

| ensembl_gene_id    | external_gene_name                                       | log2FoldChange |
|--------------------|----------------------------------------------------------|----------------|
| 1 LORICRIN         | loricrin cornified envelope precursor protein            | -7,22177       |
| 2 DSG1             | desmoglein 1                                             | -6,41291       |
| 3 GPR15LG          | G protein-coupled receptor 15 ligand                     | -5,7884        |
| 4 KRT1             | keratin 1                                                | -5,50997       |
| 5 BBOX1            | gamma-butyrobetaine hydroxylase 1                        | -5,33213       |
| 6 ZBTB16           | zinc finger and BTB domain containing 16                 | -5,22691       |
| 7 SERPINB12        | serpin family B member 12                                | -5,11708       |
| 8 FLG2             | filaggrin 2                                              | -5,11308       |
| 9 BPIFC            | BPI fold containing family C                             | -4,95311       |
| 10 PGLYRP4         | peptidoglycan recognition protein 4                      | -4,89238       |
| 11 SPRR2A          | small proline rich protein 2A                            | -4,74553       |
| 12 PPP2R2B         | protein phosphatase 2 regulatory subunit Bbeta           | -4,69335       |
| 13 EPHX3           | epoxide hydrolase 3                                      | -4,33037       |
| 14 KANK4           | KN motif and ankyrin repeat domains 4                    | -4,32678       |
| 15 SPRR2E          | small proline rich protein 2E                            | -4,1571        |
| 16 RTP4            | receptor transporter protein 4                           | -4,11502       |
| 17 DSC1            | desmocollin 1                                            | -4,10298       |
| 18 SLC15A1         | solute carrier family 15 member 1                        | -4,07504       |
| 19 ATP10B          | ATPase phospholipid transporting 10B (putative)          | -4,0271        |
| 20 CYP1B1          | cytochrome P450 family 1 subfamily B member 1            | -3,87721       |
| 21 LEMD1           | LEM domain containing 1                                  | -3,86289       |
| 22 SERPINB3        | serpin family B member 3                                 | -3,85821       |
| 23 SERPINB4        | serpin family B member 4                                 | -3,83968       |
| 24 LY6G6C          | lymphocyte antigen 6 family member G6C                   | -3,78019       |
| 25 PRR9            | proline rich 9                                           | -3,73591       |
| 26 KRTDAP          | keratinocyte differentiation associated protein          | -3,6696        |
| 27 MMP10           | matrix metalloproteinase 10                              | -3,64329       |
| 28 SPRR1A          | small proline rich protein 1A                            | -3,64273       |
| 29 S100A8          | S100 calcium binding protein A8                          | -3,63548       |
| 30 SPINK6          | serine peptidase inhibitor Kazal type 6                  | -3,61499       |
| 31 ENSG00000283761 |                                                          | -3,57749       |
| 32 FLG             | filaggrin                                                | -3,50054       |
| 33 EEF1A2          | eukaryotic translation elongation factor 1 alpha 2       | -3,50031       |
| 34 SPRR2D          | small proline rich protein 2D                            | -3,49417       |
| 35 PLA2G4E         | phospholipase A2 group IVE                               | -3,48299       |
| 36 ALOX12B         | arachidonate 12-lipoxygenase, 12R type                   | -3,41425       |
| 37 TMEM45B         | transmembrane protein 45B                                | -3,3472        |
| 38 TPPP3           | tubulin polymerization promoting protein family member 3 | -3,29798       |
| 39 LINC00589       | long intergenic non-protein coding RNA 589               | -3,27644       |
| 40 ENDOU           | endonuclease, poly(U) specific                           | -3,23012       |
| 41 HAL             | histidine ammonia-lyase                                  | -3,189         |
| 42 SDAD1P1         |                                                          | -3,17847       |
| 43 CPA4            | carboxypeptidase A4                                      | -3,16561       |
| 44 RDH12           | retinol dehydrogenase 12                                 | -3,16561       |
| 45 IGFBP5          | insulin like growth factor binding protein 5             | -3,15624       |
| 46 CXCL14          | C-X-C motif chemokine ligand 14                          | -3,14712       |
| 47 SPON2           | spodin 2                                                 | -3,10798       |
| 48 ZNF385D         | zinc finger protein 385D                                 | -3,03424       |
| 49 IL36RN          | interleukin 36 receptor antagonist                       | -3,01871       |
| 50 SPRR4           | small proline rich protein 4                             | -3,01142       |
| 51 NEBL            | nebulette                                                | -3,00313       |
| 52 SBSN            | suprabasin                                               | -3,0016        |
| 53 CALML5          | calmodulin like 5                                        | -2,94458       |
| 54 ARG1            | arginase 1                                               | -2,93876       |
| 55 POSTN           | periostin                                                | -2,91614       |
| 56 TMPRSS11F       | transmembrane serine protease 11F                        | -2,82264       |
| 57 SPINK5          | serine peptidase inhibitor Kazal type 5                  | -2,79944       |
| 58 CX3CL1          | C-X3-C motif chemokine ligand 1                          | -2,78615       |
| 59 AKR1B10         | aldo-keto reductase family 1 member B10                  | -2,78411       |
| 60 ANGPTL2         | angiopoietin like 2                                      | -2,75039       |
| 61 DNASE1L2        | deoxyribonuclease 1 like 2                               | -2,7266        |
| 62 IGF2            | insulin like growth factor 2                             | -2,69096       |
| 63 ANKRD35         | ankyrin repeat domain 35                                 | -2,67635       |
| 64 PLA2G4D         | phospholipase A2 group IVD                               | -2,64746       |
