### Supplemental Resources

Top-ranked eSNPs per eGene for significant eQTLs and ct-eQTLs in blood and brain.

| Gene  | Top eSNP Position | Beta  | Std Error | P-value        | Gene  | Top eSNP Position | Cell-type          |
|-------|-------------------|-------|-----------|----------------|-------|-------------------|--------------------|
| A2M   | 12:9172332        | 0.33  | 0.0088    | 1.95E-272      | AAK1  | 2:69672414        | Erythrocytes       |
| A4GALT| 22:43115776       | -0.0747| 0.00741   | 1.14E-23       | AAK1  | 2:69672414        | Monocytes / Macrophages |
| AACS  | 12:125593318      | -0.0227| 0.00289   | 5.15E-15       | ABCA6 | 17:67162715       | Erythrocytes       |
| AAGAB | 15:67490486       | 0.0322 | 0.00471   | 9.22E-12       | ABCA6 | 17:67162715       | Monocytes / Macrophages |
| AAMDC | 11:77580548       | 0.161  | 0.00517   | 1.65E-196      | ABCA6 | 17:67162715       | Neutrophils 1     |
| AASDH | 4:57276739        | 0.114  | 0.00679   | 5.10E-62       | ABCA9 | 17:67062977       | CD4+ T-Cells       |
| AASS  | 7:121784441       | 0.165  | 0.00693   | 1.63E-118      | ABCA9 | 17:66925923       | Erythrocytes       |
| ABCA10| 17:67289504       | -0.0364| 0.00434   | 6.29E-17       | ABCA9 | 17:66925923       | Monocytes / Macrophages |
| ABCA11P| 4:458667        | 0.0753 | 0.00746   | 9.30E-24       | ABCA9 | 17:66925923       | Neutrophils 1     |
| ABCA2 | 9:139927062       | 0.0418 | 0.00373   | 6.54E-29       | ABCA5 | 17:67289504       | Erythrocytes       |
| ABCA5 | 17:67289504       | -0.0655| 0.00533   | 2.82E-34       | ABCA7 | 11:0009076        | NK cells / CD8+ T-Cells |
| ABCA7 | 19:11000976       | 0.0173 | 0.00236   | 2.88E-13       | ABCS  | 11:44087989       | Interferon response/Anti-bacterial |
| ABCB4 | 7:87078547        | 0.0609 | 0.00697   | 3.15E-18       | ACMS  | 17:48712087       | Interferon response/Anti-bacterial |
| ABCB5 | 7:20735885        | -0.036 | 0.00557   | 1.11E-10       | ACTA2 | 10:90754607       | Interferon response/Anti-bacterial |
| ABCC1 | 16:16043174       | 0.0595 | 0.00534   | 1.45E-28       | ADAMTS5| 5:6476549       | Monocytes / Macrophages |
| ABCC13| 21:15653302       | 0.0621 | 0.00697   | 3.29E-19       | ADK   | 10:76248814       | Interferon response/Anti-bacterial |
| ABCC3 | 17:48712087       | -0.0752| 0.00326   | 2.87E-112      | ADK   | 10:76248814       | Monocytes / Macrophages |
| ABCC4 | 13:95986038       | 0.207  | 0.0129    | 1.99E-56       | ADK   | 10:75928933       | Unknown             |
| ABCC5 | 3:183743647       | -0.134 | 0.00369   | 4.53E-258      | ADPRM | 17:10596713       | Interferon response/Anti-bacterial |
| ABCD2 | 12:39905180       | 0.0494 | 0.00672   | 2.25E-13       | AFAP1 | 4:7939008         | Interferon response/Anti-bacterial |
| ABCD3 | 1:94874521        | -0.0828| 0.00386   | 8.89E-98       | AFF3  | 2:100573658       | Erythrocytes       |
| ABCF2 | 7:150915471       | 0.0471 | 0.00295   | 4.36E-56       | AGA   | 4:178361621       | Interferon response/Anti-bacterial |
| ABCF3 | 3:183390799       | -0.0259| 0.00399   | 9.91E-11       | AGFG1 | 2:228445810       | CD4+ T-Cells       |
| ABCG1 | 21:43641657       | -0.0299| 0.00446   | 2.01E-11       | AGFG1 | 2:228445810       | Erythrocytes       |
| ABCG2 | 4:89090354        | 0.0602 | 0.00781   | 1.53E-14       | AGFG1 | 2:228445810       | Unknown             |
| ABHD10| 3:111697867       | 0.0884 | 0.00473   | 1.34E-75       | AGP5  | 8:6556685         | Erythrocytes       |
| ABHD11| 7:73149302        | -0.0474| 0.00318   | 2.90E-49       | AIH1  | 6:135797804       | Interferon response/Anti-bacterial |
| ABHD12| 20:25333189       | 0.0582 | 0.00326   | 4.52E-69       | AIF1  | 6:31548451        | Erythrocytes       |
| ABHD12B| 14:51372103       | 0.217  | 0.00735   | 1.63E-176      | AKAP10| 17:19795946       | Interferon response/Anti-bacterial |
| ABHD15| 17:27917771       | -0.0308| 0.00359   | 1.39E-17       | ALDH5A1| 6:24464026     | NK cells / CD8+ T-Cells |
| ABHD2 | 15:89612330       | 0.0832 | 0.0061    | 1.26E-41       | ALOX15| 17:4588856       | Interferon response/Anti-bacterial |
| ABHD3 | 18:19235006       | -0.0492| 0.00545   | 2.61E-19       | ALOX15| 17:4559393       | Neutrophils 10     |
| ABHD4 | 14:23075116       | 0.0246 | 0.00318   | 1.13E-14       | ANK2  | 4:113995834       | Erythrocytes       |
| ABI1  | 10:27033193       | -0.029 | 0.0027    | 1.01E-26       | ANKKD1| 15:65198309       | Interferon response/Anti-bacterial |
| ABI3BP| 3:100468407       | -0.0195| 0.00197   | 6.56E-23       | ANPeP | 15:90389045       | Interferon response/Anti-bacterial |
| Gene  | Chromosome | Location | Expression | FDR  | Function/Location                        |
|-------|------------|----------|------------|------|----------------------------------------|
| ABL2  | 1:179103834| -0.0401  | 0.00584    | 7.22E-12 | Monocytes / Macrophages                |
| ABLIM3| 5:148471603| 0.0702   | 0.0113     | 5.03E-10 | Interferon response/Anti-bacterial     |
| ABO   | 9:136139907| 0.0265   | 0.00409    | 1.03E-10 | Interferon response/Anti-bacterial     |
| ABRACL| 6:139350182| 0.145    | 0.00683    | 1.49E-95 | Interferon response/Anti-bacterial     |
| ABTB1 | 3:127390525| -0.0576  | 0.00583    | 8.54E-23 | Erythrocytes                           |
| ABTB2 | 11:34423774| -0.0221  | 0.00248    | 7.61E-19 | Interferon response/Anti-bacterial     |
| ACAA2 | 18:47296298| 0.0484   | 0.00586    | 1.84E-16 | Erythrocytes                           |
| ACACA | 17:35782182| 0.0212   | 0.0032     | 3.79E-11 | Interferon response/Anti-bacterial     |
| ACACB | 12:109592558| 0.0539  | 0.00289    | 1.96E-75 | Neutrophils 1                          |
| ACD8  | 11:134139780| 0.0487  | 0.00351    | 5.66E-43 | Neutrophils 2                          |
| ACD9  | 3:128619505| -0.236   | 0.0148     | 6.95E-56 | Neutrophils 1                          |
| ACADM | 1:76174280 | 0.0199   | 0.0117     | 1.47E-63 | Interferon response/Anti-bacterial     |
| ACADSB| 10:124790152| -0.0294| 0.00483    | 1.21E-09 | Monocytes / Macrophages                |
| ACADVL| 17:7164563 | 0.0483   | 0.00434    | 1.59E-28 | Interferon response/Anti-bacterial     |
| ACAP1 | 11:108047982| -0.0763| 0.00514    | 6.72E-49 | Erythrocytes                           |
| ACAT1 | 6:160211554| -0.0325  | 0.00472    | 6.46E-12 | ATXN7L3B                               |
| ACAT2 | 2:1226372266| 0.0408  | 0.00377    | 4.22E-27 | Interferon response/Anti-bacterial     |
| ACBS  | 11:44078247 | -0.224  | 0.00473    | <1.0E-314| Erythrocytes                           |
| ACER3 | 11:76654777| -0.128   | 0.00527    | 1.24E-12 | Interferon response/Anti-bacterial     |
| ACIN1 | 14:23553110| -0.0646  | 0.00403    | 2.24E-56 | Erythrocytes                           |
| ACN9  | 7:96754216 | 0.243    | 0.0317     | 1.98E-14 | Interferon response/Anti-bacterial     |
| ACO1  | 9:32455320 | -0.0704  | 0.00471    | 1.34E-49 | Interferon response/Anti-bacterial     |
| ACO2  | 22:41854446| -0.0246  | 0.00371    | 3.71E-11 | Erythrocytes                           |
| ACOT4 | 14:74042189| -0.0815  | 0.0078     | 2.41E-25 | Erythrocytes                           |
| ACOT8 | 20:44478114| -0.021   | 0.00308    | 1.11E-11 | Erythrocytes                           |
| AOX1  | 17:73959857| 0.19     | 0.00443    | <1.0E-314| Erythrocytes                           |
| ACP1  | 2:290003   | -0.132   | 0.0104     | 3.48E-36 | Interferon response/Anti-bacterial     |
| ACP2  | 11:47257340| 0.0623   | 0.00466    | 4.71E-40 | Interferon response/Anti-bacterial     |
| ACPI  | 6:147135406| 0.0649   | 0.00405    | 1.63E-56 | Monocytes / Macrophages                |
| ACPL2 | 3:140938546| -0.134   | 0.00453    | 4.45E-18 | Monocytes / Macrophages                |
| ACPI  | 3:131989090| 0.172    | 0.00805    | 2.36E-97 | NK cells / CD8+ T-Cells                |
| ACLS3 | 2:223724984| 0.0263   | 0.00429    | 8.74E-10 | Erythrocytes                           |
| ACLS5 | 10:114149860| 0.0716  | 0.00321    | 3.00E-10 | Interferon response/Anti-bacterial     |
| ACLS6 | 5:131322241| -0.0714  | 0.00449    | 1.41E-55 | Monocytes / Macrophages                |
| ACSM1 | 16:20674116| -0.0487  | 0.00455    | 1.94E-26 | NK cells / CD8+ T-Cells                |
| ACSM3 | 16:20733134| 0.0509   | 0.00644    | 3.34E-15 | Interferon response/Anti-bacterial     |
| ACSS1 | 20:25039046| 0.0187   | 0.00279    | 2.19E-11 | Monocytes / Macrophages                |
| ACSS2 | 20:33468793| -0.0212  | 0.00287    | 1.92E-13 | Erythrocytes                           |
| Gene   | Chromosome Position | Log2 Fold Change | p-value       | Description                                      |
|--------|---------------------|------------------|---------------|--------------------------------------------------|
| ACSS3  | 12:81423842         | -0.102           | 0.00744       | C11orf80                                         |
| ACTA2  | 10:90741615         | -0.219           | <1.0E-314     | C14orf159                                        |
| ACTB   | 7:5534598           | 1.1              | 0.0237        | C15orf57                                         |
| ACTL6A | 3:179336625         | 0.0261           | 0.00322       | C1orf85                                          |
| ACTN1  | 14:69466699         | 0.0268           | 0.0039        | C1orf85                                          |
| ACTR10 | 14:58696823         | 0.16             | 0.0118        | C2orf32                                          |
| ACTR1A | 10:104223628        | -0.0223          | 0.00356       | C2orf32                                          |
| ACTR1B | 2:98271946          | 0.0555           | 0.00395       | C4BPA                                            |
| ACTR2  | 2:65504780          | 0.0772           | 0.00416       | C4BPA                                            |
| ACTR3B | 7:152461934         | -0.24            | 0.0388        | C4BPA                                            |
| ACTR5  | 20:37406869         | 0.0576           | 0.00379       | C4BPA                                            |
| ACTR8  | 3:53899580          | 0.0445           | 0.00395       | C4BPA                                            |
| ACVR2A | 2:148710361         | -0.0473          | 0.00499       | C4BPA                                            |
| ACVR2B | 3:38507570          | -0.0345          | 0.00314       | C4BPA                                            |
| ACYP2  | 2:54368706          | 0.0354           | 0.00463       | C4BPA                                            |
| ADA    | 20:43271392         | -0.0522          | 0.00453       | C9orf78                                          |
| ADAL   | 15:43618863         | 0.149            | 0.00918       | CABLES1                                          |
| ADAM12 | 10:127660351        | 0.0298           | 0.00316       | CACNB2                                           |
| ADAM15 | 1:155033918         | 0.0312           | 0.00363       | CACNB2                                           |
| ADAM17 | 2:9647609           | -0.0677          | 0.00411       | CACNB2                                           |
| ADAM19 | 5:156928008         | -0.0611          | 0.00452       | CAT                                              |
| ADAM20 | 14:71048562         | 0.107            | 0.00858       | CCDC125                                          |
| ADAM22 | 7:87539249          | 0.0378           | 0.00459       | CCDC15                                           |
| ADAM23 | 2:207414601         | -0.0505          | 0.00623       | CCDC17                                           |
| ADAM28 | 8:24219671          | 0.0925           | 0.00711       | CCDC17                                           |
| ADAM32 | 8:38965271          | -0.0659          | 0.00333       | CCDC23                                           |
| ADAM9  | 8:38842839          | 0.0636           | 0.00678       | CCDC23                                           |
| ADAMDEC1| 8:24220787          | 0.0248           | 0.00303       | CCL2                                             |
| ADAMTS1| 21:28215827         | 0.0723           | 0.00559       | CCL2                                             |
| ADAMTS6| 5:64823492          | -0.134           | 0.00444       | CCL2                                             |
| ADAMTSL4| 1:150539971         | 0.103            | 0.00986       | CCL2                                             |
| ADAR   | 1:154557685         | 0.0478           | 0.00435       | CCR3                                             |
| ADARB1 | 21:46564154         | 0.0446           | 0.00439       | CCR3                                             |
| ADARB2 | 10:1282530          | -0.0302          | 0.00229       | CD28                                             |
| ADAT1  | 16:75647536         | 0.104            | 0.00434       | CD28                                             |
| ADAT2  | 6:143789040         | -0.0397          | 0.00502       | CD55                                             |
| ADCK1  | 14:78222798         | -0.144           | 0.00677       | CD83                                             |
| ADCK2  | 7:140359732         | 0.0685           | 0.00711       | CD93                                             |
| ADCK3  | 1:227175245         | -0.0333          | 0.00265       | CD96                                             |

Interferon response/Anti-bacterial
Monocytes / Macrophages
Monocytes / Macrophages
Monocytes / Macrophages
Monocytes / Macrophages
NK cells / CD8+ T-Cells
CD4+ T-Cells
Unknown
Erythrocytes
Erythrocytes
Monocytes / Macrophages
Monocytes / Macrophages
Interferon response/Anti-bacterial
Erythrocytes
B-cells
Neutrophils 1
Neutrophils 10
| Gene      | Start Position | End Position | Expression Change | Validity Score | Expression Class                              |
|-----------|----------------|--------------|-------------------|----------------|-----------------------------------------------|
| Erythrocytes |               |              |                   |                |                                               |
| Interferon response / Anti-bacterial |               |              |                   |                |                                               |
| CD8+ T-Cells |               |              |                   |                |                                               |
| NK cells |               |              |                   |                |                                               |
| Monocytes / Macrophages |               |              |                   |                |                                               |
| Unknown |               |              |                   |                |                                               |

**Erythrocytes**

- **Interferon response / Anti-bacterial**
- **CD8+ T-Cells**
- **NK cells / CD8+ T-Cells**
- **Monocytes / Macrophages**
- **Unknown**
| Gene       | Gene ID       | Expression | Log2 Fold Change | p-value     | Function                          | Location       |
|------------|---------------|------------|------------------|-------------|-----------------------------------|----------------|
| AGPS       | 2:178216029   | -0.0424    | 0.00445          | 2.65E-21    | Monocytes / Macrophages           |                |
| AHCTF1     | 1:247115645   | 0.0641     | 0.00814          | 4.04E-15    | Neutrophils 1                     |                |
| AHCYL2     | 7:128861075   | -0.0274    | 0.00395          | 4.77E-12    | Neutrophils 2                     |                |
| AHI1       | 6:135624811   | 0.187      | 0.00405          | <1.0E-31     | NK cells / CD8+ T-Cells           |                |
| AHR        | 7:17319630    | -0.204     | 0.0216           | 5.25E-21    | NK cells / CD8+ T-Cells           |                |
| AHRR       | 5:299148      | -0.075     | 0.00534          | 5.42E-44    | Erythrocytes                      |                |
| AHSAS1     | 14:77929941   | 0.0607     | 0.00334          | 4.59E-68    | Erythrocytes                      |                |
| AHSAS2     | 2:61404931    | 0.0842     | 0.00467          | 1.32E-70    | NK cells / CD8+ T-Cells           |                |
| AHSP       | 16:31521334   | 0.201      | 0.0276           | 3.81E-13    | NK cells / CD8+ T-Cells           |                |
| AIF1       | 6:31580539    | 0.0472     | 0.00526          | 3.88E-19    | Erythrocytes                      |                |
| AIFM2      | 10:71910630   | 0.0176     | 0.00267          | 4.32E-11    | Erythrocytes                      |                |
| AIG1       | 6:143376126   | -0.0842    | 0.00794          | 5.59E-26    | Monocytes / Macrophages           |                |
| AIMP2      | 7:60619195    | -0.0678    | 0.00422          | 7.01E-57    | NK cells / CD8+ T-Cells           |                |
| AK2        | 1:33459484    | 0.0869     | 0.00565          | 2.98E-52    | Neutrophils 2                     |                |
| AK3        | 9:4758191     | 0.102      | 0.0165           | 6.34E-10    | Interferon response/Anti-bacterial |                |
| AK5        | 1:77897688    | -0.243     | 0.00957          | 2.23E-134   | Interferon response/Anti-bacterial |                |
| AKAP1      | 17:55176058   | -0.0227    | 0.00305          | 9.41E-11    | Interferon response/Anti-bacterial |                |
| AKAP10     | 17:19806050   | -0.17      | 0.00511          | 2.18E-22    | Interferon response/Anti-bacterial |                |
| AKAP11     | 13:42906121   | -0.0317    | 0.00427          | 1.37E-13    | Interferon response/Anti-bacterial |                |
| AKAP13     | 15:86251500   | -0.0515    | 0.00709          | 4.42E-13    | Interferon response/Anti-bacterial |                |
| AKAP7      | 6:131462299   | 0.116      | 0.00108          | 1.74E-26    | Erythrocytes                      |                |
| AKD1       | 6:109815955   | 0.125      | 0.00628          | 1.66E-84    | Interferon response/Anti-bacterial |                |
| AKIP1      | 11:8909816    | 0.0611     | 0.00447          | 4.67E-38    | Erythrocytes                      |                |
| AKIRIN1    | 1:39453785    | -0.0275    | 0.00389          | 5.06E-12    | Interferon response/Anti-bacterial |                |
| AKIRIN2    | 6:88402926    | 0.0466     | 0.0076           | 9.65E-10    | Interferon response/Anti-bacterial |                |
| AKNA       | 9:117180919   | 0.0166     | 0.00209          | 2.88E-15    | Interferon response/Anti-bacterial |                |
| AKR1C2     | 10:4985193    | -0.276     | 0.0111           | 2.17E-130   | Interferon response/Anti-bacterial |                |
| AKR1C3     | 10:5131180    | -0.0851    | 0.0113           | 4.78E-14    | Interferon response/Anti-bacterial |                |
| AKR1E2     | 10:4874916    | 0.387      | 0.0172           | 2.13E-107   | Interferon response/Anti-bacterial |                |
| AKT1       | 14:105258892  | -0.0308    | 0.00369          | 7.51E-17    | Interferon response/Anti-bacterial |                |
| AKTIP      | 16:53522749   | -0.161     | 0.00759          | 2.48E-95    | Erythrocytes                      |                |
| ALAD       | 9:116167156   | 0.0356     | 0.00363          | 1.76E-22    | Erythrocytes                      |                |
| ALCAM      | 3:105223763   | -0.134     | 0.00463          | 9.12E-172   | Monocytes / Macrophages           |                |
| ALDH1A1    | 9:75597138    | -0.0728    | 0.00972          | 7.92E-14    | Interferon response/Anti-bacterial |                |
| ALDH1B1    | 9:38397355    | -0.0984    | 0.00515          | 7.94E-79    | Monocytes / Macrophages           |                |
| ALDH2      | 12:112211833  | 0.063      | 0.00442          | 3.14E-45    | CD4+ T-Cells                      |                |
| ALDH3A2    | 17:19559623   | 0.0435     | 0.00347          | 1.52E-35    | Interferon response/Anti-bacterial |                |
| ALDHA5A1   | 6:24493922    | 0.204      | 0.00794          | 1.35E-13    | Interferon response/Anti-bacterial |                |
| ALDHA8A1   | 6:135271946   | 0.0483     | 0.00289          | 3.58E-61    | CD4+ T-Cells                      |
| Gene       | Chromosome | Gene | Chromosome | Gene | Chromosome | Gene | Chromosome | Gene | Chromosome |
|------------|------------|------|------------|------|------------|------|------------|------|------------|
| ALDH9A1    | 1:165667781| 0.0528| 0.00435    | 2.01E-33 | DLG2       | 11:84018349| Erythrocytes |
| ALDOB      | 9:104177498| 0.0399| 0.00312    | 6.43E-37 | DLG2       | 11:84018349| Monocytes / Macrophages |
| ALDOC      | 17:26947652| 0.0431| 0.00513    | 5.76E-17 | DLG2       | 11:83935158| Neutrophils 1 |
| ALG11      | 13:52576498| 0.0375| 0.00379    | 8.47E-23 | DLG2       | 11:83823752| Neutrophils 10 |
| ALG6       | 1:63856651 | -0.0502| 0.00477    | 1.00E-25 | DLG2       | 11:84202384| Neutrophils 2 |
| ALG8       | 11:7777384 | -0.0508| 0.00467    | 2.67E-27 | DNAJC15    | 13:43612736| Interferon response/Anti-bacterial |
| ALKBH1     | 14:78134243| -0.0376| 0.00528    | 1.11E-12 | DNMBP      | 10:101656449| Monocytes / Macrophages |
| ALKBH3     | 11:43947597| -0.0598| 0.00389    | 2.59E-52 | DOCK5      | 8:25248714 | Erythrocytes |
| ALKBH4     | 7:102065322| 0.108 | 0.00667    | 1.28E-57 | DOCK5      | 8:25248714 | Monocytes / Macrophages |
| ALKBH5     | 17:18127914| 0.0201| 0.00245    | 2.62E-16 | DR1        | 1:63070537 | Interferon response/Anti-bacterial |
| ALKBH8     | 11:107400136| -0.0662| 0.00488    | 2.61E-41 | DZIP3      | 3:108264948| Interferon response/Anti-bacterial |
| ALS1       | 2:73613341 | -0.0915| 0.00355    | 3.30E-138| DSP        | 6:7495948  | Interferon response/Anti-bacterial |
| ALS1P      | 2:73837751 | -0.0283| 0.00359    | 3.79E-15 | DSP        | 6:7495948  | Monocytes / Macrophages |
| ALOX5      | 10:45915941| 0.0309| 0.00432    | 1.00E-12 | ECM2       | 9:95207806 | Interferon response/Anti-bacterial |
| ALOX5AP    | 13:31312178| -0.158 | 0.00507    | 1.76E-15 | ECM2       | 9:95207806 | Interferon response/Anti-bacterial |
| ALOPK1     | 4:113205543| 0.0657| 0.00572    | 3.73E-30 | EFCAB13    | 17:45364390| Interferon response/Anti-bacterial |
| ALPL       | 1:21896925 | 0.0489| 0.00766    | 1.76E-10 | EFCAB13    | 17:45364390| Monocytes / Macrophages |
| ALS2       | 2:202639198| 0.13  | 0.00393    | 1.35E-218| EFCAB2     | 1:245211973| Interferon response/Anti-bacterial |
| ALS2CR8    | 2:203733989| 0.0639| 0.00508    | 8.68E-36 | EGR2       | 10:64533848| Erythrocytes |
| AMACR      | 5:33996456 | -0.11 | 0.00434    | 1.38E-133| ENC1       | 5:73937854 | Interferon response/Anti-bacterial |
| AMDHD1     | 12:96344495| 0.0704| 0.00302    | 2.33E-114| ENC1       | 5:73946488| Monocytes / Macrophages |
| AMFR       | 16:56428427| -0.0334| 0.00472    | 1.68E-12 | ENC1       | 5:73943431| Unknown |
| AMICA1     | 11:118072373| 0.0871| 0.00418    | 1.04E-92 | ENPP2      | 8:12065832 | Monocytes / Macrophages |
| AMIGO2     | 12:47473342| 0.059 | 0.00492    | 1.07E-32 | EPB41L2    | 6:13139493| Monocytes / Macrophages |
| AMPD3      | 11:10531025| -0.0319| 0.00451    | 1.74E-12 | ERAP2      | 5:96273033 | Erythrocytes |
| AMPH       | 7:38388163 | 0.0242| 0.00268    | 2.17E-19 | ERAP2      | 5:96252589 | Interferon response/Anti-bacterial |
| AMT        | 3:49453834 | -0.0362| 0.00293    | 1.49E-34 | ERAP2      | 5:96252432 | NK cells / CD8+ T-Cells |
| AMY2B      | 1:104128773| 0.157 | 0.0115     | 8.96E-42 | ERO1L      | 14:53160317| Interferon response/Anti-bacterial |
| AMZ2       | 17:66253696| 0.036 | 0.00398    | 2.15E-19 | ETV7       | 6:36315002 | B-cells |
| AMZ2P1     | 17:62985398| -0.197| 0.00775    | 7.09E-135| ETV7       | 6:36315002 | Neutrophils 1 |
| ANAPC13    | 3:134191880| 0.0817| 0.0061     | 3.19E-40 | ETV7       | 6:36315002 | Unknown |
| ANAPC15    | 11:71812592| 0.042 | 0.00579    | 4.77E-13 | EYA3       | 1:28416157| Interferon response/Anti-bacterial |
| ANAPC4     | 4:25397036 | 0.0545| 0.00544    | 2.06E-23 | F2RL1      | 5:76135511 | Interferon response/Anti-bacterial |
| ANG        | 14:21153616| 0.0698| 0.00369    | 3.85E-77 | FADS2      | 11:61556039| NK cells / CD8+ T-Cells |
| ANGEL1     | 14:77284416| 0.0194| 0.00295    | 4.90E-11 | FADS2      | 11:61547068| Neutrophils 2 |
| ANGEL2     | 1:213192458| 0.0457| 0.0034   | 1.24E-40 | FAM117B    | 2:203505015| Monocytes / Macrophages |
| ANGPT1     | 8:108554458| 0.101 | 0.0069     | 5.94E-48 | FAM118A    | 22:45714489| CD4+ T-Cells |
| ANGPT2     | 8:6340423 | -0.111| 0.0135     | 1.97E-16 | FAM118A    | 22:45731050 | Erythrocytes |
| Gene Symbol | Score | Name | Interactions |
|-------------|-------|------|--------------|
| ANGPTL2     | 9:129814065 | 0.0459 | 0.00343 | 3.41E-40 | FAM118A | 22:45731731 | Interferon response/Anti-bacterial |
| ANGPTL3     | 1:63018987  | 0.0318 | 0.00472 | 1.73E-11 | FAM118A | 22:45726345 | Monocytes / Macrophages |
| ANK1        | 8:41506152  | 0.044  | 0.00721 | 1.15E-09 | FAM118A | 22:45745439 | Neutrophils 1 |
| ANK3        | 10:62488381 | 0.162  | 0.00506 | 3.38E-206| FAM118A | 22:45771974 | NK cells / CD8+ T-Cells |
| ANKKD1A     | 15:65163664 | -0.113 | 0.00275 | <1.0E-314| FAM134A | 2:220035581 | NK cells / CD8+ T-Cells |
| ANKH        | 5:14872689  | 0.169  | 0.00635 | 3.72E-146| FAM3B  | 21:42689637 | Erythrocytes |
| ANKMY1      | 2:241481778 | -0.0533| 0.00312 | 4.95E-68 | FAM3B  | 21:42690424 | Interferon response/Anti-bacterial |
| ANKRA2      | 7:2894812   | 0.0596 | 0.00439 | 2.53E-41 | FAM3B  | 21:42690424 | Monocytes / Macrophages |
| ANKRD10     | 13:111547103| 0.0741 | 0.00325 | 8.05E-110| FAM3B  | 21:42697714 | NK cells / CD8+ T-Cells |
| ANKRD12     | 18:9109484  | -0.0276| 0.00399 | 4.65E-12 | FAM3B  | 21:42690424 | Unknown |
| ANKRD13D    | 11:67021532 | -0.0915| 0.00152 | 1.86E-09 | FAN1   | 15:31157666 | Interferon response/Anti-bacterial |
| ANKRD18DP   | 3:197814108 | 0.0376 | 0.00551 | 1.02E-11 | FARP1  | 13:98945248 | Erythrocytes |
| ANKRD26     | 10:27436566 | -0.152 | 0.00989 | 4.46E-53 | FBN2   | 5:127851383 | Interferon response/Anti-bacterial |
| ANKRD27     | 19:33143605 | -0.177 | 0.01217 | 2.73E-43 | FBN2   | 5:127812816 | Monocytes / Macrophages |
| ANKRD28     | 3:15694630  | -0.188 | 0.00742 | 3.32E-133| FBXW8  | 12:117309440| Unknown |
| ANKRD32     | 5:94043608  | 0.181  | 0.0109  | 3.09E-60 | FCN1   | 9:37798445 | Interferon response/Anti-bacterial |
| ANKRD34B    | 5:79905411  | 0.257  | 0.00705 | 1.98E-259| FCRL2  | 1:157767519 | Neutrophils 1 |
| ANKRD36B    | 2:98086584  | 0.399  | 0.0336 | 4.84E-32 | FCRL3  | 1:157603186 | Erythrocytes |
| ANKRD36BP1  | 1:168234645 | 0.0477 | 0.00599 | 8.10E-16 | FCRL5  | 1:157554177 | Erythrocytes |
| ANKRD40     | 17:48767431 | 0.0283 | 0.00478 | 3.22E-09 | FCRL5  | 1:157536682 | Monocytes / Macrophages |
| ANKRD44     | 2:19871579  | 0.0183 | 0.00311 | 4.14E-09 | FCRL5  | 1:157526021 | Interferon response/Anti-bacterial |
| ANKRD5      | 20:10015729 | 0.147  | 0.00555 | 2.49E-148| FDT1   | 8:11650918 | NK cells / CD8+ T-Cells |
| ANKRD50     | 4:125576279 | 0.114  | 0.0106  | 1.22E-26 | FDT1   | 8:11660614 | NK cells / CD8+ T-Cells |
| ANKRD55     | 5:55444683  | 0.189  | 0.0113  | 2.96E-61 | FGFR2  | 10:123210812| Interferon response/Anti-bacterial |
| ANK51A      | 6:34856345  | -0.0292| 0.00381 | 2.44E-14 | FGFR2  | 10:123211880| Neutrophils 10 |
| ANO5        | 11:22231413 | -0.0972| 0.00446 | 5.22E-101| FHCDC  | 4:153893002 | CD4+ T-Cells |
| ANP32B      | 9:100763890 | 0.0437 | 0.00735 | 2.94E-09 | FLCN1  | 17:17189404 | NK cells / CD8+ T-Cells |
| ANP32E      | 1:150165849 | 0.11   | 0.00642 | 1.75E-64 | FLNB   | 3:57948942 | Neutrophils 10 |
| ANPEP       | 15:90363995 | 0.271  | 0.00743 | 1.01E-259| FLVCR1-AS1 | 1:213039536| Interferon response/Anti-bacterial |
| ANTXR2      | 4:80821935  | 0.064  | 0.00466 | 4.29E-42 | FMO3   | 1:171132137 | Erythrocytes |
| ANXA1       | 9:75765478  | -0.128 | 0.00814 | 9.41E-55 | FMO3   | 1:171132137 | Monocytes / Macrophages |
| ANXA11      | 10:81920011 | -0.041 | 0.00394 | 4.02E-25 | FMO3   | 1:171132137 | Neutrophils 1 |
| ANXA2       | 15:60689877 | -0.0494| 0.00556 | 7.90E-19 | FMO3   | 1:203263699 | Erythrocytes |
| ANXA2R      | 5:43039793  | -0.078 | 0.00597 | 1.93E-38 | FMO3   | 1:203263699 | Monocytes / Macrophages |
| ANXA3       | 4:79473394  | -0.147 | 0.0107  | 2.47E-42 | FNBP1L | 1:93898666 | Interferon response/Anti-bacterial |
| ANXA4       | 2:69989801  | 0.0803 | 0.00505 | 1.21E-55 | FNDC3B | 3:171967454 | Erythrocytes |
| ANXA5       | 4:122582127 | 0.144  | 0.00527 | 9.16E-154| FOLR3  | 11:71850156 | Interferon response/Anti-bacterial |
| ANXA6       | 5:150534544 | 0.0828 | 0.00443 | 1.06E-79 | FOLR3  | 11:71864967 | Monocytes / Macrophages |
| AOAH        | 7:36758237  | -0.158 | 0.00486 | 5.27E-212| FOLR3  | 11:71870070 | Neutrophils 1 |
| Gene Symbol | Chromosome | Start Position | Log2 Fold Change | P-Value | Function and Role |
|-------------|------------|----------------|-----------------|---------|------------------|
| AP1B1       | 22:29785783| 0.0302         | 3.19E-17        |         | NK cells / CD8+ T-Cells |
| AP1G1       | 16:71856611| -0.0201        | 4.74E-10        |         | Interferon response/Anti-bacterial |
| AP1M1       | 19:16321911| 0.0319         | 5.79E-20        |         | Erythrocytes |
| AP1M2       | 19:10726288| 0.0391         | 2.72E-15        |         | Interferon response/Anti-bacterial |
| AP1S3       | 2:22468905 | -0.077         | 3.27E-15        |         | Interferon response/Anti-bacterial |
| AP2B1       | 17:33892087| -0.0514        | 2.41E-31        |         | Erythrocytes |
| AP2M1       | 3:183899832| 0.0776         | 3.62E-29        |         | Monocytes / Macrophages |
| AP3B1       | 5:77572367 | -0.0397        | 3.01E-36        |         | Interferon response/Anti-bacterial |
| AP3B2       | 15:8337284 | -0.0431        | 1.62E-34        |         | Interferon response/Anti-bacterial |
| AP3M1       | 10:75845885| -0.06          | 1.17E-35        |         | Erythrocytes |
| AP3M2       | 8:42046212 | 0.0402         | 1.95E-20        |         | Erythrocytes |
| AP3S2       | 12:9903258 | -0.0903        | 3.40E-113       |         | Interferon response/Anti-bacterial |
| AP4B1       | 1:11442526 | 0.0438         | 6.00E-27        |         | Monocytes / Macrophages |
| AP4E1       | 15:5128657 | -0.0742        | 4.14E-32        |         | Erythrocytes |
| AP4M1       | 7:99685218 | -0.0242        | 1.19E-19        |         | Monocytes / Macrophages |
| AP5M1       | 14:57758539| 0.0455         | 2.33E-09        |         | Neutrophils 2 |
| APAF1       | 12:9903258| -0.0742        | 4.14E-32        |         | Erythrocytes |
| APAB2       | 15:29214522| -0.0678        | 3.30E-15        |         | Monocytes / Macrophages |
| APBAB1P     | 10:2673335 | -0.079         | 5.66E-82        |         | Neutrophils 1 |
| APBB2       | 4:41216190| -0.091         | 5.21E-123       |         | CD4+ T-Cells |
| APC         | 5:112089480| -0.0357        | 3.20E-24        |         | Interferon response/Anti-bacterial |
| APCDD1      | 18:10430913| 0.0279         | 1.97E-11        |         | NK cells / CD8+ T-Cells |
| APH1B       | 15:6359587 | -0.0974        | 3.29E-17        |         | Interferon response/Anti-bacterial |
| API5        | 11:4333896 | 0.0384         | 2.86E-12        |         | Neutrophils 1 |
| APIP        | 11:34862466| -0.69          | <1.0E-314       |         | Interferon response/Anti-bacterial |
| APMAP       | 20:24909945| 0.129          | 6.90E-75        |         | Interferon response/Anti-bacterial |
| APOA2       | 1:16117868 | -0.0641        | 1.22E-37        |         | Erythrocytes |
| APOBEC3A    | 22:39358037| 0.38           | 3.15E-56        |         | Interferon response/Anti-bacterial |
| APOBEC3B    | 22:39435855| 0.123          | 2.61E-51        |         | Interferon response/Anti-bacterial |
| APOBEC3D    | 22:39475964| 0.0263         | 8.62E-12        |         | Erythrocytes |
| APOBEC3G    | 22:3948417 | 0.138          | 5.61E-54        |         | Interferon response/Anti-bacterial |
| APOBEC3H    | 22:39496902| 0.137          | 1.40E-38        |         | Erythrocytes |
| APOBEC4     | 1:183581965| -0.0434        | 1.72E-14        |         | Interferon response/Anti-bacterial |
| APOBRC      | 16:28473465| -2.69          | <1.0E-314       |         | Interferon response/Anti-bacterial |
| APOC4       | 19:45444464| -0.047         | 1.33E-12        |         | Erythrocytes |
| APOL2       | 22:36623148| -0.0531        | 9.96E-34        |         | Interferon response/Anti-bacterial |
| APOL3       | 22:36540434| 0.0485         | 3.45E-31        |         | Erythrocytes |
| APP         | 21:27503527| -0.0439        | 1.52E-22        |         | Monocytes / Macrophages |
| Gene   | Chromosome | Transcript Length | Expression   | Function                          |
|--------|------------|-------------------|--------------|-----------------------------------|
| APPL2  | 12         | 105659782         | -0.0454      | Neutrophils 1                     |
| APRT   | 16         | 88883288          | 0.145        | Erythrocytes                      |
| APTX   | 9          | 33025113          | -0.0335      | Interferon response/Anti-bacterial|
| AQP10  | 1          | 54293923          | 0.0672       | Interferon response/Anti-bacterial|
| AQP11  | 11         | 77369051          | 0.0432       | NK cells / CD8+ T-Cells           |
| AQP3   | 9          | 33442986          | -0.05        | B-cells                           |
| AQR    | 15         | 35119748          | 0.0195       | Interferon response/Anti-bacterial|
| ARAP1  | 11         | 72405450          | 0.0365       | Neutrophils 1                     |
| ARAP3  | 5          | 141059158         | 0.0918       | Interferon response/Anti-bacterial|
| ARF3   | 12         | 49351572          | 0.0723       | Interferon response/Anti-bacterial|
| ARFGAP2| 11         | 47188411          | -0.0287      | Neutrophils 10                    |
| ARFGAP3| 22         | 43197897          | 0.0531       | NK cells / CD8+ T-Cells           |
| ARFIP1 | 4          | 53681139          | -0.222       | Interferon response/Anti-bacterial|
| ARG1   | 6          | 31898208          | 0.303        | Monocytes / Macrophages           |
| ARHGAP11A| 15       | 32907712          | 0.164        | Monocytes / Macrophages           |
| ARHGAP12| 10        | 32247294          | 0.0831       | Interferon response/Anti-bacterial|
| ARHGAP15| 2        | 143884297         | 0.125        | Interferon response/Anti-bacterial|
| ARHGAP19| 10        | 99014575          | -0.406       | Interferon response/Anti-bacterial|
| ARHGAP22| 10        | 49822957          | 0.0185       | Interferon response/Anti-bacterial|
| ARHGAP24| 4         | 86590848          | 0.142        | Erythrocytes                      |
| ARHGAP25| 2        | 69039254          | 0.0269       | Interferon response/Anti-bacterial|
| ARHGAP26| 5         | 142420072         | -0.0792      | Interferon response/Anti-bacterial|
| ARHGAP27| 17        | 43551151          | -0.03        | Interferon response/Anti-bacterial|
| ARHGAP30| 1        | 161026490         | 0.0221       | Interferon response/Anti-bacterial|
| ARHGAP32| 11        | 129108747         | 0.0265       | NK cells / CD8+ T-Cells           |
| ARHGAP5 | 14        | 32592464          | 0.0426       | Interferon response/Anti-bacterial|
| ARHGAP9 | 12        | 57907769          | 0.147        | Interferon response/Anti-bacterial|
| ARHGEF10| 5         | 1807449           | -0.0649      | Unknown                           |
| ARHGEF11| 1         | 57005996          | -0.0335      | B-cells                           |
| ARHGEF19| 1         | 16533830          | 0.0155       | Interferon response/Anti-bacterial|
| ARHGEF26| 3         | 153962525         | 0.0395       | Interferon response/Anti-bacterial|
| ARHGEF3 | 3         | 56758448          | -0.058       | Monocytes / Macrophages           |
| ARHGEF35| 7         | 143858397         | 0.0576       | Interferon response/Anti-bacterial|
| ARHGEF40| 14        | 21550499          | 0.0691       | Interferon response/Anti-bacterial|
| ARHGEF7 | 13        | 111805525         | 0.0302       | Unknown                           |
| ARID1B  | 6          | 157161912         | 0.0273       | Interferon response/Anti-bacterial|
| ARID3B  | 15         | 74851416          | 0.0411       | Monocytes / Macrophages           |
| ARID4B  | 1         | 235491823         | -0.0348      | Interferon response/Anti-bacterial|
| ARID5A  | 2         | 97201682          | -0.0136      | Neutrophils 10                    |
| Gene   | Chromosome | start | end    | Expression |
|--------|------------|-------|--------|------------|
| ARL11  | 13         | 50209351 | 0.045  | 2.21E-16   |
| ARL13B | 3          | 93672516  | 0.0343 | 3.98E-17   |
| ARL15  | 5          | 53606295  | -0.305 | 2.47E-29   |
| ARL17A | 17         | 44603035  | -0.377 | 4.11E-18   |
| ARL4A  | 7          | 12730362  | 0.0608 | 1.73E-17   |
| ARL4C  | 2          | 235402656 | 0.0471 | 4.17E-23   |
| ARL5B  | 10         | 18964097  | -0.0666| 7.54E-14   |
| ARL6P1 | 16         | 18784310  | 0.0932 | 4.08E-19   |
| ARL6P5 | 3          | 69153854  | 0.0281 | 6.42E-16   |
| ARL13B | 2          | 153586899 | 0.0449 | 1.25E-17   |
| ARM1   | 8          | 66555467  | 0.0609 | 9.17E-89   |
| ARMC2  | 10         | 23181000  | -0.0339| 4.10E-42   |
| ARNT   | 1          | 150772613 | -0.0719| 6.35E-44   |
| ARNTL  | 11         | 13294268  | 0.105  | 1.98E-128  |
| ARPC1B | 7          | 98978755  | -0.0301| 3.75E-10   |
| ARPC2  | 2          | 219105450 | -0.0339| 3.89E-39   |
| ARPC5  | 1          | 183593512 | -0.0949| 9.29E-84   |
| ARPP19 | 15         | 52854832  | 0.0751 | 16.2739589 |
| ARRB1  | 11         | 75075038  | 0.0679 | 2.79E-25   |
| ARRB2  | 17         | 4600510   | -0.168 | 1.49E-120  |
| ARRD1  | 9          | 14053378  | -0.0385| 9.16E-15   |
| ARSB   | 5          | 78281977  | 0.0961 | 2.16E-89   |
| ARSG   | 17         | 66413539  | 0.0336 | 1.81E-20   |
| ARV1   | 1          | 23110194  | 0.057  | 3.19E-27   |
| AS3MT  | 10         | 104611764 | 0.24   | <1.0E-314  |
| ASAH1  | 8          | 17923339  | -0.112 | 4.75E-182  |
| ASAP1  | 8          | 131269886 | 0.0855 | 9.08E-61   |
| ASAP1-IT1 | 8     | 131270076  | -0.0739| 1.79E-45   |
| ASB13  | 10         | 5688795   | 0.0505 | 3.82E-34   |
| ASB14  | 5          | 57321433  | -0.0716| 5.95E-25   |
| ASB16-AS1 | 17  | 42239349  | -0.0717| 1.04E-30   |
| ASB3   | 2          | 53955513  | 0.0378 | 7.72E-23   |
| ASB7   | 15         | 101176989 | 0.0448 | 1.62E-13   |
| ASB8   | 12         | 48578809  | 0.0381 | 1.00E-11   |
| ASCC1  | 10         | 74025656  | -0.207 | 2.72E-29   |
| ASCC2  | 22         | 30220190  | 0.0675 | 1.87E-16   |
| ASCC3  | 6          | 101328762 | -0.0528| 7.64E-17   |
| ASF1A  | 6          | 119178035 | -0.0509| 2.93E-13   |
| ASGR2  | 17         | 7015711   | -0.11  | 8.91E-78   |
| Gene  | Chromosome | Location | FC  | Log2FC | p-value   | GO/Pathway                      |
|-------|------------|----------|-----|--------|-----------|--------------------------------|
| ASL   | 7:65595217 | 0.025    | 4.59E-24 | KCNMA1  | 10:79322102 | Unknown                        |
| ASNS  | 7:97515313 | -0.237   | 4.25E-39 | KCNQ5   | 6:73957218  | Erythrocytes                   |
| ASNSD1| 2:190505697| 0.184    | 0.00442  | <1.0E-314 | KIAA0040  | Interferon response/Anti-bacterial |
| ASPDH | 19:50973259| -0.0461  | 5.85E-32 | KIAA0226L| 13:46936789 | Erythrocytes                   |
| ASPH  | 8:62644645 | -0.209   | 3.91E-129| KIAA0226L| 13:46905723 | Neutrophils 1                  |
| ASPRV1| 2:70207897 | 0.065    | 1.42E-19 | KIAA0391 | 14:35561440 | Interferon response/Anti-bacterial |
| ASRG1 | 11:62087343| -0.18    | 1.36E-129| KIAA0391 | 14:35602087 | Monocytes / Macrophages        |
| ASUN  | 12:27054552| -0.0237  | 1.60E-09 | KIAA0391 | 14:35602087 | Unknown                        |
| ATAD5 | 17:29177841| -0.107   | 4.47E-39 | KIAA1324 | 1:10970693  | Interferon response/Anti-bacterial |
| ATF1  | 12:51202554| -0.064   | 1.79E-14 | KIAA1324 | 1:10970693  | Erythrocytes                   |
| ATF6  | 1:161835754| -0.0751  | 7.10E-26 | KIAA1324 | 1:10970693  | Interferon response/Anti-bacterial |
| ATF7  | 12:54057912| 0.0268   | 4.89E-11 | KIAA1324 | 1:10970693  | NK cells / CD8+ T-Cells        |
| ATF7IP2| 16:10455828| 0.193    | 1.60E-113| KIAA1324 | 10:11871245 | Interferon response/Anti-bacterial |
| ATG10 | 5:81299921 | 0.273    | 1.77E-14 | KIF16B   | 20:16552181 | Interferon response/Anti-bacterial |
| ATG16L1| 2:234147930| -0.0277  | 1.61E-14 | KIF16B   | 20:16552181 | Monocytes / Macrophages        |
| ATG5  | 6:106631860| 0.0641   | 1.02E-28 | KIF1B    | 1:10271688  | Interferon response/Anti-bacterial |
| ATG7  | 3:11294310 | 0.063    | 1.35E-60 | KRT23    | 17:3909263 | Interferon response/Anti-bacterial |
| ATIC  | 2:216181279| -0.0644  | 1.14E-57 | L3MBTL3  | 6:130374461 | Interferon response/Anti-bacterial |
| ATL1  | 14:51072713| -0.0292  | 2.49E-12 | LAMC1    | 1:18296380  | Erythrocytes                   |
| ATL2  | 2:38505813 | 0.0295   | 4.95E-09 | LAMP3    | 3:182869163 | B-cells                       |
| ATL3  | 11:63463937| 0.0661   | 4.05E-12 | LAMP3    | 3:182861353 | Neutrophils 1                  |
| ATMIN | 16:81069317| -0.08    | 4.92E-15 | LBH      | 2:30509158  | NK cells / CD8+ T-Cells        |
| ATOX1 | 5:151128214| 0.0296   | 4.47E-10 | LCA5L    | 21:40766048 | Interferon response/Anti-bacterial |
| ATP10A| 15:26075917| -0.0444  | 1.41E-42 | LCLAT1   | 2:30676422  | Interferon response/Anti-bacterial |
| ATP10D| 4:47442361 | 0.0576   | 2.58E-46 | LGALS2   | 22:37907086 | Interferon response/Anti-bacterial |
| ATP11B| 3:182575631| 0.0857   | 3.00E-62 | LGALS2   | 22:37907086 | Monocytes / Macrophages        |
| ATP13A3| 3:194237025| 0.113    | 1.73E-33 | LINCO00339| 1:22355289 | Interferon response/Anti-bacterial |
| ATP13A4| 3:193300315| 0.0835   | 2.91E-17 | LIPA     | 10:91011681 | Interferon response/Anti-bacterial |
| ATP1A4 | 1:160136208| -0.0456  | 9.52E-37 | LIX1     | 5:96425293 | Monocytes / Macrophages        |
| ATP1B1 | 1:169079268| -0.128   | 2.18E-54 | LOC654433| 2:113981137| Interferon response/Anti-bacterial |
| ATP1B3 | 3:141645747| 0.0372   | 6.58E-11 | LOXHD1   | 18:44165341 | Interferon response/Anti-bacterial |
| ATP2A3 | 17:3862165 | 0.0533   | 1.18E-09 | LOXHD1   | 18:44165341 | Unknown                       |
| ATP2C2 | 16:84414164| -0.0271  | 5.06E-32 | LPL      | 8:19843930 | Erythrocytes                   |
| ATP5A1 | 18:43714920| -0.131   | 1.68E-14 | LPL      | 8:19860197 | Monocytes / Macrophages        |
| ATP5C1 | 10:7830064 | -0.103   | 3.73E-102| LLRC16A  | 6:25398426 | Interferon response/Anti-bacterial |
| ATP5F1 | 1:111968710| -0.102   | 1.55E-23 | LLRC6    | 8:133718548| Interferon response/Anti-bacterial |
| ATP5G2 | 12:54087705| -0.032   | 1.05E-09 | LLRC6    | 8:133715804| NK cells / CD8+ T-Cells        |
| ATP5G3 | 2:176042819| -0.0413  | 1.78E-16 | LLRC8B   | 1:90031987 | Interferon response/Anti-bacterial |
| Gene      | Chromosome | Start Position | End Position | Log2 Fold Change | FDR       | Description                                      |
|-----------|------------|----------------|--------------|----------------|-----------|-------------------------------------------------|
| ATP5L2    | 22         | 43046707       | 0.0689       | 0.00966        | 1.13E-12  | Unknown                                         |
| ATP5O     | 21         | 35284683       | 0.24         | 0.0112         | 1.69E-97  | Monocytes / Macrophages                         |
| ATP5S     | 14         | 50789102       | -0.0562      | 0.00332        | 1.09E-62  | Interferon response/Anti-bacterial              |
| ATP5SL    | 19         | 41906270       | -0.0504      | 0.00397        | 2.21E-36  | Interferon response/Anti-bacterial              |
| ATP6VOD1  | 16         | 67549746       | 0.157        | 0.0084         | 2.37E-75  | MAP2                                             |
| ATP6V1C1  | 8          | 104084584      | 0.119        | 0.00633        | 6.76E-76  | MANEA                                           |
| ATP6V1D   | 14         | 67820457       | -0.121       | 0.0167         | 4.33E-13  | MAP2                                             |
| ATP6V1E1  | 22         | 18077640       | 0.194        | 0.00623        | 3.07E-195 | MAP2                                             |
| ATP6V1E2  | 2          | 46738846       | 0.0414       | 0.00467        | 1.02E-18  | MAP2                                             |
| ATP7B     | 13         | 52626337       | 0.0226       | 0.00309        | 2.68E-13  | MASTL                                           |
| ATP8A1    | 4          | 42676817       | -0.14        | 0.01           | 1.60E-43  | MASTL                                           |
| ATP8B1    | 18         | 53049299       | 0.0281       | 0.00452        | 5.20E-10  | MBD4                                            |
| ATP8B2    | 1          | 54313232       | -0.0292      | 0.00422        | 5.16E-12  | MBD4                                            |
| ATP8B4    | 15         | 50157261       | 0.14         | 0.00668        | 2.05E-94  | MGDG1                                           |
| ATP9B     | 18         | 76812450       | 0.0653       | 0.00336        | 1.41E-81  | MDM2                                            |
| ATPIF1    | 1          | 28560580       | 0.116        | 0.00373        | 7.79E-194 | MDN1                                            |
| ATR       | 3          | 142340807      | 0.0173       | 0.00284        | 1.29E-09  | CD4+ T-Cells                                    |
| ATRAIID   | 2          | 27439751       | -0.054       | 0.00677        | 1.85E-15  | MNF2                                            |
| ATRIP     | 3          | 48484016       | -0.0136      | 0.0023         | 3.83E-09  | MNF2                                            |
| ATRN      | 20         | 35940899       | -0.0204      | 0.00289        | 1.96E-12  | MFS9                                            |
| ATXN1     | 6          | 16755768       | 0.0579       | 0.00386        | 1.15E-49  | MFS9                                            |
| ATXN10    | 22         | 46052777       | -0.106       | 0.00449        | 1.21E-116 | MFS9                                            |
| ATXN3     | 14         | 92550658       | 0.129        | 0.0046         | 1.52E-160 | MGA4A                                           |
| ATXN7L3B  | 12         | 74946815       | -0.14        | 0.00413        | 2.14E-227 | MGA4A                                           |
| AUH       | 9          | 94045131       | 0.0456       | 0.00466        | 1.68E-22  | MGST3                                           |
| AUP1      | 2          | 74729481       | -0.0525      | 0.00586        | 4.51E-19  | MLLT3                                           |
| AUTS2     | 7          | 70144841       | -0.052       | 0.00457        | 1.28E-29  | MOV10                                           |
| AVIL      | 12         | 58170335       | -0.072       | 0.00469        | 3.68E-52  | MPZL2                                           |
| AVL9      | 7          | 32618281       | -0.0334      | 0.00453        | 2.17E-13  | MRE11A                                          |
| AVPR1A    | 12         | 63541714       | 0.0291       | 0.0046         | 2.84E-10  | MRPL18                                          |
| AXDND1    | 1          | 179322810      | -0.179       | 0.0151         | 2.90E-32  | MRPL21                                          |
| AXIN1     | 16         | 407723         | 0.0287       | 0.00273        | 1.11E-25  | MRPS18C                                         |
| AXIN2     | 17         | 63556290       | -0.0636      | 0.0055         | 1.38E-30  | MSH2                                            |
| AZI2      | 3          | 28332087       | 0.0269       | 0.00409        | 5.05E-11  | MSH3                                            |
| AZIN1     | 8          | 103817865      | 0.0316       | 0.00403        | 5.32E-15  | MSH3                                            |
| B3GALNT1  | 3          | 160855599      | 0.0265       | 0.00347        | 2.80E-14  | MTPAP                                           |
| B3GALNT2  | 1          | 235628908      | 0.2          | 0.00409        | <1.0E-314 | MTPAP                                           |
| B3GAT1    | 11         | 134268411      | 0.0313       | 0.00482        | 9.48E-11  | MYH11                                           |
| B3GAT2    | 6          | 71531118       | -0.0342      | 0.00563        | 1.26E-09  | MYH11                                           |
| Gene     | Gene ID   | Expression | Log2 Fold Change | Enrichment | Cell Type                        |
|----------|-----------|------------|------------------|------------|----------------------------------|
| Erythrocytes |          |            |                  |            |                                  |
| Neutrophils 1 |        |            |                  |            |                                  |
| Neutrophils 2 |        |            |                  |            |                                  |
| Interferon response/Anti-bacterial |        |            |                  |            |                                  |
| Monocytes / Macrophages |        |            |                  |            |                                  |
| Unknown |          |            |                  |            |                                  |
| B-cells |          |            |                  |            |                                  |
| CD4+ T-Cells |        |            |                  |            |                                  |
| Monocytes / Macrophages |        |            |                  |            |                                  |
| NK cells / CD8+ T-Cells |        |            |                  |            |                                  |

**B3GAT3** 11:62424096 -0.0554 0.00931 2.80E-09 MYL6 12:56509535 B-cells
**B3GNT2** 2:62491643 0.106 0.00549 1.04E-79 MYL6 12:56509535 Erythrocytes
**B3GNT5** 3:182925233 -0.258 0.0164 2.10E-54 MYL6 12:56509535 Interferon response/Anti-bacterial
**B3GNTL1** 17:81006286 -0.0391 0.00277 1.54E-44 MYL6 12:56509535 Monocytes / Macrophages
**B4GALNT3** 12:662838 -0.069 0.0024 3.32E-169 MYL6 12:56509535 Neutrophils 1
**B4GALT4** 3:118957370 -0.174 0.00491 4.95E-247 MYL6 12:56509535 Neutrophils 2
**B4GALT6** 18:29255261 -0.0432 0.00461 9.46E-21 MYL6 12:56509535 Interferon response/Anti-bacterial
**BABAM1** 19:17391787 -0.0774 0.00948 4.18E-16 MYO10 5:16875276 Erythrocytes
**BACE1** 11:117189216 0.0199 0.00241 1.67E-16 MYO10 5:16875276 Monocytes / Macrophages
**BACE2** 21:42521213 0.0646 0.00535 3.87E-33 MYO10 5:16872627 Neutrophils 2
**BACH1** 21:30706470 0.0282 0.00398 1.64E-12 MYO1E 15:59422810 Erythrocytes
**BAG3** 10:121437012 0.032 0.00356 2.99E-19 MYO1E 15:59422810 Monocytes / Macrophages
**BAG5** 14:104022944 0.0376 0.00503 9.04E-14 MYO1E 15:59422810 Neutrophils 1
**BAG6** 6:31594181 -0.0732 0.008 7.66E-20 MYOM2 8:2121846 Interferon response/Anti-bacterial
**BAHCC1** 17:79339668 -0.272 0.0382 1.22E-12 NAAA 4:76816143 Interferon response/Anti-bacterial
**Bai3** 6:69454400 0.0277 0.00249 2.83E-28 NAGK 2:71294360 Interferon response/Anti-bacterial
**BAIAP2** 17:79015989 0.0184 0.00307 2.39E-09 NAPG 18:10536906 Interferon response/Anti-bacterial
**BAIAP2L1** 7:97942436 0.0516 0.00368 6.18E-44 NCF2 1:183553870 Erythrocytes
**BAIAP3** 16:1394741 0.0374 0.00306 5.06E-34 NDST1 5:149862325 Interferon response/Anti-bacterial
**BAK1** 6:33546837 -0.0755 0.00467 2.32E-57 NEBL 10:21503412 Interferon response/Anti-bacterial
**BARD1** 2:215673440 0.106 0.00529 4.37E-86 NECAP2 1:16791384 Interferon response/Anti-bacterial
**BASP1** 5:17234578 -0.0456 0.00464 1.48E-22 NETO1 18:70477566 Erythrocytes
**BARTF3** 1:212871081 0.0398 0.00478 1.04E-16 NFKL1 4:47910943 CD4+ T-Cells
**BAZ2B** 2:160427646 -0.145 0.00527 1.49E-156 NFKL1 4:47888664 Erythrocytes
**BS2** 16:56479298 0.219 0.00421 <1.0E-314 NFKL1 4:47858518 Interferon response/Anti-bacterial
**BS4** 15:72978531 -0.149 0.0127 2.02E-31 NFKL1 4:47848377 Monocytes / Macrophages
**BS9** 7:33344075 0.0705 0.00581 2.02E-33 NFKL1 4:47862792 NK cells / CD8+ T-Cells
**BBX** 3:107312676 0.0404 0.0054 8.00E-14 NFKL1 4:47906461 Unknown
**BCAS4** 20:49431913 -0.0402 0.00554 4.75E-13 NINL 20:25492584 Erythrocytes
**BCAT1** 12:25051265 -0.307 0.00623 <1.0E-314 NINL 20:25492584 Monocytes / Macrophages
**BCKDK** 16:31162303 0.0292 0.00409 1.11E-12 NIPAL2 8:99305539 Interferon response/Anti-bacterial
**BCL2A1** 15:80263345 0.162 0.00749 7.56E-100 NME4 16:450759 NK cells / CD8+ T-Cells
**BCL2L11** 2:111896243 0.0411 0.00686 2.27E-09 NMRK1 9:77707695 Interferon response/Anti-bacterial
**BCL9** 1:147020818 -0.0816 0.0107 3.01E-14 NOD2 16:50714979 CD4+ T-Cells
**BCO2** 11:112049856 -0.0269 0.00353 3.09E-14 NOD2 16:50724614 Interferon response/Anti-bacterial
**BCR** 22:23522810 -0.0205 0.0027 3.50E-14 NQO2 6:302802 Interferon response/Anti-bacterial
**BDH1** 3:197273882 -0.0269 0.00428 3.73E-10 NRG1 8:32430888 Interferon response/Anti-bacterial
**BDH2** 4:104000973 -0.152 0.00747 2.00E-88 NSD1 5:176517058 Neutrophils 1
**BDP1** 5:70730687 -0.111 0.0149 1.01E-13 NSG1 4:4350655 Interferon response/Anti-bacterial
| Gene   | Affymetrix ID | Fold Change | p-value | Description                               | Enrichment Pathway                  |
|--------|--------------|-------------|---------|-------------------------------------------|-------------------------------------|
| PADI2  | 5:173046555  | -0.0925     | 2.36E-83| CXCL11                                   | Interferon response/Anti-bacterial  |
| BFAR   | 16:14777006  | 0.031       | 2.00E-11| CXCL11                                   | Interferon response/Anti-bacterial  |
| BFSP1  | 20:17473671  | 0.0274      | 3.38E-12| CXCL11                                   | Interferon response/Anti-bacterial  |
| BHLHE40| 3:5025654    | 0.0625      | 8.96E-13| CXCL11                                   | Interferon response/Anti-bacterial  |
| BHM172 | 5:78434291   | 0.0223      | 3.17E-09| CXCL11                                   | Interferon response/Anti-bacterial  |
| BICD2  | 9:95508176   | -0.0344     | 6.37E-22| CXCL11                                   | Interferon response/Anti-bacterial  |
| BID    | 22:18180911  | 0.0174      | 1.23E-14| CXCL11                                   | Interferon response/Anti-bacterial  |
| BIN1   | 2:127826533  | -0.0596     | 2.48E-99| CXCL11                                   | Interferon response/Anti-bacterial  |
| BIN2   | 12:51685831  | -0.112      | 4.87E-63| CXCL11                                   | Interferon response/Anti-bacterial  |
| BIRC7  | 20:61875007  | -0.0346     | 5.02E-12| CXCL11                                   | Interferon response/Anti-bacterial  |
| BIVM   | 13:103430929 | -0.0585     | 6.77E-25| CXCL11                                   | Interferon response/Anti-bacterial  |
| BLK    | 8:11339882   | 0.0517      | 2.22E-29| CXCL11                                   | Interferon response/Anti-bacterial  |
| BLM    | 15:91351930  | 0.0724      | 7.75E-67| CXCL11                                   | Interferon response/Anti-bacterial  |
| BLMH   | 17:28637173  | 0.0738      | 1.03E-62| CXCL11                                   | Interferon response/Anti-bacterial  |
| BLOC1S2| 10:10201702  | -0.198      | 4.90E-83| CXCL11                                   | Interferon response/Anti-bacterial  |
| BLVRA  | 7:43845185   | 0.152       | 1.58E-115| CXCL11                                   | Interferon response/Anti-bacterial |
| BLVRB  | 19:40941154  | 0.207       | 1.47E-29| CXCL11                                   | Interferon response/Anti-bacterial |
| BMF    | 15:40447265  | 0.0291      | 1.08E-20| CXCL11                                   | Interferon response/Anti-bacterial |
| BMP6   | 6:7862631    | 0.0452      | 2.55E-18| CXCL11                                   | Interferon response/Anti-bacterial |
| BMPR1A | 10:88635779  | 0.0516      | 1.72E-12| CXCL11                                   | Interferon response/Anti-bacterial |
| BMPR2  | 2:203270092  | -0.0616     | 1.69E-34| CXCL11                                   | Interferon response/Anti-bacterial |
| BMS1P1 | 10:47619049  | -0.9        | 8.66E-20| CXCL11                                   | Interferon response/Anti-bacterial |
| BNC2   | 9:16876283   | -0.0584     | 1.44E-33| CXCL11                                   | Interferon response/Anti-bacterial |
| BNIP1  | 5:172591337  | 0.0422      | 3.22E-12| CXCL11                                   | Interferon response/Anti-bacterial |
| BNIP2  | 15:59966305  | 0.0979      | 1.36E-110| CXCL11                                   | Interferon response/Anti-bacterial |
| BNIP4  | 15:151033979 | -0.0248     | 2.12E-12| CXCL11                                   | Interferon response/Anti-bacterial |
| BOD1   | 5:17304555   | -0.0491     | 2.86E-10| CXCL11                                   | Interferon response/Anti-bacterial |
| BOD1L1 | 4:13580332   | -0.0677     | 2.29E-11| CXCL11                                   | Interferon response/Anti-bacterial |
| BOLL   | 2:198568076  | -0.0385     | 2.41E-26| CXCL11                                   | Interferon response/Anti-bacterial |
| BORA   | 13:73296812  | 0.257       | 2.65E-99| CXCL11                                   | Interferon response/Anti-bacterial |
| BPI    | 20:36925819  | -0.428      | 6.53E-35| CXCL11                                   | Interferon response/Anti-bacterial |
| BRCA2  | 13:32887616  | 0.0249      | 3.40E-14| CXCL11                                   | Interferon response/Anti-bacterial |
| BRD1   | 22:50250464  | -0.0291     | 3.73E-09| CXCL11                                   | Interferon response/Anti-bacterial |
| BRD2   | 6:32919524   | -0.017      | 5.09E-09| CXCL11                                   | Interferon response/Anti-bacterial |
| BRD3   | 9:136925451  | -0.0213     | 4.88E-19| CXCL11                                   | Interferon response/Anti-bacterial |
| Gene       | Chromosome | Start Position | End Position | Expression Value | FDR   | Description                                      |
|------------|------------|----------------|--------------|------------------|-------|-------------------------------------------------|
| BRI3BP     | 12:125471505 | -0.0388         | 0.00351      | 4.80E-28         |       | Erythrocytes                                    |
| BRIP1      | 17:59967940  | -0.0466         | 0.00619      | 5.45E-14         |       | Monocytes / Macrophages                         |
| BRK1       | 3:10165778   | 0.119           | 0.00686      | 7.92E-66         |       | Interferon response/Anti-bacterial              |
| BRWD1      | 21:40661881  | -0.0845         | 0.00656      | 1.98E-37         |       | Unknown                                         |
| BSCL2      | 11:62451457  | -0.219          | 0.0141       | 2.83E-53         |       | Interferon response/Anti-bacterial              |
| BST1       | 4:15737348   | 0.0779          | 0.00509      | 7.91E-52         |       | Interferon response/Anti-bacterial              |
| BTAF1      | 10:93702042  | -0.0221         | 0.00321      | 6.28E-12         |       | Monocytes / Macrophages                         |
| BTBD10     | 11:13467982  | 0.0826          | 0.00553      | 2.26E-49         |       | Erythrocytes                                    |
| BTBD11     | 12:107718282 | -0.108          | 0.00604      | 8.38E-70         |       | Interferon response/Anti-bacterial              |
| BTBD6      | 14:105722726 | 0.0908          | 0.0068      | 4.40E-40         |       | Interferon response/Anti-bacterial              |
| BTBD7      | 14:93751018  | -0.0204         | 0.00309      | 4.10E-11         |       | Interferon response/Anti-bacterial              |
| BTF3       | 5:72797720   | 0.0619          | 0.00395      | 4.65E-54         |       | Neutrophils 1                                   |
| BTG2       | 1:203255493  | 0.0178          | 0.00477      | 1.88E-270        |       | CD4+ T-Cells                                    |
| BTNL3      | 5:180365855  | -0.477          | 0.00999      | 2.74E-11         |       | Erythrocytes                                    |
| BTN3A1     | 6:26465768   | 0.635           | 0.0133       | <1.0E-314        |       | Monocytes / Macrophages                         |
| BTN3A2     | 6:26316295   | 0.0759          | 0.00491      | 1.04E-52         |       | Monocytes / Macrophages                         |
| BTN3A3     | 6:26391391   | -0.0667         | 0.00999      | 2.4582997        |       | Neutrophils 1                                   |
| BTN9       | 5:180470133  | 0.0717          | 0.00669      | 1.49E-26         |       | Monocytes / Macrophages                         |
| BUB3       | 10:124910214 | 0.0245          | 0.00314      | 6.32E-15         |       | Erythrocytes                                    |
| BUD13      | 11:116640768 | 0.0632          | 0.00813      | 9.69E-15         |       | Monocytes / Macrophages                         |
| BUD31      | 7:99015791   | 0.0593          | 0.00858      | 5.28E-12         |       | Monocytes / Macrophages                         |
| C10orf111  | 10:15134114  | 0.0281          | 0.00468      | 2.17E-09         |       | Erythrocytes                                    |
| C10orf137  | 10:127441439 | 0.0717          | 0.00669      | 1.49E-26         |       | Monocytes / Macrophages                         |
| C10orf32   | 10:104623053 | 0.0282          | 0.00438      | 1.37E-10         |       | Monocytes / Macrophages                         |
| C10orf35   | 10:71384325  | 0.00305         | 0.00499      | 1.03E-09         |       | Monocytes / Macrophages                         |
| C10orf54   | 10:73526468  | -0.118          | 0.00519      | 8.31E-10         |       | Monocytes / Macrophages                         |
| C10orf68   | 10:33087660  | -0.121          | 0.0102       | 7.61E-13         |       | Erythrocytes                                    |
| C10orf76   | 10:103657957 | 0.0329          | 0.00439      | 8.65E-14         |       | Monocytes / Macrophages                         |
| C11orf21   | 11:2316720   | -0.121          | 0.0102       | 7.61E-13         |       | Neutrophils 1                                   |
| C11orf30   | 11:76125330  | 0.0206          | 0.003        | 7.10E-12         |       | Interferon response/Anti-bacterial              |
| C11orf31   | 11:57493622  | -0.0409         | 0.00437      | 1.04E-20         |       | NK cells / CD8+ T-Cells                         |
| C11orf42   | 11:6228594   | -0.0462         | 0.00618      | 8.37E-14         |       | Interferon response/Anti-bacterial              |
| C11orf48   | 11:62426194  | -0.16           | 0.0119       | 1.86E-40         |       | Erythrocytes                                    |
| C11orf54   | 11:93500659  | 0.0621          | 0.00411      | 1.62E-50         |       | Monocytes / Macrophages                         |
| C11orf58   | 11:16748468  | 0.0592          | 0.00687      | 8.44E-18         |       | Monocytes / Macrophages                         |
| C11orf63   | 11:122748288 | -0.0954         | 0.00514      | 1.61E-74         |       | Interferon response/Anti-bacterial              |
| Gene symbol | Chromosome | Start Position | Log2 Fold Change | P-Value | Bonferroni Corrected P-Value | Tissue Type / Function |
|-------------|------------|----------------|-----------------|---------|-----------------------------|----------------------|
| C11orf71    | 11         | 11:114269266   | 0.0334          | 0.00401 | 1.03E-16                    | NK cells / CD8+ T-Cells |
| C11orf75    | 11         | 11:93231389    | -0.169          | 0.00703 | 1.94E-121                   | B-cells               |
| C11orf92    | 11         | 11:111197776   | -0.0382         | 0.00477 | 1.28E-15                    | Erythrocytes          |
| C12orf23    | 12         | 12:107321748   | -0.053          | 0.00518 | 2.39E-24                    | Monocytes / Macrophages |
| C12orf29    | 12         | 12:88444592    | -0.0393         | 0.00641 | 9.69E-10                    | Neutrophils 1         |
| C12orf39    | 12         | 12:21714448    | -0.07           | 0.00632 | 2.91E-28                    | Monocytes / Macrophages |
| C12orf4     | 12         | 12:4676899     | 0.0545          | 0.00863 | 2.96E-10                    | Interferon response/Anti-bacterial |
| C12orf43    | 12         | 12:121438382   | 0.0252          | 0.00344 | 2.47E-13                    | B-cells               |
| C12orf44    | 12         | 12:52460424    | 0.0258          | 0.00417 | 6.52E-10                    | Monocytes / Macrophages |
| C12orf5     | 12         | 12:4446116     | 0.0827          | 0.00662 | 2.41E-35                    | Neutrophils 1         |
| C12orf60    | 12         | 12:14955702    | -0.0442         | 0.00669 | 4.45E-11                    | Neutrophils 10        |
| C12orf65    | 12         | 12:123747783   | -0.027          | 0.00413 | 6.26E-11                    | Neutrophils 1         |
| C12orf75    | 12         | 12:105754678   | 0.329           | 0.0248  | 16.53490676                 | Interferon response/Anti-bacterial |
| C14orf101   | 14         | 14:57107856    | -0.0599         | 0.00753 | 2.21E-15                    | B-cells               |
| C14orf132   | 14         | 14:96468108    | 0.0485          | 0.00609 | 1.95E-15                    | Interferon response/Anti-bacterial |
| C14orf159   | 14         | 14:91581340    | 0.298           | 0.00907 | 3.02E-216                   | Interferon response/Anti-bacterial |
| C14orf166   | 14         | 14:52471263    | 0.11            | 0.00931 | 5.09E-32                    | B-cells               |
| C14orf2     | 14         | 14:104381687   | 0.119           | 0.00896 | 2.42E-39                    | Interferon response/Anti-bacterial |
| C15orf26    | 15         | 15:81397782    | -0.0381         | 0.00447 | 6.03E-16                    | B-cells               |
| C15orf37    | 15         | 15:80212491    | -0.122          | 0.00503 | 3.56E-123                   | Interferon response/Anti-bacterial |
| C15orf38    | 15         | 15:90455379    | 0.162           | 0.00631 | 2.43E-137                   | Interferon response/Anti-bacterial |
| C15orf40    | 15         | 15:83646331    | 0.0273          | 0.00413 | 3.88E-11                    | Interferon response/Anti-bacterial |
| C15orf41    | 15         | 15:36870972    | 0.0328          | 0.00553 | 3.12E-09                    | Interferon response/Anti-bacterial |
| C15orf54    | 15         | 15:39546830    | 0.298           | 0.00907 | 3.02E-216                   | Interferon response/Anti-bacterial |
| C15orf57    | 15         | 15:40848351    | 0.133           | 0.00451 | 2.33E-177                   | Monocytes / Macrophages |
| C16orf13    | 16         | 16:675067      | -0.0815         | 0.0126  | 9.60E-11                    | Interferon response/Anti-bacterial |
| C16orf54    | 16         | 16:29748924    | -0.0593         | 0.00465 | 1.08E-36                    | Interferon response/Anti-bacterial |
| C16orf55    | 16         | 16:89716222    | 0.0653          | 0.00754 | 6.71E-18                    | Interferon response/Anti-bacterial |
| C16orf62    | 16         | 16:19634841    | 0.0243          | 0.00307 | 5.59E-11                    | Interferon response/Anti-bacterial |
| C16orf80    | 16         | 16:58205340    | 0.104           | 0.0126  | 1.63E-16                    | Interferon response/Anti-bacterial |
| C17orf49    | 17         | 17:6902179     | 0.185           | 0.0106  | 3.00E-66                    | CD4+ T-Cells          |
| C17orf62    | 17         | 17:80402045    | 0.045           | 0.00408 | 4.61E-28                    | Interferon response/Anti-bacterial |
| C17orf75    | 17         | 17:30659006    | 0.0466          | 0.00546 | 1.81E-17                    | Interferon response/Anti-bacterial |
| C17orf77    | 17         | 17:72563686    | -0.0406         | 0.00637 | 2.14E-10                    | Interferon response/Anti-bacterial |
| C17orf80    | 17         | 17:71217074    | -0.0294         | 0.00383 | 1.95E-14                    | Interferon response/Anti-bacterial |
| C17orf97    | 17         | 17:259304      | -0.158          | 0.00754 | 5.00E-94                    | Erythrocytes          |
| C18orf25    | 18         | 18:43802778    | 0.0327          | 0.00514 | 2.05E-10                    | Neutrophils 2         |
| C18orf32    | 18         | 18:47047929    | -0.119          | 0.0193  | 7.22E-10                    | Erythrocytes          |
| C19orf10    | 19         | 19:4658254     | 0.0736          | 0.00991 | 1.24E-13                    | Monocytes / Macrophages |
| Gene Symbol | P-value | Fold Change | Description                   |
|-------------|---------|-------------|--------------------------------|
| C19orf12    | 1.90E-49| 5.17       | Neutrophils 1                  |
| C19orf33    | 1.36E-45| 4.82       | Interferon response/Anti-bacterial |
| C19orf40    | 1.31E-42| 3.14       | Unknown                        |
| C19orf47    | 1.35E-43| 5.07       | Interferon response/Anti-bacterial |
| C19orf54    | 1.27E-40| 4.75       | Monocytes / Macrophages        |
| C19orf60    | 1.22E-40| 5.87       | Interferon response/Anti-bacterial |
| C19orf66    | 1.21E-40| 6.09       | B-cells                        |
| C1GALT1     | 7.72E-38| 8.43       | Neutrophils 1                  |
| C1orf101    | 1.24E-31| 2.98       | Unknown                        |
| C1orf131    | 1.23E-30| 1.50       | Erythrocytes                   |
| C1orf174    | 1.38E-29| 2.27       | Interferon response/Anti-bacterial |
| C1orf177    | 1.55E-28| 8.29       | Interferon response/Anti-bacterial |
| C1orf198    | 1.23E-27| 2.64       | Erythrocytes                   |
| C1orf220    | 1.18E-26| 1.75       | Interferon response/Anti-bacterial |
| C1orf27     | 1.18E-26| 5.44       | Interferon response/Anti-bacterial |
| C1orf54     | 1.15E-25| 3.07       | Interferon response/Anti-bacterial |
| C1orf85     | 1.15E-25| <1.0E       | Interferon response/Anti-bacterial |
| C1orf87     | 1.60E-24| 4.96       | Erythrocytes                   |
| CIQA        | 1.22E-23| 8.87       | Interferon response/Anti-bacterial |
| C1QBP       | 1.51E-22| 2.16       | Monocytes / Macrophages        |
| C1QTNF6     | 2.37E-21| 3.69       | Neutrophils 1                  |
| C1QTNF7     | 1.54E-21| 4.92       | Neutrophils 10                 |
| C1RL-AS1    | 1.72E-19| 8.18       | NK cells / CD8+ T-Cells         |
| C2          | 3.61E-17| 1.08       | Unknown                        |
| C20orf111   | 2.04E-16| 1.13       | CD4+ T-Cells                   |
| C20orf112   | 2.03E-16| 1.93       | Unknown                        |
| C20orf196   | 2.05E-16| 1.09       | Erythrocytes                   |
| C20orf197   | 2.08E-14| 3.53       | Monocytes / Macrophages        |
| C20orf24    | 2.03E-13| 3.53       | Monocytes / Macrophages        |
| C20orf72    | 2.17E-13| 4.69       | Interferon response/Anti-bacterial |
| C20orf96    | 2.26E-12| 5.30       | NK cells / CD8+ T-Cells         |
| C21orf128   | 2.43E-11| 7.20       | Interferon response/Anti-bacterial |
| C21orf2     | 2.45E-10| 6.76       | Monocytes / Macrophages        |
| C21orf33    | 2.45E-10| 1.57       | Neutrophils 1                  |
| C21orf62    | 2.34E-09| 4.54       | Neutrophils 2                  |
| C21orf67    | 2.14E-08| 1.74       | Unknown                        |
| C21orf7     | 2.30E-07| 2.19       | B-cells                        |
| C21orf91    | 2.19E-07| 4.91       | Interferon response/Anti-bacterial |
| C22orf32    | 2.42E-07| <1.0E       | Interferon response/Anti-bacterial |
| Gene       | Coordinates         | Expression | Log2 Fold Change | p-value   | Function                                      | Location         |
|------------|---------------------|------------|------------------|-----------|-----------------------------------------------|------------------|
| C22orf34   | 22:50018651         | -0.156     | 0.00428          | 5.57E-259 | SNX16                                         | 8:82748437       |
| C22orf43   | 22:23988257         | 0.145      | 0.00414          | 1.95E-240 | SNX25                                         | 4:186199652      |
| C2CD2      | 21:43326524         | -0.0216    | 0.00342          | 2.84E-10  | SNX25                                         | 4:186124959      |
| C2CD3      | 11:73802736         | 0.0531     | 0.00393          | 7.51E-41  | SNX6                                          | 14:35061728      |
| C2CD5      | 12:22697423         | -0.183     | 0.00687          | 6.14E-147 | SP140                                         | 2:231207684      |
| C2orf15    | 2:99764260          | -0.0679    | 0.00596          | 9.39E-30  | SPARCL1                                       | 4:88476673       |
| C2orf29    | 2:101917365         | 0.0224     | 0.0028           | 1.38E-15  | SPARCL1                                       | 4:88476673       |
| C2orf42    | 2:70414485          | 0.0644     | 0.00833          | 1.31E-14  | SPARCL1                                       | 4:88476673       |
| C2orf43    | 2:20888265          | 0.0481     | 0.00513          | 9.50E-21  | SPATA20                                       | 17:48624523      |
| C2orf44    | 2:24319352          | -0.0441    | 0.00626          | 2.13E-12  | SPATA7                                        | 14:88907471      |
| C2orf49    | 2:105937633         | -0.0419    | 0.00643          | 7.52E-11  | SPATS2L                                       | 2:201135905      |
| C2orf61    | 2:47381097          | -0.0828    | 0.01             | 1.62E-16  | SPATS2L                                       | 2:201135905      |
| C2orf88    | 2:191091275         | -0.0835    | 0.0104           | 9.04E-16  | SPTLC2                                        | 14:78031773      |
| C3AR1      | 12:8206167          | 0.414      | 0.00741          | <1.0E-314 | STK32B                                        | 4:5399876        |
| C3orf14    | 3:62305073          | 0.0841     | 0.00776          | 3.85E-27  | STK32B                                        | 4:5399876        |
| C3orf17    | 3:112753327         | -0.15      | 0.0102           | 2.44E-48  | STRBP                                         | 9:125916612      |
| C3orf20    | 3:14712473          | 0.0319     | 0.00217          | 5.98E-48  | STX3                                          | 11:59563481      |
| C3orf35    | 3:37441773          | 0.0207     | 0.00341          | 1.37E-09  | SUPT20H                                       | 13:37609725      |
| C3orf49    | 3:63815326          | -0.0963    | 0.0153           | 3.44E-10  | SYCP2L                                        | 6:10886949       |
| C3orf58    | 3:143705727         | -0.0472    | 0.00444          | 4.42E-26  | SYCP2L                                        | 6:10887276       |
| C3orf62    | 3:49305140          | 0.0401     | 0.00626          | 1.56E-10  | SYCP2L                                        | 6:10887253       |
| C4B        | 4:31973863          | 0.0411     | 0.00216          | 2.30E-78  | SYCP2L                                        | 6:10887276       |
| C4BPB      | 4:107269205         | -1.39      | 0.0321           | <1.0E-314 | SYCP2L                                        | 6:10893120       |
| C4BPB      | 4:107269196         | -0.0459    | 0.00359          | 6.92E-37  | SYT17                                         | 16:19290797      |
| C4orf19    | 4:37649062          | -0.0358    | 0.00466          | 1.94E-14  | SYT17                                         | 16:19290797      |
| C4orf21    | 4:113463265         | -0.0768    | 0.00354          | 4.91E-100 | TACSTD2                                       | 15:59048300      |
| C4orf27    | 4:170664777         | -0.0792    | 0.01             | 2.80E-15  | TANK                                          | 2:162007430      |
| C4orf3     | 4:120219238         | -0.0847    | 0.00664          | 9.26E-37  | TBC1D4                                        | 13:75842705      |
| C4orf32    | 4:113119806         | -0.0316    | 0.00305          | 5.48E-25  | TBC1D7                                        | 16:13319402      |
| C4orf33    | 4:130037838         | 0.0651     | 0.00476          | 7.55E-42  | TC2N                                          | 14:92290983      |
| C4orf45    | 4:159972514         | -0.0947    | 0.0076           | 3.60E-35  | TC2N                                          | 14:92290983      |
| C5         | 5:123769200         | -0.0861    | 0.00352          | 3.56E-125 | TCFC                                          | 18:53011777      |
| C5AR1      | 5:19778578          | -0.122     | 0.0172           | 1.31E-12  | TCFC                                          | 18:53011777      |
| C5orf22    | 5:31524477          | 0.0696     | 0.00571          | 1.08E-33  | TGF                                           | 18:53289421      |
| C5orf34    | 5:435425111         | 0.0231     | 0.00321          | 7.40E-13  | TGF                                           | 14:10534574      |
| C5orf4     | 5:154200612         | -0.192     | 0.00866          | 1.39E-103 | TFMS                                          | 3:100428460      |
| C5orf44    | 5:64893443          | 0.0384     | 0.00432          | 7.79E-19  | THEMIS2                                       | 1:28207887       |
| C5orf45    | 5:179276913         | -0.0249    | 0.00379          | 5.53E-11  | TIAM1                                         | 21:32856175      |
| C5orf58    | 5:169666462         | 0.0394     | 0.00488          | 8.92E-16  | TIMM10                                        | 11:57311754      |
| Gene       | StartCoord | EndCoord | Log2 Fold Change | p-Value | Function                                      |
|------------|------------|----------|-----------------|---------|-----------------------------------------------|
| C6orf1     | 6:34234953 | 6:3424953 | -0.0476         | 0.00665 | 9.41E-13 Interferon response/Anti-bacterial   |
| C6orf10    | 6:32331002 | 6:3234002 | 0.125           | 0.00772 | 8.60E-58 Neutrophils 1                        |
| C6orf106   | 6:34603691 | 6:3465369 | -0.0456         | 0.0052  | 2.52E-18 Erythrocytes                         |
| C6orf170   | 6:121655392| 6:121665392| 0.0712          | 0.00643 | 3.06E-28 Erythrocytes                         |
| C6orf201   | 6:4121333  | 6:4121333 | 0.0305          | 0.0037  | 1.81E-16 Erythrocytes                         |
| C6orf211   | 6:151829847| 6:151839847| -0.109          | 0.0103  | 3.29E-26 Monocytes / Macrophages              |
| C6orf25    | 6:31672242 | 6:31682242| 0.1             | 0.0136  | 2.19E-13 Monocytes / Macrophages              |
| C6orf48    | 6:11841010 | 6:11851010| -0.292          | 0.0254  | 2.17E-30 Interferon response/Anti-bacterial   |
| C6orf57    | 6:71289189 | 6:71339189| 0.0404          | 0.00549 | 2.07E-13 Interferon response/Anti-bacterial   |
| C6orf62    | 6:24713723 | 6:24713723| -0.0467         | 0.0054  | 7.47E-18 Monocytes / Macrophages              |
| C7orf10    | 7:40328119 | 7:40338119| -0.0313         | 0.00517 | 1.47E-09 Erythrocytes                         |
| C7orf13    | 7:156445785| 7:156545785| 0.0725          | 0.00622 | 5.44E-31 Erythrocytes                         |
| C7orf25    | 7:42942126 | 7:42952126| -0.194          | 0.0102  | 7.78E-78 Monocytes / Macrophages              |
| C7orf26    | 7:6672079  | 7:6682079  | 0.103           | 0.0146  | 1.43E-12 Interferon response/Anti-bacterial   |
| C7orf31    | 7:25220533 | 7:25230533| -0.022          | 0.00633 | 1.31E-09 Monocytes / Macrophages              |
| C7orf34    | 7:142624333| 7:142624333| 0.361           | 0.0224  | 5.10E-57 Interferon response/Anti-bacterial   |
| C7orf41    | 7:30230870 | 7:30240870| 0.0771          | 0.00938 | 2.56E-16 Interferon response/Anti-bacterial   |
| C7orf43    | 7:99744174 | 7:99844174| 0.0362          | 0.00494 | 2.65E-13 Interferon response/Anti-bacterial   |
| C7orf49    | 7:134831048| 7:134931048| -0.106          | 0.00485 | 1.24E-10 Monocytes / Macrophages              |
| C7orf50    | 7:1029585  | 7:1029585  | -0.0194         | 0.00252 | 1.79E-14 Monocytes / Macrophages              |
| C7orf53    | 7:112095622| 7:112095622| -0.0761         | 0.00742 | 1.99E-24 Interferon response/Anti-bacterial   |
| C7orf55    | 7:139018957| 7:139018957| 0.0237          | 0.00397 | 2.61E-09 Interferon response/Anti-bacterial   |
| C7orf60    | 7:11257925 | 7:11257925 | 0.0813          | 0.0107  | 3.01E-14 Interferon response/Anti-bacterial   |
| C7orf61    | 7:100099466| 7:100199466| -0.0381         | 0.00617 | 6.68E-10 Erythrocytes                         |
| C8orf31    | 8:144161293| 8:144161293| -0.0942         | 0.00611 | 2.11E-52 Erythrocytes                         |
| C8orf40    | 8:42418445 | 8:42418445 | -0.156          | 0.00563 | 1.85E-158 Interferon response/Anti-bacterial  |
| C8orf44    | 8:67583681 | 8:67583681 | -0.0601         | 0.0102  | 4.65E-09 Monocytes / Macrophages              |
| C8orf46    | 8:6737839  | 8:6737839  | -0.032          | 0.00339 | 6.72E-21 Interferon response/Anti-bacterial   |
| C8orf59    | 8:86130628 | 8:86130628 | -0.145          | 0.00566 | 2.01E-136 Interferon response/Anti-bacterial  |
| C9orf123   | 9:7793622  | 9:7793622  | -0.0704         | 0.0104  | 1.74E-11 Interferon response/Anti-bacterial   |
| C9orf131   | 9:34997569 | 9:34997569 | -0.034          | 0.00341 | 3.93E-23 Interferon response/Anti-bacterial   |
| C9orf156   | 9:100663700| 9:100663700| -0.08           | 0.0036  | 1.92E-104 Interferon response/Anti-bacterial  |
| C9orf3     | 9:97683926 | 9:97683926 | -0.0982         | 0.00467 | 2.12E-94 Erythrocytes                         |
| C9orf41    | 9:77566246 | 9:77566246 | 0.0326          | 0.00432 | 4.76E-14 Interferon response/Anti-bacterial   |
| C9orf47    | 9:91566754 | 9:91566754 | -0.0274         | 0.0044  | 5.08E-10 Interferon response/Anti-bacterial   |
| C9orf64    | 9:86549939 | 9:86549939 | 0.0659          | 0.00521 | 4.52E-36 Interferon response/Anti-bacterial   |
| C9orf66    | 9:215511   | 9:215511   | 0.0735          | 0.00731 | 1.42E-23 Interferon response/Anti-bacterial   |
| C9orf72    | 9:27572255 | 9:27572255 | 0.127           | 0.0052  | 4.81E-124 Interferon response/Anti-bacterial  |
