| 0.024 | -41.667 | O55201         | SUPT5H   | SPT5 homolog, DSIF elongation<br>factor subunit                                                                | Nucleus   | transcription<br>regulator |
| 0.026 | -38.462 | P97351         | Rps3a1   | ribosomal protein S3A1                                                                                         | Cytoplasm | other                      |
| 0.026 | -38.462 | Q3U4W8         | USP5     | ubiquitin specific peptidase 5                                                                                 | Cytoplasm | peptidase                  |
| 0.031 | -32.258 | P80317         | CCT6A    | chaperonin containing TCP1<br>subunit 6A                                                                       | Cytoplasm | other                      |

Table S3

|       |         |            |          |                                                           |                     |                         |
|-------|---------|------------|----------|-----------------------------------------------------------|---------------------|-------------------------|
| 0.031 | -32.258 | P36916     | GNL1     | G protein nucleolar 1 (putative)                          | Nucleus             | other                   |
| 0.031 | -32.258 | O54692     | ZW10     | zw10 kinetochore protein                                  | Nucleus             | other                   |
| 0.033 | -30.303 | S4R2P8     | BIRC6    | baculoviral IAP repeat containing 6                       | Cytoplasm           | enzyme                  |
| 0.033 | -30.303 | E9QAT0     | FMR1     | fragile X mental retardation 1                            | Cytoplasm           | translation regulator   |
| 0.035 | -28.571 | P62830     | RPL23    | ribosomal protein L23                                     | Cytoplasm           | other                   |
| 0.035 | -28.571 | Q9Z1Z2     | STRAP    | serine/threonine kinase receptor associated protein       | Plasma Membrane     | other                   |
| 0.035 | -28.571 | Q9Z1Q9     | VARS     | valyl-tRNA synthetase                                     | Cytoplasm           | enzyme                  |
| 0.036 | -27.778 | O55029     | COPB2    | coatamer protein complex subunit beta 2                   | Cytoplasm           | transporter             |
| 0.036 | -27.778 | Q9Z2X1     | HNRNPF   | heterogeneous nuclear ribonucleoprotein F                 | Nucleus             | other                   |
| 0.036 | -27.778 | G3UZ48     | SYNCRIP  | synaptotagmin binding cytoplasmic RNA interacting protein | Nucleus             | other                   |
| 0.038 | -26.316 | Q01853     | VCP      | valosin containing protein                                | Cytoplasm           | enzyme                  |
| 0.04  | -25     | Q921M3     | SF3B3    | splicing factor 3b subunit 3                              | Nucleus             | other                   |
| 0.04  | -25     | Q3UDE2     | TTLL12   | tubulin tyrosine ligase like 12                           | Other               | other                   |
| 0.044 | -22.727 | P58252     | EEF2     | eukaryotic translation elongation factor 2                | Cytoplasm           | translation regulator   |
| 0.045 | -22.222 | Q99LC8     | EIF2B1   | eukaryotic translation initiation factor 2B subunit alpha | Cytoplasm           | translation regulator   |
| 0.045 | -22.222 | P84099     | RPL19    | ribosomal protein L19                                     | Cytoplasm           | other                   |
| 0.045 | -22.222 | P13439     | UMPS     | uridine monophosphate synthetase                          | Cytoplasm           | enzyme                  |
| 0.047 | -21.277 | Q8C2Q7     | HNRNPH1  | heterogeneous nuclear ribonucleoprotein H1                | Nucleus             | other                   |
| 0.048 | -20.833 | Q99KI0     | ACO2     | aconitase 2                                               | Cytoplasm           | enzyme                  |
| 0.048 | -20.833 | Q8QZY1     | EIF3L    | eukaryotic translation initiation factor 3 subunit L      | Cytoplasm           | other                   |
| 0.049 | -20.408 | Q3TW96     | UAP1L1   | UDP-N-acetylglucosamine pyrophosphorylase 1 like 1        | Other               | other                   |
| 0.05  | -20     | A0A0R4J079 | ACBD3    | acyl-CoA binding domain containing 3                      | Cytoplasm           | other                   |
| 0.05  | -20     | Q3U4X8     | LIG1     | DNA ligase 1                                              | Nucleus             | enzyme                  |
| 0.05  | -20     | Q61937     | NPM1     | nucleophosmin 1                                           | Nucleus             | transcription regulator |
| 0.05  | -20     | Q921F2     | TARDBP   | TAR DNA binding protein                                   | Nucleus             | transcription regulator |
| 0.051 | -19.608 | Q8BU30     | IARS     | isoleucyl-tRNA synthetase                                 | Cytoplasm           | enzyme                  |
| 0.052 | -19.231 | P09920     | CSF3     | colony stimulating factor 3                               | Extracellular Space | cytokine                |
| 0.053 | -18.868 | Q8K297     | COLGALT1 | collagen beta(1-O)galactosyltransferase 1                 | Cytoplasm           | enzyme                  |
| 0.053 | -18.868 | Q9D0I9     | RARS     | arginyl-tRNA synthetase                                   | Cytoplasm           | enzyme                  |
| 0.054 | -18.519 | A0A0R4J140 | CLUH     | clustered mitochondria homolog                            | Cytoplasm           | translation regulator   |
| 0.059 | -16.949 | P39054     | DNM2     | dynamitin 2                                               | Plasma Membrane     | enzyme                  |
| 0.059 | -16.949 | Q8BMJ2     | LARS     | leucyl-tRNA synthetase                                    | Cytoplasm           | enzyme                  |
| 0.06  | -16.667 | H3BKN0     | NSUN2    | NOP2/Sun RNA methyltransferase family member 2            | Nucleus             | enzyme                  |
| 0.061 | -16.393 | E9QB02     | MARS     | methionyl-tRNA synthetase                                 | Cytoplasm           | enzyme                  |

Table S3

|       |         |            |          |                                                                          |                     |                       |
|-------|---------|------------|----------|--------------------------------------------------------------------------|---------------------|-----------------------|
| 0.062 | -16.129 | P01902     | HLA-A    | major histocompatibility complex, class I, A                             | Plasma Membrane     | other                 |
| 0.064 | -15.625 | Q8BJW6     | EIF2A    | eukaryotic translation initiation factor 2A                              | Cytoplasm           | translation regulator |
| 0.064 | -15.625 | Q9CX86     | HNRNPA0  | heterogeneous nuclear ribonucleoprotein A0                               | Nucleus             | other                 |
| 0.064 | -15.625 | Q8BW10     | NOB1     | NIN1 (RPN12) binding protein 1 homolog                                   | Nucleus             | enzyme                |
| 0.064 | -15.625 | P00860     | ODC1     | ornithine decarboxylase 1                                                | Cytoplasm           | enzyme                |
| 0.064 | -15.625 | Q5SWN2     | RPA1     | replication protein A1                                                   | Nucleus             | other                 |
| 0.064 | -15.625 | Q6P5D8     | SMCHD1   | structural maintenance of chromosomes flexible hinge domain containing 1 | Nucleus             | enzyme                |
| 0.066 | -15.152 | P11499     | HSP90AB1 | heat shock protein 90 alpha family class B member 1                      | Cytoplasm           | enzyme                |
| 0.068 | -14.706 | Q9QZE5     | COPG1    | coatamer protein complex subunit gamma 1                                 | Cytoplasm           | transporter           |
| 0.068 | -14.706 | Q7TMB8     | CYFIP1   | cytoplasmic FMR1 interacting protein 1                                   | Cytoplasm           | other                 |
| 0.071 | -14.085 | E9Q3M3     | DCTN1    | dynactin subunit 1                                                       | Cytoplasm           | other                 |
| 0.071 | -14.085 | Q9CSH3     | DIS3     | DIS3 homolog, exosome endoribonuclease and 3'-5' exoribonuclease         | Nucleus             | enzyme                |
| 0.071 | -14.085 | Q921K2     | PARP1    | poly(ADP-ribose) polymerase 1                                            | Nucleus             | enzyme                |
| 0.071 | -14.085 | A0A0A6YX73 | PRKAR2A  | protein kinase cAMP-dependent type II regulatory subunit alpha           | Cytoplasm           | kinase                |
| 0.071 | -14.085 | P99026     | PSMB4    | proteasome subunit beta 4                                                | Cytoplasm           | peptidase             |
| 0.073 | -13.699 | Q9Z204     | HNRNPC   | heterogeneous nuclear ribonucleoprotein C (C1/C2)                        | Nucleus             | other                 |
| 0.074 | -13.514 | P60335     | PCBP1    | poly(rC) binding protein 1                                               | Nucleus             | translation regulator |
| 0.076 | -13.158 | A2A4P0     | DHX8     | DEAH-box helicase 8                                                      | Nucleus             | enzyme                |
| 0.076 | -13.158 | P97379     | G3BP2    | G3BP stress granule assembly factor 2                                    | Cytoplasm           | enzyme                |
| 0.076 | -13.158 | Q9EPL8     | IPO7     | importin 7                                                               | Nucleus             | transporter           |
| 0.076 | -13.158 | P61358     | RPL27    | ribosomal protein L27                                                    | Cytoplasm           | other                 |
| 0.076 | -13.158 | Q9DBR1     | XRN2     | 5'-3' exoribonuclease 2                                                  | Nucleus             | enzyme                |
| 0.078 | -12.821 | ALBU_BOVIN | ALB      | albumin                                                                  | Extracellular Space | transporter           |
| 0.078 | -12.821 | Q8JZQ9     | EIF3B    | eukaryotic translation initiation factor 3 subunit B                     | Cytoplasm           | translation regulator |
| 0.079 | -12.658 | G3X9Q3     | ARHGAP45 | Rho GTPase activating protein 45                                         | Cytoplasm           | transporter           |
| 0.079 | -12.658 | P70698     | CTPS1    | CTP synthase 1                                                           | Nucleus             | enzyme                |
| 0.079 | -12.658 | Q91Z50     | FEN1     | flap structure-specific endonuclease 1                                   | Nucleus             | enzyme                |
| 0.079 | -12.658 | Q8BKC5     | IPO5     | importin 5                                                               | Nucleus             | transporter           |
| 0.08  | -12.5   | P17918     | PCNA     | proliferating cell nuclear antigen                                       | Nucleus             | enzyme                |
| 0.08  | -12.5   | Q9DBC7     | PRKAR1A  | protein kinase cAMP-dependent type I regulatory subunit alpha            | Cytoplasm           | kinase                |
| 0.081 | -12.346 | Q5SWU9     | ACACA    | acetyl-CoA carboxylase alpha                                             | Cytoplasm           | enzyme                |
| 0.081 | -12.346 | Q8BFZ3     | ACTBL2   | actin, beta like 2                                                       | Nucleus             | other                 |

Table S3

|       |         |                |                       |                                                             |                    |                            |
|-------|---------|----------------|-----------------------|-------------------------------------------------------------|--------------------|----------------------------|
| 0.081 | -12.346 | Q9D2V7         | CORO7/CO<br>RO7-PAM16 | coronin 7                                                   | Cytoplasm          | other                      |
| 0.081 | -12.346 | P60229         | EIF3E                 | eukaryotic translation initiation<br>factor 3 subunit E     | Cytoplasm          | other                      |
| 0.081 | -12.346 | Q99MR6         | SRRT                  | serrate, RNA effector molecule                              | Nucleus            | other                      |
| 0.081 | -12.346 | Q91W86         | VPS11                 | VPS11, CORVET/HOPS core<br>subunit                          | Cytoplasm          | transporter                |
| 0.084 | -11.905 | O35286         | DHX15                 | DEAH-box helicase 15                                        | Nucleus            | enzyme                     |
| 0.086 | -11.628 | Q9R190         | MTA2                  | metastasis associated 1 family<br>member 2                  | Nucleus            | transcription<br>regulator |
| 0.092 | -10.87  | Q91VC3         | EIF4A3                | eukaryotic translation initiation<br>factor 4A3             | Nucleus            | enzyme                     |
| 0.1   | -10     | A0A1Y7VKY<br>1 | Gm11361               | ribosomal protein S18 pseudogene                            | Other              | other                      |
| 0.1   | -10     | P09405         | NCL                   | nucleolin                                                   | Nucleus            | other                      |
| 0.11  | -9.091  | Q3V117         | ACLY                  | ATP citrate lyase                                           | Cytoplasm          | enzyme                     |
| 0.11  | -9.091  | E9Q555         | RNF213                | ring finger protein 213                                     | Cytoplasm          | enzyme                     |
| 0.11  | -9.091  | Q8BP67         | RPL24                 | ribosomal protein L24                                       | Cytoplasm          | other                      |
| 0.11  | -9.091  | P32067         | SSB                   | Sjogren syndrome antigen B                                  | Nucleus            | enzyme                     |
| 0.11  | -9.091  | Q99KC8         | VWA5A                 | von Willebrand factor A domain<br>containing 5A             | Nucleus            | other                      |
| 0.11  | -9.091  | P62806         |                       |                                                             |                    |                            |
| 0.12  | -8.333  | P07356         | ANXA2                 | annexin A2                                                  | Plasma<br>Membrane | other                      |
| 0.12  | -8.333  | A2AIV8         | CARD9                 | caspase recruitment domain family<br>member 9               | Cytoplasm          | other                      |
| 0.12  | -8.333  | G3UY65         | CCNB1                 | cyclin B1                                                   | Cytoplasm          | kinase                     |
| 0.12  | -8.333  | P30285         | CDK4                  | cyclin dependent kinase 4                                   | Nucleus            | kinase                     |
| 0.12  | -8.333  | F8WHL2         | COPA                  | coatamer protein complex subunit<br>alpha                   | Cytoplasm          | transporter                |
| 0.12  | -8.333  | F6ZFU0         | EEF1D                 | eukaryotic translation elongation<br>factor 1 delta         | Cytoplasm          | translation<br>regulator   |
| 0.12  | -8.333  | Q9Z0N1         | EIF2S3                | eukaryotic translation initiation<br>factor 2 subunit gamma | Cytoplasm          | translation<br>regulator   |
| 0.12  | -8.333  | Q05D44         | EIF5B                 | eukaryotic translation initiation<br>factor 5B              | Cytoplasm          | translation<br>regulator   |
| 0.12  | -8.333  | Q64378         | FKBP5                 | FK506 binding protein 5                                     | Nucleus            | enzyme                     |
| 0.12  | -8.333  | Q8BTZ7         | GMPPB                 | GDP-mannose pyrophosphorylase<br>B                          | Cytoplasm          | enzyme                     |
| 0.12  | -8.333  | Q8CI11         | GNL3                  | G protein nucleolar 3                                       | Nucleus            | other                      |
| 0.12  | -8.333  | Q921F4         | HNRNPLL               | heterogeneous nuclear<br>ribonucleoprotein L like           | Other              | other                      |
| 0.12  | -8.333  | A0A0G2JFJ<br>6 | INTS3                 | integrator complex subunit 3                                | Nucleus            | other                      |
| 0.12  | -8.333  | Z4YJT3         | LARP1                 | La ribonucleoprotein domain family<br>member 1              | Cytoplasm          | translation<br>regulator   |
| 0.12  | -8.333  | Q05CL8         | LARP7                 | La ribonucleoprotein domain family<br>member 7              | Nucleus            | other                      |
| 0.12  | -8.333  | Q91VH6         | MEMO1                 | mediator of cell motility 1                                 | Cytoplasm          | other                      |
| 0.12  | -8.333  | Q8BP48         | METAP1                | methionyl aminopeptidase 1                                  | Cytoplasm          | peptidase                  |
| 0.12  | -8.333  | Q61753         | PHGDH                 | phosphoglycerate dehydrogenase                              | Cytoplasm          | enzyme                     |
| 0.12  | -8.333  | P30412         | PPIC                  | peptidylprolyl isomerase C                                  | Cytoplasm          | enzyme                     |
| 0.12  | -8.333  | Q8CCF0         | PRPF31                | pre-mRNA processing factor 31                               | Nucleus            | other                      |
| 0.12  | -8.333  | Q91VU7         | PUS7                  | pseudouridylate synthase 7                                  | Nucleus            | enzyme                     |

Table S3

|      |        |            |                         |                                                                                                   |                     |                         |
|------|--------|------------|-------------------------|---------------------------------------------------------------------------------------------------|---------------------|-------------------------|
| 0.12 | -8.333 | A2AFJ1     | RBBP7                   | RB binding protein 7, chromatin remodeling factor                                                 | Nucleus             | transcription regulator |
| 0.12 | -8.333 | Q91WC0     | SETD3                   | SET domain containing 3                                                                           | Nucleus             | enzyme                  |
| 0.12 | -8.333 | Q61466     | SMARCD1                 | SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily d, member 1 | Nucleus             | transcription regulator |
| 0.12 | -8.333 | Q8CG48     | SMC2                    | structural maintenance of chromosomes 2                                                           | Nucleus             | transporter             |
| 0.12 | -8.333 | F8WIP8     | SPP1                    | secreted phosphoprotein 1                                                                         | Extracellular Space | cytokine                |
| 0.12 | -8.333 | Q8BYA0     | TBCD                    | tubulin folding cofactor D                                                                        | Cytoplasm           | other                   |
| 0.12 | -8.333 | Q9R1X4     | TIMELESS                | timeless circadian regulator                                                                      | Nucleus             | other                   |
| 0.12 | -8.333 | Q5SSZ5     | TNS3                    | tensin 3                                                                                          | Plasma Membrane     | phosphatase             |
| 0.12 | -8.333 | Q01320     | TOP2A                   | DNA topoisomerase II alpha                                                                        | Nucleus             | enzyme                  |
| 0.12 | -8.333 | Q4VBE8     | WDR18                   | WD repeat domain 18                                                                               | Nucleus             | other                   |
| 0.12 | -8.333 | Q9ERF3     | WDR61                   | WD repeat domain 61                                                                               | Nucleus             | other                   |
| 0.12 | -8.333 | P14576     |                         |                                                                                                   |                     |                         |
| 0.12 | -8.333 | A0A140T8M7 |                         |                                                                                                   |                     |                         |
| 0.13 | -7.692 | O54825     | BYSL                    | bystin like                                                                                       | Nucleus             | other                   |
| 0.13 | -7.692 | Q6ZQ38     | CAND1                   | cullin associated and neddylation dissociated 1                                                   | Cytoplasm           | transcription regulator |
| 0.13 | -7.692 | Q8VDP4     | CCAR2                   | cell cycle and apoptosis regulator 2                                                              | Cytoplasm           | peptidase               |
| 0.13 | -7.692 | Q8BH64     | EHD2                    | EH domain containing 2                                                                            | Nucleus             | other                   |
| 0.13 | -7.692 | Q99LH1     | GNL2                    | G protein nucleolar 2                                                                             | Nucleus             | enzyme                  |
| 0.13 | -7.692 | O09106     | HDAC1                   | histone deacetylase 1                                                                             | Nucleus             | transcription regulator |
| 0.13 | -7.692 | Q8VHM5     | HNRNPR                  | heterogeneous nuclear ribonucleoprotein R                                                         | Nucleus             | other                   |
| 0.13 | -7.692 | Q8C052     | MAP1S                   | microtubule associated protein 1S                                                                 | Cytoplasm           | enzyme                  |
| 0.13 | -7.692 | Q9JLN9     | MTOR                    | mechanistic target of rapamycin kinase                                                            | Nucleus             | kinase                  |
| 0.13 | -7.692 | Q3UM45     | PPP1R7                  | protein phosphatase 1 regulatory subunit 7                                                        | Nucleus             | phosphatase             |
| 0.13 | -7.692 | Q9DAW6     | PRPF4                   | pre-mRNA processing factor 4                                                                      | Nucleus             | other                   |
| 0.13 | -7.692 | P29351     | PTPN6                   | protein tyrosine phosphatase, non-receptor type 6                                                 | Cytoplasm           | phosphatase             |
| 0.13 | -7.692 | P47915     | Rpl29 (includes others) | ribosomal protein L29                                                                             | Cytoplasm           | other                   |
| 0.13 | -7.692 | P62849     | RPS24                   | ribosomal protein S24                                                                             | Cytoplasm           | other                   |
| 0.13 | -7.692 | A2AVJ7     | Rrbp1                   | ribosome binding protein 1                                                                        | Cytoplasm           | transporter             |
| 0.13 | -7.692 | Q6PE01     | SNRNP40                 | small nuclear ribonucleoprotein U5 subunit 40                                                     | Nucleus             | other                   |
| 0.13 | -7.692 | Q8BNV1     | TRMT2A                  | tRNA methyltransferase 2 homolog A                                                                | Other               | kinase                  |
| 0.13 | -7.692 | Q8R5H1     | USP15                   | ubiquitin specific peptidase 15                                                                   | Cytoplasm           | peptidase               |
| 0.13 | -7.692 | Q3UVL4     | VPS51                   | VPS51, GARP complex subunit                                                                       | Cytoplasm           | other                   |
| 0.13 | -7.692 | Q7CQN4     |                         |                                                                                                   |                     |                         |
| 0.13 | -7.692 | O30916     |                         |                                                                                                   |                     |                         |
| 0.14 | -7.143 | P09411     | PGK1                    | phosphoglycerate kinase 1                                                                         | Cytoplasm           | kinase                  |
| 0.14 | -7.143 | P26516     | PSMD7                   | proteasome 26S subunit, non-ATPase 7                                                              | Cytoplasm           | other                   |

Table S3

|      |        |        |                         |                                                       |           |                         |
|------|--------|--------|-------------------------|-------------------------------------------------------|-----------|-------------------------|
| 0.14 | -7.143 | P60122 | RUVBL1                  | RuvB like AAA ATPase 1                                | Nucleus   | transcription regulator |
| 0.15 | -6.667 | E9PUF7 | ARHGEF1                 | Rho guanine nucleotide exchange factor 1              | Cytoplasm | other                   |
| 0.16 | -6.25  | O54774 | AP3D1                   | adaptor related protein complex 3 subunit delta 1     | Cytoplasm | transporter             |
| 0.16 | -6.25  | Q8R1Q8 | DYNC1LI1                | dynein cytoplasmic 1 light intermediate chain 1       | Cytoplasm | other                   |
| 0.16 | -6.25  | P52927 | Hmga2                   | high mobility group AT-hook 2                         | Nucleus   | enzyme                  |
| 0.16 | -6.25  | Q9D0E1 | HNRNPM                  | heterogeneous nuclear ribonucleoprotein M             | Nucleus   | other                   |
| 0.16 | -6.25  | Q8CIH5 | PLCG2                   | phospholipase C gamma 2                               | Cytoplasm | enzyme                  |
| 0.16 | -6.25  | P49722 | PSMA2                   | proteasome subunit alpha 2                            | Cytoplasm | peptidase               |
| 0.16 | -6.25  | Q8BVY0 | RSL1D1                  | ribosomal L1 domain containing 1                      | Nucleus   | other                   |
| 0.16 | -6.25  | F8VQC1 | SRP72                   | signal recognition particle 72                        | Nucleus   | kinase                  |
| 0.17 | -5.882 | P62827 | RAN                     | RAN, member RAS oncogene family                       | Nucleus   | enzyme                  |
| 0.17 | -5.882 | P62918 | RPL8                    | ribosomal protein L8                                  | Cytoplasm | other                   |
| 0.18 | -5.556 | Q8K0C9 | GMDS                    | GDP-mannose 4,6-dehydratase                           | Cytoplasm | enzyme                  |
| 0.18 | -5.556 | Q8R2K3 | SSBP1                   | single stranded DNA binding protein 1                 | Cytoplasm | other                   |
| 0.19 | -5.263 | P28271 | ACO1                    | aconitase 1                                           | Cytoplasm | enzyme                  |
| 0.19 | -5.263 | P46664 | ADSS                    | adenylosuccinate synthase                             | Cytoplasm | enzyme                  |
| 0.19 | -5.263 | Q9WUM4 | CORO1C                  | coronin 1C                                            | Cytoplasm | other                   |
| 0.19 | -5.263 | E9QPI5 | PDS5A                   | PDS5 cohesin associated factor A                      | Nucleus   | other                   |
| 0.19 | -5.263 | P62245 | RPS15A                  | ribosomal protein S15a                                | Cytoplasm | other                   |
| 0.19 | -5.263 | P17751 | TPI1                    | triosephosphate isomerase 1                           | Cytoplasm | enzyme                  |
| 0.2  | -5     | Q99LE6 | ABCF2                   | ATP binding cassette subfamily F member 2             | Cytoplasm | transporter             |
| 0.2  | -5     | Q99MU3 | ADAR                    | adenosine deaminase, RNA specific                     | Nucleus   | enzyme                  |
| 0.2  | -5     | Q60668 | HNRNPD                  | heterogeneous nuclear ribonucleoprotein D             | Nucleus   | transcription regulator |
| 0.2  | -5     | Q9CXY6 | ILF2                    | interleukin enhancer binding factor 2                 | Nucleus   | transcription regulator |
| 0.2  | -5     | Q99LB6 | MAT2B                   | methionine adenosyltransferase 2B                     | Cytoplasm | enzyme                  |
| 0.2  | -5     | Q52KC3 | MCM5                    | minichromosome maintenance complex component 5        | Nucleus   | enzyme                  |
| 0.2  | -5     | Q6PGB6 | NAA50                   | N(alpha)-acetyltransferase 50, NatE catalytic subunit | Cytoplasm | enzyme                  |
| 0.2  | -5     | S4R293 | NCF1                    | neutrophil cytosolic factor 1                         | Cytoplasm | enzyme                  |
| 0.2  | -5     | Q9CQ48 | NUCD2                   | NudC domain containing 2                              | Cytoplasm | other                   |
| 0.2  | -5     | Q8K183 | PDXK                    | pyridoxal kinase                                      | Cytoplasm | kinase                  |
| 0.2  | -5     | Q9R0E1 | PLOD3                   | procollagen-lysine,2-oxoglutarate 5-dioxygenase 3     | Cytoplasm | enzyme                  |
| 0.2  | -5     | B2RXC6 | POLR3A                  | RNA polymerase III subunit A                          | Nucleus   | enzyme                  |
| 0.2  | -5     | Q9QUR6 | PREP                    | prolyl endopeptidase                                  | Cytoplasm | peptidase               |
| 0.2  | -5     | O70435 | PSMA3                   | proteasome subunit alpha 3                            | Cytoplasm | peptidase               |
| 0.2  | -5     | Q9R1P1 | PSMB3                   | proteasome subunit beta 3                             | Cytoplasm | peptidase               |
| 0.2  | -5     | Q8VH51 | RBM39                   | RNA binding motif protein 39                          | Nucleus   | transcription regulator |
| 0.2  | -5     | Q9D1R9 | Rpl34 (includes others) | ribosomal protein L34                                 | Cytoplasm | other                   |