| 65 TGM1            | transglutaminase 1                                       | -2,63908       |
| 66 SULT1E1         | sulfotransferase family 1E member 1                      | -2,60247       |
| 67 PGLYRP3         | peptidoglycan recognition protein 3                      | -2,60163       |
| 68 SDR9C7          | short chain dehydrogenase/reductase family 9C member 7   | -2,59588       |
| 69 ATP12A          | ATPase H+/K+ transporting non-gastric alpha2 subunit     | -2,57499       |
| 70 SCEL            | scellin                                                  | -2,5696        |

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|-----|-----------------|-----------------------------------------------------------------|----------|
| 71  | FOXM1           | forkhead box N1                                                 | -2,56517 |
| 72  | ABCG1           | ATP binding cassette subfamily G member 1                       | -2,55398 |
| 73  | LURAP1L-AS1     |                                                                 | -2,54137 |
| 74  | SCG5            | secretogranin V                                                 | -2,5321  |
| 75  | ROBO4           | roundabout guidance receptor 4                                  | -2,5289  |
| 76  | H2BC15          | H2B clustered histone 15                                        | -2,52391 |
| 77  | DGAT2           | diacylglycerol O-acyltransferase 2                              | -2,48908 |
| 78  | IL2RB           | interleukin 2 receptor subunit beta                             | -2,45439 |
| 79  | SWINGN          |                                                                 | -2,43513 |
| 80  | TMEM45A         | transmembrane protein 45A                                       | -2,41969 |
| 81  | CYP4F22         | cytochrome P450 family 4 subfamily F member 22                  | -2,41832 |
| 82  | SERPINB13       | serpin family B member 13                                       | -2,41475 |
| 83  | CARMIL3         | capping protein regulator and myosin 1 linker 3                 | -2,39088 |
| 84  | CAMK1D          | calcium/calmodulin dependent protein kinase ID                  | -2,35966 |
| 85  | S100A9          | S100 calcium binding protein A9                                 | -2,35364 |
| 86  | KRT78           | keratin 78                                                      | -2,35233 |
| 87  | KLRG2           | killer cell lectin like receptor G2                             | -2,35099 |
| 88  | CA10            | carbonic anhydrase 10                                           | -2,35012 |
| 89  | KRT23           | keratin 23                                                      | -2,34323 |
| 90  | ENSG00000286288 |                                                                 | -2,33701 |
| 91  | UCP2            | uncoupling protein 2                                            | -2,3358  |
| 92  | AGR2            | anterior gradient 2, protein disulphide isomerase family member | -2,33178 |
| 93  | SLC5A1          | solute carrier family 5 member 1                                | -2,30221 |
| 94  | CDKN1C          | cyclin dependent kinase inhibitor 1C                            | -2,30136 |
| 95  | LINC01376       | long intergenic non-protein coding RNA 1376                     | -2,29011 |
| 96  | MIR3685         | microRNA 3685                                                   | -2,25399 |
| 97  | ENSG00000273186 |                                                                 | -2,25156 |
| 98  | FSTL4           | folliculin like 4                                               | -2,24638 |
| 99  | DEGS2           | delta 4-desaturase, sphingolipid 2                              | -2,23552 |
| 100 | CHRNA10         | cholinergic receptor nicotinic alpha 10 subunit                 | -2,23533 |
| 101 | SMOC1           | SPARC related modular calcium binding 1                         | -2,214   |
| 102 | TREM2           | triggering receptor expressed on myeloid cells 2                | -2,17208 |
| 103 | POU2F2-AS2      | POU2F2 antisense RNA 2                                          | -2,14861 |
| 104 | SCNN1B          | sodium channel epithelial 1 subunit beta                        | -2,13956 |
| 105 | KRT6C           | keratin 6C                                                      | -2,12487 |
| 106 | THBS1           | thrombospondin 1                                                | -2,124   |
| 107 | SFTA1P          | surfactant associated 1, lncRNA                                 | -2,12269 |
| 108 | ZNF750          | zinc finger protein 750                                         | -2,11767 |
| 109 | AIF1L           | allograft inflammatory factor 1 like                            | -2,06585 |
| 110 | GGT6            | gamma-glutamyltransferase 6                                     | -2,06408 |
| 111 | SMPD3           | sphingomyelin phosphodiesterase 3                               | -2,06186 |
| 112 | TMEM86A         | transmembrane protein 86A                                       | -2,06024 |
| 113 | ALDH3B2         | aldehyde dehydrogenase 3 family member B2                       | -2,03795 |
| 114 | MMP9            | matrix metalloproteinase 9                                      | -2,02753 |
| 115 | MANCR           | mitotically associated long non coding RNA                      | -2,01937 |
| 116 | GNAO1           | G protein subunit alpha o1                                      | -2,00212 |
| 117 | VSIG10L         | V-set and immunoglobulin domain containing 10 like              | -1,99737 |
| 118 | IGFL1           | IGF like family member 1                                        | -1,98607 |
| 119 | ANKRD22         | ankyrin repeat domain 22                                        | -1,98041 |
| 120 | SPRR1B          | small proline rich protein 1B                                   | -1,96706 |
| 121 | ENSG00000260328 |                                                                 | -1,96692 |
| 122 | ENSG00000205325 |                                                                 | -1,9441  |
| 123 | BNIP1           | BCL2 interacting protein like                                   | -1,9391  |
| 124 | GDPD2           | glycerophosphodiester phosphodiesterase domain containing 2     | -1,92521 |
| 125 | ENSG00000262877 |                                                                 | -1,9242  |
| 126 | THBS1-IT1       |                                                                 | -1,9168  |
| 127 | APCDD1          | APC down-regulated 1                                            | -1,90724 |
