

Table S1. Genes with altered expression and DNA methylation profiles between cancer cells isolated from ascitic fluids obtained before and after CapeOX.

| Decreased expression | Hypermethylation | Increased expression | Hypomethylation |
|----------------------|------------------|----------------------|-----------------|
| CSRP3                | FAM193A          | CCL8                 | PI3             |
| TMEM196              | <b>FMO1</b>      | TERT                 | PDCD1LG2        |
| PKNOX2               | GPR75            | LILRB5               | IFI44L          |
| CLCA3P               | <b>NPHS1</b>     | S100B                | SFTA1P          |
| DEFB4A               | SEMA3B           | MLXIPL               |                 |
| PRODH2               | ANGPTL7          | TNFAIP8L2            |                 |
| PAPD5                | YPEL3            | EMR2                 |                 |
| APLF                 | <b>WISP1</b>     | S100A8               |                 |
| CILP                 | STK38L           | LILRB1               |                 |
| <b>NPHS1</b>         | ARHGEF25         | GPR65                |                 |
| OR52E2               | SLC44A2          | TGFB2                |                 |
| LGALS7               | MAB21L2          | STAB1                |                 |
| BPIFB1               | OR10J1           | LCP2                 |                 |
| FAM25A               | KLK11            | C1QC                 |                 |
| HBD                  | <b>FXD1</b>      | CMKLR1               |                 |
| CXCL10               | GPR110           | C1QA                 |                 |
| TMEM211              | APBB2            | C1QB                 |                 |
| DSG3                 | AREG             | LST1                 |                 |
| FUT7                 | ELF3             | PLEK                 |                 |
| PCDH20               | PART1            | RNASE6               |                 |
| PTPRD                | LOC285419        | LILRB2               |                 |
| HPCAL4               | MSLN             | ARHGAP9              |                 |
| C20orf151            | ECEL1P2          | S100A9               |                 |
| TMEM89               | C1QA             | MS4A7                |                 |
| PSG10P               | PYGM             | CCR1                 |                 |
| ACTL7B               |                  | TRPM2                |                 |
| CACNB1               |                  | OXTR                 |                 |
| EFNA3                |                  | FYB                  |                 |
| LOC646999            |                  | CD163                |                 |
| KIAA1211             |                  | FERMT3               |                 |
| GRIA2                |                  | GIMAP1               |                 |
| LCE1B                |                  | SPINK1               |                 |

|           |         |
|-----------|---------|
| MYRIP     | TLR4    |
| IGFL1     | MPEG1   |
| CYP4F11   | CYTIP   |
| NMU       | HCK     |
| UBD       | CSF1R   |
| PLIN5     | CD33    |
| SOST      | PECAM1  |
| GPR32     | MS4A6A  |
| C22orf32  | TUSC1   |
| DIO3OS    | CCL3    |
| WDR86     | CCL3L3  |
| JAKMIP1   | PSCA    |
| C8A       | C2orf62 |
| LOC283922 | FCGR3A  |
| SYT7      | SYK     |
| AKR1B15   | HRH4    |
| SPON1     | DAPP1   |
| ZNF597    | RETN    |
| LTB       | LAPTM5  |
| LINC00271 | SLAMF8  |
| GLS2      | LRRC25  |
| C20orf118 | ADORA3  |
| CD70      | MS4A4A  |
| TRIM63    | CD53    |
| C8orf12   | GIMAP4  |
| CCK       | CH25H   |
| HEYL      | SLA     |
| LDLRAD2   | CADM3   |
| TDO2      | CD93    |
| SLC15A1   | SULT1E1 |
| SH3GL2    | VMO1    |
| FSTL5     | C5AR1   |
| RAB33B    | HLA-DMB |
| NTRK2     | TYROBP  |
| RARRES2   | HCLS1   |
| STAB2     | LILRB4  |