| C9orf78    | 9:132549493| 9:132549493| 0.462           | 0.00969 | <1.0E-314 Interferon response/Anti-bacterial  |
| Gene   | Chromosome | Start Position | Log2 Fold Change | p-value | GO Terms                        |
|--------|------------|----------------|------------------|---------|-------------------------------|
| C9orf84| 9:114435288| -0.127         | 0.00651          | 2.09E-81| Interferon response/Anti-bacterial |
| C9orf85| 9:74569379 | 0.0724         | 0.0105           | 5.23E-12| Interferon response/Anti-bacterial |
| C9orf89| 9:95864147 | 0.0526         | 0.00437          | 6.97E-33| B-cells                       |
| C9orf91| 9:117405645| 0.0395         | 0.00483          | 3.55E-16| Interferon response/Anti-bacterial |
| CA13   | 8:86135096 | 0.0544         | 0.00456          | 2.14E-32| Interferon response/Anti-bacterial |
| CA2    | 8:86387530 | -0.118         | 0.00878          | 1.43E-40| Erythrocytes                  |
| CA6    | 1:9000220  | -0.126         | 0.0123           | 3.00E-24| Interferon response/Anti-bacterial |
| CA8    | 8:61193588 | -0.119         | 0.00553          | 4.11E-98| Interferon response/Anti-bacterial |
| CAB39  | 2:231596072| 0.0435         | 0.00415          | 2.14E-32| Interferon response/Anti-bacterial |
| CAB39L | 13:50019376| -0.0384        | 0.00491          | 6.17E-15| Interferon response/Anti-bacterial |
| CABIN1 | 22:24580485| -0.0334        | 0.00374          | 4.71E-19| Neutrophils 1                 |
| CABP5  | 19:48527902| -0.352         | 0.0263           | 4.58E-24| XRRA1                         |
| CACHD1 | 1:65016399 | 0.0348         | 0.00669          | 6.49E-11| Interferon response/Anti-bacterial |
| CACNA1D| 3:53730735 | 0.0195         | 0.00248          | 3.80E-15| Interferon response/Anti-bacterial |
| CACNA1E| 1:181467205| 0.0687         | 0.00473          | 2.08E-30| Interferon response/Anti-bacterial |
| CACNB2 | 10:18868840| 0.0273         | 0.00342          | 1.69E-15| Interferon response/Anti-bacterial |
| CACNB3 | 12:49195780| -0.0305        | 0.00435          | 2.61E-12| Interferon response/Anti-bacterial |
| CACNB4 | 2:152971003| -0.104         | 0.0115           | 2.37E-19| Interferon response/Anti-bacterial |
| CACUL1 | 10:120485266| -0.0276      | 0.00303          | 5.44E-20| Interferon response/Anti-bacterial |
| CACYBP | 1:175015808| 0.0411         | 0.00509          | 7.71E-16| Interferon response/Anti-bacterial |
| CALB1  | 1:90164455 | 0.0972         | 0.00524          | 1.79E-74| ZNF429                         |
| CALCOCO1| 12:54112381| 0.0186         | 0.00317          | 4.28E-09| XRRA1                         |
| CALCRL | 2:188293636| 0.084          | 0.00651          | 1.60E-37| XRRA1                         |
| CALHM2 | 10:105231314| 0.0971        | 0.00779          | 3.58E-35| YEATS4                         |
| CALM3  | 19:47081668| -0.0463        | 0.00502          | 4.15E-20| ZNF138                         |
| CALML4 | 15:68537929| -0.0507        | 0.00447          | 2.06E-29| ZNF286A                       |
| CALU   | 7:128424406| 0.0487         | 0.00631          | 1.31E-14| ZNF354A                       |
| CAMK1D | 10:12343629| 0.116          | 0.00932          | 3.07E-35| ZNF718                         |
| CAMK2D | 4:11471932 | 0.0487         | 0.00434          | 7.36E-29| ZNF138                         |
| CAMK2N1| 1:20834610 | 0.0741         | 0.0102           | 3.45E-13| ZNF286A                       |
| CAMK4  | 5:110566360| 0.179          | 0.0186           | 1.21E-21| ZNF286A                       |
| CAMKK2 | 12:121681536| -0.0369      | 0.00355          | 4.56E-25| ZNF718                         |
| CAMKMT | 2:44666570 | 0.0731         | 0.00732          | 2.96E-23| Interferon response/Anti-bacterial |
| CAMSAP1| 9:138684454| -0.035         | 0.00553          | 2.62E-10| Interferon response/Anti-bacterial |
| CAMSAP2| 1:20070825 | 0.0561         | 0.00522          | 7.10E-27| Interferon response/Anti-bacterial |
| CAMTA1 | 1:7809393 | -0.0737        | 0.0062           | 4.04E-32| Interferon response/Anti-bacterial |
| CAMTA2 | 17:4897042 | -0.0698        | 0.00364          | 1.64E-79| Interferon response/Anti-bacterial |
| CANT1  | 17:76994843| 0.0565         | 0.00352          | 1.06E-56| Interferon response/Anti-bacterial |
| CANX   | 5:179177544| -0.0496        | 0.00698          | 1.39E-12| Interferon response/Anti-bacterial |
| Gene     | Chromosome | Log2Ratio | P-Value | FDR     |
|----------|------------|-----------|---------|---------|
| CAP1     | 1          | -0.0403   | 4.59E-21|
| CAPG     | 2          | 0.119     | 2.43E-83|
| CAPN1    | 11         | -0.0558   | 4.08E-77|
| CAPN3    | 15         | -0.193    | 2.11E-18|
| CAPN7    | 3          | -0.0454   | 5.36E-32|
| CAPRIN2  | 12         | 0.0688    | 6.56E-20|
| CAPS2    | 12         | -0.0382   | 2.95E-19|
| CAPZA1   | 11         | -0.0607   | 4.81E-34|
| CAPZA2   | 7          | 0.0884    | 2.72E-47|
| CAPZB    | 1          | 0.034     | 3.05E-16|
| CARD11   | 7          | -0.0249   | 1.21E-12|
| CARD8    | 19         | -0.0637   | 1.27E-59|
| CARD9    | 9          | -0.0411   | 2.18E-15|
| CARHSP1  | 16         | 0.144     | 5.71E-53|
| CARKD    | 13         | 0.0883    | 2.66E-153|
| CARS2    | 13         | 0.0686    | 2.95E-85|
| CASC1    | 12         | -0.138    | 2.53E-67|
| CASC3    | 17         | 0.0563    | 2.22E-10|
| CASD1    | 7          | 0.0525    | 1.28E-13|
| CASP1    | 11         | -0.132    | 5.61E-30|
| CASP10   | 2          | -0.0263   | 2.62E-10|
| CASP2    | 7          | -0.124    | 3.72E-11|
| CASP3    | 4          | 0.108     | 1.32E-52|
| CASP5    | 11         | -0.296    | 4.46E-49|
| CASP6    | 4          | -0.0659   | 1.02E-30|
| CASP7    | 10         | -0.0716   | 8.00E-52|
| CASP8    | 2          | 0.0279    | 1.06E-18|
| CASP8AP2 | 6          | 0.0307    | 3.15E-16|
| CASP9    | 1          | -0.0255   | 1.05E-11|
| CASQ1    | 1          | -0.0852   | 8.75E-57|
| CASS4    | 20         | 0.0398    | 1.50E-17|
| CAST     | 5          | -0.116    | 1.88E-86|
| CAT      | 11         | -0.256    | <1.0E-314|
| CATSPER2 | 15         | 0.142     | 3.08E-33|
| CATSPERB | 14         | -0.36     | 1.39E-164|
| CATSPERG | 19         | -0.0944   | 3.69E-63|
| CBL      | 11         | 0.0842    | 2.91E-29|
| CBLB     | 3          | 0.0347    | 2.59E-09|
| CBLL1    | 7          | 0.0317    | 4.79E-12|
| Gene   | Chromosome | Start | Length | log2FoldChange | p-value | FDR   |
|--------|------------|-------|--------|----------------|---------|-------|
| CBLN3  | 14:24898751| 0.102 | 0.00391| 9.96E-142      |         |       |
| CBR1   | 21:37435576| 0.366 | 0.0196 | 1.87E-75       |         |       |
| CBR3   | 21:37489890| 0.237 | 0.0076 | 1.27E-195      |         |       |
| CBR4   | 4:169909593| -0.0651| 0.00649| 1.68E-23       |         |       |
| CBS    | 21:44473062| -0.0497| 0.00209| 2.31E-118      |         |       |
| CBX1   | 17:46141276| 0.0593 | 0.00504| 1.40E-31       |         |       |
| CBX3   | 7:26191192 | 0.0943 | 0.0102 | 3.07E-20       |         |       |
| CBX5   | 12:54655470| -0.0531| 0.00564| 1.27E-195      |         |       |
| CC2D1B | 1:52843747 | -0.0458| 0.0055 | 1.03E-16       |         |       |
| CC2D2B | 10:97812812| -0.227 | 0.0204 | 1.51E-28       |         |       |
| CCAR1  | 10:70483838| 0.0379 | 0.0046 | 1.65E-16       |         |       |
| CCBL2  | 1:89440977 | 0.0649 | 0.00338| 2.73E-79       |         |       |
| CCDC101| 16:28575870| 0.101 | 0.00553| 2.67E-72       |         |       |
| CCDC107| 9:35657063 | -0.02  | 0.00322| 6.20E-10       |         |       |
| CCDC109B| 4:110590479| 0.0379 | 0.00478| 2.58E-15       |         |       |
| CCDC111| 4:185571938| -0.0577| 0.00589| 1.71E-22       |         |       |
| CCDC117| 22:29225500| -0.0454| 0.00386| 1.74E-31       |         |       |
| CCDC12 | 3:46979013 | -0.0363| 0.00362| 1.86E-23       |         |       |
| CCDC122| 13:44434367| -0.114 | 0.00466| 4.36E-125      |         |       |
| CCDC124| 19:18054643| -0.0571| 0.00713| 1.46E-15       |         |       |
| CCDC125| 5:68624793 | 0.203  | 0.00529| 7.21E-284      |         |       |
| CCDC126| 7:23634985 | -0.122 | 0.00654| 1.66E-75       |         |       |
| CCDC127| 5:256472  | 0.163  | 0.0116 | 1.99E-44       |         |       |
| CCDC13 | 3:42801920 | -0.0313| 0.00277| 2.38E-29       |         |       |
| CCDC130| 19:13860145| 0.0199 | 0.00312| 1.87E-10       |         |       |
| CCDC132| 7:92894727 | 0.067  | 0.00844| 2.52E-15       |         |       |
| CCDC134| 22:42198093| 0.0281 | 0.00377| 1.05E-13       |         |       |
| CCDC135| 16:57722576| -0.0259| 0.00295| 1.89E-18       |         |       |
| CCDC137| 17:79636842| 0.0415 | 0.00366| 1.85E-29       |         |       |
| CCDC141| 2:179909458| -0.0626| 0.00525| 2.45E-32       |         |       |
| CCDC144B| 17:18573285| -0.682 | 0.0543 | 1.27E-35       |         |       |
| CCDC146| 7:76767073 | 0.667  | 0.0157 | <1.0E-314      |         |       |
| CCDC149| 4:24901114 | -0.0487| 0.00553| 1.73E-18       |         |       |
| CCDC15 | 11:124847675| -0.196 | 0.00642| 1.59E-188      |         |       |
| CCDC169| 13:36846472 | 0.0962 | 0.00572| 5.90E-62       |         |       |
| CCDC170| 6:151816537| -0.124 | 0.0101 | 6.50E-34       |         |       |
| CCDC171| 9:15553128 | -0.15  | 0.00635| 6.79E-117      |         |       |
| CCDC176| 14:74577697 | -0.112 | 0.0173 | 8.78E-11       |         |       |
| CCDC18 | 1:93791098 | -0.112 | 0.0149 | 6.76E-14       |         |       |
| Code   | Column1 | Column2 | Column3 | Column4 | Column5 |
|--------|---------|---------|---------|---------|---------|
| CCDC19 | 1:159892088 | 0.0426 | 0.00563 | 4.27E-14 |
| CCDC23 | 1:43230112 | -0.832 | 0.0162  | <1.0E-314 |
| CCDC25 | 8:27623295 | -0.0506 | 0.00505 | 2.19E-23 |
| CCDC28A| 6:139097820| -0.0741 | 0.00525 | 2.00E-44 |
| CCDC3 | 10:13084866 | -0.0449 | 0.00523 | 1.20E-17 |
| CCDC30 | 1:42951330 | 0.0591  | 0.00552 | 1.68E-26 |
| CCDC41 | 12:94853731| 0.0716  | 0.00721 | 4.86E-23 |
| CCDC50 | 3:191045874| -0.05   | 0.00595 | 5.60E-17 |
| CCDC53 | 12:102399354| 0.106   | 0.00613 | 4.88E-65 |
| CCDC57 | 17:80091441| -0.0344 | 0.0033  | 3.36E-25 |
| CCDC6 | 10:61549818 | -0.0283 | 0.00394 | 7.16E-13 |
| CCDC62 | 12:123275609| 0.0742  | 0.00914 | 6.13E-16 |
| CCDC64 | 12:120482878| -0.0448 | 0.00608 | 2.02E-13 |
| CCDC65 | 12:49353027 | 0.0253  | 0.0039  | 1.07E-10 |
| CCDC68 | 18:52637450| 0.0367  | 0.005   | 2.26E-13 |
| CCDC69 | 5:150618993| 0.0897  | 0.00549 | 1.19E-58 |
| CCDC7 | 2:37325108 | 0.0437  | 0.00602 | 4.43E-13 |
| CCDC77 | 12:518986 | 0.119   | 0.00676 | 8.65E-68 |
| CCDC80 | 3:112295907| -0.0282 | 0.00456 | 6.50E-10 |
| CCDC81 | 11:86067375| -0.0282 | 0.00385 | 2.62E-13 |
| CCDC82 | 11:96115744| -0.243  | 0.00627 | 1.64E-289|
| CCDC88A| 2:55644201 | -0.0748 | 0.00827 | 2.12E-19 |
| CCDC9 | 19:47715831 | -0.0374 | 0.0038  | 1.20E-22 |
| CCDC90A| 6:13845712 | 0.0575  | 0.00499 | 2.30E-30 |
| CCDC91 | 12:28611779| 0.0544  | 0.00516 | 9.84E-26 |
| CCDC92 | 12:124440743| 0.0473  | 0.00559 | 3.48E-17 |
| CCDC93 | 2:118670137| 0.0575  | 0.00702 | 3.49E-16 |
| CCDC94 | 19:4236388 | 0.0951  | 0.00393 | 1.98E-122|
| CCL20 | 2:228672579| 0.0665  | 0.00637 | 3.22E-25 |
| CCL4 | 17:34431403 | -0.142  | 0.0132  | 1.35E-26 |
| CCL5 | 17:34221702 | 0.105   | 0.0101  | 6.74E-25 |
| CCM2 | 7:45067267 | -0.0419 | 0.00302 | 4.56E-43 |
| CCNA1 | 13:37025916 | -0.0392 | 0.00495 | 2.95E-15 |
| CCNB1 | 5:68488815 | -0.0332 | 0.00466 | 1.14E-12 |
| CCNB1IP1| 14:20806659| 0.0564  | 0.00497 | 2.06E-29 |
| CCNE1 | 19:30322427 | -0.0266 | 0.00368 | 5.41E-13 |
| CCNH | 5:86735368 | 0.0311  | 0.00437 | 1.34E-12 |
| CCNJ | 10:97850096 | 0.0303  | 0.00483 | 3.91E-10 |
| CCNJL | 5:159741390| 0.0582  | 0.00861 | 1.55E-11 |
| Gene  | Chromosome | Start Base       | End Base       | Log2 Fold Change | Log10 p-value |
|-------|------------|------------------|----------------|------------------|---------------|
| CCNL1 | 3:156896364| -0.0503          | 0.00318        | 3.92E-55         |               |
| CCNT1 | 12:49036033| 0.0267           | 0.00432        | 6.40E-10         |               |
| CCNT2 | 2:135682094| -0.04            | 0.00319        | 1.16E-35         |               |
| CCNY  | 10:35771615| 0.0547           | 0.00344        | 1.49E-55         |               |
| CCPG1 | 15:55697964| -0.0857          | 0.00827        | 6.68E-25         |               |
| CCR1  | 3:46205686 | -0.218           | 0.00959        | 1.36E-109        |               |
| CCR2  | 3:46374273 | -0.119           | 0.0103         | 2.17E-30         |               |
| CCR3  | 3:46289113 | -0.334           | 0.00811        | <1.0E-314        |               |
| CCR4  | 3:33029986 | 0.0742           | 0.00872        | 2.17E-17         |               |
| CCR6  | 6:167533062| 0.0503           | 0.00684        | 2.21E-13         |               |
| CCS   | 11:66348503| -0.0538          | 0.00402        | 3.35E-40         |               |
| CCSAP | 1:229408995| -0.121           | 0.003          | <1.0E-314        |               |
| CCSEr2 | 10:86257341| 0.181            | 0.00498        | 3.75E-259        |               |
| CCT2  | 12:69985452| 0.0458           | 0.00423        | 5.37E-27         |               |
| CCT3  | 1:156274991| 0.0292           | 0.00374        | 6.43E-15         |               |
| CCT4  | 2:62057548 | -0.0409          | 0.00445        | 5.93E-20         |               |
| CCT5  | 5:10261434 | 0.0311           | 0.00504        | 7.63E-10         |               |
| CCT6A | 7:56126360 | -0.128           | 0.00422        | 5.22E-185        |               |
| CCT6B | 17:33330150| -0.0314          | 0.00402        | 6.81E-15         |               |
| CCT7  | 2:73470615 | 0.0638           | 0.00702        | 1.46E-19         |               |
| CCT8  | 21:30445948| -0.0844          | 0.00568        | 6.04E-49         |               |
| CD101 | 1:11756704 | 0.132            | 0.00619        | 1.23E-96         |               |
| CD109 | 6:74445387 | 0.0197           | 0.00226        | 3.96E-18         |               |
| CD14  | 5:139978241| 0.061            | 0.00741        | 2.27E-16         |               |
| CD151 | 11:823809  | 0.121            | 0.00605        | 3.14E-86         |               |
| CD160 | 1:145703115| -0.0631          | 0.0071         | 8.71E-19         |               |
| CD163L1| 12:7622509 | 0.0235           | 0.00263        | 6.84E-19         |               |
| CD177 | 19:43852065| 0.138            | 0.0145         | 2.36E-21         |               |
| CD180 | 5:66492725 | 0.0864           | 0.0102         | 2.58E-17         |               |
| CD1A  | 1:158226667| 0.0564           | 0.00852        | 3.92E-11         |               |
| CD1E  | 1:158363687| -0.156           | 0.026          | 2.40E-09         |               |
| CD200R1| 3:112654447| -0.133           | 0.00574        | 3.46E-113        |               |
| CD200R1L| 3:112521519| 0.0548           | 0.00518        | 6.52E-26         |               |
| CD209 | 19:7783150 | 0.109            | 0.016          | 1.43E-11         |               |
| CD22  | 19:35837705| -0.204           | 0.0171         | 3.58E-32         |               |
| CD226 | 18:67519174| -0.0477          | 0.00668        | 1.06E-12         |               |
| CD244 | 1:160840185| -0.0354          | 0.00512        | 4.93E-12         |               |
| CD247 | 1:167418468| -0.0535          | 0.00493        | 3.71E-27         |               |
| CD274 | 9:5466085  | -0.152           | 0.0146         | 4.47E-25         |               |
| Gene   | Chromosome | Gene_ID  | Log2FC | Adj.Pvalue | Fold_Change |
|--------|------------|----------|--------|------------|-------------|
| CD28   | 2          | 2:204592021 | -0.0657 | 0.00695 | 4.38E-21    |
| CD2AP  | 6          | 6:47480676  | -0.146  | 0.00659  | 1.36E-104   |
| CD300A | 17         | 17:72469958 | -0.105  | 0.00521  | 7.05E-88    |
| CD300C | 17         | 17:72532568 | 0.0623  | 0.00494  | 5.93E-36    |
| CD300E | 17         | 17:72653890 | 0.0688  | 0.00695  | 6.46E-23    |
| CD300LB| 17         | 17:72498108 | -0.297  | 0.021    | 2.00E-44    |
| CD300LD| 17         | 17:72564119 | -0.338  | 0.0101   | 1.76E-221   |
| CD300LF| 17         | 17:72715382 | 0.0422  | 0.00518  | 4.24E-16    |
| CD33   | 19         | 19:51724326 | 0.0375  | 0.00468  | 1.42E-15    |
| CD36   | 7          | 7:80318032  | 0.132   | 0.0174   | 4.77E-14    |
| CD37   | 19         | 19:49845895 | 0.0678  | 0.00574  | 7.68E-32    |
| CD38   | 4          | 4:15738483  | -0.0452 | 0.00557  | 6.24E-16    |
| CD3E   | 11         | 11:118176898| -0.0412 | 0.00692  | 2.84E-09    |
| CD3G   | 11         | 11:118230739| 0.0813  | 0.00888  | 7.92E-20    |
| CD4    | 12         | 12:6894164  | -0.048  | 0.00586  | 3.32E-16    |
| CD40   | 20         | 20:44747086 | -0.0505 | 0.00441  | 4.53E-30    |
| CD44   | 11         | 11:35245287 | 0.0257  | 0.00317  | 7.32E-16    |
| CD47   | 3          | 3:107807485 | -0.0311 | 0.00306  | 5.11E-24    |
| CD48   | 1          | 1:160654786 | 0.145   | 0.00516  | 1.60E-161   |
| CD5    | 11         | 11:60858179 | -0.0549 | 0.00762  | 6.65E-13    |
| CD52   | 1          | 1:26666068  | 0.0609  | 0.00777  | 5.53E-15    |
| CD55   | 1          | 1:207444928 | 0.175   | 0.00402  | <1.0E-314   |
| CD59   | 11         | 11:33755355 | -0.107  | 0.00515  | 7.71E-93    |
| CD6    | 11         | 11:60793701 | 0.0423  | 0.00607  | 3.93E-12    |
| CD69   | 12         | 12:9909286  | 0.139   | 0.0165   | 3.39E-17    |
| CD72   | 9          | 9:35602420  | 0.0466  | 0.00696  | 2.42E-11    |
| CD79B  | 17         | 17:62010232 | 0.0393  | 0.00463  | 2.92E-17    |
| CD83   | 6          | 6:14089043  | 0.0782  | 0.00845  | 3.04E-20    |
| CD84   | 1          | 1:160548247 | -0.125  | 0.00777  | 3.76E-57    |
| CD8A   | 1          | 1:207009742 | 0.0352  | 0.00557  | 2.90E-10    |
| CD9    | 12         | 12:6280584  | -0.13   | 0.0114   | 4.36E-30    |
| CD93   | 20         | 20:23101571 | 0.36    | 0.00906  | 7.89E-302   |
| CD96   | 3          | 3:111249002 | -0.0458 | 0.00492  | 1.65E-20    |
| CDA    | 1          | 1:20958024  | -0.263  | 0.00849  | 2.08E-193   |
| CDADC1 | 13         | 13:49848833 | 0.032   | 0.00425  | 5.96E-14    |
| CDC123 | 10         | 10:12309268 | -0.0508 | 0.00521  | 2.47E-22    |
| CDC14A | 1          | 1:100853755 | 0.0969  | 0.00355  | 1.28E-153   |
| CDC16  | 13         | 13:114963436| -0.206  | 0.00507  | <1.0E-314   |
| CDC25B | 20         | 20:3788479  | -0.036  | 0.00358  | 1.35E-23    |
| Gene     | Chromosome | Position | Variance | Standard Deviation | p-value  |
|----------|------------|----------|----------|--------------------|----------|
| CDC26    | 9:116031822| 0.0613   | 0.00888  | 5.69E-12           |
| CDC42    | 1:22345647 | -0.042   | 0.0046   | 8.52E-20           |
| CDC42BPA | 1:227453739| 0.0697   | 0.00958  | 3.93E-13           |
| CDC42BPB | 14:103438905| 0.0283  | 0.00276  | 1.72E-24           |
| CDC42EP1 | 22:37960825| 0.0474   | 0.00486  | 2.72E-22           |
| CDC42EP3 | 2:37877131 | 0.0888   | 0.0138   | 1.33E-10           |
| CDC42SE1 | 1:151063940| -0.0306  | 0.00447  | 8.92E-12           |
| CDC5L    | 6:44356303 | 0.0747   | 0.00858  | 4.38E-17           |
| CDC7     | 1:91966406 | 0.0765   | 0.00715  | 1.85E-26           |
| CDCA4    | 14:105498583| -0.04   | 0.00574  | 3.58E-12           |
| CDCA7L   | 7:21966979 | 0.132    | 0.00798  | 5.00E-60           |
| CDCP1    | 3:45187671 | -0.0178  | 0.00283  | 3.23E-10           |
| CDH1     | 16:68800849| -0.0644  | 0.0054   | 2.02E-32           |
| CDH2     | 18:25726723| 0.0968   | 0.00467  | 6.19E-92           |
| CDH23    | 10:73387404| -0.0436  | 0.00173  | 4.39E-133          |
| CDHR1    | 10:85946204| -0.0195  | 0.00301  | 3.79E-10           |
| CDHR3    | 7:105593511| -0.0192  | 0.00272  | 1.84E-12           |
| CDIPT    | 16:29869176| -0.0387  | 0.00619  | 4.54E-10           |
| CDK10    | 16:89708267| 0.156    | 0.0115   | 1.27E-41           |
| CDK15    | 2:202687170| -0.107   | 0.0113   | 5.32E-21           |
| CDK17    | 12:96688389| 0.0537   | 0.00419  | 4.98E-37           |
| CDK19    | 6:110955666| -0.0601  | 0.00836  | 7.43E-13           |
| CDK2AP1  | 12:123736084| -0.265  | 0.00724  | 9.60E-261          |
| CDK5R1   | 17:30790378| -0.0406  | 0.00337  | 7.79E-33           |
| CDK5RAP3 | 17:46042494| 0.161    | 0.0182   | 1.57E-18           |
| CDK7     | 5:68574032 | 0.081    | 0.00508  | 6.06E-56           |
| CDK8     | 13:26869939| -0.167   | 0.0118   | 3.50E-44           |
| CDKL1    | 14:50811025| 0.078    | 0.00297  | 2.64E-143          |
| CDKN1B   | 12:12890155| -0.0385  | 0.00635  | 1.39E-09           |
| CDKN2AIP | 4:184363887| 0.0556   | 0.00382  | 3.80E-47           |
| CDKN2B   | 9:22034267 | 0.029    | 0.00416  | 3.61E-12           |
| CDKN3    | 14:54864797| 0.0784   | 0.00702  | 1.21E-28           |
| CDON     | 11:125914929| -0.0346 | 0.00404  | 1.65E-17           |
| CDS2     | 20:5118897 | 0.185    | 0.00414  | <1.0E-314          |
| CDV3     | 3:133316038| 0.0353   | 0.00481  | 2.67E-13           |
| CEACAM21 | 19:42092815| 0.114    | 0.00556  | 1.48E-89           |
| CEACAM4  | 19:42127907| 0.0944   | 0.0082   | 2.69E-30           |
| CEBPZ    | 2:37459670 | 0.0554   | 0.00531  | 3.07E-25           |
| CECR1    | 22:17700284| 0.0554   | 0.0057   | 3.97E-22           |
| Gene    | Chromosome | Start Position | End Position | Log2 Fold Change | FDR  |
|---------|------------|----------------|--------------|------------------|------|
| CECR6   | 22         | 17598158       | 17598257     | 0.0207           | 3.01E-10 |
| CELA1   | 12         | 51723598       | 51724607     | -0.0944          | 5.69E-137 |
| CENPBD1 | 16         | 90049307       | 90050316     | -0.0704          | 3.67E-24 |
| CENPC1  | 4          | 68400065       | 68401074     | -0.133           | 6.34E-45 |
| CENPK   | 5          | 64768677       | 64769686     | -0.603           | <1.0E-314 |
| CENPP   | 9          | 95117419       | 95118428     | -0.148           | 5.34E-141 |
| CENPPQ  | 6          | 49436199       | 49437208     | -0.0707          | 7.68E-45 |
| CENPV   | 17         | 16225506       | 16226515     | -0.0813          | 1.28E-30 |
| CEP104  | 1          | 3756532        | 3756631      | -0.0831          | 2.15E-139 |
| CEP112  | 17         | 64175223       | 64176232     | -0.029           | 9.94E-12 |
| CEP120  | 5          | 122761313      | 122771422    | -0.0602          | 3.67E-65 |
| CEP128  | 14         | 81413039       | 81414048     | -0.101           | 4.99E-67 |
| CEP164  | 11         | 117193619      | 117203708    | -0.0157          | 4.88E-15 |
| CEP170  | 1          | 243439386      | 243449475    | -0.0678          | 1.62E-24 |
| CEP19   | 3          | 196438428      | 196448517    | 0.193            | 1.85E-129 |
| CEP192  | 18         | 12945310       | 12946320     | -0.164           | <1.0E-314 |
| CEP350  | 1          | 179927135      | 179937244    | 0.0319           | 9.80E-11 |
| CEP44   | 4          | 175213931      | 175224040    | 0.0548           | 1.57E-46 |
| CEP57   | 11         | 95553079       | 95563188     | -0.0559          | 1.89E-33 |
| CEP57L1 | 6          | 109442109      | 109452208    | 0.0416           | 2.75E-09 |
| CEP63   | 3          | 134198419      | 134208518    | 0.102            | 3.10E-102 |
| CEP70   | 3          | 138278329      | 138288438    | -0.0981          | 1.47E-13 |
| CEP85   | 1          | 26559306       | 26560315     | -0.0777          | 1.67E-72 |
| CEP85L  | 6          | 119080379      | 119090488    | 0.0551           | 1.15E-26 |
| CEP89   | 19         | 33454535       | 33455545     | 0.0592           | 4.03E-39 |
| CEP95   | 17         | 62502435       | 62512544     | -0.087           | 6.70E-24 |
| CEP97   | 3          | 101441900      | 101452009    | -0.0696          | 9.77E-59 |
| CEPT1   | 1          | 111694789      | 111704888    | -0.0359          | 3.50E-11 |
| CERK    | 22         | 47135272       | 47145381     | -0.055           | 1.46E-55 |
| CERKL   | 2          | 182399486      | 182409095    | 0.105            | 6.29E-63 |
| CERS3   | 15         | 101114805      | 101124914    | -0.0635          | 9.87E-59 |
| CERS4   | 19         | 8324825        | 8325836      | 0.067            | 1.99E-12 |
| CERS5   | 12         | 50541726       | 50551835     | -0.0418          | 2.59E-28 |
| CERS6   | 2          | 169280713      | 169290822    | -0.04            | 1.07E-18 |
| CETN3   | 5          | 89728310       | 89738420     | 0.0405           | 2.08E-11 |
| CFD     | 19         | 871457         | 872466      | -1.25            | <1.0E-314 |
| CFDP1   | 16         | 75420750       | 75430860     | -0.0306          | 3.66E-11 |
| CFH     | 1          | 196725939      | 196826048    | -0.0636          | 4.99E-10 |
| CFL1    | 11         | 65624562       | 65634671     | -0.0428          | 1.81E-27 |
| Gene     | Chromosome | Start     | End       | Length | p-value  |
|----------|------------|-----------|-----------|--------|----------|
| CFL2     | X:14:35184228 | -0.27     | 0.00743   | 8.75E-258 |
| CFLAR    | 2:201982693    | 0.0573    | 0.00535   | 1.58E-26  |
| CGGBP1   | 3:88107179     | -0.162    | 0.00723   | 1.08E-105 |
| CHAF1A   | 19:4393294     | 0.0473    | 0.00347   | 1.32E-41  |
| CHAF1B   | 21:37773867    | -0.0848   | 0.0139    | 9.78E-10  |
| CHCHD2   | 7:56132741     | -0.146    | 0.00721   | 3.02E-31  |
| CHCHD5   | 2:113332271    | -0.0705   | 0.00887   | 2.34E-15  |
| CHD1L    | 1:146694247    | -0.0335   | 0.00342   | 1.79E-22  |
| CHD9     | 16:53327418    | -0.0359   | 0.00466   | 1.44E-14  |
| CHL1     | 3:283808       | 0.0149    | 0.00234   | 2.08E-10  |
| CHL1     | 3:283808       | 0.0149    | 0.00234   | 2.08E-10  |
| CHML     | 1:241787568    | 0.0365    | 0.00616   | 3.41E-09  |
| CHMP1A   | 16:89738276    | 0.0283    | 0.00351   | 9.50E-16  |
| CHMP2B   | 3:87321757     | 0.0314    | 0.00417   | 5.64E-14  |
| CHMP3    | 2:86816501     | -0.0266   | 0.004     | 3.33E-11  |
| CHMP4A   | 14:24654489    | -0.0353   | 0.00418   | 3.65E-17  |
| CHMP4B   | 20:32409142    | -0.0888   | 0.00485   | 1.19E-12  |
| CHMP7    | 8:23118503     | 0.0488    | 0.00441   | 3.28E-28  |
| CHN1     | 2:175707817    | 0.0917    | 0.00549   | 3.79E-61  |
| CHN2     | 7:29186576     | 0.14      | 0.00465   | 7.22E-186 |
| CHP1     | 15:41530359    | 0.0512    | 0.00495   | 6.94E-25  |
| CHPF2    | 7:150926775    | 0.0423    | 0.00361   | 2.50E-31  |
| CHPT1    | 12:102091379   | -0.163    | 0.00698   | 1.63E-114 |
| CHRNA3   | 15:78836273    | -0.0198   | 0.00265   | 9.50E-14  |
| CHRNAS5  | 15:78843051    | -0.108    | 0.00334   | 2.66E-208 |
| CHRNB2   | 1:154575613    | -0.0483   | 0.0044    | 1.15E-27  |
| CHRNE    | 17:4811761     | -0.0403   | 0.00533   | 5.08E-14  |
| CHST11   | 12:104981594   | -0.059    | 0.0036    | 8.10E-59  |
| CHSY1    | 15:101716797   | 0.163     | 0.00578   | 2.49E-162 |
| CHURC1   | 14:65370389    | 0.114     | 0.00539   | 1.15E-94  |
| CIAO1    | 2:96936254     | -0.021    | 0.00293   | 8.44E-13  |
| CIB1     | 15:90776375    | 0.142     | 0.00449   | 8.47E-201 |
| CIITA    | 16:10961882    | -0.0334   | 0.00565   | 3.53E-09  |
| CIR1     | 2:175261148    | -0.0459   | 0.00768   | 2.39E-09  |
| CIRH1A   | 16:69202908    | -0.0863   | 0.0147    | 4.95E-09  |
| Gene       | Chromosome | Start | End   | Log2 Fold Change | p-value          | FDR           |
|------------|------------|-------|-------|------------------|------------------|---------------|
| CISD1      | 10:60054487| 0.243 | 0.00761| 2.06E-205        |                  |               |
| CISD2      | 4:103760250| 0.0692| 0.0116| 2.27E-09         |                  |               |
| CKAP2      | 13:53040822| 0.144 | 0.00482| 1.51E-180        |                  |               |
| CKAP2L     | 2:113486941| 0.0228| 0.00375| 1.24E-09         |                  |               |
| CKAP4      | 12:106618665| 0.143 | 0.02  | 9.15E-13         |                  |               |
| CKMT2      | 5:80590921 | 0.121 | 0.00535| 7.84E-109        |                  |               |
| CKS2       | 9:91963682 | 0.19  | 0.0182 | 2.42E-25         |                  |               |
| CLASP1     | 2:122225284| -0.0394| 0.00591| 2.87E-11         |                  |               |
| CLASP2     | 3:33723538 | 0.0401| 0.00462| 4.80E-18         |                  |               |
| CLCA3P     | 1:87091891 | -0.0586| 0.00457| 3.86E-37         |                  |               |
| CLCC1      | 1:109483975| -0.0358| 0.00495| 5.46E-13         |                  |               |
| CLCN6      | 1:11865816 | -0.111| 0.00505| 1.73E-102        |                  |               |
| CLCN7      | 16:1511758 | 0.0378 | 0.00314| 5.20E-33         |                  |               |
| CLDN20     | 6:155551221| 0.0982| 0.00734| 3.29E-40         |                  |               |
| CLDN23     | 8:8563198  | -0.0286| 0.0038 | 6.01E-14         |                  |               |
| CLDN5      | 22:19492200| -0.0215| 0.00345| 5.47E-10         |                  |               |
| CLDN1      | 3:98245164 | -0.0489| 0.00686| 1.21E-12         |                  |               |
| CLEC10A    | 17:7018222 | -0.0478| 0.00507| 6.79E-21         |                  |               |
| CLEC1A     | 12:10060125| -0.765 | 0.0186 | <1.0E-314        |                  |               |
| CLEC1B     | 12:10113258| -0.635 | 0.00776| <1.0E-314        |                  |               |
| CLEC1C     | 12:10202685| -0.043 | 0.00475| 2.11E-19         |                  |               |
| CLEC1D     | 12:10109584| -0.406 | 0.00971| <1.0E-314        |                  |               |
| CLEC2A     | 12:10096086| -0.247 | 0.0111 | 4.28E-105        |                  |               |
| CLEC2B     | 12:10007863| -0.0695| 0.00574| 2.79E-33         |                  |               |
| CLEC2C     | 12:9869271 | 0.0447 | 0.00469| 2.59E-21         |                  |               |
| CLEC2D     | 12:10132758| -0.635 | 0.00776| <1.0E-314        |                  |               |
| CLEC3A     | 3:45081629 | 0.0377 | 0.00367| 1.66E-24         |                  |               |
| CLEC3B     | 12:8280755 | -0.0815| 0.00566| 3.93E-46         |                  |               |
| CLEC4A     | 12:7878685 | -0.45  | 0.00712| <1.0E-314        |                  |               |
| CLEC4B     | 12:8668281 | -0.345 | 0.0106 | 1.21E-209        |                  |               |
| CLEC4C     | 12:8697920 | -0.243 | 0.0107 | 2.21E-109        |                  |               |
| CLEC4D     | 2:71049117 | -0.195 | 0.00364| <1.0E-314        |                  |               |
| CLEC5A     | 19:7778963 | 0.0243 | 0.00356| 9.29E-12         |                  |               |
| CLEC6A     | 7:141577186| -0.114 | 0.0129 | 1.36E-18         |                  |               |
| CLEC7A     | 12:8605829 | 0.504  | 0.0132 | 2.98E-282        |                  |               |
| CLEC7B     | 12:1022786 | -0.166 | 0.0078 | 4.76E-96         |                  |               |
| CLEC8A     | 12:10202685| -0.326 | 0.00941| 9.73E-238        |                  |               |
| CLEC9A     | 12:9881125 | 0.199  | 0.00736| 2.70E-151        |                  |               |
| CLEC10A    | 2:55358675 | -0.403 | 0.00962| <1.0E-314        |                  |               |
| CLIC4      | 1:25054223 | -0.0758| 0.00678| 1.15E-28         |                  |               |
CLINT1  5:157210977  -0.0287  0.00478  2.13E-09
CLIP4   2:29356669   -0.0564  0.00378  2.01E-49
CLK4    5:178094484   0.146     0.00458  2.00E-203
CLMN    14:95789261    0.0687     0.00605  1.60E-29
CLN5    13:77542896    0.0323     0.00466  4.89E-12
CLN6    15:68526355    -0.113    0.00333  1.68E-229
CLN8    8:1709972    0.0575     0.00466  1.32E-34
CLNS1A  11:77327368     0.14    0.0196    9.64E-13
CLOCK   4:56317656   -0.0545    0.00331  3.14E-59
CLPB    11:72124325    0.0385     0.00633  1.31E-09
CLPTM1  19:45487178    0.0538     0.00304  5.58E-09
CLR1N   3:150609382   -0.0993    0.00615  3.01E-57
CLSTN1  1:9829664     0.127     0.0167    3.03E-14
CLSTN3  12:7283646    0.0604     0.00432  1.58E-43
CLTA    9:36194569     0.0433     0.00659  5.36E-11
CLTB    5:175788920   -0.075     0.00484  6.65E-53
CLTCL1  22:19154522   -0.0355    0.00289  3.18E-34
CLU     8:27454682    -0.0591    0.00995  3.15E-09
CLUAP1  16:3565123   -0.0364    0.0059    7.42E-10
CLUHP3  16:31697235   -0.124     0.00346  7.07E-251
CLYBL   13:100310215   0.0568     0.00795  1.03E-12
CMAHP   6:25098265   -0.13      0.00478  7.00E-153
CMAS    12:22243661   -0.0563    0.00644  3.01E-18
CMBL    5:10286742   -0.188     0.00549  3.78E-233
CMC2    16:81028511   -0.0716    0.00646  3.38E-28
CMIP    16:81735012   0.0493     0.00673  2.76E-13
CMKLR1  12:108721636  -0.115     0.00643  1.32E-69
CMPK1   1:47752600    0.0236     0.00394  2.43E-09
CMPK2   2:6996862     -0.0543    0.00598  1.57E-19
CMSS1   3:99906264    0.058      0.00481  4.86E-33
CMTM1   16:66557418  -0.08      0.0107   8.58E-14
CMTM3   16:66629177   -0.0664    0.00838  2.76E-15
CMTM6   3:32559556    0.0261     0.00397  5.61E-11
CMTM7   3:32427326    0.129      0.0136   3.07E-21
CMTM8   3:32286791   -0.132     0.00718  5.99E-73
CNDP2   18:72174023   0.105      0.00446  4.35E-117
CNEP1R1 16:50058869  -0.068     0.00946  7.48E-13
CNGA1   4:47915437   -0.352     0.0115   4.25E-188
CNIH    14:54890924  -0.0421    0.00562  7.37E-14
| Gene       | Chromosome | Log2 Fold Change | FDR Corrected P-value | 0.108   | 0.00805 | 3.05E-40 |
|------------|------------|------------------|-----------------------|---------|---------|---------|
| CNIH4      | 1:224560371| 0.108            | 0.00805               | 3.05E-40|
| CNN2       | 19:1038871 | -0.222           | 0.00835               | 6.87E-16|
| CNN3       | 1:95389337 | 0.0704           | 0.0111                | 2.16E-14|
| CNNM3      | 2:97489870 | 0.0402           | 0.00497               | 6.78E-16|
| CNOT3      | 19:54634143| 0.0599           | 0.00782               | 2.16E-14|
| CNOT4      | 7:135198589| -0.0379          | 0.0046                | 2.10E-16|
| CNOT6      | 5:179996111| -0.108           | 0.0051                | 4.07E-95|
| CNOT6L     | 4:78738705 | -0.0371          | 0.00602               | 7.55E-10|
| CNPPD1     | 2:220037666| -0.0592          | 0.0063                | 7.67E-21|
| CNPY3      | 6:42902508 | -0.0207          | 0.00353               | 4.83E-09|
| CNPY4      | 7:99745585 | 0.0516           | 0.00793               | 8.47E-11|
| CNR2       | 1:24204008 | -0.106           | 0.0107                | 7.97E-23|
| CNRIP1     | 2:68495002 | 0.0557           | 0.0033                | 3.95E-62|
| CNTD1      | 17:40960253| 0.0992           | 0.00829               | 1.37E-32|
| CNTLN      | 9:17325279 | -0.0466          | 0.00738               | 3.01E-10|
| CNTNAP2    | 7:148000098| 0.0349           | 0.00259               | 1.05E-40|
| CNTRL      | 9:123870336| 0.17             | 0.0278                | 9.57E-10|
| COA1       | 7:43668087 | -0.102           | 0.00495               | 3.73E-91|
| COCH       | 14:31328045| -0.0386          | 0.00407               | 3.90E-21|
| COG1       | 17:71192663| 0.0191           | 0.00314               | 1.26E-09|
| COG3       | 13:46093557| 0.0523           | 0.00278               | 1.88E-76|
| COG4       | 16:70584390| -0.0623          | 0.00324               | 7.42E-80|
| COG5       | 7:106796537| -0.173           | 0.00362               | <1.0E-314|
| COG6       | 13:40215836| -0.0818          | 0.004                | 1.53E-89|
| COG8       | 16:69365430| -0.031           | 0.00301               | 9.22E-25|
| COL10A1    | 6:116453231| 0.0284           | 0.00434               | 6.85E-11|
| COL18A1    | 21:46908008| 0.0358           | 0.00173               | 6.79E-92|
| COL5A2     | 2:189913123| -0.0557          | 0.00858               | 9.19E-11|
| COL5A3     | 19:10118375| -0.0178          | 0.00209               | 1.96E-17|
| COL9A3     | 20:61464760| 0.0918           | 0.00506               | 1.54E-71|
| COLQ       | 3:15567137 | -0.0265          | 0.00028               | 4.55E-21|
| COMMD5     | 8:146067054| 0.0204           | 0.00234               | 4.82E-18|
| COMMD6     | 13:76089580| 0.0946           | 0.00812               | 5.33E-31|
| COMT       | 22:19951271| -0.0257          | 0.00339               | 3.52E-14|
| COPB1      | 11:14489182| 0.0771           | 0.00284               | 7.18E-152|
| COPB2      | 3:139060722| -0.0268          | 0.00379               | 1.61E-12|
| COPS3      | 17:17166056| 0.124            | 0.00468               | 8.22E-146|
| COPS6      | 7:99726446 | 0.0816           | 0.00917               | 7.29E-19|
| COPS7A     | 12:6853891 | 0.0544           | 0.0056                | 4.51E-22|
| Gene   | Chr  | Start   | End     | Diff  | P-value  | E-value |
|--------|------|---------|---------|-------|----------|---------|
| COPS8  | 2    | 238032491 | 0.0836  | 0.00935 | 5.43E-19 |
| COPZ2  | 17   | 46163867  | -0.0805 | 0.00725  | 2.70E-28 |
| COQ10B | 2    | 198361058  | 0.0277  | 0.00464  | 2.42E-09 |
| COQ2   | 4    | 84242078   | -0.0863 | 0.00784  | 6.73E-28 |
| COQ6   | 14   | 74451315   | 0.0281  | 0.00409  | 7.21E-12 |
| COQ7   | 16   | 19105138   | -0.126  | 0.0105   | 2.96E-32 |
| COQ9   | 16   | 57445376   | -0.0265 | 0.00378  | 2.64E-12 |
| CORIN  | 4    | 47833295   | -0.124  | 0.00304  | <1.0E-314 |
| CORO1C | 12   | 109158025  | -0.0806 | 0.00526  | 6.18E-52 |
| CORO2A | 9    | 100958924  | -0.0902 | 0.00868  | 4.43E-25 |
| CORO2B | 15   | 68923210   | 0.0211  | 0.00306  | 5.35E-12 |
| COTL1  | 16   | 84599070   | -0.0833 | 0.00531  | 3.55E-54 |
| COX10  | 17   | 13972860   | -0.0897 | 0.013    | 6.82E-12 |
| COX11  | 17   | 53041890   | 0.0882  | 0.00626  | 2.79E-44 |
| COX14  | 12   | 50528977   | -0.0587 | 0.00776  | 4.53E-14 |
| COX15  | 10   | 101474499  | -0.0453 | 0.00354  | 6.87E-37 |
| COX18  | 4    | 73922549   | -0.035  | 0.00571  | 9.27E-10 |
| COX41  | 16   | 85838916   | -0.0445 | 0.00437  | 3.79E-24 |
| COX6B1 | 19   | 36157167   | -0.0535 | 0.00365  | 1.03E-47 |
| COX6C  | 8    | 100843414  | -0.385  | 0.00754  | <1.0E-314 |
| COX7A2 | 6    | 75910031   | 0.451   | 0.0446   | 8.22E-24 |
| COX7A2L| 2    | 42591387   | 0.0441  | 0.00427  | 1.11E-24 |
| CPA3   | 3    | 148628004  | 0.174   | 0.0271   | 1.50E-10 |
| CPA5   | 7    | 13006808   | -0.0611 | 0.00345  | 2.61E-68 |
| CPAMD8| 19   | 17118433   | 0.014   | 0.00239  | 4.70E-09 |
| CPB1   | 3    | 148546321  | -0.0473 | 0.00473  | 2.89E-23 |
| CPD    | 17   | 28667282   | 0.0816  | 0.00492  | 3.39E-60 |
| CPEB2  | 4    | 15077693   | 0.0879  | 0.00406  | 1.73E-99 |
| CPEB3  | 10   | 93879078   | 0.0344  | 0.00353  | 2.39E-22 |
| CPEB4  | 5    | 173305432  | -0.0676 | 0.00431  | 2.95E-54 |
| CPED1  | 7    | 120648485  | -0.248  | 0.00896  | 1.32E-157 |
| CPM    | 12   | 69331714   | -0.0425 | 0.00517  | 2.27E-16 |
| CPNE1  | 20   | 34218673   | 0.118   | 0.0037   | 3.47E-206 |
| CPNE3  | 8    | 87573853   | -0.0381 | 0.00571  | 2.68E-11 |
| CPNE8  | 12   | 39145545   | -0.203  | 0.0303   | 2.29E-11 |
| CPOX   | 3    | 98302932   | -0.0649 | 0.00371  | 8.15E-67 |
| CPPED1 | 16   | 12897395   | -0.112  | 0.00636  | 1.74E-67 |
| CPQ    | 8    | 97749564   | 0.0544  | 0.00528  | 1.06E-24 |
| CPSF1  | 8    | 145627556  | 0.0954  | 0.00738  | 1.30E-37 |
| Gene    | Chromosome | Start Position | End Position | Log2 Fold Change | Log2 p Value |
|---------|------------|----------------|--------------|-----------------|--------------|
| CPSF2   | 14         | 92587277       | 92587277     | -0.0639         | 6.50E-84     |
| CPSF3   | 2          | 9654601        | 9654601      | -0.0361         | 3.61E-25     |
| CPSF6   | 12         | 69655167       | 69655167     | -0.0336         | 4.06E-100    |
| CPVL    | 7          | 29187946       | 29187946     | -0.129          | 4.06E-100    |
| CR1     | 1          | 207673631      | 207673631    | 0.0591          | 3.60E-22     |
| CR2     | 1          | 207655815      | 207655815    | -0.0471         | 4.04E-12     |
| CRAT    | 9          | 131894934      | 131894934    | 0.0823          | 5.33E-131    |
| CRBN    | 3          | 3192524        | 3192524      | 0.00323         |              |
| CRCP    | 7          | 65570310       | 65570310     | 0.00669         | 2.04E-41     |
| CREB1   | 2          | 208371637      | 208371637    | -0.0402         | 1.29E-21     |
| CREB5   | 7          | 28724374       | 28724374     | 0.115           | 1.08E-58     |
| CREG1   | 1          | 167516862      | 167516862    | -0.119          | 2.65E-45     |
| CRELD2  | 22         | 50316797       | 50316797     | -0.11           | 1.63E-79     |
| CREM    | 10         | 35514002       | 35514002     | 0.0429          | 2.59E-21     |
| CRIM1   | 2          | 36789166       | 36789166     | 0.0788          | 7.32E-144    |
| CRIP3   | 6          | 43260008       | 43260008     | 0.0298          | 1.99E-22     |
| CRIPAK  | 4          | 1341553        | 1341553      | -1.22           | 4.41E-120    |
| CRIPT   | 2          | 46849495       | 46849495     | 0.0887          | 1.72E-88     |
| CRISP2  | 6          | 49669359       | 49669359     | -0.225          | 2.43E-30     |
| CRISP3  | 6          | 49674612       | 49674612     | 0.114           | 6.59E-20     |
| CRISPLD2| 16         | 84845034       | 84845034     | 0.154           | 1.08E-103    |
| CRK     | 17         | 1323238        | 1323238      | 0.108           | 4.94E-14     |
| CRLF3   | 17         | 29078224       | 29078224     | 0.096           | 5.76E-72     |
| CRNKL1  | 20         | 20033755       | 20033755     | -0.0363         | 8.66E-43     |
| CROCCP3 | 1          | 16786928       | 16786928     | -0.0378         | 4.65E-10     |
| CROT    | 7          | 86928387       | 86928387     | -0.0427         | 5.68E-19     |
| CRTAM   | 11         | 122714782      | 122714782    | -0.072          | 8.17E-30     |
| CRY1    | 12         | 107448333      | 107448333    | 0.0281          | 4.66E-11     |
| CRY2    | 11         | 45846619       | 45846619     | -0.0215         | 1.60E-15     |
| CRYM    | 16         | 21272591       | 21272591     | 0.0357          | 1.56E-23     |
| CRYZ    | 1          | 75193264       | 75193264     | -0.373          | <1.0E-314    |
| CSAD    | 12         | 53547987       | 53547987     | 0.0247          | 7.89E-10     |
| CSDA    | 12         | 10870900       | 10870900     | 0.127           | 2.95E-34     |
| CSF1R   | 5          | 149483427      | 149483427    | 0.0567          | 2.40E-17     |
| CSF2RB  | 22         | 37269541       | 37269541     | -0.0613         | 4.28E-22     |
| CSF3R   | 1          | 36940615       | 36940615     | 0.143           | 8.66E-14     |
| CSGALNACT1| 8          | 19564149       | 19564149     | 0.228           | <1.0E-314    |
| CSGALNACT2| 10         | 43647868       | 43647868     | -0.0513         | 3.19E-26     |
| CSK     | 15         | 75057747       | 75057747     | 0.0369          | 1.94E-30     |
| Gene       | Chromosome | Position | Log Fold Change | p-Value  |
|------------|------------|----------|-----------------|----------|
| CSMD1      | 8:2970477  | -0.0154  | 0.00223         | 5.98E-12 |
| CSNK1A1L   | 13:37679729| 0.0402   | 0.00368         | 1.69E-27 |
| CSNK1G1    | 15:64650273| -0.0358  | 0.00448         | 1.60E-15 |
| CSNK1G3    | 5:122818269| -0.0353  | 0.00457         | 1.32E-14 |
| CSNK2B     | 6:31637807 | -0.084   | 0.00406         | 1.69E-91 |
| CSRNP2     | 12:51503442| 0.0278   | 0.00429         | 9.18E-11 |
| CSRP2BP    | 20:18120761| -0.0423  | 0.00317         | 5.85E-40 |
| CST7       | 20:24930085| 0.197    | 0.00908         | 1.19E-99 |
| CSTA       | 3:122055495| 0.158    | 0.00817         | 7.83E-81 |
| CSTB       | 21:45201832| -0.106   | 0.00322         | 5.75E-217|
| CSTF2T     | 10:53452245| 0.0757   | 0.00635         | 2.38E-32 |
| CSTF3      | 11:33118137| -0.054   | 0.00394         | 5.97E-42 |
| CTAGE5     | 14:39850261| 0.0315   | 0.00359         | 2.36E-18 |
| CTBP1      | 4:1198957  | -0.0219  | 0.00237         | 3.04E-20 |
| CTBP1-AS1  | 4:1240636  | 0.109    | 0.00715         | 3.41E-51 |
| CTBS       | 1:85064272 | 0.076    | 0.00698         | 2.65E-27 |
| CTC1       | 17:8142129 | 0.0908   | 0.00346         | 1.59E-142|
| CTDP1      | 18:77492750| -0.0237  | 0.00254         | 1.47E-20 |
| CTGF       | 6:132320848| -0.0194  | 0.00319         | 1.20E-09 |
| CTH        | 1:70876758 | 0.0456   | 0.00374         | 9.61E-34 |
| CTHRC1     | 8:104431198| -0.0509  | 0.00501         | 5.65E-24 |
| CTNNA1     | 5:138085286| 0.136    | 0.00397         | 2.44E-231|
| CTNNA3     | 10:69264209| -0.0664  | 0.00897         | 1.58E-13 |
| CTNNAL1    | 9:111680359| -0.504   | 0.0336          | 1.09E-49 |
| CTNNB1     | 3:41260402 | 0.0572   | 0.00275         | 1.12E-92 |
| CTNND1     | 11:57537787| 0.0268   | 0.00396         | 1.58E-11 |
| CTNS       | 17:3564836 | 0.0439   | 0.00509         | 8.39E-18 |
| CTPS1      | 1:41446231 | 0.0447   | 0.00412         | 3.87E-27 |
| CTSA       | 20:44501934| -0.032   | 0.00423         | 5.18E-14 |
| CTSB       | 8:11720502 | 0.227    | 0.026           | 3.28E-18 |
| CTSC       | 11:88071498| 0.149    | 0.00518         | 4.63E-170|
| CTSD       | 11:1769843 | 0.105    | 0.00859         | 4.94E-34 |
| CTSF       | 11:66335832| -0.0181  | 0.00261         | 4.44E-12 |
| CTSG       | 14:25045589| -0.201   | 0.016           | 1.05E-35 |
| CTSN       | 15:79233792| 0.322    | 0.014           | 1.10E-111|
| CTSK       | 1:150772613| -0.116   | 0.00749         | 2.25E-53 |
| CTSL1      | 9:90342675 | 0.195    | 0.00788         | 2.27E-127|
| CTSS       | 1:150737565| 0.0294   | 0.00415         | 1.73E-12 |
| CTSW       | 11:65654665| 0.285    | 0.00848         | 2.72E-224|
| Gene   | Chromosome | Start Position | Log2 Fold Change | Log10(P-Value) | Log10(Q-Value) |
|--------|------------|----------------|------------------|----------------|----------------|
| CTSZ   | 20:57574841| -0.0383        | 0.00472          | 5.70E-16       |
| CUBN   | 10:17175484| -0.168         | 0.00397          | <1.0E-314      |
| CUL2   | 10:35355402| 0.0426         | 0.0032           | 6.39E-40       |
| CUL7   | 6:43008876 | 0.0566         | 0.00461          | 3.14E-34       |
| CUZD1  | 10:124638827| 0.032          | 0.00493          | 9.27E-11       |
| CWC25  | 17:36991976| -0.0355        | 0.00358          | 5.99E-23       |
| CWF19L1| 10:101953705| -0.0888       | 0.00336          | 1.88E-144      |
| CWF19L2| 11:107273938| 0.0809        | 0.00559          | 1.64E-46       |
| CXCL1  | 4:74735244 | 0.0501         | 0.00744          | 1.85E-11       |
| CXCL16 | 17:4640869 | 0.115          | 0.00544          | 6.03E-96       |
| CXCL5  | 4:74857970 | -0.185         | 0.00702          | 9.88E-144      |
| CXC2P1 | 2:21897036 | -0.097         | 0.00609          | 9.82E-56       |
| CXCR7  | 2:237445326| 0.0656         | 0.0108           | 1.13E-09       |
| CYB5A  | 18:71948257| -0.0649        | 0.0101           | 1.54E-10       |
| CYB5B  | 16:69497203| 0.039          | 0.00574          | 1.28E-11       |
| CYB5D2 | 17:4038014 | -0.0268        | 0.00445          | 1.71E-09       |
| CYB5R1 | 1:20296764 | -0.0371        | 0.00583          | 2.20E-10       |
| CYB5R2 | 11:7692051| -0.0591        | 0.00464          | 1.09E-36       |
| CYB5R3 | 22:43022832| 0.0617         | 0.00556          | 2.84E-28       |
| CYBA   | 16:88710882| -0.089         | 0.00353          | 7.20E-133      |
| CYBRD1 | 2:172369069| 0.243          | 0.0065           | 9.05E-272      |
| CYCS   | 7:25163744 | -0.138         | 0.0109           | 2.24E-36       |
| CYFIP2 | 5:156769649| -0.0369        | 0.00588          | 3.66E-10       |
| CYLD   | 16:50727075| 0.0383         | 0.00319          | 9.46E-33       |
| CYP1B1 | 1:238351969| -0.135         | 0.0102           | 3.72E-39       |
| CYP1B1-AS1| 2:38416531| -0.0303        | 0.00434          | 3.32E-12       |
| CYP26B1| 2:72403408 | -0.0851        | 0.00419          | 1.92E-88       |
| CYP27A1| 2:219597185| -0.294         | 0.00538          | <1.0E-314      |
| CYP2B7P1| 19:41415087| -0.0872        | 0.00762          | 6.17E-30       |
| CYP2R1 | 11:14861517| 0.0521         | 0.00516          | 1.09E-23       |
| CYP2U1 | 4:108877783| 0.0487         | 0.0045           | 5.00E-27       |
| CYP4F12| 19:15776028| -0.0896        | 0.00595          | 3.40E-50       |
| CYP4F22| 19:15632989| -0.176         | 0.027            | 6.97E-11       |
| CYP4F3 | 19:15749169| -0.109         | 0.00847          | 3.62E-37       |
| CYP4V2 | 4:187099609| -0.141         | 0.00531          | 1.15E-146      |
| CYP51A1| 7:91749798 | 0.258          | 0.00771          | 1.72E-222      |
| CYSTM1 | 5:139665761| 0.0573         | 0.00788          | 3.92E-13       |
| CYTH2  | 19:48986144| 0.0941         | 0.0118           | 2.16E-15       |
| CYTH4  | 22:37678378| -0.0419        | 0.00375          | 9.31E-29       |
| Gene  | Chromosome | Position | log2 Fold Change | p-value | Adjusted p-value |
|-------|------------|----------|------------------|---------|-----------------|
| CYRR1 | 21:27973726| -0.0338  | 0.00402          | 4.92E-17|                 |
| DAAM2 | 6:39712340 | -0.0451  | 0.00731          | 7.05E-10|                 |
| DAD1  | 14:23058084| -0.231   | 0.00483          | <1.0E-314|                |
| DAGLB | 7:6456091  | -0.0715  | 0.00396          | 6.93E-71|                 |
| DALRD3| 3:49030828 | -0.0326  | 0.003             | 2.77E-27|                 |
| DAP   | 5:10676209 | 0.0555   | 0.00413          | 1.22E-40|                 |
| DAP3  | 1:155614815| 0.0357   | 0.00455          | 5.14E-15|                 |
| DAPK1 | 9:90167240 | -0.218   | 0.00538          | <1.0E-314|                |
| DAPK2 | 15:64279053| -0.0607  | 0.00459          | 2.60E-39|                 |
| DAPP1 | 4:100760165| 0.0668   | 0.00504          | 1.55E-39|                 |
| DARC  | 1:159174920| -0.0543  | 0.0044           | 1.44E-34|                 |
| DARS  | 2:136773803| -0.278   | 0.0251           | 3.23E-28|                 |
| DAXX  | 6:33290402 | 0.0232   | 0.00358          | 1.02E-10|                 |
| DAZAP2| 12:51641035| -0.0336  | 0.00386          | 4.32E-18|                 |
| DBF4B | 17:42773081| 0.0561   | 0.00298          | 1.11E-76|                 |
| DBI   | 2:120120771| 0.0479   | 0.00488          | 1.43E-22|                 |
| DBIL5P2| 2:63328774| -0.141   | 0.00922          | 1.69E-51|                 |
| DBN1  | 5:176875956| 0.0201   | 0.0025           | 1.25E-15|                 |
| DBNL  | 7:44082764 | 0.0278   | 0.00449          | 6.97E-10|                 |
| DCAF10| 9:37854274 | 0.275    | 0.00749          | 8.89E-263|                |
| DCAF13| 8:104410420| 0.028    | 0.00361          | 1.17E-14|                 |
| DCAF4 | 14:73393391| -0.0985  | 0.00497          | 2.61E-84|                 |
| DCAKD | 17:43093021| 0.0506   | 0.00383          | 3.45E-39|                 |
| DCBLD1| 6:117791163| 0.209    | 0.00531          | 5.95E-298|                |
| DCBLD2| 3:98661631 | -0.102   | 0.00622          | 2.17E-59|                 |
| DCHS1 | 11:6679132 | -0.0228  | 0.00377          | 1.53E-09|                 |
| DCK   | 4:71860311 | -0.213   | 0.0297           | 7.69E-13|                 |
| DCLK2 | 4:151049132| -0.0544  | 0.004            | 2.29E-41|                 |
| DCP1A | 3:53271193 | -0.203   | 0.0196           | 6.09E-25|                 |
| DCP1B | 12:2064575 | 0.0895   | 0.00806          | 2.30E-28|                 |
| DCP2  | 5:112326410| 0.0768   | 0.00322          | 7.81E-120|                |
| DCP5  | 11:126156979| 0.0457  | 0.00394          | 1.10E-30|                 |
| DCTD  | 4:183820557| -0.0536  | 0.00475          | 3.21E-29|                 |
| DCTN5 | 16:23653343| -0.223   | 0.00484          | <1.0E-314|                |
| DCTN6 | 8:30049102 | -0.081   | 0.0079           | 1.98E-24|                 |
| DCUN1D2| 13:114171794| -0.0587| 0.00568          | 7.32E-25|                 |
| DCUN1D4| 4:52788822| 0.0434   | 0.00457          | 3.44E-21|                 |
| DCXR  | 17:79993003| -0.138   | 0.00497          | 2.14E-157|                |
| DDA1  | 19:17426171| -0.054   | 0.00654          | 1.91E-16|                 |
| Gene     | Chromosome | Start Position | ArabD | ArabN | ArabP   | ArabE   |
|----------|------------|----------------|-------|-------|---------|---------|
| DDAH1    | 1:85749715 | 0.0369         | 0.00435 | 2.99E-17 |
| DDAH2    | 6:31697957 | -0.0329        | 0.00458 | 7.57E-13 |
| DDB2     | 11:47263060| 0.06           | 0.00483 | 6.56E-35 |
| DDHD2    | 8:38107873 | -0.0646        | 0.00517 | 2.43E-35 |
| DI2      | 1:15921899 | 0.0848         | 0.00667 | 1.72E-36 |
| DDO      | 6:110738291| 0.0307         | 0.00346 | 9.26E-19 |
| DDOST    | 1:20983863 | 0.027          | 0.00356 | 4.01E-14 |
| DRRGK1   | 20:3155375 | 0.0454         | 0.00346 | 1.01E-38 |
| DDT      | 22:24335228| 0.306          | 0.0162  | 3.11E-77 |
| DX1      | 2:15729583 | -0.0239        | 0.003   | 1.95E-15 |
| DDX10    | 11:108591328| -0.0544       | 0.00664 | 3.09E-16 |
| DDX17    | 22:38879688| -0.0261        | 0.00224 | 6.73E-31 |
| DDX18    | 2:118596654| -0.0544        | 0.0043  | 3.06E-36 |
| DDX20    | 1:112279555| 0.0569         | 0.00706 | 9.30E-16 |
| DDX23    | 12:49236156| 0.0314         | 0.00391 | 1.04E-15 |
| DDX27    | 20:47908060| -0.0237        | 0.00373 | 2.23E-10 |
| DDX31    | 9:135488542| -0.0206        | 0.00265 | 8.88E-15 |
| DDX39B   | 6:31509779 | 0.0338         | 0.00284 | 2.87E-32 |
| DDX43    | 6:74127543 | -0.146         | 0.0214  | 8.77E-12 |
| DDX5     | 17:62502435| 0.0981         | 0.00674 | 3.73E-47 |
| DDX50    | 10:70670776| 0.0406         | 0.00622 | 7.13E-11 |
| DDX52    | 17:36002599| 0.0438         | 0.00522 | 5.92E-17 |
| DDX55    | 12:124069614| 0.0857       | 0.00491 | 2.18E-66 |
| DDX56    | 7:44612753 | -0.0436        | 0.00322 | 5.56E-41 |
| DDX59    | 1:200645101| 0.091          | 0.0036  | 7.13E-133 |
| DECR1    | 8:91018214 | 0.213          | 0.0142  | 1.10E-49 |
| DEF6     | 6:35236915 | 0.0624         | 0.003   | 1.23E-92 |
| DEFA4    | 8:6789291  | -0.199         | 0.0322  | 7.15E-10 |
| DEGS1    | 1:224424442| -0.136         | 0.00942 | 2.33E-46 |
| DEK      | 6:18262906 | -0.0412        | 0.0036  | 6.13E-30 |
| DENND1A  | 9:126641091| 0.0886         | 0.00512 | 2.98E-65 |
| DENND2C  | 1:115212525| -0.053         | 0.00715 | 1.41E-13 |
| DENND2D  | 1:111729325| 0.043          | 0.00456 | 6.08E-21 |
| DENND4A  | 15:65998702| 0.0796         | 0.00575 | 9.08E-43 |
| DENND4C  | 9:19227803 | 0.0347         | 0.0036  | 9.27E-22 |
| DENND5A  | 11:9270700 | -0.0357        | 0.00429 | 1.01E-16 |
| DENND5B  | 12:31647153| 0.0421         | 0.00446 | 5.41E-21 |
| DENND6A  | 3:57692917 | -0.0841        | 0.00405 | 3.71E-92 |
| Symbol    | Chromosome   | Start Position | Log2FoldChange | P-value  |
|-----------|--------------|----------------|----------------|----------|
| DEPDC5    | 22           | 32182708       | -0.0289        | 3.97E-19 |
| DEPDC7    | 11           | 33057988       | -0.0369        | 3.19E-31 |
| DEPTOR    | 8            | 120901797      | 0.0424         | 2.51E-26 |
| DERL1     | 8            | 124043301      | 0.0243         | 1.79E-09 |
| DFN31     | 9            | 117261987      | -0.0162        | 9.08E-17 |
| DGAT2     | 11           | 75561128       | 0.0513         | 2.21E-17 |
| DGCR2     | 22           | 19099813       | 0.0311         | 1.75E-20 |
| DGCR8     | 22           | 20090192       | -0.042         | 2.40E-29 |
| DGKA      | 12           | 56313676       | -0.0515        | 2.53E-11 |
| DGKE      | 17           | 54883437       | -0.0518        | 4.24E-10 |
| DHCR24    |              | 55373374       | -0.0364        | 4.20E-12 |
| DHDDS     | 1            | 26805002       | 0.0284         | 3.10E-10 |
| DHRS1     | 14           | 24751184       | -0.0895        | 1.12E-20 |
| DHRS12    | 13           | 52423280       | 0.049          | 1.55E-22 |
| DHRS3     | 1            | 12649332       | 0.046          | 6.76E-14 |
| DHRS4     | 14           | 24439932       | 0.0956         | 6.14E-12 |
| DHRS7     | 14           | 60604297       | 0.0567         | 1.15E-10 |
| DHRS9     | 2            | 169961897      | 0.194          | 5.44E-188|
| DHTKD1    | 10           | 12111784       | -0.0282        | 8.26E-13 |
| DHX32     | 10           | 127596596      | 0.13           | 3.04E-183|
| DHX34     | 19           | 47899522       | -0.0427        | 1.04E-11 |
| DHX35     | 20           | 37593743       | 0.063          | 2.31E-56 |
| DHX36     | 3            | 154021063      | -0.0307        | 4.07E-16 |
| DHX57     | 2            | 39102671       | 0.0651         | 8.90E-67 |
| DHX58     | 17           | 40264661       | 0.0394         | 3.18E-24 |
| DICER1    | 14           | 95594687       | 0.0401         | 2.58E-28 |
| DICER1-AS1| 14           | 95648424       | 0.0578         | 9.42E-26 |
| DIDO1     | 20           | 61530399       | 0.0801         | 2.60E-104|
| DIEXF     | 1            | 210001586      | 0.105          | 1.21E-196|
| DIMT1     | 5            | 61719506       | -0.0396        | 3.41E-32 |
| DIP2A     | 21           | 47833789       | -0.138         | <1.0E-314|
| DIP2B     | 12           | 51130207       | 0.0423         | 9.73E-31 |
| DIP2C     | 10           | 529144         | -0.042         | 3.94E-29 |
| DIRC2     | 3            | 122480238      | 0.243          | 8.90E-166|
| DIS3      | 13           | 73341704       | 0.0222         | 6.28E-11 |
| DIS3L     | 15           | 66572692       | -0.145         | 9.83E-58 |
| DIS3L2    | 2            | 232827254      | -0.0306        | 4.56E-10 |
| DISC1     | 1            | 231773397      | -0.108         | 3.13E-211|
| DIXDC1    | 11           | 111897050      | -0.0354        | 1.94E-23 |
| Gene   | Chromosome | Log2 Fold Change | p-Value 1 | p-Value 2 |
|--------|------------|-----------------|-----------|-----------|
| DKFZP686I1521 | 6:2940666  | 0.025           | 0.00366   | 8.76E-12  |
| DKK3   | 11:12017400| 0.113           | 0.0102    | 6.52E-28  |
| DLAT   | 11:111933088| 0.0225         | 0.00335   | 1.99E-11  |
| DLEU2  | 13:50610989| -0.135          | 0.00873   | 1.12E-52  |
| DLEU7  | 13:51293037| 0.0343          | 0.00434   | 3.53E-15  |
| DLG5   | 10:79617980| 0.0675          | 0.00254   | 3.37E-146 |
| DLGAP5 | 14:55653306| 0.0965          | 0.0104    | 3.13E-20  |
| DLST   | 14:75317699| 0.0361          | 0.00536   | 1.86E-11  |
| DMXL2  | 15:51914033| -0.0892         | 0.00537   | 2.30E-60  |
| DNAAF2 | 14:50112712| -0.117          | 0.00567   | 2.35E-91  |
| DNAH6  | 2:84709215 | 0.114           | 0.00371   | 7.98E-192 |
| DNAH7  | 2:196887188| -0.0365         | 0.00186   | 3.21E-83  |
| DNAJA3 | 16:4479734 | -0.0433         | 0.00299   | 1.12E-46  |
| DNAJA4 | 15:78569930| 0.11            | 0.00851   | 2.03E-37  |
| DNAJB1 | 19:14618185| -0.0945         | 0.00748   | 3.93E-36  |
| DNAJB8 | 11:73682867| -0.0426         | 0.00427   | 2.74E-23  |
| DNAJB2 | 2:220140796| -0.0384         | 0.00557   | 5.70E-12  |
| DNAJB5 | 9:35013174 | -0.189          | 0.0112    | 3.37E-62  |
| DNAJB6 | 7:157145474| -0.0887         | 0.00528   | 9.00E-62  |
| DNAJB7 | 22:41256802| 0.0381          | 0.00604   | 3.08E-10  |
| DNAJB9 | 7:108211586| 0.0343          | 0.00412   | 1.08E-16  |
| DNAJC11| 1:6771569  | 0.0273          | 0.00418   | 6.72E-11  |
| DNAJC13| 3:132183991| -0.094          | 0.0125    | 7.40E-14  |
| DNAJC15| 13:43608754| -0.242          | 0.00544   | <1.0E-314 |
| DNAJC18| 5:138773874| 0.0553          | 0.00512   | 5.99E-27  |
| DNAJC19| 3:180702240| 0.0431          | 0.00679   | 2.41E-10  |
| DNAJC21| 5:34948532 | 0.0342          | 0.00462   | 1.48E-13  |
| DNAJC8 | 1:28518264 | 0.0518          | 0.00863   | 2.05E-09  |
| DNAJC9 | 10:75008561| 0.258           | 0.023     | 1.10E-28  |
| DNASE1L3| 3:58199534 | 0.0747          | 0.00538   | 5.25E-43  |
| DNASE2 | 19:12998205| 0.0863          | 0.00481   | 7.65E-70  |
| DNHD1  | 11:6530278 | -0.046          | 0.00347   | 1.68E-39  |
| DNM2   | 19:10939792| 0.0222          | 0.00285   | 8.12E-15  |
| DNMBP  | 10:101697047| 0.135           | 0.0162    | 1.06E-16  |
| DNPEP  | 2:220263811| -0.167          | 0.0163    | 2.01E-24  |
| DNTTI1P1| 20:44404647| 0.0363          | 0.00297   | 8.49E-34  |
| DNTTI1P2| 1:94339851 | -0.222          | 0.0346    | 1.50E-10  |
| DOCK10 | 2:225755912| -0.0721         | 0.00626   | 2.30E-30  |
| DOCK7  | 1:62993403 | 0.102           | 0.00365   | 1.07E-161 |
| Gene   | Chromosome | Start Position | End Position | Log2 Fold Change | P-Value  |
|--------|------------|----------------|--------------|------------------|----------|
| DOCK8  | 9          | 370199         |              | -0.0831          | 2.84E-65 |
| DOCK9  | 13         | 99550351       |              | -0.0737          | 1.65E-34 |
| DOK2   | 8          | 21762915       |              | 0.0366           | 2.59E-20 |
| DOK4   | 16         | 57511407       |              | -0.0553          | 2.05E-13 |
| DOK6   | 18         | 67531642       |              | 0.0757           | 5.57E-121|
| DOM3Z  | 6          | 31938412       |              | 0.102            | 5.57E-66 |
| DOPEY1 | 6          | 83843781       |              | 0.154            | 1.13E-240|
| DOPEY2 | 21         | 37620240       |              | -0.0497          | 5.26E-45 |
| DPAGT1 | 11         | 118973133      |              | 0.0299           | 2.27E-15 |
| DPEP2  | 16         | 68039309       |              | -0.0502          | 1.46E-16 |
| DPEP3  | 16         | 68036939       |              | 0.0451           | 1.47E-12 |
| DPH1   | 17         | 1942861        |              | 0.0231           | 7.12E-17 |
| DPH3   | 3          | 16293425       |              | 0.0472           | 1.13E-12 |
| DPM2   | 9          | 130722212      |              | -0.115           | 1.45E-18 |
| DPP4   | 2          | 162930725      |              | -0.0564          | 6.98E-16 |
| DPP7   | 9          | 140024587      |              | 0.0735           | 3.05E-15 |
| DPPA4  | 3          | 109061221      |              | -0.0545          | 8.78E-17 |
| DPY19L2P2 | 7          | 102787381     |              | -0.389           | 1.65E-86 |
| DPY19L3| 19         | 32925370       |              | -0.11            | 2.76E-65 |
| DPY19L4| 8          | 95763759       |              | 0.0756           | 1.01E-11 |
| DPYSL4 | 10         | 133969872      |              | -0.0286          | 1.13E-26 |
| DR1    | 1          | 93816400       |              | -0.122           | 6.00E-255|
| DRAM2  | 1          | 111728610      |              | -0.116           | 1.03E-125|
| DSC1   | 18         | 28737770       |              | 0.102            | 2.35E-67 |
| DSC2   | 18         | 28724903       |              | 0.0788           | 9.67E-14 |
| DSCC1  | 8          | 120868138      |              | -0.0874          | 3.29E-64 |
| DSE    | 6          | 116795040      |              | 0.128            | 1.10E-159|
| DSN1   | 20         | 35404978       |              | 0.126            | 4.90E-10 |
| DSP    | 6          | 7495948        |              | -0.139           | 9.88E-292|
| DST    | 6          | 56290054       |              | -0.0243          | 9.28E-11 |
| DSTN   | 20         | 17627727       |              | -0.0501          | 1.63E-21 |
| DSTYK  | 1          | 205138321      |              | -0.101           | 1.16E-20 |
| DTD1   | 20         | 18552359       |              | 0.0622           | 1.86E-39 |
| DTNB   | 2          | 25860320       |              | 0.0236           | 9.14E-13 |
| DTNB1  | 6          | 15662891       |              | -0.0837          | 3.94E-78 |
| DTWD1  | 15         | 49968752       |              | -0.0613          | 4.70E-33 |
| DTWD2  | 5          | 118315744      |              | 0.0454           | 5.04E-18 |
| DTX2   | 7          | 76135340       |              | 0.107            | 3.32E-10 |
| DUOX1  | 15         | 45459564       |              | 0.0218           | 4.54E-16 |
| Gene       | Chromosome | Log2FC | p-value  | FDR       |
|------------|------------|--------|----------|-----------|
| DUS2L      | 16:68127846| -0.158 | 0.00844  | 2.66E-75  |
| DUS3L      | 19:5799806 | 0.0313 | 0.00314  | 2.92E-23  |
| DUSP10     | 1:221917338| 0.0411 | 0.00406  | 6.65E-14  |
| DUSP12     | 1:161721707| 0.0305 | 0.00394  | 2.14E-12  |
| DUSP14     | 17:35817105| -0.0277| 0.00394  | 2.14E-12  |
| DUSP16     | 12:12617006| 0.0831 | 0.00683  | 1.45E-33  |
| DUSP18     | 22:31063804| 0.176  | 0.00544  | 1.44E-209 |
| DUSP3      | 17:41858810| -0.106 | 0.00709  | 7.67E-50  |
| DUSP6      | 12:89747875| 0.0646 | 0.00795  | 5.23E-16  |
| DUT        | 15:48605208| -0.0942| 0.0056   | 5.03E-62  |
| DYM        | 18:46979529| 0.0435 | 0.00552  | 4.30E-15  |
| DYNC1L1    | 3:32621214 | -0.157 | 0.00486  | 4.14E-209 |
| DYNC2L1    | 2:44001185 | 0.134  | 0.0112   | 1.37E-32  |
| DYNL1      | 12:120950249| 0.0896 | 0.0138   | 8.71E-11  |
| DYNL2      | 17:56165525| 0.0258 | 0.0039   | 4.40E-11  |
| DYNLT1     | 6:159047087| 0.0473 | 0.00472  | 1.69E-23  |
| DYROK1A    | 21:38892198| 0.0263 | 0.00293  | 4.03E-19  |
| DYSY1C1    | 15:55772799| -0.0889| 0.0069   | 2.11E-37  |
| DYZANK1    | 20:18434153| -0.0151| 0.00237  | 1.88E-10  |
| DZIP3      | 3:108264948| 0.193  | 0.00465  | <1.0E-314 |
| E2F4       | 16:67178973| -0.0384| 0.00635  | 1.58E-09  |
| EAF1       | 3:15476011 | 0.03   | 0.00368  | 4.20E-16  |
| EAF2       | 3:121558894| -0.109 | 0.00669  | 8.52E-58  |
| EBLN2      | 3:73111973 | 0.0965 | 0.0043   | 1.10E-106 |
| EBPL       | 13:50266544| 0.0984 | 0.0049   | 2.21E-86  |
| ECD        | 10:74910452| 0.144  | 0.0072   | 1.49E-85  |
| ECE1       | 1:21663030 | -0.0957| 0.00553  | 2.38E-65  |
| ECH1       | 19:39324154| -0.039 | 0.00314  | 5.92E-35  |
| ECHDC1     | 6:127696869| -0.105 | 0.00493  | 3.38E-97  |
| ECHDC2     | 1:53340320 | 0.0429 | 0.00373  | 2.76E-30  |
| ECHDC3     | 10:11780324| 0.0406 | 0.00451  | 2.91E-19  |
| ECI2       | 6:4126097  | -0.0249| 0.00391  | 2.16E-10  |
| ECM2       | 9:95207806 | -0.0861| 0.00307  | 2.01E-161 |
| ECSIT      | 19:11612283| 0.0489 | 0.007    | 3.22E-12  |
| EDAR       | 2:109514464| -0.029 | 0.00387  | 8.70E-14  |
| EDEM2      | 20:33730387| 0.0364 | 0.00364  | 2.85E-23  |
| EDEM3      | 1:184710178| 0.0637 | 0.00319  | 2.47E-85  |
| EDIL3      | 5:83408439 | -0.069 | 0.00366  | 1.09E-76  |
| EEA1       | 12:93280699| -0.0471| 0.00484  | 3.33E-22  |
| Gene   | Chromosome | Position | log10FoldChange | AdjPValue | FDR     |
|--------|------------|----------|-----------------|-----------|---------|
| EED    | 11:85964887| -0.0596  | 0.00289         | 4.11E-91  |         |
| EEF1DP3| 13:32444439| -0.0673  | 0.0041          | 5.99E-59  |         |
| EEF2   | 19:3990291 | -0.0292  | 0.00486         | 2.09E-09  |         |
| EEPD1  | 7:36192787 | 0.0326   | 0.00376         | 5.86E-18  |         |
| EFCAB13| 17:45401335| 0.431    | 0.0115          | 2.48E-272 |         |
| EFCAB2 | 1:245199100| 0.351    | 0.00932         | 1.67E-275 |         |
| EFCAB5 | 17:28223982| 0.0345   | 0.00317         | 2.60E-27  |         |
| EFCAB6 | 22:44212838| 0.0171   | 0.00244         | 3.03E-12  |         |
| EFCAB7 | 1:64065817 | -0.0398  | 0.00387         | 1.31E-24  |         |
| EFEMP2 | 11:65595803| -0.0243  | 0.00385         | 2.95E-10  |         |
| EFHA1  | 13:22155152| -0.0564  | 0.00548         | 1.33E-24  |         |
| EFHA2  | 8:16924115 | -0.0692  | 0.00548         | 4.65E-36  |         |
| EFHB   | 3:19987539 | -0.0884  | 0.00338         | 1.11E-141 |         |
| EFHC1  | 6:52268008 | 0.0432   | 0.00516         | 7.18E-17  |         |
| EFHD2  | 1:15738365 | 0.164    | 0.0172          | 2.56E-21  |         |
| EFTUD1 | 15:82427605| -0.0352  | 0.0046          | 2.30E-14  |         |
| EFTUD2 | 17:42986982| 0.0297   | 0.00377         | 4.21E-15  |         |
| EGF    | 4:110891673| 0.0335   | 0.0054          | 5.59E-10  |         |
| EGLN2  | 19:41305793| -0.0518  | 0.00354         | 1.57E-47  |         |
| EHD3   | 2:31480967 | -0.041   | 0.00532         | 1.50E-14  |         |
| EHHADH | 3:184886137| 0.0429   | 0.00518         | 1.54E-16  |         |
| EHMT1  | 9:140604118| -0.0366  | 0.00253         | 1.47E-46  |         |
| EI24   | 11:125438802| -0.0383  | 0.00628         | 1.19E-09  |         |
| EIF2A  | 3:150259942| 0.0515   | 0.0046          | 8.56E-29  |         |
| EIF2AK1| 7:6060908  | -0.0864  | 0.013           | 3.13E-11  |         |
| EIF2AK2| 2:37363968 | 0.141    | 0.0218          | 8.64E-11  |         |
| EIF2AK4| 15:40283250| 0.0405   | 0.00481         | 4.61E-17  |         |
| EIF2B2 | 14:75446778| 0.056    | 0.00402         | 2.84E-43  |         |
| EIF2C2 | 8:141604684| -0.0577  | 0.00424         | 2.04E-41  |         |
| EIF3G  | 19:10227010| 0.0642   | 0.00749         | 1.40E-17  |         |
| EIF3K  | 19:39106022| -0.055   | 0.00928         | 3.36E-09  |         |
| EIF4A3 | 17:78112333| -0.0346  | 0.00382         | 1.89E-19  |         |
| EIF4B  | 12:53401481| 0.0628   | 0.00861         | 3.29E-13  |         |
| EIF4E2 | 2:233440924| -0.0309  | 0.00482         | 1.58E-10  |         |
| EIF4E3 | 3:71769437 | 0.0993   | 0.0045          | 1.57E-103 |         |
| EIF4EBP2| 10:72202312| -0.0302  | 0.00499         | 1.58E-09  |         |
| EIF4ENIF1| 22:31861950| -0.0155  | 0.00253         | 9.69E-10  |         |
| EIF4G3 | 1:21351885 | 0.0609   | 0.00672         | 1.80E-19  |         |
| EIF5   | 14:103753469| 0.0815  | 0.0118          | 5.46E-12  |         |
| Gene   | Chromosome | Start Position | End Position | Length (kb) | p-value  |
|--------|------------|----------------|--------------|-------------|-----------|
| EIF6   | 20:33865852| 20:33865852    |              | 0           | 0.00562   |
| ELAC2  | 17:12914024| 17:12914024    |              | 0           | 4.68E-13  |
| ELAVL1 | 19:8028544 | 19:8028544     |              | 0           | 8.93E-28  |
| ELF2   | 4:140021554| 4:140021554    |              | 0           | 3.43E-20  |
| ELK3   | 12:96599780| 12:96599780    |              | 0           | 1.51E-09  |
| ELL    | 19:18567039| 19:18567039    |              | 0           | 6.89E-15  |
| ELL2   | 5:95262044 | 5:95262044     |              | 0           | 2.89E-34  |
| ELMO1  | 7:37455281 | 7:37455281     |              | 0           | 1.26E-13  |
| ELMOD2 | 4:141430495| 4:141430495    |              | 0           | 7.14E-10  |
| ELOF1  | 19:11659930| 19:11659930    |              | 0           | 3.63E-10  |
| ELOVL2 | 6:10945334 | 6:10945334     |              | 0           | 3.93E-22  |
| ELOVL4 | 6:80704185 | 6:80704185     |              | 0           | 1.06E-16  |
| ELOVL5 | 6:53153954 | 6:53153954     |              | 0           | 3.54E-24  |
| ELP2   | 18:33759196| 18:33759196    |              | 0           | 1.02E-83  |
| ELP3   | 8:27950008 | 8:27950008     |              | 0           | 1.29E-110 |
| ELP6   | 3:47531935 | 3:47531935     |              | 0           | 2.83E-11  |
| EMB    | 5:49734505 | 5:49734505     |              | 0           | 3.37E-22  |
| EMC1   | 1:19558584 | 1:19558584     |              | 0           | 1.95E-12  |
| EMC2   | 8:109536300| 8:109536300    |              | 0           | 5.94E-38  |
| EML3   | 11:62378221| 11:62378221    |              | 0           | 7.52E-33  |
| EML4   | 2:42526974 | 2:42526974     |              | 0           | 7.68E-15  |
| EMR1   | 19:6900955 | 19:6900955     |              | 0           | 6.00E-44  |
| EMR2   | 19:14887259| 19:14887259    |              | 0           | 4.20E-190 |
| EMR3   | 19:14776900| 19:14776900    |              | 0           | 2.90E-31  |
| ENC1   | 5:73884146 | 5:73884146     |              | 0           | <1.0E-314 |
| ENDO1  | 11:94863186| 11:94863186    |              | 0           | 8.22E-62  |
| ENDOG  | 9:131614082| 9:131614082    |              | 0           | 6.25E-37  |
| ENDOU  | 12:48053875| 12:48053875    |              | 0           | 4.71E-47  |
| ENG    | 9:130628665| 9:130628665    |              | 0           | 1.06E-22  |
| ENGASE | 17:77035607| 17:77035607    |              | 0           | 3.47E-26  |
| ENKUR  | 10:25317626| 10:25317626    |              | 0           | 3.62E-11  |
| ENO1   | 1:8913653  | 1:8913653      |              | 0           | 4.87E-15  |
| ENO3   | 17:4856580 | 17:4856580     |              | 0           | 7.19E-22  |
| ENOSF1 | 18:712319  | 18:712319      |              | 0           | 1.07E-182 |
| ENPP1  | 6:132223944| 6:132223944    |              | 0           | 9.84E-10  |
| ENPP2  | 8:120648375| 8:120648375    |              | 0           | 1.87E-37  |
| ENPP3  | 6:132018000| 6:132018000    |              | 0           | 7.49E-15  |
| ENPP4  | 6:46116102 | 6:46116102     |              | 0           | 2.98E-37  |
| ENTPD1 | 10:97559214| 10:97559214    |              | 0           | 1.54E-169 |
| Gene    | Chromosome | Log2 Fold Change | p-value | FDR    |
|---------|------------|------------------|---------|--------|
| ENTPD3  | 3:40483027 | -0.0456          | 0.00307 | 9.22E-49 |
| ENTPD4  | 8:23273758 | -0.0404          | 0.00298 | 2.82E-41 |
| ENTPD5  | 14:74480136 | 0.0606           | 0.0072  | 5.45E-17 |
| ENTPD6  | 20:25186137 | 0.0242           | 0.00248 | 2.18E-22 |
| EOGT    | 3:69055411 | -0.0233          | 0.00344 | 2.28E-16 |
| EOMES   | 3:27759338 | 0.0433           | 0.00618 | 2.80E-12 |
| EP400NL | 12:132568660 | 0.127            | 0.00552 | 2.27E-111 |
| EPAS1   | 2:46623611 | -0.0186          | 0.00257 | 6.09E-13 |
| EPB41L2 | 6:131383686 | -0.0912          | 0.00556 | 5.04E-59 |
| EPB41L3 | 18:5452310 | 0.0697           | 0.00619 | 4.66E-29 |
| EPB41L4A | 5:111669756 | -0.103           | 0.00983 | 1.43E-24 |
| EPB41L5 | 2:120903167 | 0.0343           | 0.00484 | 1.59E-12 |
| EPC1    | 10:32650071 | -0.0223          | 0.00332 | 1.94E-11 |
| EPDR1   | 7:37958467 | 0.0267           | 0.00378 | 1.90E-12 |
| EPG5    | 18:43563022 | -0.0734          | 0.00511 | 5.93E-46 |
| EPHA1   | 7:143104331 | 0.0389           | 0.00318 | 5.29E-34 |
| EPHA4   | 2:222393635 | 0.108            | 0.0045  | 1.55E-120 |
| EPHB2   | 1:23054719 | 0.0318           | 0.00463 | 7.32E-12 |
| EPHB4   | 7:100378274 | -0.0533          | 0.00232 | 1.15E-111 |
| EPHX2   | 8:27389702 | -0.0512          | 0.00795 | 1.26E-10 |
| EPHX4   | 1:92496655 | -0.0676          | 0.0085  | 2.26E-15 |
| EPM2A   | 6:146003401 | -0.076           | 0.00373 | 8.84E-89 |
| EPS15   | 1:51811930 | -0.143           | 0.0124  | 2.74E-30 |
| EPS8    | 12:15843771 | -0.0254          | 0.00429 | 3.33E-09 |
| EPST1   | 13:43566373 | -0.26            | 0.014   | 1.43E-74 |
| EPT1    | 2:26583506 | 0.0391           | 0.00401 | 3.24E-22 |
| ERAP1   | 5:96121715 | -0.111           | 0.00327 | 3.87E-228 |
| ERAP2   | 5:96200770 | -0.464           | 0.00661 | <1.0E-314 |
| ERBB2IP | 5:65314414 | 0.0286           | 0.00464 | 7.58E-10 |
| ERC1    | 12:1160615 | 0.0417           | 0.00508 | 2.67E-16 |
| ERCC3   | 2:127992907 | -0.0532          | 0.00447 | 2.78E-32 |
| ERCC5   | 13:103501256 | -0.0266         | 0.00369 | 7.22E-13 |
| ERCC6   | 10:50772362 | -0.0314          | 0.00298 | 9.81E-26 |
| ERCC6L2 | 9:98650046 | 0.0563           | 0.0044  | 6.18E-37 |
| EREG    | 4:75190202 | 0.0677           | 0.00661 | 2.26E-24 |
| ERGIC1  | 5:172365059 | 0.0303           | 0.00399 | 3.68E-14 |
| ERGIC2  | 12:29560218 | -0.0869          | 0.0097  | 4.45E-19 |
| ERI1    | 8:8882571  | 0.0655           | 0.00428 | 1.12E-51 |
| ERICH1  | 8:638867   | 0.177            | 0.00459 | 1.79E-286 |
| Gene   | Chromosome | Start Position | End Position | Log2FoldChange | p-Value   |
|--------|------------|----------------|--------------|----------------|-----------|
| ERLEC1 | 2          | 2:54002064     |              | -0.0261        | 1.60E-09  |
| ERLIN1 | 10         | 10:101903906   |              | 0.0864         | 2.44E-42  |
| ERMAP  | 1          | 1:43311563     |              | -0.0651        | 2.52E-45  |
| ERN1   | 17         | 17:62145672    |              | 0.0866         | 3.30E-98  |
| ERO1L  | 14         | 14:53160317    |              | 0.343          | <1.0E-314 |
| ERO1LB | 1          | 1:236394926    |              | 0.0911         | 5.70E-115 |
| ERP27  | 12         | 12:15085950    |              | 0.0353         | 2.62E-09  |
| ERV3-1 | 7          | 7:64446245     |              | 0.321          | 6.93E-45  |
| ERVF4-1| 6          | 6:11095317     |              | 0.033          | 6.74E-13  |
| ESD    | 13         | 13:47371659    |              | 0.0367         | 1.86E-17  |
| ESF1   | 20         | 20:13704953    |              | 0.0371         | 6.79E-10  |
| ESPN   | 1          | 1:6487031      |              | -0.138         | 3.06E-62  |
| ESYT2  | 7          | 7:158521732    |              | -0.0853        | 4.11E-84  |
| ETAA1  | 2          | 2:67587192     |              | 0.065          | 2.96E-21  |
| ETFA   | 15         | 15:76603679    |              | -0.135         | 1.43E-82  |
| ETFB   | 19         | 19:51850290    |              | -0.0381        | 1.66E-32  |
| ETFDH  | 4          | 4:159601676    |              | 0.0732         | 3.86E-41  |
| ETS1   | 11         | 11:12833052    |              | 0.0317         | 6.57E-13  |
| ETS2   | 21         | 21:40206859    |              | 0.034          | 1.73E-18  |
| ETV5   | 3          | 3:185822353    |              | -0.045         | 4.33E-16  |
| ETV7   | 6          | 6:36385935     |              | -0.0674        | 8.66E-62  |
| EVA1C  | 21         | 21:33787602    |              | -0.0362        | 2.97E-12  |
| EVI2A  | 17         | 17:29671327    |              | -0.0923        | 9.92E-53  |
| EVI2B  | 17         | 17:29590121    |              | -0.0913        | 1.37E-11  |
| EVI5   | 1          | 1:93266838     |              | -0.0904        | 2.26E-36  |
| EXO5   | 1          | 1:41005412     |              | -0.15          | 8.67E-45  |
| EXOC1  | 4          | 4:56770708     |              | -0.0431        | 2.89E-16  |
| EXOC2  | 6          | 6:671354       |              | -0.063         | 1.77E-76  |
| EXOC3  | 5          | 5:457261       |              | 0.117          | 2.02E-191 |
| EXOC4  | 7          | 7:132980371    |              | 0.0704         | 7.02E-24  |
| EXOC7  | 17         | 17:74083905    |              | -0.0163        | 1.69E-09  |
| EXOC8  | 1          | 1:231461261    |              | -0.0328        | 1.17E-17  |
| EXOSC1 | 10         | 10:99205731    |              | 0.104          | 1.15E-50  |
| EXOSC10| 13         | 13:37583831    |              | 0.134          | 1.55E-150 |
| EXOSC9 | 4          | 4:122729251    |              | -0.0505        | 1.94E-32  |
| Gene  | Chromosome | Start | Stop  | Width | t-Statistic | p-value |
|-------|------------|-------|-------|-------|-------------|---------|
| EXPH5 | 11:108464209 | 0.0519 | 0.00314 | 5.94E-60 |
| EXT1  | 8:118770151   | -0.0581 | 0.00513 | 2.01E-29 |
| EXT2  | 11:44087989   | -0.104  | 0.00439 | 2.85E-118 |
| EXTL2 | 1:101363666   | 0.0792  | 0.0116  | 1.12E-11  |
| EYA3  | 1:28416157    | -0.364  | 0.00949 | 5.95E-284 |
| EZH2  | 7:148525904   | 0.0536  | 0.00695 | 2.85E-118 |
| F11R  | 1:161000113   | -0.0407 | 0.00465 | 2.74E-18  |
| F13A1 | 6:6333084     | 0.0792  | 0.0116  | 1.12E-11  |
| F2R   | 5:76037551    | 0.0744  | 0.00703 | 7.31E-26  |
| F2RL1 | 7:76114963    | -0.174  | 0.00522 | 1.46E-221 |
| F5    | 1:169540080   | 0.154   | 0.00688 | 1.46E-106 |
| FAAH  | 1:46898063    | -0.016  | 0.0027  | 3.68E-09  |
| FADD  | 11:70049523   | 0.0406  | 0.00313 | 5.15E-38  |
| FADS1 | 11:61556039   | -0.115  | 0.00538 | 2.65E-97  |
| FADS2 | 11:61546592   | -0.273  | 0.00604 | <1.0E-314 |
| FAH   | 15:80473662   | 0.0811  | 0.00641 | 3.15E-36  |
| FAHD1 | 16:1886022    | 0.236   | 0.0119  | 1.43E-84  |
| FAIM3 | 1:207080565   | -0.0685 | 0.00457 | 1.17E-49  |
| FAM102A | 9:130699319 | -0.0743 | 0.00931 | 1.77E-15  |
| FAM104A | 17:71188992 | 0.0543  | 0.00715 | 3.79E-14  |
| FAM105A | 5:14572712  | -0.103  | 0.0163  | 3.20E-10  |
| FAM105B | 5:14654464  | -0.0501 | 0.00565 | 1.04E-18  |
| FAM107B | 10:14562793 | 0.0563  | 0.00366 | 2.54E-52  |
| FAM110A | 20:826492   | 0.0453  | 0.00331 | 6.84E-42  |
| FAM114A1 | 4:38878081 | -0.045  | 0.00659 | 9.60E-12  |
| FAM114A2 | 5:153390416 | 0.052   | 0.00313 | 1.47E-60  |
| FAM117B | 2:203491699 | 0.193   | 0.00487 | 2.29E-300 |
| FAM118A | 22:45690275 | -2.14   | 0.0317  | <1.0E-314 |
| FAM118B | 11:126060666| -0.0894 | 0.00502 | 7.16E-69  |
| FAM120B | 6:170635900 | 0.053   | 0.00371 | 1.58E-45  |
| FAM126A | 7:23036691  | -0.167  | 0.0136  | 3.53E-34  |
| FAM126B | 2:201858087 | -0.127  | 0.0203  | 4.61E-10  |
| FAM134A | 2:220041928 | 0.0255  | 0.00426 | 2.38E-09  |
| FAM135A | 6:71192813  | 0.0993  | 0.0058  | 6.84E-64  |
| FAM136A | 2:70506809  | 0.0467  | 0.00728 | 1.51E-10  |
| FAM13A  | 4:89848583   | -0.105  | 0.00609 | 2.58E-64  |
| FAM151B | 5:79782137  | 0.0903  | 0.00657 | 3.35E-42  |
| FAM153B | 5:175556054 | -0.265  | 0.0438  | 1.60E-09  |
| FAM159A | 1:53100880  | -0.0335 | 0.00506 | 3.59E-11  |
| Gene       | Chromosome | Position   | Z-score | P-value     | FDR          |
|------------|------------|------------|---------|-------------|--------------|
| FAM160A2   | 11:6228594 | 0.0492     | 9.93E-57 |
| FAM160B1   | 10:116604344| 0.0423     | 8.65E-35 |
| FAM168B    | 10:116604344| 0.0423     | 8.65E-35 |
| FAM173B    | 5:10270030 | -0.119     | 1.25E-14 |
| FAM174A    | 5:99970339 | 0.243      | 8.21E-76 |
| FAM175A    | 4:84397133 | -0.644     | 2.22E-62 |
| FAM177A1   | 14:35499482| 0.0721     | 6.37E-56 |
| FAM177B    | 1:222940752| 0.117      | 4.24E-52 |
| FAM178A    | 10:102674531| -0.0323    | 4.82E-15 |
| FAM184A    | 6:119247734| -0.0288    | 1.96E-21 |
| FAM188A    | 10:15843462| 0.0425     | 2.38E-12 |
| FAM194A    | 3:150419164| -0.0246    | 5.04E-13 |
| FAM198B    | 4:159018833| -0.34      | 3.87E-156|
| FAM19A1    | 3:68169693 | 0.192      | 2.53E-133|
| FAM19A2    | 12:62631026| -0.14      | 3.17E-81 |
| FAM208B    | 10:5850664 | 0.0366     | 9.37E-10 |
| FAM210B    | 20:54935242| -0.0723    | 2.80E-23 |
| FAM212B    | 1:112238216| -0.0917    | 1.10E-21 |
| FAM213A    | 10:82203293| 0.0921     | 3.06E-53 |
| FAM216A    | 12:110897202| 0.0749    | 5.60E-40 |
| FAM220A    | 7:6371100  | -0.0472    | 1.61E-44 |
| FAM227B    | 15:49592511| -0.0287    | 5.94E-16 |
| FAM228A    | 2:24371691 | -0.0242    | 8.38E-18 |
| FAM3B      | 21:42659676| -0.663     | <1.0E-314|
| FAM43A     | 3:194403491| -0.0575    | 3.81E-56 |
| FAM46C     | 1:118154575| 0.0937     | 5.25E-27 |
| FAM47E     | 4:77227485 | 0.0896     | 8.07E-38 |