| 128 | RHCG            | Rh family C glycoprotein                                        | -1,8973  |
| 129 | PNPLA7          | patatin like phospholipase domain containing 7                  | -1,89144 |
| 130 | KRT17           | keratin 17                                                      | -1,88126 |
| 131 | SLITRK6         | SLIT and NTRK like family member 6                              | -1,87156 |
| 132 | CLIC3           | chloride intracellular channel 3                                | -1,86928 |
| 133 | DUSP8           | dual specificity phosphatase 8                                  | -1,84518 |
| 134 | TNXB            | tenascin XB                                                     | -1,83709 |
| 135 | RSAD2           | radical S-adenosyl methionine domain containing 2               | -1,81287 |
| 136 | PLA2G7          | phospholipase A2 group VII                                      | -1,80943 |
| 137 | APCDD1L         | APC down-regulated 1 like                                       | -1,79636 |
| 138 | NCCRP1          | NCCRP1, F-box associated domain containing                      | -1,79049 |
| 139 | INTS6-AS1       |                                                                 | -1,78439 |
| 140 | NOG             | noggin                                                          | -1,77478 |
| 141 | ENSG00000269906 |                                                                 | -1,7612  |

|     |                 |                                                                      |          |
|-----|-----------------|----------------------------------------------------------------------|----------|
| 142 | KRT10           | keratin 10                                                           | -1,75777 |
| 143 | TLL1            | tollid like 1                                                        | -1,74558 |
| 144 | SLC38A4         | solute carrier family 38 member 4                                    | -1,73597 |
| 145 | KRT80           | keratin 80                                                           | -1,72387 |
| 146 | PLA2G3          | phospholipase A2 group III                                           | -1,70878 |
| 147 | ENSG00000227885 | uncharacterized LOC124901333                                         | -1,70036 |
| 148 | CXCL11          | C-X-C motif chemokine ligand 11                                      | -1,69218 |
| 149 | SULT2B1         | sulfotransferase family 2B member 1                                  | -1,68598 |
| 150 | SPRR3           | small proline rich protein 3                                         | -1,67888 |
| 151 | TAGLN           | transgelin                                                           | -1,66167 |
| 152 | MLPH            | melanophilin                                                         | -1,65748 |
| 153 | MX2             | MX dynamin like GTPase 2                                             | -1,64555 |
| 154 | ARL9            | ADP ribosylation factor like GTPase 9                                | -1,63964 |
| 155 | ENSG00000287023 |                                                                      | -1,63581 |
| 156 | NECTIN4         | nectin cell adhesion molecule 4                                      | -1,63124 |
| 157 | B3GALT4         | beta-1,3-galactosyltransferase 4                                     | -1,62985 |
| 158 | ENSG00000290537 |                                                                      | -1,62745 |
| 159 | ZNF365          | zinc finger protein 365                                              | -1,62388 |
| 160 | LFNG            | LFNG O-fucosylpeptide 3-beta-N-acetylglucosaminyltransferase         | -1,61876 |
| 161 | CYP1A1          | cytochrome P450 family 1 subfamily A member 1                        | -1,61501 |
| 162 | HOPX            | HOP homeobox                                                         | -1,61249 |
| 163 | FAM167A         | family with sequence similarity 167 member A                         | -1,60636 |
| 164 | NEFM            | neurofilament medium chain                                           | -1,59505 |
| 165 | GAS6-AS1        |                                                                      | -1,56955 |
| 166 | PPM1L           | protein phosphatase, Mg2+/Mn2+ dependent 1L                          | -1,56452 |
| 167 | RTCA-AS1        |                                                                      | -1,55953 |
| 168 | LINC01819       | long intergenic non-protein coding RNA 1819                          | -1,55408 |
| 169 | RRAD            | RRAD, Ras related glycolysis inhibitor and calcium channel regulator | -1,55016 |
| 170 | CNFN            | cornifelin                                                           | -1,54795 |
| 171 | AMIGO2          | adhesion molecule with Ig like domain 2                              | -1,53176 |
| 172 | CFAP57          | cilia and flagella associated protein 57                             | -1,51721 |
| 173 | PSORS1C2        | psoriasis susceptibility 1 candidate 2                               | -1,51659 |
| 174 | ABCA12          | ATP binding cassette subfamily A member 12                           | -1,51458 |
| 175 | CRABP2          | cellular retinoic acid binding protein 2                             | -1,51213 |
| 176 | MUC15           | mucin 15, cell surface associated                                    | -1,50808 |
| 177 | USH1G           | USH1 protein network component sans                                  | -1,5035  |
| 178 | IFI44L          | interferon induced protein 44 like                                   | -1,50319 |
| 179 | LCE1F           | late cornified envelope 1F                                           | -1,50078 |
| 180 | TNFRSF18        | TNF receptor superfamily member 18                                   | -1,49478 |
| 181 | A2ML1           | alpha-2-macroglobulin like 1                                         | -1,49104 |
| 182 | OSBP2           | oxysterol binding protein 2                                          | -1,4862  |
| 183 | USP51           | ubiquitin specific peptidase 51                                      | -1,486   |
| 184 | C2orf66         | chromosome 2 open reading frame 66                                   | -1,48393 |
| 185 | SLC2A12         | solute carrier family 2 member 12                                    | -1,48236 |
| 186 | OVOL1           | ovo like transcriptional repressor 1                                 | -1,47312 |