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|--------------|-----------|
| TAS2R41      | KCTD4     |
| CDH18        | EVI2B     |
| CD1D         | PRR5L     |
| ARL14        | AMICA1    |
| LYZL1        | NEU4      |
| CES3         | FPR3      |
| MKRN3        | OR8H2     |
| AGTR1        | NINJ2     |
| CRYGD        | CD84      |
| TMED6        | BATF      |
| TRIM42       | PGR       |
| LOC100129794 | LYVE1     |
| RHBDL3       | BLNK      |
| MYH7B        | LRMP      |
| CD52         | HLA-DQA2  |
| B3GNT3       | PRAM1     |
| CNTN4        | BIN2      |
| MPL          | CTSS      |
| TSPAN19      | CCDC140   |
| CASP12       | HLA-DQA1  |
| TRAF1        | RUNX3     |
| HIST1H1A     | TNFRSF1B  |
| AADACL4      | CD14      |
| LOC728613    | NCKAP1L   |
| E2F8         | RAET1E    |
| NEUROG1      | RGS1      |
| RASL11B      | HAVCR2    |
| SPINK4       | APOC2     |
| C12orf69     | LILRB3    |
| DKFZP434L187 | GMFG      |
| LRRC52       | BCAS1     |
| CASQ1        | SYNPR     |
| MOXD2P       | DENND1C   |
| SERPINB5     | MSR1      |
| FAM47E       | PTPRC     |
| FLT3         | C20orf152 |

|              |          |
|--------------|----------|
| STMN4        | CYTH4    |
| OR5K2        | C1orf210 |
| FAM150A      | TREM2    |
| KCNH4        | HAMP     |
| FOXQ1        | TFEC     |
| HHATL        | SIGLEC11 |
| ANKRD55      | LAIR1    |
| KCNK12       | LGALS9C  |
| <b>FXYD1</b> | SCN4B    |
| DAND5        | C1orf162 |
| GJB3         | EGR2     |
| IL7R         | CDH13    |
| TMC5         | CETP     |
| WDR52        | EDIL3    |
| VWA3B        | PIK3CG   |
| REM1         | UPK1B    |
| BLID         | ZNF221   |
| SLC39A2      | CCL4     |
| SPACA4       | FOLR2    |
| ABCB11       | SPI1     |
| TRIML2       | SLC6A4   |
| LINC00161    | ADAMDEC1 |
| OR4D6        | IL21R    |
| MAT1A        | PRDM1    |
| KCNK7        | CLUL1    |
| OR10A7       | ALOX5    |
| CLDN6        | G0S2     |
| LCE1D        | ANGPTL2  |
| <b>WISP1</b> | ABCD2    |
| S100A7A      | OR2T4    |
| RSPH6A       | OR4A47   |
| WNT11        | PALMD    |
| PSG2         | FGFBP1   |
| SRL          | GBX2     |
| PCP4L1       | HLA-DRA  |
| SOX10        | IGFBP5   |

|           |          |
|-----------|----------|
| SSTR4     | MNDA     |
| C11orf96  | CAMK4    |
| ADAMTS9   | STYK1    |
| SFMBT2    | IL10RA   |
| HSD3B1    | KCNT2    |
| IL4I1     | FCGR2A   |
| C5orf60   | SCGB1D4  |
| SUSD2     | SORL1    |
| LOC401463 | GPR84    |
| NPY1R     | VAV3     |
| LSAMP     | VAV1     |
| CYP27C1   | ZNF534   |
| PRDM9     | HK3      |
| OR13C4    | ADRB2    |
| MCHR2     | GPRC5A   |
| SBSN      | EPN3     |
| FAM5B     | SLC1A3   |
| DPP6      | CYP24A1  |
| CX3CL1    | NPPB     |
| GSG2      | LMO2     |
| UPP2      | PLCB2    |
| GRAPL     | FGD3     |
| OR10H1    | TNNI2    |
| C9        | KLK7     |
| SAA4      | SLC16A6  |
| GABRD     | FPR2     |
| SYPL2     | CD300C   |
| TXK       | C1orf114 |
| LPPR5     | DCDC2    |
| CRP       | ARG1     |
| OR5R1     | SNORD8   |
| OR7A17    | LGI4     |
| LOC440905 | GPR183   |
| CST2      | PTPRO    |
| FBLN1     | MFSD4    |
| ASIP      | PREX1    |