| FAM53A     | 4:1650891  | 0.0346     | 3.18E-09 |
| FAM53C     | 5:137673167| -0.0197    | 6.82E-10 |
| FAM63B     | 15:59063196| 0.104      | 8.78E-74 |
| FAM65A     | 16:67607848| 0.0394     | 2.03E-13 |
| FAM65B     | 6:24819447 | 0.02       | 9.42E-10 |
| FAM76B     | 11:95533557| 0.081      | 4.73E-122|
| FAM81B     | 5:94810950 | -0.0408    | 6.08E-16 |
| FAM82A1    | 2:38153486 | -0.0984    | 1.17E-87 |
| FAM82B     | 8:87491951 | 0.0431     | 7.23E-23 |
| FAM83A     | 8:124187620| -0.0339    | 2.28E-10 |
| FAM84B     | 8:127516678| 0.0888     | 7.46E-42 |
| FAM91A1    | 8:124785708| 0.115      | 2.44E-15 |
| Gene   | Chromosome   | Position     | Z-score | P-value   | Adj. P-value |
|--------|--------------|--------------|---------|-----------|--------------|
| FAM92A1 | 8:94771530   | -0.0346      | 5.47E-11|
| FAM96A  | 15:64416621  | 0.0366       | 8.82E-11|
| FAM98C  | 19:38899548  | -0.0469      | 4.08E-16|
| FAN1    | 15:31157666  | -0.141       | 6.27E-278|
| FANCA   | 16:89825464  | 0.058        | 1.25E-124|
| FANCD2  | 3:10067651   | 0.0651       | 3.92E-52|
| FANCF   | 11:22665932  | -0.0427      | 5.57E-14|
| FANCI   | 15:89869329  | 0.0523       | 1.05E-15|
| FANCL   | 2:58468569   | -0.462       | 7.91E-88|
| FANK1   | 10:127680550 | -0.0718      | 2.49E-39|
| FAR2    | 12:29491528  | -0.06        | 6.52E-33|
| FARP1   | 13:99102279  | -0.0261      | 1.60E-35|
| FARP2   | 2:242395674  | 0.0552       | 5.70E-96|
| FARS2   | 6:5258730    | -0.221       | 3.18E-18|
| FARS8   | 19:13073068  | 0.0379       | 1.08E-09|
| FAS     | 10:90751516  | -0.104       | 1.81E-97|
| FASTK   | 7:150750980  | 0.0231       | 2.36E-15|
| FASTKD1 | 2:170429975  | -0.0816      | 2.38E-45|
| FASTKD3 | 5:7860404    | -0.0708      | 1.63E-54|
| FAT2    | 5:150838293  | 0.0125       | 2.79E-10|
| FBLN5   | 14:92339850  | 0.0397       | 4.66E-50|
| FBN1    | 15:48934858  | 0.04         | 1.68E-70|
| FBN2    | 5:127752157  | -0.28        | <1.0E-314|
| FBXL13  | 7:102618968  | -0.75        | 2.82E-112|
| FBXL17  | 5:107574367  | 0.0263       | 1.80E-20|
| FBXL18  | 7:5511470    | -0.0454      | 2.66E-10|
| FBXL4   | 6:99433539   | 0.038        | 9.95E-26|
| FBXL5   | 4:15665083   | 0.0568       | 8.11E-33|
| FBXO10  | 9:37598317   | 0.118        | 7.21E-59|
| FBXO15  | 18:71815063  | 0.0488       | 6.63E-12|
| FBXO18  | 10:5945672   | -0.0253      | 8.84E-20|
| FBXO28  | 1:224315198  | -0.0316      | 1.22E-11|
| FBXO3   | 11:33792977  | -0.065       | 1.22E-63|
| FBXO30  | 6:146177815  | 0.0548       | 9.98E-14|
| FBXO32  | 8:124525377  | 0.0541       | 8.54E-10|
| FBXO33  | 14:39884876  | -0.0245      | 2.16E-12|
| FBXO34  | 14:55811327  | 0.0329       | 2.37E-20|
| FBXO42  | 1:16590230   | 0.0602       | 1.16E-57|
| Gene   | Chromosome | Log2 Fold Change | p-Value  | Adjusted p-Value |
|--------|------------|------------------|----------|-----------------|
| FBXO7  | 22         | 0.0675           | 2.27E-20 |                 |
| FBXW2  | 9          | -0.0333          | 3.91E-23 |                 |
| FBXW8  | 12         | -0.175           | 2.10E-267|                 |
| FCAR   | 19         | -0.15            | 1.52E-53 |                 |
| FCER1G | 1          | -0.204           | 4.03E-196|                 |
| FCGBP  | 19         | 0.12             | 3.75E-83 |                 |
| FCG1A  | 1          | -0.355           | 5.07E-28 |                 |
| FCG2A  | 1          | 0.0472           | 2.47E-28 |                 |
| FCG2B  | 1          | 0.234            | 4.27E-38 |                 |
| FCGRT  | 19         | 0.105            | 1.80E-15 |                 |
| FCHO1  | 19         | 0.0406           | 1.49E-27 |                 |
| FCHO2  | 5          | 0.12             | 2.10E-57 |                 |
| FCN1   | 9          | -0.192           | 6.37E-263|                 |
| FCN2   | 9          | -0.0188          | 7.11E-10 |                 |
| FCRL1  | 1          | -0.116           | 4.76E-36 |                 |
| FCRL3  | 1          | 0.165            | 6.27E-164|                 |
| FCRL5  | 1          | -0.276           | 3.04E-295|                 |
| FCRLB  | 1          | 0.0443           | 3.95E-10 |                 |
| FDFT1  | 8          | 0.128            | 7.66E-220|                 |
| FDX1   | 11         | -0.0449          | 1.93E-18 |                 |
| FECH   | 18         | 0.265            | 2.27E-25 |                 |
| FEM1A  | 19         | 0.0408           | 2.23E-17 |                 |
| FEM1C  | 5          | 0.0663           | 1.53E-94 |                 |
| FERMT3 | 11         | 0.0312           | 6.72E-18 |                 |
| FEZ2   | 2          | -0.0738          | 9.63E-93 |                 |
| FGD2   | 6          | 0.0449           | 3.45E-13 |                 |
| FGD3   | 9          | -0.0936          | 1.51E-58 |                 |
| FGD4   | 12         | -0.0397          | 6.63E-10 |                 |
| FGD6   | 12         | 0.0995           | 2.17E-33 |                 |
| FGF2   | 4          | 0.0465           | 1.13E-14 |                 |
| FGF2BP2| 4          | 0.166            | 8.50E-88 |                 |
| FGFR1  | 8          | 0.0431           | 5.68E-73 |                 |
| FGFR1OP| 6          | -0.245           | 1.12E-65 |                 |
| FGFR2  | 10         | 0.17             | <1.0E-314|                 |
| FGGY   | 1          | -0.0691          | 4.64E-30 |                 |
| FGL2   | 7          | 0.0986           | 2.04E-11 |                 |
| FHIT   | 3          | 0.263            | 7.18E-27 |                 |
| FHL2   | 2          | -0.0323          | 1.61E-10 |                 |
| FHL3   | 1          | -0.322           | 6.68E-71 |                 |
FIG4  6:110051141  0.0436  0.0035  5.31E-35
FIGNL1  7:50515627  -0.0862  0.00472  4.48E-72
FIS1  7:100892196  0.175  0.0291  2.05E-09
FKBP1A  20:1323773  -0.0417  0.00593  2.14E-12
FKTN  9:108347398  0.0591  0.00441  2.05E-09
FLCN  17:17172160  0.0476  0.00312  1.83E-51
FLJ13197  4:38641936  -0.202  0.00638  2.72E-202
FLJ37201  10:91401407  -0.0581  0.00695  8.36E-17
FLJ40852  7:141459327  -0.0514  0.00375  4.78E-42
FLNB  3:58080960  0.0815  0.00963  3.27E-17
FLOT1  6:30756882  0.0927  0.00454  2.97E-13
FLOT2  17:27208589  -0.0455  0.00473  1.04E-21
FLT1  13:29039871  0.0477  0.00441  6.06E-27
FLT3  13:28697891  -0.467  0.053  1.63E-18
FLVCR1  1:213035671  -0.139  0.00515  5.09E-150
FLVCR1-AS1  1:213010589  -0.253  0.00579  <1.0E-314
FLVCR2  14:76085273  -0.045  0.00385  3.49E-31
FLYWCH1  16:2986323  0.123  0.00489  2.97E-132
FLYWCH2  16:2955700  0.0452  0.00607  1.17E-13
FMNL2  2:153416838  -0.0298  0.0046  1.10E-10
FMNL3  12:50063768  0.0352  0.00491  8.41E-13
FMO5  1:146673999  -0.0679  0.00969  2.14E-12
FN1  2:216214791  0.0258  0.00239  5.13E-27
FN3K  17:80696692  0.224  0.00709  3.14E-200
FN3KRP  17:80667812  0.134  0.00922  7.29E-47
FNBP1  9:132657208  0.0245  0.00375  7.62E-11
FNBP1L  1:93911011  -0.482  0.0141  6.59E-231
FNDC3A  13:49593015  -0.0969  0.0122  2.31E-15
FNDC5  1:33319277  0.0308  0.00514  2.23E-09
FNTB  14:65500149  -0.0535  0.00629  2.36E-17
FOCAD  9:20652462  -0.0635  0.00931  1.04E-11
FOLR3  11:71844701  -1.92  0.0425  <1.0E-314
FOPNL  16:15975829  0.0371  0.00495  7.43E-14
FOXJ2  12:8210637  0.0271  0.0032  3.51E-17
FOXK2  17:80551319  -0.14  0.019  1.66E-13
FOXN2  2:48554955  -0.103  0.00619  8.45E-61
FOXN3  14:89805934  -0.0256  0.0039  6.13E-11
FOXN3-AS2  14:90043381  -0.157  0.00991  5.73E-55
FOXQ1  6:1286450  -0.0274  0.00345  2.69E-15
| Gene   | Chromosome | Base Pair | rsID   | Gene Symbol | Type | p-value   |
|--------|------------|-----------|--------|-------------|------|-----------|
| FOXRED1 | 11         | 126148432 | 11:126148432 | 0.0363 | 0.00343   | 6.81E-26 |
| FOXRED2 | 22         | 36901622  | 22:36901622 | -0.0437 | 0.00343   | 4.25E-262 |
| FPGT    | 1          | 74667686  | 1:74667686  | 0.153  | 0.00416   | 1.22E-13  |
| FPR1    | 19         | 52276665  | 19:52276665 | 0.0809 | 0.00509   | 1.07E-55  |
| FPR2    | 19         | 52276665  | 19:52276665 | 0.237  | 0.00679   | 1.22E-240 |
| FPR3    | 19         | 52270939  | 19:52270939 | -0.118 | 0.0139    | 1.90E-17  |
| FRA10AC1 | 10        | 95422045  | 10:95422045 | 0.227  | 0.00562   | <1.0E-314 |
| FRAT1   | 10         | 99100432  | 10:99100432 | -0.0848 | 0.0055    | 1.61E-52  |
| FRAT2   | 10         | 99115683  | 10:99115683 | -0.0487 | 0.0037    | 6.01E-39  |
| FRMD3   | 9          | 86079180  | 9:86079180  | 0.0716 | 0.00772   | 2.35E-20  |
| FRMD4A  | 10         | 13747195  | 10:13747195 | 0.0234 | 0.0032    | 3.40E-13  |
| FRS2    | 12         | 69908429  | 12:69908429 | -0.0871 | 0.0105    | 1.84E-16  |
| FRY     | 13         | 32683295  | 13:32683295 | -0.107 | 0.0116    | 4.04E-20  |
| FSD1L   | 9          | 108210212 | 9:108210212 | 0.0718 | 0.00643   | 1.16E-28  |
| FST     | 5          | 52778262  | 5:52778262  | -0.389 | 0.0204    | 9.59E-79  |
| FTH1    | 11         | 61731727  | 11:61731727 | 0.245  | 0.0191    | 3.01E-37  |
| FTO     | 16         | 53873977  | 16:53873977 | 0.0429 | 0.00693   | 6.28E-10  |
| FTSJ3   | 17         | 61913214  | 17:61913214 | 0.0335 | 0.00383   | 2.82E-18  |
| FTSJD1  | 16         | 71292172  | 16:71292172 | -0.0394 | 0.0032    | 6.94E-33  |
| FUBP1   | 1          | 78453699  | 1:78453699  | -0.0492 | 0.00666   | 1.72E-13  |
| FUCA1   | 1          | 24201919  | 1:24201919  | 0.244  | 0.00989   | 4.05E-127 |
| FUCA2   | 6          | 143825104 | 6:143825104 | -0.0309 | 0.00493   | 4.03E-10  |
| FUT10   | 8          | 33276407  | 8:33276407  | -0.265 | 0.00657   | <1.0E-314 |
| FUT2    | 19         | 49201217  | 19:49201217 | 0.0405 | 0.00552   | 2.70E-13  |
| FUT7    | 9          | 139933589 | 9:139933589 | -0.228 | 0.0176    | 1.40E-37  |
| FUT8    | 14         | 65860092  | 14:65860092 | 0.0399 | 0.00445   | 4.03E-19  |
| FXN     | 9          | 71690963  | 9:71690963  | -0.0625 | 0.0048    | 4.11E-38  |
| FXYD5   | 19         | 35677210  | 19:35677210 | -0.119 | 0.00448   | 6.61E-147 |
| FXYD6   | 11         | 117708625 | 11:117708625 | 0.0664 | 0.00715   | 2.47E-20  |
| FYB     | 5          | 39116820  | 5:39116820  | -0.0571 | 0.00448   | 8.94E-37  |
| FYCO1   | 3          | 45963497  | 3:45963497  | -0.0256 | 0.00291   | 2.00E-18  |
| FYN     | 6          | 112099797 | 6:112099797 | -0.034  | 0.00417   | 4.36E-16  |
| FYTTD1  | 3          | 197498635 | 3:197498635 | -0.0876 | 0.00563   | 2.55E-53  |
| FZD3    | 8          | 28436650  | 8:28436650  | 0.0818 | 0.00687   | 2.56E-32  |
| FZD5    | 2          | 208629381 | 2:208629381 | 0.0858 | 0.00602   | 3.42E-45  |
| FZD6    | 8          | 104345778 | 8:104345778 | 0.12   | 0.00428   | 1.44E-160 |
| G0S2    | 1          | 209824899 | 1:209824899 | 0.098  | 0.0114    | 8.99E-18  |
| G3BP2   | 4          | 76564611  | 4:76564611  | 0.0254 | 0.0026    | 2.62E-22  |
| GAA     | 17         | 78064064  | 17:78064064 | -0.0521 | 0.00261   | 1.48E-85  |
| Gene   | Position | Log2 Fold Change | Standard Deviation | p-Value  |
|--------|----------|-----------------|--------------------|----------|
| GAB2   | 11:77948095 | -0.0909         | 0.00602            | 1.58E-50 |
| GABARAPL1 | 12:10381873 | 0.11            | 0.0127             | 7.43E-18 |
| GABBR1 | 6:29626154  | 0.11            | 0.00901            | 1.13E-33 |
| GABPB1 | 15:50585337 | 0.0254          | 0.0037             | 7.08E-12 |
| GABPB2 | 1:151028929 | -0.0553         | 0.0058             | 2.50E-21 |
| GABRB1 | 4:47413121  | 0.022           | 0.00324            | 1.26E-11 |
| GABRG1 | 4:46099034  | -0.2            | 0.0221             | 1.73E-19 |
| GABRR2 | 6:90032082  | -0.051          | 0.00412            | 9.18E-35 |
| GAD1   | 2:171678269 | -0.103          | 0.00915            | 3.17E-29 |
| GAL    | 11:68402220 | -0.0662         | 0.00781            | 3.14E-17 |
| GALC   | 14:88459150 | 0.0707          | 0.00451            | 3.54E-54 |
| GALK2  | 15:49614081 | 0.0462          | 0.00361            | 6.54E-37 |
| GALNS  | 16:88913946 | -0.0257         | 0.00262            | 1.38E-22 |
| GALNT1 | 18:33188845 | 0.045           | 0.00405            | 2.09E-28 |
| GALNT10| 5:153552873 | 0.0433          | 0.00468            | 3.21E-20 |
| GALNT14| 2:31235581  | 0.0397          | 0.00311            | 1.11E-36 |
| GALNT4 | 12:89907166 | 0.0429          | 0.00559            | 1.90E-14 |
| GALNT5 | 2:158117683 | 0.227           | 0.0301             | 4.71E-14 |
| GALNT6 | 12:51785401 | -0.057          | 0.00289            | 2.43E-83 |
| GALNT7 | 4:174092791 | -0.0344         | 0.00339            | 5.07E-24 |
| GALNT8 | 12:4781448  | -0.0493         | 0.00793            | 5.56E-10 |
| GART   | 21:34898740 | 0.0218          | 0.00359            | 1.48E-09 |
| GAS2   | 11:22682639 | -0.0655         | 0.00616            | 3.85E-26 |
| GAS7   | 17:9815187  | -0.115          | 0.00557            | 1.99E-91 |
| GAS8   | 16:90149077 | -0.0685         | 0.0111             | 8.61E-10 |
| GATAD1 | 7:92097529  | 0.0558          | 0.00541            | 1.05E-24 |
| GATAD2A| 19:19605763 | -0.0884         | 0.0026             | 1.75E-22 |
| GATC   | 12:120902279| -0.0255         | 0.00429            | 2.85E-09 |
| GATM   | 15:45633270 | 0.126           | 0.00579            | 1.47E-100|
| GATS   | 7:99809835  | -0.0538         | 0.00442            | 1.08E-33 |
| GBA    | 1:155214066 | -0.0466         | 0.00467            | 3.39E-23 |
| GBA2   | 9:35752252  | -0.0506         | 0.00288            | 5.67E-67 |
| GBP1   | 1:155214473 | 0.172           | 0.00491            | 6.31E-242|
| GBA5   | 7:56033558  | 0.0364          | 0.00503            | 5.27E-13 |
| GBE1   | 3:81769493  | 0.0527          | 0.00489            | 7.11E-27 |
| GBP3   | 1:89456659  | 0.225           | 0.00552            | <1.0E-314|
| GBP4   | 1:89704458  | 0.0651          | 0.00978            | 3.10E-11 |
| GBP5   | 1:89742521  | 0.0882          | 0.0113             | 6.71E-15 |
| GCAT   | 22:38205060 | -0.104          | 0.00461            | 4.51E-108|
| Gene   | Chromosome | Gene Symbol | Freq. | p-value | OR   | Log2 OR |
|--------|------------|-------------|-------|---------|------|---------|
| GCC2   | 2:109038026| GCC2        | 0.237 | 0.00435 | <1.0E-314 |
| GCFC2  | 2:75893853 | GCFC2       | -0.0473 | 0.00391 | 3.43E-33 |
| GCH1   | 14:55359653| GCH1        | 0.111 | 0.00763 | 1.53E-25 |
| GCLM   | 1:94372009 | GCLM        | 0.0521 | 0.00609 | 1.69E-17 |
| GCM1   | 6:53050717 | GCM1        | 0.0564 | 0.00537 | 1.53E-25 |
| GCNT2  | 6:10534503 | GCNT2       | 0.196 | 0.00501 | 7.72E-294 |
| GCNT4  | 5:74349933 | GCNT4       | 0.231 | 0.019 | 2.08E-33 |
| GCOM1  | 15:57855677| GCOM1       | -0.299 | 0.0057 | <1.0E-314 |
| GCSAM  | 3:111860222| GCSAM       | 0.0563 | 0.00598 | 7.35E-21 |
| GDAP1  | 8:75272727 | GDAP1       | -0.0661 | 0.00584 | 2.36E-29 |
| GDE1   | 16:19505990| GDE1        | 0.0985 | 0.00804 | 5.31E-34 |
| GDI2   | 10:5855403 | GDI2        | 0.103 | 0.00392 | 1.90E-143 |
| GDPD3  | 16:30155290| GDPD3       | 0.111 | 0.00935 | 5.48E-33 |
| GDPD5  | 11:75215421| GDPD5       | -0.025 | 0.00226 | 4.39E-28 |
| GEN1   | 2:17974041 | GEN1        | 0.0355 | 0.00571 | 5.49E-10 |
| GET4   | 7:867405   | GET4        | 0.0179 | 0.00298 | 1.89E-09 |
| GFER   | 16:2037108 | GFER        | 0.0683 | 0.00508 | 1.47E-40 |
| GFM2   | 5:74081943 | GFM2        | 0.0493 | 0.00403 | 6.86E-34 |
| GFPT1  | 2:69598243 | GFPT1       | -0.0773 | 0.00326 | 3.37E-118 |
| GGACT  | 13:101241720| GGACT      | -0.215 | 0.0244 | 1.50E-18 |
| GGCT   | 7:30577041 | GGCT        | -0.0281 | 0.00458 | 9.13E-10 |
| GGCX   | 2:85759588 | GGCX        | -0.039 | 0.00285 | 6.62E-42 |
| GGH    | 8:63884089 | GGH         | -0.0388 | 0.00557 | 3.88E-12 |
| GGNBP2 | 17:34866915| GGNBP2      | 0.0596 | 0.00282 | 3.23E-95 |
| GGPS1  | 1:235451482| GGPS1       | -0.186 | 0.00617 | 6.27E-185 |
| GGTA1P | 9:124264116| GGTA1P      | 0.374 | 0.01 | 2.92E-269 |
| GHITM  | 10:85898172| GHITM       | -0.102 | 0.00732 | 3.06E-43 |
| GHRLOS2| 3:10320865 | GHRLOS2     | -0.0582 | 0.00526 | 4.12E-28 |
| GHRLOS2| 3:10314602 | GHRLOS2     | -0.196 | 0.00584 | 9.94E-224 |
| GIF    | 11:59567968| GIF         | -0.127 | 0.0128 | 5.32E-23 |
| GIGYF2 | 2:233765133| GIGYF2      | 0.0264 | 0.00449 | 4.56E-09 |
| GIMAP1 | 7:150408032| GIMAP1      | 0.0749 | 0.00647 | 1.25E-30 |
| GIMAP2 | 7:150389677| GIMAP2      | 0.0841 | 0.005 | 6.71E-62 |
| GIMAP4 | 7:150254030| GIMAP4      | 0.149 | 0.0104 | 1.16E-45 |
| GIMAP5 | 7:150430711| GIMAP5      | -0.205 | 0.00468 | <1.0E-314 |
| GIMAP6 | 7:150335490| GIMAP6      | 0.0509 | 0.00399 | 1.25E-36 |
| GIMAP7 | 7:150215280| GIMAP7      | 0.148 | 0.00901 | 5.21E-59 |
| GIMAP8 | 7:150153813| GIMAP8      | -0.0448 | 0.00476 | 6.85E-21 |
| GIN1   | 5:102391465| GIN1        | 0.0843 | 0.00496 | 4.84E-63 |
| Gene | Chromosome | Start Position | End Position | Log2 Fold Change | | | P-Value |
|------|------------|----------------|--------------|-----------------|-----------------|-----------------|
| GINM1 | 6:149897455 | -0.102 | 0.00622 | 1.42E-58 |
| GINS1 | 20:25387465 | 0.038 | 0.00515 | 1.94E-13 |
| GIPC2 | 1:78478362 | -0.0399 | 0.00591 | 1.53E-11 |
| GIT1 | 17:27904711 | 0.0553 | 0.00297 | 5.43E-75 |
| GIT2 | 12:110473247 | -0.111 | 0.00777 | 3.15E-45 |
| GJA9 | 1:39325063 | 0.038 | 0.00515 | 1.94E-13 |
| GK3P | 4:166237058 | -0.143 | 0.0148 | 4.84E-22 |
| GK5 | 3:141932531 | 0.0398 | 0.00675 | 4.22E-09 |
| GKAP1 | 9:86394466 | 0.0581 | 0.00743 | 2.13E-109 |
| GLB1L | 2:220113728 | 0.169 | 0.00743 | 2.13E-109 |
| GLCC1 | 7:8067512 | 0.0831 | 0.00754 | 6.03E-28 |
| GLCE | 15:69548338 | -0.195 | 0.0158 | 1.84E-34 |
| GLE1 | 9:131308732 | 0.0919 | 0.0135 | 1.31E-11 |
| GLI1 | 12:57870155 | -0.0302 | 0.00251 | 7.09E-33 |
| GLIPR1 | 12:75871264 | -0.116 | 0.00524 | 5.83E-104 |
| GLIPR1L1 | 12:75799521 | -0.0769 | 0.00515 | 2.67E-50 |
| GLIPR1L2 | 12:75784773 | 0.152 | 0.00505 | 4.84E-183 |
| GLO1 | 6:38652456 | 0.0633 | 0.0044 | 3.98E-46 |
| GLRX | 5:95149966 | -0.148 | 0.00816 | 5.26E-71 |
| GLRX3 | 10:131934596 | 0.0899 | 0.00418 | 1.89E-98 |
| GLRX5 | 14:96009307 | 0.0424 | 0.00595 | 1.18E-12 |
| GLS | 2:191836562 | 0.0316 | 0.00335 | 5.04E-21 |
| GLT1D1 | 12:129360928 | 0.0816 | 0.00796 | 2.07E-24 |
| GLT2D1 | 19:17654964 | 0.0374 | 0.0042 | 6.93E-19 |
| GLT2D2 | 1:183937280 | 0.127 | 0.00367 | 3.24E-236 |
| GLTP | 12:110297809 | -0.0443 | 0.00543 | 4.23E-16 |
| GLTSCR1 | 19:48188809 | 0.0288 | 0.00239 | 4.59E-33 |
| GLTSCR2 | 19:48258717 | -0.0311 | 0.00401 | 4.22E-14 |
| GLUL | 1:182377078 | 0.0479 | 0.00481 | 4.31E-23 |
| GLYATL2 | 11:58638918 | -1.11 | 0.0293 | 5.99E-280 |
| GLYR1 | 16:4883781 | -0.025 | 0.00281 | 7.08E-19 |
| GM2A | 5:150597378 | -0.411 | 0.00898 | <1.0E-314 |
| GMDS | 6:2232808 | -0.19 | 0.0148 | 3.78E-37 |
| GMEB1 | 1:29003360 | -0.0526 | 0.00694 | 4.04E-14 |
| GNA12 | 7:2755237 | -0.116 | 0.00537 | 6.17E-100 |
| GNA15 | 19:3155902 | -0.0822 | 0.00732 | 6.06E-29 |
| GNAI1 | 7:79766896 | -0.0615 | 0.00787 | 6.36E-15 |
| GNAI3 | 1:110114611 | 0.038 | 0.00398 | 2.06E-21 |
| GNAO1 | 16:56254646 | 0.113 | 0.0167 | 1.50E-11 |
| Gene   | Chromosome | Position       | Mean    | Standard Deviation | t-Value  |
|--------|------------|----------------|---------|--------------------|----------|
| GNAQ   | 9:80630123 | 0.0319         | 0.00507 | 3.41E-10           |
| GNAS   | 20:57478807| -0.0402        | 0.00522 | 1.90E-11           |
| GNAZ   | 22:23455366| 0.0306         | 0.00455 | 6.82E-18           |
| GNB4   | 3:179166083| 0.0375         | 0.00433 | 2.42E-24           |
| GNB5   | 15:52452261| -0.0931        | 0.00767 | 2.18E-11           |
| GNE    | 9:36253826 | -0.029         | 0.0044  | 5.19E-11           |
| GNG11  | 7:93551428 | 0.214          | 0.0124  | 5.78E-65           |
| GNG2   | 14:52421031| 0.052          | 0.00511 | 4.24E-24           |
| GNG5   | 1:84953765 | -0.0717        | 0.0107  | 2.18E-11           |
| GNG8   | 19:47145973| 0.103          | 0.011   | 1.34E-20           |
| GNL3   | 3:52687566 | -0.0248        | 0.00356 | 3.53E-12           |
| GNLY   | 2:85933003 | -0.399         | 0.0119  | 5.68E-224          |
| GNPAT  | 1:23140891 | 0.0387         | 0.00419 | 3.51E-20           |
| GNPDA2 | 4:44706919 | -0.0391        | 0.00484 | 8.73E-16           |
| GNRH1  | 8:25280800 | 0.0796         | 0.00557 | 2.31E-45           |
| GNRHR  | 4:68579924 | -0.282         | 0.00736 | 1.03E-283          |
| GNS    | 12:65153273| 0.0544         | 0.00451 | 4.18E-33           |
| GOLGA1 | 9:127603814| 0.0223         | 0.00334 | 2.84E-11           |
| GOLGA3 | 12:133407523| -0.0699       | 0.00294 | 9.55E-119          |
| GOLGA5 | 14:93322590| -0.114         | 0.00944 | 4.77E-33           |
| GOLGA6L9| 15:82691423| -0.258         | 0.0328  | 4.38E-15           |
| GOLGA7 | 8:41352161 | -0.0854        | 0.00392 | 1.13E-100          |
| GOLGA8B| 15:34890377| 0.721          | 0.041   | 2.61E-67           |
| GOLIM4 | 3:167838679| -0.0488        | 0.00513 | 2.93E-21           |
| GOLM1  | 9:88692049 | 0.0834         | 0.00495 | 4.78E-62           |
| GOLPH3L| 1:150709785| -0.0537        | 0.00517 | 4.31E-25           |
| GOLT1B | 12:21626944| -0.0453        | 0.00488 | 2.26E-20           |
| GORAB  | 1:170507904| 0.0992         | 0.00598 | 2.33E-60           |
| GOSR1  | 17:28825756| -0.0448        | 0.00568 | 3.80E-15           |
| GP6    | 19:55501866| -0.0725        | 0.00452 | 1.83E-56           |
| GPAM   | 10:113908060| -0.0296      | 0.00338 | 2.62E-18           |
| GPANK1 | 6:31632808 | -0.122         | 0.0163  | 6.34E-14           |
| GPATCH1| 19:33604175| 0.0376         | 0.00417 | 3.07E-19           |
| GPATCH2L | 14:76606406| -0.0458        | 0.00342 | 3.22E-40           |
| GPBP1L1| 1:46178112 | 0.0383         | 0.00334 | 4.69E-30           |
| GPCPD1 | 20:5626343 | -0.07          | 0.00485 | 2.43E-46           |
| GPD1L  | 3:32204518 | 0.0808         | 0.00406 | 3.74E-85           |
| GPD2   | 2:157305763| -0.136         | 0.00423 | 2.37E-207          |
| GPHN   | 14:67009600| 0.0816         | 0.0135  | 1.64E-09           |
| Gene | Chromosome | Position   | logFC  | FDR  | p-value   |
|------|------------|------------|--------|------|-----------|
| GPI  | 19:34919940| -0.052     | 0.00759| 8.47E-12|
| GPLD1| 6:24491341 | 0.0378     | 0.00284| 1.77E-11|
| GPM6A| 4:176935634| 0.105      | 0.00682| 4.46E-52|
| GPN2 | 1:27182984 | -0.0181    | 0.00301| 2.06E-09|
| GPN3 | 12:110857694| 0.184      | 0.00549| 2.33E-222|
| GPNMB| 7:23278283 | 0.0586     | 0.00336| 3.91E-66|
| GPR108| 19:6737063 | -0.0375    | 0.00556| 1.77E-11|
| GPR114| 16:57578966| 0.0187     | 0.00302| 6.69E-10|
| GPR126| 6:142753338| 0.0239     | 0.00262| 8.66E-20|
| GPR128| 3:100321173| -1.05      | 0.0244 | <1.0E-314|
| GPR133| 12:131467623| 0.141     | 0.0124 | 8.90E-30|
| GPR135| 14:59980614| -0.0315    | 0.00272| 1.09E-30|
| GPR137B| 1:236312326| -0.119     | 0.0074 | 4.75E-57|
| GPR141| 7:37732623 | -0.124     | 0.00877| 1.59E-44|
| GPR146| 7:1063593  | -0.382     | 0.0152 | 7.42E-132|
| GPR155| 2:175354156| 0.0938     | 0.00604| 3.60E-53|
| GPR160| 3:169765795| -0.195     | 0.00875| 1.96E-105|
| GPR162| 12:6901077 | -0.0913    | 0.0043 | 8.19E-96|
| GPR180| 13:95253920| 0.153      | 0.0044 | 1.30E-239|
| GPR22 | 7:107127496| -0.118     | 0.00861| 2.76E-42|
| GPR52 | 1:174423131| -0.0967    | 0.00897| 7.72E-27|
| GPR63 | 6:97294970 | -0.1      | 0.00905| 4.55E-28|
| GPR65 | 14:88426154| 0.0475     | 0.00523| 1.50E-19|
| GPR83 | 11:94136161| -0.0312    | 0.00458| 1.13E-11|
| GPR97 | 16:57713536| -0.103     | 0.00814| 7.66E-36|
| GPRC5C| 17:72425499| -0.113     | 0.00803| 2.34E-44|
| GPRC5D| 12:13091286| -0.0469    | 0.00765| 9.48E-10|
| GPX2 | 14:65404442| 0.0958     | 0.00623| 2.63E-52|
| GPX3 | 5:150403098| 0.0461     | 0.00516| 5.53E-19|
| GPX4 | 19:1103465 | -0.099     | 0.00459| 9.32E-99|
| GPX7 | 1:53073556 | -0.0396    | 0.00382| 6.25E-25|
| GRAMD1A| 19:35490861| 0.0325     | 0.00233| 1.98E-43|
| GRAMD1B| 11:123355391| -0.0356   | 0.00603| 3.76E-09|
| GRAMD1C| 3:113557690| 0.257      | 0.0111 | 6.25E-112|
| GRAMD4| 22:47007378| -0.0337    | 0.00435| 1.01E-14|
| GRAP | 17:18924188 | 0.162      | 0.019  | 1.66E-17|
| GRB10| 7:50817513 | -0.0472    | 0.00703| 2.15E-11|
| GRB14 | 2:165401801 | 0.13      | 0.00734| 7.63E-68|
| GRB2 | 17:73271758 | 0.0361     | 0.00395| 9.53E-20|
| Gene   | Chromosome | Start       | End         | Diff  | Std. Dev | P-Value   |
|--------|------------|-------------|-------------|-------|----------|-----------|
| GRHL1  | 2:10110019 | 0.027       | 0.00368     | 2.47E-13 |
| GRHPR  | 9:37422656 | -0.162      | 0.00456     | 4.93E-247 |
| GRIK1  | 21:30943987| -0.0252     | 0.00414     | 1.27E-09 |
| GRIK4  | 11:120779520| -0.0614    | 0.00334     | 1.04E-69 |
| GRIN3A | 9:104339000| -0.0249     | 0.00407     | 9.26E-10 |
| GRINA  | 8:145070403| 0.163       | 0.00728     | 3.43E-106 |
| GRK4   | 4:2954717  | -0.104      | 0.00728     | 3.79E-45 |
| GRK5   | 10:121064720| -0.0289    | 0.00374     | 1.35E-14 |
| GRK6   | 5:176857270| -0.0285     | 0.00362     | 4.49E-15 |
| GRN    | 17:42398802| -0.0813     | 0.00823     | 8.57E-23 |
| GSDMB  | 17:38020058| 0.324       | 0.00655     | <1.0E-314 |
| GSK3B  | 3:119850315| -0.0468     | 0.00398     | 1.38E-31 |
| GSKIP  | 14:96842676| -0.174      | 0.00665     | 1.00E-148 |
| GSN    | 9:124034809| -0.0497     | 0.00213     | 1.25E-114 |
| GSPT1  | 16:12021486| 0.315       | 0.00445     | 1.84E-12 |
| GSR    | 8:30560887 | -0.0454     | 0.00607     | 8.93E-14 |
| GSTA1  | 6:52658191 | -0.135      | 0.00923     | 2.52E-47 |
| GSTA3  | 6:52712691 | -0.234      | 0.0209      | 1.02E-28 |
| GSTA4  | 6:52849146 | 0.0375      | 0.00475     | 3.34E-15 |
| GSTCD  | 4:106664211| -0.0386     | 0.00407     | 3.67E-21 |
| GSTK1  | 7:142923787| 0.113       | 0.00827     | 8.36E-42 |
| GSTM1  | 1:110230073| 0.982       | 0.0359      | 2.90E-154 |
| GSTM2  | 1:110218486| -0.603      | 0.0318      | 1.43E-77 |
| GSTM3  | 1:110247164| 0.209       | 0.00516     | <1.0E-314 |
| GSTM4  | 1:110172362| 0.463       | 0.00882     | <1.0E-314 |
| GSTM5  | 1:110254396| 0.124       | 0.00694     | 6.67E-69 |
| GSTP1  | 11:67352689| 0.213       | 0.00639     | 2.43E-220 |
| GSTT1  | 22:24366720| 0.554       | 0.0129      | <1.0E-314 |
| GTF2A1 | 14:81701004| 0.04        | 0.00379     | 9.22E-26 |
| GTF2A2 | 15:59923729| 0.0834      | 0.00621     | 1.68E-40 |
| GTF2E2 | 8:30501232 | -0.0383     | 0.00405     | 4.57E-21 |
| GTF2F2 | 13:45694139| -0.208      | 0.00834     | 9.41E-130 |
| GTF2H1 | 11:18357270| -0.0314     | 0.00405     | 1.09E-14 |
| GTF2H4 | 6:30865386 | -0.126      | 0.0131      | 8.09E-22 |
| GTF2H5 | 6:158591478| 0.31        | 0.0365      | 2.43E-17 |
| GTF3A  | 13:27997305| 0.0248      | 0.00381     | 8.76E-11 |
| GTF3C3 | 2:19764437 | 0.122       | 0.017       | 7.59E-13 |
| GTPBP10| 7:89976025 | 0.223       | 0.0164      | 1.34E-41 |
| GTPBP4 | 10:1075488 | -0.0267     | 0.00389     | 7.91E-12 |
| Gene   | Chromosome | Start Position | Log2 Fold Change | p-value |
|--------|------------|----------------|------------------|---------|
| GTPBP5 | 20:60766599| -0.0207        | 0.0031           | 2.55E-11|
| GTSF1  | 12:54818211| -0.215         | 0.0218           | 6.64E-23|
| GUCD1  | 22:24938455| -0.0707        | 0.00902          | 5.60E-15|
| GUCY1B2| 13:51631607| -0.0515        | 0.00328          | 3.21E-54|
| GUCY2C | 12:14721568| -0.0868        | 0.00347          | 8.11E-131|
| GUF1   | 4:44727151 | 0.0849         | 0.00363          | 4.02E-115|
| GULP1  | 2:189365907| -0.0392        | 0.00543          | 6.30E-13|
| GUSB   | 7:65416536 | -0.069         | 0.0052           | 1.29E-39|
| GUSBP5 | 4:144443295| -0.119         | 0.00417          | 9.42E-167|
| GXYLT1 | 12:42516376| 0.0499         | 0.00594          | 6.03E-17|
| GYPB   | 16:25100933| 0.0893         | 0.0105           | 2.89E-17|
| GZMB   | 14:25100933| 0.0981         | 0.00735          | 1.16E-256|
| H1F0   | 12:48715162| -0.0243        | 0.00379          | 1.59E-10|
| H2AFJ  | 12:14958051| -0.0468        | 0.00421          | 2.00E-28|
| H2AFV  | 7:44910667 | -0.077         | 0.00581          | 1.83E-39|
| H2AFZ  | 4:100836788| 0.0469         | 0.0077           | 1.24E-09|
| H3F3B  | 17:73773000| -0.0756        | 0.00699          | 5.54E-27|
| HABP4  | 9:99212378 | 0.0599         | 0.00494          | 2.27E-33|
| HACE1  | 6:105142061| 0.037          | 0.0043           | 9.26E-18|
| HADH   | 4:108955622| 0.0404         | 0.00548          | 1.78E-13|
| HADHA  | 2:26424583 | -0.078         | 0.00469          | 1.94E-60|
| HAGH   | 16:1906352 | 0.155          | 0.0134           | 8.86E-31|
| HAL    | 12:96388182| -0.119         | 0.0058           | 2.91E-89|
| HAT1   | 2:172813241| 0.0604         | 0.005            | 3.70E-33|
| HAUS3  | 4:2234875  | -0.0391        | 0.00651          | 1.90E-09|
| HAUS4  | 14:23375251| 0.319          | 0.00643          | <1.0E-314|
| HAUS8  | 19:17211566| -0.0432        | 0.00585          | 1.77E-13|
| HAVCR1 | 5:156515406| 0.0727         | 0.00835          | 4.04E-18|
| HBE1   | 11:5239643 | -0.0598        | 0.00978          | 1.08E-09|
| HBM    | 16:216420  | -0.567         | 0.0536           | 6.06E-26|
| HBQ1   | 16:264642  | -0.049         | 0.00506          | 5.62E-22|
| HBS1L  | 6:135323203| 0.0626         | 0.00346          | 6.62E-71|
| HBZ    | 16:209950  | -1.39          | 0.0414           | 2.04E-223|
| HCAR2  | 12:123199826| -0.0967      | 0.00737          | 9.59E-39|
| Gene       | Chromosome Position | FDR  | p-value  |
|------------|---------------------|------|----------|
| HCAR3      | 12:123200099        | 0.191| 4.83E-140|
| HCG27      | 6:31175667          | 0.0797| 4.38E-46  |
| HCG4       | 6:29748308          | 0.0622| 8.14E-37  |
| HCG9       | 6:29934109          | 0.1   | 7.73E-42  |
| HCK        | 20:30640593         | 0.0456| 5.20E-16  |
| HCLS1      | 3:121411876         | 0.0459| 1.75E-38  |
| HCP5       | 6:31431691          | -0.132| 1.90E-48  |
| HDAC4      | 2:240264555         | -0.0113| 1.27E-09  |
| HDDC2      | 6:125596957         | -0.127| 8.62E-171 |
| HDGFRP3    | 15:83852620         | -0.241| 6.68E-26  |
| HEATR1     | 1:236714747         | -0.0377| 1.24E-10  |
| HEATR3     | 16:50089132         | 0.107 | 2.10E-202 |
| HEATR6     | 17:58167485         | -0.164| 2.46E-222 |
| HEBP1      | 12:13116794         | -0.301| <1.0E-314 |
| HEBP2      | 6:138725857         | 0.169 | 4.26E-90  |
| HECTD2     | 10:93172388         | -0.0791| 5.21E-34  |
| HECTD3     | 1:45491504          | -0.0237| 3.94E-11  |
| HEG1       | 3:124821561         | -0.129| 7.76E-10  |
| HELB       | 12:66756215         | -0.0496| 8.29E-36  |
| HELLS      | 10:96382128         | 0.138 | 1.72E-189 |
| HELQ       | 4:84394682          | -0.0261| 6.33E-10  |
| HEMGN      | 9:100720053         | -0.0845| 2.99E-17  |
| HEMK1      | 3:50630221          | 0.0583| 9.92E-36  |
| HERC1      | 15:64001876         | -0.0179| 3.47E-09  |
| HERC2      | 15:28419974         | -0.255 | <1.0E-314 |
| HERC3      | 4:89648845          | 0.0413| 4.11E-17  |
| HERC4      | 10:69872209         | 0.0773| 1.21E-14  |
| HERPUD1    | 16:56944947         | 0.037 | 3.89E-10  |
| HERPUD2    | 7:35756797          | 0.0202| 2.00E-10  |
| HEXB       | 5:73937854          | -0.0737| 5.41E-32  |
| HEXIM1     | 17:43226477         | 0.0302| 1.96E-20  |
| HEY1       | 8:80723932          | -0.1  | 1.24E-41  |
| HGS        | 17:79642731         | 0.0325| 1.25E-10  |
| HGSNAT     | 8:43091271          | -0.0883| 2.35E-09  |
| HHAT       | 1:210502184         | -0.0366| 1.16E-14  |
| gene  | chromosome | position   | log2 FC | p-value | adjusted p-value |
|-------|------------|------------|---------|---------|-----------------|
| HHEX  | 10:94432000 | 0.0423     | 0.00406 | 3.88E-25 |
| HIAT1 | 1:100543962 | 0.0443     | 0.00637 | 3.79E-12  |
| HIATL1| 9:97094721  | -0.956     | 0.0258  | 4.03E-267 |
| HIBADH| 7:27619594  | -0.0515    | 0.00413 | 3.58E-35  |
| HIBCH | 2:191193094 | 0.0659     | 0.00592 | 1.96E-28  |
| HIF1A | 14:62139577 | 0.0739     | 0.0119  | 6.11E-10  |
| HIF1AN| 10:102298855| 0.0757     | 0.00563 | 1.49E-40  |
| HIGD1B| 17:42927721 | 0.323      | 0.0193  | 4.54E-61  |
| HIGD2A| 5:175810837 | 0.199      | 0.0117  | 8.35E-63  |
| HILPDA| 7:128054100 | -0.0306    | 0.00471 | 8.41E-11  |
| HINT1 | 5:130501557 | 0.377      | 0.00623 | <1.0E-314 |
| HIP1  | 7:75245141  | 0.377      | 0.00623 | <1.0E-314 |
| HIST1H1D| 6:26229684 | -0.133     | 0.016   | 8.41E-17  |
| HIST1H2AB| 6:26033828 | -0.236     | 0.0177  | 1.01E-39  |
| HIST1H2AC| 6:26124634 | -0.083     | 0.00722 | 3.13E-30  |
| HIST1H2AE| 6:26221537 | 0.162      | 0.014   | 1.08E-30  |
| HIST1H2BD| 6:26171250 | 0.135      | 0.0071  | 2.93E-78  |
| HIST1H2BF| 6:26198845 | -0.216     | 0.00593 | 7.37E-259 |
| HIST1H2BG| 6:26234476 | -0.21      | 0.0173  | 2.61E-33  |
| HIST1H2BJ| 6:27080460 | 0.0368     | 0.00626 | 4.40E-09  |
| HIST1H2BK| 6:27137634 | -0.16      | 0.0177  | 2.52E-19  |
| HIST1H3B | 6:26028819 | 0.176      | 0.0105  | 4.63E-61  |
| HIST1H3D| 6:26190609  | 0.0924     | 0.00947 | 2.66E-22  |
| HIST1H3E| 6:26175832  | -0.422     | 0.0102  | <1.0E-314 |
| HIST1H3I | 6:27839746 | 0.216      | 0.0145  | 2.11E-49  |
| HIST1H4B| 6:26030710  | 0.331      | 0.0119  | 2.52E-159 |
| HIST1H4C| 6:26118570  | 0.223      | 0.00971 | 9.10E-111 |
| HIST1H4D| 6:26204506  | 0.0876     | 0.0117  | 7.05E-14  |
| HIST1H4E| 6:26229684  | 0.134      | 0.0167  | 1.09E-15  |
| HIST1H4F| 6:26242777  | -0.0885    | 0.00775 | 8.05E-30  |
| HIST1H4H| 6:26276650  | -0.179     | 0.00656 | 4.48E-153 |
| HIST1H4L| 6:27840926  | 0.493      | 0.023   | 1.78E-97  |
| HIST2H2BF| 1:149772497| 0.425      | 0.0424  | 2.02E-23  |
| HIST4H4| 12:14966165 | -0.0426    | 0.00589 | 5.77E-13  |
| HIVEP1 | 6:12127054  | 0.0498     | 0.00732 | 1.18E-11  |
| HK1   | 10:71001110 | -0.0365    | 0.00557 | 6.09E-11  |
| HK2   | 2:75085163  | -0.0421    | 0.00405 | 5.03E-25  |
| HKDC1 | 10:70979924 | 0.0394     | 0.00273 | 1.81E-46  |
| HKR1  | 19:37839871 | 0.0429     | 0.00368 | 5.63E-31  |
| Gene      | Chr | Position | Log2FC | P-value | Significance |
|-----------|-----|----------|--------|---------|--------------|
| HLA-B     | 6   | 31325235 | -0.263 | 1.09E-246 |
| HLA-DMA   | 6   | 32961104 | 0.0424 | 2.55E-09  |
| HLA-DMB   | 6   | 32904601 | 0.0647 | 1.07E-20  |
| HLA-DOA   | 6   | 32974401 | -0.027 | 2.07E-13  |
| HLA-DOB   | 6   | 32796856 | -0.601 | 8.89E-246 |
| HLA-DPA1  | 6   | 33025107 | 0.387  | <1.0E-314 |
| HLA-DPB1  | 6   | 33047031 | 0.401  | <1.0E-314 |
| HLA-DPB2  | 6   | 32678206 | -0.112 | 1.79E-39  |
| HLA-DQA2  | 6   | 32411035 | 0.0571 | 1.90E-35  |
| HLA-DRA   | 6   | 32569859 | -5.43  | <1.0E-314 |
| HLA-DRB1  | 6   | 32436217 | -2.58  | <1.0E-314 |
| HLA-DRB5  | 6   | 30457732 | 0.048  | 1.65E-32  |
| HLA-F     | 6   | 29691090 | 0.127  | 3.95E-161 |
| HLA-L     | 6   | 30228879 | 0.0835 | 1.57E-57  |
| HLCS      | 21  | 38330036 | -0.062 | 6.66E-77  |
| HLTGF     | 3   | 148761815| 0.0558 | 4.94E-47  |
| HM13      | 20  | 30164874 | -0.086 | 4.70E-136 |
| HMBOX1    | 8   | 28908874 | -0.0352| 1.92E-19  |
| HMCN1     | 1   | 185998333| -0.0377| 1.28E-10  |
| HMG20A    | 15  | 77723027 | -0.0415| 3.46E-25  |
| HMGN3     | 6   | 79954685 | 0.0644 | 9.31E-11  |
| HMGN4     | 6   | 26538543 | 0.0894 | 1.81E-45  |
| HMHA1     | 19  | 1062598  | -0.0354| 4.20E-18  |
| HMHB1     | 5   | 143182261| -0.147 | 3.50E-18  |
| HMMR      | 5   | 162912162| 0.0584 | 4.56E-23  |
| HMOX1     | 22  | 35806238 | 0.0825 | 5.45E-32  |
| HMOX2     | 16  | 4576423  | -0.0488| 6.77E-33  |
| HNMT      | 2   | 138792443| -0.0588| 1.99E-21  |
| HNRNPA1   | 12  | 54685880 | -0.137 | 8.55E-22  |
| HNRPLL    | 2   | 38868395 | 0.0816 | 5.82E-11  |
| HOOK1     | 1   | 60261892 | 0.174  | 4.69E-30  |
| HORMAD1   | 1   | 150721175| -0.155 | 3.82E-128 |
| HOXA1     | 7   | 27141657 | -0.0281| 2.34E-10  |
| HOXA2     | 7   | 27093099 | -0.251 | <1.0E-314 |
| HOXA3     | 7   | 27102949 | -0.0256| 4.94E-21  |
| HOXA9     | 7   | 27200855 | 0.0536 | 4.13E-18  |
| HOXB2     | 17  | 46581184 | 0.103  | 1.84E-157 |
| Gene            | Chromosome | Log2FoldChange | p-value | q-value |
|-----------------|------------|----------------|---------|---------|
| HOXB3           | 17:46602432| -0.0569        | 2.02E-66|         |
| HP              | 16:72118324| 0.409          | 7.75E-202|         |
| HP1BP3          | 1:21146422 | -0.0441        | 2.45E-35|         |
| HPCAL1          | 2:10552641 | -0.0233        | 1.12E-17|         |
| HPCAL4          | 1:40150156 | -0.0955        | 3.80E-80|         |
| HPGD            | 4:175361437| 0.0796         | 4.90E-54|         |
| HPGDS           | 4:95228540 | -0.416         |         |         |
| HPR             | 16:72106024| -0.141         | 2.77E-59|         |
| HPS1            | 10:100218195| 0.0431        | 1.56E-56|         |
| HPS3            | 3:148806754| -0.0729        | 2.25E-21|         |
| HPS4            | 22:26924995| 0.0264         | 1.54E-21|         |
| HPS5            | 11:18353640| -0.0337        | 1.18E-21|         |
| HPSE            | 4:84237883 | 0.274          | 2.63E-40|         |
| HRAS            | 11:545276  | 0.0492         | 3.81E-20|         |
| HRSP12          | 8:99126359 | -0.137         | 5.71E-90|         |
| HS2ST1          | 1:87364781 | 0.0446         | 1.54E-13|         |
| HSBP1           | 16:83800282| 0.0511         | 1.07E-23|         |
| HSD17B11        | 4:88286409 | -0.0599        | 4.99E-32|         |
| HSD17B12        | 11:43870871| -0.0905        | 3.04E-45|         |
| HSD17B13        | 4:88176030 | -0.277         | <1.0E-314|        |
| HSD17B3         | 9:99052366 | -0.0329        | 1.49E-10|         |
| HSD17B4         | 5:118771423| -0.141         | 7.06E-42|         |
| HSD17B7P2       | 10:38595712| -0.698         | <1.0E-314|        |
| HSD17B8         | 6:33140009 | -0.0439        | 3.26E-16|         |
| HSDL1           | 16:84109997| -0.0599        | 3.71E-33|         |
| HSDL2           | 9:115118961| 0.0731         | 6.66E-34|         |
| HSF2            | 6:122721510| 0.0501         | 5.79E-30|         |
| HSH2D           | 19:16268664| 0.0659         | 1.83E-12|         |
| HSP90AA1        | 14:102550569| 0.163         | 5.35E-102|        |
| HSPA1B          | 6:31785228 | -0.05          | 5.07E-19|         |
| HSPA1L          | 6:31809504 | 0.14           | 4.73E-22|         |
| HSPA4           | 5:132384131| 0.0638         | 5.32E-38|         |
| HSPA6           | 1:161482520| -0.0642        | 3.99E-12|         |
| HSPB11          | 1:54373313 | 0.0557         | 2.97E-10|         |
| HSPBAP1         | 3:122473431| -0.144         | 2.52E-186|        |
| HSPH1           | 13:31700923| 0.061          | 6.47E-27|         |
| HTATIP2         | 11:20384886| -0.106         | 1.02E-128|        |
| HTRA4           | 8:38856336 | -0.0179        | 1.27E-09|         |
| HUS1            | 7:48015688 | 0.094          | 1.69E-179|        |
| Gene  | Chromosome | Position       | Z-Score | FDR   | Fold Change |
|-------|------------|----------------|---------|-------|-------------|
| HYAL3 | 3          | 50329826       | -0.0166 | 0.00234 | 1.75E-12    |
| HYDIN | 16         | 71311855       | -0.0956 | 0.00681 | 5.55E-44    |
| HYOU1 | 11         | 118921306      | -0.0267 | 0.00428 | 5.30E-10    |
| HYPK  | 15         | 44120559       | 0.0279  | 0.00394 | 1.51E-12    |
| IARS  | 9          | 94973571       | 0.0818  | 0.00889 | 5.06E-20    |
| ICA1  | 7          | 8301583        | 0.0286  | 0.00302 | 3.70E-21    |
| ICA1L | 2          | 203625866      | 0.0558  | 0.00322 | 2.32E-65    |
| ICAM2 | 17         | 62106978       | 0.0284  | 0.00407 | 3.14E-12    |
| ICAM3 | 19         | 10458547       | -0.0824 | 0.00686 | 8.03E-33    |
| ICAM4 | 19         | 10422972       | -0.0782 | 0.013   | 2.08E-09    |
| ICMT  | 1          | 6274304        | 0.0649  | 0.00729 | 7.31E-19    |
| ICOSLG| 21         | 45639368       | -0.0219 | 0.00352 | 5.88E-10    |
| IDE   | 10         | 94379609       | -0.0765 | 0.00868 | 1.53E-18    |
| IDH1  | 2          | 209108718      | 0.0799  | 0.0083  | 9.01E-22    |
| IDI1  | 10         | 1093992        | 0.0946  | 0.00706 | 2.69E-40    |
| IDI2  | 10         | 1078782        | 0.0493  | 0.00687 | 8.77E-13    |
| IDN1  | 9          | 86234596       | -0.0408 | 0.00489 | 9.19E-17    |
| IDO1  | 8          | 39773599       | -0.123  | 0.00807 | 1.64E-51    |
| IER3  | 6          | 30756882       | 0.0676  | 0.0042  | 9.54E-57    |
| IFFO1 | 12         | 6652572        | 0.0217  | 0.00311 | 3.51E-12    |
| IFI16 | 1          | 159045424      | -0.108  | 0.0137  | 5.24E-15    |
| IFI27 | 14         | 94583864       | -0.21   | 0.0156  | 2.11E-40    |
| IFI27L1| 14         | 94564542       | 0.0516  | 0.00401 | 8.81E-36    |
| IFI27L2| 14         | 94595989       | 0.0418  | 0.00546 | 2.26E-14    |
| IFI30 | 19         | 18282895       | 0.171   | 0.00595 | 9.07E-168   |
| IFI35 | 17         | 41166417       | 0.0714  | 0.0116  | 7.23E-10    |
| IFIT2 | 10         | 91066460       | -0.0573 | 0.00956 | 2.27E-09    |
| IFIT5 | 10         | 91186842       | 0.0942  | 0.0107  | 1.63E-18    |
| IFITM1| 11         | 316931         | 0.326   | 0.0407  | 1.41E-15    |
| IFITM2| 11         | 280000         | -0.124  | 0.0106  | 5.36E-31    |
| IFITM4P| 6          | 29696852       | -0.153  | 0.00531 | 1.29E-169   |
| IFNAR1| 21         | 34670242       | -0.0556 | 0.00455 | 6.58E-34    |
| IFNAR2| 21         | 34607358       | 0.065   | 0.00436 | 3.31E-49    |
| IFNGR2| 21         | 34796556       | -0.0853 | 0.00567 | 3.71E-50    |
| IFN   | 9          | 27570348       | -0.0931 | 0.00861 | 5.64E-27    |
| IFRD1 | 7          | 112109331      | -0.0965 | 0.00737 | 1.42E-38    |
| IFT27 | 22         | 37171611       | -0.0479 | 0.00436 | 8.50E-28    |
| IFT46 | 11         | 118437279      | 0.0642  | 0.00643 | 2.91E-23    |
| IFT52 | 20         | 42225923       | 0.0403  | 0.00638 | 2.87E-10    |
| Gene   | Chromosome | Location | Fold Change | FDR   | Log2FC |
|--------|------------|----------|-------------|-------|--------|
| IFT57  | 3          | 107934470| -0.0613     | 0.00854| 8.31E-13|
| IFT74  | 9          | 26956768 | -0.0861     | 0.00648| 1.09E-39|
| IFT80  | 3          | 160060748| -0.0296     | 0.00355| 9.36E-17|
| IFT88  | 13         | 21248862 | -0.164      | 0.00477| 3.76E-235|
| IGF1R  | 15         | 99505423 | -0.0417     | 0.00536| 9.39E-15|
| IGF2BP3| 7          | 23351080 | 0.0738      | 0.0113 | 7.33E-11|
| IGFBP3 | 7          | 45975649 | -0.0405     | 0.00466| 4.40E-18|
| IGFBP7 | 4          | 57899602 | -0.0236     | 0.00335| 1.99E-12|
| IGFLR1 | 19         | 36230174 | 0.104       | 0.00377| 9.82E-158|
| IGSF11 | 3          | 118909523| -0.0512     | 0.00658| 8.36E-15|
| IGSF6  | 16         | 21620547 | -0.0392     | 0.00538| 3.75E-13|
| IK     | 5          | 140030306| -0.0298     | 0.0039 | 2.63E-14|
| IKBIP  | 12         | 99022400 | -0.156      | 0.00787| 7.39E-85|
| IKBKAP | 9          | 111631743| 0.0802      | 0.011  | 3.51E-13|
| IKBKE  | 1          | 206643774| 0.0593      | 0.00427| 3.46E-43|
| IKZF1  | 7          | 50462418 | -0.0954     | 0.00401| 4.58E-119|
| IKZF3  | 17         | 37985801 | -0.0505     | 0.00582| 5.58E-18|
| IKZF5  | 10         | 124763922| -0.0325     | 0.00383| 3.20E-17|
| IL10RB | 21         | 34606972 | -0.052      | 0.00481| 6.91E-27|
| IL11RA | 9          | 34649442 | -0.0813     | 0.00598| 2.56E-41|
| IL12RB1| 19         | 18194529 | 0.0432      | 0.00313| 1.57E-42|
| IL12RB2| 1          | 67798445 | -0.107      | 0.00506| 5.31E-96|
| IL15   | 4          | 142672097| -0.0297     | 0.00369| 9.93E-16|
| IL15RA | 10         | 6017838  | 0.0239      | 0.00231| 9.02E-25|
| IL17RA | 22         | 17586583 | 0.0292      | 0.00314| 1.77E-20|
| IL17RB | 3          | 53892553 | -0.0223     | 0.00288| 1.02E-14|
| IL18   | 11         | 112033129| -0.108      | 0.00659| 7.04E-59|
| IL18BP | 11         | 71685714 | 0.0429      | 0.00619| 4.43E-12|
| IL18R1 | 2          | 102941338| 0.112       | 0.00657| 3.51E-63|
| IL18RAP| 2          | 102985424| 0.514       | 0.0112 | <1.0E-314|
| IL1R2  | 2          | 102598754| -0.0929     | 0.00694| 2.91E-40|
| IL1RAP | 3          | 190284838| -0.157      | 0.0127 | 1.06E-34|
| IL1RL1 | 2          | 102941338| 0.225       | 0.0104 | 1.29E-100|
| IL23A  | 12         | 56728137 | 0.0932      | 0.00876| 3.42E-26|
| IL23R  | 1          | 67605134 | 0.0578      | 0.00524| 5.98E-28|
| IL31RA | 5          | 55131582 | -0.239      | 0.013  | 5.23E-73|
| IL32   | 16         | 3116186 | 0.199       | 0.0107 | 3.47E-74|
| IL4R   | 16         | 27324880 | -0.0486     | 0.00607| 1.35E-15|
| IL5    | 5          | 131835395| -0.0376     | 0.00524| 7.66E-13|
| Gene   | Chromosome | Start | End   | Log2FoldChange | p-Value       |
|--------|------------|-------|-------|----------------|---------------|
| IL5RA  | 3:3144765  | 0.0752| 0.0115| 5.78E-11       |               |
| IL6R   | 1:154423764| -0.0251| 0.00315| 1.68E-15       |               |
| IL6ST  | 5:55310583  | 0.165 | 0.0239 | 5.16E-12       |               |
| IL7    | 8:79647495  | 0.0483| 0.00577| 7.73E-17       |               |
| IL7R   | 5:35854265  | -0.245| 0.00721| 2.31E-228      |               |
| IL8    | 4:74572039  | 0.298 | 0.0179 | 1.32E-60       |               |
| ILF3-AS1| 19:10803124| -0.264| 0.0211 | 1.88E-35       |               |
| ILK    | 11:6633608  | 0.044 | 0.00491| 3.75E-19       |               |
| ILKAP  | 2:239075812 | 0.0369| 0.0035 | 1.21E-25       |               |
| IMMP2L | 7:111057345 | 0.047 | 0.00453| 6.48E-25       |               |
| IMMT   | 2:86400092  | 0.0301| 0.00333| 2.11E-19       |               |
| IMP4   | 2:131089135 | -0.0589| 0.00516| 8.39E-30       |               |
| IMPA1  | 8:82528953  | 0.0376| 0.00471| 1.65E-15       |               |
| IMPA2  | 18:11962002 | 0.0972| 0.00626| 3.52E-53       |               |
| IMPACT | 18:21988293 | -0.089 | 0.00869| 2.00E-24       |               |
| IMPG2  | 3:101046933 | -0.0387| 0.00306| 5.12E-36       |               |
| INADL  | 1:62207254  | -0.109 | 0.0116 | 1.11E-20       |               |
| ING1   | 13:111380701| 0.0306 | 0.00292| 2.05E-25       |               |
| ING5   | 2:242630987 | -0.259 | 0.0132 | 1.21E-82       |               |
| INIP   | 9:115514725 | -0.0993| 0.0138 | 7.54E-13       |               |
| INO80B | 2:74710491  | -0.0915| 0.00401| 7.42E-110      |               |
| INO80C | 18:33077912 | 0.19  | 0.0213 | 4.53E-19       |               |
| INO80E | 16:30050494 | 0.0212 | 0.00337| 3.70E-10       |               |
| INPP1  | 2:191225866 | 0.0355 | 0.00498| 1.13E-12       |               |
| INPP4B | 4:143625262 | 0.12  | 0.00586| 4.15E-90       |               |
| INPP5A | 10:134531955| 0.0562| 0.00724| 1.02E-14       |               |
| INPP5B | 1:38331912  | 0.199 | 0.00527| 9.83E-278      |               |
| INPP5D | 2:234077240 | 0.0259 | 0.00319| 5.79E-16       |               |
| INPP5K | 17:1446091 | 0.14  | 0.00892| 1.80E-54       |               |
| INSIG1 | 7:155091753 | -0.0858| 0.00398| 6.79E-99       |               |
| INSIG2 | 2:118873636 | 0.0391 | 0.0054 | 5.46E-13       |               |
| INSL3  | 19:17942927 | 0.0659 | 0.00801| 2.37E-16       |               |
| INTS10 | 8:19702001  | -0.0846| 0.00469| 1.04E-70       |               |
| INTS12 | 4:106675946 | 0.0678 | 0.00793| 1.63E-17       |               |
| INTS4  | 11:77653405 | 0.0472 | 0.0034 | 4.28E-43       |               |
| INTS5  | 11:62438207 | -0.0556| 0.00595| 1.29E-20       |               |
| INVS   | 9:103061366 | 0.0289 | 0.00316| 9.22E-20       |               |
| IP6K2  | 3:48731961  | -0.0518| 0.00706| 2.47E-13       |               |
| IPCEF1 | 6:154542491 | 0.038 | 0.00641| 3.24E-09       |               |
| Gene   | Chromosome | Position  | Log2FC | P-Value      | Log10 (FDR) |
|--------|------------|-----------|--------|--------------|-------------|
| IPMK   | 10:60015313| 0.139     | 0.00547| 1.10E-133    |             |
| IPO11  | 5:61891622 | 0.0268    | 0.00303| 1.21E-256    |             |
| IPO8   | 12:30783184| 0.0377    | 0.00283| 6.87E-16     |             |
| IQCB1  | 3:121558911| 0.0811    | 0.00443| 5.29E-40     |             |
| IQCE   | 7:2568770  | 0.0305    | 0.0038 | 1.23E-15     |             |
| IQCG   | 3:197664916| -0.0809   | 0.0107 | 4.50E-14     |             |
| IQGAP1 | 15:91037534| 0.0617    | 0.00418| 2.69E-48     |             |
| IQGAP2 | 5:75698761 | -0.158    | 0.00437| 2.99E-256    |             |
| IRAK3  | 12:66533086| -0.0855   | 0.00632| 5.37E-41     |             |
| IRAK4  | 12:44166318| 0.0493    | 0.00608| 6.87E-16     |             |
| IREB2  | 15:78793921| 0.0555    | 0.00283| 7.82E-83     |             |
| IRF2BP2| 1:234751563| 0.0291    | 0.00306| 2.61E-21     |             |
| IRF3   | 19:50115057| -0.0475   | 0.00781| 1.27E-09     |             |
| IRF6   | 1:209980027| -0.0353   | 0.00354| 3.12E-23     |             |
| IRS1   | 2:227647098| -0.0333   | 0.00507| 5.52E-11     |             |
| IQCA1  | 9:88876385 | -0.344    | 0.00933| 4.44E-265    |             |
| ISCA1  | 14:74962233| -0.0802   | 0.00931| 8.79E-18     |             |
| ISCA2  | 12:108949557| -0.0534  | 0.00577| 2.88E-20     |             |
| ISG20  | 15:89202717| -0.161    | 0.00611| 1.35E-143    |             |
| ISL2   | 15:76674624| 0.018     | 0.0026 | 5.28E-12     |             |
| ISOC1  | 5:128389088| -0.0664   | 0.00444| 2.41E-50     |             |
| ITCH   | 20:32993845| -0.019    | 0.0029 | 6.38E-11     |             |
| ITGA1  | 5:52056209 | -0.16     | 0.00989| 1.05E-57     |             |
| ITGA2  | 5:52316172 | -0.0765   | 0.00313| 6.85E-125    |             |
| ITGA4  | 2:182323766| -0.102    | 0.00395| 4.53E-137    |             |
| ITGA9  | 3:37444901 | 0.0265    | 0.00232| 9.02E-30     |             |
| ITGAM  | 16:31248870| -0.0355   | 0.00412| 9.96E-18     |             |
| ITGAV  | 2:187492742| -0.0336   | 0.00335| 1.68E-23     |             |
| ITGAX  | 16:31331160| 0.175     | 0.00428| <1.0E-314    |             |
| ITGB1  | 10:33266876| -0.0322   | 0.00525| 8.86E-10     |             |
| ITGB2  | 21:46328099| 0.15      | 0.00558| 1.48E-149    |             |
| ITGB3  | 17:45324590| 0.0814    | 0.0123 | 4.56E-11     |             |
| ITGB5  | 3:124600652| 0.0233    | 0.0037 | 2.95E-10     |             |
| ITGB7  | 12:53587468| -0.0944   | 0.00661| 1.81E-45     |             |
| ITIH2  | 10:7838932 | 0.0505    | 0.00242| 3.01E-93     |             |
| ITIH4  | 3:52870618 | -0.0568   | 0.00248| 6.10E-111    |             |
| ITK    | 5:156670047| -0.0557   | 0.0075 | 1.27E-13     |             |
| ITLN1  | 1:160827772| 0.377     | 0.0154 | 1.26E-124    |             |
| ITM2B  | 13:48824231| -0.0239   | 0.00352| 1.36E-11     |             |
| Gene   | Chromosome | Log2FoldChange | P.Value | FDR      |
|--------|------------|----------------|---------|----------|
| ITM2C  | 2:231750269| 0.0696         | 0.0064  | 2.94E-27 |
| ITPA   | 20:3192385 | 0.0766         | 0.00716 | 1.95E-26 |
| ITPK1  | 14:93583933| 0.12           | 0.0173  | 4.70E-12 |
| ITPKB  | 1:226923938| -0.0165        | 0.00279 | 3.61E-09 |
| ITPR1  | 3:4519303  | 0.0879         | 0.00838 | 1.62E-25 |
| ITPR2  | 12:26986098| 0.15           | 0.0062  | 3.01E-123|
| ITPR3  | 6:33601132 | 0.033          | 0.0026  | 2.45E-36 |
| ITSN1  | 21:35030075| 0.129          | 0.0173  | 4.70E-12 |
| ITSN2  | 2:24459736 | 0.0182         | 0.0029  | 3.91E-10 |
| IVD    | 15:40654038| 0.0526         | 0.00339 | 3.70E-53 |
| IVNS1ABP| 1:185294981| 0.0264         | 0.00379 | 3.65E-12 |
| IWS1   | 2:128299079| -0.0451        | 0.00466 | 5.48E-22 |
| JAGN1  | 3:9936427  | 0.107          | 0.00495 | 1.29E-99 |
| JAK1   | 1:65344284 | 0.0426         | 0.00486 | 2.49E-18 |
| JAK2   | 9:4984530  | -0.0446        | 0.00562 | 2.77E-15 |
| JAKMIP1| 4:6179711  | 0.062          | 0.0038  | 1.72E-58 |
| JAKMIP2| 5:147162475| -0.169         | 0.0055  | 2.30E-190|
| JARID2 | 6:15231515 | 0.0856         | 0.00482 | 1.33E-68 |
| JAZF1  | 7:28224053 | 0.0611         | 0.00817 | 8.49E-14 |
| JKAMP  | 14:59973281| 0.0548         | 0.00447 | 4.77E-34 |
| JMJD6  | 17:74712310| 0.0899         | 0.00361 | 1.86E-129|
| JMJD7-PLA2G4B| 15:42115747| -0.0244        | 0.00229 | 2.56E-26 |
| JMY    | 5:78548010 | -0.12          | 0.00441 | 3.72E-153|
| JOSD1  | 22:39054474| 0.034          | 0.00523 | 8.23E-11 |
| JUP    | 17:39940775| -0.453         | 0.00741 | <1.0E-314|
| KALRN  | 3:124352236| 0.0453         | 0.00313 | 1.41E-46 |
| KANK1  | 9:518755   | -0.0493        | 0.00405 | 1.08E-33 |
| KANK2  | 19:11303469| 0.0551         | 0.00478 | 2.07E-30 |
| KANSL1 | 17:44323046| -0.0865        | 0.00623 | 4.75E-43 |
| KANSL1L| 2:211060050| 0.0279         | 0.00315 | 1.22E-18 |
| KANSL2 | 12:49024333| -0.114         | 0.00395 | 9.57E-171|
| KAT2B  | 3:20105673 | -0.172         | 0.00752 | 5.15E-110|
| KAT6A  | 8:41799893 | -0.042         | 0.00391 | 1.19E-26 |
| KATNA1 | 6:149992258| 0.0524         | 0.00412 | 1.31E-36 |
| KATNAL1| 13:30895193| 0.0814         | 0.00646 | 5.87E-36 |
| KAZN   | 1:15278473 | 0.0178         | 0.00227 | 5.07E-15 |
| KBTBD11| 8:1956660  | -0.0469        | 0.00585 | 1.27E-15 |
| KBTBD2 | 7:32911455 | -0.0745        | 0.00409 | 4.65E-72 |
| KBTBD3 | 11:105947285| 0.0812        | 0.00563 | 2.42E-46 |
| Gene  | Chromosome | Position | log2FoldChange | Log2FoldChangeStdDev | pValue |
|-------|------------|----------|----------------|----------------------|--------|
| KBTBD7 | 13:41760947 | -0.0921  | 0.00625        | 3.18E-48              |        |
| KBTBD8 | 3:67048762  | -0.0561  | 0.00864        | 9.31E-11              |        |
| KCNAB1 | 3:156248263 | 0.0425   | 0.00418        | 4.96E-24              |        |
| KCNAB2 | 1:6094800   | -0.0418  | 0.00365        | 4.42E-30              |        |
| KCNE1  | 21:35872145 | -0.0638  | 0.00423        | 3.45E-50              |        |
| KCNE3  | 11:74171965 | -0.124   | 0.00849        | 4.24E-47              |        |
| KCNJ1  | 11:128679211| 0.0729   | 0.00437        | 5.80E-61              |        |
| KCNJ15 | 21:39613236 | 0.28     | 0.00728        | 8.05E-286             |        |
| KCNK17 | 6:39282036  | -0.0464  | 0.00376        | 1.68E-34              |        |
| KCNMA1 | 10:79312114 | -0.0465  | 0.0021         | 2.87E-104             |        |
| KCNMB1 | 5:169806001 | -0.0338  | 0.00458        | 1.77E-13              |        |
| KCNMB4 | 12:70719934 | -0.0463  | 0.00579        | 1.60E-15              |        |
| KCNN4  | 19:44282529 | -0.0562  | 0.00295        | 3.85E-78              |        |
| KCNQ5  | 6:73287285  | -0.0629  | 0.00501        | 1.08E-35              |        |
| KCTD10 | 12:10990436 | -0.118   | 0.0083         | 2.95E-45              |        |
| KCTD18 | 2:201397724 | 0.0404   | 0.00684        | 3.82E-09              |        |
| KCTD2  | 17:73067482 | 0.0412   | 0.00454        | 1.69E-19              |        |
| KCTD4  | 13:45784496 | -0.124   | 0.0148         | 5.38E-17              |        |
| KCTD7  | 7:66145659  | -0.04    | 0.00518        | 1.31E-14              |        |
| KCTD9  | 8:25272364  | -0.0449  | 0.00565        | 2.45E-15              |        |
| KDELC2 | 11:108387409| 0.0986   | 0.00612        | 4.31E-57              |        |
| KDELR2 | 7:6502367   | 0.0985   | 0.00573        | 2.32E-64              |        |
| KDELR3 | 22:38895520 | 0.0566   | 0.00464        | 8.78E-34              |        |
| KDM3A  | 2:86645750  | -0.0626  | 0.00362        | 3.07E-65              |        |
| KDM4C  | 9:7051826   | 0.0325   | 0.00442        | 2.14E-13              |        |
| KDM5A  | 12:428693   | 0.0657   | 0.00325        | 2.23E-87              |        |
| KDM5B  | 1:202738322 | -0.0345  | 0.00389        | 9.16E-19              |        |
| KDSR   | 18:61034420 | -0.063   | 0.00484        | 4.15E-38              |        |
| KHNYN  | 14:24899364 | -0.0484  | 0.00321        | 1.49E-50              |        |
| KIAA0020| 9:2839608  | -0.0646  | 0.00435        | 8.43E-49              |        |
| KIAA0040| 1:175139295| 0.148    | 0.00461        | 1.56E-206             |        |
| KIAA0226L| 13:46932953| -0.154   | 0.00869        | 1.34E-68              |        |
| KIAA0247| 14:70114367| -0.0448  | 0.00686        | 7.44E-11              |        |
| KIAA0319| 6:24638740 | 0.0799   | 0.0039         | 1.26E-89              |        |
| KIAA0355| 19:34878790| -0.102   | 0.0113         | 2.33E-19              |        |
| KIAA0368| 9:114220603| 0.0264   | 0.00371        | 1.35E-12              |        |
| KIAA0391| 14:35542759| -0.284   | 0.00558        | <1.0E-314             |        |
| KIAA0430| 16:15687514| 0.0567   | 0.00849        | 2.76E-11              |        |
| Gene   | Chromosome | Start | End   | Logs | P values |
|--------|------------|-------|-------|------|----------|
| KIAA0513 | 16:85059628 | -0.111 | 0.00544 | 1.18E-89 |
| KIAA0586 | 14:58894577 | 0.0255 | 0.00366 | 4.15E-12 |
| KIAA0753 | 17:6529728 | 0.0808 | 0.00352 | 3.71E-111 |
| KIAA0825 | 5:93918392 | -0.113 | 0.00653 | 9.52E-65 |
| KIAA0922 | 4:154516739 | 0.0319 | 0.0029 | 8.22E-28 |
| KIAA0930 | 22:45630223 | 0.0431 | 0.00326 | 2.34E-39 |
| KIAA1109 | 4:123172373 | 0.154 | 0.00834 | 3.29E-74 |
| KIAA1191 | 5:175762026 | -0.0866 | 0.0077 | 5.20E-29 |
| KIAA1324 | 1:109704979 | -0.685 | 0.00865 | <1.0E-314 |
| KIAA1324L | 7:86663578 | -0.15 | 0.0125 | 7.15E-33 |
| KIAA1328 | 18:34557858 | -0.0627 | 0.00474 | 2.16E-39 |
| KIAA1383 | 1:232941153 | 0.0291 | 0.0033 | 1.71E-18 |
| KIAA1429 | 8:95571602 | 0.0237 | 0.00294 | 7.84E-16 |
| KIAA1430 | 4:186131648 | 0.092 | 0.00706 | 3.30E-38 |
| KIAA1432 | 9:5750243 | 0.0239 | 0.00338 | 1.88E-12 |
| KIAA1468 | 18:59898173 | 0.0393 | 0.00317 | 8.27E-35 |
| KIAA1524 | 3:108251509 | -0.157 | 0.00527 | 2.30E-179 |
| KIAA1551 | 12:32123820 | 0.0853 | 0.00802 | 3.35E-26 |
| KIAA1586 | 6:56896601 | 0.0568 | 0.00894 | 2.27E-10 |
| KIAA1598 | 10:118643670 | -0.345 | 0.0077 | <1.0E-314 |
| KIAA1683 | 19:18388158 | -0.0745 | 0.00253 | 3.75E-177 |
| KIAA1715 | 2:176871243 | 0.127 | 0.00525 | 1.33E-122 |
| KIAA1737 | 14:77586119 | 0.0514 | 0.00405 | 2.97E-36 |
| KIAA1804 | 1:233236155 | -0.0419 | 0.00453 | 2.82E-20 |
| KIAA1919 | 6:111582885 | 0.138 | 0.00532 | 1.30E-140 |
| KIAA1967 | 8:22492143 | -0.0202 | 0.00234 | 1.02E-17 |
| KIF11 | 10:94432000 | 0.036 | 0.00478 | 5.90E-14 |
| KIF13A | 6:17965147 | -0.0566 | 0.00535 | 6.24E-26 |
| KIF14 | 1:200564868 | -0.0329 | 0.00509 | 1.16E-10 |
| KIF16B | 20:16536155 | 0.266 | 0.0064 | <1.0E-314 |
| KIF1B | 1:10271688 | -0.209 | 0.00657 | 5.93E-204 |
| KIF1C | 17:4897042 | -0.0223 | 0.00305 | 2.95E-13 |
| KIF24 | 9:34302153 | -0.0815 | 0.00867 | 8.17E-21 |
| KIF27 | 9:86505242 | -0.409 | 0.036 | 1.46E-29 |
| KIF3A | 5:132072913 | 0.075 | 0.00912 | 2.47E-16 |
| KIF5B | 10:32332682 | -0.0612 | 0.00576 | 4.29E-26 |
| KIF5C | 2:149797754 | -0.0578 | 0.0068 | 2.53E-17 |
| KIFAP3 | 1:169990587 | 0.0585 | 0.00627 | 1.68E-20 |
| KIN | 10:7869814 | -0.0341 | 0.00535 | 2.01E-10 |
| Gene    | Chromosome | Start_Position | End_Position | Continuation | Expression | Standard_Error | p_Value |
|---------|------------|----------------|--------------|--------------|------------|----------------|----------|
| KIR3DL1| 19:55376524| 0.112          | 0.0115       | 2.58E-22     |
| KIR3DX1| 19:55040648| -0.0503        | 0.00541      | 2.07E-20     |
| KLC1   | 14:104095320| -0.0699        | 0.00329      | 3.89E-96     |
| KLC3   | 19:45847110| -0.0438        | 0.00286      | 7.44E-14     |
| KLF10  | 8:103662852| -0.048         | 0.00466      | 1.28E-24     |
| KLF11  | 2:10219746 | 0.0778         | 0.00642      | 2.40E-33     |
| KLF12  | 13:74339104| 0.0288         | 0.00426      | 1.61E-11     |
| KLF3   | 4:38692835 | -0.0221        | 0.00537      | 2.44E-09     |
| KLF6   | 10:3820787 | 0.0221         | 0.00376      | 4.41E-09     |
| KLF7   | 2:208019791| 0.0441         | 0.00385      | 6.18E-30     |
| KLHDC1 | 14:50162763| -0.0648        | 0.00923      | 2.56E-12     |
| KLHDC10| 7:129764961| 0.0878         | 0.00634      | 7.07E-43     |
| KLHDC4 | 16:87764267| -0.0647        | 0.00311      | 2.03E-92     |
| KLHDC8B| 3:49256529 | 0.188          | 0.0221       | 2.57E-17     |
| KLHL11 | 17:40068613| -0.113         | 0.00655      | 8.96E-65     |
| KLHL20 | 1:173674087| 0.0259         | 0.00423      | 9.67E-10     |
| KLHL3  | 5:137070445| -0.0293        | 0.0036       | 4.72E-16     |
| KLHL36 | 16:84696385| -0.0285        | 0.00378      | 5.63E-14     |
| KLHL5  | 4:39023992 | 0.0648         | 0.00517      | 1.45E-35     |
| KLHL7  | 7:23113503 | -0.056         | 0.00734      | 2.77E-14     |
| KLHL8  | 4:88187880 | -0.0347        | 0.00569      | 1.20E-09     |
| KLKB1  | 4:187119285| -0.228         | 0.00704      | 1.68E-209    |
| KLRB1  | 12:9735686 | 0.118          | 0.00876      | 1.15E-40     |
| KLRC1  | 12:10596720| -0.398         | 0.0152       | 3.05E-142    |
| KLRC3  | 12:10584152| -0.663         | 0.0198       | 4.85E-224    |
| KLRD1  | 12:10463014| 0.315          | 0.0114       | 1.64E-155    |
| KLRG1  | 12:9181706 | 0.298          | 0.0109       | 7.39E-154    |
| KLRK1  | 12:10563592| 0.0874         | 0.00779      | 6.87E-29     |
| KMO    | 1:241689251| 0.191          | 0.0224       | 1.84E-17     |
| KNTC1  | 12:123025873| -0.038        | 0.00437      | 4.79E-18     |
| KPNA4  | 3:160294185| -0.0405        | 0.00303      | 3.84E-40     |
| KRAS   | 12:25338274| -0.0317        | 0.00372      | 1.89E-17     |
| KREMEN1| 22:29514956| -0.157         | 0.00676      | 1.79E-113    |
| KRI1   | 19:10672493| 0.0565         | 0.00356      | 1.70E-55     |
| KRR1   | 12:75910334| -0.0543        | 0.00428      | 2.79E-36     |
| KRT1   | 12:53065916| -0.137         | 0.00378      | 2.00E-255    |
| KRT10  | 17:39027692| -0.0338        | 0.00542      | 4.84E-10     |
| KRT23  | 17:39087292| 0.249          | 0.00805      | 3.44E-193    |
| KRT5   | 12:52916022| 0.0261         | 0.00349      | 9.41E-14     |
| Gene   | Chromosome | Start | End   | Expression | Log2 Fold Change | p-value       |
|--------|------------|-------|-------|------------|-----------------|---------------|
| KRT72  | 12:53027940| 0.202 | 0.00699| 3.06E-170  |
| KRT73  | 12:53026975| 0.139 | 0.00562| 2.31E-127  |
| KRT77  | 12:53086337| -0.0799| 0.00912| 9.59E-45    |
| KRTCAP3| 2:27711157| 0.0556| 0.0037 | 9.32E-16    |
| KY     | 3:134317008| 0.0556| 0.00689| 9.32E-16    |
| KYNU   | 2:143649203| -0.407| 0.0146 | 2.31E-127   |
| L1TD1  | 1:62660090 | -0.214| 0.0127 | 6.49E-62    |
| L3HYPDH| 14:59944725| 0.0651| 0.00387| 9.32E-62    |
| L3MBTL3| 6:130374461| -0.16 | 0.00408| 1.48E-296   |
| L3MBTL4| 18:6411957 | 0.0652| 0.00433| 3.47E-50    |
| LACC1  | 13:44442238| -0.0405| 0.00511| 2.74E-15    |
| LACTB  | 15:63408320| -0.0915| 0.00466| 8.68E-83    |
| LACTB2 | 8:71564667 | -0.0685| 0.0043 | 8.74E-56    |
| LAIR1  | 19:54852514| 0.0415| 0.00391| 4.61E-26    |
| LAIR2  | 19:55014172| 0.776 | 0.0695 | 1.16E-28    |
| LAMC1  | 1:182988052| 0.0923| 0.00327| 1.36E-163   |
| LAMP5  | 20:9492062 | -0.0364| 0.00602| 1.64E-09    |
| LAMTOR2| 1:156025096| 0.0451| 0.00567| 2.12E-15    |
| LAMTOR5| 1:110966889| 0.0598| 0.00598| 2.33E-23    |
| LANCL1 | 2:211247567| 0.035 | 0.00408| 1.31E-17    |
| LAP3   | 4:17577329 | -0.143| 0.00655| 8.58E-102   |
| LAPTM4A| 2:20226596| 0.0764| 0.00532| 6.12E-46    |
| LAPTM4B| 8:98779797| 0.107 | 0.00986| 6.29E-27    |
| LAPTM5 | 1:31206637 | -0.116| 0.00465| 9.14E-131   |
| LARP1  | 5:154196592| 0.0272| 0.00425| 1.79E-10    |
| LARP1B | 4:129017293| 0.0316| 0.00404| 6.10E-15    |
| LARP4  | 12:50806930| -0.0913| 0.0118 | 1.47E-14    |
| LARP4B | 10:846977 | 0.042 | 0.00485| 6.16E-18    |
| LARP7  | 4:113510368| -0.0511| 0.00845| 1.56E-09    |
| LARS   | 5:145487296| -0.0745| 0.0036 | 1.50E-91    |
| LARS2  | 3:45407535 | 0.024 | 0.00323| 1.23E-13    |
| LASP1  | 17:37054253| 0.0583| 0.00384| 6.59E-51    |
| LAT    | 16:28957172| 0.0938| 0.0127 | 1.57E-13    |
| LATS2  | 13:21590089| -0.0281| 0.00475| 3.71E-09    |
| LBH    | 2:30509158| -0.163| 0.00542| 8.00E-183   |
| LBR    | 1:225608435| 0.052 | 0.0071 | 2.95E-13    |
| LBX2-AS1| 2:74740961| -0.102| 0.00598| 2.30E-63    |
| LCA5L  | 21:40761545| -0.13 | 0.00376| 7.85E-237   |
| LCLAT1 | 2:30657532| -0.23 | 0.00426| <1.0E-314   |
| Gene    | Chromosome | Start | End   | kbDNA | Expression 1 | Expression 2 | p-value |
|---------|------------|-------|-------|-------|--------------|--------------|---------|
| LCMT1   | 16:25159145| 0.0346 | 0.0043 | 9.64E-16 |
| LCMT2   | 15:43609509| 0.0588 | 0.00588| 2.24E-23 |
| LCN8    | 9:139684867| -0.0315| 0.00535| 4.22E-09 |
| LCP1    | 13:46714885| -0.0166| 0.00279| 3.35E-09 |
| LCP2    | 5:169730365| -0.0412 | 0.00647| 2.01E-10 |
| LDB1    | 10:103874822| 0.139  | 0.0123 | 2.52E-29 |
| LDHA    | 11:18415057| 0.0271 | 0.0031 | 2.86E-18 |
| LDHC    | 11:18400811| -0.254 | 0.00597| <1.0E-314|
| LDLRAP1 | 1:25890835 | 0.0835 | 0.00432| 1.75E-80 |
| LDOC1L  | 22:44852717| 0.03   | 0.00281| 1.97E-26 |
| LEKR1   | 3:156546675| 0.0274 | 0.00382| 9.25E-13 |
| LEMD3   | 12:65575683| -0.021 | 0.00306| 8.36E-12 |
| LEPR    | 1:65890236 | 0.132  | 0.00567| 9.76E-114|
| LPROT1L | 8:29967903 | 0.0612 | 0.00754| 5.87E-16 |
| LETMD1  | 12:51441897| 0.0357 | 0.00383| 8.63E-21 |
| LGALS1  | 22:38062112| 0.0616 | 0.00656| 8.44E-21 |
| LGALS14 | 19:40227363| -0.0435| 0.0037 | 1.62E-31 |
| LGALS17A| 19:40176917| 0.0476 | 0.00409| 8.02E-31 |
| LGALS2  | 22:37960365| 1.05   | 0.0184 | <1.0E-314|
| LGALS3  | 14:55610940| 0.0435 | 0.00623| 3.20E-12 |
| LGALS4  | 19:39304020| -0.057 | 0.00829| 6.94E-12 |
| LGALS8  | 1:23669354 | 0.184  | 0.0082 | 3.30E-106|
| LGALSL  | 2:64690627 | -0.132 | 0.0203 | 8.37E-11 |
| LGR4    | 11:27480827| -0.0169| 0.00287| 3.96E-09 |
| LGSN    | 6:64078347 | -0.0876| 0.00753| 7.14E-31 |
| LHFPL2  | 5:7784738  | -0.0344| 0.0043 | 1.35E-15 |
| LHPP    | 10:126160495| 0.0337 | 0.00403| 7.89E-17 |
| LIAS    | 4:39473195 | 0.0924 | 0.00831| 2.16E-28 |
| LIG1    | 19:48689548| -0.0191| 0.00316| 1.43E-09 |
| LIG3    | 17:33307586| 0.0212 | 0.00296| 8.86E-13 |
| LILRA1  | 19:55093320| 0.274  | 0.0109 | 4.97E-132|
| LILRA2  | 19:55093173| 0.402  | 0.0148 | 3.53E-151|
| LILRA5  | 19:54827040| 0.28   | 0.0248 | 2.96E-29 |
| LILRB1  | 19:55118872| 0.124  | 0.0106 | 1.94E-31 |
| LILRB2  | 19:54800679| -0.352 | 0.0135 | 3.89E-141|
| LILRB3  | 19:54768528| 0.357  | 0.0144 | 1.71E-128|
| LILRB4  | 19:55172539| -0.0927| 0.0152 | 1.18E-09 |
| LIM2    | 19:51883149| -0.031 | 0.00478| 9.31E-11 |
| LIMA1   | 12:50599219| -0.0352| 0.00389| 1.87E-19 |
| Gene  | Chromosome | Location     | Fold Change | p-value            |
|-------|------------|--------------|-------------|--------------------|
| LIMD1 | 3:45693416 | -0.0737      | 0.00379     | 2.75E-81           |
| LIMD2 | 17:61817048| 0.0309       | 0.00364     | 2.75E-17           |
| LIMK1 | 7:73549169 | 0.0444       | 0.00298     | 3.93E-49           |
| LIN54 | 4:83919524 | 0.0343       | 0.00369     | 2.28E-20           |
| LIN7A | 12:81333553| 0.387        | 0.0189      | 3.21E-90           |
| LIN7C | 11:27477864| -0.0584      | 0.0049      | 2.19E-32           |
| LIN9  | 1:226449936| -0.145       | 0.024       | 1.40E-09           |
| LINCO0085 | 19:52178063 | 0.0432       | 0.00347     | 4.37E-35           |
| LINCO0161 | 21:29923340 | 0.0474       | 0.00637     | 1.08E-13           |
| LINCO0173 | 12:116975822 | 0.144       | 0.0165      | 3.39E-18           |
| LINCO0189 | 21:30582732 | -0.396      | 0.0203      | 1.51E-81           |
| LINCO0282 | 13:52462939 | -0.0854     | 0.0111      | 1.37E-14           |
| LINCO0324 | 17:8160602  | -0.0296     | 0.00423     | 3.00E-12           |
| LINCO0339 | 1:22353986  | -0.216      | 0.00536     | <1.0E-314          |
| LINCO0467 | 1:211621441 | -0.131      | 0.0221      | 3.32E-09           |
| LINCO0471 | 2:232378792 | 0.103       | 0.00687     | 2.49E-49           |
| LINCO0476 | 9:98635849  | -0.0784     | 0.0056      | 9.46E-44           |
| LINCO0612 | 12:9173237 | 0.165       | 0.00599     | 2.99E-155          |
| LINGO2 | 9:28987757  | -0.0969     | 0.00684     | 1.02E-44           |
| LINS  | 15:101110565| -0.0806     | 0.00644     | 2.07E-35           |
| LIPA  | 10:91002804 | -0.296      | 0.00553     | <1.0E-314          |
| LPC   | 15:58770523 | -0.125     | 0.00658     | 2.77E-78           |
| LPH   | 3:185265185 | 0.0635     | 0.0105      | 1.37E-09           |
| Lipt1 | 2:99804278  | 0.0788      | 0.00431     | 1.85E-72           |
| LITAF | 16:11722729 | -0.0648     | 0.00982     | 4.69E-11           |
| LMAN1 | 18:56987447 | -0.0947     | 0.00517     | 1.39E-72           |
| LMBR1 | 7:156562243 | 0.137      | 0.0056      | 1.88E-125          |
| LMBRL1 | 12:494844949| 0.0347     | 0.00392     | 1.02E-18           |
| LMBRD1| 6:70514496  | -0.0547     | 0.00479     | 7.04E-30           |
| LMLN  | 3:197762004 | -0.0357     | 0.00524     | 1.08E-11           |
| LMNB1 | 5:126160582 | -0.0849     | 0.00558     | 3.58E-51           |
| LMO7  | 13:76323507 | 0.0436      | 0.00617     | 1.90E-12           |
| LMOD1 | 1:201910609 | 0.043      | 0.00444     | 4.83E-22           |
| LMTK2 | 7:97757101  | 0.109       | 0.00627     | 3.62E-66           |
| LNPEP | 5:96355448  | -0.0711     | 0.00286     | 6.45E-129          |
| LNX2  | 13:28172775 | 0.132       | 0.00507     | 2.26E-141          |
| LOC100128252 | 19:57048240 | 0.153     | 0.0117     | 2.30E-38           |
| LOC100130691 | 2:178297740 | 0.0642     | 0.00611     | 1.46E-25           |
| LOC100130950 | 17:5134814  | 0.161      | 0.00538     | 2.05E-182          |
| Gene   | Chromosome | Start Position | End Position | Log2 Fold Change | P-value | False Discovery Rate |
|--------|------------|----------------|--------------|------------------|---------|---------------------|
| LOC152217 | 3:196665864 | -0.127 | 0.00687 | 6.69E-74 |
| LOC284757 | 20:58894287 | 0.113 | 0.00617 | 1.09E-72 |
| LOC285696 | 5:17213102 | 0.064 | 0.00839 | 2.70E-14 |
| LOC286367 | 9:107525011 | -0.0604 | 0.00906 | 2.88E-11 |
| LOC338799 | 12:122251228 | 0.0716 | 0.00629 | 9.67E-30 |
| LOC728175 | 10:97504093 | -0.249 | 0.0133 | 5.30E-76 |
| LOC79015 | 20:43273635 | 0.136 | 0.0131 | 9.92E-25 |
| LOC93622 | 4:6677430 | -0.0983 | 0.0102 | 1.04E-21 |
| LONP1 | 19:5666336 | 0.013 | 0.00209 | 4.93E-10 |
| LONP2 | 16:48390512 | -0.091 | 0.00426 | 3.30E-97 |
| LONRF1 | 8:12623036 | 0.0642 | 0.00749 | 1.39E-17 |
| LOXHD1 | 18:44157489 | 0.179 | 0.00387 | <1.0E-314 |
| LPAR1 | 9:113848169 | 0.128 | 0.00781 | 3.12E-59 |
| LPAR2 | 19:19748572 | -0.0865 | 0.0067 | 1.50E-37 |
| LPAR3 | 1:85361653 | -0.194 | 0.00767 | 9.16E-134 |
| LPCAT1 | 5:1494439 | -0.0291 | 0.00393 | 1.39E-13 |
| LPCAT2 | 16:55562466 | 0.056 | 0.00514 | 2.42E-27 |
| LPCAT3 | 12:7145853 | 0.0578 | 0.00749 | 1.41E-14 |
| LPGAT1 | 1:212008208 | 0.033 | 0.00402 | 3.18E-16 |
| LPIN1 | 2:11936798 | 0.0692 | 0.00388 | 2.93E-69 |
| LPIN2 | 18:3059805 | -0.116 | 0.00528 | 5.18E-103 |
| LPL | 8:19860197 | -0.16 | 0.00772 | 1.10E-91 |
| LPP | 3:187870778 | -0.0436 | 0.00396 | 5.95E-28 |
| LPPR2 | 19:11431901 | -0.0405 | 0.00503 | 1.14E-15 |
| LPXN | 11:58286886 | 0.176 | 0.0128 | 6.16E-42 |
| LRBA | 4:151706926 | 0.0438 | 0.00501 | 3.37E-18 |
| LRCH1 | 13:47238854 | -0.0331 | 0.00405 | 4.14E-16 |
| LRGUK | 7:133770621 | 0.0834 | 0.00386 | 3.70E-99 |
| LRIG1 | 3:66436182 | -0.0175 | 0.00283 | 7.49E-10 |
| LRMP | 12:25242333 | 0.0389 | 0.0042 | 2.74E-20 |
| LRP10 | 14:23321112 | -0.0446 | 0.0048 | 2.19E-20 |
| LRP12 | 8:105544860 | 0.0727 | 0.00577 | 5.85E-36 |
| LRP2BP | 4:186236239 | -0.0466 | 0.0045 | 7.59E-25 |
| Gene      | Chromosome | Coordinates | Log2 Fold Change | p-value | Adjusted p-value |
|-----------|------------|-------------|-----------------|---------|-----------------|
| LRP6      | 12         | 12:12426161 | -0.139          | 0.00803 | 4.46E-65        |
| LRP8      | 1          | 1:53813684  | 0.017           | 0.00271 | 4.31E-10        |
| LRPAP1    | 4          | 4:3527185   | 0.0427          | 0.00375 | 9.44E-30        |
| LRPPRC    | 2          | 2:44141849  | 0.0227          | 0.00319 | 1.17E-12        |
| LRR1      | 14         | 14:50084394 | -0.0598         | 0.00434 | 1.51E-42        |
| LRRC1     | 6          | 6:53637762  | -0.0321         | 0.00349 | 5.84E-20        |
| LRRC14    | 8          | 8:145756170 | -0.0381         | 0.00512 | 1.14E-13        |
| LRRC16A   | 6          | 6:25398426  | -0.21           | 0.00539 | 1.23E-291       |
| LRRC17    | 7          | 7:102618968 | -0.325          | 0.0221  | 4.19E-48        |
| LRRC18    | 10         | 10:50119054 | 0.0406          | 0.00586 | 4.82E-12        |
| LRRC2     | 3          | 3:46518016  | 0.083           | 0.00862 | 8.69E-22        |
| LRRC23    | 12         | 12:7007806  | -0.0458         | 0.00388 | 1.21E-31        |
| LRRC25    | 19         | 19:18510925 | 0.0671          | 0.00372 | 1.69E-70        |
| LRRC27    | 10         | 10:134158940| -0.107          | 0.00739 | 1.42E-46        |
| LRRC28    | 15         | 15:99788247 | -0.0653         | 0.00454 | 5.77E-46        |
| LRRC33    | 3          | 3:196415355 | 0.0393          | 0.00655 | 2.02E-09        |
| LRRC34    | 3          | 3:169551558 | 0.1             | 0.0145  | 4.65E-12        |
| LRRC37BP1 | 17         | 17:28952286 | -0.0679         | 0.00886 | 2.18E-14        |
| LRRC39    | 1          | 1:100603706 | -0.117          | 0.0116  | 1.08E-23        |
| LRRC4     | 7          | 7:127625250 | -0.0861         | 0.00694 | 6.97E-35        |
| LRRC47    | 1          | 1:3700119   | 0.0336          | 0.00314 | 2.22E-26        |
| LRRC48    | 17         | 17:17894674 | -0.0428         | 0.00577 | 1.36E-13        |
| LRRC57    | 15         | 15:42836558 | -0.115          | 0.00711 | 2.29E-57        |
| LRRC6     | 8          | 8:133694084 | -0.556          | 0.00952 | <1.0E-314       |
| LRRC61    | 7          | 7:150004244 | -0.0304         | 0.00394 | 1.24E-14        |
| LRRC7     | 1          | 1:70179004  | -0.102          | 0.00364 | 2.41E-160       |
| LRRC8B    | 1          | 1:89941533  | -0.257          | 0.00587 | <1.0E-314       |
| LRRC8D    | 1          | 1:90282382  | 0.0516          | 0.00384 | 1.40E-40        |
| LRRC1     | 8          | 8:86098018  | 0.059           | 0.00567 | 4.59E-25        |
| LRRFIP1   | 2          | 2:238586472 | -0.0642         | 0.0042  | 1.11E-51        |
| LRRFIP2   | 3          | 3:37055712  | 0.0652          | 0.0032  | 1.07E-88        |
| LRRIQ3    | 1          | 1:74667686  | 0.129           | 0.00546 | 6.69E-118       |
| LRRK1     | 15         | 15:101468792| 0.0247          | 0.00361 | 9.10E-12        |
| LRRN1     | 3          | 3:3865370   | -0.15           | 0.0101  | 1.16E-48        |
| LRRTM2    | 5          | 5:138155959 | 0.136           | 0.00664 | 2.41E-89        |
| LRWD1     | 7          | 7:102065322 | 0.0451          | 0.00471 | 1.66E-21        |
| LSG1      | 3          | 3:194377712 | -0.216          | 0.00579 | 2.01E-270       |
| LSM1      | 8          | 8:38043758  | -0.0537         | 0.00642 | 8.16E-17        |
| LSM6      | 4          | 4:147106801 | 0.0444          | 0.00582 | 2.60E-14        |
| Gene   | Chr    | Position     | FDR   | Adj.P   | Log2 Fold Change |
|--------|--------|--------------|-------|---------|------------------|
| LSMD1  | 17     | 7742601      | 0.0926| 0.0145  | 1.92E-10         |
| LSR    | 19     | 35714581     | 0.0195| 0.00283 | 6.25E-12         |
| LSS    | 21     | 47652549     | 0.0537| 0.00342 | 3.07E-54         |
| LST1   | 6      | 31552850     | 0.0704| 0.00467 | 2.26E-50         |
| LTA4H  | 12     | 96419941     | 0.285 | 0.0105  | 3.27E-151        |
| LTBP3  | 11     | 65326154     | 0.025 | 0.00241 | 6.47E-25         |
| LTBR   | 12     | 6451590      | 0.0229| 0.00244 | 8.05E-21         |
| LTF    | 3      | 46490250     | 0.0368| 0.00614 | 2.35E-09         |
| LTN1   | 21     | 30310639     | 0.0282| 0.0031  | 1.17E-19         |
| LUC7L  | 16     | 249987       | 0.0656| 0.00384 | 1.06E-63         |
| LUZP1  | 1      | 23432346     | 0.0227| 0.00312 | 4.10E-13         |
| LUZP6  | 7      | 135628370    | 0.0565| 0.00749 | 5.52E-14         |
| LXN    | 3      | 158393178    | 0.0647| 0.00511 | 3.22E-36         |
| LY6G5B | 6      | 31643251     | 0.0728| 0.0063  | 1.40E-30         |
| LY6G5C | 6      | 31630241     | 0.0768| 0.00355 | 9.55E-100        |
| LY75   | 2      | 160689916    | -0.166| 0.00403 | <1.0E-314        |
| LY86   | 6      | 6579484      | -0.129| 0.00643 | 1.00E-85         |
| LY96   | 8      | 74906729     | -0.158| 0.0102  | 6.22E-53         |
| LYAR   | 4      | 4271886      | -0.0798| 0.00669 | 2.31E-32         |
| LYG1   | 2      | 99866877     | -0.0557| 0.00456 | 6.52E-34         |
| LYG2   | 2      | 99863928     | -0.0757| 0.00733 | 1.03E-24         |
| LYN    | 8      | 56785685     | 0.0327| 0.0046  | 1.37E-12         |
| LYNX1  | 8      | 143879290    | -0.0215| 0.00245 | 2.74E-18         |
| LYPD2  | 8      | 143838669    | -0.0352| 0.00506 | 3.96E-12         |
| LYPLA1 | 8      | 54950307     | 0.338 | 0.0527  | 1.51E-10         |
| LYPLAL1| 8      | 219394080    | -0.101| 0.00573 | 6.18E-67         |
| LYRM4  | 6      | 5260694      | -0.247| 0.016   | 9.81E-53         |
| LYRM5  | 12     | 25361756     | -0.155| 0.0201  | 1.43E-14         |
| LYRM7  | 5      | 130550343    | -0.143| 0.0111  | 2.65E-37         |
| LYSMD3 | 5      | 89814604     | 0.268 | 0.00562 | <1.0E-314        |
| LYSMD4 | 15     | 100273607    | -0.0352| 0.00327 | 9.77E-27         |
| LYVE1  | 11     | 10563090     | 0.245 | 0.00803 | 1.98E-188        |
| LYZ    | 12     | 69692420     | 0.195 | 0.00458 | <1.0E-314        |
| LZTFL1 | 3      | 45883999     | -0.129| 0.00791 | 3.28E-58         |
| M6PR   | 12     | 9110832      | -0.0577| 0.00414 | 2.66E-43         |
| MAB21L3| 1      | 116626228    | -0.195| 0.0117  | 5.52E-61         |
| MACF1  | 1      | 39662654     | 0.0922| 0.00751 | 3.41E-34         |
| MACROD2| 20     | 14024361     | 0.0316| 0.00468 | 1.47E-11         |
| MADL   | 11     | 47365276     | -0.0522| 0.0046  | 1.53E-29         |
MAEL 1:166911149  -0.0242  0.00269  4.18E-19
MAF1  8:145126375  0.131  0.0148  1.21E-18
MAGEF1 3:184427787  -0.0429  0.0043  3.11E-23
MAGOHB 12:10762757  -0.0594  0.00557  3.11E-23
MAK  6:10842660  0.108  0.00871  1.21E-34
MAL  2:95647049  -0.0381  0.00636  2.34E-09
MAML3  4:140793731  0.0498  0.00306  4.34E-58
MAN1A1  6:119575001  0.0813  0.00488  9.47E-61
MAN1A2  1:117959250  -0.0489  0.00338  1.61E-46
MAN1B1  9:139956356  -0.0592  0.00462  5.64E-37
MAN2A1  5:109171997  0.0354  0.00278  1.73E-36
MAN2A2  15:91498127  -0.026  0.00401  1.02E-10
MAN2B2  4:6610622  0.0231  0.00304  3.93E-14
MAN2C1  15:75681000  -0.0608  0.00266  1.73E-36
MANBA  4:103561709  -0.0413  0.00323  5.22E-37
MANBAL  20:35945343  0.0391  0.00424  4.39E-20
MANEA  6:96051383  -0.198  0.00492  <1.0E-314
MANF  3:51469107  0.0389  0.00496  5.75E-15
MAP1LC3B  16:87451617  0.292  0.0146  5.58E-86
MAP2K1  15:66702345  0.0529  0.00496  2.65E-26
MAP2K5  15:67909279  0.107  0.00328  5.38E-212
MAP3K11  11:65387378  -0.019  0.00253  8.30E-14
MAP3K5  6:137099008  0.0587  0.00308  2.43E-78
MAP3K7  6:91243924  0.0175  0.00259  1.91E-11
MAP3K8  10:30759454  -0.0288  0.00344  7.30E-17
MAP3K9  14:71276206  -0.036  0.00294  3.94E-34
MAP4  3:48079577  0.0257  0.00305  4.49E-17
MAP4K5  14:50845231  -0.0845  0.00572  2.27E-48
MAP6D1  3:183487393  -0.0243  0.00329  1.74E-13
MAP7  6:136882518  -0.105  0.0147  9.12E-13
MAP7D1  1:36627542  -0.0366  0.00229  4.32E-56
MAPK3  16:30081367  -0.231  0.011  9.46E-94
MAPK8  10:49564120  0.0718  0.00434  8.53E-60
MAPK9  5:179699504  -0.0935  0.00517  4.77E-71
MAPKAPK2  1:206884655  -0.0296  0.00444  2.71E-11
MAPKAPK3  3:50735933  0.0833  0.00554  4.73E-50
MAPRE1  20:31403206  0.0841  0.0061  1.66E-42
MAPRE2  18:32729627  -0.0634  0.00518  6.33E-34
MARCH1  1:220960137  -0.287  0.0143  8.23E-86
| Gene     | Chromosome | Start (Genomic) | End (Genomic) | Start (RefSeq) | End (RefSeq) | Log2 Fold Change | P Value |
|----------|------------|-----------------|---------------|----------------|--------------|------------------|---------|
| MARCH3   | 5          | 126171999       | 126171999     | 5              | 126171999    | -0.0945          | 3.27E-48 |
| MARCH5   | 10         | 94129862        | 94129862      | 10             | 94129862     | -0.0207          | 3.83E-09 |
| MARCO    | 2          | 119718028       | 119718028     | 2              | 119718028    | 0.117            | 8.79E-170 |
| MARK3    | 14         | 103850424       | 103850424     | 14             | 103850424    | -0.0605          | 1.32E-31 |
| MARK4    | 19         | 45793115        | 45793115      | 19             | 45793115     | -0.0519          | 7.29E-135 |
| MARS2    | 2          | 198569051       | 198569051     | 2              | 198569051    | -0.084           | 7.70E-85 |
| MASP2    | 1          | 11092646        | 11092646      | 1              | 11092646     | -0.0537          | 1.15E-38 |
| MASTL    | 10         | 27399117        | 27399117      | 10             | 27399117     | -0.247           | <1.0E-314 |
| MAT2A    | 2          | 85805373        | 85805373      | 2              | 85805373     | -0.143           | 1.32E-34 |
| MAT2B    | 5          | 162936464       | 162936464     | 5              | 162936464    | 0.0405           | 1.50E-16 |
| MATR3    | 5          | 138656848       | 138656848     | 5              | 138656848    | 0.0405           | 5.07E-30 |
| MAX      | 14         | 65546361        | 65546361      | 14             | 65546361     | -0.0471          | 1.23E-59 |
| MB21D1   | 6          | 74155346        | 74155346      | 6              | 74155346     | 0.0316           | 2.02E-10 |
| MB21D2   | 3          | 192627060       | 192627060     | 3              | 192627060    | 0.343            | 3.39E-15 |
| MBD2     | 18         | 51771171        | 51771171      | 18             | 51771171     | 0.0318           | 6.56E-11 |
| MBD5     | 2          | 148937370       | 148937370     | 2              | 148937370    | 0.035            | 1.64E-20 |
| MBLAC1   | 7          | 99732948        | 99732948      | 7              | 99732948     | -0.0696          | 1.82E-23 |
| MBNL1    | 3          | 152184573       | 152184573     | 3              | 152184573    | 0.0243           | 2.60E-09 |
| MBOAT1   | 6          | 20124860        | 20124860      | 6              | 20124860     | 0.056            | 5.29E-27 |
| MBOAT2   | 2          | 9140487         | 9140487       | 2              | 9140487      | 0.0925           | 9.65E-20 |
| MBP      | 18         | 74728800        | 74728800      | 18             | 74728800     | -0.191           | 7.88E-15 |
| MBTPS1   | 16         | 84095451        | 84095451      | 16             | 84095451     | -0.0703          | 2.75E-125 |
| MCAT     | 22         | 43528240        | 43528240      | 22             | 43528240     | -0.0247          | 3.71E-11 |