| 187 | KRT75           | keratin 75                                                           | -1,46982 |
| 188 | ANO1            | anoctamin 1                                                          | -1,46827 |
| 189 | IL7R            | interleukin 7 receptor                                               | -1,46074 |
| 190 | THBS2           | thrombospondin 2                                                     | -1,45918 |
| 191 | FAP             | fibroblast activation protein alpha                                  | -1,45591 |
| 192 | LY6D            | lymphocyte antigen 6 family member D                                 | -1,44478 |
| 193 | EPGN            | epithelial mitogen                                                   | -1,44466 |
| 194 | WNT10A          | Wnt family member 10A                                                | -1,44465 |
| 195 | CMPK2           | cytidine/uridine monophosphate kinase 2                              | -1,4415  |
| 196 | GLIPR2          | GLI pathogenesis related 2                                           | -1,44053 |
| 197 | METRNL          | meteorin like, glial cell differentiation regulator                  | -1,43673 |
| 198 | LINC00520       | long intergenic non-protein coding RNA 520                           | -1,42208 |
| 199 | MYCBPAP         | MYCBP associated protein                                             | -1,4094  |
| 200 | LCE1C           | late cornified envelope 1C                                           | -1,4083  |
| 201 | SMAD9           | SMAD family member 9                                                 | -1,39784 |
| 202 | FOXE1           | forkhead box E1                                                      | -1,3946  |
| 203 | HSPB8           | heat shock protein family B (small) member 8                         | -1,38883 |
| 204 | LCN2            | lipocalin 2                                                          | -1,38728 |
| 205 | FZD10           | frizzled class receptor 10                                           | -1,3852  |
| 206 | PAMR1           | peptidase domain containing associated with muscle regeneration 1    | -1,38489 |
| 207 | TSC22D3         | TSC22 domain family member 3                                         | -1,3679  |
| 208 | HSD11B1         | hydroxysteroid 11-beta dehydrogenase 1                               | -1,35884 |
| 209 | WNT2B           | Wnt family member 2B                                                 | -1,35277 |
| 210 | P3H2            | prolyl 3-hydroxylase 2                                               | -1,34338 |
| 211 | ADAMTS4         | ADAM metalloproteinase with thrombospondin type 1 motif 4            | -1,34143 |
| 212 | CHST1           | carbohydrate sulfotransferase 1                                      | -1,33832 |

|     |                 |                                                                       |          |
|-----|-----------------|-----------------------------------------------------------------------|----------|
| 213 | BLNK            | B cell linker                                                         | -1,33331 |
| 214 | VGLL1           | vestigial like family member 1                                        | -1,32782 |
| 215 | SPNS2           | SPNS lysolipid transporter 2, sphingosine-1-phosphate                 | -1,32277 |
| 216 | HERC5           | HECT and RLD domain containing E3 ubiquitin protein ligase 5          | -1,31497 |
| 217 | BACH2           | BTB domain and CNC homolog 2                                          | -1,30842 |
| 218 | STC2            | stanniocalcin 2                                                       | -1,30521 |
| 219 | KCNAB2          | potassium voltage-gated channel subfamily A regulatory beta subunit 2 | -1,30516 |
| 220 | CRYAB           | crystallin alpha B                                                    | -1,30365 |
| 221 | FAXDC2          | fatty acid hydroxylase domain containing 2                            | -1,29571 |
| 222 | OCLN            | occludin                                                              | -1,29232 |
| 223 | GLUL            | glutamate-ammonia ligase                                              | -1,28338 |
| 224 | NETO1           | neuropilin and tolloid like 1                                         | -1,2764  |
| 225 | EFNA3           | ephrin A3                                                             | -1,27594 |
| 226 | GRHL1           | grainyhead like transcription factor 1                                | -1,27143 |
| 227 | LGALS7          | galectin 7                                                            | -1,26319 |
| 228 | CAPNS2          | calpain small subunit 2                                               | -1,2513  |
| 229 | HAS2            | hyaluronan synthase 2                                                 | -1,25097 |
| 230 | ENSG00000251095 |                                                                       | -1,24488 |
| 231 | MTX1LP          |                                                                       | -1,24174 |
| 232 | SLC7A11         | solute carrier family 7 member 11                                     | -1,2373  |
| 233 | LNCOG           | lncRNA osteogenesis associated                                        | -1,23164 |
| 234 | NOD2            | nucleotide binding oligomerization domain containing 2                | -1,22259 |
| 235 | CDH26           | cadherin 26                                                           | -1,22018 |
| 236 | H2BC21          | H2B clustered histone 21                                              | -1,21756 |
| 237 | SYT14           | synaptotagmin 14                                                      | -1,21495 |
| 238 | SORT1           | sortilin 1                                                            | -1,21257 |
| 239 | CCN2            | cellular communication network factor 2                               | -1,21118 |
| 240 | TXNIP           | thioredoxin interacting protein                                       | -1,19636 |
| 241 | H2AC6           | H2A clustered histone 6                                               | -1,19217 |
| 242 | TPRSS11D        | transmembrane serine protease 11D                                     | -1,18933 |
| 243 | FN1             | fibronectin 1                                                         | -1,18427 |
| 244 | CSTA            | cystatin A                                                            | -1,17769 |
| 245 | EML6            | EMAP like 6                                                           | -1,17744 |