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|----------|---------------|
| FAM75C2  | SIGLEC10      |
| PSAPL1   | PZP           |
| TAL2     | PDE4B         |
| ANGPTL4  | ITGAL         |
| SALL4    | GIMAP6        |
| NEIL3    | MFNG          |
| SGIP1    | TMEM119       |
| KCNC1    | CD163L1       |
| ELANE    | IRF8          |
| PLA2G4D  | ITGB2         |
| CDH19    | TRPV2         |
| ADRB1    | NCF2          |
| REG1A    | CD80          |
| IQUB     | MTVR2         |
| C8B      | ABI3          |
| NID2     | NLRC4         |
| PIP5K1B  | APCDD1L       |
| KEL      | IL6R          |
| FSTL4    | P4HA3         |
| ASPG     | DIRAS3        |
| MFSD6L   | PAQR5         |
| KCNA10   | RCSD1         |
| CPXM1    | NPR3          |
| EFS      | GNG2          |
| DKK4     | CCDC81        |
| WFDC2    | DKFZp434J0226 |
| HCAR1    | CD48          |
| C7orf65  | EPB41L3       |
| TXNRD3NB | KCNIP1        |
| NOD2     | BMPR1B        |
| MYOZ2    | PAQR9         |
| HECW2    | SLC7A4        |
| FAM198A  | SLCO2B1       |
| CCDC3    | PLEKHA6       |
| C1orf87  | GATA3         |
| TMEM215  | GFPT2         |

|             |               |
|-------------|---------------|
| LINC00472   | KLK5          |
| GABRA1      | MAP1B         |
| CLIC6       | NCF4          |
| PSG11       | AIM2          |
| AGR3        | LMOD2         |
| PRSS8       | HMHA1         |
| WBP2NL      | CLEC4A        |
| GNAT3       | FAM194A       |
| ADCYAP1R1   | GGTA1P        |
| ERBB4       | TMC8          |
| DDX50       | LILRA4        |
| AGR2        | C2CD4B        |
| MTSS1       | CRB1          |
| LOC144486   | CXCR4         |
| BHLHE22     | FPR1          |
| NPVF        | ARHGDIB       |
| TSPAN32     | MPV17L        |
| OR2L1P      | C12orf71      |
| TLR9        | RFPL3-AS1     |
| <b>FMO1</b> | GPX3          |
| FAIM3       | CCDC147       |
| F2RL1       | WDR69         |
| MCOLN3      | KCNS1         |
| APOBEC3H    | LOC285548     |
| HOXD11      | RP11-165H20.1 |
| EFCAB1      | SFTPD         |
| RGS9        | NFAM1         |
| TSPY26P     | EPHA5         |
| KCNAB3      | FOXD1         |
| C11orf53    | GP6           |
| FAM168A     | IFI30         |
| TRIM71      | CD44          |
| PDILT       | CATSPER1      |
| EBF3        | DEPTOR        |
| SERPINA9    | KCNK13        |
| OR8D2       | LY6G5B        |

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|-----------|----------|
| SLC5A4    | TLE2     |
| CXCL6     | LDHD     |
| CLSPN     | UCP2     |
| PRDM16    | RIMS4    |
| SNORA81   | CD37     |
| TLX2      | NMNAT2   |
| LOC148145 | EPCAM    |
| IL5       | ODZ2     |
| LNX1      | IGF2BP3  |
| GPR179    | CACNA2D3 |
| FBXL13    | JAKMIP3  |
| RHAG      | SLC1A4   |
| NR5A1     | FOXS1    |
| SYT16     | SGCD     |
| APOA5     | CCR5     |
| CKMT2     | FBXL16   |
| PATL2     | CD300A   |
| CCL1      | GHRLOS2  |
| DCLK3     | LGALS4   |
| SPTBN5    | CTNNA2   |
| ANKRD30BL | HNMT     |
| SNORA28   | ARHGAP25 |
| TIMD4     | ARID3C   |
| GPR37L1   | NTSR2    |
| AGPAT9    | ZBED2    |
| LHX2      | HPD      |
| C19orf40  | SIGLEC7  |
| FOXA3     | MFSD2A   |
| GRXCR1    | CHGA     |
| ATPBD4    | DPEP2    |
| CD3G      | SPINK6   |
| FLVCR2    | IGFL2    |
| RBP7      | PRRT4    |
| TULP2     | TMEM81   |
| KRT71     | CAMK2B   |
| ALDH1L1   | APOBR    |