| MCC      | 5           | 112336015       | 112336015     | 5              | 112336015    | 0.0382           | 3.51E-50 |
| MCCC2    | 5           | 70923006        | 70923006      | 5              | 70923006     | 0.0354           | 3.47E-13 |
| MCEE     | 2           | 71353963        | 71353963      | 2              | 71353963     | 0.0401           | 1.12E-10 |
| MCF2L2   | 3           | 183146433       | 183146433     | 3              | 183146433    | 0.0306           | 4.83E-29 |
| MCFD2    | 2           | 47150575        | 47150575      | 2              | 47150575     | 0.0602           | 2.44E-24 |
| MCHR1    | 22          | 41116466        | 41116466      | 22             | 41116466     | -0.113           | 4.51E-170 |
| MCL1     | 1           | 150595537       | 150595537     | 1              | 150595537    | 0.0238           | 8.35E-10 |
| MCM10    | 10          | 13209783        | 13209783      | 10             | 13209783     | 0.0208           | 2.60E-12 |
| MCM3     | 6           | 52192485        | 52192485      | 6              | 52192485     | -0.0252          | 5.35E-12 |
| MCM3AP   | 21          | 47694712        | 47694712      | 21             | 47694712     | -0.0536          | 9.91E-99 |
| MCM3AP-AS1 | 21        | 47708037        | 47708037      | 21             | 47708037     | -0.021           | 1.97E-09 |
| MCM5     | 22          | 35806238        | 35806238      | 22             | 35806238     | 0.0691           | 1.46E-45 |
| MCM6     | 2           | 136617524       | 136617524     | 2              | 136617524    | 0.105            | 1.94E-135 |
| MCM7     | 7           | 99725146        | 99725146      | 7              | 99725146     | -0.054           | 1.15E-10 |
| MCM8     | 20          | 5938207         | 5938207       | 20             | 5938207      | 0.1              | 1.87E-80 |
| MCM9     | 6           | 119254373       | 119254373     | 6              | 119254373    | 0.19             | 2.28E-90 |
| Gene     | Chromosome | Base Pair | Log2 Fold Change | p-value | FDR | Effect Size | Odds Ratio |
|----------|------------|-----------|-----------------|---------|-----|-------------|------------|
| MCMBP    | 10:121652073 | 0.0462    | 1.05E-40        |         |     |             |            |
| MCOLN2   | 1:85403145  | -0.105    | 1.15E-45        |         |     |             |            |
| MCOLN3   | 1:85465026  | 0.0333    | 9.79E-25        |         |     |             |            |
| MCPH1    | 8:6276063   | -0.0456   | 2.43E-32        |         |     |             |            |
| MDC1     | 6:30686838  | -0.305    | 2.45E-56        |         |     |             |            |
| MDFIC    | 7:114639833 | 0.0352    | 8.27E-13        |         |     |             |            |
| MDGA1    | 6:37663624  | -0.091    | 1.08E-241       |         |     |             |            |
| MDM1     | 12:68720627 | -0.0679   | 5.06E-77        |         |     |             |            |
| MDM2     | 12:69181478 | 0.188     | <1.0E-314       |         |     |             |            |
| MDM4     | 1:204462050 | -0.0499   | 2.24E-46        |         |     |             |            |
| MDN1     | 6:90336469  | -0.0274   | 5.44E-16        |         |     |             |            |
| ME2      | 18:48362371 | -0.0401   | 3.48E-29        |         |     |             |            |
| ME3      | 11:86383679 | -0.0595   | 4.24E-44        |         |     |             |            |
| MEA1     | 6:42980218  | -0.0992   | 5.51E-12        |         |     |             |            |
| MEAF6    | 1:37974497  | 0.0952    | 6.07E-60        |         |     |             |            |
| MED1     | 17:37575705 | -0.0398   | 5.61E-10        |         |     |             |            |
| MED10    | 5:6375337   | -0.0407   | 2.96E-33        |         |     |             |            |
| MED12L   | 3:151060764 | -0.0173   | 2.03E-12        |         |     |             |            |
| MED15    | 22:20935946 | 0.04      | 7.51E-27        |         |     |             |            |
| MED19    | 11:57435255 | -0.0753   | 7.45E-61        |         |     |             |            |
| MED21    | 12:27187211 | -0.195    | 8.67E-91        |         |     |             |            |
| MED23    | 6:131898208 | 0.0755    | 1.92E-75        |         |     |             |            |
| MED24    | 17:38130492 | 0.0266    | 5.12E-14        |         |     |             |            |
| MED30    | 8:118551613 | -0.0303   | 1.54E-10        |         |     |             |            |
| MED31    | 17:6553456  | -0.115    | 3.25E-49        |         |     |             |            |
| MED4     | 13:48631483 | -0.0512   | 7.18E-11        |         |     |             |            |
| MED6     | 14:71093669 | 0.0467    | 1.46E-10        |         |     |             |            |
| MEF2A    | 15:100186866| -0.0517   | 3.80E-19        |         |     |             |            |
| MEF2B    | 19:19286687 | 0.0266    | 2.60E-33        |         |     |             |            |
| MEFV     | 16:3292085  | -0.0567   | 4.80E-60        |         |     |             |            |
| MEGF9    | 9:123501451 | 0.0338    | 3.45E-09        |         |     |             |            |
| MEI1     | 22:42108253 | -0.0551   | 4.77E-27        |         |     |             |            |
| MEOX1    | 17:41734439 | 0.0438    | 2.95E-10        |         |     |             |            |
| MERTK    | 2:112781917 | -0.27     | 3.49E-130       |         |     |             |            |
| MESDC2   | 15:81237906 | 0.037     | 1.74E-15        |         |     |             |            |
| METAP2   | 12:95896810 | -0.059    | 2.04E-28        |         |     |             |            |
| METTL10  | 10:126500541| 0.116     | 1.42E-48        |         |     |             |            |
| METTL13  | 1:171736641 | 0.0308    | 7.02E-14        |         |     |             |            |
| METTL14  | 4:119588308 | 0.0327    | 3.12E-16        |         |     |             |            |
| Gene   | Chromosome | Start Position | Log2 Fold Change | p-Value  | Adjusted p-Value |
|--------|------------|----------------|-----------------|----------|-----------------|
| METTL17| 14:21457945| 0.0579         | 3.75E-45        |          |                 |
| METTL18| 1:169761370| 0.00862        | 8.06E-239       |          |                 |
| METTL20| 12:31803861| -0.0402        | 7.32E-12        |          |                 |
| METTL21B| 12:58171726| 0.00341        | 1.18E-43        |          |                 |
| METTL21D| 14:50588245| -0.074         | 2.52E-34        |          |                 |
| METTL25| 12:82888221| 0.00667        | 7.61E-34        |          |                 |
| METTL26| 7:128148180| 0.00569        | 1.65E-26        |          |                 |
| METTL3 | 14:21957934| 0.00592        | 7.32E-12        |          |                 |
| METTL4 | 18:2558723 | -0.0713        | 1.50E-85        |          |                 |
| METTL6 | 3:15486118 | 0.00676        | 1.09E-16        |          |                 |
| METTL7A| 12:51270456| 0.00526        | 3.97E-78        |          |                 |
| METTL8 | 2:172397959| 0.00565        | 1.80E-11        |          |                 |
| METTL9 | 16:21620547| -0.0721        | 1.21E-41        |          |                 |
| MFF    | 2:22823759 | 0.00752        | 4.80E-48        |          |                 |
| MFGE8  | 15:89456948| -0.0424        | 2.07E-42        |          |                 |
| MFHAS1 | 8:86395755 | 0.0052         | 8.00E-40        |          |                 |
| MFN1   | 3:179094386| -0.385         | 4.98E-137       |          |                 |
| MFN2   | 1:12045555 | -0.188         | <1.0E-314       |          |                 |
| MFSD1  | 3:158522463| -0.0456        | 1.03E-21        |          |                 |
| MFSD5  | 12:53634662| 0.00906        | 5.21E-16        |          |                 |
| MFSD6  | 2:191241196| -0.0633        | 1.05E-63        |          |                 |
| MFSD9  | 2:103308802| -0.32          | <1.0E-314       |          |                 |
| MGAM   | 7:141796048| 0.00994        | 2.72E-26        |          |                 |
| MGAT1  | 5:180225919| -0.0529        | 2.47E-29        |          |                 |
| MGAT2  | 14:50112712| 0.00333        | 2.48E-11        |          |                 |
| MGAT4B | 5:179216813| 0.0114         | 3.48E-17        |          |                 |
| MGC2752| 19:59102379| 0.00452        | 1.96E-67        |          |                 |
| MGC9372| 6:2877331  | 0.0101         | 3.25E-21        |          |                 |
| MGC72080| 7:97549283 | 0.0213         | <1.0E-314       |          |                 |
| MGMT   | 10:131445027| 0.00385       | 4.70E-100       |          |                 |
| MGP    | 12:15071242| 0.00437        | 2.75E-28        |          |                 |
| MGRN1  | 16:4692981 | 0.00455        | 4.00E-17        |          |                 |
| MGST1  | 12:16504845| 0.0133         | 4.65E-13        |          |                 |
| MGST2  | 4:140592662| -0.176         | 1.30E-105       |          |                 |
| MGST3  | 1:165600267| 0.00473        | 5.79E-293       |          |                 |
| MICALCL| 11:12383555| -0.0895        | 1.30E-11        |          |                 |
| MICB   | 6:31478960 | 0.00797        | 4.24E-113       |          |                 |
| MIER1  | 1:67388945 | 0.0132         | 4.19E-29        |          |                 |
| MIER3  | 5:56276198 | 0.00621        | 1.44E-10        |          |                 |
| Gene  | Chromosome | Position | Log2 Fold Change | p-value  |
|-------|------------|----------|-----------------|----------|
| MIF   | 22:24237221| 0.0512   | 0.00512         | 2.44E-23 |
| MIF4GD| 17:73275747| 0.0287   | 0.00381         | 6.89E-14 |
| MINA  | 3:97650404 | 0.0335   | 0.00358         | 1.37E-20 |
| MINK1 | 17:4825623 | 0.0538   | 0.00343         | 3.51E-54 |
| MIOS  | 7:7607667  | -0.0386  | 0.00555         | 2.75E-12 |
| MIPEP | 13:24436762| 0.0271   | 0.00414         | 6.88E-11 |
| MIS12 | 17:5413616 | -0.166   | 0.00535         | 3.99E-194|
| MITD1 | 2:99814298 | -0.0365  | 0.00484         | 6.14E-14 |
| MKKS  | 20:10414950| 0.0692   | 0.00382         | 2.60E-71 |
| MKRN2 | 3:12614107 | -0.0437  | 0.00299         | 1.58E-47 |
| MLEC  | 12:121155966| 0.0645  | 0.00493         | 1.38E-38 |
| MLF1IP| 4:185612953| 0.0834   | 0.00415         | 1.07E-86 |
| MLH1  | 3:37034946 | -0.0614  | 0.00453         | 3.08E-41 |
| MLH3  | 14:75504454| 0.0915   | 0.00401         | 6.55E-110|
| MLKL  | 16:74735148| -0.11    | 0.00949         | 1.03E-30 |
| MLLT1 | 19:6211876 | -0.0278  | 0.0047          | 3.70E-09 |
| MLLT10| 10:21834536| 0.0438   | 0.00311         | 3.31E-44 |
| MLLT4 | 6:168190097| -0.122   | 0.0104          | 1.57E-31 |
| MLLT6 | 17:36860072| 0.0266   | 0.00444         | 2.11E-09 |
| MLX   | 17:40716235| -0.0511  | 0.00319         | 1.61E-56 |
| MLXIP | 12:122607951| -0.0713 | 0.00661         | 7.57E-27 |
| MMASA | 4:146565740| -0.126   | 0.011           | 3.23E-30 |
| MMAB  | 12:110003672| 0.044   | 0.00366         | 7.77E-33 |
| MMADHC| 2:150423752| -0.144   | 0.00743         | 2.88E-81 |
| MMD   | 17:53494994| -0.0627  | 0.0102          | 7.38E-10 |
| MME   | 3:154781945| 0.196    | 0.0248          | 2.57E-15 |
| MMP24 | 20:33871661| 0.0471   | 0.00428         | 7.00E-28 |
| MMP25 | 16:3106424 | -0.112   | 0.00874         | 6.69E-37 |
| MMP8  | 11:102559962| -0.109  | 0.0161          | 1.66E-11 |
| MMP9  | 20:44645339| -0.0633  | 0.00944         | 2.28E-11 |
| MMS22L| 6:97746897 | 0.0321   | 0.00395         | 5.14E-16 |
| MNT   | 17:2285171 | 0.0735   | 0.00622         | 8.52E-32 |
| MOCS1 | 6:39895689 | -0.0797  | 0.0109          | 3.43E-13 |
| MOCS2 | 5:52389455 | -0.0403  | 0.00498         | 7.52E-16 |
| MOG   | 6:29659124 | -0.0219  | 0.00334         | 5.20E-11 |
| MOGS  | 2:74716140 | -0.0269  | 0.00404         | 2.88E-11 |
| MON1B | 16:77264217| 0.0433   | 0.00313         | 9.33E-43 |
| MON2  | 12:62950769| 0.0254   | 0.00294         | 8.85E-18 |
| MORC2 | 22:31340299| 0.0317   | 0.00404         | 5.80E-15 |
| Gene   | Chromosome | Start | End   | p-value | T-score | FDR | p-value | T-score | FDR |
|--------|------------|-------|-------|---------|---------|-----|---------|---------|-----|
| MORC3  | 21         | 37660564 | 37660564 | 5.01E-86 | -0.142 | 0.00711 | 7.00E-92 |
| MORN3  | 12         | 122112586 | 122112586 | 1.35E-13 | 0.0257 | 0.00346 | 1.94E-09 |
| MORN4  | 10         | 99422648  | 99422648  | 1.94E-09 | 0.0235 | 0.0039 | 4.92E-12 |
| MOSPD3 | 7          | 100217810 | 100217810 | 2.37E-09 | 0.0388 | 0.00649 | 2.37E-09 |
| MOV10  | 1          | 113181739 | 113181739 | 2.44E-20 | -0.0405 | 0.00437 | 2.44E-20 |
| MPC1   | 6          | 166802299 | 166802299 | 4.92E-12 | -0.0306 | 0.00442 | 4.92E-12 |
| MPC2   | 1          | 167842652 | 167842652 | 2.37E-09 | 0.0388 | 0.00649 | 2.37E-09 |
| MPDU1  | 17         | 7526887   | 7526887   | 2.55E-47 | -0.067 | 0.00459 | 2.55E-47 |
| MPHOSPH6| 16        | 82166941  | 82166941  | <1.0E-314 | -0.281 | 0.00655 | <1.0E-314 |
| MPO    | 17         | 56367065  | 56367065  | 2.51E-09 | 0.0363 | 0.00558 | 8.61E-11 |
| MPP5   | 14         | 67756236  | 67756236  | 3.95E-26 | 0.00363 | 0.00558 | 8.61E-11 |
| MPP7   | 10         | 28617810  | 28617810  | 2.33E-145 | 0.16 | 0.00602 | 2.33E-145 |
| MPPE1  | 18         | 11917083  | 11917083  | 1.97E-83 | 0.196 | 0.00997 | 1.97E-83 |
| MPPED2 | 11         | 30600383  | 30600383  | 3.56E-16 | -0.0505 | 0.00475 | 3.56E-16 |
| MPRIP  | 17         | 17091746  | 17091746  | 3.31E-48 | -0.161 | 0.0109 | 3.31E-48 |
| MPZ    | 1          | 161306663 | 161306663 | 2.26E-19 | 0.127 | 0.0141 | 2.26E-19 |
| MPZL1  | 1          | 167737311 | 167737311 | 8.13E-53 | 0.19 | 0.0123 | 8.13E-53 |
| MPZL2  | 11         | 118128455 | 118128455 | 2.33E-204 | 0.184 | 0.00577 | 2.33E-204 |
| MPZL3  | 11         | 118123517 | 118123517 | 1.79E-37 | 0.0799 | 0.0062 | 1.79E-37 |
| MR1    | 1          | 181025110 | 181025110 | 3.56E-16 | -0.0461 | 0.00563 | 3.56E-16 |
| MRAS   | 3          | 138070901 | 138070901 | 4.58E-11 | 0.0346 | 0.00524 | 4.58E-11 |
| MRE11A | 11         | 94210967  | 94210967  | 1.09E-211 | -0.11 | 0.00337 | 1.09E-211 |
| MREG   | 2          | 216868598 | 216868598 | 4.11E-11 | 0.0363 | 0.00544 | 4.11E-11 |
| MRGBP  | 20         | 61433141  | 61433141  | 3.38E-23 | -0.0843 | 0.00845 | 3.38E-23 |
| MRI1   | 19         | 13881701  | 13881701  | 1.01E-19 | -0.0466 | 0.0051 | 1.01E-19 |
| MROH8  | 20         | 35803303  | 35803303  | 1.63E-12 | 0.0152 | 0.00215 | 1.63E-12 |
| MRPL10 | 17         | 45889404  | 45889404  | 3.83E-60 | 0.113 | 0.00681 | 3.83E-60 |
| MRPL14 | 6          | 44081718  | 44081718  | 2.21E-13 | -0.0348 | 0.00473 | 2.21E-13 |
| MRPL18 | 6          | 160188891 | 160188891 | <1.0E-314 | -0.197 | 0.00437 | <1.0E-314 |
| MRPL19 | 2          | 75864616  | 75864616  | 4.73E-12 | 0.0283 | 0.00409 | 4.73E-12 |
| MRPL21 | 11         | 68615600  | 68615600  | <1.0E-314 | 0.228 | 0.00552 | <1.0E-314 |
| MRPL22 | 5          | 154283385 | 154283385 | 8.66E-10 | 0.0584 | 0.00951 | 8.66E-10 |
| MRPL27 | 17         | 48442121  | 48442121  | 4.18E-30 | 0.0342 | 0.00298 | 4.18E-30 |
| MRPL28 | 16         | 431609    | 431609    | 2.47E-18 | 0.125 | 0.0142 | 2.47E-18 |
| MRPL30 | 2          | 99759865  | 99759865  | 2.47E-76 | -0.0841 | 0.00447 | 2.47E-76 |
| MRPL32 | 7          | 42973722  | 42973722  | 2.41E-09 | 0.0459 | 0.00768 | 2.41E-09 |
| MRPL35 | 2          | 86452673  | 86452673  | 9.69E-46 | 0.136 | 0.00948 | 9.69E-46 |
| MRPL37 | 1          | 54683856  | 54683856  | 3.71E-13 | 0.0272 | 0.00374 | 3.71E-13 |
| MRPL39 | 21         | 26997490  | 26997490  | 8.26E-20 | -0.0471 | 0.00515 | 8.26E-20 |
| Gene  | Chromosome | Location   | log2 Fold Change | p-value       | Adjusted p-value |
|-------|------------|------------|-----------------|---------------|-----------------|
| MRPL40| 22         | 19421293   | 0.0625          | 0.00767       | 4.79E-16        |
| MRPL42| 12         | 93916772   | -0.166          | 0.00771       | 5.16E-99        |
| MRPL43| 10         | 102746503  | -0.106          | 0.00352       | 7.65E-185       |
| MRPL44| 2          | 224788346  | 0.0503          | 0.00504       | 3.01E-23        |
| MRPL45| 17         | 36464561   | 0.174           | 0.0251        | 4.83E-12        |
| MRPL48| 11         | 73480930   | -0.0438         | 0.00552       | 2.35E-15        |
| MRPL51| 12         | 6613076    | -0.11           | 0.00452       | 9.88E-125       |
| MRPL53| 2          | 74681502   | -0.0536         | 0.00583       | 5.87E-20        |
| MRPL54| 19         | 3761652    | 0.0715          | 0.00454       | 1.24E-54        |
| MRPS10| 6          | 42173975   | -0.0467         | 0.00488       | 1.78E-21        |
| MRPS18C| 4         | 84351153   | -0.333          | 0.00751       | <1.0E-314       |
| MRPS21| 1          | 150255587  | -0.0941         | 0.00694       | 3.54E-41        |
| MRPS22| 3          | 139051919  | 0.0204          | 0.00297       | 7.13E-12        |
| MRPS24| 7          | 43906513   | 0.0432          | 0.00737       | 5.01E-09        |
| MRPS25| 3          | 15111397   | 0.0226          | 0.00343       | 4.73E-11        |
| MRPS6 | 21         | 35401161   | 0.029           | 0.00325       | 6.08E-19        |
| MRPS7 | 17         | 73240009   | 0.0853          | 0.00505       | 1.70E-62        |
| MRPS9 | 2          | 105688786  | 0.0445          | 0.00407       | 1.60E-27        |
| MRPS22| 3          | 24414976   | -0.0539         | 0.00492       | 1.06E-27        |
| MRPS24| 7          | 19587878   | -0.0607         | 0.00632       | 1.19E-21        |
| MRVI1 | 11         | 10581127   | 0.0912          | 0.013         | 2.76E-12        |
| MRVI1-AS1| 11     | 10563090  | 0.0699          | 0.00624       | 8.82E-29        |
| MS4A2 | 11         | 59877697   | -0.094          | 0.0108        | 5.74E-18        |
| MS4A4A| 11         | 60039917   | 0.109           | 0.0156        | 2.62E-12        |
| MS4A4B| 11         | 59936979   | 0.087           | 0.00576       | 1.91E-50        |
| MS4B4A| 11         | 105905847  | 0.0634          | 0.00952       | 3.05E-11        |
| MSC   | 8          | 72754639   | -0.0367         | 0.00485       | 4.72E-14        |
| MSH2  | 2          | 47590390   | -0.279          | 0.00678       | <1.0E-314       |
| MSH3  | 5          | 79902336   | -0.185          | 0.00436       | <1.0E-314       |
| MSH4  | 1          | 76385839   | -0.319          | 0.0147        | 1.31E-100       |
| MSH5  | 6          | 31711124   | 0.033           | 0.00353       | 1.38E-20        |
| MSH6  | 2          | 48070873   | 0.0586          | 0.00429       | 9.14E-42        |
| MSMO1 | 4          | 166264119  | -0.137          | 0.00605       | 4.43E-109       |
| MSR1  | 8          | 16038003   | 0.2             | 0.0152        | 7.74E-39        |
| MSRA  | 8          | 9945667    | -0.131          | 0.0106        | 1.18E-34        |
| MSRB2 | 10         | 23361114   | 0.32            | 0.0137        | 5.63E-115       |
| MT1A  | 16         | 56644650   | 0.0878          | 0.00668       | 7.86E-39        |
| MT1H  | 16         | 56684241   | -0.044          | 0.00741       | 3.02E-09        |
| MT1L  | 16         | 56655171   | -0.739          | 0.0307        | 2.08E-121       |
| Gene    | Chromosome | Base Pair | Fold Change | Log2 Fold Change | p-value          |
|---------|------------|-----------|-------------|-----------------|-----------------|
| MTCH1   | 6:36911511 | 0.0332    | 0.00563     | 3.89E-09        |
| MTCH2   | 11:47646640| 0.0389    | 0.00409     | 2.10E-20        |
| MTERFD1 | 8:97239126 | 0.0468    | 0.00504     | 2.96E-21        |
| MTERFD2 | 2:242054129| 0.125     | 0.00498     | 1.21E-130       |
| MTERFD3 | 12:107370590| 0.121     | 0.0127      | 3.05E-21        |
| MTF2    | 1:93508182 | -0.0364   | 0.00383     | 3.14E-21        |
| MTFMT   | 15:65258834| 0.0349    | 0.0045      | 1.17E-14        |
| MTFR1   | 8:66524904 | -0.2      | 0.00719     | 2.32E-158       |
| MTHFD2  | 2:74436225 | -0.0395   | 0.00652     | 1.42E-09        |
| MTHFR   | 1:11839201 | -0.0875   | 0.00614     | 3.08E-45        |
| MTHFS   | 15:80130958| 0.0754    | 0.00659     | 5.82E-30        |
| MTIF2   | 2:55498584 | 0.416     | 0.0223      | 8.56E-75        |
| MTMR10  | 15:31245880| -0.0264   | 0.00355     | 1.17E-13        |
| MTMR12  | 5:32233963 | -0.13     | 0.0131      | 5.78E-23        |
| MTMR3   | 22:30236395| -0.0203   | 0.00323     | 3.56E-10        |
| MTMR6   | 13:25859816| -0.0873   | 0.00442     | 9.79E-84        |
| MTO1    | 6:74195981 | 0.0577    | 0.00366     | 6.66E-55        |
| MTOR    | 1:11289161 | -0.031    | 0.00314     | 8.94E-23        |
| MTPAP   | 10:30597434| -0.186    | 0.00462     | <1.0E-314       |
| MTRF1   | 13:41845719| 0.0594    | 0.00557     | 2.96E-26        |
| MTRR    | 5:7892173  | 0.0561    | 0.00472     | 3.48E-32        |
| MTSS1   | 8:125576094| -0.0473   | 0.00595     | 2.14E-15        |
| MTUS1   | 8:17660151 | 0.029     | 0.00878     | 9.94E-218       |
| MUC20   | 3:195476085| -0.153    | 0.00794     | 9.75E-80        |
| MUL1    | 1:20834610 | -0.0763   | 0.00658     | 1.03E-30        |
| MUT     | 6:49443984 | -0.126    | 0.00366     | 1.06E-234       |
| MVB12B  | 9:129206832| -0.0629   | 0.00401     | 2.39E-54        |
| MVP     | 16:29845685| -0.0623   | 0.00381     | 7.87E-59        |
| MX1     | 21:42793800| 0.233     | 0.0174      | 3.06E-40        |
| MX2     | 21:42743821| 0.182     | 0.01665     | 2.02E-27        |
| MXI1    | 10:112035723| -0.0612   | 0.00828     | 1.66E-13        |
| MYBL2   | 20:42313552| -0.0376   | 0.00509     | 1.81E-13        |
| MYBPC3  | 11:47397353| 0.0257    | 0.00202     | 1.55E-36        |
| MYBPH   | 1:203156080| 0.0329    | 0.00304     | 6.18E-27        |
| MYCT1   | 6:153043035| 0.108     | 0.01145     | 7.37E-21        |
| MYE2F2  | 15:48462320| -0.767    | 0.0448      | 6.51E-64        |
| MYH10   | 17:8426602 | 0.017     | 0.0023      | 1.52E-13        |
| MYH11   | 16:15748380| -0.113    | 0.00252     | <1.0E-314       |
| MYH3    | 17:10610213| -0.0177   | 0.00255     | 4.79E-12        |
| Gene      | Chromosome | StartPosition | EndPosition | Log2FoldChange | FoldChange | pValue          |
|-----------|------------|---------------|-------------|----------------|------------|----------------|
| MYL6B     | 12         | 12:56564811   |             | -0.0848        | 0.00582    | 3.12E-47       |
| MYLIP     | 6          | 6:16111361    |             | 0.0396         | 0.00577    | 6.93E-12       |
| MYO10     | 5          | 5:16927336    |             | 0.0285         | 0.00236    | 2.96E-33       |
| MYO15B    | 17         | 17:73585569   |             | -0.213         | 0.0074     | 2.30E-169      |
| MYO18A    | 17         | 17:27517415   |             | -0.132         | 0.0121     | 1.71E-27       |
| MYO1D     | 17         | 17:31119037   |             | -0.0842        | 0.0041     | 4.37E-90       |
| MYO1E     | 15         | 15:59690507   |             | 0.0488         | 0.00412    | 6.93E-12       |
| MYO3B     | 2          | 2:171076374   |             | 0.0142         | 0.00228    | 4.15E-10       |
| MYO5A     | 15         | 15:52746722   |             | -0.0828        | 0.00633    | 1.73E-38       |
| MYO5C     | 15         | 15:52591752   |             | -0.0933        | 0.00619    | 2.41E-50       |
| MYO6      | 6          | 6:76488642    |             | -0.038         | 0.00466    | 4.97E-16       |
| MYO7B     | 2          | 2:128353649   |             | 0.0747         | 0.00747    | 2.24E-23       |
| MYOF      | 10         | 10:95203701   |             | 0.108          | 0.00986    | 1.35E-27       |
| MYOM1     | 18         | 18:3248888    |             | 0.0692         | 0.00388    | 1.42E-106      |
| MYOM2     | 8          | 8:2082015     |             | 0.0142         | 0.00369    | <1.0E-314      |
| MYOZ2     | 4          | 4:120155096   |             | -0.0285        | 0.00427    | 2.66E-11       |
| MYRIP     | 3          | 3:40335616    |             | 0.0297         | 0.00263    | 2.29E-29       |
| MYSM1     | 1          | 1:59201213    |             | -0.0341        | 0.00347    | 1.41E-22       |
| MZT2A     | 2          | 2:13223501    |             | 0.308          | 0.0141     | 4.93E-101      |
| N4BP2     | 4          | 4:40060368    |             | 0.055          | 0.00458    | 8.29E-33       |
| N4BP2L2   | 13         | 13:33126139   |             | 0.0244         | 0.00305    | 1.59E-15       |
| N6AMT2    | 13         | 13:21378024   |             | 0.0254         | 0.00331    | 6.23E-15       |
| NAA15     | 4          | 4:140236505   |             | 0.059          | 0.00331    | 1.90E-31       |
| NAA16     | 13         | 13:41876544   |             | 0.0432         | 0.00456    | 4.14E-21       |
| NAA25     | 12         | 12:112479140  |             | 0.0506         | 0.00685    | 1.79E-13       |
| NAA38     | 7          | 7:117824239   |             | 0.143          | 0.0055     | 5.03E-141      |
| NAA60     | 16         | 16:3523626    |             | 0.0914         | 0.00767    | 2.46E-32       |
| NAAA      | 4          | 4:76805267    |             | -0.195         | 0.00475    | <1.0E-314      |
| NAALAD2   | 11         | 11:89861586   |             | 0.0177         | 0.00288    | 7.87E-10       |
| NAB1      | 2          | 2:191539496   |             | 0.0338         | 0.0049     | 6.23E-12       |
| NADKD1    | 5          | 5:36242354    |             | 0.0577         | 0.00455    | 2.82E-36       |
| NADSYN1   | 11         | 11:71132868   |             | 0.0232         | 0.00338    | 7.84E-12       |
| NAE1      | 16         | 16:66865559   |             | 0.0291         | 0.00446    | 7.29E-11       |
| NAF1      | 4          | 4:164083253   |             | 0.0435         | 0.00585    | 1.13E-13       |
| NAGK      | 2          | 2:71272082    |             | 0.234          | 0.00542    | <1.0E-314      |
| NANS      | 9          | 9:100824752   |             | -0.0525        | 0.00429    | 5.46E-34       |
| NAP1L1    | 12         | 12:76428875   |             | -0.0581        | 0.00751    | 1.18E-14       |
| NAP1L5    | 4          | 4:89621072    |             | 0.101          | 0.00674    | 2.08E-49       |
| NAPB      | 20         | 20:23401586   |             | 0.106          | 0.00684    | 1.67E-52       |
| Gene   | Chromosome | Start Position | End Position | Log2FoldChange | Adj.P_VALUE | FDR | P_VALUE |
|--------|------------|----------------|--------------|----------------|-------------|-----|---------|
| NAPG   | 18         | 10547559       |              | -0.107         | 0.00373     | 1.46E-167 |
| NAPRT1 | 8          | 144681777      |              | 0.0545         | 0.00247     | 1.32E-103 |
| NAPSA  | 19         | 50863023       |              | 0.0367         | 0.00458     | 1.25E-15   |
| NARS   | 18         | 55248890       |              | -0.0313        | 0.00326     | 1.09E-21   |
| NARS2  | 11         | 78282632       |              | 0.15           | 0.00519     | 7.01E-171  |
| NAT8B  | 2          | 73927931       |              | -0.115         | 0.00664     | 1.41E-65   |
| NAV3   | 12         | 78427904       |              | 0.0279         | 0.00323     | 3.73E-18   |
| NBAS   | 2          | 15720486       |              | 0.0194         | 0.00287     | 1.36E-11   |
| NBEA   | 13         | 35662801       |              | -0.178         | 0.0148      | 8.94E-33   |
| NBN    | 8          | 90958530       |              | 0.0942         | 0.00583     | 3.23E-57   |
| NBPF11 | 1          | 146488976      |              | 0.121          | 0.00919     | 5.13E-39   |
| NBPF3  | 1          | 21795388       |              | 0.0579         | 0.00359     | 4.39E-57   |
| NBR1   | 17         | 41370072       |              | 0.0369         | 0.00467     | 3.56E-15   |
| NBR2   | 17         | 41298499       |              | 0.111          | 0.0042      | 1.97E-143  |
| NCALD  | 8          | 103118484      |              | -0.0824        | 0.00969     | 2.44E-17   |
| NCAM1  | 11         | 112826186      |              | 0.116          | 0.0174      | 2.56E-11   |
| NCAM2  | 21         | 22428841       |              | -0.0409        | 0.00584     | 2.83E-12   |
| NCAPD2 | 12         | 6627889        |              | -0.105         | 0.00365     | 1.40E-167  |
| NCAPD3 | 11         | 134023859      |              | -0.0567        | 0.00491     | 1.43E-30   |
| NCAPG2 | 7          | 158478691      |              | -0.263         | 0.0161      | 2.53E-58   |
| NCAPH2 | 22         | 50964153       |              | -0.138         | 0.012       | 2.68E-30   |
| NCBP2  | 3          | 196620788      |              | -0.0315        | 0.00506     | 5.16E-10   |
| NCEH1  | 3          | 172347134      |              | 0.0276         | 0.00428     | 1.27E-10   |
| NCF2   | 1          | 183564287      |              | -0.0379        | 0.00406     | 1.57E-20   |
| NCK1   | 3          | 136571480      |              | 0.0305         | 0.00441     | 5.04E-12   |
| NCK2   | 2          | 106509202      |              | -0.0644        | 0.00356     | 8.99E-71   |
| NCKAP1 | 2          | 183916217      |              | -0.0788        | 0.00511     | 1.67E-52   |
| NCKAP1L| 12         | 54890515       |              | -0.0384        | 0.00349     | 9.17E-28   |
| NCLN   | 19         | 3186493        |              | -0.0221        | 0.00336     | 5.34E-11   |
| NCOA1  | 2          | 24986564       |              | 0.0268         | 0.00384     | 3.10E-12   |
| NCOA2  | 8          | 71146050       |              | -0.0378        | 0.00433     | 3.63E-18   |
| NCOA3  | 20         | 46269884       |              | -0.0649        | 0.006       | 5.32E-27   |
| NCOA7  | 6          | 126162143      |              | -0.0546        | 0.00363     | 6.93E-51   |
| NCOR1  | 17         | 16131927       |              | 0.087          | 0.00516     | 5.04E-62   |
| NCR3   | 6          | 31543827       |              | 0.0751         | 0.00553     | 2.39E-41   |
| NCSTN  | 1          | 160317021      |              | 0.0674         | 0.0027      | 1.06E-129  |
| NDC80  | 18         | 2585077        |              | 0.107          | 0.00527     | 3.97E-88   |
| NDE1   | 16         | 15810211       |              | -0.0596        | 0.00476     | 1.88E-35   |
| NDFIP1 | 5          | 141466059      |              | 0.0262         | 0.00331     | 3.09E-15   |
| Gene   | Chromosome | Start Position | Expression | Enrichment | P-Value     |
|--------|------------|----------------|------------|------------|-------------|
| NDN    | 15         | 23944930       | -0.0523    | 0.00573    | 9.34E-20    |
| NDRG1  | 8          | 134296742      | 0.0381     | 0.00318    | 1.19E-32    |
| NDRG3  | 20         | 35237202       | 0.0607     | 0.0101     | 1.67E-09    |
| NDST1  | 5          | 149868870      | 0.215      | 0.00534    | <1.0E-314   |
| NDST2  | 10         | 75572103       | 0.0288     | 0.0037     | 8.32E-15    |
| NDUFA10| 2          | 240894871      | -0.042     | 0.00306    | 3.75E-42    |
| NDUFA12| 12         | 95397552       | -0.098     | 0.00506    | 8.69E-81    |
| NDUFA2 | 5          | 140030306      | 0.0461     | 0.0046     | 1.91E-23    |
| NDUFA3 | 19         | 54631097       | -0.05      | 0.0075     | 2.76E-11    |
| NDUFA6 | 22         | 42486080       | -0.24      | 0.0139     | 7.09E-65    |
| NDUFAF1| 15         | 41685917       | 0.0851     | 0.00515    | 7.92E-60    |
| NDUFAF4| 6          | 97354319       | -0.0835    | 0.0111     | 5.59E-14    |
| NDUFAF5| 20         | 13786587       | -0.126     | 0.00525    | 2.17E-121   |
| NDUFAF6| 8          | 96020877       | -0.038     | 0.00599    | 2.41E-10    |
| NDUFAF7| 2          | 37465055       | 0.088      | 0.0091     | 6.44E-22    |
| NDUFB1 | 14         | 92587277       | -0.0423    | 0.00394    | 1.44E-26    |
| NDUFB10| 16         | 2007740        | -0.0573    | 0.00736    | 8.08E-15    |
| NDUFB2 | 7          | 140348291      | 0.0598     | 0.007     | 1.67E-17    |
| NDUFB9 | 8          | 125562029      | -0.0501    | 0.00726    | 5.77E-12    |
| NDUFC2 | 11         | 77797626       | 0.168      | 0.0059     | 1.87E-166   |
| NDUFS1 | 2          | 207039604      | 0.0208     | 0.00278    | 7.41E-14    |
| NDUFS2 | 1          | 161186313      | 0.0285     | 0.0032     | 5.97E-19    |
| NDUFS4 | 5          | 52954819       | 0.0437     | 0.00727    | 1.97E-09    |
| NDUFS5 | 1          | 39520552       | 0.113      | 0.00506    | 5.49E-106   |
| NDUFS8 | 11         | 67802907       | -0.0404    | 0.00483    | 8.29E-17    |
| NDUFV3 | 21         | 44323720       | 0.0959     | 0.00614    | 9.25E-54    |
| NEB    | 2          | 152619186      | -0.139     | 0.00723    | 3.71E-80    |
| NEBL   | 10         | 21486604       | -1.3       | 0.0267     | <1.0E-314   |
| NECAB2 | 16         | 84081330       | -0.0409    | 0.00347    | 9.95E-32    |
| NECAP1 | 12         | 8214856        | -0.081     | 0.00469    | 6.43E-65    |
| NECAP2 | 1          | 16795685       | -0.0788    | 0.00356    | 3.89E-104   |
| NEDD1  | 12         | 97338862       | -0.0774    | 0.00353    | 2.49E-102   |
| NEDD4  | 15         | 56216037       | -0.149     | 0.00615    | 2.44E-123   |
| NEDD4L | 18         | 55723899       | -0.106     | 0.00866    | 6.31E-34    |
| NEDD8  | 14         | 24686145       | 0.297      | 0.0134     | 1.95E-104   |
| NEDD9  | 6           | 11188939       | -0.034     | 0.00384    | 1.15E-18    |
| NEFL   | 8          | 24820164       | 0.0508     | 0.00488    | 3.77E-25    |
| NEGR1  | 1          | 72752230       | 0.0558     | 0.00305    | 1.60E-72    |
| NEIL2  | 8          | 11642545       | -0.0189    | 0.00319    | 3.75E-09    |
| Gene   | Chromosome | Log2 Fold Change | p-value | Adjusted p-value |
|--------|------------|------------------|---------|-----------------|
| NEIL3  | 4:178260872| 0.094            | 0.0101  | 2.81E-20        |
| NEK1   | 4:170533736| -0.097           | 0.00629 | 1.82E-52        |
| NEK11  | 3:130703761| -0.0644          | 0.00395 | 1.87E-165       |
| NEK3   | 13:52704624| -0.0442          | 0.00426 | 6.14E-25        |
| NEK6   | 9:126985858| 0.112            | 0.00393 | 1.87E-165       |
| NELL2  | 12:45220936| 0.23             | 0.0118  | 1.52E-81        |
| NENF   | 1:212611054| 0.037            | 0.00432 | 1.39E-17        |
| NEO1   | 15:73343575| 0.0955           | 0.00414 | 3.82E-112       |
| NF1    | 17:29724708| 0.0184           | 0.00374 | 5.07E-10        |
| NFAM1  | 22:42796914| -0.0361          | 0.00324 | 4.22E-09        |
| NFAT5  | 16:69686912| 0.191            | 0.00324 | 4.22E-09        |
| NFATC2 | 20:50092287| 0.0493           | 0.0035  | 1.75E-18        |
| NFE2   | 12:54685880| 0.207            | 0.0171  | 3.09E-33        |
| NFIB   | 9:14201012 | 0.0369           | 0.00574 | 1.39E-10        |
| NFIX   | 19:13200977| -0.55            | 0.0562  | 1.97E-22        |
| NFKB1  | 4:103475444| -0.0222          | 0.0035  | 2.70E-10        |
| NFKBIA | 14:35847480| -0.112           | 0.0034  | 1.54E-40        |
| NFRKB  | 11:129695058| 0.0556          | 0.00362 | 3.53E-52        |
| NFU1   | 2:69598243 | -0.0307          | 0.00453 | 1.33E-11        |
| NFXL1  | 4:47812183 | -0.655           | 0.0127  | <1.0E-314       |
| NICN1  | 3:49480908 | 0.0254           | 0.00417 | 1.24E-09        |
| NID1   | 1:236260164| 0.0334           | 0.00542 | 7.29E-10        |
| NID2   | 14:52491754| 0.0135           | 0.00225 | 2.30E-09        |
| NIF3L1 | 2:201768238| 0.029            | 0.00424 | 8.45E-12        |
| NINJ2  | 12:697095  | 0.102            | 0.00493 | 2.52E-91        |
| NINL   | 20:25524743| -0.0276          | 0.00305 | 1.81E-19        |
| NIP7   | 16:69374461| 0.0532           | 0.00604 | 1.71E-18        |
| NIPA1  | 15:23051312| -0.0402          | 0.00318 | 4.68E-36        |
| NIPA2  | 15:23033076| 0.0485           | 0.00314 | 1.86E-52        |
| NIPAL2 | 8:99305363 | 0.391            | 0.00928 | <1.0E-314       |
| NIPAL3 | 1:24739220 | 0.0346           | 0.00391 | 1.09E-18        |
| NIPSAP1| 22:29978331| -0.0506          | 0.00357 | 7.04E-45        |
| NIPSAP3A| 9:107527916| -0.0925          | 0.00537 | 8.77E-65        |
| NIPSAP3B| 9:107525011| -0.163           | 0.00962 | 1.41E-62        |
| NIT1   | 1:161094834| -0.0625          | 0.0035  | 3.00E-69        |
| NKG7   | 19:51885010| -0.0947          | 0.0124  | 3.13E-14        |
| NKTR   | 3:42656578 | 0.0497           | 0.00431 | 1.75E-30        |
| NKKX3-1| 8:23533898 | -0.239           | 0.0156  | 4.26E-52        |
| NLE1   | 17:33493071| -0.0366          | 0.00476 | 1.78E-14        |
| Gene  | Chromosome | Position   | Beta  | SE   | p-value       |
|-------|------------|------------|-------|------|---------------|
| NLN   | 5:65038564 | -0.121     | 0.00447 | 1.67E-152 |
| NLRC4 | 2:32489851 | 0.0341     | 0.00561 | 1.34E-09  |
| NLRC5 | 16:57061189 | -0.043     | 0.00317 | 3.46E-41  |
| NLRP1 | 17:5480145 | 0.108      | 0.0105  | 1.83E-24  |
| NLRP3 | 1:247612202 | 0.0551     | 0.00562 | 1.57E-22  |
| NLRP6 | 11:268020  | 0.0391     | 0.00469 | 8.80E-17  |
| NMD3  | 3:160936364 | -0.0951    | 0.00432 | 5.31E-103 |
| NME1  | 17:49231180 | -0.149     | 0.0051  | 5.56E-174 |
| NME4  | 16:449554  | 0.137      | 0.0146  | 8.38E-21  |
| NME7  | 1:169214822 | 0.111      | 0.0141  | 3.59E-15  |
| NME8  | 7:37875986  | 0.117      | 0.006   | 1.84E-81  |
| NMI   | 2:152130288 | -0.0398    | 0.00633 | 3.77E-10  |
| NMNAT3| 3:139396758 | 0.0434     | 0.00391 | 2.53E-28  |
| NMRL1 | 16:4525265  | -0.071     | 0.00361 | 3.76E-83  |
| NMHRK1| 9:77684690  | -0.241     | 0.0057  | <1.0E-314 |
| NMT1  | 17:43169281 | -0.0247    | 0.00386 | 1.62E-10  |
| NMT2  | 10:15238886 | -0.119     | 0.00597 | 4.94E-85  |
| NMUR1 | 2:232386999 | 0.0233     | 0.00361 | 1.22E-10  |
| NNT   | 5:43726241  | 0.109      | 0.00748 | 3.77E-47  |
| NOA1  | 4:57843295  | 0.064      | 0.00789 | 6.34E-16  |
| NOC3L | 10:96104086 | -0.0941    | 0.00598 | 1.61E-54  |
| NOD2  | 16:50714029 | 0.256      | 0.00419 | <1.0E-314 |
| NOL10 | 2:10752617  | -0.0469    | 0.00764 | 9.17E-10  |
| NOL12 | 22:38085523 | 0.0275     | 0.00325 | 3.43E-17  |
| NOL6  | 9:33520629  | -0.0201    | 0.00305 | 4.54E-11  |
| NOL9  | 1:6585804   | 0.0633     | 0.00625 | 6.96E-24  |
| NOP10 | 15:34631927 | 0.0774     | 0.00822 | 6.61E-21  |
| NOP14 | 4:3015001   | 0.0342     | 0.00335 | 3.23E-24  |
| NOP16 | 5:175824324 | -0.0555    | 0.00863 | 1.42E-10  |
| NOS1AP| 1:162019673 | -0.0766    | 0.0087  | 1.67E-18  |
| NOTCH1| 9:139456353 | 0.0476     | 0.0054  | 1.63E-18  |
| NOV   | 8:120460700 | 0.135      | 0.0146  | 3.95E-20  |
| NOXRED1| 14:77872979 | 0.0373     | 0.00616 | 1.44E-09  |
| NPAS2 | 2:101423151 | -0.0274    | 0.003   | 8.55E-20  |
| NPAT  | 11:108021205 | 0.0444    | 0.00387 | 3.53E-30  |
| NPC1  | 18:21107628  | -0.037    | 0.00439 | 5.01E-17  |
| NPC2  | 14:74966763  | 0.0462    | 0.00494 | 1.10E-20  |
| NPDC1 | 9:139949830  | -0.0568   | 0.00759 | 8.33E-14  |
| NPEPL1| 20:57292123  | -0.0468   | 0.00436 | 1.24E-26  |
| Gene   | Chromosome | Log2 Fold Change | p-Value   | FDR          |
|--------|------------|------------------|-----------|--------------|
| NPEPPS | 17:45635239| -0.0693          | 0.0063    | 8.34E-28     |
| NPHP3  | 3:132441268| -0.104           | 0.00304   | 7.29E-231    |
| NPHP4  | 1:6053630  | 0.0147           | 0.00176   | 7.66E-17     |
| NPIPL3 | 16:21368513| 0.334            | 0.0556    | 2.02E-09     |
| NPPA   | 1:11873512 | -0.127           | 0.0141    | 2.72E-19     |
| NPRL3  | 16:178543  | -0.227           | 0.0122    | 1.91E-74     |
| NQO2   | 6:3003970  | 0.29             | 0.00851   | 1.14E-229    |
| NR1D1  | 17:38248354| -0.0619          | 0.00591   | 1.99E-25     |
| NR1D2  | 3:23956575 | -0.0681          | 0.00699   | 3.18E-22     |
| NR1H3  | 11:47315917| 0.0261           | 0.0031    | 4.56E-17     |
| NR2F6  | 19:17340459| -0.0416          | 0.00583   | 1.14E-12     |
| NR6A1  | 9:127410515| -0.0294          | 0.00387   | 3.33E-14     |
| NRBF2  | 10:64873883| 0.0364           | 0.00541   | 1.90E-11     |
| NRBP1  | 2:27656823 | 0.0231           | 0.0027    | 1.57E-17     |
| NRD1   | 1:52346354 | 0.052            | 0.00334   | 2.65E-53     |
| NRDE2  | 14:90740588| -0.0181          | 0.003     | 1.68E-09     |
| NREP   | 5:111091087| -0.0631          | 0.00815   | 1.21E-14     |
| NRF1   | 7:129313989| -0.0225          | 0.00273   | 2.24E-16     |
| NRG1   | 8:32432796 | 0.151            | 0.00394   | 1.25E-281    |
| NRIP3  | 11:9024460 | -0.0319          | 0.0044    | 4.77E-13     |
| NRN1   | 6:5999938  | 0.088            | 0.00541   | 4.49E-58     |
| NS3BP  | 11:750238  | 0.0685           | 0.00582   | 1.33E-31     |
| NSFL1C | 20:1451628 | 0.12             | 0.00429   | 4.44E-160    |
| NSG1   | 4:4350655  | 0.189            | 0.0064    | 2.06E-176    |
| NSL1   | 1:212955231| 0.0875           | 0.00383   | 6.94E-110    |
| NSMAF  | 8:59501767 | -0.0206          | 0.00324   | 2.28E-10     |
| NSMCE4A| 10:123731471| 0.0406         | 0.00421   | 9.44E-22     |
| NSUN2  | 5:6605532  | -0.102           | 0.00305   | 3.73E-224    |
| NSUN4  | 1:46806429 | -0.105           | 0.00336   | 6.07E-198    |
| NSUN6  | 10:18852539| 0.045            | 0.00434   | 6.12E-25     |
| NSUN7  | 4:40731514 | -0.0988          | 0.00498   | 2.24E-84     |
| NT5C   | 17:73172526| -0.0277          | 0.00328   | 4.12E-17     |
| NT5C2  | 10:104860053| 0.0631         | 0.00421   | 1.21E-49     |
| NT5C3  | 7:33035342 | 0.14             | 0.00935   | 2.22E-49     |
| NT5C3L | 17:39975164| -0.294           | 0.00495   | <1.0E-314    |
| NT5DC2 | 3:52573096 | 0.0165           | 0.00204   | 7.08E-16     |
| NT5DC3 | 12:104180872| -0.229          | 0.00467   | <1.0E-314    |
| NT5E   | 6:86132619 | 0.17             | 0.007     | 3.25E-123    |
| NT5M   | 17:17183513| -0.0613          | 0.004     | 6.60E-52     |
| Gene     | Chromosome | Log2 Fold Change | P-Value   |
|----------|------------|------------------|-----------|
| NTAN1    | 16:15151361| 0.0789           | 2.92E-36  |
| NTNG1    | 1:107678268| -0.0594          | 1.14E-10  |
| NTPCR    | 1:233086882| -0.247           | 6.30E-274 |
| NUAK2    | 1:205304806| -0.0403          | 3.61E-26  |
| NUBP2    | 16:1846089 | -0.0424          | 2.23E-22  |
| NUBPL    | 14:32297243| -0.0436          | 3.90E-17  |
| NUCB2    | 11:17299969| -0.0495          | 9.28E-17  |
| NUCKS1   | 1:205689807| 0.027            | 9.19E-12  |
| NUDCD1   | 8:110283353| -0.0508          | 5.79E-12  |
| NUDCD3   | 7:44538713 | -0.0287          | 5.96E-15  |
| NUDT1    | 7:2260715  | -0.0687          | 1.94E-54  |
| NUDT12   | 5:102871079| 0.258            | 2.44E-233 |
| NUDT14   | 14:105648963| -0.0834        | 3.57E-14  |
| NUDT16P1 | 3:131081669| 0.161            | 6.59E-44  |
| NUDT2    | 9:34320315 | 0.104            | 7.59E-79  |
| NUDT3    | 6:34335285 | 0.0391           | 3.11E-11  |
| NUDT5    | 10:12261852| -0.0937          | 9.75E-32  |
| NUDT9    | 4:88376782 | 0.0273           | 5.53E-14  |
| NUFIP2   | 17:27600063| 0.037            | 2.14E-16  |
| NUMA1    | 11:71739423| -0.0156          | 2.49E-10  |
| NUMB     | 14:73788804| 0.0289           | 8.04E-13  |
| NUP107   | 12:69079909| 0.0886           | 4.96E-119 |
| NUP133   | 1:229627666| 0.0524           | 3.21E-64  |
| NUP153   | 6:17716485 | -0.0374          | 2.66E-15  |
| NUP210L  | 1:154127549| -0.697           | 2.34E-179 |
| NUP35    | 2:184048695| 0.0381           | 7.10E-10  |
| NUP43    | 6:150003226| 0.0525           | 5.07E-43  |
| NUP50    | 22:45570114| 0.181            | 5.08E-114 |
| NUP54    | 4:77046810 | -0.0503          | 2.46E-10  |
| NUP62    | 19:50405218| 0.0171           | 2.36E-12  |
| NUP88    | 17:5282761 | -0.127           | 4.67E-177 |
| NUP98    | 11:3812346 | -0.0257          | 7.47E-14  |
| NUP2L    | 7:23229774 | 0.0238           | 7.22E-13  |
| NUSAP1   | 15:41630770| -0.131           | 8.85E-86  |
| NVL      | 1:224515776| 0.0955           | 9.48E-50  |
| NXF1     | 11:62592195| 0.0245           | 8.54E-11  |
| NXPE3    | 3:101498077| 0.201            | 1.04E-104 |
| OAS1     | 12:113348870| 0.196           | 8.68E-73  |
| OASL     | 12:121478277| 0.074           | 2.91E-21  |
| Gene   | Chromosome | Position  | Beta | SE  | p-value |
|--------|------------|-----------|------|-----|---------|
| OAT    | 10:126100850 | -0.107    | 0.00682 | 4.45E-54 |
| OAZ3   | 1:151741871   | 0.0207    | 0.003 | 1.12E-18 |
| OBFC1  | 10:105613417 | -0.0478   | 0.00539 | 1.12E-18 |
| OCEL1  | 19:17335485  | 0.0516    | 0.00605 | 2.08E-17 |
| OCLM   | 1:186381770  | -0.064    | 0.00719 | 7.54E-19 |
| ODF2L  | 1:86827633   | -0.0602   | 0.00443 | 2.59E-41 |
| OGFOD1 | 16:56491511  | -0.037    | 0.00398 | 2.23E-20 |
| OGFR   | 20:61443636  | 0.03      | 0.00346 | 5.42E-18 |
| OGFRL1 | 6:71952461   | 0.102     | 0.00631 | 8.80E-58 |
| OGG1   | 3:9823302    | 0.0167    | 0.00253 | 4.61E-11 |
| OGN    | 9:95096811   | -0.241    | 0.00527 | <1.0E-314 |
| OIP5   | 15:41590298  | 0.0577    | 0.00502 | 3.05E-30 |
| OLA1   | 2:175090564  | 0.0387    | 0.00473 | 3.84E-16 |
| OLFM4  | 13:53602462  | 0.232     | 0.01   | 3.38E-113 |
| OLFML1 | 11:7521640   | 0.0494    | 0.00547 | 2.09E-19 |
| OLIG1  | 21:34439206  | -0.0548   | 0.00411 | 7.27E-40 |
| OLIG2  | 21:34432792  | -0.0372   | 0.00534 | 3.43E-12 |
| OMD    | 9:95167578   | -0.351    | 0.00954 | 1.64E-264 |
| OPN3   | 1:241804070  | 0.0465    | 0.00475 | 1.70E-22 |
| OPRL1  | 20:62692060  | -0.0433   | 0.00552 | 5.39E-15 |
| OPTN   | 10:13142780  | -0.0936   | 0.0113 | 1.39E-16 |
| OR10AD1| 12:48557922  | -0.151    | 0.00623 | 7.33E-123 |
| OR13D1 | 9:107457532  | -0.141    | 0.0113 | 4.60E-35 |
| OR1J1  | 9:125254013  | -0.0658   | 0.0063 | 3.08E-25 |
| OR1L8  | 9:125338710  | -0.0877   | 0.014  | 4.34E-10 |
| OR1N1  | 9:125254013  | -0.115    | 0.0145 | 2.75E-15 |
| OR1N2  | 9:125359393  | -0.084    | 0.00932 | 2.71E-19 |
| OR2AE1 | 7:99481416   | -0.129    | 0.00713 | 2.55E-71 |
| OR2AK2 | 1:248128929  | -0.204    | 0.00598 | 1.32E-230 |
| OR2B11 | 1:247614617  | -0.136    | 0.00614 | 1.76E-103 |
| OR2L2  | 1:248196602  | -0.266    | 0.0401 | 3.91E-11 |
| OR2L8  | 1:248112627  | 0.249     | 0.013  | 5.01E-79 |
| OR3A2  | 17:3203768   | -0.0387   | 0.00461 | 6.79E-17 |
| OR3A4P | 17:3233600   | -0.0408   | 0.00627 | 8.36E-11 |
| OR4D1  | 17:56233639  | 0.115     | 0.0136 | 3.05E-17 |
| OR52B6 | 11:5641710   | -0.109    | 0.0074  | 2.77E-48 |
| OR52K1 | 11:4491786   | 0.0967    | 0.0107 | 1.67E-19 |
| OR52K2 | 11:4420543   | -0.0962   | 0.00649 | 1.10E-48 |
| OR52N4 | 11:5751392   | -0.282    | 0.0233 | 2.55E-33 |
| Gene    | Chromosome | Start | End   | Log2 Fold Change | p-value   |
|---------|------------|-------|-------|------------------|-----------|
| OR52W1  | 11:6221214 | -0.112| 0.00867| 2.05E-37         |           |
| OR56B1  | 11:5761819 | -0.127| 0.019  | 2.57E-11         |           |
| OR6K3   | 1:158717628| 0.0488 | 0.00659| 1.45E-13         |           |
| OR9A4   | 7:141639589| -0.127| 0.0211 | 1.70E-09         |           |
| OAI2    | 7:102088338| -0.132| 0.0104 | 2.58E-36         |           |
| ORAOV1  | 11:69476293| 0.0657 | 0.00437| 5.68E-50         |           |
| ORC3    | 6:88286127 | 0.0627 | 0.00962| 7.56E-11         |           |
| ORC4    | 2:148792900| -0.0558| 0.00765| 3.71E-13         |           |
| ORM1    | 9:117078173| 0.556 | 0.0164 | 9.37E-229        |           |
| ORM2    | 9:117078286| -0.0998| 0.00801| 3.89E-35         |           |
| ORMDL1  | 2:190597241| -0.0807| 0.00423| 2.31E-78         |           |
| ORMDL3  | 17:38029120| 0.099 | 0.00473| 1.46E-93         |           |
| OSBPL11 | 3:125313904| -0.0346| 0.00435| 2.31E-15         |           |
| OSBPL1A | 18:21924107| -0.039 | 0.00526| 1.41E-13         |           |
| OSBPL2  | 20:60845695| -0.0412| 0.00357| 1.91E-30         |           |
| OSBPL3  | 7:25068398 | 0.0366 | 0.00388| 5.34E-21         |           |
| OSBPL5  | 11:3160207 | -0.019 | 0.00236| 1.04E-15         |           |
| OSBPL6  | 2:179143827| 0.0261 | 0.00303| 9.11E-18         |           |
| OSBPL8  | 12:76981753| -0.516 | 0.017  | 1.56E-187        |           |
| OSBPL9  | 1:52047439 | -0.0564| 0.00707| 1.78E-15         |           |
| OSCAR   | 19:54549026| 0.0694 | 0.0047 | 2.76E-48         |           |
| OSCP1   | 1:36919898 | -0.0236| 0.00394| 2.05E-09         |           |
| OSGEP   | 14:20911822| -0.0843| 0.00419| 4.58E-87         |           |
| OSGIN2  | 8:90989323 | -0.0413| 0.00446| 3.28E-20         |           |
| OSTF1   | 9:77756950 | -0.0466| 0.00432| 7.28E-27         |           |
| OTUB1   | 11:63710016| 0.0912 | 0.0122 | 8.09E-14         |           |
| OTUD6B  | 8:92086692 | 0.0709 | 0.0042 | 2.10E-62         |           |
| OTX1    | 2:63263931 | -0.043 | 0.00347| 8.19E-35         |           |
| OVCH1   | 12:29535715| -0.0673| 0.00567| 4.11E-32         |           |
| OVGP1   | 1:111973893| -0.0221| 0.00317| 3.21E-12         |           |
| OXA1L   | 14:23237835| -0.0375| 0.00452| 1.28E-16         |           |
| OXCT1   | 5:41909115 | -0.0333| 0.00452| 2.20E-13         |           |
| OXNAD1  | 3:16303488 | -0.0532| 0.00757| 2.32E-12         |           |
| P2RX1   | 17:3797488 | 0.423 | 0.00906| <1.0E-314        |           |
| P2RX4   | 12:121660302| -0.0906| 0.00566| 2.84E-56         |           |
| P2RX5   | 17:3601495 | -0.0588| 0.00933| 3.04E-10         |           |
| P2RX7   | 12:121547431| 0.148  | 0.0158 | 1.34E-20         |           |
| P2RY12  | 3:151051983| -0.178 | 0.0103 | 1.20E-64         |           |
| P2RY13  | 3:151056598| -0.0922| 0.00748| 2.00E-34         |           |
| gene    | chromosome:start-end | log2FoldChange | adjusted_pValue | FDR       |
|---------|-----------------------|----------------|-----------------|-----------|
| P2RY14  | 3:151010351           | 0.189          | 0.0126          | 2.43E-50  |
| P4HA1   | 10:74796759           | -0.11          | 0.00932         | 1.25E-31  |
| P4HA2   | 5:131578608           | 0.0647         | 0.0073          | 1.06E-18  |
| PAAF1   | 11:73611349           | 0.162          | 0.00854         | 1.27E-77  |
| PABPC4  | 1:40035928            | 0.03           | 0.00432         | 4.41E-12  |
| PABPN1  | 14:23797201           | -0.0599        | 0.00825         | 4.29E-13  |
| POCR1   | 4:20714653            | 0.0525         | 0.00416         | 5.91E-36  |
| PACS1   | 11:65854561           | 0.0401         | 0.00365         | 8.76E-28  |
| PACSIN2 | 22:43343485           | -0.0311        | 0.00438         | 1.63E-12  |
| PADI2   | 1:17397704            | 0.194          | 0.0047          | <1.0E-314 |
| PADI4   | 1:17619279            | 0.102          | 0.00581         | 2.98E-67  |
| PAFAH1B2| 11:117008345          | 0.109          | 0.00812         | 9.56E-41  |
| PAFAH2  | 1:26330924            | 0.0333         | 0.00418         | 2.10E-15  |
| PAG1    | 8:82034453            | -0.128         | 0.00644         | 5.71E-85  |
| PAK1    | 11:77060092           | 0.0777         | 0.00907         | 1.32E-17  |
| PAK2    | 3:196496687           | -0.0269        | 0.00387         | 4.09E-12  |
| PALLD   | 4:169853125           | 0.0342         | 0.00311         | 8.85E-28  |
| PAM     | 5:102151674           | -0.379         | 0.00432         | <1.0E-314 |
| PAN2    | 12:56750872           | -0.0517        | 0.00739         | 3.03E-12  |
| PAN3    | 13:28771621           | -0.0503        | 0.00625         | 1.11E-15  |
| PANK1   | 10:91326997           | -0.0209        | 0.00282         | 1.64E-13  |
| PANK2   | 20:3873092            | 0.0522         | 0.00388         | 1.91E-40  |
| PANK3   | 5:168020360           | -0.0221        | 0.00345         | 1.66E-10  |
| PANX1   | 11:93862020           | 0.122          | 0.00447         | 1.12E-152 |
| PAPD5   | 16:50277613           | -0.039         | 0.00657         | 3.30E-09  |
| PAPD7   | 5:6710582             | 0.0677         | 0.0113          | 2.54E-09  |
| PAPOLA  | 14:97045171           | 0.043          | 0.00411         | 2.21E-25  |
| PAPSS1  | 4:108609143           | -0.361         | 0.00537         | <1.0E-314 |
| PAPSS2  | 10:89419143           | 0.0434         | 0.00431         | 1.27E-23  |
| PAQR6   | 1:156208230           | 0.122          | 0.00301         | <1.0E-314 |
| PAQR8   | 6:52198785            | 0.0593         | 0.00574         | 8.24E-25  |
| PARD3B  | 2:206246134           | -0.0254        | 0.00312         | 4.91E-16  |
| PARK7   | 1:8056453             | 0.0361         | 0.00346         | 3.44E-25  |
| PARL    | 3:183558402           | 0.0595         | 0.00399         | 3.40E-49  |
| PARP1   | 1:226609436           | -0.0473        | 0.00549         | 9.30E-18  |
| PARP11  | 12:3937663            | 0.05           | 0.00663         | 5.80E-14  |
| PARP14  | 3:122426474           | 0.153          | 0.0146          | 2.02E-25  |
| PARP15  | 3:122296834           | 0.121          | 0.00628         | 1.58E-79  |
| PARP16  | 15:65565632           | 0.0622         | 0.00365         | 2.54E-63  |
| Gene  | Chromosome | Coordinates | P-value   | FDR       | Effect Size |
|-------|-------------|-------------|-----------|-----------|-------------|
| PARP2 | 14:20812467 | -0.0512     | 0.00491   | 3.28E-25  |
| PARP4 | 13:25049203 | 0.061       | 0.00475   | 3.68E-47  |
| PARP8 | 5:49956668  | 0.0794      | 0.00435   | 4.42E-14  |
| PARS2 | 1:55231955  | -0.0198     | 0.00307   | 1.26E-10  |
| PART1 | 5:59837767  | 0.0478      | 0.00793   | 1.81E-09  |
| PARVA | 11:12388984 | 0.0288      | 0.00458   | 3.68E-10  |
| PARVB | 22:44424191 | -0.0432     | 0.00418   | 1.05E-24  |
| PARVG | 22:44637473 | 0.0507      | 0.00734   | 5.80E-12  |
| PASK  | 2:242044910 | 0.0968      | 0.00318   | 4.88E-13  |
| PATZ1 | 22:31750013 | 0.0269      | 0.00371   | 5.80E-12  |
| PAX8  | 2:113993385 | 0.0539      | 0.0023    | 2.21E-11  |
| PBLD  | 10:70042115 | 0.0443      | 0.00715   | 6.36E-10  |
| PBX1  | 1:164520400 | -0.0764     | 0.00948   | 9.44E-16  |
| PBX2  | 6:32153409  | -0.0682     | 0.00747   | 9.19E-20  |
| PBX3  | 9:128593132 | 0.0217      | 0.00367   | 3.56E-09  |
| PBXIP1| 1:15488348  | -0.0199     | 0.00291   | 9.26E-12  |
| PCBP3 | 21:47309593 | -0.0302     | 0.0031    | 2.67E-22  |
| PCCA  | 13:101149072| -0.0273     | 0.00404   | 1.54E-11  |
| PCCB  | 3:136056861 | -0.0292     | 0.0029    | 1.21E-23  |
| PCDH12| 5:141328745 | 0.0263      | 0.0029    | 1.64E-19  |
| PCDH8 | 13:53409474 | -0.0287     | 0.00435   | 4.40E-11  |
| PCDH9 | 13:67787267 | 0.0365      | 0.00615   | 3.13E-09  |
| PCGF2 | 17:36904739 | -0.0343     | 0.00338   | 6.27E-24  |
| PCGF3 | 4:783314    | -0.111      | 0.00383   | 2.41E-17  |
| PCID2 | 13:113840822| -0.0908     | 0.0113    | 1.33E-15  |
| PCK2  | 14:24525274 | -0.0262     | 0.0036    | 3.40E-13  |
| PCM1  | 8:17778924  | -0.0735     | 0.00425   | 4.00E-65  |
| PCMT1 | 6:150093682 | -0.0411     | 0.00417   | 1.05E-22  |
| PCMTD1| 8:52732154  | 0.0492      | 0.00532   | 3.10E-20  |
| PCMTD2| 20:62905851 | 0.143       | 0.00696   | 5.28E-90  |
| PCNA  | 20:5113847  | 0.0703      | 0.00898   | 5.95E-15  |
| PCNT  | 21:47793235 | -0.0387     | 0.00297   | 2.81E-38  |
| PCNX  | 14:71353205 | 0.0955      | 0.00589   | 1.02E-57  |
| PCNXL4| 14:60641082 | -0.0544     | 0.00499   | 2.45E-27  |
| PCSK5 | 9:78487243  | -0.0354     | 0.00432   | 3.34E-16  |
| PCSK7 | 11:117096652| -0.0348     | 0.00427   | 4.20E-16  |
| PCTP  | 17:53838522 | -0.0636     | 0.00814   | 6.43E-15  |
| PCYOX1L| 5:148764710| -0.0569     | 0.00329   | 4.43E-65  |
| PCYT1A| 3:195952900 | -0.0693     | 0.00408   | 4.47E-63  |
| Gene    | Chromosome | Position   | Log2 Fold Change | p-Value   |
|---------|------------|------------|------------------|-----------|
| PDC     | 1          | 1:186407267| -0.193           | 1.60E-98  |
| PDC1LG2 | 9          | 9:5466085  | -0.0762          | 7.54E-19  |
| PDCD4   | 10         | 10:112658148| 0.0585           | 7.77E-14  |
| PDCD5   | 19         | 19:33074614| -0.0417          | 9.92E-17  |
| PDCD6IP | 3          | 3:33882134 | 0.056            | 1.84E-81  |
| PDCD7   | 15         | 15:65411709| -0.249           | 2.70E-27  |
| PDE1B   | 12         | 12:54944618| -0.0398          | 2.81E-20  |
| PDE3B   | 11         | 11:14768384| -0.0444          | 4.11E-24  |
| PDE4B   | 1          | 1:66841180 | 0.0234           | 2.60E-09  |
| PDE4D   | 5          | 5:99544653 | -0.072           | 2.92E-84  |
| PDE6D   | 2          | 2:232617205| 0.0475           | 2.89E-21  |
| PDE6H   | 12         | 12:15097497| -0.0525          | 1.62E-10  |
| PDE7A   | 8          | 8:66732061 | -0.0484          | 6.21E-19  |
| PDE8A   | 15         | 15:85520329| 0.0356           | 2.46E-12  |
| PDE8B   | 5          | 5:76733379 | 0.0266           | 1.14E-22  |
| PDE9A   | 21         | 21:44158405| -0.0751          | 2.25E-122 |
| PDGFC   | 4          | 4:157674780| 0.0495           | 1.69E-21  |
| PDGFD   | 11         | 11:104023820| -0.0938        | 8.66E-11  |
| PDHB    | 3          | 3:58375403 | 0.0358           | 2.90E-22  |
| PDHX    | 11         | 11:34982148| -0.0529          | 8.41E-35  |
| PDIA5   | 3          | 3:122841062| 0.0237           | 4.33E-12  |
| PDIA6   | 2          | 2:10933249 | 0.0558           | 1.66E-49  |
| PDK1    | 2          | 2:173371508| 0.132            | 3.79E-75  |
| PDK2    | 17         | 17:48158049| -0.0612          | 2.96E-15  |
| PDK4    | 7          | 7:95173570 | -0.0671          | 1.31E-20  |
| PDLIM1  | 10         | 10:97037578| -0.042           | 1.83E-09  |
| PDLIM5  | 4          | 4:95568956 | -0.0265          | 1.16E-12  |
| PDP1    | 8          | 8:94916102 | -0.0429          | 1.00E-22  |
| PDPR    | 16         | 16:70117111| 0.136            | 1.24E-10  |
| PDSSA   | 4          | 4:39820977 | 0.0277           | 3.36E-23  |
| PDSS1   | 10         | 10:26983410| -0.0544          | 4.47E-17  |
| PDXK    | 21         | 21:45152500| -0.0835          | 6.37E-98  |
| PDZD8   | 10         | 10:119154977| -0.154         | 1.20E-293 |
| PDZK1IP1| 1          | 1:47655816 | 0.494            | 1.49E-181 |
| PEA15   | 1          | 1:160141286| -0.0413          | 1.04E-10  |
| PEBP1   | 12         | 12:118583232| -0.149        | 3.44E-208 |
| PECR    | 2          | 2:216887593| 0.053            | 7.90E-26  |
| PEG10   | 7          | 7:94253617 | 0.0253           | 4.72E-16  |
| PELI1   | 2          | 2:64318988 | -0.11            | 4.43E-17  |
| Gene   | Chromosome | Genomic Position | log10(p) | log10(FDR) |
|--------|------------|------------------|----------|------------|
| PELI2  | 14:56585620| 0.0233           | 5.00E-14 |
| PELI3  | 11:66258006| 0.016            | 5.13E-09 |
| PER3   | 1:7897228  | -0.0629          | 1.35E-43 |
| PERP   | 6:138412313| 0.109            | 1.22E-46 |
| PES1   | 22:30993934| -0.027           | 2.93E-11 |
| PEX1   | 7:92182429 | -0.064           | 4.09E-09 |
| PEX14  | 1:10580275 | 0.0196           | 2.40E-14 |
| PEX5   | 12:7329996 | -0.0337          | 1.10E-24 |
| PEX6   | 6:42897074 | 0.122            | <1.0E-314|
| PEX7   | 6:137205972| 0.0356           | 4.39E-11 |
| PF4V1  | 4:74713950 | -1.08            | <1.0E-314|
| PFKFB2 | 1:207245080| 0.0343           | 1.18E-09 |
| PFKM   | 12:48582520| -0.0231          | 3.17E-15 |
| PFKP   | 10:3138996 | -0.0599          | 1.13E-58 |
| PFN2   | 3:149692597| 0.137            | 2.92E-102|
| PGAM2  | 7:44071980 | 0.073            | 1.42E-09 |
| PGAP1  | 2:197808980| 0.0736           | 3.36E-14 |
| PGAP2  | 11:3858616 | -0.0256          | 1.57E-12 |
| PGAP3  | 17:37829571| 0.0228           | 2.38E-12 |
| PGBD4  | 15:34388399| -0.0698          | 4.06E-12 |
| PGGT1B | 5:114548071| 0.256            | 1.19E-168|
| PGLYRP1| 19:46520945| 0.0592           | 2.41E-37 |
| PGM1   | 1:64128758 | -0.0244          | 6.79E-15 |
| PGM2   | 4:37846643 | -0.0573          | 8.09E-27 |
| PGM2L1 | 11:74039452| -0.0781          | 4.07E-30 |
| PGM3   | 6:83828724 | 0.0581           | 2.93E-37 |
| PGM5   | 9:71175565 | -0.24            | 2.79E-294|
| PGPEP1 | 19:18499238| 0.0392           | 1.08E-13 |
| PGS1   | 17:76383671| 0.0498           | 1.51E-20 |
| PHF10  | 6:170075364| 0.0667           | 3.04E-26 |
| PHF11  | 13:50105215| -0.0982          | 3.26E-74 |
| PHF17  | 4:129817261| -0.0368          | 1.32E-24 |
| PHF19  | 9:123605711| -0.0292          | 1.11E-10 |
| PHF20L1| 8:133791175| 0.0604           | 5.00E-79 |
| PHF5A  | 22:41909618| -0.0616          | 1.23E-28 |
| PHGDH  | 1:120255370| -0.035           | 1.02E-16 |
| PHIP   | 6:79595097 | 0.0418           | 9.41E-35 |
| PHKB   | 16:47526756| 0.107            | 1.07E-28 |
| PHLDB2 | 3:111617861| -0.028           | 9.33E-10 |
| Gene     | Chromosome | Gene ID     | Log2FoldChange | PValue     | BonferroniAdjustedPValue |
|----------|------------|-------------|----------------|------------|-------------------------|
| PHLPP1   | 18:60595572| 0.0682      | 0.00376        | 3.47E-71   |
| PHOSPHO1 | 17:47349743| -0.0619     | 0.00872        | 1.48E-12   |
| PHOSPHO2 | 2:170600408| 0.0427      | 0.00661        | 1.14E-10   |
| PHTF2    | 7:77540136 | 0.0438      | 0.00715        | 9.62E-10   |
| PHYH     | 10:13363046| 0.0325      | 0.0044        | 1.71E-13   |
| PI16     | 6:36915094 | -0.162      | 0.00656        | 3.30E-128  |
| PI3      | 20:43803708| 0.403       | 0.0156        | 3.65E-138  |
| PI4K2A   | 10:99385842| -0.0341     | 0.00577        | 3.83E-09   |
| PI4K2B   | 4:25251215 | -0.0562     | 0.00482        | 5.55E-31   |
| PIAS2    | 18:44494527| -0.0776     | 0.00391        | 1.04E-84   |
| PIAS4    | 19:3989692 | -0.027      | 0.00409        | 4.46E-11   |
| PICALM   | 11:85690012| -0.0505     | 0.00647        | 7.47E-15   |
| PICK1    | 22:3856680 | 0.0614      | 0.00418        | 6.35E-48   |
| PID1     | 2:230182148| 0.197       | 0.0134        | 8.82E-48   |
| PIEZO1   | 16:88783449| 0.0239      | 0.00276        | 5.44E-18   |
| PIGB     | 15:55570932| -0.044      | 0.00575        | 2.52E-14   |
| PIGC     | 1:17242529 | 0.0713      | 0.00416        | 2.74E-64   |
| PIGF     | 2:46818992 | 0.0589      | 0.00765        | 1.66E-14   |
| PIGG     | 4:525060  | -0.0449     | 0.00397        | 2.76E-29   |
| PIGK     | 1:77731287| 0.0349      | 0.00517        | 1.54E-11   |
| PIGM     | 1:159983400| -0.158      | 0.012         | 1.08E-38   |
| PIGN     | 18:59814324| -0.118      | 0.0045        | 5.36E-142  |
| PIGP     | 21:38452379| 0.0608      | 0.00441        | 1.56E-42   |
| PIGU     | 20:33220196| 0.0297      | 0.00427        | 4.38E-12   |
| PIGV     | 1:27172633 | 0.348       | 0.0272        | 4.48E-37   |
| PIGW     | 17:34843839| 0.0708      | 0.00529        | 4.32E-40   |
| PIGX     | 3:196430450| 0.159       | 0.011         | 1.09E-46   |
| PIGY     | 4:89417500 | -0.074      | 0.00722        | 1.81E-24   |
| PIH1D1   | 19:49960479| -0.0826     | 0.00463        | 3.46E-69   |
| PIK3C2A  | 11:17115254| -0.174      | 0.0066        | 8.52E-144  |
| PIK3C3   | 18:39530811| 0.0558      | 0.00456        | 6.72E-34   |
| PIK3CA   | 3:178925321| 0.038       | 0.00434        | 2.99E-18   |
| PIK3IP1  | 22:31659827| 0.0441      | 0.00444        | 4.46E-23   |
| PIK3R3   | 1:46595868 | 0.232       | 0.00648        | 1.14E-251  |
| PILRB    | 7:99947657 | -0.152      | 0.00475        | 1.75E-204  |
| PIM1     | 6:37142422 | 0.0494      | 0.00682        | 4.76E-13   |
| PINK1    | 1:20949488 | 0.0572      | 0.00574        | 3.35E-23   |
| PINX1    | 8:10623884 | 0.0354      | 0.0056        | 2.77E-10   |
| PIP4K2A  | 10:22826093| 0.0713      | 0.00723        | 1.01E-22   |
| Gene     | Chromosome | Start | Stop  | Direction | Score | p-Value |
|----------|------------|-------|-------|-----------|-------|---------|
| PIP4K2B  | 17         | 36926731 | 36926731 | +         | 0.0583 | 7.39E-66 |
| PISD     | 22         | 31982241 | 31982241 | +         | -0.125 | 1.31E-264 |
| PITPNA   | 17         | 1464466  | 1464466  | +         | -0.129 | 3.71E-80  |
| PITPNB   | 22         | 28357674 | 28357674 | +         | -0.0405 | 8.36E-10 |
| PITPNC1  | 17         | 65381347 | 65381347 | +         | -0.0493 | 2.00E-17  |
| PITRM1   | 10         | 3215646  | 3215646  | +         | -0.0574 | 1.80E-63  |
| PIWIL4   | 11         | 94323376 | 94323376 | +         | -0.0243 | 3.20E-12  |
| PJA2     | 5          | 108752743| 108752743| +         | 0.0743 | 1.59E-94  |
| PKD1L1   | 7          | 48023705 | 48023705 | +         | 0.0154 | 2.35E-23  |
| PKD1L3   | 16         | 72051369 | 72051369 | +         | -0.0172 | 4.37E-13  |
| PKD2     | 4          | 88933519 | 88933519 | +         | -0.305 | 9.64E-119 |
| PKD2L1   | 10         | 102044312| 102044312| +         | -0.0326 | 1.95E-09  |
| PKD2L2   | 5          | 137244311| 137244311| +         | -0.0157 | 1.51E-13  |
| PKDREJ   | 22         | 46652372 | 46652372 | +         | 0.0401 | 1.36E-22  |
| PKHD1L1  | 8          | 110582366| 110582366| +         | 0.0341 | 6.69E-11  |
| PKIA     | 8          | 79482385 | 79482385 | +         | 0.0579 | 3.33E-46  |
| PKIB     | 6          | 123017838| 123017838| +         | 0.0329 | 1.86E-14  |
| PKNOX1   | 21         | 44473867 | 44473867 | +         | 0.12   | 9.45E-111 |
| PKP2     | 12         | 33057444 | 33057444 | +         | -0.0252 | 3.31E-12  |
| PKP4     | 2          | 159332885| 159332885| +         | 0.0514 | 7.67E-30  |
| PLA2G16  | 11         | 63385451 | 63385451 | +         | 0.163  | 2.67E-37  |
| PLA2G4A  | 1          | 186947729| 186947729| +         | -0.0522 | 8.67E-29  |
| PLA2G4C  | 19         | 48622545 | 48622545 | +         | -0.131 | 6.63E-156 |
| PLA2G7   | 6          | 46745076 | 46745076 | +         | 0.495  | 3.96E-75  |
| PLAC4    | 21         | 42521161 | 42521161 | +         | 0.0695 | 7.29E-31  |
| PLAGL1   | 6          | 144286687| 144286687| +         | -0.384 | 1.95E-83  |
| PLAUR    | 19         | 44151621 | 44151621 | +         | 0.0375 | 1.09E-09  |
| PLB1     | 2          | 28677086 | 28677086 | +         | -0.53  | <1.0E-314 |
| PLBD1    | 12         | 14742575 | 14742575 | +         | -0.349 | 1.80E-15  |
| PLCB1    | 20         | 8408544 | 8408544 | +         | 0.145  | 6.59E-167 |
| PLCB3    | 11         | 64044284 | 64044284 | +         | 0.0146 | 2.63E-11  |
| PLCG2    | 16         | 81964977 | 81964977 | +         | 0.0382 | 1.61E-19  |
| PLCL1    | 2         | 198882952| 198882952| +         | 0.16   | 1.54E-166 |
| PLCL2    | 3         | 16908186 | 16908186 | +         | -0.0503 | 9.81E-18  |
| PLD1     | 3         | 171546161| 171546161| +         | -0.039 | 2.72E-14  |
| PLD2     | 17         | 4721376 | 4721376 | +         | -0.148 | 2.68E-52  |
| PLD3     | 19         | 40851678 | 40851678 | +         | 0.0187 | 3.58E-12  |
| PLD6     | 17         | 17158343 | 17158343 | +         | -0.088 | 1.11E-91  |
| PLEC     | 8          | 145031968| 145031968| +         | 0.028  | 2.58E-63  |
| Gene  | Chromosome | Position   | Fold Change | t-value | p-value   |
|-------|------------|------------|-------------|---------|-----------|
| PLEK  | 2          | 2:68637710 | 0.148       | 0.00453 | 2.39E-214 |
| PLEKHA1 | 10        | 10:124192430 | -0.0982     | 0.00492 | 1.49E-85  |
| PLEKHA3 | 2         | 2:179368982 | 0.0473      | 0.00568 | 9.95E-17  |
| PLEKHA5 | 12        | 12:19317082 | 0.102       | 0.00536 | 7.63E-78  |
| PLEKHA7 | 11        | 11:17025712 | -0.0162     | 0.00222 | 2.90E-13  |
| PLEKHF2 | 8         | 8:96209862  | -0.155      | 0.0137  | 1.98E-29  |
| PLEKHG2 | 19        | 19:39967355 | 0.0284      | 0.0033  | 1.07E-17  |
| PLEKHG6 | 12        | 12:6451590  | -0.0135     | 0.00186 | 4.56E-13  |
| PLEKHH2 | 2         | 2:43863274  | -0.0645     | 0.0228  | 4.14E-165 |
| PLEKHM1 | 17        | 17:43493834 | -0.0938     | 0.0068  | 1.56E-42  |
| PLEKHO2 | 15        | 15:65117709 | -0.0601     | 0.00331 | 2.42E-71  |
| PLGRKT | 9         | 9:5383460   | -0.0514     | 0.00619 | 1.16E-16  |
| PLIN2  | 9         | 9:19127489  | -0.205      | 0.00593 | 1.61E-236 |
| PLIN3  | 19        | 19:4847874  | -0.0443     | 0.00605 | 2.93E-13  |
| PLK1   | 16        | 16:23697679 | -0.057      | 0.00453 | 1.06E-35  |
| PLK1S1 | 20        | 20:21142523 | -0.136      | 0.00443 | 3.99E-189 |
| PLN    | 6         | 6:118885950 | 0.15        | 0.00623 | 3.28E-122 |
| PLD1   | 1         | 1:12048595  | -0.0929     | 0.003   | 6.29E-194 |
| PLRG1  | 4         | 4:155456390 | 0.0325      | 0.00377 | 8.38E-18  |
| PLS1   | 3         | 3:142396296 | -0.119      | 0.0164  | 5.79E-13  |
| PLSCR1 | 3         | 3:146250397 | 0.145       | 0.00922 | 8.44E-55  |
| PLSCR3 | 17        | 17:7301193  | 0.0373      | 0.00467 | 1.63E-15  |
| PLTP   | 20        | 20:44540178 | -0.0228     | 0.00252 | 2.07E-19  |
| PLVAP  | 19        | 19:17428176 | -0.0747     | 0.00999 | 9.09E-14  |
| PLXDC1 | 17        | 17:37248796 | 0.0606      | 0.00406 | 2.18E-49  |
| PLXDC2 | 10        | 10:20108228 | 0.0875      | 0.00578 | 9.89E-51  |
| PLXNA2 | 1         | 1:208408890 | 0.0178      | 0.00243 | 2.45E-13  |
| PLXNC1 | 12        | 12:94517858 | -0.0551     | 0.00714 | 1.50E-14  |
| PMF1   | 1         | 1:156206121 | 0.0189      | 0.00296 | 1.95E-10  |
| PMM2   | 16        | 16:8930666  | 0.0877      | 0.0061  | 4.29E-46  |
| PMP22  | 17        | 17:15147127 | -0.033      | 0.00558 | 3.41E-09  |
| PMS1   | 2         | 2:190620957 | -0.0704     | 0.00464 | 7.77E-51  |
| PMS2   | 7         | 7:6056901   | -0.113      | 0.00645 | 1.50E-66  |
| PNKD   | 2         | 2:219195799 | 0.0251      | 0.00313 | 1.32E-15  |
| PNKP   | 19        | 19:50368361 | -0.0184     | 0.00182 | 9.24E-24  |
| PNLD1C1 | 6        | 6:160206106 | -0.0514     | 0.00647 | 2.50E-15  |
| PNMAL1 | 19        | 19:46974752 | -0.0359     | 0.00523 | 7.84E-12  |
| PNN    | 14        | 14:39651193 | -0.0248     | 0.00404 | 8.76E-10  |
| PNP    | 14        | 14:20940626 | 0.0815      | 0.00904 | 2.49E-19  |
| Gene   | Chromosome | Location   | Log2 Fold Change | Fold Change   | p-Value    |
|--------|------------|------------|-----------------|---------------|------------|
| PNPLA1 | 6          | 36:258667  | 0.0317          | 0.004         | 3.23E-15   |
| PNPLA8 | 7          | 108:101701 | -0.167          | 0.0154        | 4.41E-27   |
| PNRC1  | 6          | 89783713   | -0.0334         | 0.00332       | 1.36E-23   |
| POC1B  | 12         | 89907010   | 0.205           | 0.00701       | 6.31E-174  |
| POC5   | 5          | 74998892   | -0.091          | 0.00478       | 4.83E-78   |
| POFUT2 | 21         | 4665385    | -0.0585         | 0.00625       | 1.08E-20   |
| POGlut1| 3          | 119:143833 | -0.142          | 0.00747       | 5.32E-78   |
| POGZ   | 1          | 151:41924  | -0.0611         | 0.00776       | 4.08E-15   |
| POLDIP3| 22         | 42982275   | -0.0583         | 0.00825       | 1.71E-12   |
| POLE2  | 14         | 50133218   | 0.0626          | 0.00837       | 8.53E-14   |
| POLE4  | 2          | 75185856   | -0.0736         | 0.00526       | 1.36E-43   |
| POLI   | 18         | 51779019   | -0.174          | 0.00405       | <1.0E-314  |
| POLM   | 7          | 44111258   | 0.0322          | 0.00329       | 1.87E-22   |
| POLN   | 4          | 22223070   | -0.0446         | 0.00561       | 2.29E-15   |
| POLR1A | 2          | 86332656   | 0.0556          | 0.00353       | 8.72E-55   |
| POLR1B | 2          | 113300283  | -0.129          | 0.00635       | 3.18E-88   |
| POLR1D | 13         | 28172776   | 0.212           | 0.00688       | 2.01E-191  |
| POLR1E | 9          | 37490307   | 0.13            | 0.00593       | 4.36E-102  |
| POLR2B | 4          | 5795214    | -0.0293         | 0.00294       | 2.79E-23   |
| POLR2C | 16         | 57515188   | -0.0276         | 0.0038        | 4.57E-13   |
| POLR2D | 2          | 128615390  | 0.024           | 0.00389       | 7.10E-10   |
| POLR2J | 7          | 102085206  | 0.343           | 0.0161        | 7.73E-97   |
| POLR2L | 11         | 837661     | -0.431          | 0.0201        | 5.12E-98   |
| POLR3B | 12         | 106729425  | -0.0961         | 0.0104        | 3.00E-20   |
| POLR3E | 16         | 22345191   | -0.0206         | 0.00298       | 4.77E-12   |
| POLR3F | 20         | 18464673   | -0.046          | 0.0054        | 2.14E-17   |
| POLR3K | 16         | 136142     | 0.13            | 0.0104        | 7.58E-36   |
| POM121 | 7          | 72300332   | -0.364          | 0.0291        | 2.82E-35   |
| POMT1  | 9          | 134389070  | -0.0372         | 0.00413       | 3.05E-19   |
| POMT2  | 14         | 77754530   | -0.0285         | 0.00468       | 1.16E-09   |
| PON2   | 7          | 95063702   | -0.0577         | 0.0053        | 2.48E-27   |
| POP5   | 12         | 120994872  | -0.0931         | 0.00579       | 6.31E-57   |
| POPDC2 | 3          | 119375441  | 0.083           | 0.00393       | 3.82E-95   |
| POR    | 7          | 75664921   | -0.03           | 0.00335       | 5.30E-19   |
| PP2D1  | 3          | 20021515   | 0.0792          | 0.00827       | 1.58E-21   |
| PP7080 | 5          | 466458     | 0.0651          | 0.00777       | 3.79E-17   |
| PPA1   | 10         | 72002499   | -0.136          | 0.00652       | 1.15E-92   |
| PPA2   | 4          | 106325900  | -0.0526         | 0.00288       | 3.57E-72   |
| PPAPDC2| 9          | 4670187    | -0.0855         | 0.00596       | 9.90E-46   |
| Gene      | Chromosome | Start Position | End Position | Log2 Fold Change | p-value     | q-value   |
|-----------|------------|----------------|--------------|-----------------|-------------|-----------|
| PPARG     | 3:12511376 | -0.0218        | 0.00291      | 8.56E-14        |             |           |
| PPARGC1A  | 4:23868647 | -0.116         | 0.00498      | 6.75E-115       |             |           |
| PPAT      | 4:57230687 | 0.0817         | 0.00494      | 8.0E-24         |             |           |
| PCS       | 1:42910624 | 0.0441         | 0.00436      | 3.9E-24         |             |           |
| PDPF      | 20:62162917| 0.113          | 0.0159       | 1.13E-12        |             |           |
| PPIA      | 7:44836314 | 0.0619         | 0.00744      | 7.8E-13         |             |           |
| PPPIE     | 1:40200894 | -0.314         | 0.00469      | 1.8E-110        |             |           |
| PPPIF     | 10:81103247| -0.0595        | 0.00351      | 9.48E-63        |             |           |
| PPPIG     | 2:170457451| 0.0517         | 0.00431      | 8.5E-32         |             |           |
| PPPIH     | 1:43111741 | 0.0559         | 0.00686      | 1.17E-16        |             |           |
| PPIL2     | 22:22049783| -0.0263        | 0.00275      | 7.9E-21         |             |           |
| PPIL3     | 2:201730687| 0.28           | 0.0067       | 8.5E-16         |             |           |
| PPIL4     | 6:149811693| 0.0925         | 0.00405      | 1.17E-10        |             |           |
| PPIP5K2   | 5:102415468| 0.206          | 0.00428      | 8.5E-14         |             |           |
| PPL       | 16:4949815 | -0.0386        | 0.00231      | 2.1E-61         |             |           |
| PPM1F     | 22:22301254| 0.0742         | 0.00371      | 9.2E-86         |             |           |
| PPM1K     | 4:89150178 | -0.0486        | 0.00693      | 2.48E-12        |             |           |
| PPM1L     | 3:160512511| 0.0942         | 0.0134       | 2.59E-12        |             |           |
| PPM1M     | 3:52287468 | -0.0216        | 0.00332      | 8.9E-11         |             |           |
| PPM1N     | 19:46006212| 0.0349         | 0.00585      | 2.66E-09        |             |           |
| PPP1CC    | 12:11118719| 0.14           | 0.0155       | 2.72E-19        |             |           |
| PPP1R11   | 6:29986684 | -0.0659        | 0.00594      | 2.94E-28        |             |           |
| PPP1R14A  | 19:38741577| -0.0949        | 0.0123       | 1.13E-14        |             |           |
| PPP1R15A  | 19:49378328| 0.0621         | 0.00652      | 2.56E-21        |             |           |
| PPP1R17   | 7:31728180 | 0.038          | 0.00446      | 2.23E-17        |             |           |
| PPP1R2    | 3:195284917| -0.381         | 0.0149       | 3.01E-136       |             |           |
| PPP1R21   | 2:48682513 | 0.0405         | 0.00471      | 1.06E-17        |             |           |
| PPP1R3B   | 8:8969374  | -0.0506        | 0.00606      | 8.89E-17        |             |           |
| PPP1R7    | 2:242120608| -0.0648        | 0.00471      | 2.41E-42        |             |           |
| PPP2CB    | 8:30649380 | -0.273         | 0.0115       | 1.50E-117       |             |           |
| PPP2R1B   | 11:111621399| 0.0579        | 0.0031       | 1.94E-75        |             |           |
| PPP2R2D   | 10:133766943| 0.0279        | 0.00467      | 2.56E-09        |             |           |
| PPP2R3A   | 3:135800693 | -0.0192        | 0.00284      | 1.34E-11        |             |           |
| PPP2R3C   | 14:35625217 | 0.194          | 0.00534      | 3.39E-259       |             |           |
| PPP2R4    | 9:131884041 | 0.07           | 0.00434      | 4.37E-57        |             |           |
| PPP2R5A   | 1:212440206 | -0.21          | 0.00524      | 2.02E-306       |             |           |
| Gene Name | Chromosome | Start Position | p-value | q-value | log2FoldChange |
|-----------|------------|----------------|---------|---------|----------------|
| PPP2R5C  | 14:102369553 | -0.0302        | 0.00411 | 2.63E-13 |
| PPP3CA   | 4:102268940  | 0.0286         | 0.00358 | 1.55E-15  |
| PPP4R1   | 18:9626179   | 0.0733         | 0.00507 | 6.49E-177 |
| PPP4R4   | 14:94616008  | -0.0801        | 0.00299 | 1.84E-148 |
| PPP5C    | 19:46860562  | 0.0914         | 0.0031  | 1.61E-46  |
| PPP6C    | 9:127952746  | 0.0312         | 0.00304 | 1.49E-24  |
| PPT1     | 1:40559052   | 0.434          | 0.00862 | <1.0E-314 |
| PPT2     | 6:32113571   | -0.0182        | 0.00274 | 3.44E-11  |
| PPTC7    | 12:110996263 | 0.04           | 0.00578 | 5.02E-12  |
| PPWD1    | 5:64828559   | -0.068         | 0.00383 | 1.04E-68  |
| PQLC1    | 18:77711157  | 0.0355         | 0.00424 | 7.34E-17  |
| PQLC3    | 2:11325331   | -0.0457        | 0.00392 | 3.87E-31  |
| PRAM1    | 19:8540159   | 0.0351         | 0.00413 | 2.21E-17  |
| PRC1     | 15:91525197  | 0.0625         | 0.00631 | 6.59E-23  |
| PRDM15   | 21:43220036  | -0.0345        | 0.00343 | 1.47E-23  |
| PRDM4    | 12:108082066 | -0.0587        | 0.00388 | 1.19E-52  |
| PRDM5    | 4:121693006  | 0.207          | 0.00604 | 1.52E-231 |
| PRDM8    | 4:81132765   | -0.0344        | 0.00313 | 7.29E-28  |
| PRDX1    | 1:45987574   | 0.0592         | 0.00767 | 1.44E-14  |
| PRDX3    | 10:120952037 | -0.0512        | 0.00456 | 6.32E-29  |
| PRDX5    | 11:64082807  | -0.25          | 0.00694 | 4.48E-254 |
| PRDX6    | 1:173484385  | -0.301         | 0.00916 | 2.25E-215 |
| PRELID2  | 5:145210955  | -0.0467        | 0.00784 | 2.80E-09  |
| PREP     | 6:105776312  | 0.0231         | 0.00391 | 3.65E-09  |
| PREX1    | 20:47373809  | 0.0724         | 0.0047  | 1.94E-52  |
| PRG4     | 1:186291941  | 0.0409         | 0.00538 | 3.55E-14  |
| PRH1     | 12:11072615  | -0.258         | 0.0115  | 3.42E-106 |
| PRH2     | 12:11131212  | 0.224          | 0.0116  | 7.67E-80  |
| PRICKLE1 | 12:43002908  | 0.0681         | 0.0111  | 1.02E-09  |
| PRICKLE4 | 6:41782107   | -0.0269        | 0.00325 | 1.49E-16  |
| PRIM1    | 12:57144533  | -0.122         | 0.00476 | 1.10E-136 |
| PRKAB1   | 12:120146925 | -0.0684        | 0.0064  | 2.29E-26  |
| PRKAB2   | 1:146632970  | -0.0673        | 0.00426 | 7.40E-55  |
| PRKAG2   | 7:151250455  | -0.0361        | 0.00366 | 1.00E-22  |
| PRKAG3   | 2:219666228  | -0.0143        | 0.00224 | 1.89E-10  |
| PRKAR2B  | 7:106655758  | 0.112          | 0.0178  | 4.02E-10  |
| PRKCA    | 17:64283468  | 0.0346         | 0.00551 | 3.52E-10  |
| PRKCB    | 16:23865170  | 0.0898         | 0.00331 | 9.36E-152 |
| PRKCD    | 3:53205494   | -0.0373        | 0.00506 | 1.93E-13  |
| Gene | Chromosome | Start | End | Log2FoldChange | p-value |
|------|------------|-------|-----|----------------|---------|
| PRKCDBP | 11:6343486 | -0.0291 | 0.00492 | 3.26E-09 |
| PRKCE | 2:45886261 | -0.0212 | 0.0036 | 4.09E-09 |
| PRKD1 | 14:30314078 | -0.0339 | 0.00289 | 1.96E-31 |
| PRKD2 | 19:47205707 | -0.0611 | 0.00365 | 3.00E-61 |
| PRKD3 | 2:37479959 | -0.0758 | 0.00378 | 1.92E-31 |
| PRKG1 | 10:53673125 | 0.0445 | 0.00438 | 4.27E-24 |
| PRKG2 | 4:82082419 | 0.0984 | 0.00446 | 3.26E-103 |
| PRKD3 | 2:37479959 | -0.0758 | 0.00378 | 1.92E-31 |
| PRKRA | 2:179340710 | -0.0793 | 0.0109 | 4.32E-13 |
| PRKRI1 | 7:102086396 | 0.145 | 0.0144 | 1.49E-23 |
| PRMT2 | 21:48039367 | -0.0903 | 0.00411 | 1.67E-102 |
| PRMT5 | 14:23422186 | 0.166 | 0.00465 | 1.46E-250 |
| PRMT6 | 1:107596443 | 0.0598 | 0.00509 | 1.77E-31 |
| PROCA1 | 17:27053176 | 0.0282 | 0.00473 | 2.55E-09 |
| PROK2 | 3:71854587 | 0.128 | 0.00943 | 4.63E-41 |
| PROS1 | 3:93639320 | 0.135 | 0.012 | 5.14E-29 |
| PRPF18 | 10:13653653 | 0.0846 | 0.00403 | 3.19E-94 |
| PRPF19 | 11:60633250 | 0.186 | 0.0029 | 1.76E-10 |
| PRPF6 | 20:62667554 | -0.0675 | 0.00636 | 5.40E-26 |
| PRPF8 | 17:1574532 | 0.0327 | 0.00522 | 3.99E-10 |
| PRPSAP1 | 17:74293388 | -0.056 | 0.00401 | 1.68E-43 |
| PRPSAP2 | 17:18783052 | 0.0666 | 0.00442 | 2.89E-50 |
| PRR13 | 12:53815974 | -0.0858 | 0.00935 | 6.31E-20 |
| PRR4 | 12:11051749 | -0.0612 | 0.00546 | 7.02E-29 |
| PRRS-ARHGAP8 | 22:45262790 | 0.0198 | 0.0029 | 1.23E-11 |
| PRR5L | 11:36432830 | 0.101 | 0.0151 | 2.61E-11 |
| PRR2C2A | 6:31591918 | -0.0384 | 0.0023 | 7.54E-61 |
| PRR2C2B | 9:134346315 | -0.0553 | 0.00899 | 8.19E-10 |
| PRRG4 | 11:32891548 | -0.134 | 0.00763 | 1.86E-67 |
| PRSS21 | 16:2872116 | 0.0457 | 0.00732 | 4.61E-10 |
| PRSS30P | 16:2911320 | 0.0525 | 0.00406 | 1.37E-37 |
| PRUNE | 1:151006539 | -0.0515 | 0.00669 | 1.53E-14 |
| PRUNE2 | 9:79304020 | -0.299 | 0.00548 | <1.0E-314 |
| PSAP | 10:73555926 | -0.0349 | 0.00333 | 2.09E-25 |
| PSAT1 | 9:80966916 | -0.0722 | 0.0101 | 8.43E-13 |
| PSD4 | 2:113943470 | 0.0694 | 0.00284 | 1.35E-124 |
| PSEN1 | 14:73662629 | 0.0759 | 0.00392 | 1.28E-80 |
| PSEN2 | 1:227042462 | -0.0198 | 0.00282 | 2.77E-12 |
| PSIP1 | 9:15441648 | 0.0289 | 0.00474 | 1.18E-09 |
| PSMA2 | 7:42975857 | -0.0585 | 0.00758 | 1.48E-14 |
| Gene   | Chromosome | Start Position | Log2 Fold Change | Benjamini FDR | P-value       |
|--------|------------|----------------|-----------------|---------------|---------------|
| PSMA4  | 15         | 78814681       | 0.101           | 0.00594       | 1.35E-62      |
| PSMB10 | 16         | 67936975       | 0.065           | 0.00709       | 6.42E-20      |
| PSMB3  | 17         | 36927055       | -0.0828         | 0.00791       | 2.11E-25      |
| PSMB4  | 1           | 151406375      | 0.0778          | 0.00504       | 1.68E-52      |