| 246 | LMO7            | LIM domain 7                                                          | -1,17464 |
| 247 | LINC00707       | long intergenic non-protein coding RNA 707                            | -1,17363 |
| 248 | CXXC5           | CXXC finger protein 5                                                 | -1,17322 |
| 249 | GSEC            |                                                                       | -1,17242 |
| 250 | PTGER4          | prostaglandin E receptor 4                                            | -1,17241 |
| 251 | SMOC2           | SPARC related modular calcium binding 2                               | -1,16787 |
| 252 | TGM2            | transglutaminase 2                                                    | -1,16407 |
| 253 | IL24            | interleukin 24                                                        | -1,16383 |
| 254 | MAP6            | microtubule associated protein 6                                      | -1,16213 |
| 255 | MRGPRX3         | MAS related GPR family member X3                                      | -1,14713 |
| 256 | MATR3           | matrin 3                                                              | -1,14286 |
| 257 | PPP1R3C         | protein phosphatase 1 regulatory subunit 3C                           | -1,13619 |
| 258 | RORA            | RAR related orphan receptor A                                         | -1,13605 |
| 259 | SERPINB10       | serpin family B member 10                                             | -1,12567 |
| 260 | SEMA3D          | semaphorin 3D                                                         | -1,11585 |
| 261 | PTH1H           | parathyroid hormone like hormone                                      | -1,11531 |
| 262 | OLFML2A         | olfactomedin like 2A                                                  | -1,11237 |
| 263 | NEFL            | neurofilament light chain                                             | -1,10364 |
| 264 | ST6GALNAC5      | ST6 N-acetylgalactosaminide alpha-2,6-sialyltransferase 5             | -1,09814 |
| 265 | CLDN1           | claudin 1                                                             | -1,09595 |
| 266 | GAS6-DT         | GAS6 divergent transcript                                             | -1,09574 |
| 267 | OASL            | 2'-5'-oligoadenylate synthetase like                                  | -1,09545 |
| 268 | THEM5           | thioesterase superfamily member 5                                     | -1,09506 |
| 269 | PMP22           | peripheral myelin protein 22                                          | -1,09373 |
| 270 | LCE3D           | late cornified envelope 3D                                            | -1,08978 |
| 271 | LTB4R           | leukotriene B4 receptor                                               | -1,08935 |
| 272 | SOX6            | SRY-box transcription factor 6                                        | -1,08653 |
| 273 | APOL3           | apolipoprotein L3                                                     | -1,0757  |
| 274 | MRPL20-DT       |                                                                       | -1,07517 |
| 275 | SLC1A3          | solute carrier family 1 member 3                                      | -1,0728  |
| 276 | HS3ST3B1        | heparan sulfate-glucosamine 3-sulfotransferase 3B1                    | -1,07272 |
| 277 | MXRA5           | matrix remodeling associated 5                                        | -1,06911 |
| 278 | NUAK1           | NUAK family kinase 1                                                  | -1,06903 |
| 279 | ULBP3           | UL16 binding protein 3                                                | -1,0686  |
| 280 | CCNJL           | cyclin J like                                                         | -1,06024 |
| 281 | ODC1            | ornithine decarboxylase 1                                             | -1,05043 |
| 282 | H19             | H19 imprinted maternally expressed transcript                         | -1,04735 |
| 283 | CSPG4           | chondroitin sulfate proteoglycan 4                                    | -1,04423 |

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|-----|-----------------|--------------------------------------------------------------------|----------|
| 284 | CREB5           | cAMP responsive element binding protein 5                          | -1,04227 |
| 285 | PRICKLE1        | prickle planar cell polarity protein 1                             | -1,03962 |
| 286 | HSH2D           | hematopoietic SH2 domain containing                                | -1,03678 |
| 287 | KITLG           | KIT ligand                                                         | -1,03278 |
| 288 | CYYR1           | cysteine and tyrosine rich 1                                       | -1,0303  |
| 289 | CDKN2B          | cyclin dependent kinase inhibitor 2B                               | -1,02954 |
| 290 | CHAC1           | ChaC glutathione specific gamma-glutamylcyclotransferase 1         | -1,02745 |
| 291 | VIPR1           | vasoactive intestinal peptide receptor 1                           | -1,02609 |
| 292 | REPS2           | RALBP1 associated Eps domain containing 2                          | -1,02365 |
| 293 | ITGA10          | integrin subunit alpha 10                                          | -1,02242 |
| 294 | SPTBN5          | spectrin beta, non-erythrocytic 5                                  | -1,01731 |
| 295 | MMP2            | matrix metalloproteinase 2                                         | -1,017   |
| 296 | SERPINF2        | serpin family F member 2                                           | -1,01514 |
| 297 | MYLIP           | myosin regulatory light chain interacting protein                  | -1,01482 |
| 298 | JUND            | JunD proto-oncogene, AP-1 transcription factor subunit             | -1,01008 |
| 299 | ENSG00000279806 |                                                                    | -1,00854 |
| 300 | TMEM79          | transmembrane protein 79                                           | 1,003825 |
| 301 | TRAF4           | TNF receptor associated factor 4                                   | 1,005173 |
| 302 | SERPINE1        | serpin family E member 1                                           | 1,011381 |
| 303 | IDH2            | isocitrate dehydrogenase (NADP(+)) 2                               | 1,012689 |
| 304 | TGFA            | transforming growth factor alpha                                   | 1,015554 |