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|----------|----------|
| HBM      | TNFSF4   |
| MPPED2   | NCAM1    |
| CXCL14   | HOXB9    |
| ABI3BP   | GIMAP8   |
| SLC22A13 | TUBB2B   |
| ST8SIA5  | DSPP     |
| ELTD1    | DARC     |
| FGA      | CCDC15   |
| ACSS3    | DNM3     |
| KIAA1614 | ADAP2    |
| KCNA1    | ITPR1    |
| CRIP3    | SDC2     |
| IL10     | TIMP3    |
| SLFNL1   | TMEM156  |
| SNORA23  | WDFY4    |
| SNORA22  | SEMA6D   |
| ARHGAP15 | ITGA8    |
| DOC2A    | OR9Q1    |
| FMO6P    | CPB1     |
| CPNE5    | TGFBR1   |
| SNAR-A3  | ABCA12   |
| QRFPR    | FAM196B  |
| SHH      | CXCR1    |
| GRM2     | MMP9     |
| PDGFRA   | GAS7     |
| CRHR2    | LILRA2   |
| LRRC43   | C1QL4    |
| ACTL7A   | PDE8B    |
| CCDC87   | HLA-DMA  |
| SLCO5A1  | S100A14  |
| DPRX     | CEMP1    |
| SLC1A7   | SLPI     |
| SAMD15   | SERPINA1 |
| CNGA1    | DMXL2    |
| LRRC30   | RTN1     |
| MANSC4   | AMBN     |

|            |          |
|------------|----------|
| HSPB3      | LBH      |
| KLKP1      | ADCY7    |
| DEFB124    | TNF      |
| TRIM17     | TLL1     |
| MGC16275   | PRG4     |
| NDNF       | ADAMTS5  |
| RNF175     | SORBS2   |
| NRIP2      | TAGLN    |
| CBLN2      | C16orf54 |
| CORO2B     | RGS7     |
| ANXA13     | CCRL2    |
| C20orf85   | ADCY1    |
| GPR153     | MGAT3    |
| MSC        | LPPR3    |
| SEC16B     | MYO1F    |
| TRAPPC6B   | EIF4E1B  |
| HCAR3      | OPN5     |
| ATPAF1-AS1 | LY86     |
| ATAD5      | SPRR2F   |
| RHCE       | CARD9    |
| PRIMA1     | HBBP1    |
| MCOLN2     | MMP7     |
| KLHL14     | SYNC     |
| TYRO3P     | HTRA4    |
| OR2AG1     | KCNK6    |
| HLF        | FAM43B   |
| C11orf88   | REEP2    |
| ENPP2      | VIP      |
| LOC144742  | OR2A5    |
| CSHL1      | MARCO    |
| C1orf116   | MYO7A    |
| FHOD3      | OR9G4    |
| CCDC42     | IGLON5   |
| ODZ4       | KCNH5    |
| KIAA0226L  | OR6K2    |
| C16orf86   | PLA2G2C  |

|           |          |
|-----------|----------|
| PTGIR     | FAM105A  |
| DEPDC1B   | PCDHA3   |
| PLA2G7    | COBL     |
| CT62      | LIM2     |
| ZNF833P   | CPNE4    |
| C3orf80   | TRIM58   |
| MATN3     | CRIP1    |
| DES       | PLCD4    |
| FAM65C    | CYTL1    |
| VSIG2     | VNN2     |
| GRIK2     | CDH8     |
| KLRD1     | KRT76    |
| C1orf68   | SLC6A19  |
| TNC       | SPRR2B   |
| PI15      | C22orf23 |
| CDKN2C    | HTR1A    |
| FAM163B   | VTN      |
| ZFP42     | UGT1A8   |
| SPTB      | PLXNA2   |
| JAM2      | CACNA1D  |
| ITGA2B    | SLC22A12 |
| SCG3      | KPRP     |
| HIST1H2BE | CPS1-IT1 |
| FOSB      | SLC7A5   |
| PELI2     | C2orf65  |
| SERPINI1  | CEBPE    |
| MYH6      | SCGB1D2  |
| MYBPC2    | MFAP5    |
| EPM2AIP1  | C22orf26 |
| CYP26C1   | LYSMD2   |
| F7        | CCL23    |
| LMX1A     | GPR113   |
| RFPL1-AS1 | A2M      |
| CYP7B1    | PLA2G4E  |
| C2orf51   | FAM83F   |
| APOL5     | PCDHGC5  |