Table S3

|      |        |        |         |                                                          |                 |                         |
|------|--------|--------|---------|----------------------------------------------------------|-----------------|-------------------------|
| 0.2  | -5     | P60867 | RPS20   | ribosomal protein S20                                    | Cytoplasm       | other                   |
| 0.2  | -5     | A8C756 | THADA   | THADA, armadillo repeat containing                       | Cytoplasm       | other                   |
| 0.2  | -5     | G5E870 | TRIP12  | thyroid hormone receptor interactor 12                   | Cytoplasm       | enzyme                  |
| 0.21 | -4.762 | P70170 | ABCC9   | ATP binding cassette subfamily C member 9                | Plasma Membrane | ion channel             |
| 0.21 | -4.762 | F6WMJ3 | ARHGEF6 | Rac/Cdc42 guanine nucleotide exchange factor 6           | Cytoplasm       | other                   |
| 0.21 | -4.762 | Q4QRL3 | CCDC88B | coiled-coil domain containing 88B                        | Nucleus         | enzyme                  |
| 0.21 | -4.762 | Q61081 | CDC37   | cell division cycle 37                                   | Cytoplasm       | kinase                  |
| 0.21 | -4.762 | Q9Z1Q5 | CLIC1   | chloride intracellular channel 1                         | Nucleus         | ion channel             |
| 0.21 | -4.762 | O88543 | COPS3   | COP9 signalosome subunit 3                               | Cytoplasm       | other                   |
| 0.21 | -4.762 | O35218 | CPSF2   | cleavage and polyadenylation specific factor 2           | Nucleus         | other                   |
| 0.21 | -4.762 | Q9CWX9 | DDX47   | DEAD-box helicase 47                                     | Nucleus         | enzyme                  |
| 0.21 | -4.762 | Q9D0R4 | DDX56   | DEAD-box helicase 56                                     | Nucleus         | enzyme                  |
| 0.21 | -4.762 | Q9QYJ3 | DNAJB1  | DnaJ heat shock protein family (Hsp40) member B1         | Nucleus         | transcription regulator |
| 0.21 | -4.762 | Q6ZWX6 | EIF2S1  | eukaryotic translation initiation factor 2 subunit alpha | Cytoplasm       | translation regulator   |
| 0.21 | -4.762 | Q99JX4 | EIF3M   | eukaryotic translation initiation factor 3 subunit M     | Cytoplasm       | other                   |
| 0.21 | -4.762 | Q8BHN3 | GANAB   | glucosidase II alpha subunit                             | Cytoplasm       | enzyme                  |
| 0.21 | -4.762 | D3YZ09 | Gar1    | GAR1 ribonucleoprotein                                   | Nucleus         | other                   |
| 0.21 | -4.762 | G3UXW9 | GPS1    | G protein pathway suppressor 1                           | Nucleus         | other                   |
| 0.21 | -4.762 | Q3U0V1 | KHSRP   | KH-type splicing regulatory protein                      | Nucleus         | enzyme                  |
| 0.21 | -4.762 | Q6PAR0 | KLHDC10 | kelch domain containing 10                               | Nucleus         | other                   |
| 0.21 | -4.762 | Q60787 | LCP2    | lymphocyte cytosolic protein 2                           | Cytoplasm       | other                   |
| 0.21 | -4.762 | Q05CX5 | LUC7L2  | LUC7 like 2, pre-mRNA splicing factor                    | Other           | other                   |
| 0.21 | -4.762 | O09110 | MAP2K3  | mitogen-activated protein kinase kinase 3                | Cytoplasm       | kinase                  |
| 0.21 | -4.762 | Q8R3C0 | MCMBP   | minichromosome maintenance complex binding protein       | Nucleus         | other                   |
| 0.21 | -4.762 | P54276 | MSH6    | mutS homolog 6                                           | Nucleus         | enzyme                  |
| 0.21 | -4.762 | Q8K1R7 | NEK9    | NIMA related kinase 9                                    | Nucleus         | kinase                  |
| 0.21 | -4.762 | Q9JM14 | NT5C    | 5', 3'-nucleotidase, cytosolic                           | Cytoplasm       | phosphatase             |
| 0.21 | -4.762 | E9Q7G0 | NUMA1   | nuclear mitotic apparatus protein 1                      | Nucleus         | other                   |
| 0.21 | -4.762 | F8WIK5 | PLEKHA2 | pleckstrin homology domain containing A2                 | Cytoplasm       | other                   |
| 0.21 | -4.762 | P33610 | PRIM2   | DNA primase subunit 2                                    | Nucleus         | enzyme                  |
| 0.21 | -4.762 | Q9R1P0 | PSMA4   | proteasome subunit alpha 4                               | Cytoplasm       | peptidase               |
| 0.21 | -4.762 | Q9R1P3 | PSMB2   | proteasome subunit beta 2                                | Cytoplasm       | peptidase               |
| 0.21 | -4.762 | Q60692 | PSMB6   | proteasome subunit beta 6                                | Nucleus         | peptidase               |
| 0.21 | -4.762 | Q8BXC0 | PTGIS   | prostaglandin I2 synthase                                | Cytoplasm       | enzyme                  |
| 0.21 | -4.762 | Q64012 | RALY    | RALY heterogeneous nuclear ribonucleoprotein             | Nucleus         | transcription regulator |
| 0.21 | -4.762 | Q9CT10 | RANBP3  | RAN binding protein 3                                    | Nucleus         | other                   |
| 0.21 | -4.762 | Q3UI84 | RFC4    | replication factor C subunit 4                           | Nucleus         | other                   |
| 0.21 | -4.762 | P61514 | RPL37A  | ribosomal protein L37a                                   | Cytoplasm       | other                   |

Table S3

|      |        |        |          |                                                                         |                     |                         |
|------|--------|--------|----------|-------------------------------------------------------------------------|---------------------|-------------------------|
| 0.21 | -4.762 | P47911 | RPL6     | ribosomal protein L6                                                    | Nucleus             | other                   |
| 0.21 | -4.762 | P07742 | RRM1     | ribonucleotide reductase catalytic subunit M1                           | Nucleus             | enzyme                  |
| 0.21 | -4.762 | Q99PM9 | UCK2     | uridine-cytidine kinase 2                                               | Cytoplasm           | kinase                  |
| 0.21 | -4.762 | S4R1X1 | WDR91    | WD repeat domain 91                                                     | Cytoplasm           | other                   |
| 0.22 | -4.545 | Q8R010 | AIMP2    | aminoacyl tRNA synthetase complex interacting multifunctional protein 2 | Plasma Membrane     | other                   |
| 0.22 | -4.545 | P43275 | Hist1h1a | histone cluster 1, H1a                                                  | Nucleus             | other                   |
| 0.22 | -4.545 | P68040 | RACK1    | receptor for activated C kinase 1                                       | Cytoplasm           | enzyme                  |
| 0.22 | -4.545 | Q6P5B0 | RRP12    | ribosomal RNA processing 12 homolog                                     | Nucleus             | other                   |
| 0.22 | -4.545 | P20152 | VIM      | vimentin                                                                | Cytoplasm           | other                   |
| 0.23 | -4.348 | O35639 | ANXA3    | annexin A3                                                              | Cytoplasm           | enzyme                  |
| 0.23 | -4.348 | Q91VR5 | DDX1     | DEAD-box helicase 1                                                     | Nucleus             | enzyme                  |
| 0.23 | -4.348 | P43276 | Hist1h1b | histone cluster 1, H1b                                                  | Nucleus             | other                   |
| 0.23 | -4.348 | Q3TXS7 | PSMD1    | proteasome 26S subunit, non-ATPase 1                                    | Cytoplasm           | other                   |
| 0.23 | -4.348 | Q6PFB2 | RCC1     | regulator of chromosome condensation 1                                  | Cytoplasm           | other                   |
| 0.23 | -4.348 | P32921 | WARS     | tryptophanyl-tRNA synthetase                                            | Cytoplasm           | enzyme                  |
| 0.24 | -4.167 | P54822 | ADSL     | adenylosuccinate lyase                                                  | Cytoplasm           | enzyme                  |
| 0.24 | -4.167 | P10605 | CTSB     | cathepsin B                                                             | Cytoplasm           | peptidase               |
| 0.24 | -4.167 | Q61655 | DDX19A   | DEAD-box helicase 19A                                                   | Nucleus             | enzyme                  |
| 0.24 | -4.167 | P63037 | DNAJA1   | DnaJ heat shock protein family (Hsp40) member A1                        | Nucleus             | other                   |
| 0.24 | -4.167 | Q9WUA2 | FARSB    | phenylalanyl-tRNA synthetase subunit beta                               | Cytoplasm           | enzyme                  |
| 0.24 | -4.167 | P54775 | PSMC4    | proteasome 26S subunit, ATPase 4                                        | Nucleus             | peptidase               |
| 0.24 | -4.167 | Q9CQM8 | RPL21    | ribosomal protein L21                                                   | Cytoplasm           | other                   |
| 0.24 | -4.167 | P62960 | YBX1     | Y-box binding protein 1                                                 | Nucleus             | transcription regulator |
| 0.25 | -4     | H3BKM0 | Ap2b1    | adaptor-related protein complex 2, beta 1 subunit                       | Plasma Membrane     | other                   |
| 0.25 | -4     | Q922B2 | DARS     | aspartyl-tRNA synthetase                                                | Cytoplasm           | enzyme                  |
| 0.25 | -4     | P12265 | GUSB     | glucuronidase beta                                                      | Cytoplasm           | enzyme                  |
| 0.25 | -4     | Z4YKB8 | HP1BP3   | heterochromatin protein 1 binding protein 3                             | Nucleus             | other                   |
| 0.25 | -4     | Q8VI75 | IPO4     | importin 4                                                              | Nucleus             | transporter             |
| 0.25 | -4     | O09043 | NAPSA    | napsin A aspartic peptidase                                             | Extracellular Space | peptidase               |
| 0.25 | -4     | P46460 | NSF      | N-ethylmaleimide sensitive factor, vesicle fusing ATPase                | Cytoplasm           | transporter             |
| 0.25 | -4     | Q64674 | SRM      | spermidine synthase                                                     | Cytoplasm           | enzyme                  |
| 0.25 | -4     | Q9CPX4 |          |                                                                         |                     |                         |
| 0.26 | -3.846 | O08553 | DPYSL2   | dihydropyrimidinase like 2                                              | Cytoplasm           | enzyme                  |
| 0.26 | -3.846 | Q91WK2 | EIF3H    | eukaryotic translation initiation factor 3 subunit H                    | Cytoplasm           | other                   |
| 0.26 | -3.846 | E9PVA8 | GCN1     | GCN1, eIF2 alpha kinase activator homolog                               | Cytoplasm           | translation regulator   |
| 0.26 | -3.846 | P24547 | IMPDH2   | inosine monophosphate dehydrogenase 2                                   | Cytoplasm           | enzyme                  |
| 0.26 | -3.846 | Q8VI93 | OAS3     | 2'-5'-oligoadenylate synthetase 3                                       | Cytoplasm           | enzyme                  |

Table S3

|      |        |            |          |                                                                                    |                     |                         |
|------|--------|------------|----------|------------------------------------------------------------------------------------|---------------------|-------------------------|
| 0.26 | -3.846 | Q8BH04     | PCK2     | phosphoenolpyruvate carboxykinase 2, mitochondrial                                 | Cytoplasm           | kinase                  |
| 0.26 | -3.846 | O88685     | PSMC3    | proteasome 26S subunit, ATPase 3                                                   | Nucleus             | enzyme                  |
| 0.26 | -3.846 | Q9CZN7     | SHMT2    | serine hydroxymethyltransferase 2                                                  | Cytoplasm           | enzyme                  |
| 0.26 | -3.846 | G3X8X7     | VPS16    | VPS16, CORVET/HOPS core subunit                                                    | Cytoplasm           | transporter             |
| 0.27 | -3.704 | Q8R366     | IGSF8    | immunoglobulin superfamily member 8                                                | Plasma Membrane     | other                   |
| 0.27 | -3.704 | P62192     | PSMC1    | proteasome 26S subunit, ATPase 1                                                   | Nucleus             | peptidase               |
| 0.27 | -3.704 | O35593     | PSMD14   | proteasome 26S subunit, non-ATPase 14                                              | Cytoplasm           | peptidase               |
| 0.27 | -3.704 | P62082     | RPS7     | ribosomal protein S7                                                               | Cytoplasm           | other                   |
| 0.27 | -3.704 | Q3UPL0     | SEC31A   | SEC31 homolog A, COPII coat complex component                                      | Cytoplasm           | other                   |
| 0.28 | -3.571 | J3QN31     | ADSSL1   | adenylosuccinate synthase like 1                                                   | Cytoplasm           | enzyme                  |
| 0.28 | -3.571 | P10810     | CD14     | CD14 molecule                                                                      | Plasma Membrane     | transmembrane receptor  |
| 0.28 | -3.571 | A0A0R4J172 | DENND4B  | DENN domain containing 4B                                                          | Extracellular Space | other                   |
| 0.28 | -3.571 | Q9QXB9     | DRG2     | developmentally regulated GTP binding protein 2                                    | Cytoplasm           | other                   |
| 0.28 | -3.571 | O88792     | F11R     | F11 receptor                                                                       | Plasma Membrane     | other                   |
| 0.28 | -3.571 | P43274     | Hist1h1e | histone cluster 1, H1e                                                             | Nucleus             | other                   |
| 0.28 | -3.571 | P09055     | ITGB1    | integrin subunit beta 1                                                            | Plasma Membrane     | transmembrane receptor  |
| 0.28 | -3.571 | Q99K48     | NONO     | non-POU domain containing octamer binding                                          | Nucleus             | transcription regulator |
| 0.28 | -3.571 | P67984     | RPL22    | ribosomal protein L22                                                              | Cytoplasm           | translation regulator   |
| 0.28 | -3.571 | Q5SWD9     | TSR1     | TSR1, ribosome maturation factor                                                   | Nucleus             | other                   |
| 0.29 | -3.448 | Q9CWJ9     | ATIC     | 5-aminoimidazole-4-carboxamide ribonucleotide formyltransferase/IMP cyclohydrolase | Cytoplasm           | enzyme                  |
| 0.29 | -3.448 | P36895     | BMPR1A   | bone morphogenetic protein receptor type 1A                                        | Plasma Membrane     | kinase                  |
| 0.29 | -3.448 | Q99J95     | CDK9     | cyclin dependent kinase 9                                                          | Nucleus             | kinase                  |
| 0.29 | -3.448 | Q3UJB9     | EDC4     | enhancer of mRNA decapping 4                                                       | Cytoplasm           | other                   |
| 0.29 | -3.448 | Q9DCH4     | EIF3F    | eukaryotic translation initiation factor 3 subunit F                               | Cytoplasm           | translation regulator   |
| 0.29 | -3.448 | P29416     | HEXA     | hexosaminidase subunit alpha                                                       | Cytoplasm           | enzyme                  |
| 0.29 | -3.448 | Q9BDB7     | IFI44L   | interferon induced protein 44 like                                                 | Nucleus             | other                   |
| 0.29 | -3.448 | Q91ZX7     | LRP1     | LDL receptor related protein 1                                                     | Plasma Membrane     | transmembrane receptor  |
| 0.29 | -3.448 | G3X8Y3     | NAA15    | N(alpha)-acetyltransferase 15, NatA auxiliary subunit                              | Nucleus             | transcription regulator |
| 0.29 | -3.448 | Q8K224     | NAT10    | N-acetyltransferase 10                                                             | Nucleus             | enzyme                  |

Table S3

|      |        |            |         |                                                                         |                     |                         |
|------|--------|------------|---------|-------------------------------------------------------------------------|---------------------|-------------------------|
| 0.29 | -3.448 | Q3TC46     | PATL1   | PAT1 homolog 1, processing body mRNA decay factor                       | Cytoplasm           | translation regulator   |
| 0.29 | -3.448 | Q9Z2U1     | PSMA5   | proteasome subunit alpha 5                                              | Cytoplasm           | peptidase               |
| 0.29 | -3.448 | P62754     | RPS6    | ribosomal protein S6                                                    | Cytoplasm           | other                   |
| 0.29 | -3.448 | Q91VH2     | SNX9    | sorting nexin 9                                                         | Cytoplasm           | transporter             |
| 0.29 | -3.448 | Q64514     | TPP2    | tripeptidyl peptidase 2                                                 | Cytoplasm           | peptidase               |
| 0.29 | -3.448 | P68369     | TUBA1A  | tubulin alpha 1a                                                        | Cytoplasm           | other                   |
| 0.29 | -3.448 | A0A0A0MQA5 | TUBA4A  | tubulin alpha 4a                                                        | Cytoplasm           | other                   |
| 0.29 | -3.448 | Q9DCD2     | XAB2    | XPA binding protein 2                                                   | Nucleus             | other                   |
| 0.3  | -3.333 | P08030     | APRT    | adenine phosphoribosyltransferase                                       | Cytoplasm           | enzyme                  |
| 0.31 | -3.226 | B1AQF4     | DUSP3   | dual specificity phosphatase 3                                          | Cytoplasm           | phosphatase             |
| 0.31 | -3.226 | Q3TPJ8     | Dync1i2 | dynein cytoplasmic 1 intermediate chain 2                               | Cytoplasm           | other                   |
| 0.31 | -3.226 | Q99ME9     | GTPBP4  | GTP binding protein 4                                                   | Nucleus             | enzyme                  |
| 0.31 | -3.226 | Q8VDJ3     | HDLBP   | high density lipoprotein binding protein                                | Nucleus             | transporter             |
| 0.31 | -3.226 | P70349     | HINT1   | histidine triad nucleotide binding protein 1                            | Nucleus             | enzyme                  |
| 0.31 | -3.226 | A2AFQ0     | HUWE1   | HECT, UBA and WWE domain containing 1, E3 ubiquitin protein ligase      | Nucleus             | transcription regulator |
| 0.31 | -3.226 | Q8R5F7     | IFIH1   | interferon induced with helicase C domain 1                             | Nucleus             | enzyme                  |
| 0.31 | -3.226 | P31938     | MAP2K1  | mitogen-activated protein kinase kinase 1                               | Cytoplasm           | kinase                  |
| 0.31 | -3.226 | O88325     | NAGLU   | N-acetyl-alpha-glucosaminidase                                          | Cytoplasm           | enzyme                  |
| 0.31 | -3.226 | Q3UYV9     | NCBP1   | nuclear cap binding protein subunit 1                                   | Nucleus             | other                   |
| 0.31 | -3.226 | O35375     | NRP2    | neuropilin 2                                                            | Plasma Membrane     | kinase                  |
| 0.31 | -3.226 | Q9EQQ9     | OGA     | O-GlcNAcase                                                             | Cytoplasm           | enzyme                  |
| 0.31 | -3.226 | Q99PG2     | OGFR    | opioid growth factor receptor                                           | Plasma Membrane     | other                   |
| 0.31 | -3.226 | Q8VCT3     | RNPEP   | arginyl aminopeptidase                                                  | Cytoplasm           | peptidase               |
| 0.31 | -3.226 | P47963     | RPL13   | ribosomal protein L13                                                   | Nucleus             | other                   |
| 0.31 | -3.226 | P61255     | RPL26   | ribosomal protein L26                                                   | Cytoplasm           | other                   |
| 0.31 | -3.226 | Q3UMP4     | SERBP1  | SERPINE1 mRNA binding protein 1                                         | Cytoplasm           | other                   |
| 0.31 | -3.226 | Q8BKX6     | SMG1    | SMG1, nonsense mediated mRNA decay associated PI3K related kinase       | Cytoplasm           | kinase                  |
| 0.32 | -3.125 | Q3UZG4     | AIMP1   | aminoacyl tRNA synthetase complex interacting multifunctional protein 1 | Extracellular Space | cytokine                |
| 0.32 | -3.125 | P17426     | AP2A1   | adaptor related protein complex 2 subunit alpha 1                       | Cytoplasm           | transporter             |
| 0.32 | -3.125 | Q8VDW0     | DDX39A  | DEx D-box helicase 39A                                                  | Nucleus             | enzyme                  |
| 0.32 | -3.125 | A0A087WPL5 | DHX9    | DEx H-box helicase 9                                                    | Nucleus             | enzyme                  |
| 0.32 | -3.125 | Q8BG05     | Hnmpa3  | heterogeneous nuclear ribonucleoprotein A3                              | Nucleus             | transporter             |

Table S3

|      |        |             |          |                                                                  |                 |                        |
|------|--------|-------------|----------|------------------------------------------------------------------|-----------------|------------------------|
| 0.32 | -3.125 | P97333      | NRP1     | neuropilin 1                                                     | Plasma Membrane | transmembrane receptor |
| 0.33 | -3.03  | Q641P0      | ACTR3B   | ARP3 actin related protein 3 homolog B                           | Cytoplasm       | other                  |
| 0.33 | -3.03  | Q9EST5      | Anp32b   | acidic (leucine-rich) nuclear phosphoprotein 32 family, member B | Nucleus         | other                  |
| 0.33 | -3.03  | A0A1B0GX81  | BAG6     | BCL2 associated athanogene 6                                     | Nucleus         | enzyme                 |
| 0.33 | -3.03  | P80313      | CCT7     | chaperonin containing TCP1 subunit 7                             | Cytoplasm       | other                  |
| 0.33 | -3.03  | Q99KK2      | CMAS     | cytidine monophosphate N-acetylneuraminic acid synthetase        | Nucleus         | enzyme                 |
| 0.33 | -3.03  | H3BJ30      | CPSF6    | cleavage and polyadenylation specific factor 6                   | Nucleus         | other                  |
| 0.33 | -3.03  | Q9CWL8      | CTNBL1   | catenin beta like 1                                              | Nucleus         | other                  |
| 0.33 | -3.03  | Q8K363      | DDX18    | DEAD-box helicase 18                                             | Nucleus         | enzyme                 |
| 0.33 | -3.03  | Q6PDL0      | DYNC1L12 | dynein cytoplasmic 1 light intermediate chain 2                  | Cytoplasm       | other                  |
| 0.33 | -3.03  | P70372      | ELAVL1   | ELAV like RNA binding protein 1                                  | Cytoplasm       | other                  |
| 0.33 | -3.03  | O35382      | EXOC4    | exocyst complex component 4                                      | Cytoplasm       | transporter            |
| 0.33 | -3.03  | Q99L27      | GMPR2    | guanosine monophosphate reductase 2                              | Cytoplasm       | enzyme                 |
| 0.33 | -3.03  | Q8CIM8      | INTS4    | integrator complex subunit 4                                     | Nucleus         | other                  |
| 0.33 | -3.03  | K22E_HUMAN  | KRT2     | keratin 2                                                        | Cytoplasm       | other                  |
| 0.33 | -3.03  | Q91YR5      | METTL13  | methyltransferase like 13                                        | Other           | enzyme                 |
| 0.33 | -3.03  | Q9CQ65      | MTAP     | methylthioadenosine phosphorylase                                | Nucleus         | enzyme                 |
| 0.33 | -3.03  | F6SMY7      | MYCBP2   | MYC binding protein 2, E3 ubiquitin protein ligase               | Nucleus         | enzyme                 |
| 0.33 | -3.03  | Q8BJ71      | NUP93    | nucleoporin 93                                                   | Nucleus         | other                  |
| 0.33 | -3.03  | Q9JLV6      | PNKP     | polynucleotide kinase 3'-phosphatase                             | Nucleus         | kinase                 |
| 0.33 | -3.03  | Q60972      | RBBP4    | RB binding protein 4, chromatin remodeling factor                | Nucleus         | enzyme                 |
| 0.33 | -3.03  | A0A0G2JGD2  | S100A4   | S100 calcium binding protein A4                                  | Cytoplasm       | other                  |
| 0.33 | -3.03  | Q8BRF7      | SCFD1    | sec1 family domain containing 1                                  | Cytoplasm       | transporter            |
| 0.33 | -3.03  | E9Q0Y4      | SIPA1    | signal-induced proliferation-associated 1                        | Cytoplasm       | other                  |
| 0.33 | -3.03  | Q61235      | SNTB2    | syntrophin beta 2                                                | Plasma Membrane | other                  |
| 0.33 | -3.03  | Q9D104      | SRP19    | signal recognition particle 19                                   | Cytoplasm       | other                  |
| 0.33 | -3.03  | P0AA28      |          |                                                                  |                 |                        |
| 0.33 | -3.03  | P0A1H5      |          |                                                                  |                 |                        |
| 0.34 | -2.941 | Q9Z2N8      | ACTL6A   | actin like 6A                                                    | Nucleus         | other                  |
| 0.34 | -2.941 | O08810      | EFTUD2   | elongation factor Tu GTP binding domain containing 2             | Nucleus         | enzyme                 |
| 0.34 | -2.941 | Q4FE56      | USP9X    | ubiquitin specific peptidase 9 X-linked                          | Plasma Membrane | peptidase              |
| 0.35 | -2.857 | A0A087WN U5 | ANK3     | ankyrin 3                                                        | Plasma Membrane | other                  |

Table S3

|      |        |            |          |                                                       |                     |                         |
|------|--------|------------|----------|-------------------------------------------------------|---------------------|-------------------------|
| 0.35 | -2.857 | Q3TWW4     | AP2M1    | adaptor related protein complex 2 subunit mu 1        | Cytoplasm           | transporter             |
| 0.35 | -2.857 | F6QA74     | APEX1    | apurinic/aprimidinic endodeoxyribonuclease 1          | Nucleus             | enzyme                  |
| 0.35 | -2.857 | Q9ES28     | ARHGEF7  | Rho guanine nucleotide exchange factor 7              | Cytoplasm           | other                   |
| 0.35 | -2.857 | P97452     | BOP1     | block of proliferation 1                              | Nucleus             | other                   |
| 0.35 | -2.857 | G3UXB4     | CTU2     | cytosolic thiouridylase subunit 2                     | Cytoplasm           | other                   |
| 0.35 | -2.857 | B9EJR8     | DNAAF5   | dynein axonemal assembly factor 5                     | Cytoplasm           | other                   |
| 0.35 | -2.857 | G3XA17     | EIF4G2   | eukaryotic translation initiation factor 4 gamma 2    | Cytoplasm           | translation regulator   |
| 0.35 | -2.857 | Q3UV95     | EPB42    | erythrocyte membrane protein band 4.2                 | Plasma Membrane     | transporter             |
| 0.35 | -2.857 | A0A0N4SV29 | FANCD2   | FA complementation group D2                           | Nucleus             | other                   |
| 0.35 | -2.857 | Q61555     | FBN2     | fibrillin 2                                           | Extracellular Space | other                   |
| 0.35 | -2.857 | Q99LJ1     | FUCA1    | alpha-L-fucosidase 1                                  | Cytoplasm           | enzyme                  |
| 0.35 | -2.857 | P43277     | HIST1H1D | histone cluster 1 H1 family member d                  | Nucleus             | other                   |
| 0.35 | -2.857 | Q5EBP8     | Hnrnpa1  | heterogeneous nuclear ribonucleoprotein A1            | Nucleus             | other                   |
| 0.35 | -2.857 | K3W4P2     | INTS1    | integrator complex subunit 1                          | Nucleus             | other                   |
| 0.35 | -2.857 | Q8CHT3     | INTS5    | integrator complex subunit 5                          | Nucleus             | other                   |
| 0.35 | -2.857 | Q8BNW9     | KBTBD11  | kelch repeat and BTB domain containing 11             | Other               | other                   |
| 0.35 | -2.857 | G3UZA0     | KRR1     | KRR1, small subunit processome component homolog      | Nucleus             | other                   |
| 0.35 | -2.857 | A0A087WQH1 | Lemd1    | LEM domain containing 1                               | Other               | other                   |
| 0.35 | -2.857 | P63085     | MAPK1    | mitogen-activated protein kinase 1                    | Cytoplasm           | kinase                  |
| 0.35 | -2.857 | Q8K3A9     | MEPCE    | methylphosphate capping enzyme                        | Other               | enzyme                  |
| 0.35 | -2.857 | Q9CQT1     | MRI1     | methylthioribose-1-phosphate isomerase 1              | Cytoplasm           | translation regulator   |
| 0.35 | -2.857 | Q8VE10     | NAA40    | N(alpha)-acetyltransferase 40, NatD catalytic subunit | Other               | other                   |
| 0.35 | -2.857 | Q9QZQ0     | NPAS3    | neuronal PAS domain protein 3                         | Nucleus             | transcription regulator |
| 0.35 | -2.857 | Q9R0E2     | PLOD1    | procollagen-lysine,2-oxoglutarate 5-dioxygenase 1     | Cytoplasm           | enzyme                  |
| 0.35 | -2.857 | Q9WVF7     | POLE     | DNA polymerase epsilon, catalytic subunit             | Nucleus             | enzyme                  |
| 0.35 | -2.857 | J3QN19     | PRIM1    | DNA primase subunit 1                                 | Nucleus             | enzyme                  |
| 0.35 | -2.857 | O09061     | PSMB1    | proteasome subunit beta 1                             | Cytoplasm           | peptidase               |
| 0.35 | -2.857 | A0A1D5RLG3 | RAB3GAP1 | RAB3 GTPase activating protein catalytic subunit 1    | Cytoplasm           | other                   |
| 0.35 | -2.857 | P46061     | RANGAP1  | Ran GTPase activating protein 1                       | Nucleus             | other                   |
| 0.35 | -2.857 | A0A067XG46 | RPGR     | retinitis pigmentosa GTPase regulator                 | Cytoplasm           | other                   |
| 0.35 | -2.857 | Q9CR57     | RPL14    | ribosomal protein L14                                 | Cytoplasm           | other                   |
| 0.35 | -2.857 | Q9CYH6     | RRS1     | ribosome biogenesis regulator homolog                 | Nucleus             | other                   |