| 305 | NUDT18          | nudix hydrolase 18                                                 | 1,016266 |
| 306 | CFAP46          | cilia and flagella associated protein 46                           | 1,017077 |
| 307 | TCAF1P1         |                                                                    | 1,017847 |
| 308 | FAM89B          | family with sequence similarity 89 member B                        | 1,020694 |
| 309 | CA2             | carbonic anhydrase 2                                               | 1,022325 |
| 310 | LINC01605       |                                                                    | 1,037334 |
| 311 | PROSER2         | proline and serine rich 2                                          | 1,038803 |
| 312 | ACOT11          | acyl-CoA thioesterase 11                                           | 1,03941  |
| 313 | MXRA8           | matrix remodeling associated 8                                     | 1,041305 |
| 314 | CSMD3           | CUB and Sushi multiple domains 3                                   | 1,041736 |
| 315 | TDRKH           | tudor and KH domain containing                                     | 1,045863 |
| 316 | ANKDD1A         | ankyrin repeat and death domain containing 1A                      | 1,053588 |
| 317 | NIBAN1          | niban apoptosis regulator 1                                        | 1,053751 |
| 318 | DMTN            | dematin actin binding protein                                      | 1,057622 |
| 319 | DLL1            | delta like canonical Notch ligand 1                                | 1,060079 |
| 320 | SEC14L1         | SEC14 like lipid binding 1                                         | 1,062642 |
| 321 | ANO4            | anoctamin 4                                                        | 1,066116 |
| 322 | LYPD5           | LY6/PLAUR domain containing 5                                      | 1,06682  |
| 323 | PITPNC1         | phosphatidylinositol transfer protein cytoplasmic 1                | 1,067183 |
| 324 | ABHD14A         | abhydrolase domain containing 14A                                  | 1,067816 |
| 325 | PLEKHG6         | pleckstrin homology and RhoGEF domain containing G6                | 1,068595 |
| 326 | SH3PXD2B        | SH3 and PX domains 2B                                              | 1,074058 |
| 327 | SYNC            | syncoilin, intermediate filament protein                           | 1,074269 |
| 328 | GPX3            | glutathione peroxidase 3                                           | 1,079315 |
| 329 | MYOSLID         | myocardin-induced smooth muscle lncRNA, inducer of differentiation | 1,088616 |
| 330 | HTRA1           | HtrA serine peptidase 1                                            | 1,088768 |
| 331 | C2CD2           | C2 calcium dependent domain containing 2                           | 1,091818 |
| 332 | PODXL           | podocalyxin like                                                   | 1,092919 |
| 333 | PLEKH02         | pleckstrin homology domain containing O2                           | 1,093534 |
| 334 | SYT7            | synaptotagmin 7                                                    | 1,096226 |
| 335 | SNRK            | SNF related kinase                                                 | 1,097816 |
| 336 | UPK3B           | uroplakin 3B                                                       | 1,134097 |
| 337 | RYR1            | ryanodine receptor 1                                               | 1,140592 |
| 338 | TMEM158         | transmembrane protein 158                                          | 1,142821 |
| 339 | FOSL1           | FOS like 1, AP-1 transcription factor subunit                      | 1,148828 |
| 340 | TMEM51-AS1      | TMEM51 antisense RNA 1                                             | 1,156298 |
| 341 | RHOF            | ras homolog family member F, filopodia associated                  | 1,156611 |
| 342 | TPM4            | tropomyosin 4                                                      | 1,161329 |
| 343 | ENSG00000260267 |                                                                    | 1,165578 |
| 344 | STS             | steroid sulfatase                                                  | 1,166753 |
| 345 | PTAFR           | platelet activating factor receptor                                | 1,182114 |
| 346 | EPHB2           | EPH receptor B2                                                    | 1,18222  |
| 347 | ARID3B          | AT-rich interaction domain 3B                                      | 1,183114 |
| 348 | GREB1L          | GREB1 like retinoic acid receptor coactivator                      | 1,19052  |
| 349 | CARD11          | caspase recruitment domain family member 11                        | 1,190559 |
| 350 | LGALS9          | galectin 9                                                         | 1,191346 |
| 351 | COL1A1          | collagen type I alpha 1 chain                                      | 1,200102 |
| 352 | IGFBP3          | insulin like growth factor binding protein 3                       | 1,205868 |
| 353 | CRTC1           | CREB regulated transcription coactivator 1                         | 1,217295 |
| 354 | MYO5C           | myosin VC                                                          | 1,219634 |

|     |                 |                                                                                |          |
|-----|-----------------|--------------------------------------------------------------------------------|----------|
| 355 | ENSG00000283511 |                                                                                | 1,229124 |
| 356 | KLK10           | kallikrein related peptidase 10                                                | 1,246894 |
| 357 | HES7            | hes family bHLH transcription factor 7                                         | 1,269123 |
| 358 | MYLK            | myosin light chain kinase                                                      | 1,271386 |
| 359 | LINC03014       | long intergenic non-protein coding RNA 3014                                    | 1,274174 |
| 360 | TNS3            | tensin 3                                                                       | 1,279359 |
| 361 | HSPG2           | heparan sulfate proteoglycan 2                                                 | 1,280766 |
| 362 | TMEM40          | transmembrane protein 40                                                       | 1,286928 |
| 363 | FTH1            | ferritin heavy chain 1                                                         | 1,287831 |