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|--------------|--------------|
| RNF157       | OR4X1        |
| C2           | ITGA7        |
| COL22A1      | MYL7         |
| SYCP2L       | PLEKHA7      |
| TMEM150B     | SPOCK1       |
| TRHR         | PLXNC1       |
| FBXO15       | SERPIND1     |
| BTNL8        | PIK3R5       |
| SYT12        | SPDYA        |
| PSG5         | TRAF3IP3     |
| CCDC135      | MBL1P        |
| PPFIA4       | KIF5C        |
| LRG1         | LRRC14B      |
| C1QL1        | CD68         |
| ABCG2        | LRRC36       |
| HS3ST5       | KCNA5        |
| MACC1        | LOC100133308 |
| ESRRB        | SPRR2A       |
| SGPP2        | FBN2         |
| KDM5A        | MRAP2        |
| CSTL1        | PARVG        |
| OR2T5        | SLC34A1      |
| SNAI3        | FOLR3        |
| GCNT3        | MYCL1        |
| GUSBP5       | SOX18        |
| ITGA10       | KCNJ8        |
| PI16         | ITGB4        |
| ADORA2A      | ACSBG1       |
| GNDF         | VWC2         |
| SCT          | CYP2E1       |
| RNF152       | SPOCK2       |
| HSD3B2       | NOXRED1      |
| HSD52        | COLEC12      |
| DCHS1        | SIRPB2       |
| LUM          | HSPG2        |
| LOC100131726 | PGPEP1L      |

|           |              |
|-----------|--------------|
| CIDEA     | CCL26        |
| GPR176    | SPRR2E       |
| OR1L3     | MGAM         |
| VIPR2     | LOC100126784 |
| AKR1E2    | GPX2         |
| BARX2     | ARHGAP24     |
| PCK1      | AFP          |
| FAM159A   | FCER1G       |
| MB        | RXFP3        |
| DRD3      | KLKB1        |
| SGK2      | CD209        |
| CCNA1     | COL4A1       |
| LRRTM1    | OR8G1        |
| FAM53A    | ENTPD2       |
| FMOD      | EHD3         |
| AIRE      | PLCE1        |
| CYP3A5    | MUCL1        |
| IL1A      | OR2T27       |
| PCP4      | KRT28        |
| ELAVL4    | CCDC113      |
| FBLN7     | TLR6         |
| HBG1      | SSPO         |
| HEPN1     | POPDC3       |
| RNASE10   | LINC00473    |
| OR52W1    | HLA-DPA1     |
| LHFPL5    | C10orf67     |
| LOC648691 | C3orf55      |
| CUZD1     | AQP7         |
| KRTAP10-6 | SARM1        |
| KCNJ2     | C19orf38     |
| FAM26D    | KCNA3        |
| PVALB     | HHIP         |
| HEPACAM   | C19orf77     |
| SYCN      | LOC284578    |
| IMPG2     | GLRX         |
| GIPC2     | APOC1        |

|          |           |
|----------|-----------|
| ACTL9    | GATM      |
| C21orf90 | IVL       |
| SLC4A9   | SSC5D     |
| FAM84A   | GIMAP5    |
| TAS2R1   | GALNTL1   |
| EFNA2    | PRO0628   |
| GLI3     | DOK7      |
| C8orf4   | LINGO1    |
| OPN4     | CA2       |
| MLANA    | ABCA4     |
| TRIM67   | ADCY5     |
| NELL2    | OR14A16   |
| C19orf59 | CELA1     |
| CSDC2    | CASR      |
| PTPRN    | SLC22A16  |
| SIRPD    | EVI2A     |
| TDGF1    | F13A1     |
| PSMB11   | HBEGF     |
| DLGAP5   | CCL7      |
| SLC30A10 | SLITRK1   |
| SCGB2A2  | PMFBP1    |
| SRGAP3   | SCN5A     |
| TFPI2    | GDF5      |
| SPATA17  | KLHDC8A   |
| C14orf64 | SPRR2G    |
| C1orf194 | TFAP2A    |
| SP5      | STARD13   |
| CHRNA7   | FNDC5     |
| HOXD9    | CDK15     |
| HYAL1    | FAM187B   |
| MYZAP    | KCNA4     |
| PROP1    | FAM78A    |
| RNASE7   | SPON2     |
| PLXDC1   | CCR4      |
| LRRC4C   | LOC255411 |
| IFITM1   | SULT6B1   |