| PSMB7  | 9           | 127163623      | -0.0312         | 0.00357       | 2.75E-18      |
| PSMB8  | 6           | 32811645       | -0.0706         | 0.0114        | 5.59E-10      |
| PSMB9  | 6           | 32830013       | -0.0519         | 0.00463       | 7.74E-29      |
| PSMC3IP| 17          | 40686342       | -0.0268         | 0.00407       | 4.59E-11      |
| PSMC4  | 19          | 40486606       | 0.0791          | 0.0106        | 1.23E-13      |
| PSMC5  | 17          | 61948203       | -0.025          | 0.00422       | 3.06E-09      |
| PSMD12 | 17          | 65332728       | 0.0472          | 0.00429       | 8.13E-28      |
| PSMD13 | 11          | 202072         | -0.144          | 0.00341       | <1.0E-314     |
| PSMD2  | 3           | 184011515      | -0.0316         | 0.00495       | 1.82E-10      |
| PSMD3  | 17          | 38144241       | -0.0197         | 0.00282       | 3.08E-12      |
| PSMD5  | 9           | 123610288      | 0.0516          | 0.00395       | 1.73E-38      |
| PSME2  | 14          | 24604399       | 0.0775          | 0.0119        | 8.63E-11      |
| PSME4  | 2           | 54198181       | 0.0663          | 0.00829       | 1.55E-15      |
| PSMF1  | 20          | 1130627        | 0.102           | 0.0155        | 5.38E-11      |
| PSMG1  | 21          | 40536790       | 0.116           | 0.00447       | 1.08E-139     |
| PSMG2  | 18          | 12672008       | 0.0478          | 0.00317       | 3.25E-50      |
| PSPC1  | 13          | 20352275       | 0.0621          | 0.00349       | 1.34E-68      |
| PSRC1  | 1           | 109817590      | -0.0179         | 0.00293       | 9.72E-10      |
| PSTPIP2| 18          | 43569556       | -0.174          | 0.0104        | 5.48E-61      |
| PTBP2  | 1           | 97266007       | 0.0568          | 0.00383       | 7.71E-49      |
| PTBP3  | 9           | 115008349      | 0.0321          | 0.00357       | 3.47E-19      |
| PTER   | 10          | 16482481       | 0.0632          | 0.00384       | 2.28E-59      |
| PTGDR  | 14          | 52687634       | -0.0686         | 0.00843       | 5.24E-16      |
| PTGER2 | 14          | 52781195       | 0.0501          | 0.00693       | 5.59E-13      |
| PTGES  | 9           | 132542547      | -0.107          | 0.00984       | 3.41E-27      |
| PTGFR  | 1           | 79002544       | 0.0366          | 0.00539       | 1.25E-11      |
| PTGIR  | 19          | 47123402       | 0.0306          | 0.00496       | 7.20E-10      |
| PTGR1  | 9           | 114376753      | 0.0285          | 0.00444       | 9.57E-11      |
| PTGR2  | 14          | 74318714       | -0.256          | 0.0102        | 1.71E-131     |
| PTK2B  | 8           | 27195121       | -0.0677         | 0.00311       | 1.48E-100     |
| PTP4A1 | 6           | 64241021       | 0.0612          | 0.0102        | 2.34E-09      |
| PTP4A2 | 1           | 32410737       | -0.0661         | 0.00761       | 4.99E-18      |
| PTPLA  | 10          | 17707993       | -0.0421         | 0.00431       | 2.29E-22      |
| PTPN12 | 7           | 77300726       | 0.0815          | 0.00428       | 4.33E-78      |
| PTPN18 | 2           | 131112343      | 0.0789          | 0.00658       | 1.07E-32      |
| Gene   | Chromosome | Start | End   | Direction | log2 Fold Change | p-value  |
|--------|------------|-------|-------|-----------|-----------------|----------|
| PTPN2  | 18         | 12857002 | 0.02  | 0.00338   | 3.81E-09        |
| PTPN22 | 1          | 11442590 | -0.068  | 0.00408   | 8.84E-59        |
| PTPN7  | 1          | 202171923 | 0.0434   | 0.00485   | 4.81E-19        |
| PTPRB  | 12         | 70889323 | 0.0253  | 0.00392   | 1.26E-10        |
| PTPRE  | 10         | 129845903 | 0.0705   | 0.0037    | 2.77E-78        |
| PTPRJ  | 11         | 48013484 | -0.0996  | 0.00512   | 1.70E-81        |
| PTPRM  | 18         | 8019465 | 0.144   | 0.00688   | 2.70E-93        |
| PTPRN2 | 7          | 157289684 | -0.0777  | 0.0052    | 2.33E-49        |
| PTPRS  | 19         | 5207292 | -0.0223  | 0.0035    | 2.18E-10        |
| PTTG1P | 21         | 46294986 | -0.0266  | 0.0032    | 1.18E-16        |
| PTTG2  | 4          | 37962186 | -0.299   | 0.0102    | 2.72E-176       |
| PTTG3P | 8          | 67670011 | 0.273    | 0.0306    | 6.88E-19        |
| PUM1   | 1          | 31577776 | -0.0268  | 0.00404   | 3.61E-11        |
| PUM2   | 2          | 20532201 | 0.0712   | 0.00561   | 1.89E-36        |
| PUS10  | 2          | 61244410 | -0.0965  | 0.00553   | 3.00E-66        |
| PUS3   | 11         | 125776259 | -0.068  | 0.00814   | 8.66E-17        |
| PUS7   | 7          | 105162293 | -0.12   | 0.00826   | 1.12E-46        |
| PUS7L  | 12         | 44082341 | 0.0331   | 0.00461   | 8.58E-13        |
| PVALB  | 22         | 37249491 | -0.252   | 0.0157    | 1.47E-56        |
| PVR    | 19         | 45122146 | 0.0349   | 0.00424   | 2.36E-16        |
| PVRIG  | 7          | 99804125 | -0.147   | 0.00748   | 5.69E-83        |
| PVRL2  | 19         | 45371188 | -0.667   | 0.0155    | <1.0E-314       |
| PWP1   | 12         | 108075138 | -0.0816 | 0.00491   | 1.97E-60        |
| PWP2   | 21         | 45490684 | 0.0443   | 0.00282   | 2.14E-54        |
| PXDC1  | 6          | 3715608  | -0.066   | 0.0101    | 5.80E-11        |
| PXK    | 3          | 58411088 | 0.0979   | 0.00519   | 1.09E-76        |
| PYGB   | 20         | 25241345 | 0.0436   | 0.00267   | 1.46E-58        |
| PYGL   | 14         | 51389918 | -0.0436  | 0.00644   | 1.37E-11        |
| PYHIN1 | 1          | 158910194 | 0.0524  | 0.0073    | 7.92E-13        |
| PYROXD2| 10         | 100144007 | -0.0315 | 0.00249   | 3.73E-36        |
| P2P    | 12         | 9258821  | 0.226   | 0.00866   | 8.43E-141       |
| QDPR   | 4          | 17518920 | 0.174   | 0.00488   | 1.97E-249       |
| QKI    | 6          | 163894045 | 0.219   | 0.00701   | 1.77E-197       |
| QRIC1H | 3          | 49106536 | 0.0431   | 0.00575   | 8.05E-14        |
| QRSL1  | 6          | 107077502 | 0.034   | 0.00531   | 1.62E-10        |
| QSER1  | 11         | 32911368 | -0.154   | 0.0129    | 2.77E-32        |
| QSOX1  | 1          | 180140101 | -0.0578 | 0.00289   | 1.13E-85        |
| QRTTD1 | 3          | 113785149 | -0.0539 | 0.00523   | 1.03E-24        |
| R3HCC1 | 10         | 99955345  | 0.027   | 0.00368   | 2.62E-13        |
| Gene     | Chromosome | Start Position | Log2 Fold Change | Standard Error | Adjusted P-Value |
|----------|------------|----------------|------------------|----------------|------------------|
| R3HDM1   | 2          | 136288273      | -0.0316          | 0.0041         | 1.39E-14         |
| RAB11FIP3| 16         | 518074         | -0.0249          | 0.00281        | 1.03E-18         |
| RAB11FIP4| 17         | 29821612       | 0.215            | 0.00995        | 2.96E-14         |
| RAB14    | 9          | 123961418      | 0.0324           | 0.00345        | 8.79E-21         |
| RAB15    | 14         | 65449458       | -0.0875          | 0.0115         | 3.58E-14         |
| RAB18    | 10         | 27851166       | 0.0404           | 0.005          | 7.60E-16         |
| RAB1B    | 11         | 66040049       | -0.0271          | 0.00363        | 1.03E-13         |
| RAB20    | 13         | 111175244      | -0.075           | 0.00398        | 6.66E-77         |
| RAB23    | 6          | 57069606       | -0.145           | 0.00835        | 2.03E-65         |
| RAB27A   | 15         | 55502516       | 0.0467           | 0.00476        | 1.58E-22         |
| RAB2A    | 8          | 61525780       | -0.0437          | 0.00442        | 7.85E-23         |
| RAB2B    | 14         | 21927638       | 0.111            | 0.012          | 4.28E-20         |
| RAB31    | 18         | 9850581        | -0.0513          | 0.00472        | 3.11E-27         |
| RAB34    | 17         | 27054641       | 0.0467           | 0.00656        | 1.23E-12         |
| RAB38    | 11         | 87931463       | -0.438           | 0.0207         | 2.72E-95         |
| RAB3GAP2 | 1          | 220409506      | 0.0544           | 0.00467        | 4.56E-31         |
| RAB3IP   | 12         | 70145471       | -0.262           | 0.0183         | 9.72E-46         |
| RAB44    | 6          | 36698294       | 0.0567           | 0.00387        | 1.57E-47         |
| RAB5A    | 3          | 20045701       | -0.0823          | 0.00393        | 1.07E-93         |
| RAB5C    | 17         | 40297658       | 0.0325           | 0.00443        | 2.54E-13         |
| RAB6B    | 3          | 133602195      | 0.0205           | 0.00321        | 1.95E-10         |
| RAB7L1   | 1          | 205757798      | -0.045           | 0.00443        | 4.89E-24         |
| RAB8A    | 19         | 16223287       | 0.0662           | 0.00471        | 4.93E-44         |
| RABAC1   | 19         | 42441795       | -0.0855          | 0.00553        | 7.52E-53         |
| RABEP1   | 17         | 5302203        | 0.0354           | 0.00343        | 8.74E-25         |
| RABEPK   | 9          | 127914865      | 0.0501           | 0.00326        | 2.60E-52         |
| RABGAP1  | 9          | 125851363      | -0.036           | 0.00426        | 4.05E-17         |
| RABGAP1L | 1          | 174086292      | 0.0291           | 0.00314        | 2.66E-20         |
| RABGGTA  | 14         | 24733689       | 0.0315           | 0.00343        | 5.67E-20         |
| RAC1     | 7          | 6416360        | -0.247           | 0.00641        | 7.95E-286        |
| RAC2     | 22         | 37619290       | 0.0357           | 0.0039         | 6.56E-20         |
| RAD17    | 5          | 68733107       | 0.054            | 0.00755        | 9.77E-13         |
| RAD18    | 3          | 9005078        | -0.0478          | 0.00366        | 1.57E-38         |
| RAD23B   | 9          | 110094733      | 0.059            | 0.00417        | 1.39E-44         |
| RAD51AP1 | 12         | 4665500        | -0.185           | 0.0289         | 1.60E-10         |
| RAD51C   | 17         | 56725052       | -0.302           | 0.0053         | <1.0E-314        |
| RAD51D   | 17         | 33493071       | -0.0216          | 0.00348        | 5.35E-10         |
| RAD52    | 12         | 1058738        | 0.0967           | 0.00599        | 2.97E-57         |
| RAD54B   | 8          | 95440423       | -0.101           | 0.00359        | 3.94E-161        |
| GeneID   | Chromosome | Log2FoldChange | Log10(p-value) |
|----------|------------|----------------|----------------|
| RAE1     | 20:55953682| -0.0231        | 2.79E-09       |
| RAF1     | 3:12690343 | -0.0279        | 1.33E-11       |
| RALA     | 7:39706470 | -0.054         | 4.99E-61       |
| RALB     | 2:121003612| 0.119          | 1.10E-75       |
| RALBP1   | 18:9488704 | -0.0782        | 4.27E-68       |
| RALGAPA1 | 14:36132999| -0.0962        | 3.40E-20       |
| RALGDS   | 9:135966340| -0.082         | 1.18E-23       |
| RALGPS1  | 9:129672061| -0.0481        | 9.66E-55       |
| RAMP3    | 7:45257184 | -0.0469        | 1.85E-13       |
| RAN      | 12:131364071| 0.0237        | 5.81E-12       |
| RANBP17  | 5:170382559| 0.0497         | 3.30E-45       |
| RAP1A    | 1:112184499| 0.0256         | 5.75E-12       |
| RAP1GAP  | 1:22023238 | 0.178          | 1.05E-179      |
| RAP2A    | 13:98115192| -0.0678        | 2.24E-28       |
| RAPGEF1  | 9:134565964| 0.107          | 1.27E-250      |
| RAPGEF3  | 12:48078806| -0.0354        | 4.40E-24       |
| RAPGEFL1 | 17:38374131| -0.284         | 1.14E-65       |
| RARB     | 3:25635743 | -0.0193        | 7.74E-10       |
| RARRES1  | 3:158405899| -0.0448        | 8.54E-35       |
| RARS     | 5:167950108| -0.101         | 2.41E-110      |
| RARS2    | 6:88225863 | -0.039         | 1.12E-37       |
| RASGRF2  | 5:80289783 | -0.0522        | 3.04E-25       |
| RASGRP3  | 2:33702902 | 0.141          | 1.75E-28       |
| RASSF2   | 20:4797284 | -0.0377        | 7.86E-21       |
| RASSF3   | 12:65035405| -0.0621        | 3.57E-33       |
| RASSF4   | 10:45432352| 0.0741         | 4.92E-28       |
| RASSF5   | 1:206729593| -0.0279        | 9.46E-18       |
| RASSF6   | 4:74406101 | -0.0573        | 3.39E-11       |
| RAVER2   | 1:65301611 | -0.0355        | 1.16E-16       |
| RB1      | 13:48897520| 0.0298         | 2.01E-15       |
| RB1CC1   | 8:53582514 | 0.0327         | 3.65E-11       |
| RB2      | 7:5154778  | -0.0831        | 5.86E-23       |
| RBBP5    | 1:205050775| -0.029         | 9.65E-10       |
| RBBP8    | 18:20516135| -0.116         | 1.76E-32       |
| RBCK1    | 20:392262  | -0.0333        | 5.60E-11       |
| RBFOX2   | 22:36335309| 0.0478         | 4.61E-24       |
| RBL2     | 16:53428284| 0.145          | <1.0E-314      |
| RBM11    | 21:15613808| -0.0639        | 2.35E-24       |
| RBM12B-AS1| 8:94754865 | -0.0579        | 5.15E-16       |
| Gene   | Chromosome | Start | End   | Log2FoldChange | FDR   | PValue     |
|--------|------------|-------|-------|----------------|-------|------------|
| RBM14  | 11:66401373| 0.0735| 0.00736| 2.57E-23       |       |            |
| RBM15  | 1:110888948| 0.11  | 0.00532| 7.08E-92       |       |            |
| RBM18  | 9:125027119| 0.128 | 0.0127 | 1.36E-23       |       |            |
| RBM19  | 12:114396518| 0.0369| 0.00401| 4.75E-20       |       |            |
| RBM23  | 14:23388231| 0.206 | 0.0145 | 3.16E-45       |       |            |
| RBM26  | 13:79986065| 0.0314| 0.00326| 8.91E-22       |       |            |
| RBM33  | 7:155513837| 0.0438| 0.00419| 2.52E-25       |       |            |
| RBM39  | 20:34253842| -0.0544| 0.00717| 4.05E-14       |       |            |
| RBM43  | 2:152118275| 0.168 | 0.00793| 7.07E-96       |       |            |
| RBM44  | 2:238681902| -0.0639| 0.00482| 1.83E-39       |       |            |
| RBM47  | 4:40638708 | -0.0332| 0.00484| 7.93E-12       |       |            |
| RBM48  | 7:92109199 | 0.0834| 0.0137 | 1.19E-09       |       |            |
| RBM5   | 3:50144951 | -0.0242| 0.00263| 5.17E-20       |       |            |
| RBM6   | 3:50099176 | 0.0975| 0.0038 | 3.16E-137      |       |            |
| RBM8A  | 1:145507253| 0.0828| 0.0132 | 4.35E-10       |       |            |
| RBMS1  | 2:161136656| 0.0387| 0.00366| 8.52E-26       |       |            |
| RBMS2  | 12:56984606| -0.229 | 0.0147 | 5.26E-53       |       |            |
| RBP5   | 12:7262024 | -0.0862| 0.00561| 4.20E-52       |       |            |
| RBP7   | 1:10059375 | 0.112 | 0.0119 | 8.80E-21       |       |            |
| RBPMS  | 8:30454132 | 0.0338| 0.00436| 1.02E-14       |       |            |
| RBPMS2 | 15:65022906| -0.408 | 0.00938| <1.0E-314      |       |            |
| RC3H2  | 9:125610975| 0.051 | 0.00744| 8.24E-12       |       |            |
| RCAN3  | 1:24809462 | -0.0373| 0.00544| 7.91E-12       |       |            |
| RCCBTB1| 1:145507253| 0.0828| 0.0132 | 4.35E-10       |       |            |
| RCCBTB2| 1:145507253| 0.0828| 0.0132 | 4.35E-10       |       |            |
| RCC1   | 1:145507253| 0.0828| 0.0132 | 4.35E-10       |       |            |
| RCHY1  | 1:145507253| 0.0828| 0.0132 | 4.35E-10       |       |            |
| RCL1   | 1:145507253| 0.0828| 0.0132 | 4.35E-10       |       |            |
| RCN1   | 1:145507253| 0.0828| 0.0132 | 4.35E-10       |       |            |
| RCN2   | 1:145507253| 0.0828| 0.0132 | 4.35E-10       |       |            |
| RCOR1  | 11:32112532| 0.195 | 0.0184 | 3.84E-26       |       |            |
| RCSD1  | 17:98144423| -0.113 | 0.00534| 8.43E-96       |       |            |
| RDH13  | 17:98144423| -0.113 | 0.00534| 8.43E-96       |       |            |
| RDM1   | 17:34251240| 0.0434| 0.00711| 1.08E-09       |       |            |
| REC8   | 14:24641526| -0.0321| 0.00402| 1.78E-15       |       |            |
| RECQL  | 12:21654407| 0.0562| 0.00458| 4.19E-34       |       |            |
| REEP1  | 2:86453919 | -0.0746| 0.00463| 6.60E-57       |       |            |
| REEP3  | 10:65271488| -0.0681| 0.00834| 4.07E-16       |       |            |
| Gene   | chromosome | start | end   | log2_ratio | log10_p_value  |
|--------|------------|-------|-------|------------|---------------|
| REEP4  | 8:21995097 | -0.2  | 0.0102| 1.01E-82   |
| REEP5  | 5:112234957| -0.0691| 0.00402| 1.94E-64   |
| REL    | 2:61077103 | -0.0245| 0.00409| 2.14E-09   |
| RELN   | 7:103485921| -0.00974| 0.00161| 1.54E-09   |
| RELT   | 11:73148498| -0.0229| 0.00256| 4.28E-19   |
| REPS1  | 6:139290015| -0.154 | 0.0074 | 9.56E-93   |
| RERE   | 1:8490603  | 0.0448| 0.00298| 3.55E-50   |
| RETSAT | 2:85547429 | 0.0806| 0.00337| 3.32E-120  |
| REV1   | 2:99995804 | -0.0349| 0.00267| 1.69E-38   |
| RFC1   | 4:39301334 | 0.0428| 0.00338| 2.37E-36   |
| RFC4   | 3:186497254| 0.0788| 0.00518| 3.20E-51   |
| RFFL   | 17:33424508| -0.0272| 0.00359| 3.63E-14   |
| RFTN1  | 3:16362129| -0.053 | 0.00386| 4.12E-42   |
| RFTN2  | 2:198568076| -0.0772| 0.00393| 3.05E-83   |
| RFWD3  | 16:74699293| 0.103 | 0.00365| 7.73E-163  |
| RFX7   | 15:56523595| -0.0388| 0.00453| 1.41E-17   |
| RXANK  | 19:19346396| -0.0814| 0.00941| 6.53E-18   |
| RGCC   | 13:42073408| 0.0585| 0.00933| 3.84E-10   |
| RGL1   | 1:183718530| -0.0388| 0.00383| 7.35E-24   |
| RGL4   | 22:24004914| -0.0253| 0.00344| 2.47E-13   |
| RGP1   | 9:35766116 | 0.0638| 0.00305| 4.72E-72   |
| RGS10  | 10:121344255| 0.185 | 0.0145 | 7.54E-37   |
| RGS17  | 6:153344786| 0.0578| 0.00873| 3.75E-11   |
| RGS18  | 1:192079104| 0.0373| 0.00635| 4.60E-09   |
| RGS3   | 9:116209603| 0.0223| 0.00269| 1.39E-16   |
| RGS5   | 1:163223811| 0.0358| 0.00516| 4.18E-12   |
| RGS6   | 14:72466285| -0.0747| 0.00558| 3.30E-40   |
| RHBDD2 | 7:75500959 | 0.0444| 0.00546| 4.61E-16   |
| RHD    | 1:25687901 | -0.709| 0.0394 | 4.35E-70   |
| RHNO1  | 12:2994134 | -0.0411| 0.00365| 5.76E-29   |
| RHOBTB1| 10:62697642 | 0.0449| 0.00449| 2.31E-23   |
| RHOBTB3| 5:95148129 | -0.0829| 0.00721| 2.91E-30   |
| RHOT1  | 17:30456747 | 0.0606| 0.00504| 7.94E-33   |
| RIC3   | 11:8133837 | 0.0585| 0.00769| 3.42E-14   |
| RIC8A  | 11:204147  | 0.0303| 0.00319| 3.74E-21   |
| RIF1   | 2:152225877| 0.0238| 0.00338| 2.27E-12   |
| RIMKLB | 12:8869396 | -0.132| 0.0178 | 1.34E-13   |
| RIN1   | 11:66091424| 0.0537| 0.00456| 1.13E-31   |
| RIN3   | 14:92955385| 0.0372| 0.00247| 3.73E-50   |
| Gene    | Chromosome | Gene ID       | Expression | Fold Change | p-Value      |
|---------|------------|---------------|------------|-------------|--------------|
| RIOK1   | 6          | 6:7435888     | -0.0399    | 0.0038      | 1.49E-25     |
| RIOK2   | 5          | 5:96514440    | 0.0633     | 0.00771     | 2.77E-16     |
| RIPK1   | 6          | 6:3085129     | -0.0724    | 0.0121      | 2.64E-09     |
| RIPK2   | 8          | 8:90763759    | -0.0263    | 0.00378     | 3.51E-12     |
| RIPK3   | 14         | 14:24809957   | -0.0324    | 0.00525     | 7.14E-10     |
| RIPK4   | 21         | 21:43185345   | -0.0315    | 0.00383     | 2.49E-16     |
| RIT1    | 1          | 1:155860609   | 0.0361     | 0.00486     | 1.44E-13     |
| RLN1    | 9          | 9:5330464     | -0.073     | 0.00744     | 1.52E-22     |
| RMI1    | 9          | 9:86626769    | -0.0674    | 0.00518     | 4.54E-38     |
| RMI2    | 16         | 16:11429939   | 0.0523     | 0.00333     | 2.57E-54     |
| RNASE1  | 14         | 14:21266957   | -0.0672    | 0.00901     | 1.00E-13     |
| RNASE2  | 14         | 14:21433342   | 0.27       | 0.0141      | 1.29E-78     |
| RNASE3  | 14         | 14:21347911   | -0.427     | 0.0271      | 9.76E-55     |
| RNASE6  | 14         | 14:21248764   | 0.126      | 0.0103      | 7.76E-34     |
| RNASEH2A | 19        | 19:12876964   | -0.0388    | 0.00645     | 2.03E-09     |
| RNASEH2B| 13         | 13:51472638   | 0.336      | 0.0181      | 3.99E-74     |
| RNASEH2C| 11         | 11:65477954   | 0.0363     | 0.00453     | 1.41E-15     |
| RNASEK  | 17         | 17:6894691    | 0.0737     | 0.00733     | 1.54E-23     |
| RNASET2 | 6          | 6:167360389   | 0.275      | 0.00552     | <1.0E-314    |
| RNF111  | 15         | 15:59280119   | 0.155      | 0.0117      | 2.79E-39     |
| RNF114  | 20         | 20:48519702   | 0.0616     | 0.0036      | 6.04E-64     |
| RNF115  | 1          | 1:145691300   | 0.0369     | 0.00569     | 1.05E-10     |
| RNF122  | 8          | 8:33413413    | 0.113      | 0.0187      | 1.57E-09     |
| RNF13   | 3          | 3:149575345   | -0.0995    | 0.00472     | 8.43E-95     |
| RNF139  | 8          | 8:125459090   | 0.0588     | 0.00903     | 8.00E-11     |
| RNF14   | 5          | 5:141348289   | -0.107     | 0.00867     | 1.00E-34     |
| RNF141  | 11         | 11:10583600   | 0.198      | 0.0223      | 9.72E-19     |
| RNF144B | 6          | 6:18412469    | -0.107     | 0.00619     | 2.12E-65     |
| RNF145  | 5          | 5:158599358   | 0.0242     | 0.00384     | 3.28E-10     |
| RNF149  | 2          | 2:101904406   | -0.0422    | 0.00404     | 2.54E-25     |
| RNF152  | 18         | 18:59484202   | 0.0279     | 0.00454     | 7.91E-10     |
| RNF166  | 16         | 16:88751207   | 0.0695     | 0.00588     | 6.62E-32     |
| RNF167  | 17         | 17:4824339    | -0.155     | 0.0178      | 3.81E-18     |
| RNF168  | 3          | 3:196231122   | -0.101     | 0.00436     | 2.10E-11     |
| RNF17   | 13         | 13:25354456   | 0.0226     | 0.00333     | 1.11E-11     |
| RNF175  | 4          | 4:154691588   | 0.0599     | 0.00596     | 1.72E-23     |
| RNF181  | 2          | 2:85826132    | -0.0292    | 0.00436     | 2.48E-11     |
| RNF182  | 6          | 6:13889438    | 1.28       | 0.0293      | <1.0E-314    |
| RNF185  | 22         | 22:31641683   | -0.365     | 0.0274      | 6.37E-40     |
| Gene   | Chromosome | Location   | Expression | t-value | p-value |
|--------|------------|------------|------------|---------|---------|
| RNF19A | 8:101370427| -0.0347    | 0.00462    | 6.98E-14 |
| RNF19B | 1:33440850 | -0.0979    | 0.00829    | 5.62E-32 |
| RNF2   | 1:185114834| 0.126      | 0.00929    | 5.59E-41 |
| RNF20  | 9:104309445| 0.112      | 0.00549    | 1.18E-89 |
| RNF212 | 4:1107478 | 0.036      | 0.00425    | 3.44E-17 |
| RNF216 | 7:5748370 | -0.0604    | 0.00584    | 7.38E-25 |
| RNF217 | 6:125265999| -0.0834    | 0.00786    | 5.05E-26 |
| RNF219 | 13:79183874| 0.0904     | 0.00543    | 1.09E-60 |
| RNF224 | 20:4001653 | 0.0427     | 0.00431    | 5.82E-23 |
| RNF32  | 7:156518195| 0.0541     | 0.00351    | 3.67E-24 |
| RNF34  | 12:121859000| -0.0439   | 0.00539    | 4.62E-16 |
| RNF38  | 9:36414837 | 0.0389     | 0.00532    | 2.76E-13 |
| RNF4   | 4:2470892  | 0.0387     | 0.00547    | 4.24E-10 |
| RNF43  | 17:56440474| -0.0309    | 0.00493    | 1.70E-12 |
| RNF44  | 5:175968614| -0.0598    | 0.00957    | 4.44E-10 |
| RNF6   | 13:26790174| -0.0351    | 0.00401    | 2.62E-18 |
| RNF8   | 6:37348920 | -0.0491    | 0.00327    | 4.95E-50 |
| RNFT2  | 12:117327651| -0.0208  | 0.00355    | 4.50E-09 |
| RINGT  | 6:89672913 | -0.115     | 0.00757    | 4.27E-51 |
| RNMT   | 18:13708328| -0.0953    | 0.0049     | 1.29E-81 |
| RNPEP  | 1:201944214| 0.2        | 0.00391    | <1.0E-314|
| RNP51  | 16:2348208 | 0.0536     | 0.00739    | 4.48E-13 |
| ROBO1  | 3:78726203 | 0.0161     | 0.00251    | 1.55E-10 |
| ROBO3  | 11:124741772| -0.0121  | 0.00165    | 2.14E-13 |
| ROCK2  | 2:11498147 | 0.0625     | 0.0105     | 2.68E-09 |
| ROGD1  | 16:4860105 | 0.104      | 0.00698    | 7.69E-49 |
| ROPN1B | 3:125731092| 0.126      | 0.00763    | 7.33E-60 |
| RP9P   | 7:32961023 | -0.114     | 0.0112     | 8.49E-24 |
| RPA1   | 17:1800600 | -0.0732    | 0.00482    | 4.44E-51 |
| RPA2   | 1:28211384 | 0.107      | 0.00485    | 2.13E-103|
| RPA3   | 17:5325366 | -0.0496    | 0.00435    | 1.03E-29 |
| RPAP1  | 15:41819716| -0.0263    | 0.00198    | 1.25E-39 |
| RPAP3  | 12:48077073| 0.172      | 0.0092     | 3.02E-75 |
| RPE    | 2:210913067| 0.0484     | 0.00512    | 4.65E-21 |
| RPF1   | 1:84949225 | 0.0761     | 0.0102     | 8.10E-14 |
| RPH3A  | 12:113276968| 0.111     | 0.00274    | <1.0E-314|
| RPIA   | 2:89026096 | -0.139     | 0.00909    | 6.47E-52 |
| RPL13  | 16:89628870| -0.0989    | 0.0042     | 1.43E-116|
| RPL14  | 3:40497437 | -0.124     | 0.00628    | 7.18E-84 |
| Gene    | Chromosome | Position    | log2FoldChange | FDR       | pValue           |
|---------|------------|-------------|----------------|-----------|------------------|
| RPL15   | 3:23999756 | 0.0822      | 0.0057         | 3.36E-46  |
| RPL17   | 18:47005435| -0.193      | 0.018          | 1.43E-26  |
| RPL23   | 17:37001974| -0.0478     | 0.00735        | 8.43E-11  |
| RPL27A  | 11:8719955 | -0.0724     | 0.00687        | 9.94E-26  |
| RPL28   | 19:55897327| 0.217       | 0.0131         | 2.32E-60  |
| RPL31   | 2:101622728| 0.352       | 0.00842        | <1.0E-314 |
| RPL34-AS1 | 4:109551077| 0.0734      | 0.00439        | 3.22E-61  |
| RPL36AL | 14:50095335| 0.0827      | 0.00472        | 7.15E-67  |
| RPL37A  | 2:217349605| 0.0429      | 0.00632        | 1.36E-11  |
| RPL39L  | 3:186865979| -0.0845     | 0.0107         | 4.07E-15  |
| RPL5    | 1:93356823 | -0.0648     | 0.00446        | 5.05E-47  |
| RPL8    | 8:146012260| 0.115       | 0.00717        | 1.56E-56  |
| RPN1    | 3:128399623| -0.052      | 0.0035         | 5.84E-49  |
| RPP14   | 3:58310620 | -0.0649     | 0.00512        | 2.35E-36  |
| RPP21   | 6:30263069 | 0.0498      | 0.00562        | 1.08E-18  |
| RPP25L  | 9:34585385 | 0.0724      | 0.00889        | 4.76E-16  |
| RPRM    | 2:154338708| -0.044      | 0.00562        | 5.90E-15  |
| RPS15A  | 16:18801583| 0.573       | 0.0192         | 2.31E-181 |
| RPS16   | 19:39918729| 0.0646      | 0.00459        | 3.46E-44  |
| RPS18   | 6:33239869 | 0.0614      | 0.00951        | 1.20E-10  |
| RPS20   | 8:56946642 | -0.0384     | 0.00455        | 4.08E-17  |
| RPS23   | 5:81610680 | 0.0602      | 0.00453        | 1.20E-39  |
| RPS24   | 10:79763775| -0.0254     | 0.00361        | 2.16E-12  |
| RPS25   | 11:118857809| 0.0966     | 0.00871        | 2.84E-28  |
| RPS6    | 9:19378204 | 0.0398      | 0.00631        | 3.09E-10  |
| RPS6KA1 | 1:26883511 | 0.0285      | 0.00383        | 1.20E-13  |
| RPS6KA5 | 14:91576892| -0.188      | 0.0123         | 1.78E-51  |
| RPS6KB1 | 17:58037690| 0.0303      | 0.00485        | 4.82E-10  |
| RPS6KB2 | 11:67200812| 0.0666      | 0.00879        | 4.20E-14  |
| RPTOR   | 17:78670044| 0.0401      | 0.00337        | 4.15E-32  |
| RPSUSD4 | 11:126081403| 0.034      | 0.00379        | 3.87E-19  |
| RQCD1   | 2:219408054| 0.077       | 0.00369        | 4.40E-93  |
| RRAGA   | 9:19049596 | 0.0293      | 0.00484        | 1.54E-09  |
| RRAGD   | 6:90094844 | -0.0715     | 0.00584        | 5.30E-34  |
| RREB1   | 6:7153152  | -0.0168     | 0.00218        | 1.91E-14  |
| RRH     | 4:110740865| 0.103       | 0.00717        | 5.53E-46  |
| RRM1    | 11:4084113 | -0.0305     | 0.0034         | 4.33E-19  |
| RRM2B   | 8:103244557| 0.144       | 0.00811        | 2.76E-68  |
| RRN3    | 16:15149240| 0.345       | 0.0409         | 3.72E-17  |
| Gene   | Chromosome | Position | log2 Fold Change | p-value  |
|--------|------------|----------|------------------|----------|
| RRN3P1 | 16:21778925| -0.395   | 0.0154           | 5.07E-137|
| RRN3P3 | 16:22435908| 0.176    | 0.0125           | 6.26E-44 |
| RRP1   | 21:45235270| 0.0445   | 0.0034           | 1.40E-38 |
| RRP12  | 10:99100432| -0.116   | 0.00261          | <1.0E-314|
| RRP15  | 1:218458557| -0.0454  | 0.00733           | 6.60E-10 |
| RRP1B  | 21:45120994| -0.0398  | 0.0034           | 2.79E-31 |
| RRP36  | 6:42986363 | 0.0635   | 0.00783          | 6.34E-16 |
| RSAD1  | 17:48568230| 0.0325   | 0.00317          | 2.29E-24 |
| RSF1   | 11:77360142| 0.138    | 0.017            | 5.34E-16 |
| RSL1D1 | 16:11947636| -0.0494  | 0.00483          | 2.60E-24 |
| RSPH10B| 7:6884357  | -0.0502  | 0.00719          | 3.34E-12 |
| RSPH3  | 6:159413299| 0.226    | 0.01            | 2.44E-107|
| RSRC1  | 3:157894615| 0.111    | 0.00656          | 4.18E-62 |
| RSRC2  | 12:123006368| -0.0233  | 0.00353          | 4.74E-11 |
| RSU1   | 10:16848473| 0.254    | 0.00478          | <1.0E-314|
| RTF1   | 15:41693455| 0.0435   | 0.00478          | 1.11E-19 |
| RTFDC1 | 20:55101317| 0.0363   | 0.00363          | 2.41E-23 |
| RTKN2  | 10:63975930| -0.175   | 0.00663          | 5.74E-145|
| RTN1   | 14:60239294| -0.0736  | 0.00485          | 7.26E-51 |
| RTN3   | 11:63541285| -0.0965  | 0.00993          | 3.83E-22 |
| RTN4   | 2:55270485 | 0.0291   | 0.00247          | 8.30E-32 |
| RTN4IP1| 6:107077502| -0.0499  | 0.0049           | 3.84E-24 |
| RTP4   | 3:187081097| -0.0782  | 0.00886          | 1.48E-18 |
| RUFY1  | 5:179001200| 0.137    | 0.00439          | 3.26E-195|
| RUFY2  | 10:70141482| -0.0464  | 0.00475          | 2.39E-22 |
| RUNDC3A| 17:42384367| -0.0951  | 0.00582          | 1.33E-58 |
| RUNX1-IT1| 21:36388176| -0.0812  | 0.00786          | 9.58E-25 |
| RUNX1T1| 8:93088151 | -0.0238  | 0.00358          | 3.08E-11 |
| RUNX2  | 6:45397605 | -0.076   | 0.00953          | 1.83E-15 |
| RUVBL2 | 19:49522075| 0.042    | 0.00638          | 4.89E-11 |
| RWDD2B | 21:30376145| -0.176   | 0.00574          | 1.91E-190|
| RWDD3  | 1:95715508 | 0.0649   | 0.0072           | 2.67E-19 |
| RWDD4  | 4:184560260| -0.136   | 0.0132           | 8.95E-25 |
| RXFP2  | 13:32380134| -0.0798  | 0.00366          | 4.84E-101|
| RXRA   | 9:137203271| -0.215   | 0.0279           | 1.72E-14 |
| RYBP   | 3:72504654 | -0.0782  | 0.00444          | 1.72E-67 |
| RYK    | 3:133986994| 0.0419   | 0.00496          | 4.12E-17 |
| S100A10| 1:151931004| -0.0646  | 0.0105           | 7.43E-10 |
| S100A12| 1:153372890| -0.382   | 0.0124           | 1.14E-192|
| Gene | Chromosome | Start | End   | Log2 Fold Change | p-value | FDR |
|------|------------|-------|-------|-----------------|---------|-----|
| S100A13 | 1:153606294 | -0.197 | 0.00817 | 1.37E-121 |
| S100A8 | 1:153372890 | -0.0317 | 0.00536 | 4.51E-22 |
| S100A9 | 1:153358685 | -0.0889 | 0.00916 | 4.51E-22 |
| S100B | 21:48039367 | -0.49 | 0.0188 | 1.32E-141 |
| S100P | 4:6692657 | -0.697 | 0.0171 | <1.0E-314 |
| S100PBP | 1:33245802 | 0.147 | 0.00674 | 1.92E-100 |
| S100Z | 5:76144774 | -0.115 | 0.00651 | 1.39E-67 |
| SAAL1 | 11:18116894 | 0.0753 | 0.00381 | 8.45E-84 |
| SACM1L | 3:45723890 | -0.0568 | 0.00336 | 2.36E-62 |
| SAMD12 | 8:119624556 | -0.658 | 0.0147 | <1.0E-314 |
| SAMD3 | 6:130505374 | 0.154 | 0.00924 | 9.83E-61 |
| SAMD9L | 7:92820113 | 0.371 | 0.0208 | 6.80E-69 |
| SAMHD1 | 20:35558914 | -0.0545 | 0.00678 | 1.12E-15 |
| SAMM50 | 22:44349236 | -0.114 | 0.00481 | 1.56E-118 |
| SAP130 | 2:128785663 | 0.0465 | 0.00692 | 1.88E-11 |
| SAP18 | 13:21709658 | -0.0362 | 0.00322 | 5.96E-29 |
| SAR1A | 10:71952447 | -0.0347 | 0.00321 | 4.63E-27 |
| SAR1B | 5:133956668 | 0.0594 | 0.00798 | 1.14E-13 |
| SARS | 1:109707911 | 0.0267 | 0.00349 | 2.09E-14 |
| SARS2 | 19:39411716 | -0.0281 | 0.00245 | 4.72E-30 |
| SART3 | 12:108922285 | 0.0273 | 0.00392 | 3.30E-12 |
| SASH1 | 6:148702844 | -0.0501 | 0.00434 | 2.14E-30 |
| SASS6 | 1:100528819 | -0.115 | 0.00882 | 1.97E-38 |
| SATB1 | 3:18444171 | -0.0406 | 0.00584 | 4.12E-12 |
| SAV1 | 14:51182036 | 0.0357 | 0.00523 | 1.05E-11 |
| SAYSD1 | 6:39069268 | -0.0756 | 0.00431 | 6.70E-67 |
| SBDS | 7:66453476 | 0.224 | 0.037 | 1.53E-09 |
| SBF2 | 11:10277058 | -0.0612 | 0.00356 | 2.12E-64 |
| SBNO1 | 12:123799974 | -0.0296 | 0.00388 | 2.80E-14 |
| SBNO2 | 19:1127981 | -0.0298 | 0.00261 | 6.93E-30 |
| SC5DL | 11:121179549 | -0.126 | 0.00969 | 7.38E-38 |
| SCAF11 | 12:46322449 | 0.046 | 0.00426 | 7.01E-27 |
| SCAF8 | 6:155118812 | -0.0363 | 0.00265 | 9.43E-42 |
| SCAP | 3:47409614 | 0.0234 | 0.00228 | 1.70E-24 |
| SAPTER | 15:76831236 | -0.109 | 0.00389 | 3.65E-161 |
| Gene     | Chromosome | Start | End   | Log2FoldChange | FDR  |
|----------|------------|-------|-------|----------------|------|
| SCARB1   | 12:125334375 | -0.0149 | 0.00228 | 6.02E-11       |
| SCCPDH   | 1:246884464   | 0.0995  | 0.00617 | 4.42E-57       |
| SCD5     | 4:83764403    | -0.067  | 0.00372 | 2.90E-70       |
| SCFD1    | 14:31103012   | -0.113  | 0.00412 | 1.13E-155      |
| SCFD2    | 4:54044696    | -0.0452 | 0.00502 | 2.83E-19       |
| SCGB1A1  | 11:62193981   | -0.048  | 0.00512 | 1.09E-20       |
| SCGB3A1  | 5:179981603   | -0.11   | 0.00632 | 4.32E-66       |
| SCGB3A2  | 5:147246760   | -0.284  | 0.00746 | 1.84E-280      |
| SCIMP    | 17:5132316    | 0.165   | 0.00716 | 5.54E-112      |
| SCLT1    | 4:129876588   | -0.0492 | 0.00536 | 6.37E-20       |
| SCLY     | 2:238994676   | -0.0229 | 0.00297 | 1.73E-14       |
| SCMH1    | 1:41544279    | -0.0184 | 0.00305 | 1.55E-09       |
| SCML4    | 6:108047036   | -0.0682 | 0.00524 | 3.57E-38       |
| SCN8A    | 12:51966950   | -0.0457 | 0.00383 | 2.05E-32       |
| SCN9A    | 2:167237057   | 0.0827  | 0.00307 | 1.97E-149      |
| SCOC     | 4:141287386   | -0.0791 | 0.0108  | 2.63E-13       |
| SCP2     | 1:53343880    | -0.165  | 0.00397 | <1.0E-314      |
| SCRG1    | 4:174323131   | -0.0357 | 0.0045  | 2.82E-15       |
| SCRN1    | 7:30063476    | 0.0804  | 0.00606 | 1.35E-39       |
| SCRN2    | 17:45884026   | 0.0342  | 0.00535 | 1.73E-10       |
| SCRN3    | 2:175287256   | -0.123  | 0.00492 | 8.26E-131      |
| SCRT2    | 20:643919     | 0.0621  | 0.0056  | 3.09E-28       |
| SCYL3    | 1:169784165   | -0.0669 | 0.00587 | 9.57E-30       |
| SDCCAG3  | 9:139311471   | 0.0722  | 0.00421 | 2.88E-64       |
| SDCCAG8  | 1:243420388   | -0.1    | 0.00395 | 1.91E-134      |
| SDF4     | 1:1124750     | -0.0953 | 0.00703 | 3.32E-41       |
| SDHA     | 5:215395      | 0.494   | 0.0318  | 2.58E-53       |
| SDK1     | 7:3718417     | -0.0104 | 0.00164 | 2.89E-10       |
| SDK2     | 17:71587577   | 0.0329  | 0.00403 | 3.82E-16       |
| SEC11A   | 15:85301836   | -0.0225 | 0.00318 | 1.68E-12       |
| SEC11C   | 18:56771813   | 0.0561  | 0.00811 | 5.32E-12       |
| SEC13    | 3:10314602    | -0.0516 | 0.00332 | 3.70E-53       |
| SEC14L1  | 17:75170281   | 0.0605  | 0.00695 | 4.52E-18       |
| SEC14L2  | 22:30794719   | -0.0273 | 0.00329 | 1.55E-16       |
| SEC14L3  | 22:30853363   | -0.0847 | 0.00379 | 1.21E-105      |
| SEC22C   | 3:42608030    | 0.062   | 0.00401 | 9.65E-53       |
| SEC23A   | 14:39531992   | -0.0319 | 0.00367 | 4.27E-18       |
| SEC23B   | 20:18470664   | 0.102   | 0.00406 | 1.57E-130      |
| SEC23IP  | 10:121639683  | 0.0522  | 0.00586 | 7.50E-19       |
| Gene       | Chromosome | Start (base pairs) | End (base pairs) | Score   | p-value   | E-value |
|------------|------------|--------------------|------------------|---------|-----------|---------|
| SEC31B     | 10         | 10:12278128        | 10:12278128      | 0.076   | 0.00309   | 1.04E-127 |
| SEC61A1    | 3          | 3:127740172        | 3:127740172      | 0.021   | 0.00355   | 3.21E-09  |
| SEC61A2    | 10         | 10:12190321        | 10:12190321      | 0.126   | 0.00448   | 5.52E-161 |
| SEC62      | 3          | 3:169688367        | 3:169688367      | -0.050  | 0.0083    | 1.34E-09  |
| SECISBP2L  | 15         | 15:49293194        | 15:49293194      | 0.255   | 0.00412   | 7.26E-10  |
| SECTM1     | 17         | 17:80317656        | 17:80317656      | 0.163   | 0.0187    | 3.58E-18  |
| SEH1L      | 18         | 18:13002306        | 18:13002306      | 0.0346  | 0.00457   | 4.37E-14  |
| SEL1L3     | 4          | 4:25881205         | 4:25881205       | -0.063  | 0.00553   | 2.61E-30  |
| SELK       | 3          | 3:53926017         | 3:53926017       | -0.114  | 0.00645   | 5.51E-68  |
| SELL       | 1          | 1:169665632        | 1:169665632      | 0.123   | 0.00581   | 4.19E-95  |
| SELP       | 1          | 1:169572645        | 1:169572645      | -0.052  | 0.00784   | 3.75E-11  |
| SELPLG     | 12         | 12:109013319       | 12:109013319     | 0.0767  | 0.00461   | 1.25E-60  |
| SELRC1     | 1          | 1:53142832         | 1:53142832       | -0.0303 | 0.00502   | 1.75E-09  |
| SELT       | 3          | 3:150341842        | 3:150341842      | -0.108  | 0.00546   | 2.05E-83  |
| SEMA3A     | 7          | 7:83803086         | 7:83803086       | -0.0879 | 0.00655   | 2.38E-40  |
| SEMA3C     | 7          | 7:80357963         | 7:80357963       | 0.0804  | 0.00758   | 5.39E-26  |
| SEMA4A     | 1          | 1:156153464        | 1:156153464      | -0.0557 | 0.00444   | 1.38E-35  |
| SEMA4B     | 15         | 15:90767860        | 15:90767860      | -0.0525 | 0.00478   | 1.05E-27  |
| SEMA4D     | 9          | 9:92077132         | 9:92077132       | -0.0422 | 0.00395   | 2.47E-26  |
| SEMA4G     | 10         | 10:102700479       | 10:102700479     | -0.0217 | 0.00302   | 7.31E-13  |
| SEMA5A     | 5          | 5:9547958          | 5:9547958        | -0.0611 | 0.0038    | 7.69E-57  |
| SEMA6A     | 5          | 5:115740153        | 5:115740153      | 0.0339  | 0.00381   | 8.24E-19  |
| SEMG1      | 20         | 20:43824279        | 20:43824279      | 0.0724  | 0.0101    | 7.48E-13  |
| SENP1      | 12         | 12:48489117        | 12:48489117      | 0.0613  | 0.00316   | 7.43E-81  |
| SENP3      | 17         | 17:7475233         | 17:7475233       | 0.0286  | 0.00358   | 1.57E-15  |
| SENP6      | 6          | 6:76274825         | 6:76274825       | 0.121   | 0.00356   | 8.02E-229 |
| SENP7      | 3          | 3:101198604        | 3:101198604      | -0.095  | 0.00398   | 6.89E-120 |
| SEPP1      | 5          | 5:42751797         | 5:42751797       | -0.0418 | 0.00473   | 1.44E-18  |
| SEPSECS    | 4          | 4:25159390         | 4:25159390       | -0.0644 | 0.00772   | 9.49E-17  |
| SEPT10     | 2          | 2:110316285        | 2:110316285      | 0.056   | 0.0083    | 1.63E-11  |
| SEPT11     | 4          | 4:77915302         | 4:77915302       | -0.059  | 0.00439   | 1.72E-40  |
| SEPT2      | 2          | 2:242237945        | 2:242237945      | -0.343  | 0.00756   | <1.0E-314 |
| SEPT8      | 5          | 5:132099999        | 5:132099999      | 0.0393  | 0.00585   | 2.09E-11  |
| SEPW1      | 19         | 19:48262121        | 19:48262121      | -0.0251 | 0.00385   | 7.81E-11  |
| SERAC1     | 6          | 6:158577049        | 6:158577049      | -0.105  | 0.0041    | 5.65E-137 |
| SERHL      | 22         | 22:42946371        | 22:42946371      | -0.113  | 0.00905   | 3.21E-35  |
| SERHL2     | 22         | 22:43001128        | 22:43001128      | -0.0508 | 0.0052    | 2.32E-22  |
| SERINC1    | 6          | 6:122827891        | 6:122827891      | 0.0645  | 0.00553   | 4.78E-31  |
| SERINC2    | 1          | 1:31901133         | 1:31901133       | 0.0354  | 0.0046    | 1.72E-14  |
| Gene     | Chromosome | Start Position | End Position | T-statistics | P-values |
|----------|------------|----------------|--------------|--------------|----------|
| SERINC3  | 20         | 43150309       | 43156302     | 0.162        | 2.59E-38 |
| SERINC5  | 5          | 79419712       | 79425712     | 0.0654       | 1.25E-12 |
| SERPINA1 | 14         | 94854852       | 94860852     | -0.102       | 3.79E-94 |
| SERPINB1 | 6          | 2856192        | 2862192      | -0.0396      | 3.84E-16 |
| SERPINB10| 18         | 61562371       | 61568371     | -0.0978      | 5.23E-60 |
| SERPINB2 | 18         | 61562690       | 61568690     | 0.0773       | 6.09E-48 |
| SERPINB6 | 6          | 2940666        | 2946666      | 0.139        | 9.71E-176|
| SERPINB8 | 18         | 61626118       | 61632118     | 0.101        | 1.83E-93 |
| SERPINB9 | 6          | 2857442        | 2863442      | 0.0734       | 1.26E-52 |
| SERPIND1 | 22         | 21118650       | 21124650     | -0.0621      | 9.45E-12 |
| SERPINE2 | 2          | 224893921      | 225493921    | 0.123        | 1.29E-132|
| SERPING1 | 11         | 57399511       | 57459511     | -0.103       | 6.48E-21 |
| SERPINH1 | 11         | 75293939       | 75353939     | -0.035       | 5.02E-18 |
| SERPINI1 | 3          | 167407378      | 167467378    | -0.045       | 2.10E-09 |
| SERTAD2  | 2          | 64865804       | 65465804     | 0.0357       | 7.86E-13 |
| SERTAD3  | 19         | 40947373       | 40947373     | 0.126        | 1.37E-68 |
| SESN1    | 6          | 109328432      | 109388432    | -0.122       | 4.69E-76 |
| SESN3    | 11         | 94886632       | 94946632     | 0.0895       | 1.47E-35 |
| SESTD1   | 2          | 180060658      | 180060658    | -0.142       | 4.79E-114|
| SETD4    | 21         | 37409835       | 37469835     | 0.0613       | 9.10E-56 |
| SETD9    | 5          | 56237155       | 56297155     | 0.223        | 4.02E-295|
| SETDB1   | 1          | 150937661      | 150937661    | 0.0207       | 1.07E-10 |
| SETMAR   | 3          | 4403537        | 4403537      | -0.121       | 2.09E-159|
| SETX     | 9          | 135210753      | 135210753    | -0.0414      | 9.76E-12 |
| SF3A1    | 22         | 30742623       | 30752623     | -0.0226      | 1.77E-11 |
| SF3B1    | 2          | 198255495      | 198355495    | -0.0353      | 3.54E-30 |
| SF3B2    | 11         | 65785211       | 65785211     | 0.0442       | 1.10E-34 |
| SFMBT1   | 3          | 35083742       | 35083742     | -0.0649      | 2.93E-20 |
| SFR1     | 10         | 105908597      | 105908597    | 0.113        | 1.44E-44 |
| SFRP2    | 4          | 154691808      | 154691808    | -0.112       | 1.62E-30 |
| SFT2D1   | 6          | 166736518      | 166736518    | -0.106       | 2.07E-34 |
| SFXN3    | 10         | 102791911      | 102791911    | -0.054       | 5.25E-17 |
| SFXN4    | 10         | 120907808      | 120907808    | 0.228        | <1.0E-314|
| SGCB     | 4          | 52900422       | 52900422     | -0.0981      | 3.52E-30 |
| SGCE     | 7          | 94166160       | 94166160     | -0.0386      | 2.88E-26 |
| SGIP1    | 1          | 66999215       | 66999215     | 0.12         | 5.77E-134|
| SGK1     | 6          | 134585412      | 134585412    | -0.126       | 1.62E-26 |
| SGMS1    | 10         | 52370312       | 52370312     | -0.0235      | 4.69E-15 |
| Gene   | Chromosome | Start Position | End Position | Log2 Fold Change | p-Value  |
|--------|------------|----------------|--------------|------------------|----------|
| SGOL1  | 3:20187080 | 0.0698         | 0.00966      | 5.63E-13         |          |
| SGPL1  | 10:72602314| -0.0757        | 0.00746      | 5.57E-24         |          |
| SGSH   | 17:78184393| -0.0364        | 0.00296      | 2.66E-34         |          |
| SGTB   | 5:65053753 | -0.0465        | 0.00515      | 2.30E-19         |          |
| SH3BGL2| 6:80325857 | 0.0871         | 0.00996      | 2.88E-18         |          |
| SH3BGL3| 1:26603883 | 0.145          | 0.00577      | 6.29E-131        |          |
| SH3BP1 | 22:38029723| -0.0481        | 0.00359      | 2.25E-40         |          |
| SH3BP2 | 4:2813503 | -0.0194        | 0.00281      | 5.68E-12         |          |
| SH3BP5 | 3:15321396 | -0.0355        | 0.0038       | 1.31E-20         |          |
| SH3GLB2| 9:131782964| 0.0352         | 0.00404      | 3.88E-18         |          |
| SH3PXD2B| 5:171878751| 0.0976         | 0.00842      | 1.01E-30         |          |
| SH3RF1 | 4:170217661| -0.0429        | 0.0032       | 2.03E-40         |          |
| SH3YL1 | 2:264621   | 0.162          | 0.00528      | 1.07E-189        |          |
| SHARPIN| 8:145128896| -0.0721        | 0.00822      | 2.50E-18         |          |
| SHC1   | 1:154922599| -0.0815        | 0.00703      | 9.00E-31         |          |
| SHISA4 | 1:201871833| -0.0609        | 0.00654      | 1.68E-20         |          |
| SHKB1  | 19:41111069| -0.152         | 0.00404      | 4.82E-273        |          |
| SHMT1  | 17:18264449| -0.0622        | 0.0036       | 3.15E-65         |          |
| SIAH1  | 16:48390512| -0.0574        | 0.00546      | 1.61E-25         |          |
| SIAH2  | 3:150439774| 0.18           | 0.0248       | 4.55E-13         |          |
| SIDT1  | 3:113208224| 0.121          | 0.00623      | 8.72E-81         |          |
| SIDT2  | 11:117002403| 0.278         | 0.0063       | <1.0E-314        |          |
| SIGLEC10| 19:51912018| 0.13           | 0.00819      | 4.74E-55         |          |
| SIGLEC11| 19:50463982| -0.0496        | 0.00411      | 4.54E-33         |          |
| SIGLEC12| 19:52004074| -0.0235        | 0.00354      | 3.78E-11         |          |
| SIGLEC5| 19:52130830| -0.0821        | 0.00604      | 2.27E-41         |          |
| SIGLEC6| 19:52047077| 0.0277         | 0.00367      | 5.23E-14         |          |
| SIGLEC7| 19:51642784| -0.0307        | 0.00443      | 4.75E-12         |          |
| SIGLEC9| 19:51642784| -0.0509        | 0.00445      | 5.99E-30         |          |
| SIGMAR1| 9:34638080 | 0.0423         | 0.00632      | 2.35E-11         |          |
| SIK2   | 11:111493176| -0.0309       | 0.00252      | 5.30E-34         |          |
| SIMC1  | 5:175797242| 0.0623         | 0.00601      | 6.26E-25         |          |
| SIN3B  | 19:16913358| 0.0586         | 0.00756      | 1.12E-14         |          |
| SIPA1L1| 14:72023372| -0.0311        | 0.00425      | 2.64E-13         |          |
| SIRPA  | 20:1894335 | 0.143          | 0.00457      | 3.34E-197        |          |
| SIRPB1 | 20:1546175 | -0.264         | 0.00546      | <1.0E-314        |          |
| SIRPB2 | 20:1457045 | -0.241         | 0.00641      | 2.45E-273        |          |
| SIRPD  | 20:1539165 | -0.06          | 0.00525      | 6.06E-30         |          |
| SIRPG  | 20:1626479 | -0.0377        | 0.00584      | 1.18E-10         |          |
| Gene   | Chromosome | Start | End   | Fold Change | p-value |
|--------|------------|-------|-------|-------------|---------|
| SIRT1  | 10:69644217| -0.119| 0.00336| 1.31E-246   |
| SIRT3  | 11:218640  | -0.0324|0.00332| 2.77E-22    |
| SIRT4  | 12:120785685| -0.0774|0.0127| 1.28E-09    |
| SIRT5  | 6:13580885 | 0.12  | 0.00373| 6.09E-206   |
| SKA3   | 13:21747051| 0.0531|0.00774| 7.52E-12    |
| SKAP1  | 17:46347508| -0.0439|0.00521| 4.96E-17    |
| SKAP2  | 7:26833021 | 0.201 | 0.00469| <1.0E-314   |
| SKIV2L | 6:31934372 | -0.0464|0.00329| 2.25E-44    |
| SKP1   | 5:133514425| -0.0515|0.005 | 1.18E-24    |
| SLA    | 8:134106641| -0.183|0.0152| 5.77E-33    |
| SLAIN1 | 13:78362028| -0.0471|0.00572| 2.36E-16    |
| SLAIN2 | 4:48429269 | 0.0542|0.0039 | 3.15E-43    |
| SLAMF8 | 1:159801155| 0.0421 |0.00594| 1.48E-12    |
| SLBP   | 4:1747523  | 0.0366|0.00448| 3.82E-16    |
| SLC11A1| 2:219230213| 0.228 |0.011 | 2.95E-91    |
| SLC1A3 | 5:36702864 | 0.0395|0.00386| 2.43E-24    |
| SLC12A1| 15:48520590| 1.92  |0.0276| <1.0E-314   |
| SLC12A2| 5:127433047| 0.0529|0.00386| 5.52E-42    |
| SLC12A4| 16:68024995| -0.0227|0.00302| 6.74E-14    |
| SLC12A6| 15:34580322| 0.046 |0.00328| 8.05E-44    |
| SLC12A7| 5:1107428  | 0.112 |0.00656| 6.59E-64    |
| SLC12A9| 7:100446365| 0.0284|0.00412| 6.35E-12    |
| SLC13A4| 7:135349273| -0.0485|0.00302| 8.58E-57    |
| SLC14A1| 18:43311483| 0.235 |0.0213| 6.39E-28    |
| SLC15A2| 3:121566498| -0.0621|0.00534| 6.56E-31    |
| SLC15A4| 12:129272242| 0.139 |0.0114| 1.14E-33    |
| SLC16A1| 1:113443510| -0.0952|0.00586| 5.69E-58    |
| SLC16A3| 17:80149901| -0.106 |0.00846| 3.07E-35    |
| SLC16A4| 1:110938530| 0.0991 |0.0106| 1.63E-20    |
| SLC16A6| 17:66267650| -0.0905|0.00699| 1.08E-37    |
| SLC17A3| 6:25883714 | 0.0359 |0.00364| 9.72E-23    |
| SLC17A5| 6:74278062 | -0.0585|0.00644| 1.45E-19    |
| SLC18A1| 8:20031409 | -0.0484|0.00662| 3.08E-13    |
| SLC18A2| 10:118988797| -0.0567|0.00859| 4.45E-11    |
| SLC18B1| 6:133119816| 0.404 |0.0118| 3.81E-230   |
| SLC19A2| 1:169477574| -0.0634|0.0069 | 5.70E-20    |
| SLC1A3 | 5:36702864 | 0.0395 |0.00386| 2.43E-24    |
| SLC1A4 | 2:65218647 | -0.0568|0.0052 | 1.64E-27    |
| SLC1A5 | 19:47312547| -0.109 |0.014 | 1.16E-14    |
| Gene    | Chromosome | Position   | Log2FoldChange | p-value  |
|---------|------------|------------|----------------|----------|
| SLC20A1 | 2:113457049| 0.0984     | 0.00371        | 3.12E-145|
| SLC20A2 | 8:42425673 | -0.0465    | 0.00294        | 5.49E-55 |
| SLC22A1 | 6:160524578| 0.102      | 0.00533        | 5.26E-103|
| SLC22A15| 1:116518811| -0.151     | 0.00454        | 1.98E-157|
| SLC22A16| 6:110797905| -0.111     | 0.00571        | 6.29E-82 |
| SLC22A18| 11:2929659 | 0.0267     | 0.0034         | 8.71E-15 |
| SLC22A4 | 5:131673267| -0.114     | 0.00517        | 5.26E-103|
| SLC22A5 | 5:131677047| 0.0697     | 0.00304        | 9.43E-111|
| SLC23A2 | 20:4953230 | -0.0394    | 0.00444        | 4.38E-26 |
| SLC23A3 | 2:220045035| -0.0386    | 0.00364        | 4.38E-26 |
| SLC24A3 | 20:19281291| 0.0433     | 0.00351        | 1.42E-34 |
| SLC24A4 | 14:92955385| 0.0633     | 0.00444        | 2.82E-45 |
| SLC24A5 | 15:48462320| -0.226     | 0.0217         | 4.20E-25 |
| SLC25A1 | 22:19180652| -0.1       | 0.00599        | 5.59E-61 |
| SLC25A12| 2:172694629| -0.0206    | 0.00322        | 1.90E-10 |
| SLC25A13| 7:95956217 | -0.0444    | 0.004         | 2.16E-28 |
| SLC25A21| 14:37688167| -0.0469    | 0.00378        | 7.57E-35 |
| SLC25A24| 1:108743059| 0.103      | 0.00426        | 3.20E-122|
| SLC25A26| 3:66424979 | 0.0687     | 0.00407        | 2.11E-62 |
| SLC25A28| 10:101381564| -0.0369 | 0.00485       | 3.18E-14 |
| SLC25A29| 14:100810426| -0.0562 | 0.00515       | 6.01E-28 |
| SLC25A3 | 12:98987445 | -0.0402    | 0.00515        | 7.53E-15 |
| SLC25A32| 8:104461878 | -0.0767    | 0.00403        | 3.10E-78 |
| SLC25A37| 8:23457200  | 0.0746     | 0.00906        | 2.31E-16 |
| SLC25A44| 1:156181615 | 0.0297     | 0.00472        | 3.50E-10 |
| SLC25A46| 5:110025473 | 0.0762     | 0.00643        | 5.74E-32 |
| SLC25A51| 9:37837140  | 0.153      | 0.0195         | 4.98E-15 |
| SLC26A5 | 7:103012705 | -0.318     | 0.00775        | <1.0E-314|
| SLC26A6 | 3:48678011  | -0.0323    | 0.00385        | 6.69E-17 |
| SLC26A8 | 6:35961891  | -0.0812    | 0.00609        | 7.15E-40 |
| SLC27A3 | 1:153748219 | -0.0597    | 0.00664        | 3.29E-19 |
| SLC28A2 | 15:45561868 | 0.0406     | 0.00287        | 1.09E-44 |
| SLC28A3 | 9:86983368  | 0.0934     | 0.00852        | 1.17E-27 |
| SLC29A3 | 10:73135743 | 0.0327     | 0.00456        | 8.19E-13 |
| SLC2A1  | 1:43440783  | 0.0433     | 0.00495        | 2.53E-18 |
| SLC30A4 | 15:45730926 | 0.0319     | 0.00508        | 3.56E-10 |
| SLC30A5 | 5:68419908  | 0.018      | 0.00287        | 3.71E-10 |
| SLC30A6 | 2:32391231  | 0.0265     | 0.00422        | 3.87E-10 |
| Gene   | Chromosome | Start Position | Effect Size | Standard Error | p-Value         |
|--------|------------|----------------|-------------|----------------|----------------|
| SLC30A9| 4:41992752 | 0.315          | 0.0182      | 1.07E-65       |
| SLC31A1| 9:116025982| 0.112          | 0.00753     | 2.69E-49       |
| SLC31A2| 9:115917783| -0.0699        | 0.00572     | 7.36E-34       |
| SLC33A1| 3:155535765| 0.0517         | 0.00385     | 1.65E-40       |
| SLC35A1| 6:88190108 | -0.0378        | 0.00393     | 8.91E-22       |
| SLC35A5| 3:112242208| 0.0648         | 0.00846     | 2.25E-14       |
| SLC35B2| 6:44205845 | -0.0337        | 0.00421     | 1.42E-15       |
| SLC35B3| 6:8435883  | 0.0281         | 0.00374     | 6.35E-14       |
| SLC35C1| 11:45834201| 0.0316         | 0.00529     | 2.52E-09       |
| SLC35D1| 1:67529243 | 0.0955         | 0.00608     | 1.87E-54       |
| SLC35D2| 9:99173448 | 0.0436         | 0.00544     | 1.24E-15       |
| SLC35E1| 19:16699813| 0.0502         | 0.00405     | 9.37E-35       |
| SLC35E3| 12:69184350| 0.0677         | 0.00425     | 8.02E-56       |
| SLC35F3| 1:234451159| -0.0302        | 0.00274     | 5.39E-28       |
| SLC35F5| 2:114541449| 0.0237         | 0.00351     | 1.55E-11       |
| SLC36A1| 5:150883158| -0.132         | 0.00507     | 1.74E-141      |
| SLC37A2| 11:124958397| -0.0362       | 0.00398     | 1.26E-19       |
| SLC37A3| 7:140098605| 0.112          | 0.00689     | 6.79E-58       |
| SLC38A10| 17:79245770| -0.0278        | 0.00331     | 4.46E-19       |
| SLC38A1| 2:165834674| -0.0719        | 0.0114      | 3.05E-10       |
| SLC38A4| 12:47139555| -0.0508        | 0.00505     | 1.23E-23       |
| SLC38A6| 14:61514673| -0.0494        | 0.00668     | 1.78E-13       |
| SLC39A1| 1:153895936| -0.0448        | 0.00468     | 1.50E-21       |
| SLC39A11| 17:71027543| 0.0653         | 0.00625     | 2.78E-25       |
| SLC39A6| 18:33709217| -0.0237        | 0.00353     | 2.24E-11       |
| SLC39A8| 4:103225513| -0.0574        | 0.0051      | 4.94E-29       |
| SLC39A9| 14:69934611| -0.167         | 0.00812     | 6.32E-91       |
| SLC40A1| 2:19044317 | -0.0753        | 0.00604     | 3.70E-35       |
| SLC41A1| 1:205799987| -0.0171        | 0.00255     | 2.11E-11       |
| SLC41A2| 12:105353244| 0.0592         | 0.00681     | 4.68E-18       |
| SLC41A3| 3:125794616| 0.0446         | 0.00288     | 5.78E-53       |
| SLC44A2| 19:10703339| 0.113          | 0.00532     | 1.28E-95       |
| SLC44A4| 6:31836827 | -0.247         | 0.00463     | <1.0E-314      |
| SLC44A5| 1:75911113 | -0.168         | 0.00451     | 1.40E-270      |
| SLC45A4| 8:142277620| 0.136          | 0.0135      | 1.17E-23       |
| SLC46A2| 9:115673533| 0.0503         | 0.00398     | 3.84E-36       |
| SLC47A1| 17:19525492| 0.0333         | 0.00314     | 5.68E-26       |
| SLC48A1| 12:48169526| -0.0815        | 0.00434     | 3.76E-76       |
| SLC4A1 | 17:42313512| -0.0912        | 0.013       | 2.91E-12       |
| Gene      | Chromosome | Start    | End      | Expression (log fold change) | Specificity (p-value) |
|-----------|------------|----------|----------|-----------------------------|-----------------------|
| SLC4A7    | 3:27493730 | 3:27493730 | 3.27493730 | 0.0832                      | 0.0119                |
| SLC4A8    | 12:51847800 | 12:51847800 | 5.18478000 | -0.0331                     | 0.00376               |
| SLC5A11   | 16:24835168 | 16:24835168 | 2.4835168  | -0.0398                     | 0.0033                |
| SLC5A3    | 21:35401161 | 21:35401161 | 3.5401161  | 0.0617                      | 0.00781               |
| SLC5A4    | 22:32599716 | 22:32599716 | 3.2599716  | 0.0359                      | 0.00379               |
| SLC5A6    | 2:27458790  | 2:27458790  | 2.7458790  | 0.0546                      | 0.00405               |
| SLC6A12   | 12:329131   | 12:329131   | 3.29131    | -0.0244                     | 0.00385               |
| SLC6A16   | 19:49867913 | 19:49867913 | 4.9867913  | 0.0406                      | 0.00511               |
| SLC6A6    | 3:14520560  | 3:14520560  | 1.4520560  | -0.1                        | 0.00539               |
| SLC7A1    | 13:30202377 | 13:30202377 | 3.0202377  | -0.067                      | 0.00614               |
| SLC7A11   | 4:139147725 | 4:139147725 | 1.39147725 | -0.147                      | 0.0144                |
| SLC7A6    | 16:68317061 | 16:68317061 | 6.8317061  | 0.096                       | 0.00432               |
| SLC7A6OS  | 16:68317061 | 16:68317061 | 6.8317061  | -0.0366                     | 0.00278               |
| SLC7A7    | 14:23285439 | 14:23285439 | 2.3285439  | 0.0787                      | 0.00584               |
| SLC7A8    | 14:23631372 | 14:23631372 | 2.3631372  | -0.323                      | 0.0116                |
| SLC8A1    | 2:40687437  | 2:40687437  | 4.0687437  | 0.0955                      | 0.00572               |
| SLC9A2    | 2:103347094 | 2:103347094 | 1.03347094 | -0.0492                     | 0.00345               |
| SLC9A3R1  | 17:72767435 | 17:72767435 | 7.2767435  | -0.0366                     | 0.00278               |
| SLC9B1    | 4:103832044 | 4:103832044 | 1.03832044 | -0.0505                     | 0.00516               |
| SLC9B2    | 4:104010619 | 4:104010619 | 1.04010619 | 0.0291                      | 0.00387               |
| SLCO3A1   | 15:92399657 | 15:92399657 | 9.2399657  | 0.0415                      | 0.0035                |
| SLCO4C1   | 5:101604320 | 5:101604320 | 1.0160432  | -0.101                      | 0.00591               |
| SLFN11    | 17:33727598 | 17:33727598 | 3.3727598  | -0.0812                     | 0.0098                |
| SLFN12    | 17:33753808 | 17:33753808 | 3.3753808  | -0.241                      | 0.00925               |
| SLFN13    | 17:33801032 | 17:33801032 | 3.3801032  | -0.0602                     | 0.00582               |
| SLFN5     | 17:33563302 | 17:33563302 | 3.3563302  | -0.149                      | 0.00483               |
| SLIRP     | 14:78207178 | 14:78207178 | 7.8207178  | 0.172                       | 0.015                 |
| SLIT1     | 10:98993813 | 10:98993813 | 9.8993813  | -0.0144                     | 0.00165               |
| SLK       | 10:105723183| 10:105723183| 1.05723183 | -0.0327                     | 0.00463               |
| SLMO2     | 20:57593158 | 20:57593158 | 5.7593158  | 0.0367                      | 0.00525               |
| SLPI      | 20:43888106 | 20:43888106 | 4.3888106  | 0.114                       | 0.0163                |
| SMAD1     | 4:146392431 | 4:146392431 | 1.46392431 | 0.0305                      | 0.00376               |
| SMAD4     | 18:48553225 | 18:48553225 | 4.8553225  | -0.0269                     | 0.00257               |
| SMAD5     | 5:135516203 | 5:135516203 | 1.35516203 | -0.115                      | 0.0049                |
| SMAP1     | 6:71375961  | 6:71375961  | 7.1375961  | -0.059                      | 0.00282               |
| SMAP2     | 1:40838636  | 1:40838636  | 4.0838636  | -0.0293                     | 0.00466               |
| SMARCA4   | 19:11054715 | 19:11054715 | 1.1054715  | 0.0261                      | 0.00385               |
| SMARCAD1  | 4:95208714  | 4:95208714  | 9.5208714  | 0.0713                      | 0.00378               |
| SMARCA11  | 2:217275483 | 2:217275483 | 2.17275483 | -0.0294                     | 0.00331               |
| Gene      | Chromosome | Start       | End         | log2FoldChange | p-value      | Adjusted p-value |
|-----------|------------|-------------|-------------|----------------|--------------|------------------|
| SMARCB1   | 22:24180449| 0.0612      | 0.00661     | 2.85E-20       |              |                  |
| SMARCD2   | 17:61887693| 0.0272      | 0.00266     | 2.57E-24       |              |                  |
| SMARCE1   | 17:38782343| 0.0986      | 0.0042      | 3.82E-19       |              |                  |
| SMC1B     | 22:45818758| -0.0641     | 0.00318     | 5.65E-87       |              |                  |
| SMC2      | 9:106849347| 0.0497      | 0.00554     | 3.82E-19       |              |                  |
| SMC4      | 3:160161111| -0.0386     | 0.0049      | 3.97E-15       |              |                  |
| SMC6      | 2:17981258 | 0.0439      | 0.00534     | 2.28E-16       |              |                  |
| SMCR8     | 17:18205750| -0.049      | 0.00455     | 8.54E-27       |              |                  |
| SMG1      | 16:18936355| 0.0727      | 0.00464     | 3.26E-54       |              |                  |
| SMG5      | 1:156208230| 0.122       | 0.00251     | <1.0E-314      |              |                  |
| SMG7      | 1:183570545| -0.0207     | 0.00303     | 9.22E-12       |              |                  |
| SMG8      | 17:57339990| -0.041      | 0.00653     | 3.72E-10       |              |                  |
| SMIM11    | 21:35741702| -0.0995     | 0.0159      | 3.86E-10       |              |                  |
| SMIM7     | 19:16807428| 0.0812      | 0.0114      | 1.16E-12       |              |                  |
| SMIM8     | 6:88043372 | 0.16        | 0.0058      | 9.82E-156      |              |                  |
| SMNDC1    | 10:11205399| 0.0531      | 0.0035      | 7.14E-51       |              |                  |
| SMOX      | 20:4157072 | 0.116       | 0.0068      | 7.38E-64       |              |                  |
| SMPD2     | 6:10973614 | -0.0402     | 0.00361     | 1.46E-28       |              |                  |
| SMPD3     | 6:123065057| -0.142      | 0.0115      | 1.28E-34       |              |                  |
| SMUG1     | 12:54573816| 0.039       | 0.00633     | 7.41E-10       |              |                  |
| SMURF1    | 7:98678486 | -0.055      | 0.00868     | 2.62E-10       |              |                  |
| SMURF2    | 17:62569580| -0.0729     | 0.01        | 4.37E-13       |              |                  |
| SMYD2     | 1:214497080| 0.0861      | 0.00384     | 1.10E-106      |              |                  |
| SMYD3     | 1:246670297| -0.0296     | 0.00444     | 2.86E-11       |              |                  |
| SMYD4     | 17:1696244 | 0.0403      | 0.00341     | 7.42E-32       |              |                  |
| SNAP29    | 22:21293653| 0.0976      | 0.00879     | 2.41E-28       |              |                  |
| SNAP91    | 6:84320225 | -0.816      | 0.0512      | 8.63E-56       |              |                  |
| SNAPC1    | 14:62275354| -0.14       | 0.00512     | 1.95E-154      |              |                  |
| SNAPC3    | 9:15434792 | 0.0735      | 0.00563     | 2.27E-38       |              |                  |
| SNAPIN    | 1:153635425| -0.0337     | 0.00496     | 1.28E-11       |              |                  |
| SNCA      | 4:90757840 | -0.0865     | 0.00759     | 9.55E-30       |              |                  |
| SND1-T1   | 7:127643968| -0.127      | 0.0152      | 9.90E-17       |              |                  |
| SNF8      | 17:47006493| 0.0264      | 0.00422     | 4.61E-10       |              |                  |
| SNIP1     | 1:38047385 | 0.0382      | 0.00471     | 6.43E-16       |              |                  |
| SNRNP25   | 16:145884  | 0.127       | 0.0159      | 1.83E-15       |              |                  |
| SNRNP27   | 2:70141519 | -0.0459     | 0.00451     | 3.69E-24       |              |                  |
| SNRNP40   | 1:31761703 | 0.0644      | 0.00875     | 2.21E-13       |              |                  |
| SNRNP48   | 6:7576368  | -0.0406     | 0.00417     | 3.03E-22       |              |                  |
| SNRPB     | 20:2457887 | -0.0435     | 0.00481     | 2.36E-19       |              |                  |
| Gene       | Chromosome | Location          | Log2 Fold Change | P-Value     | q-Value  |
|------------|------------|-------------------|------------------|-------------|----------|
| SNRPB2     | 20:16710791| 0.0832 0.014      | 2.80E-09         |             |          |
| SNRPC      | 6:34748893 | 0.0524 0.00623    | 5.66E-17         |             |          |
| SNRPD3     | 22:24935250| -0.0932 0.00397   | 3.16E-116        |             |          |
| SNRPN      | 15:25217611| 0.112 0.00388     | 5.64E-170        |             |          |
| SNTB2      | 16:69194699| -0.0395 0.00431   | 7.81E-20         |             |          |
| SNUPN      | 15:75863915| -0.0529 0.00891   | 2.96E-09         |             |          |
| SNW1       | 14:78202777| -0.0839 0.00868   | 6.10E-22         |             |          |
| SNX1       | 15:64441179| -0.0433 0.00437   | 6.65E-23         |             |          |
| SNX11      | 17:46178674| 0.0689 0.00374    | 2.77E-73         |             |          |
| SNX16      | 8:82720700 | -0.187 0.00492    | 9.53E-280        |             |          |
| SNX18      | 5:53815722 | -0.122 0.00435    | 3.84E-160        |             |          |
| SNX19      | 11:130749351| -0.0924 0.00294   | 2.68E-199        |             |          |
| SNX2       | 5:122209192| -0.0289 0.00393   | 2.11E-13         |             |          |
| SNX20      | 16:50703698| 0.136 0.0192      | 1.51E-12         |             |          |
| SNX25      | 4:186172793| -0.112 0.00463    | 1.20E-121        |             |          |
| SNX32      | 11:65623739| -0.0504 0.00316   | 3.41E-56         |             |          |
| SNX4       | 3:125197161| -0.0831 0.00612   | 2.66E-41         |             |          |
| SNX6       | 14:35105227| -0.156 0.00482    | 2.28E-209        |             |          |
| SNX7       | 1:99127205 | -0.151 0.0126     | 1.09E-32         |             |          |
| SOAT1      | 1:179312235| 0.0762 0.00387    | 3.06E-83         |             |          |
| SOCS5      | 2:46947440 | 0.089 0.006      | 1.00E-48         |             |          |
| SOD2       | 6:160087409| 0.115 0.00518     | 3.42E-105        |             |          |
| SOGA3      | 6:127889330| -0.0276 0.00406   | 1.11E-11         |             |          |
| SOHLH2     | 13:36830298| -0.058 0.00562    | 1.06E-24         |             |          |
| SORCS3     | 10:106740404| -0.0671 0.00735 | 9.04E-20        |             |          |
| SORT1      | 1:109851126| 0.034 0.00519     | 6.77E-11         |             |          |
| SOS2       | 14:50712797| -0.0738 0.00636   | 1.06E-30         |             |          |
| SP110      | 2:231042276| 0.0361 0.00471    | 2.17E-14         |             |          |
| SP140      | 2:231091223| 0.0565 0.00731    | 1.26E-14         |             |          |
| SP140L     | 2:231265405| 0.0748 0.00456    | 3.87E-59         |             |          |
| SP2        | 17:45974285| -0.0196 0.00313   | 3.96E-10         |             |          |
| SPAG1      | 8:101214189| -0.0948 0.00315   | 4.02E-184        |             |          |
| SPAG7      | 17:4865928 | -0.117 0.00632    | 3.95E-74         |             |          |
| SPAG8      | 9:35808334 | -0.0659 0.0103    | 1.65E-10         |             |          |
| SPAG9      | 17:49054439| -0.026 0.00429    | 1.49E-09         |             |          |
| SPATA13    | 13:24877550| 0.0649 0.00366    | 2.62E-68         |             |          |
| SPATA20    | 17:48616114| -0.153 0.00376    | <1.0E-314        |             |          |
| SPATA32    | 17:43335413| 0.0359 0.00493    | 3.78E-13         |             |          |
| SPATA5     | 4:124024947| -0.0282 0.0043    | 6.40E-11         |             |          |
| Gene  | Chromosome | Location | Log2 Fold Change | p-Value | E-Value |
|-------|------------|----------|------------------|---------|---------|
| SPATA5L1 | 15:45644685 | -0.181  | 0.00448 | <1.0E-314 |
| SPATA6 | 1:48739068 | 0.0798  | 0.00931 | 1.36E-17 |
| SPATA6L | 9:4661019 | 0.0616  | 0.00367 | 2.18E-61 |
| SPATA7 | 14:88950847 | 0.157   | 0.00429 | 1.58E-260 |
| SPATA9 | 5:94965599 | -0.0714 | 0.00393 | 1.60E-71 |
| SPAT52L | 2:201163239 | -0.0487 | 0.00735 | 3.79E-11 |
| SPCS3 | 4:177256937 | -0.0744 | 0.00577 | 1.44E-37 |
| SPDL1 | 5:168970932 | 0.206   | 0.0108  | 1.08E-78 |
| SPECC1 | 17:19980772 | 0.0626  | 0.00645 | 4.48E-22 |
| SPECC1L | 22:24844883 | -0.112  | 0.00869 | 1.80E-37 |
| SPEF2 | 5:35656945 | -0.023  | 0.00301 | 2.69E-14 |
| SPG20 | 13:36886170 | -0.158  | 0.00437 | 2.20E-256 |
| SPHK1 | 17:74378242 | -0.0457 | 0.0078  | 4.96E-09 |
| SPICE1 | 3:113190164 | 0.083   | 0.00823 | 9.55E-24 |
| SPINT2 | 19:38754948 | 0.0323  | 0.00428 | 5.08E-14 |
| SPNS3 | 17:4386669 | 0.0285  | 0.00262 | 2.51E-27 |
| SPOCK2 | 10:73823298 | -0.0385 | 0.00318 | 2.60E-33 |
| SPON1 | 11:14309434 | 0.0203  | 0.00297 | 8.86E-12 |
| SPOP | 17:47718188 | 0.0216  | 0.00318 | 1.36E-11 |
| SPPL3 | 12:121215911 | -0.0249 | 0.00337 | 1.66E-13 |
| SPRED2 | 2:65684152 | 0.0186  | 0.00314 | 3.46E-09 |
| SPRTN | 1:231484361 | -0.0738 | 0.00397 | 8.50E-75 |
| SPSB1 | 1:9347552 | -0.0252 | 0.00318 | 2.33E-15 |
| SPSB2 | 12:7017043 | -0.052  | 0.0053  | 1.74E-22 |
| SPSB3 | 16:1827836 | -0.037  | 0.00449 | 2.15E-16 |
| SPTBN1 | 2:54787592 | -0.17   | 0.00883 | 1.13E-79 |
| SPTLC2 | 14:78023519 | -0.0784 | 0.00419 | 8.09E-76 |
| SPTLC3 | 20:12988132 | 0.0347  | 0.00571 | 1.28E-09 |
| SQLE | 8:126031754 | -0.0521 | 0.00763 | 9.51E-12 |
| SQRD1 | 15:45922030 | -0.0445 | 0.0055  | 6.71E-16 |
| SQSTM1 | 5:179254340 | -0.0407 | 0.00263 | 7.67E-53 |
| SRA1 | 5:139937146 | 0.0893  | 0.00373 | 1.81E-120 |
| SRBD1 | 2:45817382 | -0.0276 | 0.00448 | 7.87E-10 |
| SRD5A1 | 5:6634631 | -0.0321 | 0.00543 | 3.53E-09 |
| SRD5A3 | 4:56217015 | -0.221  | 0.00684 | 5.61E-210 |
| SREBF1 | 17:17750558 | -0.0192 | 0.00169 | 1.89E-29 |
| SRGAP3 | 3:9290344 | -0.0229 | 0.0038  | 1.97E-09 |
| SRGN | 10:70805373 | -0.058  | 0.00568 | 3.07E-24 |
| Gene     | Chromosome | Start Position | Fold Change | p-value          |
|----------|------------|----------------|-------------|-----------------|
| SRI      | 7          | 87835469       | -0.0339     | 7.33E-11        |
| SRP54    | 14         | 35402379       | -0.0429     | 1.31E-40        |
| SRP68    | 17         | 74060687       | -0.0297     | 4.47E-10        |
| SRP72    | 4          | 57357244       | 0.134       | 3.10E-133       |
| SRPK1    | 6          | 35834129       | -0.0993     | 4.15E-64        |
| SRPK2    | 7          | 105017276      | 0.0555      | 1.39E-18        |
| SRPRB    | 3          | 133524717      | -0.0449     | 2.10E-12        |
| SRR      | 17         | 2203175        | 0.0612      | 2.67E-41        |
| SRRT     | 7          | 100486035      | -0.023      | 2.37E-11        |
| SRSF12   | 6          | 89788797       | 0.0427      | 9.94E-26        |
| SRSF3    | 6          | 36558964       | -0.0474     | 4.96E-22        |
| SRSF4    | 1          | 29434780       | 0.025       | 2.40E-12        |
| SRSF9    | 12         | 120901765      | 0.706       | 7.42E-148       |
| SRXN1    | 20         | 633149         | 0.106       | 7.13E-102       |
| SSB      | 2          | 170661333      | 0.0764      | 3.22E-17        |
| SSBP2    | 5          | 80747220       | 0.0352      | 7.83E-20        |
| SSH1     | 12         | 109260526      | -0.0369     | 1.50E-24        |
| SSH2     | 17         | 28178724       | -0.0852     | 2.96E-102       |
| SSH3     | 11         | 67021930       | 0.0957      | 2.74E-19        |
| SSR1     | 6          | 7278046        | 0.0295      | 1.27E-18        |
| SSR3     | 3          | 156262753      | 0.0666      | 1.69E-21        |
| SSU72    | 1          | 1505215        | -0.274      | 3.80E-45        |
| SSX2IP   | 1          | 85133731       | 0.126       | 2.86E-51        |
| ST14     | 11         | 130019574      | 0.0686      | 1.65E-31        |
| ST3GAL1  | 8          | 134552618      | 0.0683      | 2.19E-36        |
| ST3GAL4  | 11         | 126181592      | -0.0296     | 1.57E-12        |
| ST3GAL5  | 2          | 86094686       | 0.0805      | 1.95E-51        |
| ST3GAL6  | 3          | 98492380       | -0.0305     | 1.59E-09        |
| ST6GAL1  | 3          | 186739677      | 0.0335      | 4.51E-10        |
| ST6GALNAC1 | 17        | 74674556      | -0.045      | 2.08E-28        |
| ST6GALNAC2 | 17       | 74595847      | 0.238       | 5.60E-104       |
| ST6GALNAC3 | 1        | 76518693      | 0.0636      | 1.14E-47        |
| ST6GALNAC6 | 9        | 130668957     | 0.122       | 8.99E-33        |
| ST7L     | 1          | 113089006      | 0.0371      | 5.06E-32        |
| ST8SIA4  | 5          | 100258523      | 0.129       | 4.94E-30        |
| STAB1    | 3          | 52528292       | 0.0733      | 8.14E-44        |
| STAG3L4  | 7          | 66767623       | -0.103      | 9.33E-91        |
| STAM     | 10         | 17748365       | 0.0604      | 5.15E-29        |
| STAM2    | 2          | 153024245      | 0.037       | 1.41E-30        |
| Gene       | Chromosome | Start (bp) | End (bp) | Start (Mb) | End (Mb) | Log2 Fold Change | p-value |
|------------|------------|------------|----------|------------|----------|-----------------|---------|
| STAMBP     | 2          | 74057096   | 74057096 | 0.0033     | 0.0033   | -0.111          | 4.68E-17|
| STAMBPL1   | 10         | 90683124   | 90683124 | 0.0070     | 0.0070   | 0.0414          | 6.50E-19|
| STARD10    | 11         | 72506324   | 72506324 | 0.0051     | 0.0051   | -0.0566         | 2.58E-67|
| STARD3NL   | 7          | 38203783   | 38203783 | 0.0053     | 0.0053   | 0.0838          | 1.26E-53|
| STARD4     | 5          | 110848319  | 110848319| 0.0076     | 0.0076   | 0.115           | 7.58E-51|
| STARD5     | 15         | 81607503   | 81607503 | 0.0055     | 0.0055   | -0.05           | 7.59E-19|
| STARD7     | 2          | 96872400   | 96872400 | 0.0055     | 0.0055   | 0.0629          | 7.05E-42|
| STAT3      | 17         | 40450170   | 40450170 | 0.0046     | 0.0046   | 0.0305          | 2.89E-10|
| STAT5A     | 17         | 40456010   | 40456010 | 0.0046     | 0.0046   | 0.0385          | 1.11E-24|
| STAT6      | 12         | 57489648   | 57489648 | 0.0046     | 0.0046   | 0.039           | 4.56E-22|
| STEAP3     | 2          | 120016461  | 120016461| 0.0056     | 0.0056   | 0.022           | 5.02E-17|
| STEAP4     | 7          | 87859018   | 87859018 | 0.0057     | 0.0057   | 0.328           | <1.0E-314|
| STIM1      | 11         | 4107584    | 4107584  | 0.0047     | 0.0047   | 0.0356          | 2.93E-34|
| STIM2      | 4          | 26884408   | 26884408 | 0.0047     | 0.0047   | 0.0396          | 2.22E-40|
| STK10      | 5          | 171533782  | 171533782| 0.0047     | 0.0047   | 0.0945          | 2.20E-155|
| STK17B     | 2          | 197084587  | 197084587| 0.0055     | 0.0055   | -0.0287         | 1.63E-15|
| STK24      | 13         | 99236283   | 99236283 | 0.0056     | 0.0056   | 0.0212          | 2.03E-12|
| STK32C     | 10         | 134073053  | 134073053| 0.0056     | 0.0056   | -0.053          | 3.92E-33|
| STK33      | 11         | 8524933    | 8524933  | 0.0057     | 0.0057   | -0.0662         | 2.76E-52|
| STK35      | 20         | 2127609    | 2127609  | 0.0057     | 0.0057   | -0.0369         | 6.38E-23|
| STK38L     | 12         | 27363643   | 27363643 | 0.0057     | 0.0057   | -0.0471         | 4.01E-09|
| STK39      | 2          | 169041386  | 169041386| 0.0057     | 0.0057   | 0.0671          | 5.37E-51|
| STK4       | 20         | 43713593   | 43713593 | 0.0057     | 0.0057   | -0.0205         | 1.64E-14|
| STOM       | 9          | 124118776  | 124118776| 0.0057     | 0.0057   | -0.077          | 1.04E-10|
| STON1-GTF2A1l | 2 | 48790832 | 48790832 | 0.0033 | 0.0033 | -0.029 | 7.38E-21 |
| STOX1      | 10         | 70599126   | 70599126 | 0.0051     | 0.0051   | -0.149          | 2.48E-51|
| STPG1      | 1          | 24765537   | 24765537 | 0.0033     | 0.0033   | -0.0213         | 4.75E-09|
| STPG2      | 4          | 98959282   | 98959282 | 0.0033     | 0.0033   | 0.0398          | 5.28E-29|
| STRADA     | 17         | 61817048   | 61817048 | 0.0057     | 0.0057   | -0.0659         | 2.87E-88|
| STRN       | 2          | 37167191   | 37167191 | 0.0033     | 0.0033   | -0.0265         | 1.22E-14|
| STRN3      | 14         | 31394171   | 31394171 | 0.0033     | 0.0033   | 0.0566          | 3.85E-37|
| STT3A      | 11         | 125513097  | 125513097| 0.0058     | 0.0058   | 0.0602          | 5.06E-54|
| STT3B      | 3          | 31524844   | 31524844 | 0.0045     | 0.0045   | 0.0496          | 7.13E-27|
| STX16      | 20         | 57249771   | 57249771 | 0.0057     | 0.0057   | -0.0439         | 2.35E-12|
| STX17      | 9          | 102721679  | 102721679| 0.0057     | 0.0057   | -0.041          | 4.05E-17|
| STX1A      | 7          | 73114440   | 73114440 | 0.0033     | 0.0033   | 0.0196          | 3.01E-12|
| STX2       | 12         | 131319810  | 131319810| 0.0062     | 0.0062   | 0.123           | 1.35E-82|
| STX4       | 16         | 31054607   | 31054607 | 0.0057     | 0.0057   | -0.0548         | 3.99E-56|
| STX5       | 11         | 62640727   | 62640727 | 0.0045     | 0.0045   | 0.111           | 2.17E-36|
| Gene   | Chromosome | Start | End   | Log2 Fold Change | p-value  |
|--------|------------|-------|-------|------------------|----------|
| STX6   | 1:180981800| 1.19E-09 |
| STX7   | 6:132834518| 2.09E-22 |
| STX8   | 17:9334409 | 1.54E-30 |
| STXBP1 | 9:130371107| 5.00E-12 |
| STXBP3 | 1:109323270| 3.04E-37 |
| STXBP4 | 17:53045243| 7.96E-173|
| STXBP5 | 6:147640599| 1.54E-30 |
| STYX   | 14:53238046| 2.73E-11 |
| STYXL1 | 7:75657553 | 1.08E-307|
| SUCLA2 | 13:48519113| 4.66E-15 |
| SUCLG2 | 3:67421182 | 2.11E-36 |
| SUCO   | 1:172453840| 2.43E-110|
| SUDS3  | 12:118854407| 2.15E-25 |
| SUFU   | 10:104382673| 2.54E-12 |
| SUGP1  | 19:19350103 | 4.24E-14 |
| SUGT1  | 13:53255012 | 1.09E-12 |
| SUGT1P1| 9:33529314  | 4.50E-09 |
| SUGT1P3| 13:41484599 | 4.31E-11 |
| SULF2  | 20:46356316 | 1.35E-81 |
| SULT1A1| 16:28614472 | 2.37E-29 |
| SULT1B1| 4:70586672  | 2.32E-16 |
| SULT1E1| 4:70675023  | 2.44E-14 |
| SUMF1  | 3:4515991   | 1.23E-62 |
| SUMO1P1| 20:52498570 | 1.37E-40 |
| SUMO3  | 21:46244045 | 2.20E-10 |
| SUMO4  | 6:149686518 | 5.63E-28 |
| SUN2   | 22:39147235 | 1.04E-12 |
| SUOX   | 12:56401085 | 2.04E-56 |
| SUPT20H| 13:37595173 | <1.0E-314|
| SUPT3H | 6:45275674  | 5.17E-81 |
| SUPT4H1| 17:56423114 | 2.42E-84 |
| SUPV3L1| 10:70975053 | 1.05E-23 |
| SUSD1  | 9:114937234 | 2.93E-105|
| SUSD3  | 9:95784485  | 1.98E-09 |
| SUV39H2| 10:14951811 | 3.11E-11 |
| SUZ12P1| 17:29109927 | 3.27E-16 |
| SV2A   | 1:149891323 | 7.27E-15 |
| SVIL   | 10:30022551 | 3.34E-27 |
| SWT1   | 1:185194409 | 1.78E-32 |
| Symbol | Chromosome | Start | End | Start-End | Score | Fold Change | p-Value |
|--------|------------|-------|-----|-----------|-------|-------------|---------|
| SYCP2  | 20:58552237| -0.204| 0.017| 1.62E-31  |       |             |         |
| SYCP2L | 6:10850173 | -0.358| 0.008| <1.0E-314 |       |             |         |
| SYCP3  | 12:102090080| -0.107| 0.044| 1.26E-120 |       |             |         |
| SYK    | 9:93559351 | 0.070| 0.039| 6.10E-70  |       |             |         |
| SYN3   | 22:32872258| -0.013| 0.023| 5.07E-09  |       |             |         |
| SYNE1  | 6:152875862| -0.055| 0.009| 3.48E-10  |       |             |         |
| SYNE2  | 14:64278769| 0.101| 0.014| 7.18E-13  |       |             |         |
| SYNE3  | 14:95981610| 0.026| 0.003| 6.69E-18  |       |             |         |
| SYNGR1 | 22:39751251| -0.030| 0.003| 2.76E-18  |       |             |         |
| SYNGR2 | 17:76186187| 0.096| 0.010| 2.16E-21  |       |             |         |
| SYNJ2  | 6:158501843| -0.053| 0.004| 2.78E-36  |       |             |         |
| SYNJ2BP| 14:70834418| 0.084| 0.012| 1.31E-11  |       |             |         |
| SYNM   | 15:99647605| 0.112| 0.033| 7.44E-220 |       |             |         |
| SYS1   | 20:44012451| 0.035| 0.041| 6.81E-18  |       |             |         |
| SYT9   | 11:7526600 | -0.027| 0.027| 1.78E-23  |       |             |         |
| SYTL2  | 11:85499983| 0.21 | 0.013| 1.47E-57  |       |             |         |
| SZRD1  | 1:16664373 | 0.029| 0.004| 9.30E-12  |       |             |         |
| TAB2   | 6:149611269| 0.025| 0.004| 8.55E-10  |       |             |         |
| TAC3   | 12:57404858| -0.086| 0.014| 9.99E-10  |       |             |         |
| TACC1  | 8:38742856 | 0.027| 0.003| 3.62E-16  |       |             |         |
| TACC3  | 4:1748216  | 0.094| 0.004| 1.23E-101 |       |             |         |
| TACSTD2| 1:58991470 | -0.213| 0.005| <1.0E-314 |       |             |         |
| TADA2A | 17:35807445| -0.086| 0.004| 1.48E-75  |       |             |         |
| TADA3  | 3:9819922  | -0.047| 0.003| 3.34E-41  |       |             |         |
| TAF10  | 11:6632450 | 0.067| 0.041| 2.02E-58  |       |             |         |
| TAF11  | 6:34904488 | -0.047| 0.004| 9.43E-22  |       |             |         |
| TAF13  | 1:109598452| -0.095| 0.010| 3.42E-18  |       |             |         |
| TAF1B  | 2:10048233 | 0.144| 0.004| 1.22E-169 |       |             |         |
| TAF1C  | 16:84209184| 0.019| 0.002| 3.06E-12  |       |             |         |
| TAF1D  | 11:93422613| -0.046| 0.001| 1.37E-30  |       |             |         |
| TAF2   | 8:120821264| -0.078| 0.003| 4.30E-125 |       |             |         |
| TAF7   | 5:140685921| 0.125| 0.013| 1.13E-21  |       |             |         |
| TAF8   | 6:42052817 | 0.049| 0.007| 1.17E-11  |       |             |         |
| TAF9   | 5:68638941 | 0.057| 0.007| 5.80E-15  |       |             |         |
| TAGAP  | 6:159463452| 0.090| 0.004| 1.31E-29  |       |             |         |
| TAGLN  | 11:117070547| 0.108| 0.003| 3.41E-169 |       |             |         |
| TAGLN2 | 1:15982088 | 0.058| 0.007| 1.48E-16  |       |             |         |
| TAL1   | 1:47706970 | -0.044| 0.003| 1.16E-32  |       |             |         |
| TAMM41 | 3:11828825 | -0.265| 0.006| <1.0E-314 |       |             |         |
| Gene   | Chromosome | Position | Log2 Fold Change | p-value  |
|--------|------------|----------|-----------------|----------|
| TANGO2 | 22:20066611 | 0.0355   | 2.33E-15        |
| TANK   | 2:162025322 | 0.179    | 1.37E-283       |
| TAOK3  | 12:118749798| -0.0307  | 2.76E-15        |
| TAP2   | 6:32766496  | 0.0887   | 4.14E-11        |
| TAPBP  | 6:33283766  | 0.0277   | 1.22E-21        |
| TAPBPL | 12:6570821  | -0.0507  | 2.88E-64        |
| TAPT1  | 4:16155058  | -0.0386  | 1.36E-23        |
| TARBP1 | 1:234610539 | 0.0403   | 2.45E-35        |
| TARDBP | 1:11100898  | -0.0447  | 3.50E-24        |
| TARP   | 7:38358102  | -0.276   | 5.82E-102       |
| TARS2L2| 15:102236087| -0.0288  | 3.86E-20        |
| TAS2R10| 12:11028507 | -0.088   | 1.20E-21        |
| TAS2R13| 12:11093703 | 0.202    | 7.91E-59        |
| TAS2R14| 12:11051749 | -0.236   | 5.60E-170       |
| TAS2R19| 12:11170074 | -0.213   | 7.03E-57        |
| TAS2R20| 12:11131212 | 0.426    | <1.0E-314       |
| TAS2R3 | 7:141489866 | -0.0624  | 3.14E-15        |
| TAS2R31| 12:11166536 | 0.302    | 3.71E-124       |
| TAS2R4 | 7:141446818 | -0.16    | 1.25E-36        |
| TAS2R41| 7:143126796 | -0.177   | 1.26E-66        |
| TAS2R46| 12:11216855 | -0.608   | 1.37E-155       |
| TAS2R5 | 7:141463914 | -0.104   | 2.69E-43        |
| TAS2R50| 12:11138683 | -0.477   | 1.78E-256       |
| TAS2R60| 7:143111112 | -0.356   | 1.45E-306       |
| TATDN2 | 3:10320865  | -0.0467  | 1.89E-39        |
| TBC1D1 | 4:37966182  | 0.0361   | 3.92E-27        |
| TBC1D14| 4:6919674   | 0.0668   | 2.58E-61        |
| TBC1D15| 12:72322443 | 0.0682   | 5.29E-24        |
| TBC1D17| 19:50370846 | -0.0211  | 1.38E-11        |
| TBC1D2 | 9:100985826 | -0.0241  | 1.42E-10        |
| TBC1D20| 20:416149   | -0.028   | 4.45E-11        |
| TBC1D22A| 22:47399473 | -0.0211  | 4.00E-12        |
| TBC1D2B| 15:78367474 | -0.0435  | 5.81E-19        |
| TBC1D4 | 13:75884290 | -0.0473  | 2.75E-45        |
| TBC1D5 | 3:17729450  | -0.0305  | 1.31E-12        |
| TBC1D7 | 6:13327777  | -0.139   | 2.13E-159       |
| TBC1D8 | 2:101777393 | -0.0665  | 1.61E-26        |
| TBC1D9B| 5:179335060 | 0.0525   | 3.09E-20        |
| TBCB  | 19:36605875 | -0.153   | 2.40E-10        |
| Gene  | Chromosome | Start Coordinates | t | p-value |
|-------|------------|--------------------|---|----------|
| TBCD  | 17         | 80822769           | 0.0227 | 0.00264 | 1.03E-17 |
| TBCE  | 1          | 235600129          | -0.039 | 0.00406 | 1.08E-21 |
| TBCK  | 4          | 107251278          | 0.0903 | 0.00416 | 4.50E-100 |
| TBK1  | 12         | 64845715           | 0.0592 | 0.00748 | 2.81E-15 |
| TBKBP1| 17         | 45791123           | -0.0353 | 0.00217 | 5.01E-58 |
| TBP   | 6          | 170821226          | -0.0483 | 0.00726 | 3.21E-11 |