| 364 | ENSG00000231628 |                                                                                | 1,293358 |
| 365 | CLMN            | calmin                                                                         | 1,296941 |
| 366 | DNER            | delta/notch like EGF repeat containing                                         | 1,297304 |
| 367 | CLDN23          | claudin 23                                                                     | 1,316403 |
| 368 | PLLP            | plasmolipin                                                                    | 1,325277 |
| 369 | GPR68           | G protein-coupled receptor 68                                                  | 1,336179 |
| 370 | FHOD3           | formin homology 2 domain containing 3                                          | 1,336366 |
| 371 | TSPAN1          | tetraspanin 1                                                                  | 1,337177 |
| 372 | TINAGL1         | tubulointerstitial nephritis antigen like 1                                    | 1,341756 |
| 373 | SPATA17         | spermatogenesis associated 17                                                  | 1,344212 |
| 374 | EHD1            | EH domain containing 1                                                         | 1,344557 |
| 375 | CHST11          | carbohydrate sulfotransferase 11                                               | 1,354968 |
| 376 | BAIAP2L2        | BAR/IMD domain containing adaptor protein 2 like 2                             | 1,356965 |
| 377 | ICAM1           | intercellular adhesion molecule 1                                              | 1,357383 |
| 378 | CLDN11          | claudin 11                                                                     | 1,359733 |
| 379 | NDRG4           | NDRG family member 4                                                           | 1,373697 |
| 380 | CYP4F11         | cytochrome P450 family 4 subfamily F member 11                                 | 1,383519 |
| 381 | IGFBP6          | insulin like growth factor binding protein 6                                   | 1,388809 |
| 382 | ELAPOR2         | endosome-lysosome associated apoptosis and autophagy regulator family member 2 | 1,399205 |
| 383 | TM4SF19         | transmembrane 4 L six family member 19                                         | 1,403792 |
| 384 | SYT8            | synaptotagmin 8                                                                | 1,40476  |
| 385 | SEMA4B          | semaphorin 4B                                                                  | 1,405786 |
| 386 | LASTR           | long intergenic non-protein coding RNA 2677                                    | 1,409188 |
| 387 | EHBP1L1         | EH domain binding protein 1 like 1                                             | 1,413248 |
| 388 | TRIM6           | tripartite motif containing 6                                                  | 1,429861 |
| 389 | CTSD            | cathepsin D                                                                    | 1,431555 |
| 390 | KRT34           | keratin 34                                                                     | 1,494324 |
| 391 | CAPN12          | calpain 12                                                                     | 1,499292 |
| 392 | OLFML3          | olfactomedin like 3                                                            | 1,502621 |
| 393 | LINC01550       | long intergenic non-protein coding RNA 1550                                    | 1,510184 |
| 394 | CPA6            | carboxypeptidase A6                                                            | 1,532356 |
| 395 | DPP4            | dipeptidyl peptidase 4                                                         | 1,545651 |
| 396 | ITGB1-DT        |                                                                                | 1,555628 |
| 397 | ROM1            | retinal outer segment membrane protein 1                                       | 1,566561 |
| 398 | SAXO2           | stabilizer of axonemal microtubules 2                                          | 1,567707 |
| 399 | PABPC1P4        |                                                                                | 1,571829 |
| 400 | NKILA           | NF-kappaB interacting lncRNA                                                   | 1,587112 |
| 401 | HOMER3-AS1      |                                                                                | 1,590732 |
| 402 | ENSG00000273314 |                                                                                | 1,629483 |
| 403 | MTSS1           | MTSS I-BAR domain containing 1                                                 | 1,640396 |
| 404 | PDZK1IP1        | PDZK1 interacting protein 1                                                    | 1,664764 |
| 405 | PLCD4           | phospholipase C delta 4                                                        | 1,665187 |
| 406 | CYP4F12         | cytochrome P450 family 4 subfamily F member 12                                 | 1,670213 |
| 407 | CHST7           | carbohydrate sulfotransferase 7                                                | 1,686912 |
| 408 | SOCS1           | suppressor of cytokine signaling 1                                             | 1,687857 |
| 409 | ENSG00000267056 |                                                                                | 1,699756 |
| 410 | ABCA13          | ATP binding cassette subfamily A member 13                                     | 1,710517 |
| 411 | MYH16           |                                                                                | 1,720425 |
| 412 | ENOX1           | ecto-NOX disulfide-thiol exchanger 1                                           | 1,74855  |
| 413 | ZFP57           | ZFP57 zinc finger protein                                                      | 1,769338 |
| 414 | KCNK7           | potassium two pore domain channel subfamily K member 7                         | 1,771445 |
| 415 | ANOS1           | anosmin 1                                                                      | 1,776031 |
| 416 | LINC00857       | long intergenic non-protein coding RNA 857                                     | 1,786106 |
| 417 | ZNF185          | zinc finger protein 185 with LIM domain                                        | 1,789807 |
| 418 | MIR647          | microRNA 647                                                                   | 1,790696 |