Table S3

|      |        |            |         |                                                                                                                            |                     |                         |
|------|--------|------------|---------|----------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------|
| 0.35 | -2.857 | Q6NZC7     | SEC23IP | SEC23 interacting protein                                                                                                  | Cytoplasm           | other                   |
| 0.35 | -2.857 | Q9D554     | SF3A3   | splicing factor 3a subunit 3                                                                                               | Nucleus             | other                   |
| 0.35 | -2.857 | Q9JKZ2     | SLC5A3  | solute carrier family 5 member 3                                                                                           | Plasma Membrane     | transporter             |
| 0.35 | -2.857 | B1ARD6     | SLFN13  | schlafen family member 13                                                                                                  | Nucleus             | enzyme                  |
| 0.35 | -2.857 | Q8CG47     | SMC4    | structural maintenance of chromosomes 4                                                                                    | Nucleus             | transporter             |
| 0.35 | -2.857 | A0A1L1SST5 | SPG21   | SPG21, maspardin                                                                                                           | Plasma Membrane     | enzyme                  |
| 0.35 | -2.857 | P70279     | SURF6   | surfeit 6                                                                                                                  | Nucleus             | other                   |
| 0.35 | -2.857 | Q8C0V0     | TLK1    | tousled like kinase 1                                                                                                      | Nucleus             | kinase                  |
| 0.35 | -2.857 | A2A5R0     | TP53RK  | TP53 regulating kinase                                                                                                     | Nucleus             | kinase                  |
| 0.35 | -2.857 | E9PV45     | USP24   | ubiquitin specific peptidase 24                                                                                            | Nucleus             | peptidase               |
| 0.35 | -2.857 | A0A0R4J114 | UTP25   | UTP25, small subunit processor component                                                                                   | Nucleus             | other                   |
| 0.35 | -2.857 | E9Q5W5     | ZZEF1   | zinc finger ZZ-type and EF-hand domain containing 1                                                                        | Other               | other                   |
| 0.35 | -2.857 | A2A4P3     |         |                                                                                                                            |                     |                         |
| 0.36 | -2.778 | Q64737     | GART    | phosphoribosylglycinamide formyltransferase, phosphoribosylglycinamide synthetase, phosphoribosylaminoimidazole synthetase | Cytoplasm           | enzyme                  |
| 0.37 | -2.703 | O88845     | AKAP10  | A-kinase anchoring protein 10                                                                                              | Cytoplasm           | other                   |
| 0.37 | -2.703 | A2AH25     | ARHGAP1 | Rho GTPase activating protein 1                                                                                            | Cytoplasm           | other                   |
| 0.37 | -2.703 | Q9WVA3     | BUB3    | BUB3, mitotic checkpoint protein                                                                                           | Nucleus             | other                   |
| 0.37 | -2.703 | F6XC25     | CC2D1B  | coiled-coil and C2 domain containing 1B                                                                                    | Nucleus             | transcription regulator |
| 0.37 | -2.703 | P48678     | LMNA    | lamin A/C                                                                                                                  | Nucleus             | other                   |
| 0.37 | -2.703 | A2ANY6     | MDN1    | midasin AAA ATPase 1                                                                                                       | Nucleus             | other                   |
| 0.37 | -2.703 | Q9JMH9     | MYO18A  | myosin XVIIIa                                                                                                              | Cytoplasm           | other                   |
| 0.37 | -2.703 | Q8BGJ5     | PTBP1   | polypyrimidine tract binding protein 1                                                                                     | Nucleus             | enzyme                  |
| 0.37 | -2.703 | P35831     | PTPN12  | protein tyrosine phosphatase, non-receptor type 12                                                                         | Cytoplasm           | phosphatase             |
| 0.37 | -2.703 | Q60770     | STXB3   | syntaxin binding protein 3                                                                                                 | Plasma Membrane     | transporter             |
| 0.37 | -2.703 | A2AN08     | UBR4    | ubiquitin protein ligase E3 component n-recognin 4                                                                         | Nucleus             | enzyme                  |
| 0.38 | -2.632 | Q8VDM4     | PSMD2   | proteasome 26S subunit, non-ATPase 2                                                                                       | Cytoplasm           | other                   |
| 0.38 | -2.632 | P62281     | RPS11   | ribosomal protein S11                                                                                                      | Cytoplasm           | other                   |
| 0.39 | -2.564 | Q5XJY5     | ARCN1   | archain 1                                                                                                                  | Cytoplasm           | other                   |
| 0.39 | -2.564 | Q8BZN6     | DOCK10  | dedicator of cytokinesis 10                                                                                                | Cytoplasm           | other                   |
| 0.39 | -2.564 | Q99020     | HNRNPAB | heterogeneous nuclear ribonucleoprotein A/B                                                                                | Nucleus             | enzyme                  |
| 0.39 | -2.564 | P08905     | LYZ     | lysozyme                                                                                                                   | Extracellular Space | enzyme                  |
| 0.39 | -2.564 | Q8BZ20     | PARP12  | poly(ADP-ribose) polymerase family member 12                                                                               | Nucleus             | other                   |
| 0.39 | -2.564 | Q8C605     | PFKP    | phosphofructokinase, platelet                                                                                              | Cytoplasm           | kinase                  |
| 0.39 | -2.564 | P17742     | PPIA    | peptidylprolyl isomerase A                                                                                                 | Cytoplasm           | enzyme                  |
| 0.39 | -2.564 | Q9QUM9     | PSMA6   | proteasome subunit alpha 6                                                                                                 | Cytoplasm           | peptidase               |

Table S3

|      |        |            |               |                                                                        |                 |                         |
|------|--------|------------|---------------|------------------------------------------------------------------------|-----------------|-------------------------|
| 0.39 | -2.564 | P35980     | RPL18         | ribosomal protein L18                                                  | Cytoplasm       | other                   |
| 0.39 | -2.564 | P62900     | RPL31         | ribosomal protein L31                                                  | Cytoplasm       | other                   |
| 0.39 | -2.564 | Q6ZPE2     | SBF1          | SET binding factor 1                                                   | Plasma Membrane | phosphatase             |
| 0.39 | -2.564 | Q9Z1F9     | UBA2          | ubiquitin like modifier activating enzyme 2                            | Cytoplasm       | enzyme                  |
| 0.39 | -2.564 | Q8CCB4     | VPS53         | VPS53, GARP complex subunit                                            | Cytoplasm       | other                   |
| 0.4  | -2.5   | O35598     | ADAM10        | ADAM metallopeptidase domain 10                                        | Plasma Membrane | peptidase               |
| 0.4  | -2.5   | Q3TGU7     | PA2G4         | proliferation-associated 2G4                                           | Nucleus         | transcription regulator |
| 0.4  | -2.5   | P62843     | RPS15         | ribosomal protein S15                                                  | Cytoplasm       | other                   |
| 0.41 | -2.439 | A0A0B4J1G1 | FCGR2B        | Fc fragment of IgG receptor IIb                                        | Plasma Membrane | transmembrane receptor  |
| 0.41 | -2.439 | Q8K1B8     | FERMT3        | fermitin family member 3                                               | Cytoplasm       | enzyme                  |
| 0.41 | -2.439 | P61979     | HNRNPK        | heterogeneous nuclear ribonucleoprotein K                              | Nucleus         | transcription regulator |
| 0.41 | -2.439 | O55222     | ILK           | integrin linked kinase                                                 | Plasma Membrane | kinase                  |
| 0.41 | -2.439 | Q6P5F9     | XPO1          | exportin 1                                                             | Nucleus         | transporter             |
| 0.42 | -2.381 | Q9WUM3     | CORO1B        | coronin 1B                                                             | Cytoplasm       | other                   |
| 0.42 | -2.381 | Q80X98     | DHX38         | DEAH-box helicase 38                                                   | Nucleus         | enzyme                  |
| 0.42 | -2.381 | P31266     | RBPJ          | recombination signal binding protein for immunoglobulin kappa J region | Nucleus         | transcription regulator |
| 0.42 | -2.381 | Q6ZWU9     | Rps27/Rps27rt | ribosomal protein S27                                                  | Other           | other                   |
| 0.42 | -2.381 | Q6NZD2     | SNX1          | sorting nexin 1                                                        | Cytoplasm       | transporter             |
| 0.42 | -2.381 | G3X956     | SUPT16H       | SPT16 homolog, facilitates chromatin remodeling subunit                | Nucleus         | transcription regulator |
| 0.43 | -2.326 | Q99JY9     | ACTR3         | ARP3 actin related protein 3 homolog                                   | Plasma Membrane | other                   |
| 0.43 | -2.326 | Q9R0N0     | GALK1         | galactokinase 1                                                        | Cytoplasm       | kinase                  |
| 0.43 | -2.326 | Q8VDM6     | HNRNPUL1      | heterogeneous nuclear ribonucleoprotein U like 1                       | Nucleus         | other                   |
| 0.43 | -2.326 | Q9ES52     | INPP5D        | inositol polyphosphate-5-phosphatase D                                 | Cytoplasm       | phosphatase             |
| 0.43 | -2.326 | Q9D071     | MMS19         | MMS19 homolog, cytosolic iron-sulfur assembly component                | Nucleus         | transcription regulator |
| 0.43 | -2.326 | E9QN31     | NOP2          | NOP2 nucleolar protein                                                 | Nucleus         | other                   |
| 0.43 | -2.326 | P62137     | PPP1CA        | protein phosphatase 1 catalytic subunit alpha                          | Cytoplasm       | phosphatase             |
| 0.43 | -2.326 | P35979     | RPL12         | ribosomal protein L12                                                  | Nucleus         | other                   |
| 0.43 | -2.326 | P62852     | RPS25         | ribosomal protein S25                                                  | Cytoplasm       | other                   |
| 0.43 | -2.326 | Q9WTM5     | RUVBL2        | RuvB like AAA ATPase 2                                                 | Nucleus         | transcription regulator |
| 0.43 | -2.326 | Q8BMA6     | SRP68         | signal recognition particle 68                                         | Nucleus         | other                   |
| 0.43 | -2.326 | P52616     |               |                                                                        |                 |                         |
| 0.44 | -2.273 | Q8C0C7     | FARSA         | phenylalanyl-tRNA synthetase subunit alpha                             | Cytoplasm       | enzyme                  |
| 0.44 | -2.273 | P14685     | PSMD3         | proteasome 26S subunit, non-ATPase 3                                   | Cytoplasm       | other                   |
| 0.44 | -2.273 | P62267     | RPS23         | ribosomal protein S23                                                  | Cytoplasm       | translation regulator   |
| 0.45 | -2.222 | F8WGT1     | AHCYL2        | adenosylhomocysteinase like 2                                          | Other           | enzyme                  |

Table S3

|      |        |            |          |                                                                                                   |                 |                         |
|------|--------|------------|----------|---------------------------------------------------------------------------------------------------|-----------------|-------------------------|
| 0.45 | -2.222 | H3BKH9     | ARHGEF2  | Rho/Rac guanine nucleotide exchange factor 2                                                      | Cytoplasm       | other                   |
| 0.45 | -2.222 | Q9JIG7     | CCDC22   | coiled-coil domain containing 22                                                                  | Cytoplasm       | other                   |
| 0.45 | -2.222 | Q3U5Q7     | CMPK2    | cytidine/uridine monophosphate kinase 2                                                           | Cytoplasm       | kinase                  |
| 0.45 | -2.222 | Q9EPU4     | CPSF1    | cleavage and polyadenylation specific factor 1                                                    | Nucleus         | other                   |
| 0.45 | -2.222 | Q91YZ2     | CTBP2    | C-terminal binding protein 2                                                                      | Nucleus         | transcription regulator |
| 0.45 | -2.222 | P06797     | CTSV     | cathepsin V                                                                                       | Cytoplasm       | peptidase               |
| 0.45 | -2.222 | Q00PI9     | HNRNPUL2 | heterogeneous nuclear ribonucleoprotein U like 2                                                  | Nucleus         | other                   |
| 0.45 | -2.222 | Q6P9L6     | KIF15    | kinesin family member 15                                                                          | Nucleus         | other                   |
| 0.45 | -2.222 | P35951     | LDLR     | low density lipoprotein receptor                                                                  | Plasma Membrane | transporter             |
| 0.45 | -2.222 | A2API5     | LRP1B    | LDL receptor related protein 1B                                                                   | Plasma Membrane | transmembrane receptor  |
| 0.45 | -2.222 | P97432     | NBR1     | NBR1, autophagy cargo receptor                                                                    | Cytoplasm       | other                   |
| 0.45 | -2.222 | D3YUM1     | NDUFV1   | NADH:ubiquinone oxidoreductase core subunit V1                                                    | Cytoplasm       | enzyme                  |
| 0.45 | -2.222 | Q9WTK5     | NFKB2    | nuclear factor kappa B subunit 2                                                                  | Nucleus         | transcription regulator |
| 0.45 | -2.222 | Q8BMC4     | NOP9     | NOP9 nucleolar protein                                                                            | Nucleus         | other                   |
| 0.45 | -2.222 | A0A0J9YUD5 | NUP205   | nucleoporin 205                                                                                   | Nucleus         | other                   |
| 0.45 | -2.222 | Q8CGY8     | OGT      | O-linked N-acetylglucosamine (GlcNAc) transferase                                                 | Cytoplasm       | enzyme                  |
| 0.45 | -2.222 | P63087     | Ppp1cc   | protein phosphatase 1 catalytic subunit gamma                                                     | Cytoplasm       | phosphatase             |
| 0.45 | -2.222 | Q61171     | PRDX2    | peroxiredoxin 2                                                                                   | Cytoplasm       | enzyme                  |
| 0.45 | -2.222 | Q8R574     | PRPSAP2  | phosphoribosyl pyrophosphate synthetase associated protein 2                                      | Other           | other                   |
| 0.45 | -2.222 | Q9Z2U0     | PSMA7    | proteasome subunit alpha 7                                                                        | Cytoplasm       | peptidase               |
| 0.45 | -2.222 | O35295     | PURB     | purine rich element binding protein B                                                             | Nucleus         | transcription regulator |
| 0.45 | -2.222 | Q8K2B3     | SDHA     | succinate dehydrogenase complex flavoprotein subunit A                                            | Cytoplasm       | enzyme                  |
| 0.45 | -2.222 | Q91ZW3     | SMARCA5  | SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 5 | Nucleus         | transcription regulator |
| 0.45 | -2.222 | Q91YJ2     | SNX4     | sorting nexin 4                                                                                   | Cytoplasm       | transporter             |
| 0.45 | -2.222 | Q9D8U8     | SNX5     | sorting nexin 5                                                                                   | Cytoplasm       | transporter             |
| 0.45 | -2.222 | Q61542     | STARD3   | StAR related lipid transfer domain containing 3                                                   | Cytoplasm       | transporter             |
| 0.45 | -2.222 | Q5KU39     | VPS41    | VPS41, HOPS complex subunit                                                                       | Cytoplasm       | transporter             |
| 0.45 | -2.222 | Q8ZPT3     |          |                                                                                                   |                 |                         |
| 0.46 | -2.174 | P15864     | HIST1H1C | histone cluster 1 H1 family member c                                                              | Nucleus         | other                   |
| 0.47 | -2.128 | Q61699     | HSPH1    | heat shock protein family H (Hsp110) member 1                                                     | Cytoplasm       | other                   |
| 0.47 | -2.128 | Q6ZWN5     | RPS9     | ribosomal protein S9                                                                              | Cytoplasm       | translation regulator   |

Table S3

|      |        |            |         |                                                                    |                 |                         |
|------|--------|------------|---------|--------------------------------------------------------------------|-----------------|-------------------------|
| 0.48 | -2.083 | Q8K1X4     | NCKAP1L | NCK associated protein 1 like                                      | Plasma Membrane | other                   |
| 0.48 | -2.083 | Q8BG32     | PSMD11  | proteasome 26S subunit, non-ATPase 11                              | Cytoplasm       | other                   |
| 0.48 | -2.083 | E9PYG6     | RASA1   | RAS p21 protein activator 1                                        | Cytoplasm       | transporter             |
| 0.49 | -2.041 | Q99PT1     | ARHGDIA | Rho GDP dissociation inhibitor alpha                               | Cytoplasm       | other                   |
| 0.49 | -2.041 | Q9D4H8     | CUL2    | cullin 2                                                           | Nucleus         | enzyme                  |
| 0.49 | -2.041 | P29758     | OAT     | ornithine aminotransferase                                         | Cytoplasm       | enzyme                  |
| 0.5  | -2     | P55264     | ADK     | adenosine kinase                                                   | Nucleus         | kinase                  |
| 0.5  | -2     | Q9JHZ2     | ANKH    | ANKH inorganic pyrophosphate transport regulator                   | Plasma Membrane | transporter             |
| 0.5  | -2     | Q91VK1     | BZW2    | basic leucine zipper and W2 domains 2                              | Cytoplasm       | translation regulator   |
| 0.5  | -2     | P40237     | CD82    | CD82 molecule                                                      | Plasma Membrane | other                   |
| 0.5  | -2     | O89079     | COPE    | coatamer protein complex subunit epsilon                           | Cytoplasm       | transporter             |
| 0.5  | -2     | Q3TCH7     | CUL4A   | cullin 4A                                                          | Nucleus         | other                   |
| 0.5  | -2     | Q8K1G9     | DHX35   | DEAH-box helicase 35                                               | Other           | enzyme                  |
| 0.5  | -2     | Q8BPU7     | ELMO1   | engulfment and cell motility 1                                     | Cytoplasm       | other                   |
| 0.5  | -2     | B7ZNX6     | ERBIN   | erbB2 interacting protein                                          | Cytoplasm       | other                   |
| 0.5  | -2     | F7AQX0     | EZH2    | enhancer of zeste 2 polycomb repressive complex 2 subunit          | Nucleus         | transcription regulator |
| 0.5  | -2     | Q7TMC8     | FUK     | fucokinase                                                         | Cytoplasm       | kinase                  |
| 0.5  | -2     | P70699     | GAA     | glucosidase alpha, acid                                            | Cytoplasm       | enzyme                  |
| 0.5  | -2     | Q3U432     | GAS7    | growth arrest specific 7                                           | Cytoplasm       | transcription regulator |
| 0.5  | -2     | Q9QWL7     | KRT17   | keratin 17                                                         | Cytoplasm       | other                   |
| 0.5  | -2     | P08249     | MDH2    | malate dehydrogenase 2                                             | Cytoplasm       | enzyme                  |
| 0.5  | -2     | B5THE2     | MGAM    | maltase-glucoamylase                                               | Plasma Membrane | enzyme                  |
| 0.5  | -2     | Q8R3N1     | NOP14   | NOP14 nucleolar protein                                            | Nucleus         | other                   |
| 0.5  | -2     | Q6P9R2     | OXSRI   | oxidative stress responsive 1                                      | Nucleus         | kinase                  |
| 0.5  | -2     | P70268     | PKN1    | protein kinase N1                                                  | Cytoplasm       | kinase                  |
| 0.5  | -2     | P35456     | PLAUR   | plasminogen activator, urokinase receptor                          | Plasma Membrane | transmembrane receptor  |
| 0.5  | -2     | Q9DC61     | PMPCA   | peptidase, mitochondrial processing alpha subunit                  | Cytoplasm       | peptidase               |
| 0.5  | -2     | P97760     | POLR2C  | RNA polymerase II subunit C                                        | Nucleus         | enzyme                  |
| 0.5  | -2     | Q6ZWV7     | RPL35   | ribosomal protein L35                                              | Cytoplasm       | other                   |
| 0.5  | -2     | Q91WM3     | RRP9    | ribosomal RNA processing 9, U3 small nucleolar RNA binding protein | Nucleus         | other                   |
| 0.5  | -2     | Q6NZR5     | SKIV2L  | Ski2 like RNA helicase                                             | Nucleus         | enzyme                  |
| 0.5  | -2     | O70551     | SRPK1   | SRSF protein kinase 1                                              | Nucleus         | kinase                  |
| 0.5  | -2     | CAS1_BOVIN |         |                                                                    |                 |                         |
| 0.51 | -1.961 | P45376     | AKR1B1  | aldo-keto reductase family 1 member B                              | Cytoplasm       | enzyme                  |
| 0.51 | -1.961 | Q9CZ30     | OLA1    | Obg like ATPase 1                                                  | Cytoplasm       | enzyme                  |
| 0.51 | -1.961 | P0A1X0     |         |                                                                    |                 |                         |
| 0.52 | -1.923 | Q8JZV7     | AMDHD2  | amidohydrolase domain containing 2                                 | Nucleus         | enzyme                  |

Table S3

|      |        |            |          |                                                               |                     |                         |
|------|--------|------------|----------|---------------------------------------------------------------|---------------------|-------------------------|
| 0.52 | -1.923 | Q5SVG4     | AP1B1    | adaptor related protein complex 1 subunit beta 1              | Cytoplasm           | transporter             |
| 0.52 | -1.923 | P01887     | B2M      | beta-2-microglobulin                                          | Plasma Membrane     | transmembrane receptor  |
| 0.52 | -1.923 | A0A0U1RNK7 | DOCK7    | dedicator of cytokinesis 7                                    | Plasma Membrane     | other                   |
| 0.52 | -1.923 | Q9CZX0     | ELP3     | elongator acetyltransferase complex subunit 3                 | Nucleus             | enzyme                  |
| 0.52 | -1.923 | P16110     | LGALS3   | galectin 3                                                    | Extracellular Space | other                   |
| 0.52 | -1.923 | P62315     | SNRPD1   | small nuclear ribonucleoprotein D1 polypeptide                | Nucleus             | other                   |
| 0.52 | -1.923 | A0A1B0GR11 | TALDO1   | transaldolase 1                                               | Cytoplasm           | enzyme                  |
| 0.52 | -1.923 | P35123     | USP4     | ubiquitin specific peptidase 4                                | Nucleus             | peptidase               |
| 0.54 | -1.852 | A0A0N4SUH4 | PUM3     | pumilio RNA binding family member 3                           | Nucleus             | other                   |
| 0.54 | -1.852 | P62301     | RPS13    | ribosomal protein S13                                         | Cytoplasm           | other                   |
| 0.55 | -1.818 | A0A1L1SV25 | ACTN4    | actinin alpha 4                                               | Cytoplasm           | transcription regulator |
| 0.56 | -1.786 | Q8R5C5     | ACTR1B   | ARP1 actin related protein 1 homolog B                        | Cytoplasm           | other                   |
| 0.56 | -1.786 | P28474     | ADH5     | alcohol dehydrogenase 5 (class III), chi polypeptide          | Cytoplasm           | enzyme                  |
| 0.56 | -1.786 | M0QWP1     | AGRN     | agrin                                                         | Plasma Membrane     | other                   |
| 0.56 | -1.786 | A0A0R4J107 | APEH     | acylaminoacyl-peptide hydrolase                               | Cytoplasm           | peptidase               |
| 0.56 | -1.786 | E9QMX7     | ARHGAP30 | Rho GTPase activating protein 30                              | Cytoplasm           | other                   |
| 0.56 | -1.786 | O54984     | ASNA1    | arsA arsenite transporter, ATP-binding, homolog 1 (bacterial) | Nucleus             | transporter             |
| 0.56 | -1.786 | Q99LC2     | CSTF1    | cleavage stimulation factor subunit 1                         | Nucleus             | other                   |
| 0.56 | -1.786 | P43346     | DCK      | deoxycytidine kinase                                          | Nucleus             | kinase                  |
| 0.56 | -1.786 | Q8VHK9     | DHX36    | DEAH-box helicase 36                                          | Cytoplasm           | enzyme                  |
| 0.56 | -1.786 | Q9Z2W0     | DNPEP    | aspartyl aminopeptidase                                       | Cytoplasm           | peptidase               |
| 0.56 | -1.786 | P59325     | EIF5     | eukaryotic translation initiation factor 5                    | Cytoplasm           | translation regulator   |
| 0.56 | -1.786 | Q00612     | G6PD     | glucose-6-phosphate dehydrogenase                             | Cytoplasm           | enzyme                  |
| 0.56 | -1.786 | Q6ZQ88     | KDM1A    | lysine demethylase 1A                                         | Nucleus             | enzyme                  |
| 0.56 | -1.786 | F6RJV6     | LANCL2   | LanC like 2                                                   | Plasma Membrane     | other                   |
| 0.56 | -1.786 | P49138     | MAPKAPK2 | mitogen-activated protein kinase-activated protein kinase 2   | Nucleus             | kinase                  |
| 0.56 | -1.786 | P34884     | MIF      | macrophage migration inhibitory factor                        | Extracellular Space | cytokine                |
| 0.56 | -1.786 | Q8VEJ4     | NLE1     | notchless homolog 1                                           | Nucleus             | enzyme                  |
| 0.56 | -1.786 | Q11011     | NPEPPS   | aminopeptidase puromycin sensitive                            | Cytoplasm           | peptidase               |
| 0.56 | -1.786 | Q91V89     | PPP2R5D  | protein phosphatase 2 regulatory subunit B'delta              | Nucleus             | phosphatase             |
| 0.56 | -1.786 | Q9JK23     | PSMG1    | proteasome assembly chaperone 1                               | Plasma Membrane     | other                   |