| TBPL1 | 6          | 134268822          | 0.11 | 0.00564 | 1.55E-82 |
| TBRG4 | 7          | 45146584           | -0.0324 | 0.00272 | 2.35E-32 |
| TC2N  | 14         | 92332548           | -0.0894 | 0.00739 | 3.34E-33 |
| TCAIM | 3          | 44408255           | -0.0493 | 0.00607 | 6.33E-16 |
| TCEA3 | 1          | 23751140           | 0.0841 | 0.00602 | 1.51E-43 |
| TCEB3 | 1          | 24051614           | 0.0778 | 0.00549 | 1.05E-44 |
| TCERG1| 5          | 145855288          | 0.0403 | 0.00407 | 5.28E-23 |
| TCF19 | 6          | 31123359           | -0.12 | 0.00555 | 5.79E-99 |
| TCF25 | 16         | 89922485           | -0.0927 | 0.00569 | 2.85E-58 |
| TCF7L1| 2          | 85546615           | 0.0288 | 0.00208 | 5.52E-43 |
| TCF7L2| 10         | 114711755          | -0.0869 | 0.0065 | 3.79E-40 |
| TCFL5 | 20         | 61452263           | 0.122 | 0.00922 | 1.61E-39 |
| TCIRG1| 11         | 67804156           | 0.0456 | 0.00522 | 2.93E-18 |
| TCL1A | 14         | 96162418           | 0.276 | 0.0406 | 1.17E-11 |
| TCL1B | 14         | 96104174           | -0.0398 | 0.00638 | 4.87E-10 |
| TCN1  | 11         | 59570967           | -0.208 | 0.0258 | 9.84E-16 |
| TCN2  | 22         | 31004127           | -0.0223 | 0.00318 | 2.26E-12 |
| TCP11L1| 11         | 33052654          | -0.211 | 0.00522 | <1.0E-314 |
| TCTEX1D2 | 3      | 196066227          | -0.0649 | 0.00476 | 1.21E-41 |
| TCTN2 | 12         | 124167006          | -0.0682 | 0.00413 | 1.06E-59 |
| TCTN3 | 10         | 97374883           | -0.0804 | 0.00799 | 1.26E-23 |
| TDP1  | 14         | 90422664           | -0.0329 | 0.00381 | 7.90E-18 |
| TDP2  | 6          | 24650671           | -0.057 | 0.00648 | 1.81E-18 |
| TDRD6 | 6          | 46618415           | 0.0174 | 0.00291 | 2.43E-09 |
| TDRD7 | 9          | 100197911          | -0.0408 | 0.0053 | 1.73E-14 |
| TDRD9 | 14         | 104428576          | -0.219 | 0.00744 | 1.85E-176 |
| TDRKH | 1          | 151742105          | 0.0691 | 0.00397 | 3.41E-66 |
| TEAD1 | 11         | 13010440           | -0.139 | 0.00759 | 1.32E-72 |
| TEC   | 4          | 48112291           | -0.0675 | 0.00652 | 7.54E-25 |
| TECPR1| 7          | 97896175           | 0.0203 | 0.00189 | 1.20E-26 |
| TEDDM1| 1          | 182362259          | 0.0934 | 0.00838 | 1.53E-28 |
| TEF   | 22         | 41777315           | -0.031 | 0.00341 | 1.42E-19 |
| TEK   | 9          | 27193847           | -0.0931 | 0.00339 | 1.60E-155 |
| Gene   | Chromosome | Start | End   | Log2 Fold Change | p-value       | FDR            |
|--------|------------|-------|-------|-----------------|---------------|----------------|
| TEN1   | 17         | 74015595 | 74015595 | 0.0318         | 0.0382        | 1.04E-16       |
| TEP1   | 14         | 20881527 | 20881527 | 0.0398         | 0.0299        | 8.91E-40       |
| TES    | 7          | 115851177 | 115851177 | 0.453         | 0.0212        | 7.33E-97       |
| TESC   | 12         | 117492691 | 117492691 | -0.133        | 0.014         | 2.78E-21       |
| TESK2  | 1          | 45954599 | 45954599 | 0.0595         | 0.00411       | 1.16E-46       |
| TESPA1 | 12         | 55395712 | 55395712 | 0.108          | 0.00905       | 1.58E-32       |
| TEX10  | 9          | 103108941 | 103108941 | 0.0609        | 0.00494       | 1.94E-34       |
| TEX101 | 19         | 43870954 | 43870954 | -0.0359        | 0.00566       | 2.23E-10       |
| TEX9   | 15         | 56746569 | 56746569 | -0.113         | 0.0131        | 8.84E-18       |
| TFAM   | 10         | 60144073 | 60144073 | -0.133         | 0.00397       | 1.57E-222      |
| TFB1M  | 6          | 155625104 | 155625104 | -0.112        | 0.00449       | 4.51E-130      |
| TFB2M  | 1          | 246707709 | 246707709 | -0.0501        | 0.00524       | 1.84E-21       |
| TFDP2  | 3          | 141742127 | 141742127 | -0.13         | 0.0111        | 5.15E-31       |
| TFEC   | 7          | 115665688 | 115665688 | 0.0556         | 0.00713       | 7.10E-15       |
| TFG    | 3          | 100439823 | 100439823 | -0.137         | 0.00358       | 9.77E-284      |
| TFIP11 | 22         | 26904541 | 26904541 | 0.178          | 0.00424       | <1.0E-314      |
| TFPT   | 19         | 54625765 | 54625765 | 0.0676         | 0.00506       | 5.28E-40       |
| TFRC   | 3          | 195835404 | 195835404 | -0.292         | 0.0317        | 3.99E-20       |
| TG     | 8          | 133877623 | 133877623 | 0.0423         | 0.00188       | 1.08E-106      |
| TGFB2  | 1          | 218660024 | 218660024 | -0.0567        | 0.00583       | 3.77E-22       |
| TGFB1  | 5          | 135335229 | 135335229 | 0.0978         | 0.00644       | 5.65E-51       |
| TGFB1R1| 9          | 101911125 | 101911125 | 0.0562         | 0.00466       | 4.57E-33       |
| TGFB2R2| 3          | 30690393 | 30690393 | -0.0788        | 0.00492       | 2.74E-56       |
| TGFBRAP1| 2          | 105897519 | 105897519 | -0.0408        | 0.00622       | 5.83E-11       |
| TGM3   | 20         | 2281284 | 2281284 | 0.0557         | 0.00417       | 5.68E-40       |
| TGOLN2 | 2          | 85542686 | 85542686 | 0.0583         | 0.00347       | 1.34E-61       |
| TGS1   | 8          | 56685933 | 56685933 | 0.057          | 0.00534       | 2.50E-26       |
| TH1L   | 20         | 57564695 | 57564695 | 0.108          | 0.00761       | 1.09E-44       |
| THADA  | 2          | 43732347 | 43732347 | 0.019          | 0.00253       | 7.58E-14       |
| THAP7-AS1| 22        | 21366206 | 21366206 | 0.0836         | 0.0082        | 3.62E-24       |
| THBD   | 20         | 23078996 | 23078996 | 0.196          | 0.00721       | 8.73E-153      |
| THBS3  | 1          | 155184975 | 155184975 | 0.1           | 0.00412       | 7.03E-124      |
| THEM4  | 1          | 151865858 | 151865858 | 0.1           | 0.00138       | 4.87E-13       |
| THEMIS2| 1          | 28209362 | 28209362 | 0.198          | 0.00501       | 1.29E-299      |
| THG1L  | 5          | 157160630 | 157160630 | -0.0783        | 0.0111        | 1.52E-12       |
| THNSL1 | 10         | 25332461 | 25332461 | -0.0357        | 0.00564       | 2.61E-10       |
| THNSL2 | 2          | 88453718 | 88453718 | -0.102         | 0.00435       | 5.27E-116      |
| THOC5  | 22         | 29993627 | 29993627 | 0.0265         | 0.00395       | 2.13E-11       |
| THOC7  | 3          | 63842629 | 63842629 | -0.0818        | 0.00654       | 2.20E-35       |
| Gene   | Chromosome | Start Position | End Position | Score   | Rank   | Log10(p-value) |
|--------|------------|----------------|--------------|---------|--------|----------------|
| THRA   | 17:38252660| -13714         | 70745        | 0.00745 | 152    | 1.52E-21       |
| THRAP3 | 1:36791837 | 0.011          | 0.00601      | 0.179E-17|
| THUMPD1| 16:20745255| 0.023          | 0.00425      | 2.03E-12|
| THUMPD2| 2:40006430 | 0.0444         | 0.00345      | 1.96E-37|
| THUMPD3| 3:9438746  | 0.0884         | 0.00381      | 3.05E-113|
| TIAL1  | 10:121392582| -0.0427       | 0.00637      | 2.16E-11|
| TIAM1  | 21:32817485 | 0.101         | 0.00471      | 2.08E-97|
| TIAM2  | 6:155601105 | -0.749        | 0.0236       | 1.62E-201|
| TIFA   | 4:113196906 | -0.0716       | 0.00534      | 2.55E-40|
| TIGD2  | 4:90040847  | 0.0972        | 0.0103       | 4.71E-21|
| TIGD7  | 16:3338167  | -0.0506       | 0.00624      | 5.64E-16|
| TIGIT  | 3:114013479 | -0.0415       | 0.00617      | 1.99E-11|
| TIMD4  | 5:156435250 | -0.0665       | 0.00665      | 2.18E-23|
| TIMM10 | 11:57283988 | -0.286        | 0.00718      | 3.97E-303|
| TIMM13 | 19:2418264  | -0.149        | 0.00762      | 5.19E-82|
| TIMM21 | 18:71814750 | -0.0787       | 0.0125       | 3.29E-10|
| TIMM44 | 19:7999372  | -0.0412       | 0.00665      | 6.22E-10|
| TIMMDC1| 3:119236179 | 0.148         | 0.0112       | 2.85E-39|
| TIMP2  | 17:76907666 | 0.113         | 0.00639      | 2.08E-68|
| TIPARP | 3:156425057 | 0.0611        | 0.0101       | 1.43E-09|
| TIPIN  | 15:66625724 | 0.297         | 0.0114       | 1.43E-140|
| TIPRL  | 1:168137725 | 0.0952        | 0.00877      | 3.55E-27|
| TIRAP  | 11:126133182| 0.0437        | 0.00361      | 3.33E-33|
| TJ2    | 9:71787927  | 0.112         | 0.0032       | 4.62E-243|
| TJ3    | 19:3749971  | -0.0162       | 0.00199      | 4.29E-16|
| TK2    | 16:66583994 | -0.498        | 0.0125       | 8.23E-303|
| TKT    | 3:53286932  | 0.111         | 0.00446      | 5.07E-130|
| TLE3   | 15:70349578 | -0.0317       | 0.0035       | 2.13E-19|
| TLK1   | 2:172031967 | 0.0426        | 0.00667      | 1.87E-10|
| TLR1   | 4:38802913  | 0.217         | 0.00736      | 2.33E-177|
| TLR10  | 4:38773109  | 0.129         | 0.00734      | 1.23E-67|
| TLR4   | 9:120463139 | 0.159         | 0.00591      | 1.41E-149|
| TLR5   | 1:223282292 | 0.128         | 0.00711      | 4.91E-70|
| TLR6   | 4:38880313  | -0.11         | 0.00636      | 2.10E-65|
| TM2D1  | 1:62189541  | -0.0528       | 0.00546      | 6.12E-22|
| TM2D2  | 8:38841052  | -0.0448       | 0.00481      | 1.77E-20|
| TM2D3  | 15:102225621| 0.0621        | 0.00365      | 3.60E-63|
| TM6SF1 | 15:83762285 | -0.0778       | 0.00588      | 2.29E-39|
| TM7SF3 | 12:27103588 | -0.0366       | 0.00569      | 1.39E-10|
| Gene   | Chromosome | Start | End     | Expression | Log2 Fold Change | p-Value  |
|--------|------------|-------|---------|------------|------------------|----------|
| TM9SF1 | 14:24636025| -0.0333 | 0.00476 | 2.72E-12   |                  |          |
| TM9SF3 | 10:98357129| 0.0323  | 0.00451 | 1.39E-15   |                  |          |
| TM9SF4 | 20:30770988| 0.0244  | 0.00305 | 6.32E-60   |                  |          |
| TMA16  | 4:164418356| 0.0795  | 0.00481 | 7.32E-60   |                  |          |
| TMBIM1 | 2:219133137| 0.0767  | 0.00364 | 2.58E-12   |                  |          |
| TMBIM4 | 12:66510122| 0.0314  | 0.00316 | 1.46E-20   |                  |          |
| TMC4   | 19:54674742| 0.0969  | 0.00646 | 8.77E-50   |                  |          |
| TMC5   | 16:19486687| 0.0347  | 0.00372 | 1.64E-20   |                  |          |
| TMC8   | 17:76135412| 0.0275  | 0.00392 | 2.58E-12   |                  |          |
| TMCC3  | 12:95074582| 0.0577  | 0.00629 | 6.33E-20   |                  |          |
| TMCO3  | 13:114175004| -0.0549 | 0.00408 | 1.26E-40   |                  |          |
| TMED2  | 12:124080619| -0.042  | 0.00409 | 1.89E-24   |                  |          |
| TMED5  | 1:93673898 | 0.0288  | 0.00454 | 2.41E-10   |                  |          |
| TMED6  | 16:69377553| 0.0507  | 0.00577 | 2.00E-18   |                  |          |
| TMEFF1 | 9:103189338| 0.0351  | 0.00478 | 2.59E-13   |                  |          |
| TMEM101| 17:42071537| 0.0641  | 0.00894 | 8.32E-13   |                  |          |
| TMEM106B| 7:12257169 | -0.0904 | 0.00382 | 6.31E-118  |                  |          |
| TMEM106C| 12:48358279| 0.0601  | 0.00422 | 4.61E-45   |                  |          |
| TMEM109| 11:60667504| 0.0325  | 0.00315 | 1.29E-24   |                  |          |
| TMEM110| 3:52871929 | -0.0469 | 0.00477 | 1.41E-22   |                  |          |
| TMEM116| 12:112446710| -0.0842 | 0.00797 | 8.55E-26   |                  |          |
| TMEM119| 12:108987230| -0.0971 | 0.01260 | 1.70E-14   |                  |          |
| TMEM123| 11:102322459| -0.134  | 0.02070 | 8.87E-11   |                  |          |
| TMEM127| 2:96917588 | 0.0318  | 0.00331 | 1.09E-21   |                  |          |
| TMEM135| 11:86933855 | 0.0467  | 0.00755 | 6.71E-10   |                  |          |
| TMEM140| 7:134855725| -0.0459 | 0.00546 | 5.56E-17   |                  |          |
| TMEM144| 4:159092633| 0.242   | 0.00786 | 3.12E-191  |                  |          |
| TMEM147| 19:36038390| 0.0345  | 0.00394 | 2.69E-18   |                  |          |
| TMEM14A| 6:52535274 | 0.0572  | 0.0073  | 3.84E-16   |                  |          |
| TMEM14E| 3:152094201| 0.0466  | 0.00519 | 3.58E-19   |                  |          |
| TMEM154| 4:153619325| -0.146  | 0.0186  | 5.84E-15   |                  |          |
| TMEM156| 4:39036648 | 0.133   | 0.0117  | 1.19E-29   |                  |          |
| TMEM158| 3:45280071 | 0.0241  | 0.00391 | 7.25E-10   |                  |          |
| TMEM159| 16:21192098| -0.0751 | 0.00618 | 1.58E-33   |                  |          |
| TMEM163| 2:135206340| 0.0558  | 0.00825 | 1.53E-11   |                  |          |
| TMEM165| 4:563313332| -0.0589 | 0.00401 | 6.35E-48   |                  |          |
| TMEM169| 2:216955910| -0.0297 | 0.00437 | 1.19E-11   |                  |          |
| TMEM170A| 16:75477714| -0.0648 | 0.00764 | 3.02E-17   |                  |          |
| TMEM171| 5:72367166 | 0.0594  | 0.0066  | 3.01E-19   |                  |          |
|gene   | chromosome | start | end   | log2FC  | FDR    | p-value  |
|--------|------------|-------|-------|---------|--------|----------|
|TMEM176A| 7:150457308| -0.874| 0.00868| <1.0E-314|
|TMEM176B| 7:150455295| 0.664| 0.0159 | 4.66E-14 |
|TMEM18  | 2:677213   | 0.0317| 0.00419 | <1.0E-314|
|TMEM180 | 10:104237007| 0.0438| 0.00262| 3.24E-15 |
|TMEM184B| 22:38622598 | 0.048 | 0.0045 | 3.02E-26 |
|TMEM185B| 2:121012836| -0.0534| 0.00736| 4.72E-13 |
|TMEM189 | 20:48757132| 0.0212| 0.00268| 4.66E-14 |
|TMEM199 | 17:26670627 | 0.0563| 0.00417| 7.44E-41 |
|TMEM2   | 9:74377528  | -0.054| 0.00698| 1.17E-14 |
|TMEM204 | 16:1583634  | -0.15 | 0.00523| 7.78E-169|
|TMEM205 | 19:11431901 | -0.0975| 0.0108 | 3.29E-19 |
|TMEM206 | 1:212521242 | -0.0304| 0.00428| 1.29E-12 |
|TMEM209 | 7:129861638 | 0.132 | 0.00857| 3.79E-52 |
|TMEM216 | 11:61165280 | -0.0871| 0.00653| 6.67E-40 |
|TMEM220 | 17:10618661 | -0.115 | 0.00443| 6.65E-141|
|TMEM241 | 18:21043106 | -0.0236| 0.00399| 3.40E-09 |
|TMEM242 | 6:157707709 | -0.181 | 0.0129 | 2.84E-44 |
|TMEM245 | 9:111889172 | -0.102 | 0.00451| 1.82E-107|
|TMEM252 | 9:71175565 | -0.185 | 0.00816| 5.21E-109|
|TMEM254 | 10:81830894 | -0.0509| 0.00556| 7.38E-20 |
|TMEM258 | 11:61560081 | -0.186 | 0.00472| 1.97E-298|
|TMEM30A| 6:76004562  | 0.0396 | 0.00394| 1.20E-23 |
|TMEM33  | 4:41960607  | 0.0726 | 0.00749| 4.73E-22 |
|TMEM43  | 3:14167761  | 0.0264 | 0.00391| 1.53E-11 |
|TMEM45A | 3:100211602 | 0.0502 | 0.00451| 2.03E-28 |
|TMEM45B | 11:129702471| 0.281 | 0.0093 | 8.60E-185|
|TMEM50B | 21:34842725 | -0.127 | 0.00376| 8.79E-225|
|TMEM51  | 1:15462172  | -0.0718| 0.00476| 2.02E-50 |
|TMEM55A | 8:91959989  | 0.0292 | 0.00494| 3.66E-09 |
|TMEM60  | 7:77397379  | -0.064 | 0.00497| 2.18E-37 |
|TMEM62  | 15:43510025 | 0.0441 | 0.00742| 2.89E-09 |
|TMEM65  | 8:125287350 | -0.0351| 0.00528| 3.16E-11 |
|TMEM66  | 8:29927856  | -0.0471| 0.00323| 1.97E-47 |
|TMEM68  | 8:56660888  | 0.0325 | 0.00533| 1.16E-09 |
|TMEM70  | 8:74888049  | 0.0263 | 0.00408| 1.27E-10 |
|TMEM71  | 8:133715804 | -0.0835| 0.00466| 9.28E-70 |
|TMEM80  | 11:695842   | -0.118 | 0.00602| 2.30E-82 |
|TMEM81  | 1:205039288 | 0.0435 | 0.00661| 5.03E-11 |
|TMEM87B | 2:112803111 | 0.116 | 0.00471| 8.89E-126|
| Gene    | Chromosome | Start | End   | Log2FC | p-value | E-value |
|---------|------------|-------|-------|--------|---------|---------|
| TMEM8A  | 16:430469  | 16    | 430469| 0.135  | 0.00479 | 7.43E-162 |
| TMEM9   | 1:201125326| 1     | 201125326| -0.032 | 0.00315 | 4.93E-24  |
| TMEM91  | 19:41888850| 19    | 41888850| 0.198  | 0.004    | 1.24E-34  |
| TMEM92  | 17:48360903| 17    | 48360903| 0.0844 | 0.012    | 2.32E-12  |
| TMEM97  | 17:26688663| 17    | 26688663| 0.0615 | 0.00569 | 5.80E-27  |
| TMEM98  | 17:31298330| 17    | 31298330| -0.0742| 0.00759 | 2.11E-22  |
| TMEM99  | 17:39006842| 17    | 39006842| -0.0975| 0.00701 | 2.89E-43  |
| TMEM9B  | 11:9010134 | 11    | 9010134 | 0.159  | 0.00838 | 3.95E-78  |
| TMOD2   | 15:52048251| 15    | 52048251| -0.118 | 0.00537 | 5.16E-103 |
| TMOD3   | 15:52076222| 15    | 52076222| -0.118 | 0.00537 | 5.16E-103 |
| TMPRSS11D | 4:68688583 | 4     | 68688583| -0.315 | 0.0251  | 1.18E-35  |
| TMPRSS3 | 21:43824106| 21    | 43824106| 0.0258 | 0.00279 | 2.88E-20  |
| TMSB10  | 2:85133320 | 2     | 85133320| 0.0742 | 0.00791 | 9.09E-21  |
| TMTC1   | 12:29905322| 12    | 29905322| -0.392 | 0.00708 | <1.0E-314 |
| TMTC2   | 12:83328642| 12    | 83328642| -0.043 | 0.00635 | 1.39E-11  |
| TMTC3   | 12:88639690| 12    | 88639690| -0.175 | 0.0201  | 4.66E-18  |
| TMTC4   | 13:101344407| 13    | 101344407| -0.109 | 0.00363 | 1.82E-181 |
| TMX1    | 14:51720038| 14    | 51720038| -0.0758| 0.00469 | 2.09E-57  |
| TMX3    | 18:66391816| 18    | 66391816| -0.0596| 0.00565 | 8.87E-26  |
| TMX4    | 20:7980390 | 20    | 7980390 | 0.0956 | 0.00496 | 4.09E-80  |
| TNF     | 6:31536224 | 6     | 31536224| -0.0421| 0.00393 | 1.35E-26  |
| TNFAIP2 | 14:103606468| 14    | 103606468| 0.0392| 0.00539 | 3.85E-13  |
| TNFAIP6 | 2:152164587| 2     | 152164587| -0.292| 0.0102  | 1.07E-168 |
| TNFAIP8 | 5:118717753| 5     | 118717753| 0.0599| 0.00406 | 2.90E-48  |
| TNFRSF10A | 8:23082971 | 8    | 23082971| 0.0329| 0.00497 | 4.13E-11  |
| TNFRSF10B | 8:22941923 | 8    | 22941923| -0.125| 0.00396 | 1.05E-201 |
| TNFRSF10C | 8:22957606 | 8    | 22957606| 0.125 | 0.0068  | 7.35E-73  |
| TNFRSF13C | 22:42337040 | 22   | 42337040| -0.0521| 0.00721 | 5.80E-13  |
| TNFRSF17 | 16:12071341| 16    | 12071341| 0.114 | 0.0129  | 1.52E-18  |
| TNFRSF1A | 12:6445329 | 12    | 6445329 | 0.0712 | 0.00392 | 2.02E-71  |
| TNFRSF1B | 1:12243654 | 1     | 12243654| 0.0274| 0.0039  | 2.52E-12  |
| TNFRSF9 | 1:8002098  | 1     | 8002098 | 0.108 | 0.0126  | 8.26E-18  |
| NFS12-TNFSF1 | 17:7460517 | 17   | 7460517 | -0.0551| 0.00374 | 3.17E-48  |
| TNFSF13B | 13:108916613| 13   | 108916613| 0.286 | 0.0334  | 1.59E-17  |
| TNFSF14 | 19:6669934  | 19    | 6669934 | 0.148 | 0.00889 | 1.49E-60  |
| TNFSF15 | 9:117568766 | 9     | 117568766| -0.0523| 0.00508 | 1.29E-24  |
| TNFSF4 | 1:173162218 | 1     | 173162218| 0.178 | 0.00927 | 1.25E-79  |
| TNFSF8 | 9:117624799 | 9     | 117624799| 0.0942| 0.00592 | 1.12E-55  |
| TNIP1  | 5:150436158| 5     | 150436158| 0.0271| 0.00397 | 9.47E-12  |
| Gene   | Chr   | Start | End   | LogFoldChg | AdjPValue | FDR   |
|--------|-------|-------|-------|------------|-----------|-------|
| TNKS2  | 10    | 93650630 | -0.0386 | 0.00422    | 8.08E-20  |
| TNNC2  | 20    | 44423843 | -0.059  | 0.00539    | 1.26E-27  |
| TNNI3  | 19    | 55672784 | -0.0612 | 0.00942    | 8.95E-11  |
| TNNI3K | 1     | 74689511 | -0.0272 | 0.00286    | 3.07E-21  |
| TNNT1  | 19    | 55690751 | -0.334  | 0.0206     | 1.14E-57  |
| TNNT3  | 11    | 1942575  | 0.0979  | 0.0063     | 2.30E-53  |
| TNPO1  | 5     | 72124610 | 0.0254  | 0.00404    | 3.62E-10  |
| TNPO3  | 7     | 128723327 | 0.0978  | 0.0038     | 1.03E-137 |
| TNRC6A | 16    | 24842933 | 0.046   | 0.00596    | 1.32E-14  |
| TNS1   | 2     | 218710924 | -0.0394 | 0.0051     | 1.36E-14  |
| TNS3   | 7     | 47319723  | -0.0207 | 0.00249    | 9.23E-17  |
| TOB1   | 17    | 48973032 | 0.0503  | 0.00475    | 6.72E-26  |
| TOB2   | 22    | 41850500 | 0.0271  | 0.00408    | 3.65E-11  |
| TOM1   | 22    | 35707236 | 0.0736  | 0.00296    | 6.95E-129 |
| TOM1L2 | 17    | 17848602 | 0.0299  | 0.00445    | 2.00E-11  |
| TOMM34 | 20    | 43589041 | 0.109   | 0.00648    | 2.11E-61  |
| TOMM40L| 1     | 161179877 | 0.0299  | 0.00411    | 3.86E-13  |
| TOMM7  | 7     | 22848987 | -0.0577 | 0.00413    | 1.31E-43  |
| TOP1MT | 8     | 144404964 | 0.0579  | 0.00888    | 7.53E-11  |
| TOP3B  | 22    | 22301254 | 0.0342  | 0.00417    | 2.95E-16  |
| TOR1A  | 9     | 132557210 | 0.0524  | 0.00368    | 3.69E-45  |
| TOR1AIP1 | 1    | 179858333 | -0.0455 | 0.00346    | 7.24E-39  |
| TOR1B  | 9     | 132568500 | 0.173   | 0.00517    | 1.35E-223 |
| TOX    | 8     | 60078682 | -0.085  | 0.00766    | 2.73E-28  |
| TOX4   | 14    | 21946473 | -0.0368 | 0.00402    | 7.93E-20  |
| TP53BP2| 1     | 223954617 | 0.0472  | 0.00545    | 5.85E-18  |
| TP53I3 | 2     | 24347093 | 0.0874  | 0.00539    | 7.60E-58  |
| TP53NP1| 8     | 95966531 | -0.0351 | 0.00395    | 8.43E-19  |
| TPCN2  | 11    | 68863048 | 0.0287  | 0.00246    | 4.78E-31  |
| TPDS2  | 8     | 81049437 | 0.0732  | 0.00488    | 8.88E-50  |
| TPGS2  | 18    | 34324376 | 0.139   | 0.00903    | 1.85E-52  |
| TPI1   | 12    | 7014962  | -0.252  | 0.0147     | 7.11E-64  |
| TPK1   | 7     | 144547618 | 0.113   | 0.0045     | 1.28E-131 |
| TPM1   | 15    | 63338457 | 0.157   | 0.00847    | 3.45E-74  |
| TPM2   | 9     | 35693121 | 0.208   | 0.00622    | 5.03E-222 |
| TPMT   | 6     | 18117868 | -0.068  | 0.00941    | 5.63E-13  |
| TPP2   | 13    | 103284767 | -0.0249 | 0.00308    | 7.96E-16  |
| TPRG1  | 3     | 188868715 | 0.15    | 0.0116     | 7.87E-38  |
| TPRG1L | 1     | 3563428  | 0.101   | 0.00666    | 2.65E-51  |
| Gene   | Chromosome | Start | Stop   | Gene Expression | FDR      |
|--------|------------|-------|--------|----------------|----------|
| TPST1  | 7          | 65823230 | 65823230 | 0.228          | 2.99E-104 |
| TPST2  | 22         | 27033321 | 27033321 | 0.0249         | 4.63E-12  |
| TPX2   | 20         | 30351560 | 30351560 | 0.0377         | 1.57E-18  |
| TRABD  | 22         | 50619920 | 50619920 | -0.0427        | 3.39E-25  |
| TRAF3  | 14         | 103243408 | 103243408 | 0.0356         | 5.22E-20  |
| TRAF3IP1 | 2        | 239235857 | 239235857 | -0.0255        | 2.27E-11  |
| TRAF3IP2 | 6        | 111904737 | 111904737 | 0.0254         | 2.99E-16  |
| TRAF3IP3 | 1        | 209930585 | 209930585 | 0.0831         | 2.64E-102 |
| TRAF5  | 1          | 211530044 | 211530044 | -0.0349        | 2.54E-14  |
| TRAK1  | 3          | 42231638  | 42231638  | -0.0335        | 2.87E-20  |
| TRAM1  | 8          | 71489682  | 71489682  | 0.0513         | 9.16E-41  |
| TRAM2  | 6          | 52442880  | 52442880  | -0.0295        | 4.58E-13  |
| TRAP1  | 16         | 3743046   | 3743046   | 0.0838         | 2.44E-122 |
| TRAPPC10 | 21       | 45416953  | 45416953  | 0.0301         | 2.08E-12  |
| TRAPPC11 | 4        | 184636217 | 184636217 | 0.0271         | 7.23E-17  |
| TRAPPC12 | 2        | 3487331   | 3487331   | -0.0399        | 1.10E-15  |
| TRAPPC2L | 16       | 88919457  | 88919457  | 0.0437         | 5.81E-17  |
| TRAPPC4 | 11         | 118880668 | 118880668 | -0.113         | 4.34E-87  |
| TRAPPC6B | 14       | 39587438  | 39587438  | 0.0433         | 3.10E-13  |
| TRAPPC8 | 18         | 29432624  | 29432624  | 0.0291         | 1.13E-24  |
| TRAPPC9 | 8          | 141488651 | 141488651 | 0.114          | 1.08E-81  |
| TRAT1  | 3          | 108530225 | 108530225 | -0.0823        | 6.24E-17  |
| TRDMT1 | 10         | 17237954  | 17237954  | 0.125          | 6.78E-111 |
| TREM1  | 6          | 41239936  | 41239936  | 0.328          | 2.75E-172 |
| TREML2 | 6          | 41163700  | 41163700  | -0.0342        | 5.39E-16  |
| TREML4 | 6          | 41183349  | 41183349  | -0.447         | <1.0E-314 |
| TRERF1 | 6          | 42190556  | 42190556  | -0.281         | 2.95E-221 |
| TRIB2  | 2          | 12858078  | 12858078  | -0.0656        | 9.03E-34  |
| TRIM10 | 6          | 30122657  | 30122657  | 0.0977         | 5.47E-29  |
| TRIM13 | 13         | 50590291  | 50590291  | 0.0312         | 4.27E-10  |
| TRIM14 | 9          | 100862339 | 100862339 | 0.0719         | 6.60E-28  |
| TRIM2  | 4          | 154142936 | 154142936 | -0.0258        | 1.34E-10  |
| TRIM21 | 11         | 4422642   | 4422642   | -0.0409        | 7.53E-15  |
| TRIM22 | 11         | 5721286   | 5721286   | 0.0497         | 1.53E-11  |
| TRIM26 | 6          | 30163955  | 30163955  | -0.0708        | 9.52E-80  |
| TRIM27 | 6          | 28891458  | 28891458  | -0.0811        | 1.55E-144 |
| TRIM32 | 9          | 119471408 | 119471408 | 0.04           | 4.03E-12  |
| TRIM33 | 1          | 115084850 | 115084850 | -0.121         | 2.16E-16  |
| TRIM35 | 8          | 27168902  | 27168902  | 0.0372         | 4.53E-40  |
| TRIM   | CHROM   | XPOS   | LOG2FC | PVALUE   | ORANGE   |
|--------|---------|--------|--------|----------|----------|
| TRIM36 | 5:114542108 | -0.0359 | 0.00365 | 1.36E-22 |
| TRIM37 | 17:57010225  | 0.131   | 0.00306 | <1.0E-314|
| TRIM38 | 6:25953274   | -0.037  | 0.0046  | 1.02E-15 |
| TRIM4  | 7:99500911   | -0.0542 | 0.00378 | 7.17E-46 |
| TRIM41 | 5:180661980  | 0.0417  | 0.00672 | 6.01E-10 |
| TRIM5  | 11:5701001   | 0.0506  | 0.00605 | 8.26E-17 |
| TRIM52 | 5:180703001  | -0.0409 | 0.00532 | 1.85E-14 |
| TRIM58 | 1:248011866  | 0.123   | 0.00901 | 8.22E-42 |
| TRIM68 | 11:4621485   | 0.0857  | 0.0083  | 9.69E-25 |
| TRIM6-TRIM34 | 11:5664684 | -0.0695 | 0.00888 | 6.12E-15 |
| TRIM8  | 10:104421679 | -0.0291 | 0.00435 | 2.31E-11 |
| TRIM9  | 14:51528533  | -0.0662 | 0.00687 | 9.17E-22 |
| TRIOBP | 22:38122462  | -0.0414 | 0.00313 | 2.34E-39 |
| TRIP11 | 14:92518233  | 0.123   | 0.0204  | 1.55E-09 |
| TRIP12 | 2:230826145  | -0.0513 | 0.00488 | 1.56E-25 |
| TRIT1  | 1:40295408   | -0.0869 | 0.00465 | 1.95E-75 |
| TRMT10A| 4:100525934  | -0.0556 | 0.00595 | 2.84E-28 |
| TRMT10B| 9:37756833   | 0.066   | 0.00595 | 8.87E-38 |
| TRMT12 | 8:125461287  | 0.154   | 0.0119  | 3.96E-214|
| TRMT1L | 1:185125043  | 0.0418  | 0.00702 | 2.77E-09 |
| TRMT44 | 4:8454639    | -0.0305 | 0.00366 | 1.02E-16 |
| TRMU   | 22:46698662  | -0.0793 | 0.0119  | 3.22E-25 |
| TRNT1  | 3:3185386    | -0.0389 | 0.00356 | 1.95E-27 |
| TROVE2 | 1:193054154  | 0.0956  | 0.00469 | 7.28E-89 |
| TRPC1  | 3:142436807  | 0.07    | 0.00673 | 4.35E-25 |
| TRPC3  | 4:122899165  | -0.0452 | 0.00338 | 3.46E-40 |
| TRPC4AP| 20:33584289  | -0.02   | 0.00269 | 1.14E-13 |
| TRPC6  | 11:101384612 | -0.078  | 0.00387 | 3.97E-87 |
| TRPM6  | 9:77486124   | 0.128   | 0.00566 | 1.57E-107|
| TRPM7  | 15:50942452  | -0.0489 | 0.00293 | 4.22E-61 |
| TRPT1  | 11:63990302  | 0.0461  | 0.00646 | 1.08E-12 |
| TRRAP  | 7:98541261   | -0.0374 | 0.00506 | 1.63E-13 |
| TSEN15 | 1:184023529  | 0.0356  | 0.0049  | 4.31E-13 |
| TSEN2  | 3:12525656   | -0.0943 | 0.00644 | 1.21E-47 |
| TSEN34 | 19:54699252  | -0.0597 | 0.00753 | 2.63E-15 |
| TSGA10 | 2:99704273   | 0.24    | 0.00462 | <1.0E-314|
| TSHR   | 14:81660997  | -0.0195 | 0.00279 | 2.93E-12 |
| TSHZ2  | 20:52130969  | -0.451  | 0.0278  | 1.04E-57 |
| Gene   | Chromosome | Start Base | Log2 Fold Change | P-value  |
|--------|------------|------------|------------------|----------|
| TSHZ3  | 19:31842495| -0.0969    | 0.0113           | 1.24E-17 |
| TSPAN14| 10:82277341| -0.0331    | 0.00399          | 1.43E-16 |
| TSPAN15| 10:71215799| -0.0428    | 0.00409          | 2.36E-25 |
| TSPAN16| 19:11431901| 0.353      | 0.0126           | 1.13E-159|
| TSPAN18| 11:44835771| -0.0389    | 0.00591          | 4.93E-11 |
| TSPAN2 | 1:115602498| 0.142      | 0.0124           | 6.80E-30 |
| TSPAN3 | 15:77369520| -0.0428    | 0.00409          | 2.36E-25 |
| TSPAN33| 7:128777461| 0.0614     | 0.00892          | 6.47E-12 |
| TSPO   | 22:43559137| -0.0656    | 0.00604          | 3.67E-27 |
| TSPYL1 | 6:116597724| -0.0211    | 0.00273          | 1.21E-14 |
| TSPYL4 | 6:116530856| 0.0226     | 0.00378          | 2.41E-09 |
| TSPYL5 | 8:98267908 | 0.103      | 0.0137           | 5.46E-14 |
| TSSC1  | 2:3188755  | -0.0458    | 0.00565          | 6.74E-16 |
| TST    | 22:37421469| -0.054     | 0.00668          | 7.52E-16 |
| TTBK2  | 15:43241798| 0.0263     | 0.00267          | 1.13E-22 |
| TTC12  | 11:113187949| -0.139    | 0.00539          | 1.03E-137|
| TTC13  | 1:231087722| 0.0315     | 0.00262          | 1.04E-32 |
| TTC14  | 3:180272509| -0.0417    | 0.00583          | 9.92E-13 |
| TTC17  | 11:43505707| 0.0381     | 0.00378          | 1.09E-24 |
| TTC18  | 10:75092353| 0.0428     | 0.00678          | 2.92E-10 |
| TTC19  | 17:15945608| -0.024     | 0.00325          | 1.62E-13 |
| TTC21B | 2:166727401| -0.0689    | 0.00474          | 5.31E-47 |
| TTC23  | 15:99783965| 0.0413     | 0.00303          | 1.08E-41 |
| TTC25  | 17:40046186| 0.0717     | 0.00921          | 8.47E-15 |
| TTC26  | 7:138789004| -0.0668    | 0.00545          | 4.44E-34 |
| TTC27  | 2:32903548 | 0.0548     | 0.00566          | 2.20E-22 |
| TTC3   | 21:38503126| -0.121     | 0.00447          | 7.36E-152|
| TTC33  | 5:40698397 | -0.0495    | 0.00591          | 6.41E-17 |
| TTC37  | 5:94841313 | -0.121     | 0.00586          | 1.01E-91 |
| TTC38  | 22:46685017| -0.057     | 0.00862          | 3.93E-11 |
| TTC39B | 9:15294667 | 0.218      | 0.00532          | <1.0E-314|
| TTC39C | 18:21620065| -0.0521    | 0.00594          | 2.17E-18 |
| TTC4   | 1:55182300 | -0.11      | 0.00487          | 6.54E-108|
| TTF2   | 1:117605336| -0.224     | 0.00781          | 2.41E-168|
| TTK    | 6:80741418 | -0.0199    | 0.00313          | 2.28E-10 |
| TTLL1  | 22:43470175| -0.04      | 0.00546          | 2.49E-13 |
| TTLL11 | 9:124756264| -0.0148    | 0.00228          | 9.76E-11 |
| TTLL12 | 22:43553417| -0.0177    | 0.00297          | 2.82E-09 |
| TTLL2  | 6:167767152| -0.0325    | 0.00478          | 1.28E-11 |
| Gene  | Chromosome | Start   | End     | Length  | Direction | TSS 1  | TSS 2  | Fold   | p-value |
|-------|------------|---------|---------|---------|-----------|--------|--------|--------|---------|
| TTLL3 | 3:9871393  | 0.0263  | 0.00305 | 8.80E-18|           |        |        |        |         |
| TTLL4 | 2:219634722| -0.0654 | 0.00372 | 2.84E-67|           |        |        |        |         |
| TTLL5 | 14:76151532| 0.0454  | 0.00329 | 1.49E-42|           |        |        |        |         |
| TUBA3FP| 22:21365474| 0.0454  | 0.00457 | 5.10E-23|           |        |        |        |         |
| TUBB  | 6:30690938 | 0.256   | 0.00948 | 2.73E-150|          |        |        |        |         |
| TUBB2A| 6:3111956  | 2.13    | 0.0476  | <1.0E-314|          |        |        |        |         |
| TUBB6 | 18:12303726| -0.133  | 0.00665 | 1.07E-85 |           |        |        |        |         |
| TUBD1 | 17:57932216| 0.0981  | 0.00648 | 8.35E-51 |           |        |        |        |         |
| TUBE1 | 6:112414035| 0.0266  | 0.0043  | 6.85E-10 |           |        |        |        |         |
| TUBG2 | 17:40786248| -0.0432 | 0.00565 | 2.48E-14 |           |        |        |        |         |
| TUBGCP3| 13:113198538| 0.0657 | 0.00511 | 3.04E-37 |           |        |        |        |         |
| TUBGCP4| 15:43680212| 0.0741  | 0.00473 | 5.45E-54 |           |        |        |        |         |
| TUBGCP5| 15:22804640| 0.0358  | 0.00518 | 5.06E-12 |           |        |        |        |         |
| TUFM  | 16:28847246| -0.139  | 0.00458 | 1.08E-185|          |        |        |        |         |
| TUSC3 | 8:15524123 | -0.0759 | 0.00929 | 3.95E-16 |           |        |        |        |         |
| TVP23C| 17:15389632| -0.0553 | 0.00692 | 1.67E-15 |           |        |        |        |         |
| TWF1  | 12:44199961| -0.0476 | 0.00746 | 2.02E-10 |           |        |        |        |         |
| TWISTNB| 7:19747915 | 0.0414  | 0.00539 | 1.88E-14 |           |        |        |        |         |
| TWSG1 | 18:9343958 | -0.288  | 0.0254  | 1.90E-29 |           |        |        |        |         |
| TXK   | 4:48089461 | 0.0959  | 0.00648 | 1.39E-48 |           |        |        |        |         |
| TXNDC12| 1:52520858 | 0.251   | 0.0255  | 1.18E-22 |           |        |        |        |         |
| TXNDC15| 5:134279940| -0.167  | 0.00488 | 1.85E-231|          |        |        |        |         |
| TXNL1 | 18:54281790| 0.0918  | 0.00855 | 1.38E-26 |           |        |        |        |         |
| TXNL4A| 18:77752801| 0.187   | 0.00619 | 1.33E-185|          |        |        |        |         |
| TXNRD1| 12:104693089| 0.0253 | 0.00322 | 4.78E-15 |           |        |        |        |         |
| TXNRD2| 22:19881556| 0.0222  | 0.00251 | 1.42E-18 |           |        |        |        |         |
| TYK2  | 19:10464687| 0.0226  | 0.00304 | 1.42E-13 |           |        |        |        |         |
| TYMP  | 22:50978520| -0.0568 | 0.00372 | 1.87E-51 |           |        |        |        |         |
| TYMS  | 18:672043  | -0.0707 | 0.00589 | 8.36E-33 |           |        |        |        |         |
| TYW1  | 7:66633428 | -0.214  | 0.022   | 3.62E-22 |           |        |        |        |         |
| TYW3  | 1:75220929 | 0.0589  | 0.00594 | 6.44E-23 |           |        |        |        |         |
| U2AF1 | 21:44508390| 0.1     | 0.00474 | 7.86E-95 |           |        |        |        |         |
| U2AF1L4| 19:36234489| -0.33   | 0.0085 | 3.54E-290|           |        |        |        |         |
| UACA  | 15:71038162| -0.0731 | 0.00583 | 1.52E-35 |           |        |        |        |         |
| UAP1L1 | 9:139958583| 0.0825  | 0.00542 | 3.76E-51 |           |        |        |        |         |
| UBA6  | 4:68556488 | 0.0445  | 0.00377 | 8.45E-32 |           |        |        |        |         |
| UBA7  | 3:49798920 | 0.0802  | 0.00384 | 4.67E-93 |           |        |        |        |         |
| UBAC2 | 13:99899478| 0.0148  | 0.00219 | 1.55E-11 |           |        |        |        |         |
| UBALD2| 17:74261677| 0.0439  | 0.0042  | 2.98E-25 |           |        |        |        |         |
| Gene   | Chromosome | Start Position | Log2 Fold Change | FDR  | Log2 Fold Change | Fold Change |
|--------|------------|----------------|------------------|------|------------------|-------------|
| UBAH3A | 21         | 43855067       | -0.122           | 0.00413 | 1.10E-176       |
| UBAH3B | 11         | 122583862      | -0.0342          | 0.00454 | 5.15E-14         |
| UBE2B  | 5          | 133672655      | 0.181            | 0.0215  | 4.53E-17         |
| UBE2D1 | 10         | 60144073       | -0.272           | 0.00578 | <1.0E-314       |
| UBE2D3 | 4          | 103683546      | -0.0444          | 0.0038  | 3.95E-31         |
| UBE2E2 | 3          | 23412528       | -0.0473          | 0.00578 | 4.53E-17         |
| UBE2F  | 2          | 238912478      | -0.132           | 0.00941 | 3.76E-44         |
| UBE2G2 | 21         | 46219184       | -0.0368          | 0.0047  | 3.76E-44         |
| UBE2I  | 16         | 1378788        | -0.0579          | 0.00527 | 8.01E-28         |
| UBE2K  | 4          | 39700173       | 0.0245           | 0.00352 | 3.44E-12         |
| UBE2L3 | 22         | 21938863       | -0.0422          | 0.00473 | 5.83E-19         |
| UBE2O  | 17         | 74461577       | -0.0777          | 0.0107  | 3.61E-13         |
| UBE2Z  | 17         | 47026431       | 0.0811           | 0.00392 | 2.00E-91         |
| UBE3B  | 12         | 109910798      | -0.104           | 0.00635 | 5.43E-59         |
| UBE3C  | 7          | 156935591      | 0.0372           | 0.00294 | 2.85E-36         |
| UBE4A  | 11         | 118230359      | -0.0612          | 0.00518 | 9.31E-32         |
| UBE4B  | 1          | 10174189       | 0.0577           | 0.00517 | 1.24E-28         |
| UBL3   | 13         | 30442076       | -0.0318          | 0.00486 | 6.64E-11         |
| UBLCP1 | 5          | 158726535      | -0.0465          | 0.00556 | 7.58E-17         |
| UBN1   | 16         | 49111239       | -0.0348          | 0.0033  | 8.44E-26         |
| UBQLN4 | 1          | 156007177      | 0.351            | 0.012   | 3.22E-175        |
| UBR1   | 15         | 43220785       | 0.0223           | 0.00292 | 2.50E-14         |
| UBR2   | 6          | 42537608       | 0.0605           | 0.00733 | 1.80E-16         |
| UBR3   | 2          | 170872617      | -0.0281          | 0.00332 | 3.15E-17         |
| UBXN2A | 2          | 24126904       | -0.101           | 0.00616 | 2.07E-59         |
| UBXN6  | 19         | 4400925        | 0.1              | 0.0102  | 2.28E-22         |
| UCK1   | 9          | 134386425      | -0.0253          | 0.00403 | 3.74E-10         |
| UCP2   | 11         | 73686859       | 0.136            | 0.00484 | 5.93E-162        |
| UEVLD  | 11         | 18574323       | 0.0631           | 0.00593 | 3.42E-26         |
| UFC1   | 1          | 161128644      | -0.177           | 0.0275  | 1.49E-10         |
| UFM1   | 13         | 38926390       | -0.147           | 0.0118  | 2.17E-35         |
| UFSP2  | 4          | 186350063      | -0.0554          | 0.00508 | 2.26E-27         |
| UGDH   | 4          | 39518110       | 0.154            | 0.00458 | 4.03E-225        |
| UGGT2  | 13         | 96681165       | 0.204            | 0.00891 | 7.48E-111        |
| UGP2   | 2          | 64022346       | 0.0587           | 0.00835 | 2.42E-12         |
| UGT2B28| 4          | 70123614       | 0.64             | 0.0366  | 9.87E-67         |
| UGT8   | 4          | 115519824      | -0.0532          | 0.00575 | 2.90E-20         |
| UHRF1BP1| 6          | 34743432       | -0.1             | 0.00284 | 3.78E-244        |
| UHRF1BP1L| 12        | 100519182      | 0.164            | 0.00837 | 5.49E-83         |
| Gene    | Chromosome | Position | Fold Change | P-value          |
|---------|------------|----------|-------------|------------------|
| UIMC1   | 5          | 176427377| 0.0335      | 2.40E-10         |
| ULK2    | 17         | 19697976 | 0.0344      | 6.95E-23         |
| ULK3    | 15         | 75128501 | -0.0409     | 1.54E-41         |
| ULK4    | 3          | 41765955 | -0.162      | <1.0E-314        |
| UMP5    | 3          | 12445764 | -0.0694     | 2.69E-55         |
| UNC119B | 12         | 121149560| 0.188       | 1.82E-13         |
| UNG     | 12         | 109537423| 0.0577      | 2.34E-33         |
| UPB1    | 22         | 24885927 | -0.0492     | 3.14E-60         |
| UPF2    | 10         | 12100781 | 0.0394      | 1.42E-18         |
| UPF3A   | 13         | 115032817| -0.0523     | 2.82E-26         |
| UPK1B   | 3          | 118946797| -0.133      | 4.55E-63         |
| UPK3A   | 22         | 45679633 | -0.0401     | 8.94E-28         |
| UPP1    | 7          | 48134719 | 0.0534      | 3.12E-50         |
| UQCR10  | 22         | 30187702 | 0.0345      | 1.29E-14         |
| UQCR11  | 19         | 1589064  | -0.0782     | 3.06E-31         |
| UQCRC1  | 3          | 48636507 | -0.162      | 1.48E-77         |
| UROD    | 1          | 45498181 | 0.0445      | 3.65E-20         |
| UROS    | 10         | 127496359| 0.119       | 2.07E-143        |
| USB1    | 16         | 58027898 | -0.113      | 3.72E-71         |
| USF1    | 1          | 161019040| -0.0348     | 4.82E-25         |
| USF2    | 19         | 35818609 | -0.0155     | 5.09E-09         |
| USMG5   | 10         | 105125451| -0.0528     | 6.14E-23         |
| USO1    | 4          | 76643274 | 0.0548      | 1.31E-28         |
| USP1    | 1          | 62891354 | -0.126      | 2.26E-12         |
| USP10   | 16         | 84740884 | 0.0561      | 7.78E-30         |
| USP12   | 13         | 27678791 | -0.0858     | 4.81E-16         |
| USP15   | 12         | 62665787 | -0.0623     | 3.43E-54         |
| USP16   | 21         | 30430978 | -0.0417     | 9.33E-13         |
| USP20   | 9          | 132636601| 0.0164      | 1.83E-14         |
| USP24   | 1          | 55575670 | -0.0335     | 1.00E-15         |
| USP3    | 15         | 63794279 | -0.0537     | 5.62E-62         |
| USP30   | 12         | 109490601| -0.0552     | 2.07E-27         |
| USP33   | 1          | 78129593 | 0.0502      | 3.25E-15         |
| USP34   | 2          | 61467379 | 0.017       | 3.78E-09         |
| USP36   | 17         | 76785240 | -0.0467     | 3.56E-51         |
| USP37   | 2          | 219328577| -0.0252     | 1.11E-11         |
| USP38   | 4          | 144163755| 0.0319      | 2.18E-28         |
| USP39   | 2          | 85860448 | 0.0966      | 6.32E-60         |
| USP4    | 3          | 49326178 | 0.0431      | 2.54E-19         |
| USP30   | 12         | 109490601| -0.0552     | 2.07E-27         |
| Gene   | Chromosome Position | Log2 Fold Change | p-Value  | Adjusted p-Value |
|--------|---------------------|-----------------|----------|-----------------|
| USP44  | 12:95960102         | 0.0825          | 2.36E-27 |
| USP45  | 6:99966805          | -0.0337         | 8.08E-13 |
| USP47  | 11:11889754         | -0.0315         | 8.87E-14 |
| USP48  | 1:22109370          | -0.026          | 1.06E-16 |
| USP53  | 4:120106348         | -0.525          | <1.0E-314|
| USP6   | 17:5083228          | -0.104          | 4.77E-11 |
| USP6NL | 10:11697424         | 0.0656          | 5.12E-12 |
| USP8   | 15:50734694         | 0.0761          | 1.85E-59 |
| UST    | 6:149166343         | 0.0855          | 3.71E-24 |
| UTS2   | 1:7911302           | -1.42           | <1.0E-314|
| UVSSA  | 4:1332142           | -0.269          | 1.26E-38 |
| UXS1   | 2:106810767         | -0.0422         | 1.70E-09 |
| VAMP1  | 12:6580066          | 0.0539          | 7.45E-40 |
| VAMP2  | 17:8071352          | -0.089          | 6.45E-29 |
| VAMP5  | 2:85801137          | 0.117           | 9.21E-44 |
| VAMP8  | 2:85794297          | 0.147           | 1.53E-226|
| VAPA   | 18:9866979          | -0.0526         | 4.15E-43 |
| VAPB   | 20:56955371         | -0.0471         | 5.66E-14 |
| VASH1  | 14:77182302         | -0.116          | <1.0E-314|
| VASH2  | 1:213213567         | -0.0193         | 4.78E-14 |
| VAV2   | 9:136651629         | -0.0286         | 7.87E-18 |
| VAV3   | 1:108297209         | -0.0838         | 7.36E-42 |
| VCP    | 9:35011279          | -0.041          | 4.03E-38 |
| VDR    | 12:48347133         | -0.0222         | 7.55E-10 |
| VEGFA  | 6:43710959          | -0.0644         | 6.64E-26 |
| VEPH1  | 3:157261335         | -0.0409         | 6.29E-23 |
| VEZT   | 12:95687486         | -0.154          | 2.23E-58 |
| VIL1   | 2:219279673         | 0.0276          | 6.76E-17 |
| VIM    | 10:17254832         | 0.031           | 5.87E-15 |
| VIPR1  | 3:42531939          | 0.0437          | 3.31E-37 |
| VKORC1L1| 7:65337976          | -0.195          | 7.64E-49 |
| VLDLR  | 9:26222278          | -0.138          | 2.57E-78 |
| VN1R1  | 19:57961191         | -0.0616         | 4.35E-28 |
| VNN1   | 6:133015662         | -0.364          | <1.0E-314|
| VNN2   | 6:133076489         | 0.175           | 9.01E-171|
| VNN3   | 6:133060195         | 0.247           | 4.23E-201|
| VOPP1  | 7:55610829          | 0.0436          | 2.90E-12 |
| VPS11  | 11:118920453        | 0.0484          | 7.28E-29 |
| VPS13A | 9:79819030          | 0.0765          | 1.92E-27 |
| Gene     | Chromosome | Start | End   | Log2 Fold Change | P-Value     |
|----------|------------|-------|-------|------------------|-------------|
| VPS13C   | 15         | 62352374 |       | -0.0618          | 4.21E-56    |
| VPS26A   | 10         | 70885320 |       | 0.105            | 1.07E-96    |
| VPS28    | 8          | 14563534 |       | -0.212           | 2.72E-101   |
| VPS29    | 12         | 110939421 |     | -0.0642          | 7.25E-51    |
| VPS33A   | 12         | 122679121 |     | 0.0295           | 2.46E-11    |
| VPS33B   | 15         | 91557186 |       | 0.0414           | 7.25E-26    |
| VPS36    | 13         | 52983981 |       | 0.0535           | 1.19E-55    |
| VPS37B   | 12         | 123361501 |    | -0.0302          | 3.72E-10    |
| VPS41    | 7          | 38758326 |       | -0.0473          | 2.35E-33    |
| VPS53    | 17         | 618701 |       | 0.121            | 1.61E-169   |
| VPS54    | 2          | 64139834 |       | 0.0369           | 2.36E-24    |
| VPS8     | 3          | 184775860 |      | 0.166            | 3.71E-59    |
| VRK1     | 14         | 97269197 |       | -0.12            | 6.06E-44    |
| VRK2     | 2          | 58338086 |       | -0.057           | 5.89E-45    |
| VRK3     | 19         | 50526994 |       | 0.0273           | 2.27E-15    |
| VSIG10   | 12         | 118501598 |     | 0.0746           | 1.44E-27    |
| VSTM1    | 19         | 54544575 |       | -0.872           | <1.0E-314   |
| VWAS5A   | 11         | 123943259 |     | 0.0606           | 7.05E-38    |
| VWF      | 12         | 6205767 |       | -0.165           | 2.31E-26    |
| WAC      | 10         | 28869729 |       | 0.0209           | 8.80E-11    |
| WAPAL    | 10         | 88160039 |       | -0.0585          | 1.33E-20    |
| WARS     | 14         | 100840596 |     | -0.288           | 1.35E-277   |
| WARS2    | 1          | 119577837 |      | -0.0276          | 1.36E-12    |
| WASF1    | 6          | 110500355 |      | 0.0448           | 5.98E-17    |
| WASF3    | 13         | 27184184 |       | -0.0241          | 4.50E-12    |
| WASL     | 7          | 123360007 |     | 0.0336           | 8.38E-23    |
| WBP11    | 12         | 14979169 |       | 0.0466           | 8.65E-18    |
| WBP2NL   | 22         | 42416987 |       | 0.032            | 4.34E-13    |
| WBP4     | 13         | 41673457 |       | -0.0701          | 1.52E-19    |
| WBSCR22  | 7          | 73114645 |       | -0.152           | 6.33E-46    |
| WBSCR27  | 7          | 73242908 |       | -0.0228          | 7.62E-15    |
| WDFY1    | 2          | 224787704 |      | 0.0569           | 8.57E-44    |
| WDFY4    | 10         | 49933974 |       | -0.243           | 1.61E-208   |
| WDPCP    | 2          | 63495875 |       | 0.0306           | 1.14E-18    |
| WDR1     | 4          | 10100801 |       | -0.0947          | 1.41E-190   |
| WDR11    | 10         | 122601203 |     | -0.14            | 1.71E-96    |
| WDR17    | 4          | 177020806 |      | -0.151           | 2.80E-20    |
| WDR19    | 4          | 39140277 |       | -0.0562          | 9.41E-51    |
| WDR25    | 14         | 100825670 |     | -0.0315          | 4.83E-39    |
| Gene   | Chromosome | Start Position | End Position | Log2 Fold Change | p-Value   | q-Value   |
|--------|------------|----------------|--------------|-----------------|-----------|-----------|
| WDR27  | 6:170063010| -0.0534        | 0.00499      | 2.02E-26        |           |           |
| WDR3   | 1:118515496| -0.0692        | 0.00954      | 4.45E-13        |           |           |
| WDR33  | 2:128414113| 0.0341         | 0.00431      | 2.89E-15        |           |           |
| WDR35  | 2:20134248 | -0.0425        | 0.00688      | 7.40E-10        |           |           |
| WDR36  | 5:110467753| -0.0256        | 0.00309      | 1.77E-16        |           |           |
| WDR37  | 10:1102796 | 0.0213         | 0.00264      | 8.62E-16        |           |           |
| WDR41  | 5:76780524 | 0.0911         | 0.00364      | 4.62E-13        |           |           |
| WDR52  | 3:113196702| -0.0551        | 0.00409      | 8.58E-41        |           |           |
| WDR55  | 5:140079408| 0.0238         | 0.00325      | 2.85E-13        |           |           |
| WDR5B  | 3:122163022| -0.0793        | 0.00456      | 5.66E-66        |           |           |
| WDR6   | 3:49035885 | -0.0579        | 0.00338      | 5.49E-64        |           |           |
| WDR60  | 7:158676826| 0.107          | 0.00766      | 7.85E-44        |           |           |
| WDR61  | 15:78606170| -0.0549        | 0.00589      | 1.49E-20        |           |           |
| WDR63  | 1:85514841 | 0.0332         | 0.00268      | 5.77E-35        |           |           |
| WDR66  | 12:122400813| -0.0286       | 0.00241      | 3.39E-32        |           |           |
| WDR67  | 8:124154275| 0.0585         | 0.00564      | 6.37E-25        |           |           |
| WDR7   | 18:54319099| 0.0412         | 0.00392      | 1.40E-25        |           |           |
| WDR73  | 15:85180319| 0.0579         | 0.00443      | 2.31E-38        |           |           |
| WDR75  | 2:190319341| 0.111          | 0.00961      | 1.15E-30        |           |           |
| WDR81  | 17:1690303 | 0.0147         | 0.00246      | 2.40E-09        |           |           |
| WDR83OS| 19:12780204| 0.521          | 0.0558       | 1.29E-20        |           |           |
| WDR85  | 9:140453479| 0.0249         | 0.0042       | 3.32E-09        |           |           |
| WDR91  | 7:134880884| 0.0345         | 0.00286      | 4.86E-33        |           |           |
| WDR92  | 2:68426624 | 0.0511         | 0.00348      | 9.56E-48        |           |           |
| WDSUB1 | 2:160087815| -0.087         | 0.00572      | 3.60E-51        |           |           |
| WDYHV1 | 8:124455097| 0.052          | 0.00457      | 1.18E-29        |           |           |
| WEE1   | 11:9592477 | -0.0344        | 0.00509      | 1.63E-11        |           |           |
| WFDIC3 | 20:44402869| 0.0943         | 0.00466      | 8.24E-88        |           |           |
| WHSC1L1| 8:38164650 | 0.0348         | 0.00429      | 6.29E-16        |           |           |
| WPI1   | 17:66449844| 0.15           | 0.00649      | 5.37E-112       |           |           |
| WPI2   | 7:5253775 | 0.161          | 0.0124       | 5.43E-38        |           |           |
| WLS    | 1:68737383 | -0.493         | 0.0137       | 6.23E-254       |           |           |
| WNT4   | 1:22446108 | 0.0228         | 0.00308      | 1.44E-13        |           |           |
| WRB    | 21:40741846| -0.28          | 0.00667      | <1.0E-314       |           |           |
| WRN    | 8:30957765 | 0.0362         | 0.00561      | 1.18E-10        |           |           |
| WRNIP1 | 6:2765697  | 0.0511         | 0.00274      | 3.85E-75        |           |           |
| WSB1   | 17:25647880| 0.0753         | 0.00411      | 1.00E-72        |           |           |
| WSB2   | 12:118501598| 0.0688       | 0.00734      | 9.69E-21        |           |           |
| WTAP   | 6:160182796| -0.169         | 0.0107       | 1.69E-54        |           |           |
| Gene   | Chromosome | Start Position | End Position | Log2 Fold Change | FDR   | P-Value    |
|--------|------------|----------------|--------------|-----------------|-------|------------|
| WWC2   | 4:184019859| -0.106         | 0.0101       | 1.41E-25        |       |            |
| WWOX   | 16:78282458| 0.0226         | 0.00297      | 2.60E-14        |       |            |
| WWP1   | 8:87446737 | 0.217          | 0.0198       | 1.74E-27        |       |            |
| WWP2   | 16:69978687| -0.0766        | 0.00401      | 1.68E-78        |       |            |
| XBP1   | 22:29234593| -0.0512        | 0.00384      | 6.82E-40        |       |            |
| XIRP2  | 2:167962531| -0.0259        | 0.00413      | 3.77E-10        |       |            |
| XKR3   | 22:17233296| -1.21          | 0.0267       | <1.0E-314       |       |            |
| XKR6   | 8:10964373 | 0.0885         | 0.00946      | 1.26E-20        |       |            |
| XKR8   | 1:28278138 | 0.0253         | 0.00347      | 3.36E-13        |       |            |
| XPNPEP1| 10:11169132| 0.0588         | 0.00616      | 1.98E-21        |       |            |
| XPO1   | 2:61763207 | 0.0262         | 0.00425      | 7.41E-10        |       |            |
| XPO4   | 13:21442321| -0.0209        | 0.00339      | 8.02E-10        |       |            |
| XPO6   | 16:28241942| -0.0487        | 0.00379      | 3.12E-37        |       |            |
| XPO7   | 8:21739832 | 0.067          | 0.0113       | 2.88E-09        |       |            |
| XRCC1  | 19:44011568| 0.0442         | 0.00541      | 3.98E-16        |       |            |
| XRCC2  | 7:15233764 | -0.0762        | 0.00472      | 3.03E-57        |       |            |
| XRCC3  | 14:104131033| 0.0309        | 0.00294      | 1.71E-25        |       |            |
| XRCC4  | 5:82637324 | 0.0553         | 0.00858      | 1.25E-10        |       |            |
| XRCC5  | 2:216980258| 0.0257         | 0.00289      | 8.07E-19        |       |            |
| XRCC6BP1| 12:58342196| 0.0706         | 0.00403      | 7.66E-67        |       |            |
| XRN2   | 20:21258707| 0.0261         | 0.00415      | 3.71E-10        |       |            |
| XRRA1  | 11:74513449| -0.227         | 0.00299      | <1.0E-314       |       |            |
| XYLB   | 3:38487802 | -0.0851        | 0.00304      | 5.71E-161       |       |            |
| XYLT1  | 16:17542995| 0.0411         | 0.00365      | 5.16E-29        |       |            |
| YAF2   | 12:42637999| 0.0313         | 0.00409      | 2.21E-14        |       |            |
| YEATS4 | 12:69732105| 0.21           | 0.00487      | <1.0E-314       |       |            |
| YIF1B  | 19:38796578| -0.0523        | 0.00398      | 8.19E-39        |       |            |
| YIPF1  | 1:54337886 | -0.0262        | 0.00414      | 2.46E-10        |       |            |
| YIPF3  | 6:43534399 | -0.0628        | 0.00891      | 1.95E-12        |       |            |
| YIPF5  | 5:143550217| 0.124          | 0.00449      | 1.35E-156       |       |            |
| YME1L1 | 10:27392343| 0.0316         | 0.00416      | 3.99E-14        |       |            |
| YPEL1  | 22:22055280| -0.0842        | 0.00481      | 8.11E-67        |       |            |
| YPEL3  | 16:30118345| -0.0944        | 0.00799      | 9.02E-32        |       |            |
| YTHDC2 | 5:112937962| -0.0664        | 0.00316      | 4.69E-94        |       |            |
| YTHDF3 | 8:64084388 | 0.0754         | 0.00472      | 3.35E-56        |       |            |
| YWHAB  | 20:43520287| 0.081          | 0.00408      | 1.38E-84        |       |            |
| YWHAH  | 22:32355011| -0.0694        | 0.00603      | 2.52E-30        |       |            |
| ZACN   | 17:74077797| 0.0293         | 0.00317      | 3.58E-20        |       |            |
| ZADH2  | 18:72910687| 0.125          | 0.00381      | 7.57E-216       |       |            |
| Gene  | Chromosome | Position   | Expression | FDR     | Log2 Fold Change |
|-------|------------|------------|------------|---------|-----------------|
| ZAK   | 2:174030566| 0.0813     | 0.00573    | 6.84E-45|
| ZBED4 | 22:50249677| -0.0307    | 0.00424    | 5.33E-13|
| ZBED5 | 11:10874594| 0.148      | 0.00847    | 7.30E-67|
| ZBTB20| 3:114792654| 0.146      | 0.00671    | 3.25E-100|
| ZBTB25| 14:64960631| 0.046      | 0.00596    | 1.38E-14 |
| ZBTB39| 12:57403340| 0.101      | 0.0123     | 7.33E-28 |
| ZBTB40| 1:22809338 | -0.0335    | 0.00313    | 2.36E-26 |
| ZBTB43| 9:12957594 | 0.0359     | 0.00547    | 5.63E-11 |
| ZBTB49| 4:4306263  | -0.0386    | 0.00351    | 7.33E-28 |
| ZBTB7B| 1:154989595| -0.0313    | 0.0043     | 3.69E-13 |
| ZC2HC1A| 3:114792654| 0.148      | 0.00847    | 7.30E-67|
| ZC3H13| 13:46641466| -0.0358    | 0.00528    | 1.34E-11 |
| ZC3H15| 2:187346255| -0.029     | 0.00394    | 1.90E-13 |
| ZC3H18| 16:88680855| 0.0183     | 0.00298    | 8.13E-10 |
| ZC3H6 | 2:113007757| 0.0646     | 0.00618    | 2.60E-25 |
| ZC3H7A| 16:11878033| -0.0313    | 0.00374    | 8.10E-17 |
| ZC3HAV1| 1:52964160 | -0.119     | 0.0136     | 2.67E-18 |
| ZC3HAV1L| 1:52964160| -0.119     | 0.0136     | 2.67E-18 |
| ZCCHC11| 1:52964160| -0.119     | 0.0136     | 2.67E-18 |
| ZCCHC14| 16:87426667| -0.033     | 0.00307    | 1.02E-26 |
| ZCCHC17| 1:31755501 | 0.0543     | 0.00508    | 2.32E-26 |
| ZCCHC7 | 9:37362160 | 0.0429     | 0.00355    | 3.50E-33 |
| ZCCHC9 | 5:80575775 | -0.0253    | 0.00348    | 4.25E-13 |
| ZCRB1 | 12:42767121| -0.0309    | 0.00475    | 8.00E-11 |
| ZDHHC13| 11:19140053| -0.0944    | 0.00536    | 1.62E-67 |
| ZDHHC14| 6:157975829| 0.0257     | 0.00416    | 6.54E-10 |
| ZDHHC17| 12:77153644| 0.133      | 0.0151     | 1.55E-18 |
| ZDHHC18| 1:27104612 | -0.072     | 0.00744    | 5.54E-22 |
| ZDHHC2 | 8:17013199 | -0.209     | 0.00927    | 6.70E-108|
| ZDHHC20| 13:22009299| 0.0752     | 0.00449    | 2.02E-61 |
| ZDHHC21| 9:14694059 | -0.1       | 0.00564    | 8.77E-69 |
| ZDHHC4 | 7:6591041  | -0.0679    | 0.00391    | 9.61E-66 |
| ZDHHC6 | 10:114186157| 0.0599    | 0.00514    | 5.48E-31 |
| ZDHHC7 | 16:85039732| -0.0492    | 0.00444    | 3.16E-28 |
| ZFAND1 | 8:82613459 | 0.0521     | 0.00643    | 7.11E-16 |
| ZFAND2A| 7:1199117  | 0.115      | 0.00427    | 1.10E-150|
| ZFAND3 | 6:38136736 | -0.0514    | 0.00504    | 3.45E-24 |
| ZFAND4 | 10:46172739| -0.12      | 0.00818    | 1.21E-47 |
| ZFAND5 | 9:75021526 | -0.0434    | 0.00477    | 1.22E-19 |
| Gene  | Chromosome | Start Position | End Position | Fold Change | P-Value  | FDR  |
|-------|------------|----------------|--------------|-------------|----------|------|
| ZFAT  | 8:135613194 | 0.0309         | 0.00305      | 5.28E-24    |          |      |
| ZFP1  | 16:75187465 | 0.0547         | 0.00422      | 7.76E-38    |          |      |
| ZFP161| 18:5278970  | 0.0459         | 0.00417      | 6.26E-28    |          |      |
| ZFP28 | 19:57092369 | 0.0833         | 0.00358      | 3.61E-114   |          |      |
| ZFP30 | 19:38132334 | -0.054         | 0.00376      | 7.12E-46    |          |      |
| ZFP36L1| 14:69206887 | 0.0607         | 0.00820      | 1.49E-13    |          |      |
| ZFP36L2| 2:43452793  | -0.0405        | 0.00550      | 2.14E-13    |          |      |
| ZFP82 | 19:36833798 | -0.0405        | 0.00550      | 2.14E-13    |          |      |
| ZFP90 | 16:68577567 | 0.178          | 0.00602      | 2.05E-177   |          |      |
| ZFP91 | 11:58346153 | -0.0281        | 0.00362      | 9.71E-15    |          |      |
| ZFYVE1| 14:73455189 | 0.0252         | 0.00325      | 1.22E-14    |          |      |
| ZFYVE19| 15:41112360 | 0.022          | 0.00258      | 2.33E-17    |          |      |
| ZFYVE27| 10:99492671 | 0.0227         | 0.00305      | 9.46E-11    |          |      |
| ZG16B | 16:2880614  | 0.0715         | 0.00423      | 1.80E-62    |          |      |
| ZKSCAN1| 7:99608029  | -0.0288        | 0.00367      | 5.58E-15    |          |      |
| ZKSCAN3| 6:28386739  | 0.0465         | 0.00496      | 9.79E-21    |          |      |
| ZKSCAN5| 7:99102911  | 0.0683         | 0.00431      | 3.99E-55    |          |      |
| ZM162 | 5:140032947 | -0.0667        | 0.00743      | 3.54E-19    |          |      |
| ZMAT3 | 3:178777166 | 0.0268         | 0.00345      | 9.24E-15    |          |      |
| ZMAT4 | 8:40618018  | -0.131         | 0.00875      | 1.20E-49    |          |      |
| ZMPSTE24| 1:40676406  | 0.0532         | 0.00819      | 8.98E-11    |          |      |
| ZMYM5 | 13:20376135 | 0.0824         | 0.00502      | 3.64E-59    |          |      |
| ZMYND12| 1:42912305  | 0.0317         | 0.00373      | 2.54E-17    |          |      |
| ZNF10 | 12:133761543| 0.0430         | 0.00554      | 1.07E-14    |          |      |
| ZNF100| 19:21873996 | -0.343         | 0.00738      | <1.0E-314   |          |      |
| ZNF107| 7:64208563  | -0.136         | 0.0102       | 3.27E-40    |          |      |
| ZNF121| 19:9688068  | 0.1240         | 0.0136       | 7.00E-20    |          |      |
| ZNF124| 1:247289279 | 0.0875         | 0.00484      | 5.20E-71    |          |      |
| ZNF131| 5:43147919  | 0.0622         | 0.00796      | 6.71E-15    |          |      |
| ZNF132| 19:58939389 | -0.0763        | 0.00442      | 3.98E-65    |          |      |
| ZNF134| 19:58134272 | 0.0714         | 0.00901      | 2.86E-15    |          |      |
| ZNF137P| 19:53092008 | 0.1590         | 0.00943      | 3.49E-62    |          |      |
| ZNF138| 7:64274517  | 0.2380         | 0.00588      | <1.0E-314   |          |      |
| ZNF141| 4:388013    | 0.0610         | 0.00993      | 8.51E-10    |          |      |
| ZNF143| 11:9497952  | -0.171         | 0.00708      | 2.84E-122   |          |      |
| ZNF146| 19:36724666 | -0.048         | 0.00690      | 4.02E-12    |          |      |
| ZNF154| 19:58230279 | -0.292         | 0.0277       | 1.12E-25    |          |      |
| ZNF155| 19:44488352 | 0.3370         | 0.00899      | 2.06E-272   |          |      |
| ZNF160| 19:53589049 | 0.1040         | 0.00563      | 6.13E-74    |          |      |
| Gene  | Chromosome | Position  | Fold Change | p-value  | q-value  |
|-------|------------|-----------|-------------|----------|----------|
| ZNF167 | 3:44592979 | -0.0563   | 0.00488     | 2.13E-30 |
| ZNF169 | 9:97033949 | -0.0384   | 0.0035      | 1.26E-27 |
| ZNF175 | 19:52056246| 0.0706    | 0.00545     | 1.67E-16 |
| ZNF177 | 19:9434872 | 0.332     | 0.016       | 5.89E-92 |
| ZNF180 | 19:45004693| 0.0446    | 0.0054      | 1.26E-27 |
| ZNF189 | 9:104161942| -0.0489   | 0.00697     | 2.46E-12 |
| ZNF19  | 16:71558970| -0.0388   | 0.00627     | 6.61E-10 |
| ZNF192 | 6:28084733 | -0.059    | 0.00685     | 8.94E-18 |
| ZNF193 | 6:28197493 | -0.165    | 0.0139      | 3.12E-32 |
| ZNF195 | 11:3378063 | 0.0709    | 0.00733     | 5.41E-22 |
| ZNF197 | 3:44737806 | -0.0663   | 0.00455     | 3.84E-47 |
| ZNF200 | 16:3310883 | 0.0475    | 0.0043      | 4.03E-28 |
| ZNF204P| 6:27377843 | -0.0362   | 0.00424     | 1.60E-17 |
| ZNF205 | 16:3168836 | -0.0162   | 0.00217     | 9.19E-14 |
| ZNF207 | 17:30692396| 0.0415    | 0.00547     | 3.85E-14 |
| ZNF208 | 19:22161490| -0.431    | 0.0176      | 3.32E-125|
| ZNF211 | 19:58154473| 0.0697    | 0.00649     | 1.30E-26 |
| ZNF213 | 16:3148130 | 0.0196    | 0.00215     | 1.22E-19 |
| ZNF215 | 11:6948139 | -0.107    | 0.00323     | 4.53E-218|
| ZNF217 | 20:52186784| -0.0402   | 0.00435     | 4.02E-20 |
| ZNF223 | 19:44567510| -0.228    | 0.00816     | 6.31E-160|
| ZNF226 | 19:44719996| -0.0328   | 0.00444     | 1.74E-13 |
| ZNF227 | 19:44732658| 0.123     | 0.0159      | 8.91E-15 |
| ZNF23  | 16:71436836| -0.0352   | 0.00476     | 1.68E-13 |
| ZNF230 | 19:44510933| 0.0851    | 0.00548     | 3.27E-53 |
| ZNF234 | 19:44645652| 0.0477    | 0.00487     | 1.90E-22 |
| ZNF236 | 18:74568937| 0.0199    | 0.00208     | 1.52E-21 |
| ZNF239 | 10:44038969| 0.039     | 0.0051      | 2.21E-14 |
| ZNF24  | 18:32957283| 0.0603    | 0.00338     | 2.70E-69 |
| ZNF248 | 10:38066592| -0.0671   | 0.00837     | 1.24E-15 |
| ZNF253 | 19:19954714| -0.0398   | 0.00659     | 1.61E-09 |
| ZNF260 | 19:36986063| -0.0735   | 0.00573     | 4.42E-37 |
| ZNF266 | 19:9473201 | 0.265     | 0.00433     | <1.0E-314|
| ZNF271 | 18:32905710| -0.079    | 0.0054      | 1.74E-47 |
| ZNF273 | 7:64415252 | -0.0509   | 0.00761     | 2.51E-11 |
| ZNF280D| 15:57014578| -0.0226   | 0.00317     | 1.14E-12 |
| ZNF281 | 1:200326810| -0.0482   | 0.00393     | 4.50E-34 |
| ZNF286A| 17:15592879| -0.843    | 0.0178      | <1.0E-314|
| ZNF30  | 19:35455130| 0.0568    | 0.00882     | 1.31E-10 |
| Protein | Chromosome | Position  | Log2 Fold Change | SD   | P-Value       |
|---------|------------|-----------|-----------------|------|---------------|
| ZNF300P1 | 5:150280562 | -0.0356   | 0.0052          | 8.42E-12 |
| ZNF302  | 19:35153457  | 0.166     | 0.00689         | 1.54E-121  |
| ZNF304  | 19:57909297  | 0.0483    | 0.00686         | 2.22E-12  |
| ZNF317  | 19:9259777   | -0.0383   | 0.0046          | 1.15E-16  |
| ZNF318  | 6:43385975   | -0.0783   | 0.00683         | 4.90E-30  |
| ZNF321P | 19:53448098  | -0.064    | 0.00701         | 9.39E-20  |
| ZNF323  | 6:28325308   | -0.0215   | 0.00308         | 3.02E-12  |
| ZNF329  | 19:58605735  | -0.052    | 0.00704         | 1.77E-13  |
| ZNF331  | 19:54017032  | 0.0396    | 0.0066          | 2.10E-09  |
| ZNF333  | 19:14803329  | -0.0632   | 0.00262         | 2.25E-122 |
| ZNF337  | 20:25661716  | 0.0999    | 0.0101          | 4.98E-23  |
| ZNF33A  | 10:38336324  | -0.0665   | 0.00818         | 5.58E-16  |
| ZNF34   | 8:146017782  | -0.0225   | 0.00341         | 4.33E-11  |
| ZNF343  | 20:2488941   | 0.0333    | 0.00464         | 8.90E-13  |
| ZNF347  | 19:53667147  | 0.0418    | 0.00632         | 4.26E-11  |
| ZNF35A  | 5:178094844  | 0.279     | 0.00686         | <1.0E-314 |
| ZNF35B  | 5:178295339  | -0.0491   | 0.00795         | 6.96E-10  |
| ZNF35C  | 5:178447321  | -0.0346   | 0.00454         | 3.28E-14  |
| ZNF362  | 1:33723211   | 0.028     | 0.00331         | 3.91E-17  |
| ZNF37A  | 10:38461675  | -0.0651   | 0.00487         | 4.29E-40  |
| ZNF37BP | 10:43095722  | -0.131    | 0.00855         | 3.63E-52  |
| ZNF395  | 8:28259089   | -0.0231   | 0.00381         | 1.57E-09  |
| ZNF415  | 19:53651845  | -0.183    | 0.0097          | 3.30E-77  |
| ZNF417  | 19:58447904  | -0.0594   | 0.00835         | 1.34E-12  |
| ZNF418  | 19:58464224  | -0.136    | 0.0105          | 8.89E-38  |
| ZNF425  | 7:148823366  | 0.059     | 0.00518         | 1.19E-29  |
| ZNF429  | 19:21664201  | 0.723     | 0.0178          | <1.0E-314 |
| ZNF438  | 10:31366929  | 0.048     | 0.00655         | 2.65E-13  |
| ZNF443  | 19:12534589  | 0.0674    | 0.00696         | 5.47E-22  |
| ZNF45   | 19:44380536  | -0.0377   | 0.00524         | 7.38E-13  |
| ZNF460  | 19:57798198  | -0.111    | 0.00499         | 1.68E-105 |
| ZNF467  | 7:149476324  | 0.0385    | 0.00587         | 5.81E-11  |
| ZNF468  | 19:53367338  | -0.147    | 0.0135          | 1.91E-27  |
| ZNF470  | 19:57092369  | 0.0641    | 0.00445         | 3.34E-46  |
| ZNF471  | 19:57060087  | -0.0478   | 0.00423         | 2.26E-29  |
| ZNF473  | 19:50529054  | -0.0258   | 0.00429         | 1.87E-09  |
| ZNF480  | 19:52826693  | 0.182     | 0.0273          | 3.32E-11  |
| ZNF483  | 9:114297244  | -0.0837   | 0.0114          | 2.33E-13  |
| ZNF487P | 10:44024549  | 0.0399    | 0.00545         | 2.70E-13  |
| Gene   | Chromosome | Start/End | Beta  | Standard Error | P Value       |
|--------|------------|-----------|-------|----------------|--------------|
| ZNF493 | 19:21646167| -0.0969   | 0.00411| 6.80E-117      |
| ZNF501 | 3:44762830 | -0.0511   | 0.00674| 3.83E-14       |
| ZNF502 | 3:44762830 | -0.153    | 0.00763| 2.01E-86       |
| ZNF506 | 19:19887108| 0.0639    | 0.0107 | 2.59E-09       |
| ZNF507 | 19:32829306| -0.0582   | 0.00612| 2.69E-21       |
| ZNF512 | 2:27848586 | -0.0283   | 0.00365| 1.01E-14       |
| ZNF514 | 2:95822447 | 0.0919    | 0.0042 | 1.23E-101      |
| ZNF516 | 18:74253644| 0.0457    | 0.00386| 6.56E-32       |
| ZNF519 | 18:14133319| -0.0649   | 0.00737| 1.71E-18       |
| ZNF528 | 19:52923595| 0.0817    | 0.00794| 1.39E-24       |
| ZNF529 | 19:37115575| -0.0563   | 0.00452| 4.35E-35       |
| ZNF532 | 18:56656824| -0.0449   | 0.00621| 5.76E-13       |
| ZNF544 | 19:58791213| -0.0468   | 0.0039 | 8.57E-33       |
| ZNF547 | 19:57871141| -0.0374   | 0.00508| 2.20E-13       |
| ZNF548 | 19:57924420| -0.0683   | 0.00555| 2.24E-34       |
| ZNF550 | 19:58113074| -0.0506   | 0.00533| 3.09E-21       |
| ZNF552 | 19:58291847| -0.0794   | 0.00607| 1.55E-38       |
| ZNF555 | 19:2863551 | -0.0567   | 0.00646| 2.38E-18       |
| ZNF558 | 19:8910658 | 0.0395    | 0.00608| 8.99E-11       |
| ZNF561 | 19:9757469 | 0.107     | 0.00855| 4.16E-35       |
| ZNF566 | 19:36999787| 0.0537    | 0.00636| 3.81E-17       |
| ZNF577 | 19:52399559| 0.0652    | 0.00705| 3.08E-20       |
| ZNF584 | 19:58934457| 0.23      | 0.036  | 1.88E-10       |
| ZNF586 | 19:58291847| -0.0667   | 0.00379| 1.90E-67       |
| ZNF587 | 19:58389384| 0.149     | 0.00839| 8.13E-69       |
| ZNF589 | 3:48276077 | -0.109    | 0.00402| 5.11E-153      |
| ZNF592 | 15:85357727| -0.0424   | 0.0035 | 3.39E-33       |
| ZNF593 | 1:26496370 | -0.0483   | 0.00418| 1.80E-30       |
| ZNF595 | 4:72048    | -0.11     | 0.00705| 7.91E-54       |
| ZNF596 | 8:197042   | 0.0467    | 0.00641| 3.92E-13       |
| ZNF597 | 16:3488773 | -0.0522   | 0.00412| 2.64E-36       |
| ZNF600 | 19:53280650| -0.143    | 0.0106 | 1.17E-40       |
| ZNF605 | 12:133498857| -0.188 | 0.0142 | 3.51E-39       |
| ZNF606 | 19:58484344| -0.0343   | 0.00482| 1.34E-12       |
| ZNF607 | 19:38150755| 0.0318    | 0.00343| 2.76E-20       |
| ZNF613 | 19:52430739| 0.049     | 0.00595| 2.04E-16       |
| ZNF614 | 19:52517520| 0.0941    | 0.00533| 9.07E-68       |
| ZNF615 | 19:52500769| -0.0494   | 0.00569| 4.72E-18       |
| ZNF622 | 5:16512469 | 0.0252    | 0.00385| 6.09E-11       |
ZNF623 8:144725063 0.0418 0.00378 3.83E-28
ZNF624 17:16587287 0.171 0.0126 3.19E-11
ZNF625 19:12274521 0.0304 0.00462 5.31E-11
ZNF638 2:71651939 0.0578 0.00294 5.78E-83
ZNF639 3:179048224 0.0595 0.00258 3.34E-38
ZNF641 12:48757856 -0.227 0.00599 6.85E-278
ZNF646 16:31082025 0.0336 0.00258 3.34E-38
ZNF649 19:52402357 -0.048 0.00665 6.41E-23
ZNF650 12:124430812 0.103 0.00715 5.40E-46
ZNF664 12:124430812 -0.0348 0.0041 3.00E-17
ZNF670 1:24727819 -0.0978 0.0101 8.64E-22
ZNF671 19:58286522 -0.0538 0.0063 1.72E-17
ZNF675 19:23870110 -0.168 0.0278 1.52E-09
ZNF677 19:53770764 0.0729 0.00867 5.48E-17
ZNF682 19:20101950 -0.136 0.0203 2.40E-11
ZNF683 1:26696636 0.0303 0.00497 1.11E-09
ZNF695 1:247134691 -0.0207 0.0032 1.18E-10
ZNF7 8:146045454 0.0208 0.00309 2.02E-11
ZNF700 19:12069427 0.1 0.0138 5.37E-13
ZNF701 19:53083020 0.19 0.0171 1.83E-28
ZNF702P 19:53497662 -0.0852 0.00865 1.08E-22
ZNF713 7:55964292 -0.233 0.0113 2.89E-90
ZNF718 4:146963 0.216 0.00601 7.47E-254
ZNF720 16:31711742 -0.079 0.00592 4.59E-40
ZNF721 4:438538 0.301 0.015 3.16E-86
ZNF737 19:20774421 0.278 0.045 6.57E-10
ZNF738 19:21518651 0.0811 0.00681 2.84E-32
ZNF740 12:33554283 -0.0622 0.00501 7.05E-35
ZNF75A 16:3364867 0.0718 0.0054 1.03E-39
ZNF76 6:35202883 0.0197 0.00287 6.81E-12
ZNF761 19:53944732 -0.0965 0.0108 5.88E-19
ZNF765 19:53916008 -0.0384 0.00651 3.81E-09
ZNF767 7:149311533 0.107 0.00406 7.91E-14
ZNF768 16:30548565 0.038 0.00435 3.35E-18
ZNF77 19:2933030 -0.0832 0.0134 5.23E-10
ZNF770 15:35272173 0.124 0.0165 6.40E-14
ZNF781 19:38141758 -0.04 0.00374 1.86E-26
ZNF792 19:35451330 -0.0337 0.00436 1.22E-14
| Gene   | Chromosome | Base Pair | Log2 Fold Change | p-Value   |
|--------|------------|-----------|------------------|-----------|
| ZNF793 | 19:38017173| -0.0449   | 0.00462          | 3.81E-22  |
| ZNF80  | 3:113970906| -0.0783   | 0.00727          | 8.28E-27  |
| ZNF800 | 7:126962488| 0.027     | 0.00346          | 6.70E-15  |
| ZNF808 | 19:53067279| 0.261     | 0.0147           | 1.10E-68  |
| ZNF818P| 19:53713328| 0.287     | 0.0141           | 7.80E-89  |
| ZNF83  | 19:53134276| 0.261     | 0.00742          | 9.56E-21  |
| ZNF830 | 17:33260938| -0.0399   | 0.00425          | 9.56E-21  |
| ZNF839 | 14:102831817| 0.0285   | 0.00424          | 2.03E-11  |
| ZNF84  | 12:133688942| -0.0463  | 0.00559          | 1.53E-16  |
| ZNF85  | 19:21145434| 0.0467    | 0.00586          | 1.83E-15  |
| ZNF91  | 19:23572701| -0.167    | 0.0125           | 5.66E-40  |
| ZNF92  | 7:64895194 | 0.119     | 0.00806          | 1.43E-48  |
| ZNFX1  | 20:47849216| 0.0615    | 0.00557          | 5.39E-28  |
| ZNHIT1 | 7:100860636| -0.0395   | 0.00453          | 3.60E-18  |
| ZNHIT3 | 17:34866915| 0.0626    | 0.00408          | 4.11E-52  |
| ZNHIT6 | 1:86074379 | -0.0724   | 0.00885          | 3.48E-16  |
| ZNRD1  | 6:29998062 | -0.113    | 0.0103           | 5.85E-28  |
| ZNRF1  | 16:75031931| -0.0238   | 0.00271          | 2.32E-18  |
| ZP3    | 7:76036380 | -0.0337   | 0.00401          | 5.96E-17  |
| ZRANB1 | 10:12680467| 0.102     | 0.00948          | 1.22E-26  |
| ZRANB2 | 1:71596192 | -0.0259   | 0.00373          | 4.44E-12  |
| ZRANB3 | 2:135943900| 0.037     | 0.00475          | 8.34E-15  |
| ZSCAN18| 19:58598784| 0.0193    | 0.00318          | 1.41E-09  |
| ZSCAN2 | 15:85170583| -0.0212   | 0.00316          | 2.13E-11  |
| ZSCAN29| 15:43617264| 0.0887    | 0.00462          | 1.65E-79  |
| ZUFSP  | 6:117011380| 0.0388    | 0.00498          | 7.81E-15  |
| ZXDC   | 3:126170695| 0.0268    | 0.00277          | 5.47E-22  |
| ZYG11B | 1:53180716 | 0.0674    | 0.00481          | 7.90E-44  |
| ZYX    | 7:143081942| 0.0976    | 0.00586          | 8.82E-61  |
| ZZE1   | 17:3922255 | 0.0256    | 0.00304          | 4.28E-17  |
| ZZZ3   | 1:78070458 | 0.0261    | 0.00423          | 7.33E-10  |
| Beta  | Std Error | P-value  | Gene      | Top eSNP Position | Beta  | Std Error | P-value  |
|-------|-----------|----------|-----------|-------------------|-------|-----------|----------|
| 2.73  | 0.416     | 5.29E-11 | AADACL4   | 1:121141967       | -0.0391 | 0.00578   | 1.34E-11 |
| -3.29 | 0.439     | 6.67E-14 | AADAT     | 4:171060635       | -0.124  | 0.0159    | 6.25E-15 |
| -9.31 | 0.903     | 6.35E-25 | AARD      | 8:117952068       | 0.106   | 0.0118    | 2.63E-19 |
| 8.62  | 0.833     | 4.27E-25 | ABCA4     | 1:94525623        | -0.124  | 0.0149    | 8.64E-17 |
| 9.47  | 1.37      | 4.76E-12 | ABCA6     | 17:67142616       | 0.324   | 0.023     | 4.57E-45 |
| -6.35 | 0.913     | 3.52E-12 | ABCA8     | 17:66879927       | 0.506   | 0.07      | 4.88E-13 |
| -0.757| 0.0681    | 1.05E-28 | ABCC6     | 16:16515295       | 0.122   | 0.017     | 7.15E-13 |
| 0.872 | 0.0682    | 1.97E-37 | ABL2      | 1:179098770       | 0.0901  | 0.011     | 2.59E-16 |
| 0.702 | 0.0933    | 5.31E-14 | ABLIM3    | 5:148601243       | -0.158  | 0.0125    | 1.27E-36 |
| -2.93 | 0.463     | 2.48E-10 | AC002472.13| 22:21400282    | 0.208   | 0.0133    | 3.94E-55 |
| -0.291| 0.0279    | 1.81E-25 | AC008060.7| 7:155195759      | 0.128   | 0.0129    | 3.32E-23 |
| -0.585| 0.0831    | 1.93E-12 | AC009065.1| 16:33048628       | -0.125  | 0.0162    | 1.20E-14 |
| -0.272| 0.0293    | 1.64E-20 | AC010536.1| 16:87764627       | 0.0576  | 0.00752   | 1.87E-14 |
| 2.44  | 0.321     | 2.93E-14 | AC015688.3| 17:25303954      | -0.213  | 0.0944    | 9.88E-113|
| 3.22  | 0.51      | 2.72E-10 | AC021218.2| 7:155753306      | -0.00578| 0.000875  | 3.96E-11 |
| -0.418| 0.0495    | 3.05E-17 | AC021860.1| 4:38612708       | -0.235  | 0.0344    | 8.41E-12 |
| -0.991| 0.144     | 5.90E-12 | AC022498.1| 3:18789852       | 0.287   | 0.0112    | 8.03E-14 |
| -1.47 | 0.201     | 2.60E-13 | AC022532.1| 10:72209358      | 0.113   | 0.0149    | 3.35E-14 |
| 0.272 | 0.0369    | 1.69E-13 | AC104667.3| 2:238499997      | 0.0233  | 0.00268   | 3.50E-18 |
| -0.149| 0.0156    | 1.28E-21 | AC135178.1| 17:8277215       | 0.175   | 0.0163    | 6.88E-27 |
| -0.754| 0.109     | 4.60E-12 | AC142381.1| 16:32157698      | -0.141  | 0.0092    | 5.12E-53 |
| -0.18 | 0.0251    | 7.43E-13 | ACACA     | 17:35845916       | 0.0697  | 0.00995   | 2.47E-12 |
| 6.52  | 0.847     | 1.38E-14 | ACAP2     | 3:195076877       | -0.105  | 0.0136    | 1.16E-14 |
| -3.59 | 0.431     | 8.12E-17 | ACBD3     | 1:226352498       | -0.0811 | 0.0104    | 6.29E-15 |
| -4.21 | 0.677     | 5.02E-10 | ACCS      | 11:44096238       | 0.275   | 0.0301    | 6.47E-20 |
| -1.79 | 0.229     | 5.43E-15 | ACOT1     | 14:74006855       | -0.75   | 0.0442    | 1.41E-64 |
| 0.193 | 0.0219    | 1.22E-18 | ACOT2     | 14:73972535       | -0.18   | 0.0193    | 1.10E-20 |
| 2.27  | 0.297     | 2.12E-14 | ACOT4     | 14:74073492       | 0.116   | 0.015     | 1.05E-14 |
| -0.208| 0.0315    | 4.02E-11 | ACOT6     | 14:74095256       | -0.144  | 0.0145    | 3.05E-23 |
| -0.845| 0.104     | 4.47E-16 | ACPP      | 3:132057834       | 0.179   | 0.0191    | 7.14E-21 |
| -0.747| 0.11      | 1.11E-11 | ACSM2A    | 16:20420488       | 0.0217  | 0.00306   | 1.33E-12 |
| -3.24 | 0.333     | 2.25E-22 | ACTR3C    | 7:149963399       | -0.216  | 0.0256    | 3.24E-17 |
| -1.39 | 0.176     | 2.84E-15 | ACY3      | 11:67414828       | 0.345   | 0.0483    | 9.14E-13 |
| -0.124| 0.0159    | 6.25E-15 | ADAD2     | 16:84208891       | -0.262  | 0.0343    | 2.20E-14 |
| 0.211 | 0.0309    | 8.58E-12 | ADAL      | 15:43629310       | -0.265  | 0.0198    | 7.52E-41 |

**FHS (blood) ct-eQTLs**

**ROSMAP (brain) eQTLs**

**ROSMAP (brain) ct-eQTLs**
| Gene     | Start | End   | Start | End   | p-value  | p-value  | Fold Change | Fold Change |
|----------|-------|-------|-------|-------|----------|----------|-------------|-------------|
| C15orf38 | 17:54911028 | 17:81009636 | 6.19E-15 | 1.44E-29 | 2.88E-18 | 3.86E-17 | 2.10E-11 | 1.54835734 |
| 1:55468040 | 2.84E-11 | 9:104146951 | 1.0E-17 | 4.91E-19 | 4.20E-10 | 2.88E-18 | 1.5509852 | 1.54835734 |
| 0.108  | 0.273 | 3.41E-14 | 10:63422876 | 10:118429887 | 0.0125 | 1.54E-12 | 5.87E-11 | 1.44090787 |
| 1.07E-30 | 0.306 | 3.41E-14 | 22:23652201 | 5.30E-42 | 0.108  | 1.54E-12 | 5.87E-11 | 1.44090787 |
| 1:55468040 | 2.84E-11 | 9:104146951 | 1.0E-17 | 4.91E-19 | 4.20E-10 | 2.88E-18 | 1.5509852 | 1.54835734 |
| 0.108  | 0.273 | 3.41E-14 | 10:63422876 | 10:118429887 | 0.0125 | 1.54E-12 | 5.87E-11 | 1.44090787 |
| 1.07E-30 | 0.306 | 3.41E-14 | 22:23652201 | 5.30E-42 | 0.108  | 1.54E-12 | 5.87E-11 | 1.44090787 |
| C22orf34     | 0.0207 | 0.413 | 2.56E-13 | 19:51894327 | 1.25E-10 | BTNL3   | 5:180430797 |
|-------------|--------|-------|----------|-------------|----------|----------|-------------|
| C1orf194    | 1:109645420 | -0.439 | 0.0559 | 19:51894327 | 1.25E-10 | BTNL3   | 5:180430797 |
| C1orf195    | 1:145312917 | 0.156  | 0.0192  | 2.44E-16    | 19:51894327 | 1.25E-10 | BTNL3   | 5:180430797 |
| C2orf7F2    | 1:133011215 | -0.432 | 0.0644  | 2.44E-16    | 19:51894327 | 1.25E-10 | BTNL3   | 5:180430797 |
| C2orf40     | 2:106687456 | -0.261 | 0.0293  | 5.20E-19    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| C2orf74     | 2:61379625 | 0.469  | 0.0165  | 1.01E-17    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| C2orf82     | 2:233735693 | 0.612  | 0.0426  | 8.43E-47    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| C4orf6      | 4:49242504 | -0.121 | 0.0158  | 1.89E-14    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| C5orf17     | 5:24091732 | 0.304  | 0.0224  | 5.92E-42    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| C6orf195    | 6:2614822 | 0.046  | 0.00533 | 6.11E-18    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| C6orf229    | 6:25647375 | -0.4   | 0.0568  | 1.89E-12    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| C6orf57     | 6:71291014 | -0.224 | 0.0347  | 1.08E-10    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| C7orf13     | 7:156429648 | -0.267 | 0.0145  | 1.02E-75    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| C7orf73     | 7:135349273 | 0.151  | 0.0206  | 2.30E-13    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| C8orf31     | 8:144125300 | 0.258  | 0.0344  | 6.38E-14    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| C8orf58     | 8:22457804 | 0.109  | 0.0162  | 1.72E-11    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| C9orf142    | 9:139883948 | 0.147  | 0.0228  | 1.14E-10    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| C9orf152    | 9:113007289 | -0.0295 | 0.00372 | 2.19E-15    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| C9orf72     | 9:27565936 | -0.148 | 0.0177  | 6.19E-17    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| C9orf89     | 9:95875575 | 0.168  | 0.0186  | 1.68E-19    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| CA12        | 15:63682331 | 0.817  | 0.0648  | 1.91E-36    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| CASA        | 16:87935184 | 0.107  | 0.0145  | 1.59E-13    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| CAYBR       | 18:21760784 | 0.141  | 0.022   | 1.46E-10    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| CAB39L      | 13:49945410 | 0.214  | 0.0193  | 1.43E-28    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| CAYBR       | 18:21760784 | 0.141  | 0.022   | 1.46E-10    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| CACNG6      | 19:54514785 | 0.148  | 0.0148  | 1.52E-23    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| CAPN9       | 1:230891248 | 0.161  | 0.015   | 7.10E-27    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| CASP16      | 16:34015836 | 0.321  | 0.0449  | 8.73E-13    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| CASQ1       | 1:160162959 | -0.329 | 0.0251  | 2.98E-39    | 16:34015836 | 5.33E-12 | C1orf178 | 14:78156031 |
| Gene   | P-Value | Fold Change | Log2 Fold Change | E-value | Atomic Number | Database ID   | Description |
|--------|---------|-------------|-----------------|---------|---------------|--------------|-------------|
| CAT    | 11:34459717 | 0.185 | 5.77E-37 | 0.0285 | 8.51E-11 | C3orf65 | 3:186339617 |
| CBLN3  | 14:24899473 | 0.544 | 6.66E-49 | 0.0314 | 3.06E-67 | C3orf65 | 3:186339617 |
| CBR3   | 21:37513596 | -0.183 | 9.44E-33 | 0.028 | 6.33E-11 | C4orf6 | 4:49242504 |
| CBWD2  | 2:114207406 | -0.185 | 3.00E-10 | 0.0165 | 3.56E-29 | C4orf6 | 4:49242504 |
| CCBL2  | 1:89426277 | -0.301 | 3.57E-21 | 0.0223 | 1.61E-41 | C4orf6 | 4:49242504 |
| CCDC103| 17:42916399 | 0.27 | 1.30E-17 | 0.0286 | 3.71E-21 | C4orf6 | 4:49242504 |
| CCDC110| 4:186401223 | -0.144 | 7.88E-11 | 0.0191 | 4.73E-14 | C4orf6 | 4:49242504 |
| CCDC13 | 3:42814668 | 0.174 | 4.40E-13 | 0.0205 | 2.11E-17 | C6orf201 | 6:45545843 |
| CCDC144NL| 17:20827039 | 0.0894 | 4.40E-13 | 0.00939 | 1.72E-21 | C6orf229 | 6:25647375 |
| CCDC163P| 1:45969036 | -0.576 | 1.21E-14 | 0.0225 | 1.53E-14 | C6orf229 | 6:25647375 |
| CCDC169- SOHLH | 13:36802672 | 0.016 | 4.63E-10 | 0.00198 | 6.43E-16 | C6orf229 | 6:25647375 |
| CCDC170 | 6:151815864 | 0.123 | 1.06E-15 | 0.019 | 9.56E-11 | C6orf229 | 6:25647375 |
| CCDC173 | 2:170463156 | -0.621 | 9.30E-20 | 0.0304 | 9.50E-93 | C6orf229 | 6:25647375 |
| CCDC181 | 1:169373833 | -0.203 | 5.00E-12 | 0.0268 | 3.60E-14 | C6orf47 | 6:31421567 |
| CCDC23  | 1:43233484 | 0.186 | 1.67E-14 | 0.0286 | 5.76E-27 | C7orf13 | 7:156429648 |
| CCDC25  | 8:27617390 | 0.144 | 6.95E-11 | 0.0208 | 4.42E-12 | C7orf34 | 7:142459962 |
| CCDC40  | 17:78021037 | 0.442 | 2.86E-14 | 0.0208 | 3.30E-100 | C7orf34 | 7:142461940 |
| CCDC66  | 3:56579538 | -0.133 | 3.72E-11 | 0.0146 | 8.27E-20 | C8orf86 | 8:38470006 |
| CCDC82  | 11:96108105 | 0.177 | 6.03E-12 | 0.0227 | 6.32E-15 | C9orf171 | 9:136370017 |
| CCL3L3  | 17:34728537 | 0.906 | 4.77E-32 | 0.0404 | 2.21E-111 | CACTIN | 19:27866520 |
| CCNO    | 5:54498792 | -0.318 | 6.53E-11 | 0.0395 | 8.24E-16 | CACTIN | 19:27866520 |
| CC21    | 7.6884764 | 0.324 | 2.52E-10 | 0.0143 | 1.81E-113 | CADM2 | 3:84159305 |
| CD274   | 9:5460801 | -0.0942 | 7.33E-11 | 0.014 | 1.71E-11 | CALML5 | 10:46946870 |
| CD52    | 1:26645666 | -0.483 | 1.18E-10 | 0.0477 | 4.25E-24 | CAMLG | 5:134005332 |
| CD6     | 11:60776209 | -0.31 | 1.19E-14 | 0.0137 | 2.31E-113 | CAMLG | 5:133916719 |
| CDA     | 1:20934283 | 0.349 | 6.03E-12 | 0.0341 | 1.39E-24 | CASP16 | 16:34015836 |
| CDC25B  | 20:3792226 | 0.0874 | 3.47E-13 | 0.0314 | 8.60E-12 | CASP16 | 16:34015836 |
| CDC37L1 | 9:45769289 | 1.24 | 4.41E-14 | 0.186 | 2.62E-11 | CASP16 | 16:34015836 |
| CDC7    | 1:92021650 | -0.137 | 2.01E-14 | 0.0162 | 2.75E-17 | CASP16 | 16:34015836 |
| CDH9    | 5:26978780 | -0.228 | 5.33E-12 | 0.0257 | 7.21E-19 | CBLN3 | 14:24899473 |
| CDHR1   | 10:85954220 | 0.331 | 9.35E-11 | 0.0168 | 2.06E-86 | CBWD2 | 2:114264918 |
| CDHR3   | 7:105545505 | 0.126 | 1.57E-10 | 0.0162 | 7.38E-15 | CCDC163P | 1:45976587 |
| CDK10   | 16:89744756 | 0.188 | 2.19E-54 | 0.0257 | 2.57E-13 | CCDC163P | 1:45969036 |
| CDK13   | 7:40060751 | 0.0872 | 2.19E-11 | 0.0135 | 1.05E-10 | CCDC163P | 1:45999773 |
| CDK19   | 6:111038433 | 0.132 | 5.01E-10 | 0.0174 | 3.29E-14 | CCDC163P | 1:45976263 |
| CDON    | 11:125843140 | 0.165 | 9.65E-11 | 0.0106 | 1.24E-54 | CCDC173 | 2:170528009 |
| CEACAM19| 19:45165912 | 0.261 | 1.47E-18 | 0.0329 | 2.14E-15 | CCDC173 | 2:170519369 |
| Log2FC | P_val  | Gene   | Log2FC | P_val  | Gene   | Log2FC | P_val  |
|--------|--------|--------|--------|--------|--------|--------|--------|
| -0.878 | 0.0474 | CELA2A | 1.1409 | 0.193  | CCDC40 | 1.95E-11 |
| -0.909 | 0.136  | CELA2B | 1.1497 | -0.232 | CCDC40 | 2.11E-13 |
| -1.47  | 0.229  | CENPM  | 2.4233 | 0.304  | CCDC40 | 2.08E-28 |
| -1.5   | 0.139  | CENPP  | 9.9466 | 0.211  | CCDC79 | 5.32E-85 |
| 0.393  | 0.0579 | CENPV  | 17.1624| 0.179  | CCDC79 | 2.19E-16 |
| -1.08  | 0.149  | CEP19  | 3.1964 | -0.139 | CCDC79 | 7.78E-13 |
| -0.508 | 0.0489 | CEP250 | 20.3411| -0.112 | CCDC79 | 2.56E-12 |