| 419 | ST3GAL6-AS1     |                                                                                | 1,806374 |
| 420 | SLCO2A1         | solute carrier organic anion transporter family member 2A1                     | 1,827577 |
| 421 | AQP3            | aquaporin 3 (Gill blood group)                                                 | 1,841332 |
| 422 | NOXA1           | NADPH oxidase activator 1                                                      | 1,853668 |
| 423 | KCP             | kielin cysteine rich BMP regulator                                             | 1,86092  |
| 424 | GDNF-AS1        |                                                                                | 1,861002 |
| 425 | GIMAP8          | GTPase, IMAP family member 8                                                   | 1,879685 |

|     |                 |                                                              |          |
|-----|-----------------|--------------------------------------------------------------|----------|
| 426 | TNFRSF11A       | TNF receptor superfamily member 11a                          | 1,883981 |
| 427 | KRT15           | keratin 15                                                   | 1,886744 |
| 428 | RNU6-26P        |                                                              | 1,906413 |
| 429 | KLK5            | kallikrein related peptidase 5                               | 1,915701 |
| 430 | AKR1C1          | aldo-keto reductase family 1 member C1                       | 1,916026 |
| 431 | ENSG00000289365 |                                                              | 1,935013 |
| 432 | HSD17B2         | hydroxysteroid 17-beta dehydrogenase 2                       | 1,95605  |
| 433 | BNC2            | basonuclin zinc finger protein 2                             | 1,978335 |
| 434 | ITGBL1          | integrin subunit beta like 1                                 | 1,982473 |
| 435 | BEST1           | bestrophin 1                                                 | 2,005229 |
| 436 | G6PD            | glucose-6-phosphate dehydrogenase                            | 2,044844 |
| 437 | LGR6            | leucine rich repeat containing G protein-coupled receptor 6  | 2,053863 |
| 438 | LINC00964       | long intergenic non-protein coding RNA 964                   | 2,103094 |
| 439 | ENSG00000232043 |                                                              | 2,104228 |
| 440 | KRT19           | keratin 19                                                   | 2,140672 |
| 441 | ENSG00000279717 |                                                              | 2,148621 |
| 442 | ETNK2           | ethanolamine kinase 2                                        | 2,156271 |
| 443 | ENSG00000255491 | uncharacterized LOC105375743                                 | 2,162683 |
| 444 | FBXO24          | F-box protein 24                                             | 2,174403 |
| 445 | GDNF            | glial cell derived neurotrophic factor                       | 2,22229  |
| 446 | ENSG00000229167 |                                                              | 2,225672 |
| 447 | ENSG00000288891 |                                                              | 2,284097 |
| 448 | ESM1            | endothelial cell specific molecule 1                         | 2,311322 |
| 449 | MELTF           | melanotransferrin                                            | 2,374916 |
| 450 | SPOCD1          | SPOC domain containing 1                                     | 2,378092 |
| 451 | ADRA1D          | adrenoceptor alpha 1D                                        | 2,401226 |
| 452 | LINC01940       | long intergenic non-protein coding RNA 1940                  | 2,456921 |
| 453 | NOTCH4          | notch receptor 4                                             | 2,478814 |
| 454 | ENSG00000250038 |                                                              | 2,566934 |
| 455 | CD226           | CD226 molecule                                               | 2,623637 |
| 456 | ENSG00000234859 | uncharacterized LOC100505782                                 | 2,654112 |
| 457 | ATP8A1          | ATPase phospholipid transporting 8A1                         | 2,667784 |
| 458 | ERICD           |                                                              | 2,672338 |
| 459 | CIDEA           | cell death inducing DFFA like effector a                     | 2,705393 |
| 460 | RCSD1           | RCSD domain containing 1                                     | 2,810367 |
| 461 | NALCN           | sodium leak channel, non-selective                           | 3,006911 |
| 462 | LGI2            | leucine rich repeat LGI family member 2                      | 3,045711 |
| 463 | LNK1            | ligand of numb-protein X 1                                   | 3,107644 |
| 464 | LDLRAD2         | low density lipoprotein receptor class A domain containing 2 | 3,111354 |
| 465 | HRCT1           | histidine rich carboxyl terminus 1                           | 3,218131 |
| 466 | ENSG00000267218 |                                                              | 3,544783 |
| 467 | MIR3972         | microRNA 3972                                                | 3,971469 |
| 468 | CA9             | carbonic anhydrase 9                                         | 3,981078 |
| 469 | PARM1           | prostate androgen-regulated mucin-like protein 1             | 4,133672 |
| 470 | SARDH           | sarcosine dehydrogenase                                      | 4,171647 |
| 471 | SNCB            | synuclein beta                                               | 4,25425  |
| 472 | MCF2            | MCF.2 cell line derived transforming sequence                | 4,543115 |
| 473 | ENSG00000261754 |                                                              | 4,915475 |
| 474 | LINC02965       |                                                              | 5,023974 |
| 475 | ENSG00000223669 |                                                              | 5,071178 |
| 476 | CAMP            | cathelicidin antimicrobial peptide                           | 5,122465 |
| 477 | CYTH4           | cytohesin 4                                                  | 5,773468 |
| 478 | SEC14L6         | SEC14 like lipid binding 6                                   | 5,79097  |
| 479 | PPIAP14         |                                                              | 6,064006 |
| 480 | ALOX5           | arachidonate 5-lipoxygenase                                  | 6,299346 |
| 481 | ENSG00000271579 |                                                              | 7,010698 |