Table S3

|      |        |            |          |                                                                                 |                     |                       |
|------|--------|------------|----------|---------------------------------------------------------------------------------|---------------------|-----------------------|
| 0.56 | -1.786 | O08604     | Raet1c   | retinoic acid early transcript gamma                                            | Plasma Membrane     | other                 |
| 0.56 | -1.786 | Q9JJF3     | RIOX1    | ribosomal oxygenase 1                                                           | Nucleus             | enzyme                |
| 0.56 | -1.786 | P11157     | RRM2     | ribonucleotide reductase regulatory subunit M2                                  | Nucleus             | enzyme                |
| 0.56 | -1.786 | Q9R1T2     | SAE1     | SUMO1 activating enzyme subunit 1                                               | Cytoplasm           | enzyme                |
| 0.56 | -1.786 | Q60710     | SAMHD1   | SAM and HD domain containing deoxynucleoside triphosphate triphosphohydrolase 1 | Nucleus             | enzyme                |
| 0.56 | -1.786 | O35988     | SDC4     | syndecan 4                                                                      | Plasma Membrane     | other                 |
| 0.56 | -1.786 | Q3UKJ7     | SMU1     | SMU1, DNA replication regulator and spliceosomal factor                         | Nucleus             | other                 |
| 0.56 | -1.786 | P27048     | SNRPB    | small nuclear ribonucleoprotein polypeptides B and B1                           | Nucleus             | other                 |
| 0.56 | -1.786 | Q9WVA4     | TAGLN2   | transgelin 2                                                                    | Cytoplasm           | other                 |
| 0.56 | -1.786 | Q80XC2     | TRMT61A  | tRNA methyltransferase 61A                                                      | Nucleus             | enzyme                |
| 0.56 | -1.786 | Q9WUP7     | UCHL5    | ubiquitin C-terminal hydrolase L5                                               | Cytoplasm           | peptidase             |
| 0.56 | -1.786 | Q8K4P0     | WDR33    | WD repeat domain 33                                                             | Nucleus             | other                 |
| 0.57 | -1.754 | Q8K3W0     | BABAM2   | BRISC and BRCA1 A complex member 2                                              | Cytoplasm           | other                 |
| 0.57 | -1.754 | Q8JZK9     | HMGCS1   | 3-hydroxy-3-methylglutaryl-CoA synthase 1                                       | Cytoplasm           | enzyme                |
| 0.57 | -1.754 | Q8K2Z4     | NCAPD2   | non-SMC condensin I complex subunit D2                                          | Nucleus             | other                 |
| 0.57 | -1.754 | Q8R0W6     | NDFIP1   | Nedd4 family interacting protein 1                                              | Cytoplasm           | other                 |
| 0.57 | -1.754 | Q9CRB2     | NHP2     | NHP2 ribonucleoprotein                                                          | Nucleus             | other                 |
| 0.57 | -1.754 | P62141     | PPP1CB   | protein phosphatase 1 catalytic subunit beta                                    | Cytoplasm           | phosphatase           |
| 0.57 | -1.754 | E9Q2M9     | WDFY4    | WDFY family member 4                                                            | Other               | other                 |
| 0.58 | -1.724 | Q8K482     | EMILIN2  | elastin microfibril interfacier 2                                               | Extracellular Space | other                 |
| 0.58 | -1.724 | Q60854     | SERPINB6 | serpin family B member 6                                                        | Cytoplasm           | other                 |
| 0.61 | -1.639 | P17427     | AP2A2    | adaptor related protein complex 2 subunit alpha 2                               | Cytoplasm           | transporter           |
| 0.61 | -1.639 | A0A140T8I9 | PI4KA    | phosphatidylinositol 4-kinase alpha                                             | Cytoplasm           | kinase                |
| 0.61 | -1.639 | P83882     | Rpl36a   | ribosomal protein L36A                                                          | Cytoplasm           | other                 |
| 0.62 | -1.613 | Q99KN1     | ARRDC1   | arrestin domain containing 1                                                    | Cytoplasm           | other                 |
| 0.62 | -1.613 | Q64261     | CDK6     | cyclin dependent kinase 6                                                       | Nucleus             | kinase                |
| 0.62 | -1.613 | A0A0U1RP94 | CSNK1G1  | casein kinase 1 gamma 1                                                         | Cytoplasm           | kinase                |
| 0.62 | -1.613 | Q3U1J4     | DDB1     | damage specific DNA binding protein 1                                           | Nucleus             | other                 |
| 0.62 | -1.613 | A0A0A0MQM0 | EIF5A    | eukaryotic translation initiation factor 5A                                     | Cytoplasm           | translation regulator |
| 0.62 | -1.613 | Q7TS64     | GRK2     | G protein-coupled receptor kinase 2                                             | Cytoplasm           | kinase                |
| 0.62 | -1.613 | Q8K2V6     | IPO11    | importin 11                                                                     | Nucleus             | transporter           |
| 0.62 | -1.613 | Q9D2Y4     | MLKL     | mixed lineage kinase domain like pseudokinase                                   | Cytoplasm           | kinase                |
| 0.62 | -1.613 | Q9JKX6     | NUDT5    | nudix hydrolase 5                                                               | Cytoplasm           | phosphatase           |

Table S3

|      |        |             |         |                                                                  |                     |                         |
|------|--------|-------------|---------|------------------------------------------------------------------|---------------------|-------------------------|
| 0.62 | -1.613 | Q62422      | OSTF1   | osteoclast stimulating factor 1                                  | Nucleus             | transcription regulator |
| 0.62 | -1.613 | Q9DBD5      | PELP1   | proline, glutamate and leucine rich protein 1                    | Nucleus             | other                   |
| 0.62 | -1.613 | P68181      | PRKACB  | protein kinase cAMP-activated catalytic subunit beta             | Cytoplasm           | kinase                  |
| 0.62 | -1.613 | Q5SV02      | RAD50   | RAD50 double strand break repair protein                         | Nucleus             | enzyme                  |
| 0.62 | -1.613 | P63325      | RPS10   | ribosomal protein S10                                            | Cytoplasm           | other                   |
| 0.62 | -1.613 | P98083      | SHC1    | SHC adaptor protein 1                                            | Cytoplasm           | other                   |
| 0.62 | -1.613 | A2AR26      | SLC2A6  | solute carrier family 2 member 6                                 | Plasma Membrane     | transporter             |
| 0.62 | -1.613 | Q64704      | STX3    | syntaxin 3                                                       | Plasma Membrane     | transporter             |
| 0.65 | -1.538 | G3X977      | ITIH2   | inter-alpha-trypsin inhibitor heavy chain 2                      | Extracellular Space | other                   |
| 0.67 | -1.493 | Q5SQ20      | PES1    | pescadillo ribosomal biogenesis factor 1                         | Nucleus             | other                   |
| 0.7  | -1.429 | Q8BK64      | AHSA1   | activator of HSP90 ATPase activity 1                             | Cytoplasm           | other                   |
| 0.7  | -1.429 | A0A0J9YU6 2 | CTBP1   | C-terminal binding protein 1                                     | Nucleus             | enzyme                  |
| 0.7  | -1.429 | Q569Z5      | DDX46   | DEAD-box helicase 46                                             | Nucleus             | enzyme                  |
| 0.7  | -1.429 | Q9JHU9      | ISYNA1  | inositol-3-phosphate synthase 1                                  | Cytoplasm           | enzyme                  |
| 0.71 | -1.408 | Q8R050      | GSPT1   | G1 to S phase transition 1                                       | Cytoplasm           | translation regulator   |
| 0.73 | -1.37  | P47754      | CAPZA2  | capping actin protein of muscle Z-line subunit alpha 2           | Cytoplasm           | other                   |
| 0.73 | -1.37  | Q9Z1N5      | DDX39B  | DEAD-box helicase 39B                                            | Nucleus             | enzyme                  |
| 0.73 | -1.37  | Q8BWU5      | OSGEP   | O-sialoglycoprotein endopeptidase                                | Nucleus             | peptidase               |
| 0.73 | -1.37  | Q8CAS9      | PARP9   | poly(ADP-ribose) polymerase family member 9                      | Nucleus             | enzyme                  |
| 0.73 | -1.37  | Q8CIH9      | PPAT    | phosphoribosyl pyrophosphate amidotransferase                    | Cytoplasm           | enzyme                  |
| 0.52 | 1      | Q921H8      | ACAA1   | acetyl-CoA acyltransferase 1                                     | Cytoplasm           | enzyme                  |
| 0.81 | 1      | Q8QZT1      | ACAT1   | acetyl-CoA acetyltransferase 1                                   | Cytoplasm           | enzyme                  |
| 0.56 | 1      | P97822      | Anp32e  | acidic (leucine-rich) nuclear phosphoprotein 32 family, member E | Cytoplasm           | other                   |
| 0.65 | 1      | Q6DFX2      | ANTXR2  | ANTXR cell adhesion molecule 2                                   | Plasma Membrane     | transmembrane receptor  |
| 0.62 | 1      | Q8CBB7      | AP1G1   | adaptor related protein complex 1 subunit gamma 1                | Cytoplasm           | transporter             |
| 0.52 | 1      | Q9Z1T1      | AP3B1   | adaptor related protein complex 3 subunit beta 1                 | Plasma Membrane     | transporter             |
| 0.54 | 1      | Q61599      | ARHGDIB | Rho GDP dissociation inhibitor beta                              | Cytoplasm           | enzyme                  |
| 0.56 | 1      | D3YXG6      | ARPC2   | actin related protein 2/3 complex subunit 2                      | Cytoplasm           | other                   |
| 0.65 | 1      | P59999      | ARPC4   | actin related protein 2/3 complex subunit 4                      | Cytoplasm           | other                   |
| 0.81 | 1      | D6REV1      | ASXL2   | ASXL transcriptional regulator 2                                 | Extracellular Space | other                   |
| 0.56 | 1      | Q9CPX6      | ATG3    | autophagy related 3                                              | Cytoplasm           | enzyme                  |
| 0.81 | 1      | Q9D906      | ATG7    | autophagy related 7                                              | Cytoplasm           | enzyme                  |

Table S3

|      |   |        |         |                                                            |                     |                         |
|------|---|--------|---------|------------------------------------------------------------|---------------------|-------------------------|
| 0.81 | 1 | Q9CYN9 | ATP6AP2 | ATPase H <sup>+</sup> transporting accessory protein 2     | Cytoplasm           | transporter             |
| 0.56 | 1 | P01027 | C3      | complement C3                                              | Extracellular Space | peptidase               |
| 0.81 | 1 | G3X8U3 | C9orf64 | chromosome 9 open reading frame 64                         | Other               | other                   |
| 0.65 | 1 | Q91YS8 | CAMK1   | calcium/calmodulin dependent protein kinase I              | Cytoplasm           | kinase                  |
| 0.42 | 1 | P40124 | CAP1    | cyclase associated actin cytoskeleton regulatory protein 1 | Plasma Membrane     | other                   |
| 0.81 | 1 | Q8CIS0 | CARD11  | caspase recruitment domain family member 11                | Cytoplasm           | kinase                  |
| 0.81 | 1 | P21855 | CD72    | CD72 molecule                                              | Plasma Membrane     | transmembrane receptor  |
| 0.46 | 1 | P60766 | Cdc42   | cell division cycle 42                                     | Plasma Membrane     | enzyme                  |
| 0.81 | 1 | Q8BT07 | CEP55   | centrosomal protein 55                                     | Cytoplasm           | other                   |
| 0.65 | 1 | Q9DBC3 | CMTR1   | cap methyltransferase 1                                    | Nucleus             | enzyme                  |
| 0.54 | 1 | Q9JIF7 | COPB1   | coatamer protein complex subunit beta 1                    | Cytoplasm           | transporter             |
| 0.81 | 1 | P47199 | CRYZ    | crystallin zeta                                            | Cytoplasm           | enzyme                  |
| 0.57 | 1 | Q9CZU6 | CS      | citrate synthase                                           | Cytoplasm           | enzyme                  |
| 0.81 | 1 | P26231 | CTNNA1  | catenin alpha 1                                            | Plasma Membrane     | other                   |
| 0.65 | 1 | P16675 | CTSA    | cathepsin A                                                | Cytoplasm           | peptidase               |
| 0.81 | 1 | Q3UGB5 | Dazap1  | DAZ associated protein 1                                   | Cytoplasm           | other                   |
| 0.81 | 1 | Q8BMF4 | DLAT    | dihydrolipoamide S-acetyltransferase                       | Cytoplasm           | enzyme                  |
| 0.81 | 1 | O08749 | DLD     | dihydrolipoamide dehydrogenase                             | Cytoplasm           | enzyme                  |
| 0.49 | 1 | E9PUD2 | DNM1L   | dynamitin 1 like                                           | Cytoplasm           | enzyme                  |
| 0.81 | 1 | Q5NCQ5 | DPH1    | diphthamide biosynthesis 1                                 | Cytoplasm           | other                   |
| 0.56 | 1 | Q99KK7 | DPP3    | dipeptidyl peptidase 3                                     | Cytoplasm           | peptidase               |
| 0.81 | 1 | Q8C0D5 | EFL1    | elongation factor like GTPase 1                            | Cytoplasm           | translation regulator   |
| 0.81 | 1 | B1AUN2 | EIF2B3  | eukaryotic translation initiation factor 2B subunit gamma  | Cytoplasm           | other                   |
| 0.65 | 1 | P63073 | EIF4E   | eukaryotic translation initiation factor 4E                | Cytoplasm           | translation regulator   |
| 0.81 | 1 | Q80Y81 | ELAC2   | elaC ribonuclease Z 2                                      | Nucleus             | enzyme                  |
| 0.33 | 1 | P17182 | ENO1    | enolase 1                                                  | Cytoplasm           | enzyme                  |
| 0.81 | 1 | Q9CRA8 | EXOSC5  | exosome component 5                                        | Nucleus             | enzyme                  |
| 0.56 | 1 | P26040 | EZR     | ezrin                                                      | Plasma Membrane     | other                   |
| 0.57 | 1 | Q8R1F1 | FAM129B | family with sequence similarity 129 member B               | Cytoplasm           | transcription regulator |
| 0.56 | 1 | Q80VA0 | GALNT7  | polypeptide N-acetylgalactosaminyltransferase 7            | Cytoplasm           | enzyme                  |
| 0.49 | 1 | P16858 | GAPDH   | glyceraldehyde-3-phosphate dehydrogenase                   | Cytoplasm           | enzyme                  |
| 0.48 | 1 | Q9CZD3 | GARS    | glycyl-tRNA synthetase                                     | Cytoplasm           | enzyme                  |
| 0.56 | 1 | Q8BGZ6 | GLA     | galactosidase alpha                                        | Cytoplasm           | enzyme                  |
| 0.81 | 1 | Q9DCZ1 | GMPR    | guanosine monophosphate reductase                          | Cytoplasm           | enzyme                  |

Table S3

|      |   |            |           |                                                 |                     |                         |
|------|---|------------|-----------|-------------------------------------------------|---------------------|-------------------------|
| 0.48 | 1 | P08752     | GNAI2     | G protein subunit alpha i2                      | Plasma Membrane     | enzyme                  |
| 0.56 | 1 | P62874     | GNB1      | G protein subunit beta 1                        | Plasma Membrane     | enzyme                  |
| 0.56 | 1 | Q9CR60     | GOLT1B    | golgi transport 1B                              | Cytoplasm           | other                   |
| 0.81 | 1 | Q3ULJ0     | GPD1L     | glycerol-3-phosphate dehydrogenase 1 like       | Cytoplasm           | enzyme                  |
| 0.81 | 1 | Q91Z53     | GRHPR     | glyoxylate and hydroxypyruvate reductase        | Cytoplasm           | enzyme                  |
| 0.81 | 1 | P28798     | GRN       | granulin precursor                              | Extracellular Space | growth factor           |
| 0.55 | 1 | Q9D8T2     | GSDMD     | gasdermin D                                     | Extracellular Space | other                   |
| 0.81 | 1 | GELS_HUMAN | GSN       | gelsolin                                        | Extracellular Space | other                   |
| 0.81 | 1 | B1AUX2     | HCFC1     | host cell factor C1                             | Nucleus             | transcription regulator |
| 0.65 | 1 | G3X9B1     | HEATR1    | HEAT repeat containing 1                        | Nucleus             | other                   |
| 0.57 | 1 | A2AS03     | HELZ2     | helicase with zinc finger 2                     | Nucleus             | transcription regulator |
| 0.51 | 1 | P01900     | HLA-A     | major histocompatibility complex, class I, A    | Plasma Membrane     | other                   |
| 0.57 | 1 | P22907     | HMBS      | hydroxymethylbilane synthase                    | Cytoplasm           | enzyme                  |
| 0.81 | 1 | O88569     | HNRNPA2B1 | heterogeneous nuclear ribonucleoprotein A2/B1   | Nucleus             | other                   |
| 0.49 | 1 | Q8VEK3     | HNRNPU    | heterogeneous nuclear ribonucleoprotein U       | Nucleus             | transporter             |
| 0.65 | 1 | P00493     | HPRT1     | hypoxanthine phosphoribosyltransferase 1        | Cytoplasm           | enzyme                  |
| 0.81 | 1 | P51660     | HSD17B4   | hydroxysteroid 17-beta dehydrogenase 4          | Cytoplasm           | enzyme                  |
| 0.81 | 1 | G3X9H5     | HTT       | huntingtin                                      | Cytoplasm           | transcription regulator |
| 0.55 | 1 | Q9JKR6     | HYOU1     | hypoxia up-regulated 1                          | Cytoplasm           | other                   |
| 0.58 | 1 | Q07113     | IGF2R     | insulin like growth factor 2 receptor           | Plasma Membrane     | transmembrane receptor  |
| 0.65 | 1 | Q0GNC1     | INF2      | inverted formin, FH2 and WH2 domain containing  | Cytoplasm           | other                   |
| 0.81 | 1 | A0A0R4J0E4 | INTS7     | integrator complex subunit 7                    | Nucleus             | other                   |
| 0.81 | 1 | Q8K0C1     | IPO13     | importin 13                                     | Nucleus             | transporter             |
| 0.48 | 1 | Q9JKF1     | IQGAP1    | IQ motif containing GTPase activating protein 1 | Cytoplasm           | other                   |
| 0.48 | 1 | Q792F9     | ITGA4     | integrin subunit alpha 4                        | Plasma Membrane     | transmembrane receptor  |
| 0.81 | 1 | P26011     | ITGB7     | integrin subunit beta 7                         | Plasma Membrane     | transmembrane receptor  |
| 0.65 | 1 | O35345     | KPNA6     | karyopherin subunit alpha 6                     | Nucleus             | transporter             |
| 0.36 | 1 | K2C1_HUMAN | KRT1      | keratin 1                                       | Cytoplasm           | other                   |
| 0.81 | 1 | Q9Z2K1     | KRT16     | keratin 16                                      | Cytoplasm           | other                   |
| 0.81 | 1 | P50446     | KRT6B     | keratin 6B                                      | Cytoplasm           | other                   |
| 0.57 | 1 | P11438     | LAMP1     | lysosomal associated membrane protein 1         | Plasma Membrane     | other                   |

Table S3

|      |   |             |          |                                                                    |                 |                         |
|------|---|-------------|----------|--------------------------------------------------------------------|-----------------|-------------------------|
| 0.56 | 1 | Q8BYR1      | LCMT2    | leucine carboxyl methyltransferase 2                               | Cytoplasm       | enzyme                  |
| 0.56 | 1 | P06151      | LDHA     | lactate dehydrogenase A                                            | Cytoplasm       | enzyme                  |
| 0.56 | 1 | A0A0R4J0W6  | LRRC40   | leucine rich repeat containing 40                                  | Nucleus         | other                   |
| 0.56 | 1 | Q8R4U7      | LUZP1    | leucine zipper protein 1                                           | Nucleus         | other                   |
| 0.65 | 1 | P14152      | MDH1     | malate dehydrogenase 1                                             | Cytoplasm       | enzyme                  |
| 0.65 | 1 | B7ZCL8      | MPP1     | membrane palmitoylated protein 1                                   | Plasma Membrane | kinase                  |
| 0.81 | 1 | Q99JF5      | MVD      | mevalonate diphosphate decarboxylase                               | Cytoplasm       | enzyme                  |
| 0.81 | 1 | A0A0R4J0G3  | NIPAL2   | NIPA like domain containing 2                                      | Other           | other                   |
| 0.54 | 1 | O70310      | NMT1     | N-myristoyltransferase 1                                           | Cytoplasm       | enzyme                  |
| 0.58 | 1 | Q8BHY2      | NOC4L    | nucleolar complex associated 4 homolog                             | Nucleus         | transcription regulator |
| 0.54 | 1 | Q6DFW4      | NOP58    | NOP58 ribonucleoprotein                                            | Nucleus         | enzyme                  |
| 0.81 | 1 | Q9CZ44      | NSFL1C   | NSFL1 cofactor                                                     | Cytoplasm       | other                   |
| 0.81 | 1 | A0A0A6YW F9 | NTRK3    | neurotrophic receptor tyrosine kinase 3                            | Plasma Membrane | kinase                  |
| 0.81 | 1 | O35685      | NUDC     | nuclear distribution C, dynein complex regulator                   | Cytoplasm       | other                   |
| 0.56 | 1 | Q8R480      | NUP85    | nucleoporin 85                                                     | Cytoplasm       | other                   |
| 0.81 | 1 | P61971      | NUTF2    | nuclear transport factor 2                                         | Nucleus         | transporter             |
| 0.81 | 1 | H7BX01      | OPA1     | OPA1, mitochondrial dynamin like GTPase                            | Cytoplasm       | enzyme                  |
| 0.49 | 1 | Q3UJQ9      | OXCT1    | 3-oxoacid CoA-transferase 1                                        | Cytoplasm       | enzyme                  |
| 0.4  | 1 | P29341      | PABPC1   | poly(A) binding protein cytoplasmic 1                              | Cytoplasm       | translation regulator   |
| 0.81 | 1 | P63005      | PAFAH1B1 | platelet activating factor acetylhydrolase 1b regulatory subunit 1 | Cytoplasm       | enzyme                  |
| 0.65 | 1 | Q9DCE5      | PAK1IP1  | PAK1 interacting protein 1                                         | Nucleus         | other                   |
| 0.81 | 1 | Q3U4S0      | PANK2    | pantothenate kinase 2                                              | Cytoplasm       | kinase                  |
| 0.57 | 1 | Q2EMV9      | PARP14   | poly(ADP-ribose) polymerase family member 14                       | Cytoplasm       | enzyme                  |
| 0.51 | 1 | P12815      | PDCD6    | programmed cell death 6                                            | Cytoplasm       | other                   |
| 0.52 | 1 | Q9WU78      | PDCD6IP  | programmed cell death 6 interacting protein                        | Cytoplasm       | other                   |
| 0.81 | 1 | Q3TIU4      | PDE12    | phosphodiesterase 12                                               | Cytoplasm       | enzyme                  |
| 0.65 | 1 | Q9CQ60      | PGLS     | 6-phosphogluconolactonase                                          | Cytoplasm       | enzyme                  |
| 0.56 | 1 | Q9D0F9      | PGM1     | phosphoglucomutase 1                                               | Cytoplasm       | enzyme                  |
| 0.81 | 1 | Q8VD65      | PIK3R4   | phosphoinositide-3-kinase regulatory subunit 4                     | Cytoplasm       | kinase                  |
| 0.79 | 1 | F8WI18      | PIP5K1A  | phosphatidylinositol-4-phosphate 5-kinase type 1 alpha             | Cytoplasm       | kinase                  |
| 0.55 | 1 | Q9DBX5      | PLA2G4A  | phospholipase A2 group IVA                                         | Cytoplasm       | enzyme                  |
| 0.81 | 1 | P27612      | PLAA     | phospholipase A2 activating protein                                | Cytoplasm       | other                   |
| 0.79 | 1 | P70700      | POLR1B   | RNA polymerase I subunit B                                         | Nucleus         | enzyme                  |
| 0.56 | 1 | A0A0J9YVG0  | PPM1G    | protein phosphatase, Mg2+/Mn2+ dependent 1G                        | Nucleus         | phosphatase             |
| 0.5  | 1 | P63330      | PPP2CA   | protein phosphatase 2 catalytic subunit alpha                      | Cytoplasm       | phosphatase             |
| 0.55 | 1 | Q76MZ3      | PPP2R1A  | protein phosphatase 2 scaffold subunit Aalpha                      | Cytoplasm       | phosphatase             |

Table S3

|      |   |        |         |                                                              |                     |                            |
|------|---|--------|---------|--------------------------------------------------------------|---------------------|----------------------------|
| 0.56 | 1 | P97470 | PPP4C   | protein phosphatase 4 catalytic subunit                      | Cytoplasm           | phosphatase                |
| 0.81 | 1 | Q60676 | PPP5C   | protein phosphatase 5 catalytic subunit                      | Nucleus             | phosphatase                |
| 0.56 | 1 | O54950 | PRKAG1  | protein kinase AMP-activated non-catalytic subunit gamma 1   | Nucleus             | kinase                     |
| 0.58 | 1 | Q99KP6 | PRPF19  | pre-mRNA processing factor 19                                | Nucleus             | enzyme                     |
| 0.81 | 1 | P28063 | PSMB8   | proteasome subunit beta 8                                    | Cytoplasm           | peptidase                  |
| 0.4  | 1 | Q8BVQ9 | PSMC2   | proteasome 26S subunit, ATPase 2                             | Nucleus             | peptidase                  |
| 0.47 | 1 | P62334 | PSMC6   | proteasome 26S subunit, ATPase 6                             | Nucleus             | peptidase                  |
| 0.65 | 1 | Q9CX56 | PSMD8   | proteasome 26S subunit, non-ATPase 8                         | Cytoplasm           | other                      |
| 0.81 | 1 | P22437 | PTGS1   | prostaglandin-endoperoxide synthase 1                        | Cytoplasm           | enzyme                     |
| 0.81 | 1 | Q61550 | RAD21   | RAD21 cohesin complex component                              | Nucleus             | transcription regulator    |
| 0.52 | 1 | Q9JIW9 | RALB    | RAS like proto-oncogene B                                    | Cytoplasm           | enzyme                     |
| 0.56 | 1 | Q6A0D4 | RFTN1   | raftlin, lipid raft linker 1                                 | Plasma Membrane     | other                      |
| 0.65 | 1 | Q9D0L8 | RNMT    | RNA guanine-7 methyltransferase                              | Nucleus             | enzyme                     |
| 0.33 | 1 | P27659 | RPL3    | ribosomal protein L3                                         | Nucleus             | other                      |
| 0.3  | 1 | Q9D8E6 | RPL4    | ribosomal protein L4                                         | Cytoplasm           | enzyme                     |
| 0.36 | 1 | P14148 | RPL7    | ribosomal protein L7                                         | Nucleus             | transcription regulator    |
| 0.46 | 1 | P62855 | RPS26   | ribosomal protein S26                                        | Cytoplasm           | other                      |
| 0.46 | 1 | P62908 | RPS3    | ribosomal protein S3                                         | Cytoplasm           | enzyme                     |
| 0.5  | 1 | P62242 | RPS8    | ribosomal protein S8                                         | Cytoplasm           | other                      |
| 0.65 | 1 | Q8R550 | SH3KBP1 | SH3 domain containing kinase binding protein 1               | Cytoplasm           | other                      |
| 0.81 | 1 | Q8VI23 | SLC12A8 | solute carrier family 12 member 8                            | Other               | transporter                |
| 0.56 | 1 | Q80TR4 | SLIT1   | slit guidance ligand 1                                       | Extracellular Space | other                      |
| 0.58 | 1 | Q9CWK8 | SNX2    | sorting nexin 2                                              | Cytoplasm           | transporter                |
| 0.56 | 1 | Q64105 | SPR     | sepiapterin reductase                                        | Cytoplasm           | enzyme                     |
| 0.43 | 1 | Q08943 | SSRP1   | structure specific recognition protein 1                     | Nucleus             | transcription regulator    |
| 0.81 | 1 | Q64692 | ST8SIA4 | ST8 alpha-N-acetyl-neuraminide alpha-2,8-sialyltransferase 4 | Cytoplasm           | enzyme                     |
| 0.65 | 1 | Q60864 | STIP1   | stress induced phosphoprotein 1                              | Cytoplasm           | other                      |
| 0.65 | 1 | Q3TAA7 | STK11IP | serine/threonine kinase 11 interacting protein               | Cytoplasm           | other                      |
| 0.81 | 1 | B2RQS1 | STRN3   | striatin 3                                                   | Nucleus             | transcription regulator    |
| 0.55 | 1 | P70452 | STX4    | syntaxin 4                                                   | Plasma Membrane     | transporter                |
| 0.57 | 1 | P30548 | TACR1   | tachykinin receptor 1                                        | Plasma Membrane     | G-protein coupled receptor |
| 0.55 | 1 | Q9D0R2 | TARS    | threonyl-tRNA synthetase                                     | Nucleus             | enzyme                     |
| 0.56 | 1 | Q80YX1 | TNC     | tenascin C                                                   | Extracellular Space | other                      |