| -1.12  | 0.156  | CER5S  | 12.5057| -0.163 | CCL20 | 3.37E-19 |
| -0.974 | 0.146  | CES1   | 16.5586| 0.586  | CCL20 | 5.98E-67 |
| -2.31  | 0.203  | CGB2  | 19.4955| 0.059  | CCL20 | 3.89E-12 |
| -0.15  | 0.0219 | CGB8  | 19.4955| 0.0501 | CCL3  | 1.64E-27 |
| -0.969 | 0.138  | CHAD   | 17.4855| 0.457  | CCL3  | 3.91E-68 |
| -0.346 | 0.0409 | CHAF1A | 19.4393| -0.173 | CCL3  | 5.51E-20 |
| -0.683 | 0.103  | CHCHD2 | 7.5615| -0.129 | CCL4  | 5.76E-19 |
| -0.857 | 0.137  | CHIT1  | 1.2031| -0.203 | CCL8  | 2.00E-17 |
| -0.225 | 0.0302 | CHKB-CPT1B | 22.5102| 0.141  | CCR4  | 2.00E-17 |
| 2.22   | 0.356  | CHRM5 | 15.3427| 0.264  | CCR4  | 1.92E-68 |
| -5.6   | 0.772  | CHRNA1 | 2.1756| 0.11   | CD274 | 1.14E-20 |
| -6.48  | 0.837  | CHRN5 | 15.7884| -0.185 | CD34  | 6.07E-75 |
| -0.323 | 0.0434 | CHRNE | 17.4802| 0.307  | CD48  | 1.48E-89 |
| 2.14   | 0.19   | CHST12 | 7.1521| 1.54   | CD48  | 3.21E-12 |
| 0.166  | 0.0228 | CHST13 | 3.1262| -0.0767| CD48  | 1.72E-14 |
| -0.486 | 0.0592 | CIB2  | 15.7842| 0.245  | CD48  | 7.47E-36 |
| 0.174  | 0.021  | CINP  | 14.1028| -0.188 | CD6   | 1.69E-36 |
| -1.48  | 0.0782 | CISD2 | 4.1036| -0.125 | CD6   | 1.21E-26 |
| -7.04  | 1.06   | CK52  | 9.9192| -0.67  | CD6   | 2.55E-29 |
| 0.497  | 0.0647 | CLDN9 | 16.3059| -0.274 | CD6   | 4.52E-23 |
| 0.56   | 0.0873 | CLEC18A| 16.7011| -0.185 | CD7   | 1.08E-16 |
| -0.306 | 0.0344 | CLEC18C| 16.7007| 0.189  | CDA   | 4.92E-29 |
| -7.68  | 0.951  | CLHC1 | 2.5542| 0.136  | CDC37L1| 1.41E-10 |
| 6.63   | 0.746  | CLPSL1| 6.3576| 0.294  | CDC37L1| 5.86E-23 |
| 8.94   | 1.19   | CLPSL2| 6.3574| 0.125  | CDC37L1| 6.77E-13 |
| -1.52  | 0.188  | CLTC1L| 22.1927| 0.474  | CDC37L1| 2.21E-39 |
| 2.11   | 0.2    | CNDP2 | 18.7216| 0.0999 | CDC42 | 9.45769289 |
| -0.65  | 0.0805 | CNGA1 | 4.4801| 0.122  | CDC42 | 6.59E-24 |
| 2.52   | 0.38   | CNR2  | 1.2486| -0.0712| CDC42 | 8.20E-15 |
| -1.22  | 0.123  | COA6  | 1.2345| 0.141  | CDCP1 | 3.45194509 |
| -1.94  | 0.295  | COCH  | 14.3134| 0.184  | CDH16 | 3.09E-20 |
| -3.2   | 0.411  | COL18A1| 21.4682| 0.168  | CDH16 | 9.36E-16 |
| 0.11   | 0.448  | COL4A2| 1.2777| 0.197  | CDHR1 | 8.75E-13 |
| Gene   | Value 1  | Value 2  | Value 3  | Value 4  | Value 5  | Value 6  | Value 7  | Value 8  | Value 9  |
|--------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| COL24A1 | 1.86619342 | 0.256 | 0.0324 | 2.76E-15 | CDHR1 | 10:85954220 |
| COL28A1 | 7.7572215   | 0.186 | 0.0181 | 9.02E-25 | CDKAL1 | 6:22176923  |
| COL6A1 | 21:47419012 | 0.205 | 0.0218 | 5.27E-21 | CEL2A | 1:148671016 |
| COMT1 | 10:76962774 | -0.285 | 0.0433 | 4.64E-11 | CEL2A | 1:149026684 |
| COQ5 | 12:120930798 | 0.0779 | 0.0113 | 5.43E-12 | CEL2A | 1:149026684 |
| CORO7 | 16:4460049 | 0.195 | 0.021 | 1.61E-20 | CEL2A | 1:149026684 |
| CORO7-PAM1 | 16:33941694 | -3.14 | 0.402 | 5.68E-15 | CEL2A | 1:149026684 |
| CPT1B | 22:51017082 | 0.207 | 0.0265 | 5.66E-15 | CEL2B | 1:148671016 |
| CPVL | 7:29188870 | -0.302 | 0.0331 | 7.25E-20 | CEL2B | 1:149735408 |
| CR1 | 1:207684192 | -0.096 | 0.00692 | 9.25E-44 | CEL2B | 1:149735408 |
| CRABP1 | 15:78633870 | 0.326 | 0.0321 | 3.12E-24 | CEL2B | 1:149735408 |
| CRIPT | 2:4685321 | 0.135 | 0.0129 | 1.25E-25 | CEL2B | 1:149735408 |
| CRYB3 | 3:97495510 | -0.133 | 0.0189 | 1.96E-12 | CENP | 9:95117419 |
| CRYGA | 2:209030050 | 0.155 | 0.0155 | 1.52E-23 | CENPP | 9:94966486 |
| CRYGD | 2:208985903 | 0.134 | 0.0203 | 4.08E-11 | CEP104 | 1:3577254 |
| CRYZ | 1:75167477 | -0.532 | 0.0565 | 4.69E-21 | CHAD | 17:48553916 |
| CSGALNACT1 | 8:19315034 | 0.206 | 0.0186 | 1.65E-28 | CHMP1B | 18:11882 |
| CSGALNACT2 | 10:43640013 | -0.206 | 0.0176 | 1.21E-31 | CHP1 | 15:40526383 |
| CSR2P | 12:77437382 | -0.197 | 0.0264 | 8.51E-14 | CHP1 | 15:40531147 |
| CTAGE8 | 7:143952243 | -0.0321 | 0.00493 | 7.46E-11 | CHRNA5 | 15:78843051 |
| CTD-2162K18 | 19:37263878 | -0.158 | 0.0186 | 1.99E-17 | CHRN1 | 17:80989217 |
| CTD-2210P24 | 11:45830198 | -0.252 | 0.0361 | 2.94E-12 | CHRNE | 17:4770443 |
| CTD-2368P22 | 19:58513807 | 0.196 | 0.0208 | 4.38E-21 | CHST12 | 7:152104360 |
| CTDN1P | 17:7145981 | -0.0909 | 0.0135 | 1.66E-11 | CHST12 | 7:152104360 |
| CTF1 | 18:46384073 | -0.229 | 0.029 | 2.87E-15 | CHST12 | 7:152104360 |
| CTNS | 17:3564687 | -0.241 | 0.02 | 1.94E-33 | CHST12 | 7:152104360 |
| CTRB1 | 16:75268120 | -0.0617 | 0.00669 | 2.90E-20 | CHST12 | 7:152104360 |
| CTSH | 15:79263141 | 0.376 | 0.0557 | 1.47E-11 | CIAO1 | 2:96308288 |
| CWH43 | 4:49225999 | -0.247 | 0.019 | 1.22E-38 | CIAO1 | 2:97202490 |
| CYB56 | 17:61518005 | -0.436 | 0.0194 | 7.42E-112 | CLEC5A | 7:142143328 |
| CYPA2 | 6:31919395 | 0.247 | 0.0348 | 1.72E-12 | CNEP1R1 | 16:50241875 |
| CYP24A1 | 20:52789743 | -0.0813 | 0.00887 | 4.92E-20 | CNEP1R1 | 16:49558966 |
| CYP2D6 | 22:42485671 | 0.479 | 0.0233 | 6.53E-94 | CNOT2 | 12:69986 |
| CYP4B1 | 1:47308949 | -0.152 | 0.0231 | 4.70E-11 | CNOT2 | 12:69986 |
| CYSTM1 | 5:139543379 | -0.155 | 0.0237 | 6.15E-11 | CNR2 | 1:248601069 |
| DBH | 9:136500515 | 0.217 | 0.0157 | 1.89E-43 | CNR2 | 1:235844 |
| DCAKD | 17:43128906 | 0.127 | 0.019 | 2.32E-11 | CNR2 | 1:248601069 |
| DCBLD2 | 3:98515161 | -0.098 | 0.0124 | 2.72E-15 | CNTF | 11:58450609 |
| 3.60E-27 | 3.04E-100 | 2.02E-29 | 1.30E-14 | 9.03E-12 | 2.07E-11 | 3.45E-26 | 8.74E-19 | 1.74E-10 | 11:32753984 | 22:25056085 | 0.0369 | 6.67E-14 | 1.40E-10 | 2.15E-12 | 11:119083378 | 11:169533346 | 6.07E-12 | 11:179732402 | 1.10E-20 | 1.77E-12 | 3.19987539 | 3.150292771 | 16:28414341 | 11:32753984 | 9.03E-12 |
| 3.04E-100 | 2.90E-29 | 1.10E-20 | 1.14E-12 | 6.19E-25 | 1.02E-19 | 2.12E-18 | 8.21E-10 | 2.90E-29 | 11:32753984 | 11:32753984 | 9.03E-12 | 0.212 | 8.67E-24 | 8.42E-18 | 1:109083378 | 1:169533346 | 6.19E-25 | 1:7179732402 | 1.07E-19 | 1.14E-12 | 17:48462239 | 16:28414341 | 16:32753984 | 11:32753984 | 9.03E-12 |
| 2.02E-29 | 1.10E-20 | 0.81E-10 | 0.98E-12 | 0.66E-21 | 0.62E-19 | 0.61E-19 | 0.90E-10 | 0.81E-10 | 11:32753984 | 11:32753984 | 9.03E-12 | 0.135 | 3.96E-19 | 0.012 | 11:179083378 | 11:169533346 | 0.66E-21 | 1:7179732402 | 1.23E-19 | 1.14E-12 | 17:48462239 | 16:28414341 | 16:32753984 | 11:32753984 | 9.03E-12 |
| Gene  | Start       | End         | Chr | Type | Expression | Fold Change | p-Value  |
|-------|-------------|-------------|-----|------|------------|-------------|----------|
| FLT3  | 13:28598262 | 13:28598262 | 13  | 2   | 0.313      | 7.63E-57    | DSCC1    |
| FMO2  | 1:171167157 | 1:171167157 | 1    | 0   | -0.0976    | 7.31E-17    | DSG3     |
| FOPNL | 16:15963922 | 16:15963922 | 16  | 2   | -0.0936    | 6.02E-13    | DSG3     |

... (Continued)
| Gene   | Start | End   | KO    | p     | KO     |
|--------|-------|-------|-------|-------|--------|
| GGNBP2 | 17:34905455 | 0.0929 | 0.0129 | 5.95E-13 | EXOSC10 | 1:121113600 |
| GGTLC3 | 22:20378593 | -0.171 | 0.0223 | 1.74E-14 | EXOSC6  | 16:70563271 |
| GIMAP5 | 7:150437927 | 0.223  | 0.0347 | 3.13E-10 | FABP1   | 2:88449963  |
| GINS1  | 20:25904151 | -2.32  | 0.152  | 1.35E-52 | FABP1   | 2:88438050  |
| GLIPR1L2| 12:75811234 | -0.479 | 0.0164 | 1.57E-187| FAM118A | 22:45728978 |
| GTL8D2 | 12:104549512| 0.221  | 0.0291 | 3.09E-14 | FAM118A | 22:45756081 |
| GMPPB  | 3:49813935 | 0.179  | 0.0229 | 5.43E-15 | FAM134C | 17:41382047 |
| GNA15  | 19:3149990  | -0.318 | 0.0219 | 8.98E-48 | FAM185A | 7:102217297 |
| GNAQ   | 5.43E-15   |       |       |        |         |            |
| GNAQ   | 9:80349435 | 0.0781 | 0.0109 | 7.77E-13 | FAM185A | 7:102217297 |
| GNB3   | 12:6949026 | -0.313 | 0.0261 | 3.90E-33 | FAM186A | 12:51788748 |
| GOL3   | 3:52626443 | -0.095 | 0.0106 | 3.18E-19 | FAM186A | 12:50290056 |
| GLY    | 2:85922860 | -0.463 | 0.037  | 6.30E-36 | FAM193A | 4:3597137   |
| GNMNT  | 6:42928758 | -0.505 | 0.0173 | 2.54E-187| FAM193A | 4:3597137    |
| GOLGA4 | 3:37440726 | 0.123  | 0.0169 | 3.39E-13 | FAM193A | 4:3597137    |
| GOLGA6L10| 15:82736362| 0.164  | 0.0194 | 2.82E-17 | FAM193A | 4:3597137    |
| GOLGA6L19| 15:83003791| 0.221  | 0.0248 | 5.04E-19 | FAM193A | 4:3597137    |
| GOLGA6L20| 15:82581264| 0.224  | 0.0185 | 9.57E-34 | FAM20B  | 1:179982938 |
| GOLGA6L6| 15:20058655| -0.109 | 0.0168 | 8.69E-11 | FAM20B  | 1:179861829 |
| GOLGA6L9| 15:83410535| 0.428  | 0.0256 | 9.57E-63 | FAM21B  | 10:47917284 |
| GP6    | 19:55500273| -0.168 | 0.0187 | 2.61E-19 | FAM21B  | 10:47917284 |
| GLOGA8 | 15:30782439| 0.0775 | 0.00652| 1.39E-32 | FAM21B  | 10:47917284 |
| GPA33  | 1:167035924| -0.0423| 0.00572| 1.41E-13 | FAM230A | 22:21584355 |
| GPR115 | 6:47632111 | 0.019  | 0.0028 | 1.16E-11 | FAM27C  | 9:45367737  |
| GPR161 | 1:168090767| -0.11  | 0.0121 | 9.82E-20 | FAM27C  | 9:45367737  |
| GPR35  | 2:241561088| -0.217 | 0.0216 | 9.54E-24 | FAM27D1 | 9:46457567  |
| GPR55  | 2:231795391| -0.286 | 0.0185 | 6.51E-54 | FAM27E1 | 9:47175594  |
| GPX1   | 3:49317727 | -0.171 | 0.018  | 2.10E-21 | FAM27E1 | 9:47058326  |
| GREN1  | 2:11751261 | -0.172 | 0.0215 | 1.24E-15 | FAM27E2 | 9:44973508  |
| GREM2  | 1:240699814| -0.18  | 0.0248 | 3.93E-13 | FAM27E3 | 9:68400922  |
| GRID2P | 7:6585477  | 0.141  | 0.0155 | 9.31E-20 | FAM27E3 | 9:68400922  |
| GRK7   | 3:141549404| 0.0421 | 0.00572| 1.84E-13 | FAM27E3 | 9:68400922  |
| GSIP   | 14:96836973| -0.186 | 0.0269 | 4.70E-12 | FAM27E3 | 9:68400922  |
| GSR    | 8:30536581 | -0.0873| 0.0128 | 9.08E-12 | FAM27E3 | 9:68400922  |
| Gene    | Expression | p-value   | Fold Change | Gene    | Expression | p-value   | Fold Change |
|---------|------------|-----------|-------------|---------|------------|-----------|-------------|
| HNRNPC1 | 1:13182567 | 0.186     | 0.00822     | GAB4    | 22:17384102 |
| HOMER2  | 15:83503678| -0.183    | 0.0253      | 4.72E-13|             |           |             |
| HP      | 16:72108093| 1.20       | 0.0404      | 7.03E-19|             |           |             |
| HPR     | 16:72108093| 1.30       | 0.0512      | 3.20E-14|             |           |             |
| INPP1   | 9:35906471 | -0.334    | 0.0447      | 7.90E-14| GALNT5     | 2:157816254|             |
| H52ST1  | 1:87521319 | 0.149     | 0.023       | 9.28E-11| GBP5       | 1:90218376|             |
| GAB4    | 8.63E-11   | 0.197     | 0.021       | 6.54E-21| GFAP       | 17:42003548|             |
| INPP5E  | 18:77748255| -0.244    | 0.0242      | 6.59E-24| GFER       | 16:29086987|             |
| HSD17B12| 11:43877934| -0.207    | 0.0254      | 3.65E-16| GFER       | 16:16602943|             |
| HSD17B13| 4:88231392 | 0.22      | 0.0154      | 2.69E-46| GGT6       | 17:41466888|             |
| HSD17B6 | 12:57219622| 0.35      | 0.0542      | 1.06E-10| GINS1      | 20:26109209|             |
| HSD3B1  | 1:120688329| -0.0742   | 0.00704     | 5.66E-26| GINS1      | 20:26109209|             |
| HSPB7   | 1:16360316 | -0.161    | 0.0237      | 1.10E-11| GINS1      | 20:26109209|             |
| HTATIP2 | 11:20385606| 0.142     | 0.0148      | 8.42E-22| GINS1      | 20:26109209|             |
| HYAL3   | 3:50332697 | -0.206    | 0.0202      | 2.02E-24| GINS1      | 20:26109209|             |
| HYI     | 1:43911162 | -0.126    | 0.0194      | 8.31E-11| GJA8       | 1:146471769|             |
| IBSP    | 4:88732692 | 0.0427    | 0.00445     | 8.35E-22| GJA8       | 1:148346958|             |
| IDUA    | 4:190653610| 2.39      | 0.368       | 8.33E-11| GJA8       | 1:148346958|             |
| IFI27   | 14:94582130| -0.268    | 0.0373      | 6.72E-13| GLB1L3     | 11:134855811|           |
| IFI27L1 | 14:94568638| 0.157     | 0.0222      | 1.53E-12| GLIPR1L2   | 12:75802773|             |
| IFI27L2 | 14:94595989| -0.164    | 0.0247      | 3.14E-11| GLIPR1L2   | 12:75845789|             |
| IFI5    | 10:91142586| -0.129    | 0.015       | 7.97E-18| GLIPR1L2   | 12:75853939|             |
| IFNL3   | 19:39037400| 0.936     | 0.0965      | 3.03E-22| GLT6D1     | 9:13861065|             |
| IFT122  | 3:129240437| -0.176    | 0.0254      | 4.23E-12| GLT6D1     | 9:13907613|             |
| IFT46   | 11:18453483| -0.147    | 0.02        | 1.98E-13| GLYAT      | 11:5794626|             |
| IGFR1   | 19:36254702| -0.297    | 0.0455      | 6.69E-11| GNA11      | 19:23912867|             |
| IL1RB   | 21:34640788| 0.247     | 0.0219      | 1.68E-29| GNA15      | 19:3149990|             |
| IL1R1   | 2:10291798 | -0.323    | 0.02        | 1.14E-58| GNMT       | 6:42928758|             |
| IL1R1L  | 2:10295179 | -1.07     | 0.0732      | 2.17E-48| GNMT       | 6:42928758|             |
| IL2    | 16:28620120| 0.101     | 0.0143      | 1.63E-12| GNPAT      | 1:232068442|             |
| IL32    | 16:3106003 | -0.578    | 0.0854      | 1.30E-11| GOLGA6L9   | 15:83410535|             |
| IL4     | 5:132424046| 0.0133    | 0.00192     | 4.30E-12| GP2        | 16:20180187|             |
| INO80D  | 2:206970519| 0.156     | 0.0107      | 3.80E-48| GP5        | 3:193749905|             |
| INPP1   | 2:191231503| 0.162     | 0.0153      | 3.38E-26| GP5        | 3:193749905|             |
| INPP5E  | 9:139322503| -0.126    | 0.0133      | 2.70E-21| GPR19      | 12:118275451|            |
| IPMK    | 10:60006922| -0.0782   | 0.0111      | 1.85E-12| GPR55      | 2:231798099|             |
| IPP     | 1:46222493 | -0.141    | 0.0179      | 3.35E-15| GPR87      | 3:1502342|             |
| IQCB1   | 3:121480038| 0.266     | 0.0214      | 1.80E-35| GPRIN2     | 10:4734320|             |
| IQCG    | 3:197635749| 0.144     | 0.0154      | 8.71E-21| GPRIN2     | 10:4734320|             |
| IQTC    | 1:439129118| 0.208     | 0.0221      | 1.98E-35| GPRIN2     | 10:4734320|             |
| Gene       | Fold Change | p-value  | FDR    | p-value  | FDR    |
|------------|-------------|----------|--------|----------|--------|
| KRT31      | 1.73        | 0.268    | 0.0266 | 7.11E-24 | HPR    | 16:72108093 |
| KRT80      | 12.52      | 0.0384   | 0.00326| 5.00E-32 | HPR    | 16:72108093 |
| KRT81      | 12.52      | 0.0924   | 0.0107 | 5.85E-18 | HS2ST1 | 1:87761387 |
| KRT83      | 12.52      | 0.238    | 0.0192 | 2.75E-35 | HSD3B1 | 1:120695304 |
| KRTAP5-7   | 11.71      | -0.133   | 0.0204 | 7.05E-11 | HSD3B1 | 1:120692572 |
| KRTAP5-9   | 11.71      | 0.174    | 0.0207 | 4.25E-17 | HSD3B1 | 1:120688329 |
| L3HYPDH    | 14.59      | -0.225   | 0.0177 | 5.08E-37 | HSD3B1 | 1:120688329 |
| L3MBTL2    | 22        | 0.0845   | 0.0117 | 5.11E-13 | IBSP   | 4:88718619 |
| L3MBTL3    | 6.13037446 | -0.101   | 0.0154 | 5.44E-11 | ID2    | 2:87644591 |
| LACTB      | 15.63      | 0.0785   | 0.0118 | 2.88E-11 | ID2    | 2:90446736 |
| LAMC2      | 1.183      | 0.0428   | 0.00358| 6.09E-33 | ID2    | 2:91850402 |
| LARS2      | 3.455      | 0.144    | 0.0172 | 5.66E-17 | IDO1   | 8:40533909 |
| LAYN       | 11.11141580 | -0.166   | 0.0257 | 1.05E-10 | IDUA   | 4:190653610 |
| LCN1       | 9.138415201 | 0.407    | 0.0174 | 5.30E-121 | IFNA7  | 9:2150504 |
| LCN15      | 9.139663458 | -0.565   | 0.0344 | 1.28E-60 | IFNAR1 | 21:34370749 |
| LCN8       | 9.139652080 | -0.126   | 0.0146 | 6.13E-18 | IFNL3  | 19:39037400 |
| LCN9       | 9.138551902 | 0.078    | 0.0113 | 5.10E-12 | IFNL3  | 19:39037400 |
| LDHAL6A    | 11.18461054 | -0.0825  | 0.00719| 1.78E-30 | IFNL3  | 19:39037400 |
| LDHC       | 11.18417583 | 0.445    | 0.0116 | <1.0E-314| IFNL3  | 19:39037400 |
| LEFTY1     | 1.226099895 | -0.229   | 0.0291 | 3.56E-15 | IFNL3  | 19:39037400 |
| LENG9      | 19.54951059 | -0.8811  | 0.0135 | 6.76E-11 | IFNLR1 | 1:248601609 |
| LGR6       | 1.202185979 | -0.0988  | 0.0121 | 3.21E-16 | IL11   | 19:55325816 |
| LHFPL5     | 6.35787417  | -0.13    | 0.0164 | 2.25E-15 | IL17REL| 22:49594239 |
| LIG3       | 17.33356907 | -0.117   | 0.0109 | 7.05E-27 | IL17REL| 22:49594239 |
| LILRB1     | 19.55125147 | -0.236   | 0.0344 | 6.86E-12 | IL1R1  | 2:102953067 |
| LIMD1      | 3.45700125  | -0.132   | 0.0177 | 8.81E-14 | IL1A   | 2:114152801 |
| LIX1L      | 1.145194076 | -2.37    | 0.336  | 1.74E-12 | IL1LR1 | 2:102930147 |
| LNPEP      | 5.96223833  | -0.0742  | 0.0102 | 3.48E-13 | IL1RN  | 2:114152801 |
| LOH12CR1   | 12.12619047 | -0.207   | 0.026  | 1.70E-15 | IL20   | 1:206698786 |
| LONP1      | 19.5691987 | -0.201   | 0.0178 | 1.44E-29 | IL20   | 1:206698786 |
| LPIN1      | 2.11937158  | 0.233    | 0.0165 | 2.81E-45 | IL20   | 1:207907085 |
| LPIN2      | 18.2944556  | -0.0887  | 0.0136 | 6.93E-11 | IL37   | 2:114343879 |
| LRCH3      | 3.197609400 | 0.146    | 0.0212 | 5.71E-12 | IL37   | 2:114343879 |
| LRP2BP     | 4.186310213 | -0.248   | 0.0334 | 1.13E-13 | IL4    | 5:132654801 |
| LRPAP1     | 4.3505162   | 0.186    | 0.0194 | 9.01E-22 | IL4    | 5:132424046 |
| LRRC2      | 3.46596094  | -0.241   | 0.0236 | 1.75E-24 | INADL  | 1:633277 |
| LRRC27     | 10.134146084 | 0.243   | 0.0231 | 7.03E-26 | INHBE  | 12:57901422 |
| LRRC37A2   | 17.44314261 | 1.21     | 0.0375 | 2.05E-228| INMT   | 7:29918301 |
| LRRC37A3   | 17.62909742 | 0.321    | 0.0296 | 2.12E-27 | INS    | 11:123253755 |
| Gene       | Score   | Score 1 | Score 2 | Score 3 | Score 4 | Score 5 | Score 6 | Score 7 | Score 8 | Score 9 | Score 10 | Score 11 | Score 12 | Score 13 | Score 14 | Score 15 | Score 16 | Score 17 |
|------------|---------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| LRRCC5     | 4.07E-13| 11:56473109 | -2.86 | 0.279 | 1.17E-24 | IQCF6    | 3:51286778 |
| LRRCC61    | 2.89E-11| 7:150037660 | 0.244 | 0.0236 | 4.69E-25 | IREB2    | 15:79257278 |
| LRRCC1     | 1.94E-10| 8:86055093  | 0.128 | 0.0182 | 2.02E-12 | IRG1     | 13:76567705 |
| LRRHIQ3    | 3.66E-11| 1:74663709  | -0.0919 | 0.00745 | 5.83E-35 | IRX1     | 5:29451631 |
| LSG1       | 1.20E-16| 3:194369579 | 0.299 | 0.0137 | 1.35E-105| IRX1     | 5:29451631 |
| LURAP1L    | 3.11E-28| 9:12744670 | 0.19 | 0.0163 | 2.13E-31 | IRX1     | 5:29451631 |
| LYN       | 2.12E-11| 3:158403318 | 0.142 | 0.0216 | 4.90E-11 | IRX2     | 5:29451631 |
| LY6D       | 4.10E-10| 8:143877091 | -0.397 | 0.0244 | 1.60E-59 | IRX2     | 5:29451631 |
| LY6G6C     | 1.64E-25| 6:31741659 | 0.0775 | 0.00866 | 3.58E-19 | IRX2     | 5:29451631 |
| LYNK       | 4.07E-12| 8:143792357 | 0.159 | 0.0207 | 1.58E-14 | ISG15    | 1:142618462 |
| LYPD1      | 2.40E-22| 2:133346781 | 0.34 | 0.0417 | 3.54E-16 | ISG15    | 1:144599782 |
| LYPD8      | 1.09E-18| 1:248818466 | -0.47 | 0.058 | 4.64E-16 | ISG15    | 1:144599782 |
| LYM2       | 1.42E-13| 6:90342049 | 0.164 | 0.0147 | 6.66E-29 | ITGB2    | 21:46328099 |
| MAEL       | 5.77E-16| 1:16695312 | -0.225 | 0.0184 | 2.20E-34 | ITGB3BP  | 1:63851551 |
| MANB2      | 1.31E-16| 9.34E-11 | 4.6611238 | -0.115 | 0.0126 | 7.04E-20 | ITGB3BP  | 1:63941202 |
| MAP1L3A    | 1.08E-11| 20:33136296 | -0.228 | 0.0261 | 2.42E-18 | IYD      | 6:151694262 |
| MAPK12     | 7.61E-25| 22:50695270 | -0.248 | 0.0195 | 4.70E-37 | IYD      | 6:151694265 |
| MAPI      | 7.32E-12| 17:43666385 | -0.134 | 0.0199 | 1.65E-11 | JPH2     | 20:41861625 |
| MB         | 3.82E-28| 22:36001569 | 0.0928 | 0.0124 | 7.22E-14 | KATNL1   | 15:3409057 |
| MCFD2      | 1.97E-13| 2.4713695 | -0.179 | 0.0139 | 6.01E-38 | KCNA7    | 19:49129486 |
| MCM8       | 3.01E-11| 20:5961458 | -0.126 | 0.0145 | 3.64E-18 | KCNK6    | 19:39490797 |
| MCOLN2     | 4.19E-13| 1:85474400 | 0.097 | 0.01 | 3.01E-22 | KCTD13   | 16:29961344 |
| MCHP1      | 9.12E-11| 8:6302154 | 0.12 | 0.0182 | 4.30E-11 | KCTD7    | 7:6526147 |
| MDH1B      | 1.18E-14| 2:207645464 | 0.145 | 0.0167 | 3.87E-18 | KIAA0232 | 4:6761192 |
| MEFV       | 4.74E-13| 16:33941694 | -1.6 | 0.122 | 2.71E-39 | KIAA0232 | 4:77694232 |
| MEI1       | 2.92E-12| 22:42193741 | 0.258 | 0.0295 | 2.22E-18 | KIAA1143 | 3:44126376 |
| METTL18    | 8.74E-12| 1:169758564 | -0.284 | 0.0236 | 2.36E-33 | KIAA1143 | 3:44126376 |
| METTL21B   | 1.77E-12| 12:58188696 | 0.146 | 0.0158 | 2.45E-20 | KIAA1586 | 6:57408345 |
| MGC10955   | 1.68E-16| 2:74347525 | 0.436 | 0.016 | 1.66E-163 | KIAA1586 | 6:57447737 |
| MGG1       | 1.45E-20| 3:127394280 | 0.114 | 0.0153 | 9.26E-14 | KIAA1875 | 8:145164518 |
| MGMT       | 4.74E-17| 10:131265545 | -0.498 | 0.0381 | 4.83E-39 | KIAA1875 | 8:145175529 |
| MGRN1      | 4.51E-21| 16:4737383 | 0.0969 | 0.0142 | 8.86E-12 | KIAA2013 | 1:121113600 |
| MICB       | 3.87E-10| 6:31474000 | 0.116 | 0.0167 | 3.76E-12 | KIAA2013 | 1:121113600 |
| MIIP       | 4.65E-13| 1:12113600 | -3.75 | 0.403 | 1.34E-20 | KIAA2013 | 1:121113600 |
| MLANA      | 1.46E-19| 9:68457329 | -0.176 | 0.00742 | 2.26E-124 | KIAA2013 | 1:121113600 |
| MLH3       | 2.72E-10| 14:75463848 | -0.152 | 0.0152 | 1.52E-23 | KIAA2013 | 1:121113600 |
| MLK4       | 1.72E-10| 1:233529472 | 0.327 | 0.0163 | 1.61E-89 | KIDINS220 | 2:90446736 |
| Gene | Start | End  | Log2 Fold Change | P-value | q-value | Symbol | Start Chromosome | End Chromosome | Name | Start Chromosome | End Chromosome | Name | Start Chromosome | End Chromosome |
|------|-------|------|------------------|---------|---------|---------|-----------------|---------------|------|-----------------|---------------|------|-----------------|---------------|
| MZT2A | 2:132235137 | -0.434 | 0.0366 | 1.96E-32 | LCN1 | 9:138415201 |
| N6AMT1 | 21:30207782 | -0.164 | 0.015 | 7.99E-28 | LCN1 | 9:138415201 |
| NAGS | 17:42088389 | -0.32 | 0.0295 | 2.05E-27 | LDHAL6A | 11:18417583 |
| NAIP | 5:70429598 | 0.483 | 0.0392 | 6.95E-35 | LDHC | 11:18432033 |
| NAPRT1 | 8:14467682 | 0.838 | 0.0349 | 2.11E-12 | LDHC | 11:18421237 |
| NARS2 | 11:78282632 | 0.17 | 0.0201 | 2.73E-17 | LDHC | 11:18432033 |
| NBPF12 | 1:146391234 | -0.423 | 0.0375 | 1.65E-29 | LEPROT1 | 8:2958662 |
| NBPF16 | 1:148531065 | 0.304 | 0.0284 | 9.72E-27 | LGALS9B | 17:21200341 |
| NCBP2 | 3:196574607 | -0.0884 | 0.0117 | 4.17E-14 | LGALS9B | 17:21326832 |
| NCKIPSD | 3:48744484 | 0.176 | 0.0211 | 7.35E-17 | LIAS | 4:4019330 |
| NDUF4A1 | 15:41626148 | -0.183 | 0.0126 | 8.56E-48 | LIAS | 4:4019330 |
| NFKBIB | 19:39398416 | 0.125 | 0.0159 | 3.79E-15 | LILRA3 | 19:5407203 |
| NHLH2 | 1:116372092 | -0.108 | 0.014 | 1.22E-14 | LIX1L | 1:145194076 |
| NIN1 | 9:95882901 | -0.174 | 0.0261 | 2.62E-11 | LIX1L | 1:145194076 |
| NIPSAP3A | 9:107519449 | -0.153 | 0.0197 | 8.07E-15 | LIX1L | 1:145194076 |
| NKAIN1 | 1:31678626 | 0.345 | 0.02 | 1.12E-66 | LIX1L | 1:145194076 |
| NKAIN4 | 20:61881911 | 0.577 | 0.0664 | 3.63E-18 | LIX1L | 1:145194076 |
| NLGN2 | 17:7322440 | -0.106 | 0.0137 | 1.02E-14 | LIX1L | 1:145194076 |
| NLRP2 | 19:55474210 | 0.495 | 0.0303 | 5.42E-60 | LOXHD1 | 18:4491075 |
| NME5 | 5:137546642 | -0.363 | 0.0509 | 9.92E-13 | LRRC37A2 | 17:43678071 |
| NME9 | 3:138033181 | 0.138 | 0.0184 | 6.38E-14 | LRRC37A2 | 17:4366385 |
| NMRK1 | 9:77707300 | -0.399 | 0.0153 | 6.41E-150 | LRRC37A2 | 17:43687268 |
| NMUR1 | 2:232379712 | -0.0286 | 0.00428 | 2.35E-11 | LRRC47 | 1:39284122 |
| NMUR2 | 5:151841898 | -0.0815 | 0.0105 | 8.37E-15 | LRRC55 | 11:56473109 |
| NOB1 | 16:69782855 | 0.0783 | 0.0114 | 6.49E-12 | LRRC55 | 11:56473109 |
| NODAL | 10:72155879 | 0.0901 | 0.0108 | 7.27E-17 | LRRC55 | 11:56473109 |
| N0M02 | 16:18433187 | -0.27 | 0.0409 | 4.07E-11 | LRRC55 | 11:56473109 |
| NOP10 | 15:34632686 | -0.295 | 0.0312 | 3.23E-21 | LRRC55 | 11:56473109 |
| NOP14 | 4:3597137 | -2.4 | 0.189 | 6.03E-37 | LRRN4CL | 11:62226112 |
| NOS1 | 12:117902158 | -0.0949 | 0.0137 | 4.30E-12 | LSG1 | 3:194369579 |
| NOTCH4 | 6:32178773 | -0.127 | 0.0193 | 4.69E-11 | LSG1 | 3:194369579 |
| NOXRED1 | 14:77863091 | -0.0425 | 0.00553 | 1.53E-14 | MAP1L3C3 | 1:242657380 |
| NPHP3 | 3:132438099 | -0.372 | 0.0284 | 3.35E-39 | MBNL2 | 13:97373613 |
| NPIPA1 | 16:15129940 | -0.189 | 0.0267 | 1.46E-12 | MDM4 | 1:204094781 |
| NPIPA2 | 16:1520753 | 0.836 | 0.0412 | 1.54E-91 | MEVF | 16:3391563 |
| NPIPA5 | 16:15045766 | 1.06 | 0.0714 | 7.39E-50 | MEVF | 16:33941694 |
| NPIPA8 | 16:18441762 | 1.09 | 0.0735 | 9.38E-50 | MEVF | 16:33941694 |
| NPIPB6 | 16:28708127 | 0.132 | 0.0184 | 7.29E-13 | MEVF | 16:33941694 |
| NPIPB7 | 16:28495752 | -0.375 | 0.0255 | 5.91E-49 | MEVF | 16:33941694 |
| Gene   | Chromosome | Location | Log2 Fold Change | P-value | Function             | Location  |
|--------|------------|----------|------------------|---------|----------------------|-----------|
| NPIPB9 | 16         | 28823755 | -0.19            | 0.0277  | 6.92E-12            | MESDC1    |
| NPM1   | 5          | 170808238| -0.179           | 0.0113  | 1.63E-56            | MG10955   |
| NPSR1  | 7          | 34718523 | 0.0295           | 0.00386 | 2.13E-14            | MG10955   |
| NPY2R  | 4          | 156084560| 0.342            | 0.0178  | 2.85E-82            | MICALCL   |
| NRBF2  | 10         | 64914518 | -0.177           | 0.0175  | 4.77E-24            | MICALCL   |
| NRG4   | 15         | 76308132 | 0.435            | 0.0256  | 9.38E-65            | MIF       |
| NSA2   | 5          | 74155991 | 0.0295           | 0.00386 | 2.13E-56            | MIIP      |
| NSUN2  | 5          | 6618323   | 0.109            | 0.0162  | 1.72E-11            | MIIP      |
| NSUN6  | 10         | 18939070 | 0.109            | 0.0162  | 1.72E-11            | MIIP      |
| NUP107 | 12         | 69077497 | -0.12            | 0.0183  | 5.48E-11            | MIIP      |
| NUP210L| 1           | 153666248| 0.115            | 0.00897 | 1.26E-37            | MIIP      |
| NUP85  | 17         | 73192415 | -0.201           | 0.0176  | 3.31E-30            | MKRN1     |
| NUP2L2 | 7          | 23224367 | -0.163           | 0.0148  | 3.29E-28            | MKRN1     |
| NUP1L  | 7           | 56104688 | 0.38             | 0.0342  | 1.11E-28            | MLANA     |
| NUSAP1 | 15         | 41642036 | 0.158            | 0.0146  | 2.71E-27            | MLANA     |
| NWD1   | 19         | 16829435 | -0.315           | 0.0389  | 5.60E-16            | MLANA     |
| OB2A   | 9           | 138436299| -0.106           | 0.0098  | 2.88E-27            | MLANA     |
| OCLN   | 5           | 69783228 | -0.112           | 0.0173  | 9.54E-11            | MLANA     |
| OPA3   | 19         | 46056620 | -0.124           | 0.0152  | 3.41E-16            | MLK4      |
| OPN1SW | 7           | 128479367| 0.146            | 0.0205  | 1.06E-12            | MLK4      |
| OPN4   | 10         | 88381941 | -0.329           | 0.0203  | 4.51E-59            | MMP1      |
| OR10H5 | 19         | 15885942 | 0.0457           | 0.0046  | 2.94E-23            | MMP1      |
| OR11H1 | 22         | 16880695 | -0.0685          | 0.0102  | 1.87E-11            | MMP26     |
| OR1A2  | 17         | 21210337 | -0.129           | 0.0201  | 1.38E-10            | MPDU1     |
| OR1D2  | 17         | 21538565 | -0.0447          | 0.00693 | 1.12E-10            | MPHOSPH6  |
| OR1D5  | 17         | 25335635 | -0.0935          | 0.0108  | 4.83E-18            | MPHOSPH6  |
| OR2L13 | 1           | 248128929| 0.331            | 0.0251  | 1.04E-39            | MPHOSPH6  |
| OR2L2  | 1           | 248128929| 0.0874           | 0.00934 | 8.16E-21            | MPPE1     |
| OR4A47 | 11         | 48388105 | -0.107           | 0.0139  | 1.38E-14            | MRFP1L1   |
| OR51A7 | 11         | 51575314 | -0.07            | 0.0105  | 2.62E-11            | MRGPRX3   |
| OR51B4 | 11         | 48356870 | -0.184           | 0.0212  | 3.98E-18            | MRGPRX3   |
| OR51E2 | 11         | 4755611  | 0.0845           | 0.00543 | 1.33E-54            | MRPL10    |
| OR51I1 | 11         | 48355553 | -0.133           | 0.0183  | 3.65E-13            | MRPL14    |
| OR51I2 | 11         | 61862695 | 0.209            | 0.0183  | 3.29E-30            | MRPL21    |
| OR52B6 | 11         | 56470894 | -0.0606          | 0.00814 | 9.72E-14            | MRPS10    |
| OR52E6 | 11         | 51577359 | -0.0828          | 0.00981 | 3.16E-17            | MRPS33    |
| OR52K2 | 11         | 48350545 | -0.0935          | 0.0141  | 3.33E-11            | MS4A3     |
| OR52N5 | 11         | 48373976 | -0.122           | 0.0163  | 7.17E-14            | MS4A5     |
| OR56A1 | 11         | 56470865 | -0.0834          | 0.011   | 3.41E-14            | MT1B      |
| Gene   | Chromosome | Base Pair | Log2FoldChange | PValue  | Gene Set | Chromosome | Base Pair |
|--------|------------|-----------|----------------|---------|----------|------------|-----------|
| OR5I1  | 11         | 55044296  | -0.0238        | 0.00347 | MTFMT    | 15         | 64345880  |
| OR6B3  | 2          | 24098851  | 0.14           | 0.00756 | MTHFR    | 1          | 211113600 |
| OR6V1  | 7          | 142116439 | -0.124         | 0.00911 | MTHFR    | 1          | 211113600 |
| OR7C1  | 19         | 14932957  | 0.0671         | 0.0101  | MTHFR    | 1          | 211113600 |
| ORC6   | 16         | 46402985  | 0.962          | 0.144   | MTHFR    | 1          | 211113600 |
| OSBPL11| 3          | 125467425 | 0.22           | 0.0336  | MTHFR    | 1          | 211113600 |
| OSBPL5 | 11         | 3109284   | -0.14          | 0.0166  | MTMR12   | 5          | 3127233   |
| OR6V1  | 7          | 142116439 | -0.124         | 0.00911 | MTHFR    | 1          | 211113600 |
| OVG1   | 1          | 119133638 | -0.166         | 0.0237  | MTHFR    | 1          | 211113600 |
| OVOL1  | 11         | 65551648  | 0.0559         | 0.00552 | MTHFR    | 1          | 211113600 |
| OXGR1  | 13         | 97647188  | -0.0948        | 0.0142  | MTHFR    | 1          | 211113600 |
| OXTR   | 3          | 8811646   | 0.22           | 0.0327  | MTRNR2L4 | 16         | 33941694  |
| OPAF1  | 11         | 73622667  | -0.244         | 0.0327  | MTRNR2L4 | 16         | 33941694  |
| PACRG  | 6          | 163037975 | 0.26           | 0.0256  | MTRNR2L4 | 16         | 33941694  |
| PADI4  | 1          | 17673102  | 0.538          | 0.0188  | MTRNR2L4 | 16         | 33941694  |
| PAH    | 12         | 103351826 | 0.177          | 0.0214  | MTRNR2L4 | 16         | 33941694  |
| PAX8   | 2          | 113978650 | -0.277         | 0.016   | MUC4     | 3          | 19541286  |
| PCDHA10| 5          | 140266942 | -0.512         | 0.0381  | MUC4     | 3          | 195670876 |
| PCDHA13| 5          | 140239423 | -0.253         | 0.0151  | MUC4     | 3          | 195344123 |
| PCDHA7 | 5          | 140120733 | -0.0804        | 0.012   | MUC6     | 11         | 13767506  |
| PCDHA9 | 5          | 140229368 | -0.0735        | 0.00735 | MUL1     | 1          | 21790318  |
| PCDHAC1| 5          | 140242479 | 0.102          | 0.0126  | MYBL2    | 20         | 41863339  |
| PCDHB10| 5          | 140522829 | -0.0835        | 0.0121  | MYBPH    | 1          | 203714629 |
| PCDHB12| 5          | 140565046 | -0.0847        | 0.0109  | MYL12B   | 18         | 33443     |
| PCDHB2 | 5          | 140464559 | 0.142          | 0.017   | MYL12B   | 18         | 29937076  |
| PCDHB3 | 5          | 140502343 | 0.0805         | 0.0119  | MYLK3    | 16         | 46464024  |
| PCDHB8 | 5          | 140539727 | 0.127          | 0.012   | NAMPTL   | 10         | 36973081  |
| PCDHGA6| 5          | 140737947 | -0.286         | 0.0429  | NANOG    | 12         | 73094439  |
| PCNX4L4 | 14        | 60477929  | 0.121          | 0.0188  | NANP     | 20         | 25904151  |
| PCSK9  | 1          | 55050666  | -0.0516        | 0.00797 | NANP     | 20         | 25904151  |
| PCD1LG2| 9          | 5509678   | 0.0389         | 0.00516 | NAPRT1   | 8          | 14476862  |
| PDHB   | 3          | 58380465  | 0.0935         | 0.012   | NAPRT1   | 8          | 144683934 |
| PDLIM5 | 4          | 95576397  | 0.172          | 0.024   | NAPRT1   | 8          | 144683934 |
| PDPR   | 16         | 70195967  | 0.573          | 0.0441  | NAPRT1   | 8          | 144683934 |
| PDXDC1 | 16         | 15399294  | 0.106          | 0.0154  | NAPRT1   | 8          | 144683934 |
| PDZK1P1| 1          | 47655816  | 0.159          | 0.0238  | NCF1     | 7          | 73549837  |
| PDZRN4 | 12         | 41832683  | 0.182          | 0.018   | NDUFA8   | 9          | 124891476 |
| Gene Symbol | Chromosome | Location | Value 1 | Value 2 | Value 3 |
|-------------|------------|----------|---------|---------|---------|
| PEBP4       | 8          | 22570783 | -0.297  | 0.0311  | 1.30E-21|
| PEX6        | 6          | 42925683 | 0.238   | 0.0202  | 4.82E-32|
| PGA3        | 11         | 60961842 | -0.099  | 0.0149  | 3.05E-11|
| PHLDA2      | 11         | 2988587  | 0.301   | 0.0354  | 1.85E-17|
| PI4K2B      | 4          | 25159390 | -0.272  | 0.0301  | 1.62E-19|
| PIF1        | 15         | 65136471 | -0.179  | 0.0191  | 7.14E-21|
| PIGH        | 14         | 68066559 | -0.0899 | 0.0112  | 1.00E-15|
| PIGN        | 18         | 59734744 | -0.0853 | 0.0124  | 6.03E-12|
| PIGZ        | 3          | 196675994| 0.15     | 0.0162 | 2.06E-20|
| PISD        | 22         | 32015162 | 0.142   | 0.0216  | 4.90E-11|
| PKMYT1      | 16         | 3057622  | 0.135   | 0.0186  | 3.93E-13|
| PKP1        | 1          | 201208962| -0.117  | 0.0159  | 1.86E-13|
| PLCD1       | 3          | 38053206 | -0.258  | 0.038   | 1.13E-11|
| PLEKHH2     | 2          | 43881850 | 0.176   | 0.0257  | 7.48E-12|
| PLXNA2      | 1          | 208372139| -0.128  | 0.0161  | 1.86E-15|
| PM20D1      | 1          | 205767885| -0.0598 | 0.00447 | 8.12E-41|
| PMF1-BGLAP  | 1          | 156307593| -0.257  | 0.0386  | 2.78E-11|
| POLE3       | 9          | 116210763| -0.177  | 0.0229  | 1.08E-14|
| POLM        | 7          | 44111189 | 0.196   | 0.0267  | 2.12E-13|
| POLR1B      | 2          | 113005424| 0.16    | 0.0162  | 5.26E-23|
| POLR1D      | 13         | 28196033 | 0.176   | 0.0216  | 3.70E-16|
| POLR1E      | 9          | 37489064 | -0.109  | 0.0146  | 8.28E-14|
| POLR2C      | 16         | 57439588 | 0.0899  | 0.0128  | 2.16E-12|
| POLR2J      | 7          | 102114424| 0.453   | 0.0232  | 6.62E-85|
| POM121C     | 7          | 75081418 | 0.116   | 0.0103  | 2.02E-29|
| POM121L2    | 6          | 27454446 | 0.0323  | 0.00444 | 3.47E-13|
| POMC        | 2          | 25384456 | 0.987   | 0.0584  | 4.45E-64|
| POMGNT2     | 3          | 43111239 | 0.109   | 0.0164  | 3.00E-11|
| POP5        | 12         | 120912240| 0.119   | 0.0162  | 2.05E-13|
| POTEC       | 18         | 14535287 | 0.00901 | 0.00129 | 2.86E-12|
| POTEM       | 14         | 19011416 | -0.099  | 0.0134  | 1.49E-13|
| PPA2        | 4          | 106286947| 0.249   | 0.016   | 1.31E-54|
| PPFIA1      | 11         | 70156584 | -0.0977 | 0.0147  | 3.01E-11|
| PPL3        | 2          | 201754063| -0.283  | 0.0184  | 2.21E-53|
| PPM1M       | 3          | 52341215 | -0.165  | 0.0189  | 2.54E-18|
| PPM1N       | 19         | 46006212 | -0.164  | 0.02    | 2.40E-16|
| PPP2R1B     | 11         | 111648809| -0.199  | 0.0216  | 3.17E-20|
| PPP2R3C     | 14         | 35625068 | -0.133  | 0.0183  | 3.65E-13|
| PPP3CC      | 8          | 22337996 | -0.11   | 0.0105  | 1.11E-25|
| Gene   | Chromosome | Start Position | Log2 Fold Change | P value                  | Enriched Gene | Start Position |
|--------|------------|----------------|------------------|--------------------------|---------------|----------------|
| PPP4C  | 16         | 30092048       | -0.0881          | 8.52E-12                 | NUP210L       | 153666248      |
| PRAMEF12 | 1        | 121363032      | -0.0219          | 5.49E-11                 | NXPE1         | 114003674      |
| PRAMEF26 | 1       | 12908500       | -0.0308          | 4.10E-18                 | NXPE1         | 114003674      |
| PRAMEF6  | 12       | 121141536      | -0.0466          | 8.39E-16                 | OARD1         | 405873         |
| PRB2    | 12        | 111592075      | 0.258            | 2.42E-21                 | OAT           | 126677160      |
| PRDM15  | 21        | 43296188       | 0.119            | 1.90E-12                 | OCIAD2        | 49566198       |
| PRPH2   | 6         | 42672434       | 0.401            | 4.35E-103                | OCIAD2        | 49209318       |
| PRR23D1 | 8         | 7640939        | 0.0417           | 3.54E-26                 | OPA1          | 193749905      |
| PRR23D2 | 8         | 7640939        | 0.0417           | 3.54E-26                 | OPA1          | 193749905      |
| PRSS1   | 7         | 142461921      | -0.182           | 4.81E-27                 | OR10A6        | 7835477        |
| PRSS33  | 16        | 33941694       | -0.528           | 2.14E-25                 | OR11H1        | 16880695       |
| PRSS36  | 16        | 31154146       | -0.0998          | 9.14E-11                 | OR11H1        | 16880695       |
| PSCA    | 8         | 143773166      | 0.185            | 8.88E-25                 | OR11H1        | 16934964       |
| PSOR5C1 | 6         | 31117075       | 0.213            | 3.50E-18                 | OR11H1        | 16892695       |
| PTGR1   | 9         | 114357659      | -0.192           | 1.52E-23                 | OR1A1         | 22249643       |
| PTPN20A | 10        | 46590033       | -0.358           | 2.18E-66                 | OR1D2         | 22260458       |
| PTPN20B | 10        | 48984205       | -0.159           | 6.27E-13                 | OR1D5         | 25335635       |
| PTRRCAP | 11        | 67205978       | -0.303           | 4.73E-33                 | OR1D5         | 25335635       |
| PTPRN2  | 7         | 158380436      | -0.18            | 1.12E-12                 | OR1D5         | 25335635       |
| QRSL1   | 6         | 107077502      | -0.127           | 5.91E-37                 | OR1D5         | 25335635       |
| QSOX2   | 9         | 139098514      | -0.145           | 7.77E-14                 | OR1D5         | 25335635       |
| RAB17   | 2         | 238491258      | 0.189            | 5.00E-16                 | OR2B2         | 27954826       |
| RAB27A  | 15        | 55608051       | 0.246            | 3.16E-20                 | OR2J2         | 2970312        |
| RAB6C   | 2         | 130694072      | 0.145            | 1.35E-42                 | OR2J2         | 2970312        |
| RABEP1  | 17        | 5290703       | -0.0732          | 2.22E-13                 | OR2J2         | 2970312        |
| RAC1    | 7         | 61821560       | 2.61             | 5.20E-19                 | OR2T2         | 248907328      |
| RAD51C  | 17        | 56526096      | -0.156           | 1.02E-17                 | OR2T27        | 248814415      |
| RAD9A   | 11        | 66899619       | 0.337            | 8.72E-17                 | OR2T29        | 249205928      |
| RADIL   | 7         | 4809336        | 0.343            | 2.35E-15                 | OR2T5         | 249205928      |
| RANBP6  | 9         | 68400922       | 1.52             | 1.35E-17                 | OR3A1         | 22246520       |
| RARRES1 | 3         | 158450417      | 0.139            | 3.13E-23                 | OR3A1         | 22246520       |
| RARS    | 5         | 168021502      | -0.0826          | 1.52E-10                 | OR4A47        | 48388105       |
| RASGRP3 | 2         | 33754336       | 0.371            | 8.41E-19                 | OR4A47        | 48388105       |
| RAX2    | 19        | 27878681       | 1.07             | 2.82E-21                 | OR4A47        | 48388105       |
| RBBP8NL | 20        | 60992402       | 0.209            | 7.12E-46                 | OR4A47        | 48388105       |
| RBL2    | 16        | 53523947       | -0.201           | 2.51E-23                 | OR4A47        | 48388105       |
| RBPMS2  | 15        | 64828504       | 0.423            | 2.32E-29                 | OR4F15        | 102507456      |
| RCBTB1  | 13        | 50101073       | -0.126           | 3.26E-13                 | OR4F15        | 102506525      |
| RCHY1   | 4         | 76408064       | 0.205            | 1.09E-30                 | OR4F4         | 102506525      |
| Symbol | Chromosome | BasePair | FoldChange | pValue  | Symbol | Chromosome | BasePair | FoldChange | pValue  |
|--------|------------|----------|------------|---------|--------|------------|----------|------------|---------|
| RECK   | 9:36070025 | 0.0779   | 8.49E-11   | OR4X2   | 11:48354957 |
| RESP18 | 2:220191861| -0.573   | 2.25E-139  | OR51A7  | 11:48351005 |
| REV3L  | 6:111593029| -0.127   | 1.63E-16   | OR51A7  | 11:51575314 |
| RFPL3  | 22:32582654| 0.0807   | 3.85E-38   | OR51A7  | 11:51575314 |
| RFPL3S | 22:32786217| -0.196   | 6.91E-23   | OR51A7  | 11:51575314 |
| RFWD3  | 16:74548007| -0.108   | 2.00E-15   | OR51B4  | 11:48356870 |
| RGD8   | 2:113114004| -0.195   | 4.47E-16   | OR51B4  | 11:48356870 |
| RGR    | 10:86004238| 0.709    | 5.79E-39   | OR51B4  | 11:48356870 |
| RGPD8  | 5:176798040| -0.31    | 4.32E-30   | OR51B4  | 11:48356870 |
| RHOD   | 11:66824261| -0.415   | 7.29E-24   | OR51B4  | 11:48356870 |
| RIBC2  | 16:74548007| -0.108   | 2.00E-15   | OR51B4  | 11:48356870 |
| RIL2   | 16:11439303| -0.404   | 1.36E-65   | OR51I1  | 11:48355553 |
| RIC3   | 11:8129023 | -0.17    | 2.19E-11   | OR51I1  | 11:48355553 |
| RIIAD1 | 1:151699416| -0.301   | 2.78E-15   | OR51I1  | 11:48355553 |
| RIMS2  | 8:105262561| 0.167    | 8.28E-24   | OR51I1  | 11:48355553 |
| RLPB1  | 15:89763535| 0.241    | 1.21E-13   | OR51I1  | 11:48355553 |
| RMDN1  | 8:105262561| 0.263    | 1.12E-37   | OR51I2  | 11:61862695 |
| RNF149 | 2:101922360| 0.14     | 2.56E-12   | OR51I2  | 11:61862695 |
| RNF166 | 16:88797926| 0.189    | 9.63E-11   | OR51I2  | 11:61862695 |
| RNF186 | 16:88797926| 0.189    | 9.63E-11   | OR51I2  | 11:61862695 |
| RNASEL | 1:182567440| 0.0975   | 1.33E-15   | OR51I2  | 11:61862695 |
| RNF149 | 2:101922360| 0.14     | 2.56E-12   | OR51I2  | 11:61862695 |
| RNF166 | 16:88797926| 0.189    | 9.63E-11   | OR51I2  | 11:61862695 |
| RNF186 | 16:88797926| 0.189    | 9.63E-11   | OR51I2  | 11:61862695 |
| RNASEL | 1:182567440| 0.0975   | 1.33E-15   | OR51I2  | 11:61862695 |
| RP11-1026M7.2 | 5:177218594 | 0.747 | 1.23E-188 | OR52B6 | 11:56468554 |
| RP11-16682.1 | 16:12070422 | -0.198 | 3.72E-12 | OR52B6 | 11:56472983 |
| RP11-176H8.1 | 14:31910733 | 0.227 | 2.12E-14 | OR52D1 | 11:48340727 |
| RP11-195B21.3 | 5:177218594 | 0.747 | 1.23E-188 | OR52B6 | 11:56470716 |
| RP11-29813.5 | 14:23371964 | -0.28 | 9.58E-12 | OR52D1 | 11:60813114 |
| RP11-345J4.5 | 16:30321064 | -0.348 | 4.43E-45 | OR52D1 | 11:60813114 |
| RP11-45M22.4 | 17:17151664 | 0.157 | 1.04E-10 | OR52E6 | 11:51577359 |
| RP11-507M3.1 | 2:24401315 | -0.0635 | 7.49E-22 | OR52E6 | 11:51577359 |
| RP11-514P8.6 | 7:102314422 | 0.258 | 1.23E-21 | OR52E6 | 11:51577359 |
| RP11-514P8.6 | 7:102314422 | 0.258 | 1.23E-21 | OR52E6 | 11:51577359 |
| RP11-644F5.10 | 12:56115585 | -0.211 | 2.26E-35 | OR52E6 | 11:51577359 |
| RP11-712L6.5 | 11:126163124 | 0.18 | 1.62E-13 | OR52E6 | 11:51577359 |
| RP11-826N14.2 | 5:175446487 | -0.312 | 1.25E-29 | OR52K2 | 11:48385372 |
| RP1-66C13.4 | 17:26206414 | -0.0634 | 1.08E-11 | OR52K2 | 11:48385372 |
| Gene      | Chromosome | mRNA Score | P value | Fold Change | Accession | Chromosome | Score | P value | Fold Change |
|-----------|------------|------------|---------|-------------|-----------|------------|-------|---------|-------------|
| RP9       | 7          | 3.2953216  | 0.177   | 2.07E-15    | OR52K2    | 11        | 48350545 |
| RPA2      | 1          | 2.8241083  | 0.458   | 2.58E-59    | OR52N5    | 11        | 56470579 |
| RPL11     | 1          | 1.248601069 | 0.757   | 1.50E-12    | OR52N5    | 11        | 48373976 |
| RPL12     | 9          | 1.30221698  | 0.137   | 5.57E-13    | OR52N5    | 11        | 48373976 |
| RPL22L1   | 3          | 1.170578271 | -0.197  | 5.35E-13    | OR52N5    | 11        | 48373976 |
| RPL36AL   | 14         | 1.50095335  | 0.145   | 1.69E-14    | OR52N5    | 11        | 48388105 |
| RPL9      | 4          | 4.39446549  | -2.16   | <1.0E-314   | OR56A1    | 11        | 56470865 |
| RPP21     | 6          | 6.30230518  | -0.338  | 3.49E-17    | OR56A1    | 11        | 56470865 |
| RPRD2     | 1          | 1.150374447 | 0.239   | 6.30E-46    | OR56A1    | 11        | 56470865 |
| RPS27L    | 15         | 1.63441057  | -0.415  | 9.37E-29    | OR56A1    | 11        | 56470865 |
| RPS9      | 19         | 1.54709377  | -0.131  | 4.17E-12    | OR56A1    | 11        | 56470865 |
| RRP1B     | 21         | 2.45112939  | -0.0731 | 1.37E-13    | OR52N5    | 11        | 48373976 |
| RRP7A     | 22         | 2.42942809  | 0.311   | 2.90E-32    | OR51      | 11        | 55044296 |
| RSPH10B2  | 7          | 7.61821630  | -1.91   | 8.15E-22    | OR51      | 11        | 55044296 |
| RSPO4     | 20         | 20.1000072  | -0.199  | 5.44E-24    | OR52N5    | 11        | 48373976 |
| RTN4      | 2          | 2.55204028  | -0.187  | 8.77E-35    | OR51      | 11        | 55044296 |
| RWDD2B    | 21         | 2.30378191  | -0.426  | 8.95E-98    | OR51      | 11        | 55044296 |
| RWDD3     | 1          | 1.95674384  | -0.235  | 1.07E-10    | OR6V1     | 7         | 142116439|
| RXRB      | 6          | 6.33088084  | -0.106  | 1.08E-11    | OR6V1     | 7         | 142116439|
| S100A7    | 1          | 1.153430249 | -0.171  | 1.81E-15    | OR6V1     | 7         | 142116439|
| SAAL1     | 11         | 1.18101078  | -0.131  | 9.83E-14    | OR6V1     | 7         | 142116439|
| SAT2      | 17         | 1.7525548   | 0.175   | 4.71E-24    | OR6V1     | 7         | 142116439|
| SCGB3A1   | 5          | 5.179997625 | 0.372   | 1.12E-38    | OR7A10    | 19        | 15128250 |
| SCIMP     | 17         | 1.5126207  | -0.102  | 2.17E-13    | OR8D1     | 11        | 123784212|
| SCLY      | 2          | 2.238990388 | -0.0904 | 1.84E-14    | OR8D1     | 11        | 123784212|
| SCN11A    | 3          | 3.39073029  | 0.0537  | 1.49E-12    | ORC6      | 16        | 46402985 |
| SCN7A     | 2          | 2.167331064 | -0.049  | 1.49E-11    | ORC6      | 16        | 46465847 |
| SEC14L4   | 22         | 2.30879710  | -0.0749 | 9.82E-12    | ORC6      | 16        | 46402985 |
| SELL      | 1          | 1.169637078 | -0.19   | 5.92E-14    | P2RX3     | 11        | 56474191 |
| SELM      | 22         | 2.31476288  | -0.213  | 1.09E-10    | P2RX5-TAX1BP3 | 17 | 14382047 |
| SEMA5B    | 3          | 3.122642724 | -0.203  | 1.27E-13    | P2RX5-TAX1BP3 | 17 | 28843496 |
| SENP2     | 3          | 3.185349425 | -0.0699 | 1.43E-10    | PADI4     | 17        | 17673102 |
| SEPT1     | 16         | 1.30376959  | -0.189  | 1.02E-19    | PADI4     | 17        | 17673102 |
| SEPT12    | 16         | 1.4846533  | 0.47    | 2.30E-100   | PADI4     | 17        | 17673102 |
| SEPT15    | 1          | 1.87368095  | 0.0993  | 1.49E-10    | PADI4     | 17        | 17673102 |
| SERF1B    | 5          | 5.69298177  | 0.352   | 5.04E-19    | PAOX      | 10        | 135464144|
| SERPINC1  | 1          | 1.173893805 | 0.0863  | 1.52E-18    | PCNA      | 20        | 55294708 |
| SETD4     | 21         | 2.37366582  | -0.0956 | 1.20E-11    | PDZK1IP1  | 1        | 47392596 |
| SGCA      | 17         | 1.48243736  | -0.316  | 9.40E-82    | PDZK1IP1  | 1        | 47419215 |
| Gene   | Chromosome | Position | Log2FoldChange | pValue | Adjusted pValue |
|--------|------------|----------|----------------|--------|-----------------|
| SGK2   | 20:42197892| 0.464    | 7.50E-22       | 0.048  | 1.145247557     |
| SGTB   | 5:64910392 | -0.178   | 1.33E-12       | 0.0251 | 1.145194076     |
| SH2B2  | 7:101928495| -0.288   | 1.40E-29       | 0.0255 | 17:80989217     |
| SH3BGR | 21:40842460| 0.142    | 5.45E-12       | 0.0206 | 12:133838700    |
| SHC3   | 9:91628082 | 0.294    | 3.96E-44       | 0.0211 | 22:42445693     |
| SHISA3 | 4:2412405 | 0.162    | 4.75E-13       | 0.0224 | 20:4391341      |
| SHISA4 | 1:20180575 | -0.184   | 5.81E-27       | 0.0171 | 13:73979274     |
| SHPK   | 17:3509158 | 0.358    | 5.14E-12       | 0.0267 | 5.45E-23        |
| SITD1  | 3:113321199| 0.282    | 1.33E-12       | 0.0326 | 3:197315059     |
| SIGLEC1| 20:2958932 | -1.49    | 8.01E-16       | 0.185  | 3:197315059     |
| SLC1A3 | 20:45191364| -0.239   | 5.14E-18       | 0.0255 | 5:10909104      |
| SLC18A1| 8:20033107 | 0.0195   | 8.03E-11       | 0.003  | 1:206698786     |
| SLC1A7 | 5:64900889 | 0.836    | 7.03E-57       | 0.0526 | 1:206698786     |
| SLC22A18| 11:2940492| -0.744   | 8.30E-44       | 0.0536 | 1:207907085     |
| SLC22A18A5| 11:2924850| -0.267   | 1.52E-23       | 0.0267 | 2:133047399     |
| SLC22A3 | 6:160850273| 0.113    | 6.16E-24       | 0.0112 | 2:133047399     |
| SLC25A1 | 22:1906499| -0.273   | 1.14E-43       | 0.0197 | 10:115115136    |
| SLC25A2 | 5:140681648| 0.0668   | 2.41E-28       | 0.00605| 10:118840388    |
| SLC25A24| 1:108740149| -0.121   | 7.13E-17       | 0.0145 | 2:67891593      |
| SLC25A34| 1:16058698| -0.272   | 2.86E-32       | 0.023  | 6:43729267      |
| SLC25A51| 9:37880134| 0.196    | 6.72E-21       | 0.0209 | 7:102114424     |
| SLC26A8 | 6:35976778| -0.173   | 6.55E-15       | 0.0222 | 7:102102164     |
| SLC27A6| 5:128302850| -0.0466  | 1.46E-10       | 0.00727| 2:25384456      |
| SLC2A14| 12:8082367| 0.0948   | 4.53E-36       | 0.00756| 18:15403165     |
| SLC35A1| 6:88181046| -0.209   | 2.70E-26       | 0.0197 | 22:16880695     |
| SLC35G5| 8:11188532| -0.152   | 3.85E-19       | 0.017  | 14:19011416     |
| SLC37A3 | 7:140034294| -0.089   | 1.08E-12       | 0.0125 | 14:19011416     |
| SLC38A8| 16:84074978| -0.556   | 3.01E-74       | 0.0305 | 14:19011416     |
| SLC39A10| 2:196703028| -0.203   | 6.08E-16       | 0.0251 | 14:19011416     |
| SLC39A2| 14:21466781| -0.0808  | 2.82E-42       | 0.00593| 14:19011416     |
| SLC44A3| 1:95302957| -0.327   | 8.69E-11       | 0.0504 | 4:106288220     |
| SLC5A4 | 22:32747715| 0.238    | 1.52E-43       | 0.0172 | 4:106286465     |
| SLC5A7 | 2:108603628| -0.0708  | 7.65E-14       | 0.00947| 4:106288220     |
| SLC7A9 | 19:33366829| -0.316   | 1.72E-34       | 0.0258 | 4:106286947     |
| SLC04C1| 5:101625154| -0.0413  | 6.34E-12       | 0.00601| 7:45392654      |
| SLFN5 | 17:33544766| 0.0898   | 5.68E-22       | 0.00932| 7:95467086      |
| SLN  | 11:107593050| -0.267   | 4.88E-15       | 0.0341 | 1:121363032     |
| SLX1B | 16:30166626| -0.448   | 1.42E-28       | 0.0404 | 1:12908500      |
| SLX4 | 16:33941694| -2.29    | 9.56E-22       | 0.239  | 1:12908500      |
SMAD9  13:37489555   0.169   0.0254   2.86E-11   PRAMEF26   1:12919505
SMARC1B  22:24164598  -0.153   0.0195   4.29E-15   PRAMEF26   1:12919505
SMC1B   22:45833924  -0.0189   0.00217   3.05E-18   PRAMEF6   1:12919505
SMC2    9:106856910  -0.171   0.0141   7.54E-34   PRH1    12:118819493
SMC3B   16:4845532   -0.143   0.0137   1.66E-25   PRM1    16:10613536
SMOC2   6:169016615   0.22    0.028    3.93E-15   PROL1   4:7132371
SNED1   2:241979264   0.182   0.0273   2.62E-11   PRPF18  10:135446144
SNUPN   15:75750425   -0.201   0.0188   1.12E-26   PRSS1   7:142461921
SNX17   2:27648590    0.13    0.0119   8.82E-28   PRSS1   7:142461921
SNX19   11:130786592   -0.201   0.0188   1.12E-26   PRSS1   7:142461921
SNX31   8:101676363    0.238   0.0103   3.96E-118  PRSS33  16:33941694
SNX32   11:65595697    0.33    0.0351   5.37E-21   PRSS1   7:142461921
SNX8    7:142116439    -2.21   0.254    3.30E-18   PRSS1   7:142461921
SOHLH2  13:36799495    0.238   0.0103   3.96E-118  PRSS33  16:33941694
SPAG11B 8:8018749     0.0224   0.00332  1.51E-11   PRSS33  16:33941694
SPAG7   17:4914028    0.189    0.0295   1.49E-10   PRSS33  16:33941694
SPATA3  16:89710378    -0.149   0.0153   2.06E-22   PRSS33  16:33941694
SPATA5L 15:45652926   0.115    0.0179   1.32E-10   PRSS33  16:33941694
SPATA7  14:88862529    -0.237   0.0213   9.30E-29   PRSS58  7:142113650
SPATC1L 21:48028060   -0.734    0.0507   1.69E-47   PRSS58  7:142113650
SPECC1  17:20311541    0.126    0.0115   6.18E-47   PSMB2   1:3577254
SPEF2   5:35682606     0.178    0.0147   9.48E-34   PSMB7   9:12739598
SPG21   15:65315211    -0.099    0.0111   2.26E-19   PSMC2   7:102217297
SPINK2  4:57692773     0.326    0.0402   5.08E-16   PSPH    7:57093614
SPINK9  5:147733045    0.136    0.0191   1.08E-12   PTX3    3:156184172
SPPL3   12:121198299   -0.0941   0.00897 9.55E-26   PUM2    2:215147863
SPRY1   4:124325753    -0.159    0.0215   1.41E-13   PURB    7:45392654
SPRYD4  12:56863770    0.155    0.0147   5.40E-26   PURB    7:45392654
SPSB2   12:6987335     0.466    0.0208   3.61E-111  QTRTD1  3:113652214
SSR1    6:7292674    -0.0962   0.0121   1.86E-15   RAB28   4:138803729
ST20    15:80206511    -0.179    0.0218   2.19E-16   RAB28   4:138803729
ST6GALNAC2 17:74574103  0.095    0.0145   5.69E-11   RAB28   4:138803729
STEAP1B 7:22542138    0.18     0.0269   2.21E-11   RAB33B  4:139948061
STMN4   8:27103024    -0.182    0.0269   1.33E-11   RAB33B  4:139948061
STON1   2:48812387     0.102    0.0121   3.46E-17   RAC1    7:61821560
STRA13  17:79980756    0.184    0.0135   2.67E-42   RAC1    7:61821560
STRA6   15:74493886    0.102    0.0106   6.42E-22   RAC1    7:61821560
STRC    15:43995789    0.209    0.0285   2.24E-13   RAC1    7:61821560
STX16-NPEPL1 20:57263778  0.238    0.032   1.03E-13   RAC1    7:61821560
| Gene Symbol | Chromosome | Start Position | End Position | Log2 Fold Change | Log10 P-Value | Gene Symbol | Chromosome | Start Position | End Position | Log2 Fold Change | Log10 P-Value |
|-------------|------------|----------------|--------------|-----------------|---------------|-------------|------------|----------------|--------------|-----------------|---------------|
| STX18       | 4:4435741  | 1.18E-10       | RALY         | 20:31877204     |               | STX6       | 1:180950126 | 7.98E-14       | RANBP6       | 9:68400922     |               |
| STXB6       | 14:25414148| -0.124         | RANBP6       | 9:68400922      |               | STYKL1     | 7:75677216  | 7.58E-15       | RANBP6       | 9:68400922     |               |
| SULT1A1     | 16:28262741| -0.208         | RANBP6       | 9:68400922      |               | SULT1C2    | 2:108913012 | 9.90E-15       | RANBP6       | 9:68400922     |               |
| SUMF1       | 3:4403537  | 2.58E-49       | RANBP9       | 6:145394013     |               | SUPT3H     | 6:44774597  | 7.69E-26       | RAX          | 18:573269      |               |
| SUPT4H1     | 17:56447952| 1.19E-10       | RAX2         | 19:27851743     |               | SUPRTP     | 9:136268084 | 1.93E-73       | RAX2         | 19:27851743     |               |
| SURF1       | 9:136196161| 3.83E-16       | RAX2         | 19:27851743     |               | SURF6      | 9:136196161| 3.83E-16       | RAX2         | 19:27851743     |               |
| SUSD1       | 9:114927849| 5.77E-14       | RAX2         | 19:27851743     |               | SUSD2      | 2:24435954  | 1.52E-23       | RAX2         | 19:27851743     |               |
| SUMF1       | 6:44774597 | 1.59E-24       | RBBP8NL      | 20:60996368     |               | TACR3      | 4:104847521| 4.50E-12       | REG4         | 1:121128139     |               |
| TAF1A       | 1:222731523| 8.50E-13       | RELB         | 19:45670248     |               | TAF1C      | 16:84213965| 4.25E-44       | RESP18       | 2:220184857     |               |
| TAP2        | 6:32796480 | 1.05E-23       | RESP18       | 2:220184857     |               | TAP2       | 6:32796480 | 1.05E-23       | RESP18       | 2:220184857     |               |
| TBC1D24     | 16:33941694| 3.97E-13       | RMI2         | 16:11439303     |               | TBC1D26    | 17:15618623 | 2.96E-25       | RMI2         | 16:11439303     |               |
| TBC1D3      | 17:36412149| 6.18E-23       | RMND1        | 6:151694262     |               | TBC1D3C    | 17:34732888 | 5.44E-45       | RNASE12      | 14:21981216     |               |
| TBC1D3F     | 17:36350337| 1.68E-18       | RNASE12      | 14:21981216     |               | TBC1D3H    | 17:34732888 | 8.15E-34       | RNF125       | 18:29789212     |               |
| TBC1D9B     | 5:179334857| 1.52E-23       | RNF186       | 1:206514654     |               | TBX5       | 12:114699538| 2.77E-11       | RNF186       | 1:206514654     |               |
| TBX6        | 16:30078492| 2.22E-12       | RNF186       | 1:206514654     |               | TC2N       | 4:192286857 | 2.81E-48       | RNF39        | 6:29864630      |               |
| TCEA3       | 1:23751140 | 8.41E-37       | RNF4         | 4:3597137       |               | TCEB2      | 16:2821988 | 1.97E-50       | RNF4         | 4:3597137       |               |
| TCF19       | 6:31223601 | 7.97E-18       | RNF4         | 4:3597137       |               | TCFL5      | 20:61500478 | 5.94E-12       | RNF4         | 4:3597137       |               |
| TDGF1       | 3:46619238 | 1.30E-59       | RNF4         | 4:3597137       |               | TDO2       | 4:156752651| 4.25E-13       | RNF6         | 13:26551751     |               |
| TDRD5       | 1:179560718| 5.05E-48       | RP11-1026M7.2| 5:177221743     |               | TDR5       | 1:179560718| 5.05E-48       | RP11-1026M7.2| 5:177221743     |               |
| Gene   | X coord | Y coord | Beta  | SE    | p value | Chromosome | Transcript | Location |
|--------|---------|---------|-------|-------|---------|------------|------------|----------|
| TDRD6  | 6:46624656 | -0.145 | 0.0121 | 4.34E-33 | RP11-1026M7.2 | 5:177221743 |
| TECPR1 | 7:97849648  | 0.138  | 0.0181 | 2.45E-14 | RP11-1099M24.7 | 17:78603090 |
| TECTB  | 10:113984760 | 0.0682 | 0.00868 | 3.93E-15 | RP11-1099M24.7 | 17:78603090 |
| TEN1   | 17:74015354  | 0.172  | 0.0232 | 1.23E-13 | RP11-169F17.1 | 18:69918736 |
| TESK2  | 1:45826272   | 0.16   | 0.0197 | 4.59E-16 | RP11-1099M24.7 | 17:78603090 |
| TEX29  | 13:111980150 | 0.526  | 0.0356 | 2.11E-49 | RP11-1099M24.7 | 17:78603090 |
| TEX40  | 11:64048912   | 0.403  | 0.0352 | 2.38E-30 | RP11-1099M24.7 | 17:78603090 |
| TFB1M  | 6:155635637   | -0.111 | 0.0134 | 1.20E-16 | RP11-1099M24.7 | 17:78603090 |
| TGM1   | 14:24734645   | 0.138  | 0.0181 | 2.45E-14 | RP11-1099M24.7 | 17:78603090 |
| TGM3   | 20:2217291    | 0.0403 | 0.00606 | 2.93E-11 | RP11-1099M24.7 | 17:78603090 |
| THEM4  | 1:151920862   | -0.125 | 0.0166 | 5.07E-14 | RP11-1099M24.7 | 17:78603090 |
| THG1L  | 5:157156103   | 0.11   | 0.0123 | 3.78E-19 | RP11-1099M24.7 | 17:78603090 |
| THNSL2 | 2:88469863    | 0.959  | 0.0436 | 3.19E-107 | RP11-1099M24.7 | 17:78603090 |
| THOC3  | 5:175389016   | -0.493 | 0.0353 | 2.51E-44 | RP11-1099M24.7 | 17:78603090 |
| TIPPIN | 11:126151761   | -0.14  | 0.0179 | 5.23E-15 | RP11-1099M24.7 | 17:78603090 |
| TMC2   | 20:25904151   | -1.11  | 0.113  | 8.96E-23 | RP11-1099M24.7 | 17:78603090 |
| TMEM11 | 17:21526192    | 1.63   | 0.22   | 1.27E-13 | RP11-1099M24.7 | 17:78603090 |
| TMEM121| 14:105993258   | -0.144 | 0.0218 | 3.96E-11 | RP11-1099M24.7 | 17:78603090 |
| TMEM126A| 11:85347415   | -0.125 | 0.0189 | 3.75E-11 | RP11-1099M24.7 | 17:78603090 |
| TMEM132E| 17:32887254   | -0.167 | 0.0222 | 5.37E-14 | RP11-1099M24.7 | 17:78603090 |
| TMEM156| 4:39025844    | 0.126  | 0.018  | 2.56E-12 | RP11-1099M24.7 | 17:78603090 |
| TMEM17 | 2:62731754    | -0.148 | 0.0203 | 3.08E-13 | RP11-1099M24.7 | 17:78603090 |
| TMEM171| 5:72412602    | 0.185  | 0.0134 | 2.35E-43 | RP11-1099M24.7 | 17:78603090 |
| TMEM200B| 1:29414108    | -0.148 | 0.0176 | 4.13E-17 | RP11-1099M24.7 | 17:78603090 |
| TMEM213| 7:138029183   | -0.0379 | 0.0056 | 1.31E-11 | RP11-1099M24.7 | 17:78603090 |
| TMEM215| 9:32904965    | 0.125  | 0.00937 | 1.35E-40 | RP11-1099M24.7 | 17:78603090 |
| TMEM236| 10:17812604   | 0.012  | 0.00177 | 1.20E-11 | RP11-1099M24.7 | 17:78603090 |
| TMEM244| 6:130157007   | -0.0829 | 0.00871 | 1.77E-21 | RP11-1099M24.7 | 17:78603090 |
| TMEM245| 9:111772918   | -0.111 | 0.0119 | 1.08E-20 | RP11-1099M24.7 | 17:78603090 |
| TMEM255B| 13:114502416  | 0.199  | 0.023 | 5.05E-18 | RP11-1099M24.7 | 17:78603090 |
| TMOD3  | 15:52189201   | -0.218 | 0.015 | 7.45E-48 | RP11-1099M24.7 | 17:78603090 |
| TMRSS5 | 11:113582504   | 0.628  | 0.0356 | 1.20E-69 | RP11-1099M24.7 | 17:78603090 |
| TMRSS7 | 3:111731195    | -0.0227 | 0.00321 | 1.53E-12 | RP11-1099M24.7 | 17:78603090 |
| TMRSS9 | 19:23936403    | -1.4   | 0.0919 | 2.10E-52 | RP11-1099M24.7 | 17:78603090 |
| TNFRSF10C| 8:22941873  | 0.286  | 0.0228 | 4.30E-36 | RP11-1099M24.7 | 17:78603090 |
| Gene Symbol | Chromosome | Start Position | End Position | Log2 Fold Change | p-value | Benjamini-Hochberg Adjusted p-value |
|--------------|------------|----------------|--------------|-----------------|---------|----------------------------------|
| TNFRSF13C    | 22:42338152| 0.114          | 0.0162       | 1.96E-12        |         | 7.61821630                       |
| TNN          | 1:17506257 | 0.0286         | 0.00288      | 3.07E-23        |         | 7.61821630                       |
| TNNI3        | 19:55681833| 0.391          | 0.0335       | 1.78E-31        |         | 7.61821630                       |
| TNPO3        | 7:128595149| -0.091         | 0.0131       | 3.74E-12        |         | 7.61821630                       |
| TOM1L1       | 17:53009971| -0.138         | 0.0171       | 7.02E-16        |         | 7.61821630                       |
| TOMM40       | 19:45398264| -0.12          | 0.0169       | 1.24E-12        |         | 7.61821630                       |
| TOMM7        | 7:22861038 | -0.167         | 0.0164       | 1.49E-17        |         | 7.61821630                       |
| TOP3B        | 22:22290670| -0.226         | 0.0265       | 7.06E-11        |         | 7.61821630                       |
| TP53T3G3     | 16:33395983| -0.118         | 0.0181       | 3.96E-24        |         | 7.61821630                       |
| TP53T3G3D    | 16:32411542| -0.179         | 0.0248       | 5.29E-13        |         | 7.61821630                       |
| TPT2         | 13:19947076| 0.0812         | 0.00915      | 7.04E-19        |         | 7.61821630                       |
| TRAM2        | 6:52245945 | -0.0707        | 0.0105       | 1.66E-11        |         | 7.61821630                       |
| TRAPP4C      | 11:118893878| 0.163        | 0.0148       | 3.29E-28        |         | 7.61821630                       |
| TREL4        | 6:41196104 | -0.0206        | 0.0022       | 7.70E-21        |         | 7.61821630                       |
| TREX1        | 3:48508585 | -0.313         | 0.0263       | 1.7E-32         |         | 7.61821630                       |
| TRIM35       | 8:27167942 | -0.0818        | 0.0124       | 4.20E-11        |         | 7.61821630                       |
| TRIM43       | 2:96603973 | -0.0589        | 0.00775      | 2.96E-14        |         | 7.61821630                       |
| TRIM49B      | 11:48363026| -0.139         | 0.0114       | 3.39E-34        |         | 7.61821630                       |
| TRIM58       | 1:248011866| 0.138          | 0.0171       | 7.02E-16        |         | 7.61821630                       |
| TRIM63       | 1:26580790 | 0.124          | 0.0129       | 7.09E-22        |         | 7.61821630                       |
| TRIM69       | 15:45021766| -0.213         | 0.0286       | 9.51E-14        |         | 7.61821630                       |
| TRIML1       | 4:189058364| 0.0477         | 0.00381      | 5.83E-36        |         | 7.61821630                       |
| TRIMT5       | 14:61579863| -0.0593        | 0.00905      | 5.66E-11        |         | 7.61821630                       |
| TRPM1        | 15:31394868| -0.127         | 0.00879      | 2.57E-47        |         | 7.61821630                       |
| TRPV2        | 17:16318932| -0.446         | 0.0283       | 5.89E-56        |         | 7.61821630                       |
| TRPV3        | 17:3447317 | 0.125          | 0.018        | 3.80E-12        |         | 7.61821630                       |
| TSPAN11      | 12:31049763| 0.518          | 0.0328       | 3.49E-56        |         | 7.61821630                       |
| TSTD1        | 1:161008535| 0.255          | 0.0367       | 3.70E-12        |         | 7.61821630                       |
| TTC21B       | 2:166714095| -0.154         | 0.0168       | 4.88E-20        |         | 7.61821630                       |
| TTC32        | 2:20090677 | 0.433          | 0.0383       | 1.23E-29        |         | 7.61821630                       |
| TTC5         | 14:20767618| -0.228         | 0.0163       | 1.85E-44        |         | 7.61821630                       |
| TT11         | 20:36628578| -0.0755        | 0.0114       | 3.52E-11        |         | 7.61821630                       |
| TTL6         | 17:47045862| 0.123          | 0.0164       | 6.38E-14        |         | 7.61821630                       |
| TUBA3D       | 2:132234986| -0.255         | 0.0345       | 1.45E-13        |         | 7.61821630                       |
| TVP23C       | 17:15406661| -0.239         | 0.0259       | 2.76E-20        |         | 7.61821630                       |
| TYW5         | 2:200850402| 0.0691         | 0.00986      | 2.42E-12        |         | 7.61821630                       |
| UBA1D2       | 17:74273165| -0.24          | 0.0228       | 6.53E-26        |         | 7.61821630                       |
| UBE2R2       | 9:33914412 | -0.123         | 0.0149       | 1.52E-16        |         | 7.61821630                       |
| UBOX5        | 20:25904151| -1.02          | 0.145        | 2.00E-12        |         | 7.61821630                       |
| Gene       | Chromosome | Position       | Expression Value | Standardized Difference | P-Value       | Description     | Entrez ID   |
|------------|------------|----------------|------------------|-------------------------|---------------|-----------------|-------------|
| UBQLN3     | 11         | 48346090       | -0.104           | 0.015                   | 4.11E-12      | SI              | 3:16435640  |
| UFS2P2     | 4          | 186347055      | 0.136            | 0.014                   | 5.14E-22      | SI              | 3:163950899 |
| UGT2B17    | 4          | 69534622       | 0.0299           | 0.00338                 | 9.06E-19      | SI              | 3:16435640  |
| UGT2B4     | 4          | 70249082       | -0.096           | 0.0135                  | 1.15E-12      | SIGLEC1         | 20:29439122 |
| UHRF1BP1   | 6          | 34745703       | 0.0867           | 0.00843                 | 8.26E-25      | SIGLEC1         | 20:29612969 |
| ULBP2      | 7          | 76124685       | 0.289            | 0.0161                  | 4.77E-72      | SLC15A5         | 12:16903899 |
| UPK1A      | 19         | 36177001       | 0.127            | 0.012                   | 8.64E-26      | SLC1A1          | 9:44898183  |
| UPK3B      | 7          | 76124685       | -1.44            | 0.181                   | 1.78E-15      | SLC1A1          | 9:44898183  |
| UPK3BL     | 7          | 102319015      | 0.767            | 0.0731                  | 9.35E-26      | SLC1A1          | 9:44898183  |
| UPR1       | 6          | 149239806      | 0.162            | 0.0197                  | 1.98E-16      | SLC1A1          | 1:53600889  |
| UP315      | 5          | 72862984       | -0.0987          | 0.0152                  | 8.39E-11      | SLC22A10        | 11:62226112 |
| UP318      | 17         | 493401016      | 0.0788           | 0.0114                  | 4.77E-12      | SLC23A2         | 20:51909434 |
| VCPKMT     | 14         | 50540085       | -0.13            | 0.02                    | 8.03E-11      | SLC27A6         | 5:129134418 |
| VILL       | 3          | 38036807       | -0.458           | 0.0304                  | 2.72E-51      | SLC28A2         | 15:46058456 |
| VN1R1      | 19         | 57993074       | -0.274           | 0.0167                  | 1.70E-60      | SLC28A2         | 15:46058456 |
| VPREB3     | 22         | 24102408       | 0.446            | 0.0439                  | 3.01E-24      | SLC30A6         | 2:31540296  |
| VWA5B2     | 3          | 183976694      | -0.22            | 0.032                   | 6.20E-12      | SLC38A8         | 16:84074978 |
| VVDE       | 7          | 12406186       | 0.157            | 0.0118                  | 2.16E-40      | SLX4            | 16:33946194 |
| WARS2      | 11         | 119577837      | -0.0902          | 0.0107                  | 3.46E-17      | SLX4            | 16:33991563 |
| WBP2NL     | 22         | 42402399       | -0.136           | 0.0199                  | 8.25E-12      | SLX4            | 16:33946194 |
| WBCR27     | 7          | 73246461       | -0.537           | 0.0245                  | 1.74E-106     | SLX4            | 16:33946194 |
| WDR27      | 6          | 170073543      | -0.191           | 0.0165                  | 5.47E-31      | SLX4            | 16:33946194 |
| WDR48      | 3          | 39125293       | -0.0778          | 0.012                   | 8.97E-11      | SMARCD3         | 7:15082341  |
| WDR52      | 3          | 113262057      | -0.118           | 0.0168                  | 2.16E-12      | SMIM20          | 4:2524559   |
| WDR60      | 7          | 158676289      | -0.337           | 0.0253                  | 1.77E-40      | SMU1            | 9:33383540  |
| WDR88      | 19         | 33635043       | 0.0898           | 0.0124                  | 4.42E-13      | SNRPD3          | 22:25056098 |
| WDR96      | 10         | 105933138      | 0.116            | 0.0165                  | 2.06E-12      | SNRPD3          | 22:25056128 |
| WDSUB1     | 2          | 160144140      | -0.131           | 0.0203                  | 1.10E-10      | SNRPD3          | 22:25056128 |
| WDYHV1     | 8          | 124446796      | -0.148           | 0.0162                  | 6.49E-20      | SNRPE           | 1:204092502 |
| WFDC3      | 20         | 44402115       | 0.436            | 0.0209                  | 1.20E-96      | SNX24           | 5:122109100 |
| WI2-3308P17| 1           | 120576209      | -0.185           | 0.0114                  | 3.19E-59      | SNX8            | 7:142116439 |
| WIPI1      | 17         | 66441651       | -0.219           | 0.025                   | 1.95E-18      | SNX8            | 7:142116439 |
| WNT3       | 17         | 44908263       | -1.49            | 0.0306                  | <1.0E-314     | SNX8            | 7:142116439 |
| WT1        | 11         | 32502239       | 0.0985           | 0.00832                 | 2.46E-32      | SNX8            | 7:142116439 |
| WWOX       | 16         | 78124987       | -0.133           | 0.0166                  | 1.13E-15      | SNX8            | 7:142116439 |
| Gene   | Chr | Start | End   | Log2 Fold Change | p-value  | Adjusted p-value | GO ID | Description      | Accession | UniProt ID   |
|--------|-----|-------|-------|------------------|----------|------------------|-------|------------------|-----------|--------------|
| ZBED6CL| 7   | 7150033882 | -0.0908 | 0.01 | 1.09E-19 | SPEF2 | 5:35647998 |
| ZDHHC17| 12  | 77230119 | -0.126  | 0.0119 | 3.38E-26 | SPHAR | 1:228842933 |
| ZDHHC4 | 7   | 61821560 | 1.38  | 0.208 | 3.25E-11 | SPIRE2 | 16:90158184 |
| ZFP57  | 6   | 29643877 | 0.103  | 0.00478 | 5.51E-103 | SPIRE2 | 16:90158184 |
| ZFP69  | 1   | 41026035 | -0.135  | 0.0132 | 1.50E-24 | SPIRE2 | 16:90158184 |
| ZFP82  | 19  | 36853523 | -0.129  | 0.0111 | 3.20E-31 | SPRR2F | 1:15375046 |
| ZMAT3  | 3   | 178758174 | -0.293  | 0.0244 | 3.22E-33 | SPSB2 | 12:6987335 |
| ZMYND12| 1   | 42932991 | -0.186  | 0.0269 | 4.70E-12 | SPSB2 | 12:6987981 |
| ZNF12  | 7   | 61821560 | -1.91  | 0.147 | 1.34E-38 | SRCAP | 16:29961344 |
| ZNF148 | 3   | 125076251 | -0.134  | 0.0188 | 1.02E-12 | SRFBP1 | 5:120768765 |
| ZNF155 | 19  | 44488352 | -0.199  | 0.0245 | 4.57E-16 | SRP14 | 15:40446718 |
| ZNF180 | 19  | 44995037 | -0.0965 | 0.0126 | 1.88E-14 | STARD3NL | 7:37881065 |
| ZNF200 | 16  | 33941694 | -2  | 0.17 | 5.93E-32 | STX2 | 12:130689914 |
| ZNF202 | 11  | 123610548 | -0.0801 | 0.0117 | 7.59E-12 | SULT1C2 | 2:108904340 |
| ZNF232 | 17  | 5154016 | -0.331  | 0.0259 | 2.12E-37 | SULT1C2 | 2:108904340 |
| ZNF253 | 19  | 19995472 | -0.169  | 0.0231 | 2.55E-13 | SUMO2 | 17:7264899 |
| ZNF263 | 16  | 33941694 | -2.14  | 0.203 | 5.54E-26 | SURF1 | 9:13621369 |
| ZNF268 | 12  | 13379259 | 0.199  | 0.0176 | 1.21E-29 | SURF1 | 9:136218590 |
| ZNF276 | 16  | 89802965 | 0.119  | 0.0157 | 3.47E-14 | SYNRG | 17:36306936 |
| ZNF286A| 17  | 15594107 | 0.118  | 0.0152 | 8.28E-15 | TADA2A | 17:36306936 |
| ZNF354C| 5   | 178504338 | -0.0714 | 0.0103 | 4.15E-12 | TAF1C | 16:84215314 |
| ZNF391 | 6   | 27353197 | 0.124  | 0.0159 | 6.25E-15 | TAF8 | 6:421206 |
| ZNF404 | 19  | 44371210 | -0.273  | 0.0206 | 4.37E-40 | TAOK2 | 16:29089987 |
| ZNF439 | 19  | 11977572 | -0.124  | 0.0153 | 5.29E-16 | TAS2R41 | 7:142460203 |
| ZNF467 | 7   | 149472112 | -0.323  | 0.0297 | 1.51E-27 | TAS2R41 | 7:142460216 |
| ZNF471 | 19  | 57042178 | -0.117  | 0.017 | 5.89E-12 | TAS2R41 | 7:142460203 |
| ZNF500 | 16  | 46402985 | 1.2  | 0.173 | 4.02E-12 | TAS2R60 | 7:142143328 |
| ZNF501 | 3   | 44883971 | 0.177  | 0.0196 | 1.71E-19 | TAS2R60 | 7:142172531 |
| Gene   | Chromosome | Position | log2FC | p-value | Gene   | Chromosome | Position | log2FC | p-value |
|--------|------------|----------|--------|---------|--------|------------|----------|--------|---------|
| ZNF502 | 3          | 44762830 | 0.2    | 2.77E-36| TAS2R60| 7          | 142172531| 7      | 12304072|
| ZNF514 | 2          | 95901265 | 0.183  | 3.72E-20| TAS2R60| 7          | 142172531| 7      | 12304072|
| ZNF534 | 19         | 52928725 | 0.437  | 6.81E-39| TAS2R60| 7          | 142172531| 7      | 12304072|
| ZNF577 | 19         | 52358593 | -0.366 | 4.59E-61| TBC1D15| 12         | 73304072 | 12     | 07304072|
| ZNF580 | 19         | 56211995 | 0.248  | 2.35E-22| TBC1D20| 20         | 142909   | 20     | 0142909 |
| ZNF593 | 1          | 26497340 | -0.289 | 6.19E-42| TBC1D20| 20         | 10945743 | 20     | 010945743|
| ZNF660 | 3          | 44651120 | -0.121 | 1.89E-14| TBC1D24| 16         | 33941694 | 16     | 33941694 |
| ZNF670 | 1          | 247192182| -0.094 | 7.17E-20| TBC1D24| 16         | 33941694 | 16     | 33941694 |
| ZNF717 | 3          | 75270860 | 1.46   | 4.18E-15| TBC1D24| 16         | 33941694 | 16     | 33941694 |
| ZNF786 | 7          | 148799125| 0.223  | 6.24E-47| TBC1D24| 16         | 33991563 | 16     | 33991563 |
| ZNF787 | 19         | 56606584 | -0.188 | 9.42E-16| TBC1D24| 16         | 33991563 | 16     | 33991563 |
| ZNF839 | 14         | 102902709| -0.15  | 1.76E-18| TBC1D3C| 17         | 34732888 | 17     | 34732888 |
| ZNHIT6 | 1          | 86253805 | -0.090 | 4.70E-15| TBC1D9B| 5          | 179352982| 5      | 179352982|
| ZNRD1  | 6          | 29872510 | 0.289  | 4.74E-16| TCEB2  | 16         | 2821988  | 16     | 2821988  |
| ZP3    | 7          | 76303260 | 1.59   | 3.11E-128| TCL1A  | 14         | 95313195 | 14     | 95313195 |
| ZSCAN31| 6          | 28193786 | 0.374  | 1.47E-38| TCL1A  | 14         | 96355146 | 14     | 96355146 |
| ZSWIM7 | 17         | 15879910 | -0.442 | 1.27E-198| TCN1   | 11         | 60114141 | 11     | 60114141 |
| ZXDC   | 3          | 126179492| 0.146  | 2.45E-20| TFF1   | 21         | 44199048 | 21     | 44199048 |
|        |            |          |        |         | THNSL2 | 2          | 88469863 | 2      | 88469863 |
|        |            |          |        |         | THNSL2 | 2          | 88469863 | 2      | 88469863 |
|        |            |          |        |         | THOC3  | 5          | 175386586| 5      | 175386586|
|        |            |          |        |         | THRAP3 | 1          | 3577254  | 1      | 3577254  |
|        |            |          |        |         | TIMM10 | 11         | 57283988 | 11     | 57283988 |
|        |            |          |        |         | TIMM10B| 11         | 64831013 | 11     | 64831013 |
|        |            |          |        |         | TM4SF4 | 3          | 15004731 | 3      | 15004731 |
|        |            |          |        |         | TMC2   | 20         | 26109209 | 20     | 26109209 |
|        |            |          |        |         | TMC2   | 20         | 26109209 | 20     | 26109209 |
|        |            |          |        |         | TMC2   | 20         | 26109209 | 20     | 26109209 |
|        |            |          |        |         | TMC2   | 20         | 26109209 | 20     | 26109209 |
|        |            |          |        |         | TMC2   | 20         | 26109209 | 20     | 26109209 |
|        |            |          |        |         | TMC2   | 20         | 26109209 | 20     | 26109209 |
|        |            |          |        |         | TMC2   | 20         | 26109209 | 20     | 26109209 |
|        |            |          |        |         | TMC2   | 20         | 26109209 | 20     | 26109209 |
|        |            |          |        |         | TMED4  | 7          | 45392654 | 7      | 45392654 |
|        |            |          |        |         | TMED4  | 7          | 45392654 | 7      | 45392654 |
|        |            |          |        |         | TMEM105| 17         | 78340119 | 17     | 78340119 |
|        |            |          |        |         | TMEM11 | 17         | 21526192 | 17     | 21526192 |
|        |            |          |        |         | TMEM11 | 17         | 21526192 | 17     | 21526192 |
|        |            |          |        |         | TMEM11 | 17         | 21526192 | 17     | 21526192 |
|        |            |          |        |         | TMEM11 | 17         | 21526192 | 17     | 21526192 |
|        |            |          |        |         | TMEM11 | 17         | 21526192 | 17     | 21526192 |
|        |            |          |        |         | TMEM126B| 11        | 85577403 | 11     | 85577403 |
TMEM184C  4:149032159
TMEM184C  4:149003618
TMEM213  7:138029144
TMEM213  7:138029183
TMEM213  7:138029261
TMEM213  7:138029261
TMEM230  20:52788792
TMEM230  20:54638409
TMEM82   1:17007206
TMOD3    15:52252799
TMOD3    15:52252799
TMPRSS15 21:18951008
TMPRSS15 21:18951008
TMPRSS4  11:117368158
TMPRSS5  11:113582504
TMPRSS9  19:23936403
TMPRSS9  19:23936403
TMPRSS9  19:23936403
TMPRSS9  19:23936403
TMPRSS9  19:23936403
TNF      6:32440603
TNFAIP2  14:102639116
TNFAIP6  2:152640075
TNFRSF9  1:89457587
TNIP1    5:149501688
TNIP3    4:12264899
TNN       1:175062557
TNRC18   7:57613015
TNRC18   7:57613015
TOMM6    6:421206
TOMM6    6:412236
TOP2B    3:24995765
TOP2B    3:24995765
TPST2    22:27773148
TREML4   6:40921531
TRIM43   2:96613853
TRIM49B  11:48363026
TRIM49B  11:48363026
TRIM49B  11:48363026
| Gene   | Chromosome | Position   |
|--------|------------|------------|
| TRIM49B| 11         | 1:48379997 |
| TRIM49B| 11         | 1:49817445 |
| TRIM72 | 16         | 1:31203669 |
| TRIM72 | 16         | 1:30943214 |
| TRIML1 | 4          | 1:89065574 |
| TRIML1 | 4          | 1:89058364 |
| TRMT10B| 9          | 3:8568     |
| TRPM1  | 15         | 1:31394868 |
| TRPV2  | 17         | 1:6318932  |
| TSPAN11| 12         | 3:1049763  |
| TSPAN3 | 15         | 3:77310726 |
| TTC26  | 7          | 3:13860493 |
| TUFM   | 16         | 3:29086987 |
| TXNDC15| 5          | 3:13505317 |
| TXNDC15| 5          | 3:13464306 |
| UBD    | 6          | 3:28705553 |
| UBD    | 6          | 3:28894987 |
| UBQLN3 | 11         | 3:48346090 |
| UBQLN3 | 11         | 3:48346090 |
| UBQLN3 | 11         | 3:48346090 |
| UBQLN3 | 11         | 3:48346090 |
| UBQLN3 | 11         | 3:48346090 |
| UBXN2A | 2          | 3:23523901 |
| UBXN2A | 2          | 3:23795096 |
| UGT2B11 | 4         | 3:70246843 |
| UGT2B11 | 4         | 3:70246843 |
| UGT2B11 | 4         | 3:70246843 |
| UGT2B4 | 4          | 3:70249082 |
| UGT2B4 | 4          | 3:70249082 |
| UGT2B4 | 4          | 3:70249082 |
| UGT2B4 | 4          | 3:70249082 |
| UGT2B4 | 4          | 3:70249082 |
| UPK3B  | 7          | 3:76127071 |
| UPK3B  | 7          | 3:76129758 |
| USH2A  | 1          | 3:21691001 |
| USP22  | 17         | 1:21526192 |
| USP22  | 17         | 1:21526192 |
| USP22  | 17         | 1:21526192 |
| USP22  | 17         | 1:21526192 |
| USP22  | 17         | 1:21526192 |
| USP22  | 17         | 1:21526192 |
| Gene    | Chromosome | Start | End   |
|---------|------------|-------|-------|
| USP41   | 22:21483262|       |       |
| UTP11L  | 1:39284122 |       |       |
| VILL    | 3:38038329 |       |       |
| VILL    | 3:38044143 |       |       |
| VMAC    | 19:55325816|       |       |
| VMAC    | 19:55683246|       |       |
| VN1R1   | 19:57999713|       |       |
| VN1R1   | 19:58060538|       |       |
| VPS35   | 16:46402985|       |       |
| VWDE    | 7:12386207 |       |       |
| WDR45B  | 17:80989217|       |       |
| WDR45B  | 17:80989217|       |       |
| WDR60   | 7:158674521|       |       |
| WFDC12  | 20:44056352|       |       |
| WFDC12  | 20:44729409|       |       |
| WFDC3   | 20:44438974|       |       |
| WFDC3   | 20:44413410|       |       |
| WHAMM   | 15:82996209|       |       |
| WI2-3308P17.2| 1:120576209| | |
| WI2-3308P17.2| 1:120576209| | |
| WI2-3308P17.2| 1:120576209| | |
| WI2-3308P17.2| 1:120576209| | |
| WI2-3308P17.2| 1:120576209| | |
| WNT1    | 12:49470128 |       |       |
| WNT3    | 17:44908263 |       |       |
| WNT3    | 17:44908263 |       |       |
| WNT3    | 17:44908263 |       |       |
| XCL2    | 1:16914503  |       |       |
| XKR3    | 22:16854249 |       |       |
| XKR3    | 22:17235076 |       |       |
| XKR3    | 22:17235076 |       |       |
| XKR3    | 22:17235076 |       |       |
| XKR3    | 22:17235076 |       |       |
| XKR9    | 8:7066735   |       |       |
| XRCC2   | 7:152104360 |       |       |
| XRCC2   | 7:152104360 |       |       |
| XRCC2   | 7:152104360 |       |       |
| XRCC2   | 7:152104360 |       |       |
| XRCC2   | 7:152104360 |       |       |
| Gene   | Chromosome | Start Position | End Position |
|--------|------------|----------------|--------------|
| XRCC5  | 2          | 2:217092097    |              |
| XRRA1  | 11         | 11:74618865    |              |
| XRRA1  | 11         | 11:74618865    |              |
| XRRA1  | 11         | 11:74618865    |              |
| YBEY   | 21         | 21:47622981    |              |
| ZC3HAV1L | 7      | 7:139713109    |              |
| ZC3HAV1L | 7      | 7:138899843    |              |
| ZDHHC4 | 7          | 7:61821560     |              |
| ZDHHC4 | 7          | 7:61821560     |              |
| ZDHHC4 | 7          | 7:61821560     |              |
| ZDHHC4 | 7          | 7:61821560     |              |
| ZFAND6 | 15         | 15:81387204    |              |
| ZFP30  | 19         | 19:3861116     |              |
| ZFP57  | 6          | 6:29642978     |              |
| ZFYVE20| 3          | 3:141720388    |              |
| ZMYM4  | 1          | 1:3577254      |              |
| ZNF101 | 19         | 19:19096834    |              |
| ZNF101 | 19         | 19:19714991    |              |
| ZNF12  | 7          | 7:61821560     |              |
| ZNF12  | 7          | 7:61821560     |              |
| ZNF12  | 7          | 7:61821560     |              |
| ZNF12  | 7          | 7:61821560     |              |
| ZNF12  | 7          | 7:61821560     |              |
| ZNF200 | 16         | 16:33941694    |              |
| ZNF200 | 16         | 16:33991563    |              |
| ZNF200 | 16         | 16:33941694    |              |
| ZNF200 | 16         | 16:33941694    |              |
| ZNF200 | 16         | 16:33941694    |              |
| ZNF200 | 16         | 16:33941694    |              |
| ZNF212 | 7          | 7:148086823    |              |
| ZNF253 | 19         | 19:19714991    |              |
| ZNF263 | 16         | 16:33991563    |              |