Table S3

|      |     |             |          |                                                        |                     |             |
|------|-----|-------------|----------|--------------------------------------------------------|---------------------|-------------|
| 0.65 | 1   | Q60769      | TNFAIP3  | TNF alpha induced protein 3                            | Nucleus             | enzyme      |
| 0.61 | 1   | Q6P2B1      | TNPO3    | transportin 3                                          | Cytoplasm           | other       |
| 0.65 | 1   | Q91XB0      | TREX1    | three prime repair exonuclease 1                       | Nucleus             | enzyme      |
| 0.65 | 1   | Q99PN3      | TRIM26   | tripartite motif containing 26                         | Cytoplasm           | other       |
| 0.65 | 1   | Q3TX08      | TRMT1    | tRNA methyltransferase 1                               | Extracellular Space | enzyme      |
| 0.57 | 1   | Q9D0C4      | TRMT5    | tRNA methyltransferase 5                               | Cytoplasm           | other       |
| 0.81 | 1   | P23591      | TSTA3    | tissue specific transplantation antigen P35B           | Plasma Membrane     | enzyme      |
| 0.81 | 1   | Q8C878      | UBA3     | ubiquitin like modifier activating enzyme 3            | Cytoplasm           | enzyme      |
| 0.56 | 1   | Q9DBK7      | UBA7     | ubiquitin like modifier activating enzyme 7            | Cytoplasm           | enzyme      |
| 0.56 | 1   | P61089      | UBE2N    | ubiquitin conjugating enzyme E2 N                      | Cytoplasm           | enzyme      |
| 0.65 | 1   | F8VPX1      | USP7     | ubiquitin specific peptidase 7                         | Nucleus             | peptidase   |
| 0.61 | 1   | Q5SSI6      | UTP18    | UTP18, small subunit processome component              | Nucleus             | other       |
| 0.65 | 1   | Q8R2N2      | UTP4     | UTP4, small subunit processome component               | Nucleus             | other       |
| 0.62 | 1   | Q8R307      | VPS18    | VPS18, CORVET/HOPS core subunit                        | Cytoplasm           | transporter |
| 0.81 | 1   | D3YYD5      | VPS29    | VPS29, retromer complex component                      | Cytoplasm           | transporter |
| 0.81 | 1   | Q80X41      | VRK1     | vaccinia related kinase 1                              | Nucleus             | kinase      |
| 0.56 | 1   | O88342      | WDR1     | WD repeat domain 1                                     | Extracellular Space | other       |
| 0.65 | 1   | Q3TAQ9      | WDR36    | WD repeat domain 36                                    | Extracellular Space | other       |
| 0.65 | 1   | Q6ZQL4      | WDR43    | WD repeat domain 43                                    | Nucleus             | other       |
| 0.65 | 1   | Q9EPK7      | XPO7     | exportin 7                                             | Nucleus             | transporter |
| 0.81 | 1   | A2A7S7      | YARS     | tyrosyl-tRNA synthetase                                | Cytoplasm           | enzyme      |
| 0.81 | 1   | CAS2_BOVIN  |          |                                                        |                     |             |
| 0.81 | 1   | KRA61_SHEEP |          |                                                        |                     |             |
| 0.38 | 1   | P10853      |          |                                                        |                     |             |
| 0.81 | 1   | E9PY39      |          |                                                        |                     |             |
| 0.34 | 1.1 | P48036      | ANXA5    | annexin A5                                             | Plasma Membrane     | transporter |
| 0.47 | 1.1 | Q07076      | ANXA7    | annexin A7                                             | Plasma Membrane     | ion channel |
| 0.52 | 1.1 | A2AQA7      | AQR      | aquarius intron-binding spliceosomal factor            | Nucleus             | other       |
| 0.58 | 1.1 | A0A0N4SW07  | ATP6V1E1 | ATPase H+ transporting V1 subunit E1                   | Cytoplasm           | transporter |
| 0.37 | 1.1 | Q9CY64      | BLVRA    | biliverdin reductase A                                 | Cytoplasm           | enzyme      |
| 0.37 | 1.1 | P00920      | CA2      | carbonic anhydrase 2                                   | Cytoplasm           | enzyme      |
| 0.54 | 1.1 | Q99LB4      | CAPG     | capping actin protein, gelsolin like                   | Nucleus             | other       |
| 0.49 | 1.1 | Q5RKN9      | CAPZA1   | capping actin protein of muscle Z-line subunit alpha 1 | Cytoplasm           | other       |
| 0.48 | 1.1 | A2AMW0      | CAPZB    | capping actin protein of muscle Z-line subunit beta    | Cytoplasm           | other       |
| 0.48 | 1.1 | P40240      | CD9      | CD9 molecule                                           | Plasma Membrane     | other       |

Table S3

|      |     |            |         |                                                    |                     |                         |
|------|-----|------------|---------|----------------------------------------------------|---------------------|-------------------------|
| 0.45 | 1.1 | Q9D1A2     | CNDP2   | carnosine dipeptidase 2                            | Cytoplasm           | peptidase               |
| 0.4  | 1.1 | O89053     | CORO1A  | coronin 1A                                         | Cytoplasm           | other                   |
| 0.61 | 1.1 | P41241     | CSK     | C-terminal Src kinase                              | Cytoplasm           | kinase                  |
| 0.43 | 1.1 | P18242     | CTSD    | cathepsin D                                        | Cytoplasm           | peptidase               |
| 0.62 | 1.1 | O70370     | CTSS    | cathepsin S                                        | Cytoplasm           | peptidase               |
| 0.55 | 1.1 | P54823     | DDX6    | DEAD-box helicase 6                                | Nucleus             | enzyme                  |
| 0.57 | 1.1 | Q91YP3     | DERA    | deoxyribose-phosphate aldolase                     | Cytoplasm           | enzyme                  |
| 0.58 | 1.1 | A0A0R4IZY9 | DUS3L   | dihydrouridine synthase 3 like                     | Other               | other                   |
| 0.26 | 1.1 | Q8C4U8     | EDIL3   | EGF like repeats and discoidin domains 3           | Extracellular Space | other                   |
| 0.57 | 1.1 | Q8BGD9     | EIF4B   | eukaryotic translation initiation factor 4B        | Cytoplasm           | translation regulator   |
| 0.58 | 1.1 | Q7TT37     | ELP1    | elongator complex protein 1                        | Cytoplasm           | other                   |
| 0.62 | 1.1 | A2A841     | EPB41   | erythrocyte membrane protein band 4.1              | Plasma Membrane     | other                   |
| 0.58 | 1.1 | P30416     | FKBP4   | FK506 binding protein 4                            | Nucleus             | enzyme                  |
| 0.47 | 1.1 | A2AB60     | Fmnl1   | formin-like 1                                      | Cytoplasm           | other                   |
| 0.48 | 1.1 | P09528     | FTH1    | ferritin heavy chain 1                             | Cytoplasm           | enzyme                  |
| 0.48 | 1.1 | P0DOV2     | IFI16   | interferon gamma inducible protein 16              | Nucleus             | transcription regulator |
| 0.62 | 1.1 | E9Q3Y4     | LRBA    | LPS responsive beige-like anchor protein           | Cytoplasm           | other                   |
| 0.48 | 1.1 | Q63844     | MAPK3   | mitogen-activated protein kinase 3                 | Cytoplasm           | kinase                  |
| 0.5  | 1.1 | P21956     | MFGE8   | milk fat globule-EGF factor 8 protein              | Extracellular Space | other                   |
| 0.55 | 1.1 | Q99J77     | NANS    | N-acetylneuraminate synthase                       | Cytoplasm           | enzyme                  |
| 0.4  | 1.1 | Q8BP47     | NARS    | asparaginyl-tRNA synthetase                        | Cytoplasm           | enzyme                  |
| 0.55 | 1.1 | M0QWK1     | NDFIP2  | Nedd4 family interacting protein 2                 | Cytoplasm           | other                   |
| 0.62 | 1.1 | P97300     | Nptn    | neuroplastin                                       | Plasma Membrane     | other                   |
| 0.61 | 1.1 | A0A0G2JGQ4 | NUB1    | negative regulator of ubiquitin like proteins 1    | Nucleus             | other                   |
| 0.45 | 1.1 | Q9DCD0     | PGD     | phosphogluconate dehydrogenase                     | Cytoplasm           | enzyme                  |
| 0.62 | 1.1 | Q61151     | PPP2R5E | protein phosphatase 2 regulatory subunit B'epsilon | Cytoplasm           | phosphatase             |
| 0.48 | 1.1 | G3UXL2     | Prps1i3 | phosphoribosyl pyrophosphate synthetase 1-like 3   | Other               | kinase                  |
| 0.34 | 1.1 | P62196     | PSMC5   | proteasome 26S subunit, ATPase 5                   | Nucleus             | transcription regulator |
| 0.57 | 1.1 | Q8BJY1     | PSMD5   | proteasome 26S subunit, non-ATPase 5               | Other               | other                   |
| 0.57 | 1.1 | P42669     | PURA    | purine rich element binding protein A              | Nucleus             | transcription regulator |
| 0.5  | 1.1 | Q62159     | RHOC    | ras homolog family member C                        | Plasma Membrane     | enzyme                  |
| 0.53 | 1.1 | Q5XJF6     | RPL10A  | ribosomal protein L10a                             | Nucleus             | other                   |
| 0.38 | 1.1 | P41105     | RPL28   | ribosomal protein L28                              | Cytoplasm           | other                   |
| 0.35 | 1.1 | P62702     | RPS4Y1  | ribosomal protein S4 Y-linked 1                    | Cytoplasm           | other                   |
| 0.54 | 1.1 | E9Q855     | SCAMP3  | secretory carrier membrane protein 3               | Cytoplasm           | transporter             |
| 0.23 | 1.1 | Q3TMX0     | SDCBP   | syndecan binding protein                           | Plasma Membrane     | enzyme                  |

Table S3

|       |     |            |          |                                                                                                                 |                 |                         |
|-------|-----|------------|----------|-----------------------------------------------------------------------------------------------------------------|-----------------|-------------------------|
| 0.27  | 1.1 | G5E866     | SF3B1    | splicing factor 3b subunit 1                                                                                    | Nucleus         | other                   |
| 0.57  | 1.1 | P50431     | SHMT1    | serine hydroxymethyltransferase 1                                                                               | Cytoplasm       | enzyme                  |
| 0.46  | 1.1 | G5E8Z4     | SLC6A12  | solute carrier family 6 member 12                                                                               | Plasma Membrane | transporter             |
| 0.5   | 1.1 | Q04692     | SMARCAD1 | SWI/SNF-related, matrix-associated actin-dependent regulator of chromatin, subfamily a, containing DEAD/H box 1 | Nucleus         | enzyme                  |
| 0.62  | 1.1 | P84104     | SRSF3    | serine and arginine rich splicing factor 3                                                                      | Nucleus         | other                   |
| 0.58  | 1.1 | F8WJD4     | SYMPK    | symplesin                                                                                                       | Cytoplasm       | other                   |
| 0.18  | 1.1 | P26039     | TLN1     | talin 1                                                                                                         | Plasma Membrane | other                   |
| 0.61  | 1.1 | Q8BFY9     | TNPO1    | transportin 1                                                                                                   | Nucleus         | transporter             |
| 0.62  | 1.1 | P61082     | UBE2M    | ubiquitin conjugating enzyme E2 M                                                                               | Cytoplasm       | enzyme                  |
| 0.48  | 1.1 | E9PYI8     | USP14    | ubiquitin specific peptidase 14                                                                                 | Cytoplasm       | peptidase               |
| 0.57  | 1.1 | K4DI77     | WDR81    | WD repeat domain 81                                                                                             | Plasma Membrane | other                   |
| 0.62  | 1.1 | P17095     |          |                                                                                                                 |                 |                         |
| 0.43  | 1.1 | P68433     |          |                                                                                                                 |                 |                         |
| 0.27  | 1.2 | P61222     | ABCE1    | ATP binding cassette subfamily E member 1                                                                       | Cytoplasm       | transporter             |
| 0.55  | 1.2 | Z4YJY0     | ABRAXAS2 | abraxas 2, BRISC complex subunit                                                                                | Nucleus         | other                   |
| 0.52  | 1.2 | P61164     | ACTR1A   | ARP1 actin related protein 1 homolog A                                                                          | Cytoplasm       | other                   |
| 0.44  | 1.2 | E9Q616     | AHNAK    | AHNAK nucleoprotein                                                                                             | Nucleus         | other                   |
| 0.42  | 1.2 | P45377     | AKR1B10  | aldo-keto reductase family 1 member B10                                                                         | Cytoplasm       | enzyme                  |
| 0.35  | 1.2 | A6ZI44     | ALDOA    | aldolase, fructose-bisphosphate A                                                                               | Cytoplasm       | enzyme                  |
| 0.48  | 1.2 | A0A0A6YX18 | ATP6V1H  | ATPase H <sup>+</sup> transporting V1 subunit H                                                                 | Cytoplasm       | transporter             |
| 0.67  | 1.2 | D3YUP1     | CARM1    | coactivator associated arginine methyltransferase 1                                                             | Nucleus         | transcription regulator |
| 0.45  | 1.2 | Q8BT60     | CPNE3    | copine 3                                                                                                        | Cytoplasm       | kinase                  |
| 0.34  | 1.2 | E9Q4G7     | CSNK1A1  | casein kinase 1 alpha 1                                                                                         | Cytoplasm       | kinase                  |
| 0.55  | 1.2 | H7BWZ9     | DOP1A    | DOP1 leucine zipper like protein A                                                                              | Cytoplasm       | other                   |
| 0.001 | 1.2 | P10126     | EEF1A1   | eukaryotic translation elongation factor 1 alpha 1                                                              | Cytoplasm       | translation regulator   |
| 0.14  | 1.2 | Q9EQP2     | EHD4     | EH domain containing 4                                                                                          | Plasma Membrane | enzyme                  |
| 0.58  | 1.2 | Q61749     | EIF2B4   | eukaryotic translation initiation factor 2B subunit delta                                                       | Cytoplasm       | other                   |
| 0.37  | 1.2 | Q9QZD9     | EIF3I    | eukaryotic translation initiation factor 3 subunit I                                                            | Cytoplasm       | translation regulator   |
| 0.33  | 1.2 | H3BKH6     | ESD      | esterase D                                                                                                      | Cytoplasm       | enzyme                  |
| 0.42  | 1.2 | E9PYV4     | FAM129A  | family with sequence similarity 129 member A                                                                    | Cytoplasm       | other                   |
| 0.57  | 1.2 | P26151     | FCGR1A   | Fc fragment of IgG receptor 1a                                                                                  | Plasma Membrane | transmembrane receptor  |
| 0.51  | 1.2 | Q920E5     | FDPS     | farnesyl diphosphate synthase                                                                                   | Cytoplasm       | enzyme                  |

Table S3

|       |     |            |           |                                                               |                     |                         |
|-------|-----|------------|-----------|---------------------------------------------------------------|---------------------|-------------------------|
| 0.62  | 1.2 | O09172     | GCLM      | glutamate-cysteine ligase modifier subunit                    | Cytoplasm           | enzyme                  |
| 0.17  | 1.2 | P47856     | GFPT1     | glutamine--fructose-6-phosphate transaminase 1                | Cytoplasm           | enzyme                  |
| 0.23  | 1.2 | P62880     | GNB2      | G protein subunit beta 2                                      | Plasma Membrane     | enzyme                  |
| 0.33  | 1.2 | Q8CGP5     | HIST1H2AJ | histone cluster 1 H2A family member j                         | Nucleus             | other                   |
| 0.57  | 1.2 | P01901     | HLA-A     | major histocompatibility complex, class I, A                  | Plasma Membrane     | other                   |
| 0.35  | 1.2 | Q3U2G2     | HSPA4     | heat shock protein family A (Hsp70) member 4                  | Cytoplasm           | other                   |
| 0.62  | 1.2 | P38647     | HSPA9     | heat shock protein family A (Hsp70) member 9                  | Cytoplasm           | other                   |
| 0.073 | 1.2 | Q9CQW9     | IFITM3    | interferon induced transmembrane protein 3                    | Plasma Membrane     | other                   |
| 0.57  | 1.2 | Q64339     | ISG15     | ISG15 ubiquitin-like modifier                                 | Extracellular Space | other                   |
| 0.38  | 1.2 | O89109     | KCNN4     | potassium calcium-activated channel subfamily N member 4      | Plasma Membrane     | ion channel             |
| 0.52  | 1.2 | E9PUB7     | MSTO1     | misato 1, mitochondrial distribution and morphology regulator | Cytoplasm           | other                   |
| 0.42  | 1.2 | Q78HU3     | MVB12A    | multivesicular body subunit 12A                               | Cytoplasm           | other                   |
| 0.41  | 1.2 | Q5SUA5     | MYO1G     | myosin IG                                                     | Cytoplasm           | other                   |
| 0.65  | 1.2 | Q8C5P5     | NT5DC1    | 5'-nucleotidase domain containing 1                           | Other               | other                   |
| 0.65  | 1.2 | D3YWF6     | Otub1     | OTU domain, ubiquitin aldehyde binding 1                      | Cytoplasm           | enzyme                  |
| 0.35  | 1.2 | Q6P1F6     | PPP2R2A   | protein phosphatase 2 regulatory subunit Balpha               | Cytoplasm           | phosphatase             |
| 0.62  | 1.2 | Q66GT5     | PTPMT1    | protein tyrosine phosphatase, mitochondrial 1                 | Cytoplasm           | phosphatase             |
| 0.65  | 1.2 | P34022     | RANBP1    | RAN binding protein 1                                         | Nucleus             | other                   |
| 0.51  | 1.2 | P62889     | RPL30     | ribosomal protein L30                                         | Cytoplasm           | other                   |
| 0.28  | 1.2 | P47962     | RPL5      | ribosomal protein L5                                          | Cytoplasm           | other                   |
| 0.67  | 1.2 | A0A1W2P7A1 | RPS12     | ribosomal protein S12                                         | Cytoplasm           | other                   |
| 0.27  | 1.2 | P14131     | RPS16     | ribosomal protein S16                                         | Cytoplasm           | other                   |
| 0.17  | 1.2 | Q8C483     | SARS      | seryl-tRNA synthetase                                         | Cytoplasm           | enzyme                  |
| 0.65  | 1.2 | P32037     | SLC2A3    | solute carrier family 2 member 3                              | Plasma Membrane     | transporter             |
| 0.5   | 1.2 | Q62376     | SNRNP70   | small nuclear ribonucleoprotein U1 subunit 70                 | Nucleus             | other                   |
| 0.4   | 1.2 | P40142     | TKT       | transketolase                                                 | Cytoplasm           | enzyme                  |
| 0.62  | 1.2 | Q9D2E2     | TOE1      | target of EGR1, exonuclease                                   | Nucleus             | enzyme                  |
| 0.42  | 1.2 | Q04750     | TOP1      | DNA topoisomerase I                                           | Nucleus             | enzyme                  |
| 0.43  | 1.2 | Q61187     | TSG101    | tumor susceptibility 101                                      | Cytoplasm           | transcription regulator |
| 0.37  | 1.2 | P68372     | TUBB4B    | tubulin beta 4B class IVb                                     | Cytoplasm           | other                   |
| 0.5   | 1.2 | Q8BHB4     | WDR3      | WD repeat domain 3                                            | Cytoplasm           | other                   |
| 0.087 | 1.2 | Q6GSS7     |           |                                                               |                     |                         |
| 0.13  | 1.2 | TRYP_PIG   |           |                                                               |                     |                         |
| 0.34  | 1.2 | A0A1B0GS68 |           |                                                               |                     |                         |
| 0.17  | 1.3 | Q8BGQ7     | AARS      | alanyl-tRNA synthetase                                        | Cytoplasm           | enzyme                  |

Table S3

|         |     |             |           |                                                           |                     |                         |
|---------|-----|-------------|-----------|-----------------------------------------------------------|---------------------|-------------------------|
| 0.0001  | 1.3 | P63260      | ACTG1     | actin gamma 1                                             | Cytoplasm           | other                   |
| 0.35    | 1.3 | P61161      | ACTR2     | ARP2 actin related protein 2 homolog                      | Plasma Membrane     | other                   |
| 0.5     | 1.3 | Q8CG76      | AKR7A2    | aldo-keto reductase family 7 member A2                    | Cytoplasm           | enzyme                  |
| 0.15    | 1.3 | P10107      | ANXA1     | annexin A1                                                | Plasma Membrane     | enzyme                  |
| 0.11    | 1.3 | P97429      | ANXA4     | annexin A4                                                | Plasma Membrane     | other                   |
| 0.56    | 1.3 | ANXA5_HUMAN | ANXA5     | annexin A5                                                | Plasma Membrane     | transporter             |
| 0.56    | 1.3 | E9QAJ9      | ARHGAP17  | Rho GTPase activating protein 17                          | Cytoplasm           | other                   |
| 0.42    | 1.3 | A2AWP8      | ARHGEF10L | Rho guanine nucleotide exchange factor 10 like            | Cytoplasm           | enzyme                  |
| 0.42    | 1.3 | P61211      | ARL1      | ADP ribosylation factor like GTPase 1                     | Cytoplasm           | enzyme                  |
| 0.13    | 1.3 | P50516      | ATP6V1A   | ATPase H+ transporting V1 subunit A                       | Plasma Membrane     | transporter             |
| 0.51    | 1.3 | Q8R2Q8      | Bst2      | bone marrow stromal cell antigen 2                        | Plasma Membrane     | other                   |
| 0.48    | 1.3 | P35991      | BTK       | Bruton tyrosine kinase                                    | Cytoplasm           | kinase                  |
| 0.56    | 1.3 | P24270      | CAT       | catalase                                                  | Cytoplasm           | enzyme                  |
| 0.58    | 1.3 | P51670      | Ccl9      | chemokine (C-C motif) ligand 9                            | Extracellular Space | cytokine                |
| 0.62    | 1.3 | Q9JLQ0      | CD2AP     | CD2 associated protein                                    | Cytoplasm           | other                   |
| 0.55    | 1.3 | B1AWE0      | CLTA      | clathrin light chain A                                    | Plasma Membrane     | other                   |
| 0.00015 | 1.3 | Q68FD5      | CLTC      | clathrin heavy chain                                      | Plasma Membrane     | other                   |
| 0.29    | 1.3 | Q8C166      | CPNE1     | copine 1                                                  | Nucleus             | transporter             |
| 0.65    | 1.3 | G3X914      | CUL5      | cullin 5                                                  | Nucleus             | ion channel             |
| 0.48    | 1.3 | P32233      | DRG1      | developmentally regulated GTP binding protein 1           | Cytoplasm           | other                   |
| 0.55    | 1.3 | P60521      | GABARAPL2 | GABA type A receptor associated protein like 2            | Cytoplasm           | other                   |
| 0.25    | 1.3 | Q61598      | GDI2      | GDP dissociation inhibitor 2                              | Cytoplasm           | other                   |
| 0.56    | 1.3 | Q9JLQ2      | GIT2      | GIT ArfGAP 2                                              | Nucleus             | other                   |
| 0.55    | 1.3 | Q9JHJ3      | GLMP      | glycosylated lysosomal membrane protein                   | Cytoplasm           | transcription regulator |
| 0.27    | 1.3 | P21279      | GNAQ      | G protein subunit alpha q                                 | Plasma Membrane     | enzyme                  |
| 0.37    | 1.3 | Q9Z1E4      | GYS1      | glycogen synthase 1                                       | Cytoplasm           | enzyme                  |
| 0.00014 | 1.3 | P63017      | HSPA8     | heat shock protein family A (Hsp70) member 8              | Cytoplasm           | enzyme                  |
| 0.5     | 1.3 | Q60943      | IL17RA    | interleukin 17 receptor A                                 | Plasma Membrane     | transmembrane receptor  |
| 0.56    | 1.3 | Q99MN1      | KARS      | lysyl-tRNA synthetase                                     | Cytoplasm           | enzyme                  |
| 0.083   | 1.3 | K1C9_HUMAN  | KRT9      | keratin 9                                                 | Cytoplasm           | other                   |
| 0.5     | 1.3 | A0A087WRH9  | MDFIC     | MyoD family inhibitor domain containing                   | Nucleus             | other                   |
| 0.5     | 1.3 | P22366      | MYD88     | myeloid differentiation primary response 88               | Plasma Membrane     | other                   |
| 0.56    | 1.3 | Q9CQF3      | NUDT21    | nudix hydrolase 21                                        | Nucleus             | other                   |
| 0.56    | 1.3 | Q9WVE8      | PACSIN2   | protein kinase C and casein kinase substrate in neurons 2 | Cytoplasm           | transporter             |

Table S3

|       |     |            |                         |                                                              |                 |                         |
|-------|-----|------------|-------------------------|--------------------------------------------------------------|-----------------|-------------------------|
| 0.56  | 1.3 | F7D432     | Pcmt1                   | protein-L-isoaspartate (D-aspartate) O-methyltransferase 1   | Cytoplasm       | enzyme                  |
| 0.29  | 1.3 | P35700     | PRDX1                   | peroxiredoxin 1                                              | Cytoplasm       | enzyme                  |
| 0.79  | 1.3 | Q5EG47     | PRKAA1                  | protein kinase AMP-activated catalytic subunit alpha 1       | Cytoplasm       | kinase                  |
| 0.46  | 1.3 | A0A171KXD3 | PRMT1                   | protein arginine methyltransferase 1                         | Nucleus         | enzyme                  |
| 0.38  | 1.3 | Q99K85     | PSAT1                   | phosphoserine aminotransferase 1                             | Cytoplasm       | enzyme                  |
| 0.5   | 1.3 | P61290     | PSME3                   | proteasome activator subunit 3                               | Cytoplasm       | peptidase               |
| 0.62  | 1.3 | E9Q2A6     | PTK2B                   | protein tyrosine kinase 2 beta                               | Cytoplasm       | kinase                  |
| 0.5   | 1.3 | Q8BU03     | Pwp2                    | PWP2 periodic tryptophan protein homolog (yeast)             | Nucleus         | other                   |
| 0.38  | 1.3 | Q9CXW4     | RPL11                   | ribosomal protein L11                                        | Cytoplasm       | other                   |
| 0.21  | 1.3 | P62717     | RPL18A                  | ribosomal protein L18a                                       | Cytoplasm       | other                   |
| 0.51  | 1.3 | P62911     | Rpl32                   | ribosomal protein L32                                        | Cytoplasm       | other                   |
| 0.69  | 1.3 | Q6ZWZ4     | Rpl36                   | ribosomal protein L36                                        | Nucleus         | other                   |
| 0.18  | 1.3 | P12970     | RPL7A                   | ribosomal protein L7a                                        | Cytoplasm       | other                   |
| 0.45  | 1.3 | P47955     | Rplp1 (includes others) | ribosomal protein, large, P1                                 | Nucleus         | other                   |
| 0.037 | 1.3 | P62983     | RPS27A                  | ribosomal protein S27a                                       | Cytoplasm       | other                   |
| 0.5   | 1.3 | G3X972     | SEC24C                  | SEC24 homolog C, COPII coat complex component                | Cytoplasm       | transporter             |
| 0.51  | 1.3 | E9Q1G8     | SEPT7                   | septin 7                                                     | Cytoplasm       | other                   |
| 0.58  | 1.3 | Q62419     | SH3GL1                  | SH3 domain containing GRB2 like 1, endophilin A2             | Cytoplasm       | other                   |
| 0.65  | 1.3 | Q9CW03     | SMC3                    | structural maintenance of chromosomes 3                      | Nucleus         | other                   |
| 0.55  | 1.3 | P08228     | SOD1                    | superoxide dismutase 1                                       | Cytoplasm       | enzyme                  |
| 0.11  | 1.3 | Q64337     | SQSTM1                  | sequestosome 1                                               | Cytoplasm       | transcription regulator |
| 0.67  | 1.3 | Q3TWW8     | SRSF6                   | serine and arginine rich splicing factor 6                   | Nucleus         | other                   |
| 0.62  | 1.3 | O55098     | STK10                   | serine/threonine kinase 10                                   | Cytoplasm       | kinase                  |
| 0.42  | 1.3 | Q9CXF4     | TBC1D15                 | TBC1 domain family member 15                                 | Cytoplasm       | other                   |
| 0.2   | 1.3 | Q62351     | TFRC                    | transferrin receptor                                         | Plasma Membrane | transporter             |
| 0.55  | 1.3 | Q9R1Q6     | TMEM176B                | transmembrane protein 176B                                   | Other           | other                   |
| 0.29  | 1.3 | Q3UDC3     | TOM1                    | target of myb1 membrane trafficking protein                  | Cytoplasm       | transporter             |
| 0.38  | 1.3 | Q5SRX1     | TOM1L2                  | target of myb1 like 2 membrane trafficking protein           | Cytoplasm       | transporter             |
| 0.58  | 1.3 | A2ASS6     | TTN                     | titin                                                        | Cytoplasm       | kinase                  |
| 0.51  | 1.3 | Q6P5F7     | TTYH3                   | tweety family member 3                                       | Plasma Membrane | ion channel             |
| 0.55  | 1.3 | Q9D883     | U2af1                   | U2 small nuclear ribonucleoprotein auxiliary factor (U2AF) 1 | Nucleus         | other                   |
| 0.79  | 1.3 | B1AQD9     | UNC119                  | unc-119 lipid binding chaperone                              | Cytoplasm       | other                   |
| 0.43  | 1.3 | Q8BX70     | VPS13C                  | vacuolar protein sorting 13 homolog C                        | Cytoplasm       | other                   |
| 0.27  | 1.3 | Q9EQH3     | VPS35                   | VPS35, retromer complex component                            | Cytoplasm       | transporter             |

Table S3

|        |     |        |         |                                                                              |                     |                         |
|--------|-----|--------|---------|------------------------------------------------------------------------------|---------------------|-------------------------|
| 0.5    | 1.3 | Q91XD6 | VPS36   | vacuolar protein sorting 36 homolog                                          | Cytoplasm           | other                   |
| 0.5    | 1.3 | Q8C754 | VPS52   | VPS52, GARP complex subunit                                                  | Cytoplasm           | other                   |
| 0.5    | 1.3 | G5E8J3 | WDR11   | WD repeat domain 11                                                          | Cytoplasm           | other                   |
| 0.79   | 1.3 | Q9JKB3 | YBX3    | Y-box binding protein 3                                                      | Nucleus             | transcription regulator |
| 0.38   | 1.3 | P68254 | YWHAQ   | tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein theta | Cytoplasm           | other                   |
| 0.23   | 1.3 | P63101 | YWHAZ   | tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein zeta  | Cytoplasm           | enzyme                  |
| 0.5    | 1.3 | Q8ZLZ4 |         |                                                                              |                     |                         |
| 0.65   | 1.4 | Q5SSL4 | ABR     | ABR, RhoGEF and GTPase activating protein                                    | Cytoplasm           | other                   |
| 0.21   | 1.4 | Q3U367 | ALDH9A1 | aldehyde dehydrogenase 9 family member A1                                    | Cytoplasm           | enzyme                  |
| 0.13   | 1.4 | Q61024 | ASNS    | asparagine synthetase (glutamine-hydrolyzing)                                | Cytoplasm           | enzyme                  |
| 0.8    | 1.4 | O54962 | BANF1   | barrier to autointegration factor 1                                          | Nucleus             | other                   |
| 0.65   | 1.4 | Q99246 | CACNA1D | calcium voltage-gated channel subunit alpha1 D                               | Plasma Membrane     | ion channel             |
| 0.65   | 1.4 | Q8K1A6 | CC2D1A  | coiled-coil and C2 domain containing 1A                                      | Cytoplasm           | transcription regulator |
| 0.34   | 1.4 | A2APM2 | CD44    | CD44 molecule (Indian blood group)                                           | Plasma Membrane     | other                   |
| 0.8    | 1.4 | F2Z456 | Cyb5r3  | cytochrome b5 reductase 3                                                    | Cytoplasm           | enzyme                  |
| 0.34   | 1.4 | Q61462 | CYBA    | cytochrome b-245 alpha chain                                                 | Cytoplasm           | enzyme                  |
| 0.65   | 1.4 | P61963 | DCAF7   | DDB1 and CUL4 associated factor 7                                            | Cytoplasm           | other                   |
| 0.8    | 1.4 | Q05816 | FABP5   | fatty acid binding protein 5                                                 | Cytoplasm           | transporter             |
| 0.65   | 1.4 | P0C0S6 | H2AFZ   | H2A histone family member Z                                                  | Nucleus             | other                   |
| 0.55   | 1.4 | Q8BY71 | HAT1    | histone acetyltransferase 1                                                  | Nucleus             | enzyme                  |
| 0.29   | 1.4 | P01897 | HLA-A   | major histocompatibility complex, class I, A                                 | Plasma Membrane     | other                   |
| 0.43   | 1.4 | P17879 | Hspa1b  | heat shock protein 1B                                                        | Cytoplasm           | other                   |
| 0.48   | 1.4 | Q8BV66 | IFI44   | interferon induced protein 44                                                | Cytoplasm           | other                   |
| 0.26   | 1.4 | Q64282 | IFIT1B  | interferon induced protein with tetratricopeptide repeats 1B                 | Cytoplasm           | other                   |
| 0.8    | 1.4 | P43406 | ITGAV   | integrin subunit alpha V                                                     | Plasma Membrane     | transmembrane receptor  |
| 0.65   | 1.4 | F8WH95 | LAPTM5  | lysosomal protein transmembrane 5                                            | Plasma Membrane     | other                   |
| 0.061  | 1.4 | Q61233 | LCP1    | lymphocyte cytosolic protein 1                                               | Cytoplasm           | other                   |
| 0.65   | 1.4 | P16045 | LGALS1  | galectin 1                                                                   | Extracellular Space | other                   |
| 0.65   | 1.4 | Q8R502 | LRRC8C  | leucine rich repeat containing 8 VRAC subunit C                              | Plasma Membrane     | ion channel             |
| 0.65   | 1.4 | Q8BLN5 | LSS     | lanosterol synthase                                                          | Cytoplasm           | enzyme                  |
| 0.0039 | 1.4 | Q8VDD5 | MYH9    | myosin heavy chain 9                                                         | Cytoplasm           | enzyme                  |
| 0.65   | 1.4 | B1B1A8 | MYLK    | myosin light chain kinase                                                    | Cytoplasm           | kinase                  |
| 0.48   | 1.4 | B7ZNL2 | NAP1L4  | nucleosome assembly protein 1 like 4                                         | Cytoplasm           | other                   |

Table S3

|       |     |             |         |                                                              |                     |                         |
|-------|-----|-------------|---------|--------------------------------------------------------------|---------------------|-------------------------|
| 0.8   | 1.4 | Q99JX7      | NXF1    | nuclear RNA export factor 1                                  | Nucleus             | other                   |
| 0.31  | 1.4 | Q61990      | PCBP2   | poly(rC) binding protein 2                                   | Nucleus             | other                   |
| 0.65  | 1.4 | Q9CZX7      | PIP4P2  | phosphatidylinositol-4,5-bisphosphate 4-phosphatase 2        | Cytoplasm           | phosphatase             |
| 0.65  | 1.4 | Q8VCE9      | PLEKHH3 | pleckstrin homology, MyTH4 and FERM domain containing H3     | Extracellular Space | other                   |
| 0.43  | 1.4 | Q8CIG8      | PRMT5   | protein arginine methyltransferase 5                         | Cytoplasm           | enzyme                  |
| 0.33  | 1.4 | Q9D0M1      | PRPSAP1 | phosphoribosyl pyrophosphate synthetase associated protein 1 | Extracellular Space | other                   |
| 0.8   | 1.4 | A0A0R4J0P5  | PSTPIP1 | proline-serine-threonine phosphatase interacting protein 1   | Cytoplasm           | other                   |
| 0.13  | 1.4 | Q91V41      | RAB14   | RAB14, member RAS oncogene family                            | Cytoplasm           | enzyme                  |
| 0.29  | 1.4 | Q05144      | RAC2    | Rac family small GTPase 2                                    | Cytoplasm           | enzyme                  |
| 0.1   | 1.4 | Q99JI6      | RAP1B   | RAP1B, member of RAS oncogene family                         | Cytoplasm           | enzyme                  |
| 0.65  | 1.4 | A0A0A6YW G7 | RAPGEF2 | Rap guanine nucleotide exchange factor 2                     | Cytoplasm           | other                   |
| 0.38  | 1.4 | Q5SVR5      | RNF130  | ring finger protein 130                                      | Cytoplasm           | peptidase               |
| 0.65  | 1.4 | E9QNY8      | Sacs    | sacsin                                                       | Cytoplasm           | other                   |
| 0.65  | 1.4 | A2AA71      | SEC24A  | SEC24 homolog A, COPII coat complex component                | Cytoplasm           | transporter             |
| 0.38  | 1.4 | Q8CBA2      | SLFN5   | schlafen family member 5                                     | Nucleus             | enzyme                  |
| 0.25  | 1.4 | P58242      | SMPDL3B | sphingomyelin phosphodiesterase acid like 3B                 | Extracellular Space | enzyme                  |
| 0.43  | 1.4 | Q9WTP2      | SPRY4   | sprouty RTK signaling antagonist 4                           | Plasma Membrane     | other                   |
| 0.67  | 1.4 | Q3TFQ1      | SPRYD7  | SPRY domain containing 7                                     | Other               | other                   |
| 0.65  | 1.4 | Q9CQ26      | STAMBP  | STAM binding protein                                         | Nucleus             | enzyme                  |
| 0.55  | 1.4 | Q9QXJ2      | STAT2   | signal transducer and activator of transcription 2           | Nucleus             | transcription regulator |
| 0.036 | 1.4 | P54116      | STOM    | stomatin                                                     | Plasma Membrane     | other                   |
| 0.65  | 1.4 | Q6PFX9      | TNKS    | tankyrase                                                    | Nucleus             | enzyme                  |
| 0.35  | 1.4 | Q9QZ06      | TOLLIP  | toll interacting protein                                     | Cytoplasm           | other                   |
| 0.65  | 1.4 | Q923U0      | TOM1L1  | target of myb1 like 1 membrane trafficking protein           | Cytoplasm           | other                   |
| 0.65  | 1.4 | A0A0R4J0Q6  | TRIM56  | tripartite motif containing 56                               | Cytoplasm           | enzyme                  |
| 0.65  | 1.4 | Q8CE96      | TRMT6   | tRNA methyltransferase 6                                     | Nucleus             | other                   |
| 0.8   | 1.4 | Q9JMH6      | TXNRD1  | thioredoxin reductase 1                                      | Cytoplasm           | enzyme                  |
| 0.65  | 1.4 | Q9ES00      | UBE4B   | ubiquitination factor E4B                                    | Cytoplasm           | enzyme                  |
| 0.55  | 1.4 | Q80WQ2      | VAC14   | Vac14, PIKFYVE complex component                             | Cytoplasm           | other                   |
| 0.33  | 1.4 | P27870      | VAV1    | vav guanine nucleotide exchange factor 1                     | Nucleus             | transcription regulator |
| 0.65  | 1.4 | L7N2E9      | Vmn2r2  | vomeronal 2, receptor 2                                      | Other               | other                   |
| 0.8   | 1.4 | Q9D2N9      | VPS33A  | VPS33A, CORVET/HOPS core subunit                             | Cytoplasm           | transporter             |
| 0.8   | 1.4 | Q9CR26      | VTA1    | vesicle trafficking 1                                        | Cytoplasm           | other                   |
| 0.8   | 1.4 | Q8BH43      | WASF2   | WAS protein family member 2                                  | Plasma Membrane     | other                   |
| 0.65  | 1.4 | Q8BFQ4      | WDR82   | WD repeat domain 82                                          | Nucleus             | other                   |

Table S3

|       |     |            |          |                                                                   |                     |                         |
|-------|-----|------------|----------|-------------------------------------------------------------------|---------------------|-------------------------|
| 0.42  | 1.4 | Q5Y5T1     | ZDHHC20  | zinc finger DHHC-type containing 20                               | Plasma Membrane     | enzyme                  |
| 0.65  | 1.4 | P59268     | ZDHHC9   | zinc finger DHHC-type containing 9                                | Cytoplasm           | enzyme                  |
| 0.55  | 1.4 | Q7CQW9     |          |                                                                   |                     |                         |
| 0.066 | 1.5 | F8WIT2     | ANXA6    | annexin A6                                                        | Plasma Membrane     | ion channel             |
| 0.34  | 1.5 | O08529     | CAPN2    | calpain 2                                                         | Cytoplasm           | peptidase               |
| 0.38  | 1.5 | P35762     | CD81     | CD81 molecule                                                     | Plasma Membrane     | other                   |
| 0.058 | 1.5 | Q9DC53     | CPNE8    | copine 8                                                          | Cytoplasm           | other                   |
| 0.16  | 1.5 | Q9ESX5     | DKC1     | dyskerin pseudouridine synthase 1                                 | Nucleus             | enzyme                  |
| 0.23  | 1.5 | Q6R0H7     | GNAS     | GNAS complex locus                                                | Plasma Membrane     | enzyme                  |
| 0.24  | 1.5 | P06745     | GPI      | glucose-6-phosphate isomerase                                     | Extracellular Space | enzyme                  |
| 0.38  | 1.5 | Q9QZQ8     | H2AFY    | H2A histone family member Y                                       | Nucleus             | other                   |
| 0.19  | 1.5 | Q61768     | KIF5B    | kinesin family member 5B                                          | Cytoplasm           | other                   |
| 0.38  | 1.5 | P28667     | MARCKSL1 | MARCKS like 1                                                     | Cytoplasm           | other                   |
| 0.21  | 1.5 | Q9WTI7     | MYO1C    | myosin 1C                                                         | Cytoplasm           | enzyme                  |
| 0.38  | 1.5 | P29595     | NEDD8    | neural precursor cell expressed, developmentally down-regulated 8 | Nucleus             | enzyme                  |
| 0.34  | 1.5 | Q6PHQ9     | PABPC4   | poly(A) binding protein cytoplasmic 4                             | Cytoplasm           | translation regulator   |
| 0.38  | 1.5 | Q922E4     | PCYT2    | phosphate cytidyltransferase 2, ethanolamine                      | Cytoplasm           | enzyme                  |
| 0.085 | 1.5 | P62962     | PFN1     | profilin 1                                                        | Cytoplasm           | other                   |
| 0.58  | 1.5 | O70172     | PIP4K2A  | phosphatidylinositol-5-phosphate 4-kinase type 2 alpha            | Cytoplasm           | kinase                  |
| 0.35  | 1.5 | Q9R1Q7     | PLP2     | proteolipid protein 2                                             | Cytoplasm           | transporter             |
| 0.25  | 1.5 | Q99JI4     | PSMD6    | proteasome 26S subunit, non-ATPase 6                              | Cytoplasm           | enzyme                  |
| 0.21  | 1.5 | P14115     | RPL27A   | ribosomal protein L27a                                            | Cytoplasm           | other                   |
| 0.089 | 1.5 | P14869     | RPLP0    | ribosomal protein lateral stalk subunit P0                        | Cytoplasm           | other                   |
| 0.046 | 1.5 | P25444     | RPS2     | ribosomal protein S2                                              | Cytoplasm           | other                   |
| 0.5   | 1.5 | P50543     | S100a11  | S100 calcium binding protein A11                                  | Cytoplasm           | other                   |
| 0.13  | 1.5 | Q64324     | STXBP2   | syntaxin binding protein 2                                        | Plasma Membrane     | transporter             |
| 0.48  | 1.5 | Q9WUN2     | TBK1     | TANK binding kinase 1                                             | Cytoplasm           | kinase                  |
| 0.43  | 1.5 | Q91XH6     | VTI1B    | vesicle transport through interaction with t-SNAREs 1B            | Plasma Membrane     | transporter             |
| 0.38  | 1.5 | S4R1I3     | XPNPEP1  | X-prolyl aminopeptidase 1                                         | Cytoplasm           | peptidase               |
| 0.42  | 1.5 | P10404     |          |                                                                   |                     |                         |
| 0.055 | 1.5 | P37592     |          |                                                                   |                     |                         |
| 0.08  | 1.6 | Q810B6     | ANKFY1   | ankyrin repeat and FYVE domain containing 1                       | Cytoplasm           | transcription regulator |
| 0.03  | 1.6 | P97384     | ANXA11   | annexin A11                                                       | Nucleus             | other                   |
| 0.21  | 1.6 | Q8K2Q7     | BROX     | BRO1 domain and CAAX motif containing                             | Cytoplasm           | other                   |
| 0.25  | 1.6 | A0A0R4J1D0 | CPNE2    | copine 2                                                          | Cytoplasm           | other                   |

Table S3

|        |     |            |                         |                                                              |                 |                         |
|--------|-----|------------|-------------------------|--------------------------------------------------------------|-----------------|-------------------------|
| 0.48   | 1.6 | B7ZMZ7     | DIP2C                   | disco interacting protein 2 homolog C                        | Other           | other                   |
| 0.43   | 1.6 | A0A0A6YVU8 | Gm9774                  | adhesion regulating molecule 1 pseudogene                    | Other           | other                   |
| 0.55   | 1.6 | B1ATZ0     | HGS                     | hepatocyte growth factor-regulated tyrosine kinase substrate | Cytoplasm       | other                   |
| 0.5    | 1.6 | A0A0R4J0T4 | IKBKB                   | inhibitor of nuclear factor kappa B kinase subunit beta      | Cytoplasm       | kinase                  |
| 0.12   | 1.6 | O35682     | MYADM                   | myeloid associated differentiation marker                    | Nucleus         | other                   |
| 0.14   | 1.6 | P57716     | NCSTN                   | nicastatin                                                   | Plasma Membrane | peptidase               |
| 0.38   | 1.6 | Q6WKZ7     | NOSTRIN                 | nitric oxide synthase trafficking                            | Cytoplasm       | transcription regulator |
| 0.18   | 1.6 | Q5SW88     | RAB1A                   | RAB1A, member RAS oncogene family                            | Cytoplasm       | enzyme                  |
| 0.022  | 1.6 | P51150     | RAB7A                   | RAB7A, member RAS oncogene family                            | Cytoplasm       | enzyme                  |
| 0.38   | 1.6 | Q9ERU9     | RGPD4 (includes others) | RANBP2-like and GRIP domain containing 5                     | Nucleus         | enzyme                  |
| 0.43   | 1.6 | P62071     | RRAS2                   | RAS related 2                                                | Plasma Membrane | enzyme                  |
| 0.21   | 1.6 | P42208     | SEPT2                   | septin 2                                                     | Cytoplasm       | enzyme                  |
| 0.013  | 1.6 | Q9ESU7     | SLC1A5                  | solute carrier family 1 member 5                             | Plasma Membrane | transporter             |
| 0.24   | 1.6 | Q924S8     | SPRED1                  | sprouty related EVH1 domain containing 1                     | Plasma Membrane | other                   |
| 0.5    | 1.6 | B1AZI6     | THOC2                   | THO complex 2                                                | Nucleus         | other                   |
| 0.38   | 1.6 | P83887     | TUBG1                   | tubulin gamma 1                                              | Cytoplasm       | other                   |
| 0.15   | 1.6 | Q62465     | VAT1                    | vesicle amine transport 1                                    | Plasma Membrane | transporter             |
| 0.43   | 1.6 | P0A1D3     |                         |                                                              |                 |                         |
| 0.65   | 1.7 | P41233     | ABCA1                   | ATP binding cassette subfamily A member 1                    | Plasma Membrane | transporter             |
| 0.65   | 1.7 | Q7M759     | ABHD17B                 | abhydrolase domain containing 17B                            | Plasma Membrane | peptidase               |
| 0.65   | 1.7 | Q9JII6     | AKR1A1                  | aldo-keto reductase family 1 member A1                       | Cytoplasm       | enzyme                  |
| 0.65   | 1.7 | P05063     | ALDOC                   | aldolase, fructose-bisphosphate C                            | Cytoplasm       | enzyme                  |
| 0.5    | 1.7 | A0A1B0GTA4 | BAX                     | BCL2 associated X, apoptosis regulator                       | Cytoplasm       | transporter             |
| 0.65   | 1.7 | A0A1D5RLQ9 | CDC42BPA                | CDC42 binding protein kinase alpha                           | Cytoplasm       | kinase                  |
| 0.65   | 1.7 | Q62426     | CSTB                    | cystatin B                                                   | Cytoplasm       | peptidase               |
| 0.0026 | 1.7 | Q9WVK4     | EHD1                    | EH domain containing 1                                       | Cytoplasm       | other                   |
| 0.65   | 1.7 | P10630     | EIF4A2                  | eukaryotic translation initiation factor 4A2                 | Cytoplasm       | translation regulator   |
| 0.34   | 1.7 | O55135     | EIF6                    | eukaryotic translation initiation factor 6                   | Cytoplasm       | translation regulator   |
| 0.23   | 1.7 | P20934     | EVI2A                   | ecotropic viral integration site 2A                          | Plasma Membrane | transmembrane receptor  |
| 0.16   | 1.7 | P20491     | FCER1G                  | Fc fragment of IgE receptor Ig                               | Plasma Membrane | transmembrane receptor  |

Table S3

|       |     |            |         |                                                             |                     |                         |
|-------|-----|------------|---------|-------------------------------------------------------------|---------------------|-------------------------|
| 0.65  | 1.7 | D3Z7A7     | FMNL3   | formin like 3                                               | Cytoplasm           | other                   |
| 0.084 | 1.7 | E9Q3Z4     | HK3     | hexokinase 3                                                | Cytoplasm           | kinase                  |
| 0.43  | 1.7 | P63038     | HSPD1   | heat shock protein family D (Hsp60) member 1                | Cytoplasm           | enzyme                  |
| 0.34  | 1.7 | P13597     | ICAM1   | intercellular adhesion molecule 1                           | Plasma Membrane     | transmembrane receptor  |
| 0.65  | 1.7 | F6RPJ9     | IDE     | insulin degrading enzyme                                    | Extracellular Space | peptidase               |
| 0.34  | 1.7 | Q61635     | Ifi47   | interferon gamma inducible protein 47                       | Cytoplasm           | other                   |
| 0.65  | 1.7 | A0A087WPT7 | INPPL1  | inositol polyphosphate phosphatase like 1                   | Cytoplasm           | phosphatase             |
| 0.33  | 1.7 | A0A087WRM2 | ITM2C   | integral membrane protein 2C                                | Cytoplasm           | other                   |
| 0.5   | 1.7 | Q9CQ22     | LAMTOR1 | late endosomal/lysosomal adaptor, MAPK and MTOR activator 1 | Plasma Membrane     | other                   |
| 0.65  | 1.7 | Q8BYI6     | LPCAT2  | lysophosphatidylcholine acyltransferase 2                   | Cytoplasm           | enzyme                  |
| 0.2   | 1.7 | B7ZNR9     | MAP4K4  | mitogen-activated protein kinase kinase kinase 4            | Cytoplasm           | kinase                  |
| 0.55  | 1.7 | H3BKH2     | Mia2    | melanoma inhibitory activity 2                              | Cytoplasm           | other                   |
| 0.65  | 1.7 | Q9CQS2     | NOP10   | NOP10 ribonucleoprotein                                     | Nucleus             | other                   |
| 0.057 | 1.7 | Q9D6Z1     | NOP56   | NOP56 ribonucleoprotein                                     | Nucleus             | other                   |
| 0.33  | 1.7 | A2RS43     | PCDH7   | protocadherin 7                                             | Plasma Membrane     | other                   |
| 0.34  | 1.7 | Q8BFY6     | PEF1    | penta-EF-hand domain containing 1                           | Cytoplasm           | other                   |
| 0.15  | 1.7 | Q9DBJ1     | PGAM1   | phosphoglycerate mutase 1                                   | Cytoplasm           | phosphatase             |
| 0.5   | 1.7 | Q9JIZ9     | PLSCR3  | phospholipid scramblase 3                                   | Plasma Membrane     | enzyme                  |
| 0.65  | 1.7 | J3QPG5     | PSAP    | prosaposin                                                  | Extracellular Space | enzyme                  |
| 0.057 | 1.7 | S4R1M0     | PTPRC   | protein tyrosine phosphatase, receptor type C               | Plasma Membrane     | phosphatase             |
| 0.48  | 1.7 | P35285     | RAB22A  | RAB22A, member RAS oncogene family                          | Cytoplasm           | enzyme                  |
| 0.014 | 1.7 | P35278     | RAB5C   | RAB5C, member RAS oncogene family                           | Cytoplasm           | enzyme                  |
| 0.65  | 1.7 | P35279     | RAB6A   | RAB6A, member RAS oncogene family                           | Cytoplasm           | enzyme                  |
| 0.33  | 1.7 | Q3TLP8     | RAC1    | Rac family small GTPase 1                                   | Plasma Membrane     | enzyme                  |
| 0.43  | 1.7 | O55142     | RPL35A  | ribosomal protein L35a                                      | Cytoplasm           | other                   |
| 0.3   | 1.7 | Q9D662     | SEC23B  | Sec23 homolog B, coat complex II component                  | Extracellular Space | transporter             |
| 0.057 | 1.7 | P53986     | SLC16A1 | solute carrier family 16 member 1                           | Plasma Membrane     | transporter             |
| 0.65  | 1.7 | A2AMH5     | SLC44A1 | solute carrier family 44 member 1                           | Plasma Membrane     | transporter             |
| 0.55  | 1.7 | P62305     | Snrpe   | small nuclear ribonucleoprotein E                           | Nucleus             | other                   |
| 0.5   | 1.7 | F8WJK8     | ST13    | ST13, Hsp70 interacting protein                             | Cytoplasm           | other                   |
| 0.087 | 1.7 | A0A087WSP5 | STAT1   | signal transducer and activator of transcription 1          | Nucleus             | transcription regulator |
| 0.65  | 1.7 | Q80W45     | STX2    | syntaxin 2                                                  | Cytoplasm           | transporter             |