| ZNF263 | 16         | 16:33941694    |              |
| ZNF263 | 16         | 16:33941694    |              |
| ZNF263 | 16         | 16:33941694    |              |
| ZNF282 | 7          | 7:148086823    |              |
| ZNF282 | 7          | 7:148645341    |              |
| ZNF346 | 5          | 5:177157240    |              |
| ZNF346 | 5          | 5:177239304    |              |
| Gene  | Chromosome | Location         |
|-------|------------|------------------|
| ZNF383| 19:3861116 |                  |
| ZNF492| 19:23818728|                  |
| ZNF492| 19:23649063|                  |
| ZNF500| 16:46402985|                  |
| ZNF500| 16:46402985|                  |
| ZNF500| 16:46402985|                  |
| ZNF527| 19:3861116 |                  |
| ZNF529| 19:36635239|                  |
| ZNF529| 19:36170821|                  |
| ZNF534| 19:52925539|                  |
| ZNF554| 19:24533045|                  |
| ZNF554| 19:27866520|                  |
| ZNF554| 19:27866520|                  |
| ZNF555| 19:24531262|                  |
| ZNF555| 19:36635239|                  |
| ZNF566| 19:36635239|                  |
| ZNF577| 19:52352006|                  |
| ZNF681| 19:24533491|                  |
| ZNF70 | 22:25056098|                  |
| ZNF70 | 22:25056098|                  |
| ZNF70 | 22:25056098|                  |
| ZNF709| 19:119541  |                  |
| ZNF717| 3:75270860 |                  |
| ZNF717| 3:75270860 |                  |
| ZNF717| 3:75270860 |                  |
| ZNF717| 3:75270860 |                  |
| ZNF721| 4:103860868|                  |
| ZNF74 | 22:21522286|                  |
| ZNF74 | 22:21522286|                  |
| ZNF747| 16:29961344|                  |
| ZNF747| 16:30943214|                  |
| ZNF783| 7:148086823|                  |
| ZNF783| 7:148592640|                  |
| ZNF785| 16:29961344|                  |
| ZNF785| 16:31203669|                  |
| ZNF785| 16:31203669|                  |
| ZNF786| 7:148869277|                  |
| ZNF829| 19:36635239|                  |
| Gene   | Chromosome | Location       |
|--------|------------|----------------|
| ZNF829 | 19:36635239|                |
| ZNF843 | 16:32364540|                |
| ZNF843 | 16:31203669|                |
| ZNF850 | 19:36635239|                |
| ZNF850 | 19:36635239|                |
| ZP3    | 7:76060232 |                |
| ZP3    | 7:76060232 |                |
| ZP3    | 7:76060232 |                |
| ZSWIM7 | 17:15879910|                |
| ZSWIM7 | 17:15879344|                |
| ZSWIM7 | 17:15879910|                |
| Cell-type          | Beta  | Std Error | P-value  |
|-------------------|-------|-----------|----------|
| Neurons           | -0.181| 0.0263    | 5.90E-12 |
| Microglia         | -0.473| 0.0694    | 9.39E-12 |
| Endothelial cells | 2.18  | 0.287     | 3.06E-14 |
| Endothelial cells | 1.1   | 0.155     | 1.28E-12 |
| Endothelial cells | -1.1  | 0.163     | 1.49E-11 |
| Microglia         | -0.18 | 0.0258    | 3.02E-12 |
| Microglia         | 0.299 | 0.0353    | 2.45E-17 |
| Microglia         | 0.0372| 0.00393   | 2.92E-21 |
| Endothelial cells | 0.0573| 0.00645   | 6.47E-19 |
| Neurons           | 0.0314| 0.00374   | 4.63E-17 |
| Oligodendroglia   | 0.102 | 0.0124    | 1.94E-16 |
| Endothelial cells | -1.88 | 0.271     | 4.00E-12 |
| Microglia         | -0.0862| 0.01    | 6.70E-18 |
| Oligodendroglia   | 0.294 | 0.0366    | 9.53E-16 |
| Oligodendroglia   | -0.214| 0.00941   | 1.73E-114|
| Astrocytes        | -0.214| 0.00942   | 3.00E-114|
| Microglia         | -0.213| 0.00941   | 1.94E-113|
| Endothelial cells | -0.214| 0.00948   | 7.83E-113|
| Neurons           | -0.213| 0.00945   | 1.70E-112|
| Neurons           | 0.36  | 0.0284    | 8.03E-37 |
| Microglia         | 0.32  | 0.0279    | 1.88E-30 |
| Microglia         | -0.0339| 0.00434  | 5.67E-15 |
| Astrocytes        | 0.0916| 0.0122    | 5.99E-14 |
| Neurons           | -0.0307| 0.0046    | 2.49E-11 |
| Microglia         | -0.168| 0.0239    | 2.08E-12 |
| Endothelial cells | -0.153| 0.0229    | 2.37E-11 |
| Microglia         | -0.401| 0.0123    | 3.89E-233|
| Astrocytes        | -1.91 | 0.0629    | 1.56E-202|
| Endothelial cells | -0.81 | 0.0409    | 2.73E-87 |
| Oligodendroglia   | -1.64 | 0.0854    | 3.44E-82 |
| Neurons           | -0.344| 0.0242    | 7.41E-46 |
| Oligodendroglia   | -7.69 | 0.733     | 9.49E-26 |
| Microglia         | -0.265| 0.0317    | 6.29E-17 |
| Endothelial cells | -1.89 | 0.265     | 9.89E-13 |
| Neurons           | -0.187| 0.0267    | 2.49E-12 |
| Cell Type        | Z-Score | P-Value | Log10(p-value) |
|-----------------|---------|---------|---------------|
| Astrocytes      | 0.542   | 3.20E-29|
| Oligodendroglia | -0.227  | 2.04E-13|
| Neurons         | 0.0595  | 7.14E-12|
| Neurons         | -0.851  | 1.43E-16|
| Endothelial cells| -0.756 | 7.15E-14|
| Neurons         | -2.14   | 1.93E-12|
| Endothelial cells| -3.82  | 1.37E-11|
| Astrocytes      | -0.749  | 1.19E-35|
| Microglia       | -0.202  | 2.11E-17|
| Neurons         | -0.195  | 1.91E-16|
| Endothelial cells| 0.425  | 9.44E-24|
| Neurons         | 0.694   | 1.28E-12|
| Neurons         | -0.595  | 4.56E-12|
| Microglia       | -0.841  | 1.79E-30|
| Neurons         | -0.741  | 1.97E-25|
| Endothelial cells| -0.802 | 2.34E-11|
| Microglia       | 1.05    | 1.38E-17|
| Neurons         | 0.864   | 1.02E-11|
| Endothelial cells| 2.17   | 2.12E-11|
| Endothelial cells| 0.673  | 6.54E-12|
| Neurons         | -0.721  | 9.43E-13|
| Endothelial cells| 1.18   | 7.11E-18|
| Neurons         | -0.662  | 1.89E-12|
| Microglia       | -2.51   | 6.99E-12|
| Endothelial cells| 0.0772 | 1.90E-19|
| Neurons         | -0.101  | 1.68E-13|
| Endothelial cells| 0.23   | 2.73E-12|
| Neurons         | 0.164   | 2.98E-12|
| Endothelial cells| 1.09   | 6.93E-15|
| Neurons         | 0.627   | 4.21E-13|
| Neurons         | -0.206  | 4.90E-13|
| Microglia       | -0.204  | 6.81E-13|
| Astrocytes      | -0.204  | 8.19E-13|
| Oligodendroglia | -0.204  | 8.19E-13|
| Endothelial cells| -0.203 | 1.06E-12|
| Neurons         | -2.34   | 5.58E-21|
| Endothelial cells| -2.82  | 5.86E-17|
| Neurons         | -1.06   | 3.33E-236|
| Microglia       | -0.89   | 2.62E-111|
|                | Value 1 | Value 2 | Value 3   |
|----------------|---------|---------|-----------|
| Oligodendroglia| 0.548   | 0.0612  | 3.42E-19  |
| Microglia      | -0.433  | 0.0589  | 1.96E-13  |
| Astrocytes     | -2.48   | 0.341   | 3.52E-13  |
| Oligodendroglia| 1.81    | 0.262   | 4.90E-12  |
| Endothelial cells| 0.524  | 0.0549  | 1.37E-21  |
| Neurons        | 0.258   | 0.0311  | 1.08E-16  |
| Endothelial cells| 0.167  | 0.0125  | 1.04E-40  |
| Neurons        | -0.0671 | 0.00872 | 1.42E-14  |
| Neurons        | 0.337   | 0.0404  | 7.33E-17  |
| Endothelial cells| 0.48   | 0.0646  | 1.08E-13  |
| Neurons        | 0.475   | 0.0454  | 1.28E-25  |
| Microglia      | 0.534   | 0.0571  | 8.60E-21  |
| Oligodendroglia| 1.89    | 0.256   | 1.55E-13  |
| Oligodendroglia| 0.134   | 0.0195  | 6.34E-12  |
| Microglia      | -0.831  | 0.105   | 2.49E-15  |
| Astrocytes     | -0.827  | 0.107   | 1.08E-14  |
| Oligodendroglia| -0.823  | 0.107   | 1.45E-14  |
| Neurons        | -1      | 0.13    | 1.45E-14  |
| Endothelial cells| -0.826 | 0.108   | 2.04E-14  |
| Microglia      | 0.628   | 0.0788  | 1.59E-15  |
| Microglia      | 0.833   | 0.0441  | 1.41E-79  |
| Neurons        | 0.741   | 0.0441  | 2.33E-63  |
| Endothelial cells| 0.682  | 0.0756  | 1.86E-19  |
| Endothelial cells| 0.26   | 0.0308  | 3.13E-17  |
| Oligodendroglia| 0.134   | 0.0201  | 2.62E-11  |
| Microglia      | 0.349   | 0.0441  | 2.50E-15  |
| Endothelial cells| 0.63   | 0.0869  | 4.18E-13  |
| Neurons        | 0.651   | 0.0524  | 1.94E-35  |
| Microglia      | 0.854   | 0.0846  | 5.84E-24  |
| Neurons        | -1.5    | 0.211   | 1.17E-12  |
| Oligodendroglia| -2.17   | 0.313   | 4.12E-12  |
| Endothelial cells| -2.12  | 0.309   | 6.85E-12  |
| Astrocytes     | -2.14   | 0.315   | 1.09E-11  |
| Microglia      | -2.03   | 0.3     | 1.32E-11  |
| Endothelial cells| 2.09   | 0.279   | 6.83E-14  |
| Microglia      | -2.25   | 0.313   | 6.55E-13  |
| Neurons        | -2.05   | 0.289   | 1.31E-12  |
| Endothelial cells| 1.02   | 0.151   | 1.43E-11  |
| Microglia      | -0.04   | 0.00449 | 5.16E-19  |
| Cell Type             | Value 1  | Value 2  | Value 3    |
|---------------------|----------|----------|------------|
| Neurons             | 0.0493   | 0.00561  | 1.52E-18   |
| Neurons             | 0.115    | 0.0135   | 1.62E-17   |
| Oligodendroglia     | -0.326   | 0.0466   | 2.64E-12   |
| Endothelial cells   | -0.585   | 0.0746   | 4.44E-15   |
| Microglia           | 0.277    | 0.0362   | 1.98E-14   |
| Neurons             | 0.289    | 0.0427   | 1.30E-11   |
| Neurons             | -0.679   | 0.093    | 2.85E-13   |
| Endothelial cells   | -1.62    | 0.175    | 2.10E-20   |
| Neurons             | -0.715   | 0.107    | 2.35E-11   |
| Astrocytes          | -0.207   | 0.0306   | 1.34E-11   |
| Microglia           | -0.208   | 0.0309   | 1.68E-11   |
| Neurons             | -0.208   | 0.0309   | 1.68E-11   |
| Oligodendroglia     | -0.205   | 0.0308   | 2.82E-11   |
| Neurons             | -0.46    | 0.0654   | 2.01E-12   |
| Endothelial cells   | 1.94     | 0.199    | 1.87E-22   |
| Neurons             | 0.691    | 0.0897   | 1.32E-14   |
| Endothelial cells   | 0.819    | 0.118    | 3.90E-12   |
| Endothelial cells   | -1.05    | 0.141    | 9.56E-14   |
| Neurons             | -0.306   | 0.0451   | 1.16E-11   |
| Neurons             | -1.09    | 0.154    | 1.46E-12   |
| Neurons             | -2.96    | 0.284    | 1.96E-25   |
| Endothelial cells   | -2.88    | 0.284    | 3.64E-24   |
| Oligodendroglia     | -2.9     | 0.287    | 5.27E-24   |
| Microglia           | -2.85    | 0.284    | 1.07E-23   |
| Astrocytes          | -2.83    | 0.286    | 4.37E-23   |
| Endothelial cells   | 1.83     | 0.231    | 2.34E-15   |
| Neurons             | -0.378   | 0.0492   | 1.55E-14   |
| Microglia           | -0.36    | 0.0524   | 6.41E-12   |
| Microglia           | -1.6     | 0.196    | 3.26E-16   |
| Astrocytes          | -1.57    | 0.199    | 3.04E-15   |
| Oligodendroglia     | -1.6     | 0.203    | 3.23E-15   |
| Neurons             | -1.62    | 0.211    | 1.62E-14   |
| Endothelial cells   | -1.42    | 0.203    | 2.65E-12   |
| Endothelial cells   | 0.0811   | 0.00995  | 3.62E-16   |
| Neurons             | -0.652   | 0.0798   | 3.07E-16   |
| Endothelial cells   | -0.832   | 0.12     | 4.11E-12   |
| Neurons             | 0.488    | 0.0714   | 8.22E-12   |
| Microglia           | -0.134   | 0.0144   | 1.33E-20   |
| Neurons             | 0.117    | 0.0176   | 2.98E-11   |
|                      | Value 1 | Value 2 | Value 3  |
|----------------------|---------|---------|---------|
| Astrocytes           | 0.159   | 0.02    | 1.87E-15|
| Neurons              | 0.0312  | 0.004   | 6.19E-15|
| Endothelial cells    | -1.46   | 0.158   | 2.45E-20|
| Astrocytes           | -1.71   | 0.189   | 1.46E-19|
| Oligodendroglia      | -4.7    | 0.542   | 4.26E-18|
| Microglia            | 2.72    | 0.334   | 3.83E-16|
| Neurons              | 0.737   | 0.101   | 2.94E-13|
| Microglia            | -0.0331 | 0.00487 | 1.07E-11|
| Astrocytes           | -0.4    | 0.0569  | 2.07E-12|
| Endothelial cells    | -0.399  | 0.0569  | 2.34E-12|
| Neurons              | -0.397  | 0.0568  | 2.76E-12|
| Microglia            | -0.396  | 0.0568  | 3.13E-12|
| Oligodendroglia      | -0.388  | 0.0574  | 1.38E-11|
| Endothelial cells    | 0.786   | 0.111   | 1.43E-12|
| Microglia            | -0.274  | 0.039   | 2.13E-12|
| Neurons              | -0.366  | 0.0276  | 3.90E-40|
| Microglia            | 0.278   | 0.0302  | 3.41E-20|
| Endothelial cells    | 0.267   | 0.0375  | 1.08E-12|
| Astrocytes           | 0.476   | 0.0564  | 3.18E-17|
| Endothelial cells    | -2.71   | 0.349   | 8.16E-15|
| Neurons              | -1.73   | 0.235   | 1.82E-13|
| Microglia            | 1.91    | 0.287   | 2.83E-11|
| Endothelial cells    | -0.763  | 0.104   | 2.19E-13|
| Endothelial cells    | -1.32   | 0.193   | 7.95E-12|
| Neurons              | 0.472   | 0.0593  | 1.73E-15|
| Microglia            | 0.516   | 0.0652  | 2.49E-15|
| Endothelial cells    | 0.323   | 0.0448  | 5.60E-13|
| Astrocytes           | 0.322   | 0.0449  | 7.42E-13|
| Oligodendroglia      | 0.322   | 0.045   | 8.33E-13|
| Neurons              | 0.321   | 0.045   | 9.80E-13|
| Microglia            | 0.313   | 0.0449  | 3.15E-12|
| Microglia            | 0.668   | 0.0877  | 2.60E-14|
| Microglia            | -0.341  | 0.0474  | 6.29E-13|
| Neurons              | -0.537  | 0.0607  | 9.01E-19|
| Microglia            | -0.543  | 0.0616  | 1.20E-18|
| Endothelial cells    | -0.802  | 0.101   | 2.01E-15|
| Oligodendroglia      | -1.23   | 0.183   | 1.80E-11|
| Neurons              | -0.606  | 0.0758  | 1.30E-15|
| Microglia            | -0.58   | 0.0759  | 2.14E-14|
| Type            | Value1 | Value2 | Value3  |
|-----------------|--------|--------|---------|
| Neurons         | 0.497  | 0.0564 | 1.23E-18|
| Microglia       | 0.393  | 0.0569 | 4.96E-12|
| Microglia       | -0.44  | 0.0652 | 1.49E-11|
| Neurons         | 0.346  | 0.0438 | 2.80E-15|
| Endothelial cells| 0.401  | 0.0543 | 1.53E-13|
| Oligodendroglia | 2.43   | 0.21   | 5.75E-31|
| Endothelial cells| 1.59   | 0.239  | 2.88E-11|
| Microglia       | -0.153 | 0.0175 | 2.27E-18|
| Oligodendroglia | -7.28  | 1.04   | 2.56E-12|
| Oligodendroglia | 3.61   | 0.497  | 3.77E-13|
| Microglia       | 0.811  | 0.111  | 2.75E-13|
| Neurons         | 0.693  | 0.102  | 1.09E-11|
| Oligodendroglia | 3.71   | 0.536  | 4.46E-12|
| Oligodendroglia | 1.35   | 0.143  | 3.71E-21|
| Astrocytes      | -0.151 | 0.0211 | 8.28E-13|
| Neurons         | 0.374  | 0.0368 | 2.90E-24|
| Microglia       | 0.384  | 0.0419 | 4.97E-20|
| Oligodendroglia | 1.71   | 0.175  | 1.49E-22|
| Endothelial cells| -3.54E-15 | 3.98E-16 | 5.87E-19|
| Endothelial cells| -7.1   | 0.659  | 4.57E-27|
| Oligodendroglia | -5.09  | 0.507  | 1.02E-23|
| Microglia       | 1.23   | 0.143  | 7.88E-18|
| Astrocytes      | 26.3   | 3.72   | 1.55E-12|
| Microglia       | -0.336 | 0.0374 | 2.61E-19|
| Neurons         | -0.272 | 0.036  | 4.17E-14|
| Endothelial cells| -0.43  | 0.0609 | 1.66E-12|
| Microglia       | -4.43E-17 | 5.20E-18 | 1.61E-17|
| Oligodendroglia | 1.97   | 0.255  | 1.11E-14|
| Neurons         | 0.604  | 0.0893 | 1.34E-11|
| Endothelial cells| 1.2    | 0.171  | 2.26E-12|
| Astrocytes      | 1.24   | 0.18   | 5.62E-12|
| Microglia       | 1.26   | 0.188  | 2.05E-11|
| Neurons         | 3      | 0.257  | 1.75E-31|
| Endothelial cells| 4.32   | 0.398  | 1.90E-27|
| Astrocytes      | 12.8   | 1.71   | 7.13E-14|
| Oligodendroglia | 0.65   | 0.0813 | 1.29E-15|
| Oligodendroglia | 0.353  | 0.0368 | 8.61E-22|
| Microglia       | -0.0943| 0.0102 | 2.35E-20|
| Microglia       | 0.343  | 0.0413 | 9.97E-17|
|                         | Value 1 | Value 2 | p-value  |
|-------------------------|---------|---------|----------|
| Neurons                 | 0.32    | 0.0429  | 8.70E-14 |
| Endothelial cells       | 0.699   | 0.105   | 2.79E-11 |
| Microglia               | -0.303  | 0.0404  | 6.38E-14 |
| Oligodendroglia         | 0.193   | 0.028   | 5.47E-12 |
| Endothelial cells       | 0.193   | 0.0281  | 6.50E-12 |
| Neurons                 | 0.192   | 0.028   | 7.03E-12 |
| Astrocytes              | 0.191   | 0.0281  | 1.07E-11 |
| Microglia               | -0.385  | 0.0458  | 4.24E-17 |
| Endothelial cells       | -0.234  | 0.0317  | 1.56E-13 |
| Neurons                 | -0.233  | 0.0317  | 1.98E-13 |
| Astrocytes              | -0.232  | 0.0316  | 2.11E-13 |
| Oligodendroglia         | -0.232  | 0.0316  | 2.11E-13 |
| Endothelial cells       | 0.62    | 0.0887  | 2.75E-12 |
| Microglia               | 0.222   | 0.0287  | 1.03E-14 |
| Neurons                 | 0.208   | 0.0278  | 7.32E-14 |
| Endothelial cells       | 1.2     | 0.153   | 4.39E-15 |
| Neurons                 | 0.461   | 0.0669  | 5.54E-12 |
| Endothelial cells       | 1.22    | 0.171   | 9.71E-13 |
| Neurons                 | 0.468   | 0.0569  | 1.95E-16 |
| Endothelial cells       | 0.61    | 0.0876  | 3.32E-12 |
| Microglia               | 0.227   | 0.0273  | 9.17E-17 |
| Endothelial cells       | 1.29    | 0.188   | 6.80E-12 |
| Neurons                 | 0.304   | 0.0349  | 3.02E-18 |
| Endothelial cells       | 1.66    | 0.219   | 3.46E-14 |
| Astrocytes              | 1.55    | 0.218   | 1.16E-12 |
| Oligodendroglia         | 1.52    | 0.214   | 1.22E-12 |
| Microglia               | 1.54    | 0.221   | 3.21E-12 |
| Neurons                 | 1.5     | 0.223   | 1.74E-11 |
| Endothelial cells       | 0.691   | 0.0875  | 2.85E-15 |
| Neurons                 | 0.416   | 0.0534  | 6.69E-15 |
| Oligodendroglia         | -6.49   | 0.889   | 2.87E-13 |
| Endothelial cells       | 1.01    | 0.104   | 2.69E-22 |
| Neurons                 | -0.529  | 0.0591  | 3.52E-19 |
| Neurons                 | 1.26    | 0.152   | 1.14E-16 |
| Endothelial cells       | 2.23    | 0.288   | 9.71E-15 |
| Endothelial cells       | -0.529  | 0.0291  | 7.61E-74 |
| Neurons                 | -0.183  | 0.0159  | 1.18E-30 |
| Microglia               | 0.212   | 0.0281  | 4.54E-14 |
| Oligodendroglia         | 1.07    | 0.151   | 1.38E-12 |
| Cell Type            | Value 1 | Value 2 | p-value     |
|---------------------|---------|---------|-------------|
| Oligodendroglia     | 0.129   | 0.0113  | 3.48E-30    |
| Microglia           | -0.0361 | 0.00367 | 7.84E-23    |
| Endothelial cells   | -0.663  | 0.0972  | 9.04E-12    |
| Endothelial cells   | -0.859  | 0.0933  | 3.36E-20    |
| Neurons             | 1.09    | 0.13    | 5.09E-17    |
| Neurons             | 0.361   | 0.0488  | 1.39E-13    |
| Neurons             | 3.98    | 0.482   | 1.49E-16    |
| Astrocytes          | -3.16   | 0.397   | 1.72E-15    |
| Microglia           | -3.15   | 0.401   | 3.99E-15    |
| Oligodendroglia     | -3.13   | 0.4     | 5.08E-15    |
| Endothelial cells   | -3.08   | 0.405   | 2.85E-14    |
| Endothelial cells   | -1.51   | 0.188   | 9.60E-16    |
| Neurons             | -0.668  | 0.0983  | 1.08E-11    |
| Neurons             | -0.581  | 0.0781  | 1.01E-13    |
| Oligodendroglia     | 1.64    | 0.194   | 2.82E-17    |
| Neurons             | -0.362  | 0.0519  | 3.06E-12    |
| Endothelial cells   | 1.41    | 0.163   | 5.14E-18    |
| Neurons             | 0.652   | 0.0974  | 2.17E-11    |
| Endothelial cells   | 1.09    | 0.14    | 6.93E-15    |
| Oligodendroglia     | 0.0786  | 0.00815 | 5.20E-22    |
| Microglia           | -0.0242 | 0.00278 | 3.17E-18    |
| Astrocytes          | -0.126  | 0.0175  | 6.02E-13    |
| Endothelial cells   | 0.77    | 0.109   | 1.62E-12    |
| Neurons             | -0.0404 | 0.00386 | 1.23E-25    |
| Endothelial cells   | 0.17    | 0.0245  | 3.96E-12    |
| Neurons             | 0.173   | 0.0197  | 1.61E-18    |
| Endothelial cells   | -0.251  | 0.0304  | 1.50E-16    |
| Oligodendroglia     | 0.367   | 0.0405  | 1.28E-19    |
| Endothelial cells   | 0.174   | 0.0193  | 1.96E-19    |
| Microglia           | 0.0937  | 0.0139  | 1.57E-11    |
| Endothelial cells   | -0.866  | 0.109   | 1.94E-15    |
| Neurons             | -0.562  | 0.0786  | 8.67E-13    |
| Neurons             | -0.247  | 0.0293  | 3.46E-17    |
| Oligodendroglia     | -0.247  | 0.0295  | 5.62E-17    |
| Astrocytes          | -0.246  | 0.0294  | 5.89E-17    |
| Endothelial cells   | -0.245  | 0.0293  | 6.18E-17    |
| Microglia           | -0.245  | 0.0294  | 7.86E-17    |
| Oligodendroglia     | 5.39    | 0.618   | 2.74E-18    |
| Microglia           | -2.14   | 0.28    | 2.12E-14    |
| Cell Type          | Value   | p-value | adj p-value |
|--------------------|---------|---------|-------------|
| Oligodendroglia    | 5.28    | 1.17E-22|
| Microglia          | -1.92   | 2.95E-26|
| Neurons            | -0.451  | 3.75E-15|
| Endothelial cells  | 0.75    | 1.48E-15|
| Oligodendroglia    | -1.77   | 9.58E-17|
| Microglia          | -1.76   | 1.02E-16|
| Endothelial cells  | -0.513  | 6.03E-26|
| Neurons            | -0.372  | 1.40E-42|
| Microglia          | -0.35   | 1.81E-32|
| Endothelial cells  | -0.598  | 3.98E-40|
| Neurons            | -0.588  | 9.12E-36|
| Endothelial cells  | -0.605  | 2.23E-16|
| Endothelial cells  | 0.599   | 3.27E-17|
| Endothelial cells  | 3.56    | 9.50E-14|
| Oligodendroglia    | -0.429  | 3.51E-17|
| Endothelial cells  | 2.04    | 1.19E-13|
| Endothelial cells  | 0.581   | 5.69E-36|
| Oligodendroglia    | 0.948   | 6.43E-24|
| Microglia          | 0.258   | 1.98E-13|
| Endothelial cells  | 0.098   | 4.22E-18|
| Oligodendroglia    | -0.152  | 3.05E-17|
| Neurons            | 0.0324  | 9.01E-16|
| Microglia          | 0.0229  | 8.29E-13|
| Neurons            | -0.105  | 1.02E-31|
| Microglia          | 0.0319  | 8.44E-12|
| Microglia          | 0.0486  | 1.46E-32|
| Cell Type          | z-score  | p-value  |
|-------------------|----------|----------|
| Microglia         | -0.326   | 1.89E-18 |
| Neurons           | -0.258   | 4.05E-12 |
| Endothelial cells | 0.726    | 1.94E-22 |
| Neurons           | 0.291    | 8.69E-13 |
| Astrocytes        | 2.46     | 3.55E-33 |
| Microglia         | 2.5      | 1.14E-29 |
| Oligodendroglia   | 2.5      | 1.11E-28 |
| Neurons           | 2.52     | 1.29E-26 |
| Endothelial cells | 2.28     | 3.93E-24 |
| Endothelial cells | -5.75    | 4.07E-28 |
| Oligodendroglia   | -19.3    | 8.01E-27 |
| Microglia         | -0.447   | 7.15E-23 |
| Astrocytes        | 1.61     | 7.94E-21 |
| Neurons           | -0.781   | 2.03E-18 |
| Oligodendroglia   | 0.276    | 1.47E-12 |
| Neurons           | 0.328    | 3.13E-13 |
| Endothelial cells | -1.94    | 1.18E-11 |
| Microglia         | -0.341   | 1.00E-11 |
| Microglia         | 0.436    | 1.10E-15 |
| Microglia         | -0.0267  | 3.10E-27 |
| Oligodendroglia   | 0.0961   | 2.68E-19 |
| Microglia         | 1.06     | 2.10E-38 |
| Endothelial cells | 1.23     | 3.67E-12 |
| Neurons           | 0.538    | 1.17E-11 |
| Neurons           | 0.51     | 3.55E-33 |
| Microglia         | 0.386    | 3.88E-22 |
| Neurons           | 0.793    | 1.18E-17 |
| Endothelial cells | 1.25     | 4.78E-16 |
| Endothelial cells | 0.546    | 1.05E-23 |
| Neurons           | 0.218    | 2.03E-12 |
| Oligodendroglia   | 0.399    | 7.71E-12 |
| Neurons           | 0.206    | 2.26E-11 |
| Astrocytes        | 11.2     | 3.52E-13 |
| Oligodendroglia   | 8.67     | 1.80E-12 |
| Endothelial cells | -0.764   | 3.77E-12 |
| Microglia         | -4.39    | 5.78E-57 |
| Astrocytes        | -4.39    | 1.44E-56 |
| Oligodendroglia   | -4.37    | 3.67E-54 |
| Endothelial cells | -4.4     | 9.00E-54 |
| Cell Type           | Z-score | p-value  | Significant Level |
|--------------------|---------|----------|-------------------|
| Neurons            | -4.28   | 5.00E-52 |                   |
| Endothelial cells  | 1.18    | 1.19E-11 |                   |
| Neurons            | 0.73    | 4.13E-14 |                   |
| Microglia          | -0.445  | 8.16E-12 |                   |
| Microglia          | -1.59   | 1.28E-27 |                   |
| Neurons            | -1.65   | 1.62E-22 |                   |
| Endothelial cells  | 1.54    | 3.21E-12 |                   |
| Endothelial cells  | -2.43   | 3.05E-18 |                   |
| Neurons            | -1.16   | 2.79E-12 |                   |
| Oligodendroglia    | 0.0844  | 4.45E-35 |                   |
| Microglia          | -0.0245 | 4.41E-30 |                   |
| Astrocytes         | 1.12    | 3.80E-14 |                   |
| Oligodendroglia    | 1.13    | 7.24E-14 |                   |
| Microglia          | 1.13    | 1.05E-13 |                   |
| Neurons            | 1.13    | 1.52E-13 |                   |
| Endothelial cells  | 1.07    | 1.93E-12 |                   |
| Endothelial cells  | 1.24    | 1.61E-22 |                   |
| Neurons            | 0.52    | 5.26E-14 |                   |
| Microglia          | -2.21   | 2.88E-78 |                   |
| Neurons            | -1.99   | 5.75E-66 |                   |
| Endothelial cells  | -2.4    | 1.71E-33 |                   |
| Neurons            | 0.262   | 5.12E-14 |                   |
| Microglia          | -0.195  | 3.13E-17 |                   |
| Neurons            | -0.167  | 4.49E-15 |                   |
| Oligodendroglia    | -1.53   | 1.90E-32 |                   |
| Microglia          | -0.801  | 1.92E-27 |                   |
| Neurons            | -0.403  | 2.51E-23 |                   |
| Astrocytes         | -2.16   | 1.60E-19 |                   |
| Endothelial cells  | -0.653  | 4.22E-16 |                   |
| Neurons            | 0.132   | 2.78E-27 |                   |
| Endothelial cells  | -0.33   | 1.11E-25 |                   |
| Endothelial cells  | -1.91   | 3.89E-18 |                   |
| Neurons            | 0.675   | 1.42E-17 |                   |
| Endothelial cells  | -4.4    | 2.23E-15 |                   |
| Astrocytes         | -4.96   | 1.28E-41 |                   |
| Oligodendroglia    | -4.96   | 9.14E-41 |                   |
| Neurons            | -4.99   | 1.31E-40 |                   |
| Microglia          | -4.95   | 2.12E-40 |                   |
| Endothelial cells  | -4.79   | 3.90E-38 |                   |
| Cell Type       | Value 1  | Value 2  | Value 3     |
|----------------|---------|---------|------------|
| Endothelial cells | -0.132  | 0.0131  | 7.03E-24   |
| Neurons         | -2.71   | 0.314   | 6.10E-18   |
| Microglia       | -2.65   | 0.308   | 7.71E-18   |
| Oligodendrogia  | -2.65   | 0.31    | 1.25E-17   |
| Astrocytes      | -2.63   | 0.311   | 2.75E-17   |
| Endothelial cells | -2.44   | 0.307   | 1.90E-15   |
| Endothelial cells | -0.985  | 0.123   | 1.16E-15   |
| Neurons         | -0.463  | 0.0693  | 2.37E-11   |
| Astrocytes      | -1.76   | 0.223   | 2.96E-15   |
| Oligodendrogia  | -1.75   | 0.227   | 1.27E-14   |
| Microglia       | -1.75   | 0.228   | 1.65E-14   |
| Neurons         | -2.19   | 0.289   | 3.51E-14   |
| Endothelial cells | -3.98   | 0.542   | 2.09E-13   |
| Oligodendrogia  | -2.11   | 0.101   | 6.45E-97   |
| Astrocytes      | 2.31    | 0.21    | 3.82E-28   |
| Microglia       | 0.335   | 0.0348  | 6.18E-22   |
| Neurons         | -0.188  | 0.0275  | 8.12E-12   |
| Neurons         | -0.267  | 0.0305  | 2.06E-18   |
| Endothelial cells | -0.436  | 0.0589  | 1.34E-13   |
| Microglia       | -0.216  | 0.032   | 1.48E-11   |
| Oligodendrogia  | 0.927   | 0.115   | 7.58E-16   |
| Neurons         | -0.498  | 0.0683  | 3.07E-13   |
| Microglia       | -0.448  | 0.0653  | 6.86E-12   |
| Endothelial cells | 0.932   | 0.129   | 5.02E-13   |
| Neurons         | 0.481   | 0.0721  | 2.54E-11   |
| Endothelial cells | -2.02   | 0.287   | 1.95E-12   |
| Endothelial cells | -0.832  | 0.118   | 1.78E-12   |
| Endothelial cells | -0.55   | 0.0819  | 1.87E-11   |
| Microglia       | 0.409   | 0.0478  | 1.16E-17   |
| Neurons         | 0.363   | 0.0403  | 2.11E-19   |
| Endothelial cells | 0.822   | 0.106   | 8.85E-15   |
| Neurons         | 0.826   | 0.0881  | 6.87E-21   |
| Microglia       | -0.322  | 0.0428  | 5.34E-14   |
| Neurons         | -0.273  | 0.0401  | 9.90E-12   |
| Microglia       | -0.134  | 0.0147  | 7.82E-20   |
| Neurons         | 0.129   | 0.0148  | 2.88E-18   |
| Microglia       | -2.5    | 0.325   | 1.45E-14   |
| Neurons         | -2.27   | 0.308   | 1.70E-13   |
| Endothelial cells | -1.05   | 0.0675  | 1.46E-54   |
| Cell Type        | Value 1  | Value 2  | p-value   |
|------------------|----------|----------|-----------|
| Astrocytes       | -2.53    | 0.231    | 6.47E-28  |
| Microglia        | 0.458    | 0.0604   | 3.38E-14  |
| Neurons          | 0.479    | 0.0643   | 9.37E-14  |
| Astrocytes       | 0.224    | 0.029    | 1.13E-14  |
| Endothelial cells| 0.0626   | 0.00674  | 1.57E-20  |
| Oligodendroglia  | 1.25     | 0.141    | 7.63E-19  |
| Astrocytes       | -6.21E-16| 9.11E-17 | 9.32E-12  |
| Endothelial cells| 1.15     | 0.145    | 2.17E-15  |
| Neurons          | 0.507    | 0.0685   | 1.35E-13  |
| Microglia        | 0.15     | 0.0205   | 2.53E-13  |
| Neurons          | -4.54    | 0.231    | 5.38E-86  |
| Endothelial cells| -6.39    | 0.343    | 1.84E-77  |
| Microglia        | -33.2    | 2.06     | 1.95E-58  |
| Oligodendroglia  | -3090    | 202      | 8.00E-53  |
| Astrocytes       | 201      | 13.4     | 7.34E-51  |
| Astrocytes       | -0.259   | 0.0299   | 4.63E-18  |
| Endothelial cells| -0.241   | 0.0301   | 1.18E-15  |
| Oligodendroglia  | -0.297   | 0.0432   | 6.20E-15  |
| Endothelial cells| 1.58     | 0.191    | 1.31E-12  |
| Neurons          | -0.578   | 0.043    | 3.44E-41  |
| Microglia        | -0.51    | 0.0465   | 5.46E-28  |
| Endothelial cells| -0.693   | 0.0734   | 3.68E-21  |
| Neurons          | 0.106    | 0.0115   | 3.04E-20  |
| Microglia        | -0.068   | 0.00979  | 3.76E-12  |
| Microglia        | 0.111    | 0.0146   | 2.90E-14  |
| Endothelial cells| 1        | 0.137    | 2.89E-13  |
| Microglia        | -0.441   | 0.0563   | 4.76E-15  |
| Microglia        | -0.593   | 0.0454   | 5.45E-39  |
| Neurons          | -0.492   | 0.0442   | 8.84E-29  |
| Neurons          | -0.407   | 0.0593   | 6.72E-12  |
| Neurons          | 0.541    | 0.0671   | 7.47E-16  |
| Astrocytes       | -0.205   | 0.0272   | 4.82E-14  |
| Neurons          | 0.109    | 0.0139   | 4.44E-15  |
| Endothelial cells| 0.157    | 0.0219   | 7.56E-13  |
| Endothelial cells| -1.19    | 0.168    | 1.41E-12  |
| Microglia        | -0.346   | 0.0506   | 8.03E-12  |
| Oligodendroglia  | 0.243    | 0.0284   | 1.17E-17  |
| Endothelial cells| -0.399   | 0.0554   | 5.93E-13  |
| Neurons          | -0.246   | 0.0346   | 1.16E-12  |
| Cell Type       | Value 1  | Value 2  | P-Value     |
|----------------|---------|---------|-------------|
| Endothelial cells | -2.82   | 0.393   | 7.20E-13    |
| Microglia       | 0.053   | 0.00725 | 2.66E-13    |
| Microglia       | 0.552   | 0.0811  | 1.00E-11    |
| Neurons         | -2.19   | 0.217   | 5.98E-24    |
| Microglia       | -2.2    | 0.233   | 3.66E-21    |
| Microglia       | -0.81   | 0.0966  | 5.07E-17    |
| Endothelial cells | -1.28   | 0.164   | 5.96E-15    |
| Endothelial cells | -1.2    | 0.167   | 6.69E-13    |
| Neurons         | 0.399   | 0.0429  | 1.40E-20    |
| Endothelial cells | 2.88    | 0.194   | 7.46E-50    |
| Oligodendroglia | 2.72    | 0.185   | 6.19E-49    |
| Astrocytes      | 2.75    | 0.191   | 5.33E-47    |
| Microglia       | 2.74    | 0.197   | 5.61E-44    |
| Neurons         | 2.76    | 0.199   | 9.72E-44    |
| Endothelial cells | -2.1    | 0.158   | 2.61E-40    |
| Neurons         | 0.248   | 0.0315  | 3.46E-15    |
| Neurons         | -0.345  | 0.0429  | 8.84E-16    |
| Microglia       | -0.308  | 0.044   | 2.56E-12    |
| Neurons         | -0.471  | 0.0661  | 1.04E-12    |
| Astrocytes      | 1.08    | 0.0777  | 6.37E-44    |
| Microglia       | 0.149   | 0.0145  | 9.05E-25    |
| Astrocytes      | -0.172  | 0.021   | 2.60E-16    |
| Microglia       | -0.0431 | 0.00537 | 1.01E-15    |
| Microglia       | 1.19    | 0.0835  | 4.39E-46    |
| Neurons         | 0.954   | 0.0961  | 3.17E-23    |
| Microglia       | -2.13   | 0.125   | 4.15E-65    |
| Neurons         | -2.21   | 0.153   | 2.72E-47    |
| Endothelial cells | -2.25   | 0.243   | 2.06E-20    |
| Neurons         | -2.52   | 0.137   | 1.46E-75    |
| Microglia       | -1.9    | 0.137   | 9.82E-44    |
| Endothelial cells | -2.41   | 0.22    | 6.32E-28    |
| Neurons         | 0.185   | 0.00808 | 5.09E-116   |
| Endothelial cells | 0.186   | 0.0082  | 6.60E-114   |
| Astrocytes      | 0.186   | 0.00822 | 2.31E-113   |
| Microglia       | 0.186   | 0.00823 | 4.31E-113   |
| Oligodendroglia | 0.186   | 0.00823 | 4.31E-113   |
| Astrocytes      | 0.458   | 0.0486  | 4.35E-21    |
| Neurons         | 1.49    | 0.111   | 4.41E-41    |
| Microglia       | 1.58    | 0.119   | 3.13E-40    |
| Cell Type          | Value1 | Value2 | p-value       |
|-------------------|--------|--------|---------------|
| Neurons           | 1.39   | 0.142  | 1.26E-22      |
| Microglia         | 1.34   | 0.153  | 1.98E-18      |
| Endothelial cells | 0.963  | 0.135  | 9.80E-13      |
| Neurons           | 0.136  | 0.0108 | 2.32E-36      |
| Endothelial cells | 0.282  | 0.0259 | 1.31E-27      |
| Oligodendroglia   | 0.382  | 0.0409 | 9.65E-21      |
| Astrocytes        | -0.696 | 0.0995 | 2.65E-12      |
| Endothelial cells | 0.135  | 0.0192 | 2.05E-12      |
| Endothelial cells | -6.46  | 0.548  | 4.48E-32      |
| Neurons           | -4.46  | 0.417  | 1.07E-26      |
| Microglia         | 3.55   | 0.525  | 1.36E-11      |
| Oligodendroglia   | 0.212  | 0.0268 | 2.56E-15      |
| Microglia         | 2.42   | 0.349  | 4.09E-12      |
| Astrocytes        | -0.177 | 0.0213 | 9.58E-17      |
| Endothelial cells | 0.89   | 0.119  | 7.49E-14      |
| Astrocytes        | 0.937  | 0.0963 | 2.25E-22      |
| Oligodendroglia   | 0.938  | 0.0966 | 2.73E-22      |
| Microglia         | 0.934  | 0.0963 | 3.05E-22      |
| Endothelial cells | 0.933  | 0.0965 | 4.11E-22      |
| Neurons           | 0.935  | 0.0968 | 4.50E-22      |
| Endothelial cells | -1.33  | 0.194  | 7.10E-12      |
| Endothelial cells | 0.845  | 0.127  | 2.86E-11      |
| Microglia         | -0.124 | 0.0153 | 5.29E-16      |
| Astrocytes        | -0.577 | 0.0721 | 1.22E-15      |
| Neurons           | -0.383 | 0.0503 | 2.65E-14      |
| Oligodendroglia   | 0.671  | 0.0763 | 1.44E-18      |
| Neurons           | -1.32  | 0.184  | 7.29E-13      |
| Oligodendroglia   | 2.16   | 0.228  | 2.70E-21      |
| Oligodendroglia   | -0.413 | 0.0396 | 1.82E-25      |
| Astrocytes        | 2.61   | 0.268  | 2.06E-22      |
| Microglia         | -0.115 | 0.0153 | 5.63E-14      |
| Astrocytes        | 5.11   | 0.494  | 4.45E-25      |
| Oligodendroglia   | 1.73   | 0.184  | 5.34E-21      |
| Endothelial cells | 0.0725 | 0.00899| 7.35E-16      |
| Neurons           | 0.0405 | 0.00529| 1.92E-14      |
| Neurons           | 0.472  | 0.0709 | 2.79E-11      |
| Oligodendroglia   | 0.567  | 0.0829 | 7.94E-12      |
| Endothelial cells | 1.32   | 0.155  | 1.65E-17      |
| Endothelial cells | -0.159 | 0.0224 | 1.26E-12      |
|                          | Value 1 | Value 2 | p-value  |
|--------------------------|---------|---------|----------|
| Endothelial cells        | 0.0541  | 0.00777 | 3.34E-12 |
| Endothelial cells        | 0.568   | 0.0845  | 1.79E-11 |
| Oligodendroglia          | 0.107   | 0.0132  | 5.23E-16 |
| Oligodendroglia          | 2.73    | 0.195   | 1.56E-44 |
| Endothelial cells        | 5.14    | 0.37    | 7.09E-44 |
| Neurons                  | 1.19    | 0.0924  | 5.93E-38 |
| Endothelial cells        | 3.42    | 0.368   | 1.49E-20 |
| Oligodendroglia          | 1.81    | 0.197   | 4.01E-20 |
| Neurons                  | 0.819   | 0.0925  | 8.44E-19 |
| Neurons                  | 12.6    | 1.75    | 6.02E-13 |
| Endothelial cells        | -4.4    | 0.658   | 2.28E-11 |
| Oligodendroglia          | -4.39   | 0.658   | 2.53E-11 |
| Microglia                | -0.894  | 0.0921  | 2.82E-22 |
| Neurons                  | -1.07   | 0.156   | 6.94E-12 |
| Microglia                | -0.449  | 0.0614  | 2.62E-13 |
| Neurons                  | 0.436   | 0.0624  | 2.80E-12 |
| Oligodendroglia          | 0.465   | 0.067   | 3.91E-12 |
| Neurons                  | 0.165   | 0.0191  | 5.68E-18 |
| Endothelial cells        | 0.243   | 0.0292  | 8.66E-17 |
| Oligodendroglia          | 1.11    | 0.138   | 8.73E-16 |
| Endothelial cells        | 1.15    | 0.156   | 1.68E-13 |
| Endothelial cells        | 0.198   | 0.0284  | 3.13E-12 |
| Endothelial cells        | 1.24    | 0.181   | 7.34E-12 |
| Endothelial cells        | 1.5     | 0.193   | 7.72E-15 |
| Endothelial cells        | -0.613  | 0.0888  | 5.09E-12 |
| Endothelial cells        | -0.937  | 0.103   | 9.28E-20 |
| Neurons                  | -0.384  | 0.0506  | 3.23E-14 |
| Endothelial cells        | 1.47    | 0.166   | 8.34E-19 |
| Neurons                  | 0.669   | 0.0884  | 3.79E-14 |
| Microglia                | 1.34    | 0.197   | 1.03E-11 |
| Astrocytes               | 1.26    | 0.189   | 2.62E-11 |
| Microglia                | 0.821   | 0.0758  | 2.45E-27 |
| Neurons                  | 0.762   | 0.0846  | 2.12E-19 |
| Astrocytes               | -1.87   | 0.166   | 1.95E-29 |
| Oligodendroglia          | -1.86   | 0.166   | 3.86E-29 |
| Microglia                | -1.87   | 0.167   | 4.19E-29 |
| Endothelial cells        | -1.87   | 0.169   | 1.85E-28 |
| Neurons                  | -1.81   | 0.167   | 2.27E-27 |
| Neurons                  | -3.03   | 0.246   | 7.33E-35 |
| Cell Type             | t-statistic | p-value  | Adjusted p-value |
|----------------------|-------------|----------|-----------------|
| Endothelial cells    | -4.06       | 5.70E-32 |                 |
| Microglia            | 1.07        | 1.93E-12 |                 |
| Endothelial cells    | -0.0801     | 1.38E-16 |                 |
| Oligodendroglia      | 0.161       | 1.18E-13 |                 |
| Astrocytes           | 0.311       | 8.71E-13 |                 |
| Endothelial cells    | 1.04        | 7.80E-12 |                 |
| Neurons              | -0.401      | 1.47E-11 |                 |
| Endothelial cells    | -3.33       | 1.06E-13 |                 |
| Endothelial cells    | 2.43        | 6.52E-20 |                 |
| Neurons              | 3.48        | 2.65E-16 |                 |
| Oligodendroglia      | 6.11        | 9.02E-16 |                 |
| Astrocytes           | -23.6       | 8.28E-15 |                 |
| Microglia            | 0.504       | 1.68E-12 |                 |
| Microglia            | 0.0713      | 8.77E-14 |                 |
| Oligodendroglia      | 0.419       | 1.47E-13 |                 |
| Microglia            | -0.0901     | 3.70E-13 |                 |
| Microglia            | -0.214      | 2.27E-11 |                 |
| Oligodendroglia      | -0.41       | 2.82E-11 |                 |
| Endothelial cells    | 0.0872      | 2.80E-11 |                 |
| Neurons              | -0.0247     | 4.46E-15 |                 |
| Astrocytes           | -0.203      | 5.03E-12 |                 |
| Oligodendroglia      | 0.126       | 7.50E-12 |                 |
| Endothelial cells    | 0.075       | 5.58E-31 |                 |
| Oligodendroglia      | -0.127      | 9.64E-15 |                 |
| Endothelial cells    | -0.845      | 1.90E-12 |                 |
| Endothelial cells    | 0.33        | 2.86E-13 |                 |
| Microglia            | 0.398       | 7.84E-16 |                 |
| Endothelial cells    | 0.106       | 2.62E-11 |                 |
| Endothelial cells    | -1.35       | 2.40E-14 |                 |
| Neurons              | -0.766      | 1.32E-12 |                 |
| Oligodendroglia      | 0.757       | 4.16E-29 |                 |
| Microglia            | -0.118      | 2.63E-24 |                 |
| Neurons              | 0.0433      | 2.72E-16 |                 |
| Microglia            | 0.0294      | 5.18E-29 |                 |
| Astrocytes           | -0.104      | 2.78E-17 |                 |
| Neurons              | -0.065      | 1.02E-12 |                 |
| Oligodendroglia      | 0.149       | 2.09E-12 |                 |
| Astrocytes           | -0.171      | 3.65E-17 |                 |
| Microglia            | 0.484       | 1.77E-24 |                 |
| Neurons   | 0.464 | 0.0483 | 7.50E-22  |
|----------|-------|--------|-----------|
| Endothelial cells | 0.612 | 0.0808 | 3.61E-14  |
| Endothelial cells | 0.263 | 0.0385 | 8.42E-12  |
| Microglia | 0.428 | 0.0295 | 1.07E-47  |
| Endothelial cells | 0.517 | 0.0464 | 7.81E-29  |
| Neurons   | 0.279 | 0.0263 | 2.72E-26  |
| Endothelial cells | 0.658 | 0.0891 | 1.52E-13  |
| Microglia | 0.0847| 0.0109 | 7.81E-12  |
| Astrocytes| 0.664 | 0.0968 | 6.91E-12  |
| Neurons   | 0.612 | 0.0787 | 7.46E-15  |
| Endothelial cells | 0.922 | 0.134  | 5.96E-12  |
| Oligodendroglia | 1.17  | 0.168  | 3.30E-12  |
| Endothelial cells | -2.7  | 0.318  | 2.06E-17  |
| Oligodendroglia | -2.31 | 0.279  | 1.24E-16  |
| Astrocytes | -2.39 | 0.317  | 4.72E-14  |
| Microglia | -2.36 | 0.329  | 7.32E-13  |
| Neurons   | -2.4  | 0.339  | 1.45E-12  |
| Oligodendroglia | -10.5 | 1.54   | 9.22E-12  |
| Oligodendroglia | 1.19  | 0.174  | 7.97E-12  |
| Neurons   | 1.61  | 0.114  | 2.75E-45  |
| Microglia | 1.41  | 0.103  | 1.18E-42  |
| Endothelial cells | 1.87  | 0.183  | 1.64E-24  |
| Endothelial cells | -0.867| 0.111  | 5.68E-15  |
| Endothelial cells | -2.87 | 0.272  | 5.00E-26  |
| Neurons   | -2.86 | 0.279  | 1.17E-24  |
| Astrocytes| -2.8  | 0.277  | 5.08E-24  |
| Microglia | -2.73 | 0.28   | 1.84E-22  |
| Oligodendroglia | -2.48 | 0.255  | 2.35E-22  |
| Endothelial cells | 0.554 | 0.0813 | 9.47E-12  |
| Neurons   | 0.374 | 0.033  | 8.97E-30  |
| Microglia | 0.308 | 0.0348 | 8.71E-19  |
| Endothelial cells | 0.821 | 0.122  | 1.70E-11  |
| Endothelial cells | -1.15 | 0.17   | 1.34E-11  |
| Endothelial cells | 1.18  | 0.167  | 1.60E-12  |
| Neurons   | 2.08  | 0.156  | 1.48E-40  |
| Astrocytes| -1.61 | 0.121  | 2.14E-40  |
| Oligodendroglia | -1.61 | 0.121  | 2.14E-40  |
| Microglia | -1.6  | 0.121  | 6.45E-40  |
| Endothelial cells | -1.58 | 0.122  | 2.32E-38  |
| Cell Type         | Value 1 | Value 2 | p-value  |
|------------------|---------|---------|----------|
| Endothelial cells| 1.16    | 0.174   | 2.62E-11 |
| Microglia        | 0.489   | 0.0428  | 3.13E-30 |
| Neurons          | 0.49    | 0.0429  | 3.25E-30 |
| Neurons          | 0.108   | 0.0162  | 2.62E-11 |
| Endothelial cells| 0.272   | 0.0408  | 2.62E-11 |
| Endothelial cells| 6.95    | 0.929   | 7.37E-14 |
| Astrocytes       | -3.77   | 0.381   | 4.38E-23 |
| Microglia        | -3.75   | 0.403   | 1.34E-20 |
| Oligodendroglia  | -3.75   | 0.403   | 1.34E-20 |
| Endothelial cells| -3.63   | 0.405   | 3.16E-19 |
| Neurons          | -3.56   | 0.401   | 6.82E-19 |
| Endothelial cells| -0.625  | 0.0904  | 4.72E-12 |
| Neurons          | -0.407  | 0.0607  | 2.01E-11 |
| Endothelial cells| -0.177  | 0.00738 | 4.11E-127|
| Astrocytes       | -0.176  | 0.00742 | 2.26E-124|
| Microglia        | -0.176  | 0.00743 | 4.82E-124|
| Neurons          | -0.176  | 0.00743 | 4.82E-124|
| Oligodendroglia  | -0.176  | 0.00744 | 1.03E-123|
| Neurons          | 0.411   | 0.0444  | 2.11E-20 |
| Microglia        | 0.37    | 0.0428  | 5.39E-18 |
| Astrocytes       | -0.375  | 0.0316  | 1.75E-32 |
| Microglia        | -0.0551 | 0.00627 | 1.52E-18 |
| Endothelial cells| -0.12   | 0.0157  | 2.12E-14 |
| Endothelial cells| 1.64    | 0.19    | 6.05E-18 |
| Neurons          | -0.434  | 0.0416  | 1.76E-25 |
| Microglia        | -0.392  | 0.0474  | 1.34E-16 |
| Endothelial cells| -0.552  | 0.0753  | 2.29E-13 |
| Microglia        | -0.238  | 0.0342  | 3.43E-12 |
| Microglia        | -0.186  | 0.0232  | 1.08E-15 |
| Oligodendroglia  | 0.578   | 0.0481  | 2.91E-33 |
| Microglia        | -0.139  | 0.0163  | 1.49E-17 |
| Microglia        | -0.213  | 0.0315  | 1.36E-11 |
| Endothelial cells| -0.865  | 0.125   | 4.52E-12 |
| Microglia        | -0.414  | 0.0587  | 1.75E-12 |
| Endothelial cells| 0.513   | 0.0687  | 8.19E-14 |
| Endothelial cells| -0.964  | 0.142   | 1.13E-11 |
| Endothelial cells| 0.147   | 0.0207  | 1.23E-12 |
| Astrocytes       | 0.204   | 0.0173  | 4.30E-32 |
| Oligodendroglia  | -0.0973 | 0.0129  | 4.61E-14 |
|                      | Value | Stdev | p-value        |
|----------------------|-------|-------|----------------|
| Endothelial cells    | 1.52  | 0.222 | 7.55E-12       |
| Microglia            | -4.45 | 0.317 | 9.14E-45       |
| Oligodendroglia      | -4.44 | 0.322 | 1.64E-43       |
| Astrocytes           | -4.43 | 0.323 | 8.24E-43       |
| Neurons              | -4.41 | 0.326 | 1.07E-41       |
| Endothelial cells    | -4.22 | 0.317 | 1.96E-40       |
| Endothelial cells    | 0.621 | 0.0862| 5.84E-13       |
| Astrocytes           | 1.75  | 0.157 | 7.45E-29       |
| Microglia            | 1.74  | 0.16  | 1.52E-27       |
| Oligodendroglia      | 1.74  | 0.162 | 6.55E-27       |
| Neurons              | 1.69  | 0.162 | 1.77E-25       |
| Neurons              | 1.7   | 0.163 | 1.82E-25       |
| Microglia            | -0.18 | 0.0242| 1.02E-13       |
| Astrocytes           | -0.179| 0.0241| 1.11E-13       |
| Oligodendroglia      | -0.179| 0.0242| 1.40E-13       |
| Neurons              | -0.179| 0.0244| 2.20E-13       |
| Endothelial cells    | -0.178| 0.0244| 2.98E-13       |
| Neurons              | -0.498| 0.0301| 1.74E-61       |
| Astrocytes           | 4.49  | 0.365 | 8.91E-35       |
| Microglia            | 0.237 | 0.0301| 3.44E-15       |
| Endothelial cells    | -0.526| 0.0788| 2.47E-11       |
| Endothelial cells    | -0.0437| 0.00564| 9.32E-15      |
| Neurons              | 1.7   | 0.251 | 1.26E-11       |
| Oligodendroglia      | 0.572 | 0.0791| 4.78E-13       |
| Oligodendroglia      | 3.55  | 0.528 | 1.77E-11       |
| Endothelial cells    | -0.818| 0.106 | 1.19E-14       |
| Neurons              | -0.461| 0.0618| 8.68E-14       |
| Oligodendroglia      | -4.87 | 0.663 | 2.05E-13       |
| Oligodendroglia      | 1.66  | 0.207 | 1.06E-15       |
| Endothelial cells    | 0.497 | 0.0648| 1.72E-14       |
| Neurons              | -2.39 | 0.288 | 1.05E-16       |
| Endothelial cells    | -2.07 | 0.256 | 6.17E-16       |
| Astrocytes           | -8.58 | 1.12  | 1.85E-14       |
| Oligodendroglia      | -59.5 | 8.08  | 1.79E-13       |
| Microglia            | 1.07  | 0.091 | 6.41E-32       |
| Neurons              | 0.704 | 0.0907| 8.37E-15       |
| Endothelial cells    | 1.14  | 0.167 | 8.71E-12       |
| Oligodendroglia      | 2.25  | 0.327 | 5.95E-12       |
| Endothelial cells    | -0.866| 0.124 | 2.87E-12       |
| Cell Type          | Value 1  | Value 2  | Value 3  |
|-------------------|---------|---------|---------|
| Neurons           | -0.236  | 0.0341  | 4.49E-12|
| Neurons           | 0.877   | 0.115   | 2.42E-14|
| Endothelial cells | 1.08    | 0.161   | 1.97E-11|
| Endothelial cells | 0.771   | 0.114   | 1.35E-11|
| Neurons           | 0.412   | 0.0513  | 9.65E-16|
| Endothelial cells | 1.39    | 0.141   | 6.32E-23|
| Oligodendroglia   | 0.45    | 0.0645  | 3.02E-12|
| Neurons           | -0.362  | 0.0421  | 2.48E-17|
| Microglia         | -0.354  | 0.0418  | 2.48E-17|
| Endothelial cells | 1.03    | 0.128   | 8.49E-16|
| Neurons           | 0.444   | 0.0629  | 1.68E-12|
| Endothelial cells | -3.92   | 0.33    | 1.53E-32|
| Neurons           | -1.16   | 0.146   | 1.94E-15|
| Astrocytes        | -2.4    | 0.188   | 2.54E-37|
| Microglia         | -2.4    | 0.189   | 6.03E-37|
| Oligodendroglia   | -2.4    | 0.189   | 6.03E-37|
| Neurons           | -2.37   | 0.19    | 1.04E-35|
| Endothelial cells | -2.35   | 0.19    | 3.87E-35|
| Microglia         | 0.782   | 0.107   | 2.70E-13|
| Neurons           | 0.799   | 0.11    | 3.77E-13|
| Neurons           | 1.25    | 0.182   | 6.50E-12|
| Neurons           | -0.483  | 0.0689  | 2.38E-12|
| Neurons           | -0.272  | 0.0286  | 1.90E-21|
| Neurons           | 0.308   | 0.0454  | 1.17E-11|
| Microglia         | 0.532   | 0.0624  | 1.52E-17|
| Microglia         | 0.546   | 0.08    | 8.79E-12|
| Microglia         | -0.566  | 0.0445  | 4.63E-37|
| Neurons           | -0.545  | 0.047   | 4.33E-31|
| Endothelial cells | -0.62   | 0.0785  | 2.83E-15|
| Microglia         | -35     | 4.64    | 4.59E-14|
| Astrocytes        | -5.14   | 0.717   | 7.57E-13|
| Oligodendroglia   | 3.77    | 0.541   | 3.20E-12|
| Endothelial cells | -0.838  | 0.126   | 2.92E-11|
| Endothelial cells | 0.729   | 0.104   | 2.39E-12|
| Astrocytes        | -2.66   | 0.313   | 1.92E-17|
| Endothelial cells | 1.14    | 0.144   | 2.44E-15|
| Neurons           | 0.545   | 0.0805  | 1.29E-11|
| Endothelial cells | 0.188   | 0.0146  | 6.09E-38|
| Neurons           | 0.0722  | 0.00846 | 1.41E-17|
| Cell Type          | Z-Score | p-value       | Significance |
|-------------------|---------|---------------|--------------|
| Microglia         | 0.187   | 2.64E-17      | Significant  |
| Neurons           | 0.0322  | 1.04E-26      | Significant  |
| Oligodendroglia   | 0.0862  | 1.14E-11      | Significant  |
| Endothelial cells | -0.812  | 1.32E-11      | Significant  |
| Neurons           | 0.863   | 2.23E-11      | Significant  |
| Endothelial cells | 3.6     | 6.41E-12      | Significant  |
| Astrocytes        | -16.9   | 7.80E-12      | Significant  |
| Oligodendroglia   | -14     | 1.69E-11      | Significant  |
| Endothelial cells | -0.787  | 2.57E-11      | Significant  |
| Neurons           | -0.269  | 1.04E-23      | Significant  |
| Microglia         | -0.379  | 5.56E-32      | Significant  |
| Oligodendroglia   | -1.94   | 9.02E-24      | Significant  |
| Neurons           | -0.102  | 9.68E-14      | Significant  |
| Endothelial cells | -0.342  | 1.59E-12      | Significant  |
| Neurons           | -0.676  | 1.46E-12      | Significant  |
| Microglia         | -0.135  | 8.06E-18      | Significant  |
| Microglia         | -0.094  | 3.21E-18      | Significant  |
| Astrocytes        | -0.0936 | 4.45E-18      | Significant  |
| Neurons           | -0.0935 | 4.83E-18      | Significant  |
| Oligodendroglia   | -0.0935 | 4.83E-18      | Significant  |
| Endothelial cells | -0.0922 | 1.38E-17      | Significant  |
| Astrocytes        | -0.343  | 1.69E-12      | Significant  |
| Microglia         | 0.0231  | 1.38E-12      | Significant  |
| Neurons           | 0.0262  | 3.21E-12      | Significant  |
| Oligodendroglia   | 0.0748  | 6.77E-12      | Significant  |
| Astrocytes        | 0.419   | 4.00E-12      | Significant  |
| Astrocytes        | 0.166   | 1.04E-12      | Significant  |
| Neurons           | -0.0721 | 2.08E-14      | Significant  |
| Neurons           | -0.0717 | 4.18E-14      | Significant  |
| Neurons           | -0.28   | 8.56E-16      | Significant  |
| Endothelial cells | -0.37   | 2.22E-11      | Significant  |
| Microglia         | -0.107  | 1.38E-14      | Significant  |
| Neurons           | -0.107  | 1.38E-14      | Significant  |
| Astrocytes        | -0.107  | 2.12E-14      | Significant  |
| Endothelial cells | -0.107  | 2.12E-14      | Significant  |
| Oligodendroglia   | -0.106  | 2.42E-14      | Significant  |
| Oligodendroglia   | -0.146  | 2.11E-15      | Significant  |
| Neurons           | -0.106  | 2.22E-12      | Significant  |
| Neurons           | -0.198  | 8.85E-17      | Significant  |
|          |        |        |          |
|----------|--------|--------|----------|
| Astrocytes | -0.523 | 0.0779 | 1.90E-11 |
| Oligodendroglia | 0.301 | 0.0384 | 4.56E-15 |
| Microglia | -0.0705 | 0.0105 | 1.89E-11 |
| Astrocytes | -0.0701 | 0.0105 | 2.45E-11 |
| Neurons | -0.0699 | 0.0105 | 2.79E-11 |
| Neurons | -0.185 | 0.0213 | 3.77E-18 |
| Astrocytes | -0.184 | 0.0213 | 5.70E-18 |
| Endothelial cells | -0.184 | 0.0213 | 5.70E-18 |
| Microglia | -0.184 | 0.0213 | 5.70E-18 |
| Oligodendroglia | -0.133 | 0.0183 | 3.65E-13 |
| Oligodendroglia | -0.133 | 0.0183 | 3.65E-13 |
| Astrocytes | -0.133 | 0.0184 | 4.89E-13 |
| Microglia | -0.133 | 0.0184 | 4.89E-13 |
| Neurons | -0.132 | 0.0183 | 5.47E-13 |
| Neurons | 0.208 | 0.0182 | 3.01E-30 |
| Astrocytes | 0.209 | 0.0183 | 3.29E-30 |
| Endothelial cells | 0.209 | 0.0183 | 3.29E-30 |
| Microglia | 0.209 | 0.0183 | 3.29E-30 |
| Oligodendroglia | 0.209 | 0.0183 | 3.29E-30 |
| Oligodendroglia | 0.714 | 0.0895 | 1.49E-15 |
| Neurons | -0.371 | 0.0529 | 2.33E-12 |
| Astrocytes | -0.311 | 0.0446 | 3.10E-12 |
| Neurons | 0.104 | 0.0106 | 1.01E-22 |
| Endothelial cells | -0.442 | 0.048 | 3.31E-20 |
| Oligodendroglia | -1.16 | 0.137 | 2.51E-17 |
| Astrocytes | -11.5 | 1.39 | 1.30E-16 |
| Microglia | -0.0907 | 0.0112 | 5.58E-16 |
| Neurons | -0.109 | 0.0119 | 5.21E-20 |
| Oligodendroglia | -0.64 | 0.0739 | 4.70E-18 |
| Astrocytes | 0.127 | 0.0158 | 9.13E-16 |
| Microglia | 0.0282 | 0.00417 | 1.36E-11 |
| Astrocytes | -0.0834 | 0.00977 | 1.39E-17 |
| Neurons | -0.0833 | 0.00979 | 1.76E-17 |
| Microglia | -0.083 | 0.00982 | 2.86E-17 |
| Endothelial cells | -0.0825 | 0.00985 | 5.49E-17 |
| Oligodendroglia | -0.0819 | 0.0099 | 1.31E-16 |
| Microglia | -0.147 | 0.0188 | 5.32E-15 |
| Neurons | -0.137 | 0.0177 | 9.93E-15 |
| Cell Type         | Correlation Value | p-value     |
|-------------------|-------------------|-------------|
| Endothelial cells | -0.0939           | 2.75E-11    |
| Endothelial cells | 0.197             | 4.01E-18    |
| Astrocytes        | -0.123            | 4.49E-14    |
| Astrocytes        | -0.084            | 2.23E-14    |
| Microglia         | -0.122            | 7.17E-14    |
| Microglia         | -0.084            | 3.18E-14    |
| Neurons           | -0.12             | 1.29E-13    |
| Neurons           | 0.0378            | 1.96E-20    |
| Oligodendroglia   | -0.445            | 6.78E-59    |
| Microglia         | -0.0943           | 3.03E-29    |
| Neurons           | 0.0224            | 2.88E-18    |
| Neurons           | 0.0852            | 1.09E-56    |
| Neurons           | 0.0195            | 3.26E-14    |
| Endothelial cells | -0.124            | 1.85E-42    |
| Endothelial cells | 0.0442            | 2.01E-18    |
| Neurons           | 0.0442            | 3.01E-13    |
| Oligodendroglia   | -0.0912           | 4.20E-42    |
| Microglia         | 0.0226            | 1.64E-12    |
| Neurons           | 0.0824            | 2.01E-18    |
| Neurons           | 0.0442            | 3.01E-13    |
| Endothelial cells | 5.38              | 2.44E-30    |
| Neurons           | -1.46             | 3.33E-19    |
| Astrocytes        | 64.9              | 1.13E-11    |
| Neurons           | -0.332            | 2.40E-18    |
| Endothelial cells | 1.91              | 5.02E-21    |
| Neurons           | 0.356             | 1.19E-11    |
| Endothelial cells | 0.829             | 4.54E-26    |
| Microglia         | 0.529             | 2.15E-25    |
| Astrocytes        | 1.74              | 6.38E-14    |
| Oligodendroglia   | 1.02              | 9.83E-13    |
| Endothelial cells | -3.3              | 1.37E-13    |
| Endothelial cells | -0.67             | 1.73E-11    |
| Oligodendroglia   | 2.23              | 3.12E-20    |
| Microglia         | -0.604            | 1.13E-12    |
| Cells                | Mean | SD   | p    |
|----------------------|------|------|------|
| Neurons              | 2.71 | 0.394| 6.06E-12 |
| Endothelial cells    | 2.15 | 0.32 | 1.83E-11 |
| Endothelial cells    | 0.882| 0.127| 3.79E-12 |
| Endothelial cells    | 1.07 | 0.153| 2.68E-12 |
| Endothelial cells    | -0.67| 0.0967| 4.25E-12 |
| Oligodendroglia      | 2.28 | 0.231| 5.61E-23 |
| Microglia            | -0.573| 0.0819| 2.63E-12 |
| Endothelial cells    | -0.818| 0.116| 1.77E-12 |
| Neurons              | 0.586| 0.0704| 8.51E-17 |
| Endothelial cells    | 0.763| 0.114| 2.19E-11 |
| Endothelial cells    | -0.964| 0.142| 1.13E-11 |
| Oligodendroglia      | -2.43| 0.254| 1.10E-21 |
| Astrocytes           | 15.6 | 1.7  | 4.45E-20 |
| Microglia            | -0.659| 0.0955| 5.18E-12 |
| Astrocytes           | -1.2 | 0.175| 7.03E-12 |
| Oligodendroglia      | -1.24| 0.182| 9.55E-12 |
| Oligodendroglia      | 0.229| 0.0328| 2.92E-12 |
| Astrocytes           | 0.915| 0.0637| 8.68E-47 |
| Endothelial cells    | 0.877| 0.115| 2.42E-14 |
| Neurons              | 0.416| 0.061| 9.12E-12 |
| Neurons              | 0.602| 0.0594| 3.88E-24 |
| Microglia            | 0.466| 0.0617| 4.26E-14 |
| Neurons              | 1.06 | 0.146| 3.86E-13 |
| Endothelial cells    | -0.272| 0.0374| 3.52E-13 |
| Microglia            | -0.172| 0.0244| 1.80E-12 |
| Endothelial cells    | -0.0995| 0.0134| 1.12E-13 |
| Oligodendroglia      | -0.0991| 0.0134| 1.41E-13 |
| Neurons              | -0.0983| 0.0133| 1.46E-13 |
| Microglia            | -0.099| 0.0134| 1.49E-13 |
| Astrocytes           | -0.0989| 0.0134| 1.58E-13 |
| Endothelial cells    | -0.566| 0.0723| 4.94E-15 |
| Microglia            | 0.338| 0.0445| 3.07E-14 |
| Neurons              | -0.319| 0.0454| 2.12E-12 |
| Oligodendroglia      | 0.896| 0.132| 1.14E-11 |
| Endothelial cells    | -1.48| 0.214| 4.65E-12 |
| Neurons              | 0.402| 0.0604| 2.82E-11 |
| Neurons              | -0.0948| 0.00701| 1.14E-41 |
| Neurons              | -0.112| 0.00795| 4.50E-45 |
| Microglia            | -0.107| 0.0113| 2.82E-21 |
| Cell Type         | Value 1 | Value 2 | p-value    |
|------------------|---------|---------|------------|
| Endothelial cells| -0.164  | 0.0232  | 1.56E-12   |
| Oligodendroglia  | -0.22   | 0.0312  | 1.77E-12   |
| Microglia        | 0.203   | 0.0267  | 2.89E-14   |
| Microglia        | 0.322   | 0.0458  | 2.06E-12   |
| Endothelial cells| 0.0706  | 0.0101  | 2.75E-12   |
| Neurons          | -0.0298 | 0.00286 | 2.02E-25   |
| Endothelial cells| 1.59    | 0.227   | 2.48E-12   |
| Endothelial cells| 1.89    | 0.277   | 8.91E-12   |
| Astrocytes       | 2.22    | 0.16    | 8.98E-44   |
| Oligodendroglia  | -3.51   | 0.272   | 4.25E-38   |
| Neurons          | -4.02   | 0.313   | 9.36E-38   |
| Endothelial cells| 0.569   | 0.0472  | 1.82E-33   |
| Microglia        | 2.45    | 0.215   | 4.41E-30   |
| Endothelial cells| -0.538  | 0.0511  | 6.39E-26   |
| Oligodendroglia  | -0.526  | 0.0503  | 1.36E-25   |
| Microglia        | -0.529  | 0.0507  | 1.74E-25   |
| Astrocytes       | -0.528  | 0.0507  | 2.14E-25   |
| Neurons          | -0.516  | 0.051   | 4.61E-24   |
| Astrocytes       | -2      | 0.254   | 3.43E-15   |
| Endothelial cells| -0.565  | 0.0793  | 1.04E-12   |
| Endothelial cells| 1.66    | 0.178   | 1.10E-20   |
| Neurons          | -0.598  | 0.0898  | 2.75E-11   |
| Neurons          | 0.902   | 0.114   | 2.53E-15   |
| Endothelial cells| 0.98    | 0.138   | 1.23E-12   |
| Oligodendroglia  | 3.7     | 0.359   | 6.59E-25   |
| Endothelial cells| -0.839  | 0.104   | 7.19E-16   |
| Endothelial cells| 1.23    | 0.125   | 7.57E-23   |
| Neurons          | 0.685   | 0.0735  | 1.17E-20   |
| Endothelial cells| 0.779   | 0.105   | 1.18E-13   |
| Endothelial cells| 0.901   | 0.109   | 1.38E-16   |
| Neurons          | 0.746   | 0.0778  | 8.92E-22   |
| Endothelial cells| 1.04    | 0.111   | 7.30E-21   |
| Endothelial cells| -0.647  | 0.0892  | 4.07E-13   |
| Neurons          | -0.444  | 0.0658  | 1.50E-11   |
| Neurons          | 2.76    | 0.291   | 2.43E-21   |
| Endothelial cells| 2.73    | 0.293   | 1.19E-20   |
| Oligodendroglia  | 2.6     | 0.291   | 4.08E-19   |
| Astrocytes       | 2.61    | 0.293   | 5.20E-19   |
| Microglia        | 2.6     | 0.292   | 5.38E-19   |
| Cell Type       | Value 1  | Value 2  | p-value       |
|-----------------|---------|---------|---------------|
| Endothelial cells | 0.848   | 0.127   | 2.44E-11      |
| Astrocytes      | 1.53    | 0.159   | 6.42E-22      |
| Endothelial cells | 1.6     | 0.177   | 1.57E-19      |
| Oligodendroglia | 1.5     | 0.173   | 4.30E-18      |
| Microglia       | 1.51    | 0.177   | 1.45E-17      |
| Neurons         | 1.47    | 0.179   | 2.17E-16      |
| Endothelial cells | -0.855 | 0.119   | 6.73E-13      |
| Oligodendroglia | -0.0389 | 0.00569 | 8.11E-12      |
| Astrocytes      | 1.41    | 0.161   | 1.99E-18      |
| Neurons         | 1.41    | 0.161   | 1.99E-18      |
| Microglia       | 1.39    | 0.16    | 3.71E-18      |
| Endothelial cells | 1.37    | 0.158   | 4.29E-18      |
| Oligodendroglia | 1.34    | 0.161   | 8.58E-17      |
| Endothelial cells | 0.432  | 0.0642  | 1.71E-11      |
| Endothelial cells | 1.12    | 0.138   | 4.82E-16      |
| Endothelial cells | 0.165  | 0.0166  | 2.80E-23      |
| Oligodendroglia | 3.04    | 0.397   | 1.90E-14      |
| Microglia       | -0.577  | 0.0668  | 5.73E-18      |
| Neurons         | -0.485  | 0.0579  | 5.45E-17      |
| Endothelial cells | -0.734 | 0.109   | 1.65E-11      |
| Microglia       | -0.225  | 0.031   | 3.93E-13      |
| Microglia       | 0.288   | 0.0429  | 1.90E-11      |
| Microglia       | -0.519  | 0.0479  | 2.35E-27      |
| Endothelial cells | -0.524 | 0.0776  | 1.45E-11      |
| Endothelial cells | 1      | 0.145   | 5.33E-12      |
| Neurons         | 0.078   | 0.00522 | 1.74E-50      |
| Endothelial cells | 0.112  | 0.00774 | 1.87E-47      |
| Endothelial cells | 0.887  | 0.127   | 2.86E-12      |
| Neurons         | -2.36   | 0.178   | 4.03E-40      |
| Oligodendroglia | 4.35    | 0.526   | 1.34E-16      |
| Endothelial cells | 1.34    | 0.187   | 7.73E-13      |
| Endothelial cells | 0.204  | 0.0261  | 5.45E-15      |
| Astrocytes      | -1.66   | 0.164   | 4.42E-24      |
| Microglia       | -1.65   | 0.165   | 1.52E-23      |
| Oligodendroglia | -1.65   | 0.165   | 1.52E-23      |
| Neurons         | -1.64   | 0.167   | 9.20E-23      |
| Endothelial cells | -1.62  | 0.167   | 3.00E-22      |
| Endothelial cells | -0.934 | 0.135   | 4.56E-12      |
| Microglia       | 0.681   | 0.072   | 3.13E-21      |
| Cell Type       | Coefficient | Standard Error | p-Value     |
|-----------------|-------------|----------------|-------------|
| Endothelial cells | 0.856       | 0.123          | 3.42E-12    |
| Astrocytes      | 0.214       | 0.0176         | 5.13E-34    |
| Microglia       | -0.365      | 0.0418         | 2.50E-18    |
| Neurons         | 0.0643      | 0.00789        | 3.65E-16    |
| Oligodendroglia | -0.0506     | 0.00756        | 2.18E-11    |
| Astrocytes      | 0.819       | 0.112          | 2.62E-13    |
| Microglia       | 0.243       | 0.0241         | 6.57E-24    |
| Neurons         | -0.365      | 0.0418         | 2.50E-18    |
| Oligodendroglia | -0.365      | 0.0418         | 2.50E-18    |
| Endothelial cells | -0.0506     | 0.00756        | 2.18E-11    |
| Astrocytes      | 0.819       | 0.112          | 2.62E-13    |
| Microglia       | 0.243       | 0.0241         | 6.57E-24    |
| Neurons         | -0.365      | 0.0418         | 2.50E-18    |
| Oligodendroglia | -0.365      | 0.0418         | 2.50E-18    |
| Endothelial cells | -0.0506     | 0.00756        | 2.18E-11    |
| Astrocytes      | 0.819       | 0.112          | 2.62E-13    |
| Microglia       | 0.243       | 0.0241         | 6.57E-24    |
| Neurons         | -0.365      | 0.0418         | 2.50E-18    |
| Cell Type         | $Z_{xy}$ | $s_{xy}$ | $P$     |
|------------------|---------|--------|--------|
| Oligodendroglia  | -1.91   | 0.198  | 5.09E-22 |
| Neurons          | -1.93   | 0.201  | 7.84E-22 |
| Astrocytes       | -1.91   | 0.199  | 8.15E-22 |
| Microglia        | -1.91   | 0.199  | 8.15E-22 |
| Endothelial cells| -1.87   | 0.201  | 1.36E-20 |
| Endothelial cells| -0.685  | 0.0889 | 1.31E-14 |
| Endothelial cells| 1.51    | 0.206  | 2.30E-13 |
| Microglia        | -0.408  | 0.0479 | 1.63E-17 |
| Neurons          | -0.436  | 0.0537 | 4.69E-16 |
| Oligodendroglia  | 5.66    | 0.461  | 1.19E-34 |
| Microglia        | -1.26   | 0.164  | 1.55E-14 |
| Oligodendroglia  | 4.3     | 0.335  | 1.03E-37 |
| Microglia        | -1.18   | 0.11   | 7.58E-27 |
| Astrocytes       | -4.14   | 0.598  | 4.42E-12 |
| Oligodendroglia  | 2.48    | 0.214  | 4.70E-31 |
| Microglia        | -0.689  | 0.0725 | 2.03E-21 |
| Endothelial cells| 0.978   | 0.124  | 3.09E-15 |
| Neurons          | 0.618   | 0.0877 | 1.83E-12 |
| Oligodendroglia  | 1.32    | 0.177  | 8.81E-14 |
| Microglia        | 0.573   | 0.0802 | 9.02E-13 |
| Endothelial cells| -2.33   | 0.3    | 8.06E-15 |
| Neurons          | 0.493   | 0.0721 | 8.05E-12 |
| Endothelial cells| 0.978   | 0.122  | 1.09E-15 |
| Neurons          | -0.655  | 0.0966 | 1.20E-11 |
| Neurons          | 0.544   | 0.0562 | 3.68E-22 |
| Microglia        | 0.519   | 0.0607 | 1.23E-17 |
| Endothelial cells| -1.23   | 0.151  | 3.77E-16 |
| Neurons          | -0.639  | 0.0861 | 1.16E-13 |
| Neurons          | -0.568  | 0.0761 | 8.40E-14 |
| Endothelial cells| -0.916  | 0.136  | 1.64E-11 |
| Endothelial cells| 2.39    | 0.343  | 3.22E-12 |
| Neurons          | 1.72    | 0.249  | 4.93E-12 |
| Endothelial cells| -1.1    | 0.135  | 3.70E-16 |
| Neurons          | -0.58   | 0.0808 | 7.06E-13 |
| Microglia        | -0.459  | 0.0433 | 2.97E-26 |
| Neurons          | -0.422  | 0.0429 | 7.81E-23 |
| Neurons          | 0.392   | 0.0538 | 3.19E-13 |
| Neurons          | 0.473   | 0.0493 | 8.45E-22 |
| Microglia        | 0.377   | 0.0566 | 2.72E-11 |
|                  | Value 1 | Value 2 | p-value       |
|------------------|---------|---------|---------------|
| Endothelial cells| -0.0898 | 0.00731 | 1.10E-34      |
| Oligodendroglia  | 0.127   | 0.0154  | 1.63E-16      |
| Microglia        | -0.0329 | 0.00473 | 3.51E-12      |
| Oligodendroglia  | 13.6    | 1.27    | 9.27E-27      |
| Microglia        | 2.77    | 0.269   | 7.24E-25      |
| Astrocytes       | 13.5    | 1.45    | 1.27E-20      |
| Endothelial cells| 4.16    | 0.579   | 6.73E-13      |
| Neurons          | -2.33   | 0.334   | 3.04E-12      |
| Oligodendroglia  | -0.514  | 0.0506  | 3.05E-24      |
| Oligodendroglia  | -30     | 4.31    | 3.39E-12      |
| Astrocytes       | -32.7   | 4.71    | 3.85E-12      |
| Endothelial cells| 4.98    | 0.738   | 1.50E-11      |
| Neurons          | 4.61    | 0.688   | 2.08E-11      |
| Neurons          | 1.05    | 0.145   | 4.44E-13      |
| Endothelial cells| 0.735   | 0.108   | 1.01E-11      |
| Endothelial cells| -0.816  | 0.109   | 7.09E-14      |
| Oligodendroglia  | -0.872  | 0.101   | 5.94E-18      |
| Endothelial cells| 0.382   | 0.0519  | 1.83E-13      |
| Neurons          | 0.206   | 0.0295  | 2.89E-12      |
| Neurons          | 0.418   | 0.0617  | 1.25E-11      |
| Microglia        | -0.631  | 0.0789  | 1.27E-15      |
| Microglia        | -2.32   | 0.212   | 7.15E-28      |
| Neurons          | 3.06    | 0.315   | 2.62E-22      |
| Astrocytes       | -2.28   | 0.235   | 2.95E-22      |
| Oligodendroglia  | -2.29   | 0.239   | 9.56E-22      |
| Endothelial cells| -2.19   | 0.239   | 5.04E-20      |
| Endothelial cells| 1.03    | 0.142   | 4.06E-13      |
| Endothelial cells| -1.17   | 0.156   | 6.38E-14      |
| Neurons          | -0.841  | 0.116   | 4.17E-13      |
| Endothelial cells| -4.02   | 0.425   | 3.11E-21      |
| Astrocytes       | 23.5    | 2.7     | 3.21E-18      |
| Oligodendroglia  | 5.62    | 0.65    | 5.33E-18      |
| Neurons          | -0.657  | 0.0917  | 7.80E-13      |
| Endothelial cells| -0.895  | 0.129   | 3.98E-12      |
| Neurons          | -2.23   | 0.253   | 1.21E-18      |
| Oligodendroglia  | -2.18   | 0.25    | 2.78E-18      |
| Endothelial cells| -2.21   | 0.254   | 3.30E-18      |
| Microglia        | -2.16   | 0.252   | 1.02E-17      |
| Astrocytes       | -2.14   | 0.252   | 2.03E-17      |
| Cell Type            | Value 1 | Value 2   | p-value  |
|---------------------|---------|-----------|----------|
| Microglia           | 0.251   | 0.0271    | 2.01E-20 |
| Astrocytes          | -0.232  | 0.0176    | 1.12E-39 |
| Endothelial cells   | 0.151   | 0.014     | 4.02E-27 |
| Oligodendroglia     | -0.174  | 0.019     | 5.29E-20 |
| Neurons             | 0.0832  | 0.00909   | 5.54E-20 |
| Neurons             | -4.42   | 0.617     | 7.85E-13 |
| Neurons             | 0.0302  | 0.00401   | 5.03E-14 |
| Neurons             | 0.0032  | 0.000429  | 8.70E-14 |
| Endothelial cells   | -0.506  | 0.0561    | 1.89E-19 |
| Endothelial cells   | 0.921   | 0.1       | 3.26E-20 |
| Neurons             | 0.484   | 0.0675    | 7.48E-13 |
| Microglia           | 0.257   | 0.0381    | 1.53E-11 |
| Endothelial cells   | 1.62    | 0.234     | 4.42E-12 |
| Neurons             | -3.54   | 0.389     | 9.01E-20 |
| Endothelial cells   | -5.96   | 0.694     | 8.86E-18 |
| Microglia           | 5.62    | 0.786     | 8.67E-13 |
| Endothelial cells   | 0.0907  | 0.0126    | 6.09E-13 |
| Neurons             | 0.513   | 0.0541    | 2.48E-21 |
| Microglia           | 0.425   | 0.0504    | 3.38E-17 |
| Endothelial cells   | 0.931   | 0.132     | 1.75E-12 |
| Neurons             | 0.376   | 0.0549    | 7.45E-12 |
| Neurons             | -0.722  | 0.101     | 8.77E-13 |
| Endothelial cells   | 0.616   | 0.0888    | 4.01E-12 |
| Neurons             | -0.474  | 0.0687    | 5.22E-12 |
| Microglia           | 0.274   | 0.0275    | 2.20E-23 |
| Neurons             | 0.248   | 0.0271    | 5.63E-20 |
| Endothelial cells   | -0.729  | 0.105     | 3.84E-12 |
| Neurons             | -0.499  | 0.0553    | 1.82E-19 |
| Microglia           | -0.488  | 0.0602    | 5.22E-16 |
| Endothelial cells   | -1.29   | 0.178     | 4.26E-13 |
| Endothelial cells   | -2.08   | 0.275     | 3.92E-14 |
| Microglia           | -0.32   | 0.0466    | 6.56E-12 |
| Endothelial cells   | 0.981   | 0.138     | 1.17E-12 |
| Endothelial cells   | 0.863   | 0.124     | 3.41E-12 |
| Endothelial cells   | 0.23    | 0.0289    | 1.74E-15 |
| Astrocytes          | 0.23    | 0.032     | 6.60E-13 |
| Oligodendroglia     | 0.453   | 0.0666    | 1.03E-11 |
| Oligodendroglia     | -0.2    | 0.0239    | 5.85E-17 |
| Endothelial cells   | -0.069  | 0.00969   | 1.07E-12 |
| Cells             | Value 1 | Value 2 | p-value     |
|-------------------|---------|---------|-------------|
| Neurons           | -0.069  | 0.0097  | 1.13E-12    |
| Astrocytes        | -0.0688 | 0.00969 | 1.25E-12    |
| Microglia         | -0.0687 | 0.0097  | 1.42E-12    |
| Endothelial cells | 0.864   | 0.108   | 1.24E-15    |
| Endothelial cells | 0.734   | 0.0922  | 1.71E-15    |
| Neurons           | 0.337   | 0.0503  | 2.09E-11    |
| Oligodendroglia   | -1.68   | 0.198   | 2.16E-17    |
| Microglia         | -1.65   | 0.222   | 1.07E-13    |
| Astrocytes        | -1.65   | 0.226   | 2.86E-13    |
| Neurons           | 2.08    | 0.293   | 1.26E-12    |
| Endothelial cells | 4.49    | 0.67    | 2.06E-11    |
| Neurons           | 1.34    | 0.161   | 8.58E-17    |
| Neurons           | 0.386   | 0.0579  | 2.62E-11    |
| Neurons           | -0.458  | 0.0601  | 2.52E-14    |
| Endothelial cells | 0.252   | 0.0314  | 1.01E-15    |
| Neurons           | 0.125   | 0.0179  | 2.88E-12    |
| Astrocytes        | 0.325   | 0.0479  | 1.16E-11    |
| Neurons           | 0.0277  | 0.00349 | 2.07E-15    |
| Microglia         | 1.02    | 0.119   | 1.02E-17    |
| Neurons           | 0.921   | 0.117   | 3.50E-15    |
| Neurons           | -0.63   | 0.0783  | 8.56E-16    |
| Neurons           | -0.347  | 0.0505  | 6.36E-12    |
| Neurons           | -0.441  | 0.0476  | 1.96E-20    |
| Endothelial cells | 0.727   | 0.096   | 3.65E-14    |
| Neurons           | 0.0383  | 0.00402 | 1.61E-21    |
| Neurons           | -2.11   | 0.185   | 3.93E-30    |
| Endothelial cells | -3.06   | 0.278   | 3.53E-28    |
| Microglia         | -14.9   | 1.66    | 2.81E-19    |
| Oligodendroglia   | -1390   | 163     | 1.49E-17    |
| Astrocytes        | 89.9    | 10.7    | 4.39E-17    |
| Endothelial cells | 1.18    | 0.141   | 5.82E-17    |
| Neurons           | 0.602   | 0.0803  | 6.54E-14    |
| Oligodendroglia   | 0.512   | 0.0715  | 8.02E-13    |
| Neurons           | 1.73    | 0.219   | 2.80E-15    |
| Endothelial cells | 1.68    | 0.221   | 2.92E-14    |
| Astrocytes        | 1.63    | 0.218   | 7.60E-14    |
| Oligodendroglia   | 1.62    | 0.217   | 8.30E-14    |
| Microglia         | 1.63    | 0.22    | 1.27E-13    |
| Endothelial cells | -0.882  | 0.13    | 1.16E-11    |
|                  | X1  | Y1  | X2  |
|------------------|-----|-----|-----|
| Endothelial cells| 0.874 | 0.0932 | 6.74E-21 |
| Neurons          | 0.412 | 0.0565 | 3.05E-13 |
| Neurons          | -0.15 | 0.012 | 7.47E-36 |
| Astrocytes       | -0.747 | 0.0707 | 4.29E-26 |
| Microglia        | -0.15 | 0.0173 | 4.30E-18 |
| Endothelial cells| 0.127 | 0.0168 | 4.05E-14 |
| Neurons          | -0.72 | 0.0828 | 3.45E-18 |
| Endothelial cells| -1.1  | 0.143 | 1.45E-14 |
| Endothelial cells| 0.142 | 0.0638 | 5.33E-12 |
| Oligodendroglia  | -0.101 | 0.00823 | 1.28E-34 |
| Microglia        | 0.0271 | 0.00274 | 4.58E-23 |
| Endothelial cells| 0.162 | 0.0219 | 1.39E-13 |
| Neurons          | 0.71  | 0.0895 | 2.14E-15 |
| Oligodendroglia  | -1.4  | 0.0916 | 9.80E-53 |
| Microglia        | -1.41 | 0.0925 | 1.83E-52 |
| Astrocytes       | -1.4  | 0.092 | 2.71E-52 |
| Endothelial cells| -1.4  | 0.092 | 2.71E-52 |
| Neurons          | -1.4  | 0.0923 | 5.77E-52 |
| Oligodendroglia  | -1.33 | 0.131 | 3.22E-24 |
| Oligodendroglia  | 4.34  | 0.572 | 3.26E-14 |
| Oligodendroglia  | 3.68  | 0.346 | 2.03E-26 |
| Oligodendroglia  | 0.174 | 0.0249 | 2.79E-12 |
| Oligodendroglia  | 1.48  | 0.205 | 5.22E-13 |
| Oligodendroglia  | 1.01  | 0.125 | 6.48E-16 |
| Microglia        | 0.0482 | 0.00705 | 8.09E-12 |
| Neurons          | -2.76 | 0.388 | 1.13E-12 |
| Microglia        | -2.45 | 0.358 | 7.72E-12 |
| Endothelial cells| -1.45 | 0.176 | 1.74E-16 |
| Neurons          | -0.66 | 0.0953 | 4.34E-12 |
| Neurons          | -0.468 | 0.0653 | 7.67E-13 |
| Endothelial cells| -0.673 | 0.0944 | 1.01E-12 |
| Endothelial cells| 1.08  | 0.16 | 1.48E-11 |
| Microglia        | -0.0685 | 0.00993 | 5.26E-12 |
| Oligodendroglia  | 0.237 | 0.0323 | 2.18E-13 |
| Astrocytes       | 5.84  | 0.214 | 5.62E-164 |
| Microglia        | 0.205 | 0.0132 | 2.16E-54 |
| Endothelial cells| 0.299 | 0.0232 | 5.26E-38 |
| Cell Type          | z-score | p-value | q-value |
|--------------------|---------|---------|---------|
| Oligodendroglia    | -0.622  | 4.60E-18|         |
| Neurons            | 0.0298  | 2.69E-15|         |
| Endothelial cells  | 0.372   | 1.85E-12|         |
| Astrocytes         | 0.371   | 8.34E-14|         |
| Microglia          | 0.0833  | 1.68E-13|         |
| Endothelial cells  | 1.03    | 3.03E-11|         |
| Microglia          | -0.175  | 2.14E-14|         |
| Neurons            | -0.494  | 1.08E-11|         |
| Microglia          | 0.624   | 9.60E-14|         |
| Neurons            | -0.409  | 7.34E-12|         |
| Endothelial cells  | 0.629   | 2.14E-13|         |
| Endothelial cells  | 0.93    | 1.59E-11|         |
| Endothelial cells  | 1.6     | 5.71E-13|         |
| Neurons            | 0.696   | 3.08E-12|         |
| Oligodendroglia    | 4.48    | 1.45E-32|         |
| Microglia          | -0.986  | 4.17E-13|         |
| Endothelial cells  | -0.106  | 1.59E-12|         |
| Microglia          | -0.105  | 2.56E-12|         |
| Oligodendroglia    | -0.105  | 2.56E-12|         |
| Astrocytes         | -0.104  | 4.11E-12|         |
| Neurons            | -0.104  | 4.11E-12|         |
| Endothelial cells  | 1.61    | 7.33E-18|         |
| Neurons            | 0.547   | 3.01E-12|         |
| Oligodendroglia    | 0.454   | 2.37E-23|         |
| Neurons            | -0.152  | 3.69E-21|         |
| Astrocytes         | -0.0958 | 8.73E-13|         |
| Endothelial cells  | -0.0965 | 8.80E-13|         |
| Oligodendroglia    | -0.0961 | 1.09E-12|         |
| Microglia          | -0.0955 | 1.50E-12|         |
| Neurons            | -0.0947 | 2.30E-12|         |
| Microglia          | 0.366   | 9.52E-19|         |
| Neurons            | 0.302   | 2.01E-13|         |
| Neurons            | 0.0333  | 1.39E-12|         |
| Microglia          | -1.45   | 1.52E-18|         |
| Oligodendroglia    | -1.45   | 3.45E-17|         |
| Astrocytes         | -1.43   | 1.39E-16|         |
| Neurons            | -1.42   | 6.08E-15|         |
| Endothelial cells  | -1.19   | 1.03E-13|         |
| Cell Type          | Correlation Coefficient | p-value   |
|-------------------|--------------------------|-----------|
| Oligodendroglia   | -1.4                     | 0.137     | 1.63E-24 |
| Endothelial cells | -1.15                    | 0.135     | 1.62E-17 |
| Microglia         | -0.589                   | 0.0779    | 4.00E-14 |
| Neurons           | -0.56                    | 0.079     | 1.35E-12 |
| Endothelial cells | 1.38                     | 0.182     | 3.39E-14 |
| Neurons           | 0.751                    | 0.106     | 1.39E-12 |
| Neurons           | -0.419                   | 0.0495    | 2.57E-17 |
| Microglia         | 0.361                    | 0.0428    | 3.32E-17 |
| Endothelial cells | -3.02                    | 0.44      | 6.71E-12 |
| Microglia         | -0.222                   | 0.0322    | 5.41E-12 |
| Neurons           | -0.696                   | 0.0701    | 3.12E-23 |
| Endothelial cells | -0.99                    | 0.108     | 4.88E-20 |
| Neurons           | -0.519                   | 0.066     | 3.73E-15 |
| Oligodendroglia   | 0.0848                   | 0.00765   | 1.48E-28 |
| Microglia         | -0.0317                  | 0.00367   | 5.74E-18 |
| Microglia         | 0.513                    | 0.0587    | 2.34E-18 |
| Neurons           | 0.449                    | 0.0555    | 5.96E-16 |
| Endothelial cells | 0.997                    | 0.119     | 5.38E-17 |
| Astrocytes        | -0.185                   | 0.0114    | 3.19E-59 |
| Neurons           | -0.185                   | 0.0114    | 3.19E-59 |
| Oligodendroglia   | -0.185                   | 0.0114    | 3.19E-59 |
| Endothelial cells | -0.184                   | 0.0114    | 1.33E-58 |
| Microglia         | -0.184                   | 0.0114    | 1.33E-58 |
| Microglia         | -0.413                   | 0.059     | 2.56E-12 |
| Neurons           | -1.82                    | 0.0814    | 9.93E-111|
| Microglia         | -1.57                    | 0.0839    | 3.90E-78 |
| Endothelial cells | -1.36                    | 0.136     | 1.52E-23 |
| Neurons           | -0.596                   | 0.0764    | 6.14E-15 |
| Astrocytes        | 0.465                    | 0.0644    | 5.18E-13 |
| Microglia         | -0.081                   | 0.0113    | 7.60E-13 |
| Endothelial cells | -0.0801                  | 0.0112    | 8.57E-13 |
| Neurons           | -0.0803                  | 0.0113    | 1.19E-12 |
| Oligodendroglia   | -0.0779                  | 0.0113    | 5.43E-12 |
| Endothelial cells | 0.685                    | 0.0989    | 4.32E-12 |
| Microglia         | 2.12                     | 0.128     | 1.30E-61 |
| Oligodendroglia   | 2.11                     | 0.129     | 3.90E-60 |
| Astrocytes        | 2.12                     | 0.13      | 8.70E-60 |
| Endothelial cells | 2.1                      | 0.131     | 7.82E-58 |
| Neurons           | 2.1                      | 0.131     | 7.82E-58 |
| Cell Type       | Gene1  | Gene2  | p-value     |
|-----------------|--------|--------|-------------|
| Endothelial cells | -0.69  | 0.0887 | 7.31E-15    |
| Microglia       | 0.746  | 0.0531 | 7.82E-45    |
| Neurons         | 0.783  | 0.0572 | 1.18E-42    |
| Endothelial cells | 0.656  | 0.0909 | 5.33E-13    |
| Microglia       | -0.683 | 0.099  | 5.24E-12    |
| Endothelial cells | 0.726  | 0.107  | 1.16E-11    |
| Neurons         | 0.509  | 0.0761 | 2.25E-11    |
| Neurons         | 1.44   | 0.209  | 5.58E-12    |
| Astrocytes      | 1.39   | 0.207  | 1.88E-11    |
| Microglia       | 1.37   | 0.205  | 2.34E-11    |
| Oligodendroglia | 1.39   | 0.208  | 2.35E-11    |
| Endothelial cells | -0.892 | 0.113  | 2.93E-15    |
| Endothelial cells | 1.26   | 0.178  | 1.46E-12    |
| Neurons         | 0.117  | 0.012  | 1.84E-11    |
| Endothelial cells | 1.16   | 0.143  | 4.98E-16    |
| Endothelial cells | -0.662 | 0.0926 | 8.74E-13    |
| Endothelial cells | 1.31   | 0.147  | 5.03E-19    |
| Neurons         | 0.645  | 0.0823 | 4.61E-15    |
| Neurons         | -1.96  | 0.148  | 4.94E-40    |
| Astrocytes      | -1.91  | 0.147  | 1.34E-38    |
| Microglia       | -1.91  | 0.147  | 1.34E-38    |
| Oligodendroglia | -1.91  | 0.147  | 1.34E-38    |
| Endothelial cells | -1.9   | 0.149  | 3.05E-37    |
| Microglia       | -2     | 0.168  | 1.12E-32    |
| Neurons         | 2.63   | 0.221  | 1.18E-32    |
| Astrocytes      | -2     | 0.169  | 2.59E-32    |
| Oligodendroglia | -1.99  | 0.169  | 5.24E-32    |
| Endothelial cells | -1.99  | 0.171  | 2.66E-31    |
| Endothelial cells | 0.72   | 0.107  | 1.71E-11    |
| Endothelial cells | 0.96   | 0.13   | 1.53E-13    |
| Neurons         | 2.8    | 0.252  | 1.11E-28    |
| Astrocytes      | -2.14  | 0.203  | 5.54E-26    |
| Microglia       | -2.14  | 0.203  | 5.54E-26    |
| Oligodendroglia | -2.14  | 0.203  | 5.54E-26    |
| Endothelial cells | -2.13  | 0.205  | 2.75E-25    |
| Endothelial cells | 0.872  | 0.105  | 1.00E-16    |
| Neurons         | 0.527  | 0.0766 | 5.99E-12    |
| Endothelial cells | 0.713  | 0.0958 | 9.87E-14    |
| Neurons         | 0.444  | 0.0616 | 5.69E-13    |
| Type            | Value1 | Value2 | p-value |
|-----------------|--------|--------|---------|
| Endothelial cells | 0.916  | 0.132  | 3.94E-12|
| Neurons         | -0.358 | 0.0505 | 1.35E-12|
| Endothelial cells | 5.9    | 0.586  | 7.63E-24|
| Neurons         | 2.14   | 0.249  | 8.37E-18|
| Astrocytes      | 79     | 11.5   | 6.44E-12|
| Endothelial cells | 0.898  | 0.121  | 1.16E-13|
| Neurons         | 1.14   | 0.13   | 1.80E-18|
| Neurons         | 0.525  | 0.0676 | 8.08E-15|
| Neurons         | 0.648  | 0.0964 | 1.79E-11|
| Endothelial cells | 3.25   | 0.419  | 8.73E-15|
| Neurons         | -2.23  | 0.32   | 3.20E-12|
| Microglia       | 2.28   | 0.341  | 2.29E-11|
| Neurons         | -1.33  | 0.152  | 2.13E-18|
| Endothelial cells | 1.88   | 0.216  | 3.21E-18|
| Endothelial cells | 1.58   | 0.224  | 1.74E-12|
| Microglia       | -0.47  | 0.0613 | 1.76E-14|
| Endothelial cells | 1.44   | 0.207  | 3.49E-12|
| Endothelial cells | -5.38  | 0.526  | 1.48E-24|
| Astrocytes      | 17.6   | 2.43   | 4.40E-13|
| Neurons         | -1.35  | 0.193  | 2.66E-12|
| Endothelial cells | 1.13   | 0.142  | 1.75E-15|
| Astrocytes      | 1.46   | 0.186  | 4.18E-15|
| Oligodendroglia | 1.46   | 0.186  | 4.18E-15|
| Microglia       | 1.45   | 0.185  | 4.58E-15|
| Neurons         | 1.45   | 0.188  | 1.23E-14|
| Endothelial cells | 1.44   | 0.188  | 1.87E-14|
| Endothelial cells | -2.14  | 0.254  | 3.60E-17|
| Endothelial cells | 0.988  | 0.137  | 5.53E-13|
| Neurons         | 0.645  | 0.092  | 2.37E-12|
| Endothelial cells | 1      | 0.118  | 2.36E-17|
| Neurons         | 0.419  | 0.0601 | 3.13E-12|
| Endothelial cells | 0.828  | 0.122  | 1.15E-11|
| Neurons         | 0.572  | 0.086  | 2.91E-11|
| Endothelial cells | 1.74   | 0.192  | 1.27E-19|
| Neurons         | 0.926  | 0.108  | 9.99E-18|
| Oligodendroglia | -5.17  | 0.752  | 6.20E-12|
| Microglia       | 0.261  | 0.039  | 2.20E-11|
| Neurons         | 0.545  | 0.061  | 4.09E-19|
|                  | Value 1 | Value 2 | p-value  |
|------------------|---------|---------|----------|
| Endothelial cells| 0.904   | 0.104   | 3.55E-18 |
| Endothelial cells| -2.02   | 0.217   | 1.29E-20 |
| Neurons          | 0.403   | 0.058   | 3.70E-12 |
| Endothelial cells| 0.558   | 0.0656  | 1.80E-17 |
| Neurons          | 0.266   | 0.0384  | 4.30E-12 |
| Microglia        | 1.66    | 0.176   | 4.03E-21 |
| Neurons          | 1.52    | 0.163   | 1.11E-20 |
| Endothelial cells| 2.1     | 0.313   | 1.96E-11 |
| Microglia        | -0.53   | 0.0382  | 9.06E-44 |
| Neurons          | -0.444  | 0.0422  | 6.89E-26 |
| Endothelial cells| -0.564  | 0.0699  | 7.11E-16 |