Table S3

|       |     |            |          |                                                           |                     |                         |
|-------|-----|------------|----------|-----------------------------------------------------------|---------------------|-------------------------|
| 0.38  | 1.7 | Q7TMM9     | TUBB2A   | tubulin beta 2A class IIa                                 | Cytoplasm           | other                   |
| 0.25  | 1.7 | A0A0G2JGL0 | UBE2D3   | ubiquitin conjugating enzyme E2 D3                        | Cytoplasm           | enzyme                  |
| 0.65  | 1.7 | Q9CQ80     | VPS25    | vacuolar protein sorting 25 homolog                       | Cytoplasm           | other                   |
| 0.65  | 1.7 | Q8ZQ10     |          |                                                           |                     |                         |
| 0.65  | 1.7 | Q8ZRC1     |          |                                                           |                     |                         |
| 0.15  | 1.8 | Q64343     | ABCG1    | ATP binding cassette subfamily G member 1                 | Plasma Membrane     | transporter             |
| 0.5   | 1.8 | Q99JW1     | ABHD17A  | abhydrolase domain containing 17A                         | Plasma Membrane     | enzyme                  |
| 0.38  | 1.8 | Q91Z25     | ARPC1B   | actin related protein 2/3 complex subunit 1B              | Cytoplasm           | other                   |
| 0.03  | 1.8 | P62814     | ATP6V1B2 | ATPase H <sup>+</sup> transporting V1 subunit B2          | Cytoplasm           | transporter             |
| 0.069 | 1.8 | P18572     | BSG      | basigin (Ok blood group)                                  | Plasma Membrane     | transporter             |
| 0.5   | 1.8 | A0A0R4IZW8 | CAPNS1   | calpain small subunit 1                                   | Cytoplasm           | peptidase               |
| 0.38  | 1.8 | Q62192     | CD180    | CD180 molecule                                            | Plasma Membrane     | other                   |
| 0.38  | 1.8 | Q9DB34     | CHMP2A   | charged multivesicular body protein 2A                    | Cytoplasm           | other                   |
| 0.5   | 1.8 | Q60737     | CSNK2A1  | casein kinase 2 alpha 1                                   | Nucleus             | kinase                  |
| 0.5   | 1.8 | Q99PU8     | DHX30    | DExH-box helicase 30                                      | Nucleus             | enzyme                  |
| 0.33  | 1.8 | E9QP49     | Ehbp1I1  | EH domain binding protein 1-like 1                        | Other               | other                   |
| 0.55  | 1.8 | Q03963     | EIF2AK2  | eukaryotic translation initiation factor 2 alpha kinase 2 | Cytoplasm           | kinase                  |
| 0.38  | 1.8 | Q921M7     | FAM49B   | family with sequence similarity 49 member B               | Extracellular Space | other                   |
| 0.11  | 1.8 | P27601     | GNA13    | G protein subunit alpha 13                                | Plasma Membrane     | enzyme                  |
| 0.021 | 1.8 | P11835     | ITGB2    | integrin subunit beta 2                                   | Plasma Membrane     | transmembrane receptor  |
| 0.17  | 1.8 | P24668     | M6PR     | mannose-6-phosphate receptor, cation dependent            | Cytoplasm           | transporter             |
| 0.25  | 1.8 | Q9D074     | MGRN1    | mahogunin ring finger 1                                   | Cytoplasm           | enzyme                  |
| 0.12  | 1.8 | D3YVL0     | MOV10    | Mov10 RISC complex RNA helicase                           | Nucleus             | enzyme                  |
| 0.016 | 1.8 | Q62433     | NDRG1    | N-myc downstream regulated 1                              | Nucleus             | kinase                  |
| 0.5   | 1.8 | G3X9V0     | PSME2    | proteasome activator subunit 2                            | Cytoplasm           | peptidase               |
| 0.34  | 1.8 | P84096     | RHOG     | ras homolog family member G                               | Cytoplasm           | enzyme                  |
| 0.38  | 1.8 | O88983     | STX8     | syntaxin 8                                                | Plasma Membrane     | other                   |
| 0.5   | 1.8 | A0A1Y7VM54 | TMED10   | transmembrane p24 trafficking protein 10                  | Cytoplasm           | transporter             |
| 0.43  | 1.8 | E9PWG2     | TRAPPC8  | trafficking protein particle complex 8                    | Cytoplasm           | transporter             |
| 0.059 | 1.8 | Q61510     | TRIM25   | tripartite motif containing 25                            | Cytoplasm           | transcription regulator |
| 0.5   | 1.8 | Q8C7R4     | UBA6     | ubiquitin like modifier activating enzyme 6               | Cytoplasm           | enzyme                  |
| 0.33  | 1.8 | Q8BSN6     | VAMP4    | vesicle associated membrane protein 4                     | Cytoplasm           | other                   |
| 0.5   | 1.8 | Q3UMB9     | WASHC4   | WASH complex subunit 4                                    | Cytoplasm           | other                   |

Table S3

|         |     |             |          |                                                                                |                 |                         |
|---------|-----|-------------|----------|--------------------------------------------------------------------------------|-----------------|-------------------------|
| 0.5     | 1.8 | P97765      | WBP2     | WW domain binding protein 2                                                    | Cytoplasm       | transcription regulator |
| 0.14    | 1.8 | P62259      | YWHAE    | tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein epsilon | Cytoplasm       | other                   |
| 0.0012  | 1.8 | P02936      |          |                                                                                |                 |                         |
| 0.27    | 1.8 | E9PZF0      |          |                                                                                |                 |                         |
| 0.14    | 1.8 | E9QAZ2      |          |                                                                                |                 |                         |
| 0.21    | 1.9 | Q91V12      | ACOT7    | acyl-CoA thioesterase 7                                                        | Cytoplasm       | enzyme                  |
| 0.0001  | 1.9 | Q8VDN2      | ATP1A1   | ATPase Na <sup>+</sup> /K <sup>+</sup> transporting subunit alpha 1            | Plasma Membrane | transporter             |
| 0.17    | 1.9 | P51863      | ATP6V0D1 | ATPase H <sup>+</sup> transporting V0 subunit d1                               | Cytoplasm       | transporter             |
| 0.15    | 1.9 | Q61735      | CD47     | CD47 molecule                                                                  | Plasma Membrane | transmembrane receptor  |
| 0.33    | 1.9 | E9QL31      | DAB2     | DAB2, clathrin adaptor protein                                                 | Plasma Membrane | other                   |
| 0.12    | 1.9 | P35550      | FBL      | fibrillarin                                                                    | Nucleus         | enzyme                  |
| 0.014   | 1.9 | J7NUP1      | Irgm1    | immunity-related GTPase family M member 1                                      | Cytoplasm       | other                   |
| 0.12    | 1.9 | Q8C863      | ITCH     | itchy E3 ubiquitin protein ligase                                              | Nucleus         | enzyme                  |
| 0.029   | 1.9 | E9Q604      | ITGAM    | integrin subunit alpha M                                                       | Plasma Membrane | transmembrane receptor  |
| 0.002   | 1.9 | K1C10_HUMAN | KRT10    | keratin 10                                                                     | Cytoplasm       | other                   |
| 0.03    | 1.9 | Q64281      | LILRB4   | leukocyte immunoglobulin like receptor B4                                      | Plasma Membrane | other                   |
| 0.00028 | 1.9 | P25911      | LYN      | LYN proto-oncogene, Src family tyrosine kinase                                 | Cytoplasm       | kinase                  |
| 0.43    | 1.9 | E9PW66      | NAP1L1   | nucleosome assembly protein 1 like 1                                           | Nucleus         | other                   |
| 0.33    | 1.9 | P09103      | P4HB     | prolyl 4-hydroxylase subunit beta                                              | Cytoplasm       | enzyme                  |
| 0.27    | 1.9 | A0A0R4J0G4  | RANBP10  | RAN binding protein 10                                                         | Cytoplasm       | other                   |
| 0.084   | 1.9 | Q9CPR4      | RPL17    | ribosomal protein L17                                                          | Cytoplasm       | other                   |
| 0.023   | 1.9 | D3Z2W0      | TNIP1    | TNFAIP3 interacting protein 1                                                  | Nucleus         | other                   |
| 0.018   | 1.9 | Q80U87      | USP8     | ubiquitin specific peptidase 8                                                 | Cytoplasm       | peptidase               |
| 0.1     | 1.9 | P46467      | VPS4B    | vacuolar protein sorting 4 homolog B                                           | Cytoplasm       | transporter             |
| 0.077   | 2   | Q9QUJ7      | ACSL4    | acyl-CoA synthetase long chain family member 4                                 | Cytoplasm       | enzyme                  |
| 0.0013  | 2   | P97449      | ANPEP    | alanyl aminopeptidase, membrane                                                | Plasma Membrane | peptidase               |
| 0.65    | 2   | O35607      | BMPR2    | bone morphogenetic protein receptor type 2                                     | Plasma Membrane | kinase                  |
| 0.12    | 2   | Q9QYJ0      | DNAJA2   | DnaJ heat shock protein family (Hsp40) member A2                               | Nucleus         | enzyme                  |
| 0.12    | 2   | G3X922      | DNAJC13  | DnaJ heat shock protein family (Hsp40) member C13                              | Cytoplasm       | other                   |
| 0.65    | 2   | Q8C845      | EFHD2    | EF-hand domain family member D2                                                | Other           | other                   |
| 0.15    | 2   | Q9JJ28      | FLII     | FLII, actin remodeling protein                                                 | Nucleus         | other                   |

Table S3

|        |   |            |          |                                                                            |                     |                         |
|--------|---|------------|----------|----------------------------------------------------------------------------|---------------------|-------------------------|
| 0.65   | 2 | Q8K385     | FRRS1    | ferric chelate reductase 1                                                 | Plasma Membrane     | transmembrane receptor  |
| 0.65   | 2 | P23242     | GJA1     | gap junction protein alpha 1                                               | Plasma Membrane     | transporter             |
| 0.25   | 2 | P05201     | GOT1     | glutamic-oxaloacetic transaminase 1                                        | Cytoplasm           | enzyme                  |
| 0.12   | 2 | Q00560     | IL6ST    | interleukin 6 signal transducer                                            | Plasma Membrane     | transmembrane receptor  |
| 0.43   | 2 | A0A1L1SS10 | KEAP1    | kelch like ECH associated protein 1                                        | Cytoplasm           | transcription regulator |
| 0.65   | 2 | E9PZ88     | MAN2C1   | mannosidase alpha class 2C member 1                                        | Cytoplasm           | enzyme                  |
| 0.38   | 2 | A0A0R4J1C7 | MFAP3    | microfibril associated protein 3                                           | Extracellular Space | other                   |
| 0.38   | 2 | Q9JM52     | MINK1    | misshapen like kinase 1                                                    | Cytoplasm           | kinase                  |
| 0.65   | 2 | Q6URW6     | MYH14    | myosin heavy chain 14                                                      | Extracellular Space | enzyme                  |
| 0.33   | 2 | P97369     | NCF4     | neutrophil cytosolic factor 4                                              | Cytoplasm           | enzyme                  |
| 0.65   | 2 | Q6P9K9     | Nrxn3    | neurexin III                                                               | Plasma Membrane     | other                   |
| 0.044  | 2 | Q8VI94     | OASL     | 2'-5'-oligoadenylate synthetase like                                       | Cytoplasm           | enzyme                  |
| 0.65   | 2 | E2JF22     | PIEZO1   | piezo type mechanosensitive ion channel component 1                        | Cytoplasm           | ion channel             |
| 0.0023 | 2 | B2RXS4     | PLXNB2   | plexin B2                                                                  | Plasma Membrane     | transmembrane receptor  |
| 0.13   | 2 | Q9WVJ2     | PSMD13   | proteasome 26S subunit, non-ATPase 13                                      | Cytoplasm           | peptidase               |
| 0.0069 | 2 | Q91V35     | PTPRA    | protein tyrosine phosphatase, receptor type A                              | Plasma Membrane     | phosphatase             |
| 0.43   | 2 | Q9D1G1     | RAB1B    | RAB1B, member RAS oncogene family                                          | Cytoplasm           | other                   |
| 0.25   | 2 | P55258     | RAB8A    | RAB8A, member RAS oncogene family                                          | Plasma Membrane     | enzyme                  |
| 0.018  | 2 | I7HLV2     | RPL10    | ribosomal protein L10                                                      | Cytoplasm           | translation regulator   |
| 0.65   | 2 | Q6P8X1     | SNX6     | sorting nexin 6                                                            | Cytoplasm           | transporter             |
| 0.38   | 2 | Q0VGY8     | TANC1    | tetratricopeptide repeat, ankyrin repeat and coiled-coil containing 1      | Plasma Membrane     | other                   |
| 0.069  | 2 | P58681     | TLR7     | toll like receptor 7                                                       | Plasma Membrane     | transmembrane receptor  |
| 0.38   | 2 | D3Z2H9     | Tpm3-rs7 | tropomyosin 3, related sequence 7                                          | Other               | other                   |
| 0.27   | 2 | Q8VE47     | UBA5     | ubiquitin like modifier activating enzyme 5                                | Cytoplasm           | enzyme                  |
| 0.65   | 2 | Q9CX97     | WDR55    | WD repeat domain 55                                                        | Nucleus             | other                   |
| 0.25   | 2 | P68510     | YWHAH    | tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein eta | Cytoplasm           | transcription regulator |
| 0.65   | 2 | B1AWL2     | ZNF462   | zinc finger protein 462                                                    | Nucleus             | transcription regulator |
| 0.65   | 2 | Q8ZJV0     |          |                                                                            |                     |                         |

Table S3

|        |     |            |          |                                                                  |                 |                         |
|--------|-----|------------|----------|------------------------------------------------------------------|-----------------|-------------------------|
| 0.27   | 2.1 | Q03265     | ATP5F1A  | ATP synthase F1 subunit alpha                                    | Cytoplasm       | transporter             |
| 0.5    | 2.1 | Q91XV3     | BASP1    | brain abundant membrane attached signal protein 1                | Nucleus         | transcription regulator |
| 0.5    | 2.1 | Q8C3W1     | C1orf198 | chromosome 1 open reading frame 198                              | Cytoplasm       | other                   |
| 0.12   | 2.1 | E9Q1W0     | CAMK2D   | calcium/calmodulin dependent protein kinase II delta             | Cytoplasm       | kinase                  |
| 0.5    | 2.1 | Q6SJQ0     | CD300A   | CD300a molecule                                                  | Plasma Membrane | transmembrane receptor  |
| 0.068  | 2.1 | Q08857     | CD36     | CD36 molecule                                                    | Plasma Membrane | transmembrane receptor  |
| 0.17   | 2.1 | Q6Q899     | DDX58    | DEXD/H-box helicase 58                                           | Cytoplasm       | enzyme                  |
| 0.5    | 2.1 | Q8BWY3     | ETF1     | eukaryotic translation termination factor 1                      | Cytoplasm       | translation regulator   |
| 0.5    | 2.1 | A0A0R4J0H8 | FNDC3B   | fibronectin type III domain containing 3B                        | Cytoplasm       | other                   |
| 0.5    | 2.1 | Q920B0     | FRMD4B   | FERM domain containing 4B                                        | Cytoplasm       | other                   |
| 0.5    | 2.1 | A0A0R4J0F6 | GAK      | cyclin G associated kinase                                       | Nucleus         | kinase                  |
| 0.064  | 2.1 | Q9DC51     | GNAI3    | G protein subunit alpha i3                                       | Cytoplasm       | enzyme                  |
| 0.5    | 2.1 | F6UND7     | HCK      | HCK proto-oncogene, Src family tyrosine kinase                   | Cytoplasm       | kinase                  |
| 0.0057 | 2.1 | P20029     | HSPA5    | heat shock protein family A (Hsp70) member 5                     | Cytoplasm       | enzyme                  |
| 0.18   | 2.1 | Q99J93     | IFITM2   | interferon induced transmembrane protein 2                       | Cytoplasm       | other                   |
| 0.27   | 2.1 | Q8CIN4     | PAK2     | p21 (RAC1) activated kinase 2                                    | Cytoplasm       | kinase                  |
| 0.25   | 2.1 | Q8BHF7     | PGS1     | phosphatidylglycerophosphate synthase 1                          | Cytoplasm       | enzyme                  |
| 0.5    | 2.1 | Q6GT24     | PRDX6    | peroxiredoxin 6                                                  | Cytoplasm       | enzyme                  |
| 0.5    | 2.1 | Q8CI94     | PYGB     | glycogen phosphorylase B                                         | Cytoplasm       | enzyme                  |
| 0.23   | 2.1 | Q9QZL0     | RIPK3    | receptor interacting serine/threonine kinase 3                   | Plasma Membrane | kinase                  |
| 0.43   | 2.1 | Q80UG5     | SEPT9    | septin 9                                                         | Cytoplasm       | enzyme                  |
| 0.18   | 2.1 | Q91Z67     | SRGAP2   | SLIT-ROBO Rho GTPase activating protein 2                        | Cytoplasm       | other                   |
| 0.27   | 2.1 | P48025     | SYK      | spleen associated tyrosine kinase                                | Cytoplasm       | kinase                  |
| 0.5    | 2.1 | Q9Z2M6     | UBL3     | ubiquitin like 3                                                 | Cytoplasm       | other                   |
| 0.088  | 2.1 | O70404     | VAMP8    | vesicle associated membrane protein 8                            | Plasma Membrane | transporter             |
| 0.5    | 2.1 | G3UX26     | VDAC2    | voltage dependent anion channel 2                                | Cytoplasm       | ion channel             |
| 0.5    | 2.1 | P10400     |          |                                                                  |                 |                         |
| 0.5    | 2.1 | A2AGH5     |          |                                                                  |                 |                         |
| 0.25   | 2.2 | Q9JLV1     | BAG3     | BCL2 associated athanogene 3                                     | Cytoplasm       | other                   |
| 0.02   | 2.2 | P18760     | CFL1     | cofilin 1                                                        | Nucleus         | other                   |
| 0.38   | 2.2 | Q32NY4     | CNNM3    | cyclin and CBS domain divalent metal cation transport mediator 3 | Other           | other                   |
| 0.18   | 2.2 | Q61093     | CYBB     | cytochrome b-245 beta chain                                      | Cytoplasm       | enzyme                  |
| 0.026  | 2.2 | P39688     | FYN      | FYN proto-oncogene, Src family tyrosine kinase                   | Plasma Membrane | kinase                  |
| 0.33   | 2.2 | Q922H4     | GMPPA    | GDP-mannose pyrophosphorylase A                                  | Cytoplasm       | enzyme                  |

Table S3

|         |     |            |           |                                              |                 |                            |
|---------|-----|------------|-----------|----------------------------------------------|-----------------|----------------------------|
| 0.27    | 2.2 | P19182     | IFRD1     | interferon related developmental regulator 1 | Nucleus         | other                      |
| 0.006   | 2.2 | A0A1Y7VME9 | KIDINS220 | kinase D interacting substrate 220           | Nucleus         | transcription regulator    |
| 0.068   | 2.2 | Q9D8W5     | PSMD12    | proteasome 26S subunit, non-ATPase 12        | Cytoplasm       | other                      |
| 0.38    | 2.2 | P35293     | RAB18     | RAB18, member RAS oncogene family            | Cytoplasm       | enzyme                     |
| 0.38    | 2.2 | P53994     | RAB2A     | RAB2A, member RAS oncogene family            | Cytoplasm       | enzyme                     |
| 0.38    | 2.2 | Q6PHN9     | RAB35     | RAB35, member RAS oncogene family            | Cytoplasm       | enzyme                     |
| 0.066   | 2.2 | P61028     | RAB8B     | RAB8B, member RAS oncogene family            | Cytoplasm       | enzyme                     |
| 0.088   | 2.2 | Q9EPR4     | SLC23A2   | solute carrier family 23 member 2            | Plasma Membrane | transporter                |
| 0.0026  | 2.2 | P17809     | SLC2A1    | solute carrier family 2 member 1             | Plasma Membrane | transporter                |
| 0.0019  | 2.2 | Q8CFE6     | SLC38A2   | solute carrier family 38 member 2            | Plasma Membrane | transporter                |
| 0.047   | 2.2 | Q62312     | TGFBR2    | transforming growth factor beta receptor 2   | Plasma Membrane | kinase                     |
| 0.17    | 2.2 | Q8R105     | VPS37C    | VPS37C, ESCRT-I subunit                      | Cytoplasm       | other                      |
| 0.38    | 2.2 | P84244     |           |                                              |                 |                            |
| 0.27    | 2.3 | Q7TPQ9     | ARRDC3    | arrestin domain containing 3                 | Plasma Membrane | other                      |
| 0.23    | 2.3 | P30993     | C5AR1     | complement C5a receptor 1                    | Plasma Membrane | G-protein coupled receptor |
| 0.25    | 2.3 | Q5FWI3     | CEMIP2    | cell migration inducing hyaluronidase 2      | Cytoplasm       | enzyme                     |
| 0.25    | 2.3 | Q8VCN5     | CTH       | cystathionine gamma-lyase                    | Cytoplasm       | enzyme                     |
| 0.33    | 2.3 | P11688     | ITGA5     | integrin subunit alpha 5                     | Plasma Membrane | transmembrane receptor     |
| 0.17    | 2.3 | O70145     | NCF2      | neutrophil cytosolic factor 2                | Cytoplasm       | enzyme                     |
| 0.18    | 2.3 | E9Q9A9     | OAS2      | 2'-5'-oligoadenylate synthetase 2            | Cytoplasm       | enzyme                     |
| 0.65    | 2.3 | A0A1W2P7X5 | PLEKHN1   | pleckstrin homology domain containing N1     | Other           | other                      |
| 0.65    | 2.3 | P23298     | PRKCH     | protein kinase C eta                         | Cytoplasm       | kinase                     |
| 0.65    | 2.3 | Q9R1C7     | PRPF40A   | pre-mRNA processing factor 40 homolog A      | Nucleus         | other                      |
| 0.2     | 2.3 | P35282     | RAB21     | RAB21, member RAS oncogene family            | Cytoplasm       | enzyme                     |
| 0.27    | 2.3 | Q9QUI0     | RHOA      | ras homolog family member A                  | Cytoplasm       | enzyme                     |
| 0.00083 | 2.3 | P10852     | SLC3A2    | solute carrier family 3 member 2             | Plasma Membrane | transporter                |
| 0.27    | 2.3 | Q8C4J7     | TBL3      | transducin beta like 3                       | Cytoplasm       | peptidase                  |
| 0.27    | 2.3 | Q9D1C8     | VPS28     | VPS28, ESCRT-I subunit                       | Cytoplasm       | transporter                |
| 0.2     | 2.3 | Q8C2E7     | WASHC5    | WASH complex subunit 5                       | Cytoplasm       | other                      |
| 0.65    | 2.3 | Q9CWU2     | ZDHC13    | zinc finger DHHC-type containing 13          | Nucleus         | transcription regulator    |
| 0.0026  | 2.3 | P23988     |           |                                              |                 |                            |
| 0.5     | 2.4 | Q3U0L2     | ANKRD33B  | ankyrin repeat domain 33B                    | Other           | other                      |
| 0.38    | 2.4 | O54833     | CSNK2A2   | casein kinase 2 alpha 2                      | Cytoplasm       | kinase                     |
| 0.17    | 2.4 | Q91W53     | GOLGA7    | golgin A7                                    | Cytoplasm       | other                      |

Table S3

|        |     |            |          |                                                   |                     |                            |
|--------|-----|------------|----------|---------------------------------------------------|---------------------|----------------------------|
| 0.38   | 2.4 | A0A0R4J100 | GPR84    | G protein-coupled receptor 84                     | Plasma Membrane     | G-protein coupled receptor |
| 0.38   | 2.4 | P48722     | HSPA4L   | heat shock protein family A (Hsp70) member 4 like | Cytoplasm           | other                      |
| 0.068  | 2.4 | Q60605     | MYL6     | myosin light chain 6                              | Cytoplasm           | enzyme                     |
| 0.035  | 2.4 | P11928     | OAS1     | 2'-5'-oligoadenylate synthetase 1                 | Cytoplasm           | enzyme                     |
| 0.38   | 2.4 | Q9JJ00     | PLSCR1   | phospholipid scramblase 1                         | Plasma Membrane     | enzyme                     |
| 0.5    | 2.4 | Q6PD03     | PPP2R5A  | protein phosphatase 2 regulatory subunit B'alpha  | Cytoplasm           | phosphatase                |
| 0.38   | 2.4 | Q5SSW2     | PSME4    | proteasome activator subunit 4                    | Cytoplasm           | other                      |
| 0.094  | 2.4 | P61027     | RAB10    | RAB10, member RAS oncogene family                 | Cytoplasm           | enzyme                     |
| 0.064  | 2.4 | G3X926     | RPF2     | ribosome production factor 2 homolog              | Nucleus             | other                      |
| 0.5    | 2.4 | P49282     | SLC11A2  | solute carrier family 11 member 2                 | Plasma Membrane     | transporter                |
| 0.5    | 2.4 | P52875     | TMEM165  | transmembrane protein 165                         | Plasma Membrane     | other                      |
| 0.5    | 2.4 | Q8QZY6     | TSPAN14  | tetraspanin 14                                    | Plasma Membrane     | other                      |
| 0.14   | 2.4 | P70280     | VAMP7    | vesicle associated membrane protein 7             | Cytoplasm           | transporter                |
| 0.5    | 2.4 | Q8R0J7     | VPS37B   | VPS37B, ESCRT-I subunit                           | Cytoplasm           | other                      |
| 0.5    | 2.4 | Q8ZN72     |          |                                                   |                     |                            |
| 0.38   | 2.5 | Q9D2R0     | AACS     | acetoacetyl-CoA synthetase                        | Cytoplasm           | enzyme                     |
| 0.036  | 2.5 | P61205     | ARF3     | ADP ribosylation factor 3                         | Cytoplasm           | enzyme                     |
| 0.13   | 2.5 | Q9D8B3     | CHMP4B   | charged multivesicular body protein 4B            | Cytoplasm           | other                      |
| 0.27   | 2.5 | CASB_BOVIN | CSN2     | casein beta                                       | Extracellular Space | kinase                     |
| 0.068  | 2.5 | P13020     | GSN      | gelsolin                                          | Extracellular Space | other                      |
| 0.27   | 2.5 | A0A1W2P768 | HIST1H3C | histone cluster 1 H3 family member c              | Nucleus             | other                      |
| 0.096  | 2.5 | P17047     | LAMP2    | lysosomal associated membrane protein 2           | Plasma Membrane     | enzyme                     |
| 0.38   | 2.5 | Q9JL15     | LGALS8   | galectin 8                                        | Extracellular Space | other                      |
| 0.27   | 2.5 | Q7TQH7     | LRP10    | LDL receptor related protein 10                   | Plasma Membrane     | transmembrane receptor     |
| 0.068  | 2.5 | E0CZ22     | MROH1    | maestro heat like repeat family member 1          | Other               | other                      |
| 0.0031 | 2.5 | E9Q634     | MYO1E    | myosin IE                                         | Cytoplasm           | enzyme                     |
| 0.38   | 2.5 | Q99K51     | PLS3     | plastin 3                                         | Cytoplasm           | other                      |
| 0.38   | 2.5 | Q61009     | SCARB1   | scavenger receptor class B member 1               | Plasma Membrane     | transporter                |
| 0.27   | 2.5 | O35316     | SLC6A6   | solute carrier family 6 member 6                  | Plasma Membrane     | transporter                |
| 0.066  | 2.5 | Q3UHD6     | SNX27    | sorting nexin family member 27                    | Cytoplasm           | other                      |
| 0.05   | 2.5 | P25119     | TNFRSF1B | TNF receptor superfamily member 1B                | Plasma Membrane     | transmembrane receptor     |
| 0.0025 | 2.5 | Q8BVW3     | TRIM14   | tripartite motif containing 14                    | Cytoplasm           | other                      |

Table S3

|         |     |            |         |                                                                              |                 |                         |
|---------|-----|------------|---------|------------------------------------------------------------------------------|-----------------|-------------------------|
| 0.25    | 2.5 | A0A140LHP7 | TYROBP  | TYRO protein tyrosine kinase binding protein                                 | Plasma Membrane | transmembrane receptor  |
| 0.38    | 2.5 | O88693     | UGCG    | UDP-glucose ceramide glucosyltransferase                                     | Cytoplasm       | enzyme                  |
| 0.00079 | 2.5 | A0A1D5RM92 | WWP2    | WW domain containing E3 ubiquitin protein ligase 2                           | Cytoplasm       | enzyme                  |
| 0.17    | 2.6 | Q4LDD4     | ARAP1   | ArfGAP with RhoGAP domain, ankyrin repeat and PH domain 1                    | Cytoplasm       | other                   |
| 0.0019  | 2.6 | P56480     | ATP5F1B | ATP synthase F1 subunit beta                                                 | Cytoplasm       | transporter             |
| 0.25    | 2.6 | Q9QYI3     | DNAJC7  | DnaJ heat shock protein family (Hsp40) member C7                             | Cytoplasm       | other                   |
| 0.18    | 2.6 | B1AQR8     | LGALS9B | galectin 9B                                                                  | Cytoplasm       | other                   |
| 0.0001  | 2.6 | P26041     | MSN     | moesin                                                                       | Plasma Membrane | other                   |
| 0.0044  | 2.6 | Q9JHK5     | PLEK    | pleckstrin                                                                   | Cytoplasm       | transcription regulator |
| 0.008   | 2.6 | Q09143     | SLC7A1  | solute carrier family 7 member 1                                             | Plasma Membrane | transporter             |
| 0.2     | 2.6 | Q78ZM0     | SNX3    | sorting nexin 3                                                              | Cytoplasm       | transporter             |
| 0.2     | 2.6 | Q9CQV8     | YWHAB   | tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein beta  | Cytoplasm       | other                   |
| 0.092   | 2.6 | P61982     | YWHAG   | tyrosine 3-monooxygenase/tryptophan 5-monooxygenase activation protein gamma | Cytoplasm       | other                   |
| 0.38    | 2.7 | O35379     | ABCC1   | ATP binding cassette subfamily C member 1                                    | Plasma Membrane | transporter             |
| 0.2     | 2.7 | A0A0A0MQD4 | C5orf15 | chromosome 5 open reading frame 15                                           | Other           | other                   |
| 0.38    | 2.7 | P27512     | CD40    | CD40 molecule                                                                | Plasma Membrane | transmembrane receptor  |
| 0.38    | 2.7 | A2A7F6     | CLCN6   | chloride voltage-gated channel 6                                             | Plasma Membrane | ion channel             |
| 0.38    | 2.7 | Q8BTJ4     | ENPP4   | ectonucleotide pyrophosphatase/phosphodiesterase 4                           | Cytoplasm       | enzyme                  |
| 0.38    | 2.7 | Q08509     | EPS8    | epidermal growth factor receptor pathway substrate 8                         | Plasma Membrane | peptidase               |
| 0.13    | 2.7 | Q8K0B2     | LMBRD1  | LMBR1 domain containing 1                                                    | Cytoplasm       | enzyme                  |
| 0.38    | 2.7 | P49769     | PSEN1   | presenilin 1                                                                 | Plasma Membrane | peptidase               |
| 0.38    | 2.7 | Q9R0M6     | RAB9A   | RAB9A, member RAS oncogene family                                            | Cytoplasm       | enzyme                  |
| 0.38    | 2.7 | Q6PFQ7     | RASA4   | RAS p21 protein activator 4                                                  | Cytoplasm       | other                   |
| 0.0042  | 2.7 | Q3U2C5     | RNF149  | ring finger protein 149                                                      | Cytoplasm       | enzyme                  |
| 0.38    | 2.7 | O08547     | SEC22B  | SEC22 homolog B, vesicle trafficking protein (gene/pseudogene)               | Cytoplasm       | other                   |
| 0.096   | 2.7 | O88811     | STAM2   | signal transducing adaptor molecule 2                                        | Cytoplasm       | other                   |
| 0.13    | 2.7 | Q8BH40     | STX7    | syntxin 7                                                                    | Plasma Membrane | transporter             |
| 0.003   | 2.8 | P68134     | ACTA1   | actin, alpha 1, skeletal muscle                                              | Cytoplasm       | other                   |

Table S3

|        |     |            |         |                                                                    |                     |                        |
|--------|-----|------------|---------|--------------------------------------------------------------------|---------------------|------------------------|
| 0.049  | 2.8 | Q3UH60     | DIP2B   | disco interacting protein 2 homolog B                              | Cytoplasm           | other                  |
| 0.14   | 2.8 | A0A0R4J0A4 | FLT1    | fms related tyrosine kinase 1                                      | Plasma Membrane     | kinase                 |
| 0.019  | 2.8 | P08113     | HSP90B1 | heat shock protein 90 beta family member 1                         | Cytoplasm           | other                  |
| 0.0058 | 2.8 | E9QN37     | MPEG1   | macrophage expressed 1                                             | Cytoplasm           | other                  |
| 0.27   | 2.8 | P30204     | MSR1    | macrophage scavenger receptor 1                                    | Plasma Membrane     | transmembrane receptor |
| 0.068  | 2.8 | F8WGS1     | RAB11A  | RAB11A, member RAS oncogene family                                 | Cytoplasm           | enzyme                 |
| 0.14   | 2.8 | Q8K021     | SCAMP1  | secretory carrier membrane protein 1                               | Cytoplasm           | transporter            |
| 0.18   | 2.8 | P37432     |         |                                                                    |                     |                        |
| 0.18   | 2.9 | A0A1L1SRX2 | AMPD3   | adenosine monophosphate deaminase 3                                | Cytoplasm           | enzyme                 |
| 0.096  | 2.9 | Q8C129     | LNPEP   | leucyl and cystinyl aminopeptidase                                 | Cytoplasm           | peptidase              |
| 0.018  | 2.9 | A0A0G2JGP4 | NRAS    | NRAS proto-oncogene, GTPase                                        | Plasma Membrane     | enzyme                 |
| 0.2    | 2.9 | B9EJ86     | OSBPL8  | oxysterol binding protein like 8                                   | Plasma Membrane     | transporter            |
| 0.094  | 2.9 | O54965     | RNF13   | ring finger protein 13                                             | Cytoplasm           | enzyme                 |
| 0.096  | 2.9 | Q9ERN0     | SCAMP2  | secretory carrier membrane protein 2                               | Cytoplasm           | transporter            |
| 0.27   | 2.9 | Q3UU41     | SCIMP   | SLP adaptor and CSK interacting membrane protein                   | Plasma Membrane     | other                  |
| 0.096  | 2.9 | Q9QZI8     | SERINC1 | serine incorporator 1                                              | Plasma Membrane     | transporter            |
| 0.0069 | 2.9 | Q6P6I8     | SIRPA   | signal regulatory protein alpha                                    | Plasma Membrane     | phosphatase            |
| 0.036  | 2.9 | Q3UPF5     | ZC3HAV1 | zinc finger CCCH-type containing, antiviral 1                      | Plasma Membrane     | other                  |
| 0.0053 | 3   | Q9CQD1     | RAB5A   | RAB5A, member RAS oncogene family                                  | Cytoplasm           | enzyme                 |
| 0.096  | 3   | Q9CZX8     | RPS19   | ribosomal protein S19                                              | Cytoplasm           | other                  |
| 0.38   | 3   | Q91W98     | SLC15A4 | solute carrier family 15 member 4                                  | Cytoplasm           | transporter            |
| 0.026  | 3   | D3YVM2     | TMEM59  | transmembrane protein 59                                           | Plasma Membrane     | peptidase              |
| 0.38   | 3   | Q91YT8     | TMEM63A | transmembrane protein 63A                                          | Cytoplasm           | other                  |
| 0.5    | 3   | Q80TN5     | ZDHHC17 | zinc finger DHHC-type containing 17                                | Cytoplasm           | enzyme                 |
| 0.38   | 3   | Q8VDZ4     | ZDHHC5  | zinc finger DHHC-type containing 5                                 | Nucleus             | enzyme                 |
| 0.0001 | 3.1 | P97370     | ATP1B3  | ATPase Na <sup>+</sup> /K <sup>+</sup> transporting subunit beta 3 | Plasma Membrane     | transporter            |
| 0.27   | 3.1 | Q9WU60     | ATRNL1  | attractin                                                          | Extracellular Space | other                  |
| 0.27   | 3.1 | P35561     | KCNJ2   | potassium voltage-gated channel subfamily J member 2               | Plasma Membrane     | ion channel            |
| 0.27   | 3.1 | Q9CPY7     | LAP3    | leucine aminopeptidase 3                                           | Cytoplasm           | peptidase              |
| 0.27   | 3.1 | Q61792     | LASP1   | LIM and SH3 protein 1                                              | Cytoplasm           | transporter            |
| 0.27   | 3.1 | Q5SYD0     | MYO1D   | myosin ID                                                          | Cytoplasm           | enzyme                 |
| 0.094  | 3.1 | P27773     | PDIA3   | protein disulfide isomerase family A member 3                      | Cytoplasm           | peptidase              |
| 0.38   | 3.1 | P26043     | RDX     | radixin                                                            | Cytoplasm           | other                  |

Table S3

|         |     |        |          |                                                                 |                     |                            |
|---------|-----|--------|----------|-----------------------------------------------------------------|---------------------|----------------------------|
| 0.094   | 3.1 | Q9ER00 | STX12    | syntaxin 12                                                     | Cytoplasm           | other                      |
| 0.049   | 3.1 | Q9JKK1 | STX6     | syntaxin 6                                                      | Cytoplasm           | transporter                |
| 0.067   | 3.1 | O08599 | STXBP1   | syntaxin binding protein 1                                      | Cytoplasm           | transporter                |
| 0.0069  | 3.1 | Q9JHF5 | TCIRG1   | T cell immune regulator 1, ATPase H+ transporting V0 subunit a3 | Plasma Membrane     | enzyme                     |
| 0.38    | 3.1 | D3Z0M2 | TMEM106B | transmembrane protein 106B                                      | Cytoplasm           | other                      |
| 0.27    | 3.1 | Q8ZLU4 |          |                                                                 |                     |                            |
| 0.2     | 3.2 | Q64735 | CR1L     | complement C3b/C4b receptor 1 like                              | Plasma Membrane     | other                      |
| 0.2     | 3.2 | O88630 | GOSR1    | golgi SNAP receptor complex member 1                            | Cytoplasm           | transporter                |
| 0.067   | 3.2 | Q9CX00 | IST1     | IST1, ESCRT-III associated factor                               | Cytoplasm           | other                      |
| 0.2     | 3.2 | Q9QUN7 | TLR2     | toll like receptor 2                                            | Plasma Membrane     | transmembrane receptor     |
| 0.0001  | 3.3 | E9Q3X0 | MVP      | major vault protein                                             | Nucleus             | other                      |
| 0.18    | 3.3 | F8WHW3 | PIP4P1   | phosphatidylinositol-4,5-bisphosphate 4-phosphatase 1           | Cytoplasm           | phosphatase                |
| 0.14    | 3.3 | P61226 | RAP2B    | RAP2B, member of RAS oncogene family                            | Plasma Membrane     | enzyme                     |
| 0.14    | 3.3 | Q9QZI9 | SERINC3  | serine incorporator 3                                           | Cytoplasm           | transporter                |
| 0.094   | 3.3 | Q6P069 | SRI      | sorcin                                                          | Cytoplasm           | transporter                |
| 0.13    | 3.3 | E9PYK0 | UNC93B1  | unc-93 homolog B1, TLR signaling regulator                      | Cytoplasm           | transporter                |
| 0.0001  | 3.3 | P0A263 |          |                                                                 |                     |                            |
| 0.012   | 3.4 | E9Q3Q6 | ALCAM    | activated leukocyte cell adhesion molecule                      | Plasma Membrane     | other                      |
| 0.27    | 3.4 | Q6P9J9 | ANO6     | anoctamin 6                                                     | Plasma Membrane     | ion channel                |
| 0.27    | 3.4 | Q8C708 | C16orf54 | chromosome 16 open reading frame 54                             | Extracellular Space | other                      |
| 0.27    | 3.4 | A2A6Z2 | CD300LF  | CD300 molecule like family member f                             | Plasma Membrane     | other                      |
| 0.27    | 3.4 | Q6PDK8 | DTX4     | deltex E3 ubiquitin ligase 4                                    | Cytoplasm           | enzyme                     |
| 0.27    | 3.4 | P16382 | IL4R     | interleukin 4 receptor                                          | Plasma Membrane     | transmembrane receptor     |
| 0.27    | 3.4 | Q9DB05 | NAPA     | NSF attachment protein alpha                                    | Cytoplasm           | transporter                |
| 0.27    | 3.4 | D6RH77 | PLD1     | phospholipase D1                                                | Cytoplasm           | enzyme                     |
| 0.00028 | 3.4 | Q3UKC1 | TAX1BP1  | Tax1 binding protein 1                                          | Cytoplasm           | other                      |
| 0.024   | 3.5 | Q9QYB1 | CLIC4    | chloride intracellular channel 4                                | Plasma Membrane     | ion channel                |
| 0.094   | 3.5 | Q922R8 | PDIA6    | protein disulfide isomerase family A member 6                   | Cytoplasm           | enzyme                     |
| 0.032   | 3.5 | Q91YQ5 | RPN1     | ribophorin I                                                    | Cytoplasm           | enzyme                     |
| 0.2     | 3.5 | Q9JJR8 | TMEM9B   | TMEM9 domain family member B                                    | Other               | other                      |
| 0.2     | 3.5 | Q64727 | VCL      | vinculin                                                        | Plasma Membrane     | enzyme                     |
| 0.2     | 3.5 | Q9Z0U0 | XPR1     | xenotropic and polytropic retrovirus receptor 1                 | Plasma Membrane     | G-protein coupled receptor |
| 0.2     | 3.5 | Q8ZRP0 |          |                                                                 |                     |                            |
| 0.2     | 3.5 | Q7CPX8 |          |                                                                 |                     |                            |

Table S3

|         |     |        |          |                                                            |                 |                         |
|---------|-----|--------|----------|------------------------------------------------------------|-----------------|-------------------------|
| 0.064   | 3.6 | Q99P91 | GPNMB    | glycoprotein nmb                                           | Plasma Membrane | enzyme                  |
| 0.0063  | 3.6 | Q8CBQ5 | PI4K2B   | phosphatidylinositol 4-kinase type 2 beta                  | Cytoplasm       | kinase                  |
| 0.022   | 3.6 | Q6PB44 | PTPN23   | protein tyrosine phosphatase, non-receptor type 23         | Cytoplasm       | phosphatase             |
| 0.064   | 3.6 | Q99P72 | RTN4     | reticulon 4                                                | Cytoplasm       | other                   |
| 0.094   | 3.6 | O35114 | SCARB2   | scavenger receptor class B member 2                        | Plasma Membrane | transmembrane receptor  |
| 0.00024 | 3.6 | F8VQC9 | SLC4A7   | solute carrier family 4 member 7                           | Plasma Membrane | transporter             |
| 0.067   | 3.6 | Q9WUD1 | STUB1    | STIP1 homology and U-box containing protein 1              | Cytoplasm       | enzyme                  |
| 0.0014  | 3.7 | B1ASP2 | JAK1     | Janus kinase 1                                             | Cytoplasm       | kinase                  |
| 0.27    | 3.7 | D3Z4B2 | NAPG     | NSF attachment protein gamma                               | Cytoplasm       | transporter             |
| 0.096   | 3.7 | O35405 | PLD3     | phospholipase D family member 3                            | Cytoplasm       | enzyme                  |
| 0.008   | 3.7 | Q3TXV4 | RAB31    | RAB31, member RAS oncogene family                          | Cytoplasm       | enzyme                  |
| 0.27    | 3.7 | Q3TH73 | TTYH2    | tweety family member 2                                     | Other           | ion channel             |
| 0.2     | 3.8 | Q9CYL5 | GLIPR2   | GLI pathogenesis related 2                                 | Cytoplasm       | other                   |
| 0.14    | 3.8 | P37040 | POR      | cytochrome p450 oxidoreductase                             | Cytoplasm       | enzyme                  |
| 0.0001  | 3.8 | Q05769 | PTGS2    | prostaglandin-endoperoxide synthase 2                      | Cytoplasm       | enzyme                  |
| 0.2     | 3.8 | Q9Z1A1 | TFG      | TRK-fused gene                                             | Cytoplasm       | other                   |
| 0.094   | 3.8 | Q8VC04 | TMEM106A | transmembrane protein 106A                                 | Cytoplasm       | other                   |
| 0.015   | 3.9 | Q3U7G2 | ADAM8    | ADAM metalloproteinase domain 8                            | Plasma Membrane | peptidase               |
| 0.029   | 3.9 | P06185 |          |                                                            |                 |                         |
| 0.2     | 4   | Q8K4Q7 | CERK     | ceramide kinase                                            | Plasma Membrane | kinase                  |
| 0.017   | 4   | Q8BUJ9 | LRP12    | LDL receptor related protein 12                            | Plasma Membrane | transmembrane receptor  |
| 0.2     | 4   | Q61036 | PAK3     | p21 (RAC1) activated kinase 3                              | Cytoplasm       | kinase                  |
| 0.2     | 4   | Q8BH24 | TM9SF4   | transmembrane 9 superfamily member 4                       | Cytoplasm       | transporter             |
| 0.047   | 4   | Q8ZNL0 |          |                                                            |                 |                         |
| 0.14    | 4.1 | Q8R4B8 | NLRP3    | NLR family pyrin domain containing 3                       | Cytoplasm       | other                   |
| 0.0067  | 4.1 | P63321 | RALA     | RAS like proto-oncogene A                                  | Cytoplasm       | enzyme                  |
| 0.0055  | 4.1 | Q8K078 | SLCO4A1  | solute carrier organic anion transporter family member 4A1 | Plasma Membrane | transporter             |
| 0.14    | 4.4 | Q91ZV3 | DCBLD2   | discoidin, CUB and LCCL domain containing 2                | Plasma Membrane | other                   |
| 0.14    | 4.4 | Q99N69 | LPXN     | leupaxin                                                   | Cytoplasm       | transcription regulator |
| 0.022   | 4.4 | P70206 | PLXNA1   | plexin A1                                                  | Plasma Membrane | transmembrane receptor  |
| 0.0001  | 4.4 | Q8ZRJ9 |          |                                                            |                 |                         |
| 0.029   | 4.5 | Q8K4Q8 | COLEC12  | collectin subfamily member 12                              | Plasma Membrane | transmembrane receptor  |

Table S3

|         |     |        |         |                                                                  |                     |             |
|---------|-----|--------|---------|------------------------------------------------------------------|---------------------|-------------|
| 0.0067  | 4.5 | Q91VI7 | RNH1    | ribonuclease/angiogenin inhibitor 1                              | Cytoplasm           | other       |
| 0.094   | 4.5 | Q8ZRQ2 |         |                                                                  |                     |             |
| 0.064   | 4.6 | P57787 | SLC16A3 | solute carrier family 16 member 3                                | Plasma Membrane     | transporter |
| 0.00028 | 4.6 | Q7CQV8 |         |                                                                  |                     |             |
| 0.029   | 4.7 | Q9WTR1 | TRPV2   | transient receptor potential cation channel subfamily V member 2 | Plasma Membrane     | ion channel |
| 0.094   | 4.8 | Q8CJ26 | Nradd   | neurotrophin receptor associated death domain                    | Extracellular Space | cytokine    |
| 0.094   | 4.8 | P10833 | RRAS    | RAS related                                                      | Cytoplasm           | enzyme      |
| 0.094   | 4.8 | Q8BVL3 | SNX17   | sorting nexin 17                                                 | Cytoplasm           | transporter |
| 0.094   | 4.8 | Q9ET30 | TM9SF3  | transmembrane 9 superfamily member 3                             | Cytoplasm           | transporter |
| 0.01    | 4.9 | Q8BU31 | RAP2C   | RAP2C, member of RAS oncogene family                             | Cytoplasm           | enzyme      |
| 0.043   | 5.2 | O35604 | NPC1    | NPC intracellular cholesterol transporter 1                      | Cytoplasm           | transporter |
| 0.064   | 5.2 | Q80WQ6 | RHBDF2  | rhomboid 5 homolog 2                                             | Cytoplasm           | other       |
| 0.0001  | 5.3 | Q2TBE6 | PI4K2A  | phosphatidylinositol 4-kinase type 2 alpha                       | Cytoplasm           | kinase      |
| 0.019   | 5.4 | Q8R420 | ABCA3   | ATP binding cassette subfamily A member 3                        | Plasma Membrane     | transporter |
| 0.0045  | 5.4 | Q9R002 | Ifi202b | interferon activated gene 202B                                   | Nucleus             | other       |
| 0.012   | 5.4 | F8WIJ0 | SLC12A4 | solute carrier family 12 member 4                                | Plasma Membrane     | transporter |
| 0.0067  | 5.4 | Q9D3L3 | SNAP23  | synaptosome associated protein 23                                | Plasma Membrane     | transporter |
| 0.043   | 5.5 | B1AT92 | GRB2    | growth factor receptor bound protein 2                           | Cytoplasm           | kinase      |
| 0.0011  | 5.5 | Q8BPX9 | SLC15A3 | solute carrier family 15 member 3                                | Cytoplasm           | transporter |
| 0.0067  | 5.5 | E9QN92 | STEAP3  | STEAP3 metalloredutase                                           | Cytoplasm           | transporter |
| 0.043   | 5.8 | Q8ZQT5 |         |                                                                  |                     |             |
| 0.029   | 5.9 | Q8C4X2 | CSNK1G3 | casein kinase 1 gamma 3                                          | Cytoplasm           | kinase      |
| 0.0001  | 6   | Q69ZN7 | MYOF    | myoferlin                                                        | Nucleus             | other       |
| 0.012   | 6   | Q9JIM1 | SLC29A1 | solute carrier family 29 member 1 (Augustine blood group)        | Plasma Membrane     | transporter |
| 0.043   | 6.1 | O89001 | CPD     | carboxypeptidase D                                               | Extracellular Space | peptidase   |
| 0.0001  | 6.1 | Q8ZMN0 |         |                                                                  |                     |             |
| 0.00014 | 6.2 | Q8BPM0 | DAAM1   | dishevelled associated activator of morphogenesis 1              | Cytoplasm           | other       |
| 0.029   | 6.2 | Q7CPQ6 |         |                                                                  |                     |             |
| 0.0021  | 6.3 | A2AG68 | ATP7A   | ATPase copper transporting alpha                                 | Plasma Membrane     | transporter |
| 0.0052  | 6.3 | P17439 | GBA     | glucosylceramidase beta                                          | Cytoplasm           | enzyme      |
| 0.0052  | 6.3 | B1AT66 | SLC16A6 | solute carrier family 16 member 6                                | Plasma Membrane     | transporter |
| 0.043   | 6.4 | Q99LJ8 | NUS1    | NUS1, dehydrololichyl diphosphate synthase subunit               | Cytoplasm           | enzyme      |
| 0.0001  | 6.5 | G5E829 | ATP2B1  | ATPase plasma membrane Ca2+ transporting 1                       | Plasma Membrane     | transporter |
| 0.019   | 6.6 | Q93GL9 |         |                                                                  |                     |             |
| 0.008   | 6.7 | P61021 | RAB5B   | RAB5B, member RAS oncogene family                                | Cytoplasm           | enzyme      |

Table S3

|         |     |            |          |                                                          |                 |                         |
|---------|-----|------------|----------|----------------------------------------------------------|-----------------|-------------------------|
| 0.0001  | 6.8 | P06795     | Abcb1b   | ATP-binding cassette, sub-family B (MDR/TAP), member 1B  | Plasma Membrane | transporter             |
| 0.0001  | 6.9 | P54987     | ACOD1    | aconitate decarboxylase 1                                | Cytoplasm       | enzyme                  |
| 0.0021  | 6.9 | Q9Z1G4     | ATP6V0A1 | ATPase H <sup>+</sup> transporting V0 subunit a1         | Cytoplasm       | transporter             |
| 0.019   | 6.9 | Q9D486     | CMIP     | c-Maf inducing protein                                   | Cytoplasm       | other                   |
| 0.008   | 7.3 | Q3U7R1     | ESYT1    | extended synaptotagmin 1                                 | Cytoplasm       | other                   |
| 0.00085 | 7.6 | G3UYU4     | FLOT1    | flotillin 1                                              | Plasma Membrane | other                   |
| 0.00034 | 7.6 | Q8ZR40     |          |                                                          |                 |                         |
| 0.0052  | 7.7 | G5E8J0     | NOTCH2   | notch 2                                                  | Plasma Membrane | transcription regulator |
| 0.012   | 7.8 | Q60634     | FLOT2    | flotillin 2                                              | Plasma Membrane | other                   |
| 0.008   | 7.9 | Q80VQ0     | ALDH3B1  | aldehyde dehydrogenase 3 family member B1                | Cytoplasm       | enzyme                  |
| 0.008   | 7.9 | P29477     | NOS2     | nitric oxide synthase 2                                  | Cytoplasm       | enzyme                  |
| 0.00021 | 8.1 | A2AWF9     | PTPRJ    | protein tyrosine phosphatase, receptor type J            | Plasma Membrane | phosphatase             |
| 0.0033  | 8.9 | Q8ZPD6     |          |                                                          |                 |                         |
| 0.00013 | 9   | Q3UZR5     | ATP2C1   | ATPase secretory pathway Ca <sup>2+</sup> transporting 1 | Cytoplasm       | transporter             |
| 0.00021 | 9.1 | A0A140LIF8 | IRGM     | immunity related GTPase M                                | Cytoplasm       | enzyme                  |
| 0.0001  | 16  | Q61609     | SLC20A1  | solute carrier family 20 member 1                        | Plasma Membrane | transporter             |