|           |          |
|-----------|----------|
| PDGFRL    | ULBP1    |
| TTBK1     | TGFBR3   |
| SLC34A2   | TSPAN15  |
| PDGFB     | PGM2L1   |
| DCN       | NXPH3    |
| LINC00242 | KRTAP4-5 |
| IL1RL1    | MICALCL  |
| HS3ST3A1  | RERG     |
| ZNF521    | LOXL2    |
| SCARNA5   | FGF5     |
| HIST1H2AI | GOLGA6L6 |
| TCF7      | SPACA1   |
| PRODH     | ERN2     |
| RAB3IL1   | RNASE2   |
| IL24      | MCAM     |
| PRAC      | ARHGAP26 |
| CALB1     | FLJ10038 |
| PTTG3P    | FAM150B  |
| C16orf48  | PIGR     |
| BCAM      | HSPA6    |
| CLDN23    | POU3F2   |
| SERPINE2  | TMCO2    |
| ZNF781    | OSM      |
| PDE3B     | CPN1     |
| KIF26A    | ULBP2    |
| FLJ13197  | PLA2G2A  |
| DHDH      | PAR4     |
| ZNF681    | KRT14    |
| NR4A1     | C1orf64  |
| ALDOC     | C4orf36  |
|           | FGR      |
|           | SYNM     |
|           | DLX1     |
|           | APOE     |
|           | CHRNA6   |
|           | EML1     |

TNFSF13B  
MAPT  
EPPK1  
PNOC  
KIAA0087  
RNF182  
CCL2  
EMR1  
SH2D3C  
PCOLCE2  
OR52K1  
IGSF6  
GAP43  
LRP11  
REG1B  
SV2B  
CNTN3  
ST3GAL6  
SDS  
TMEM108  
RND2  
PPP1R36  
CMBL  
THEG  
PODXL  
COL25A1  
GABRA5  
RHOB  
MAFB  
CYP27A1  
HRCT1  
R3HDML  
FAM26F  
IL18  
FAM83A  
FOLR4

ZNF556  
NPW  
GPR61  
PTGES  
PCSK5  
CCND2  
OBP2B  
LOC100129034  
PTER  
MAS1L  
LOC285696  
OR4F4  
PLLP  
RTP1  
ALS2CR11  
GPR37  
KRTAP12-3  
LINC00442  
CNN1  
SLC12A8  
TFF3  
C21orf15  
IL36A  
CCDC68  
RPH3A  
ABCC3  
SLC4A4  
AOAH  
PRSS45  
VAX1  
STL  
TMED9  
TMEM106A  
OR2M2  
ADCYAP1  
STXBP6

KIF1A  
BDKRB2  
DOCK2  
CEBPA  
NKX3-2  
TMEM233  
OR2A25  
LAMC2  
FGD4  
FXVD6  
SCN3B  
SERPINB4  
TMEM217  
SCRG1  
SULF1  
HPN  
PLCB1  
LILRA3  
NR1I3  
TTLL2  
C4orf6  
GGTLC1  
OR6C70  
GATA2  
ALPI  
RSPO1  
FAM196A  
KRT23  
ATP8A1  
MIP  
ZBTB38  
OR4M1  
CLEC18C  
BDKRB1  
WNT9B  
CYP1A1

MYOZ3  
TSPAN33  
OR51E2  
MAP1A  
ST8SIA4  
OR52E8  
NTF3  
GLI1  
CMYA5  
AGXT2  
GALNTL2  
CSTA  
CREB5  
TCL1B  
RASSF4  
NTSR1  
C3orf72  
CATSPER3  
C1QTNF9B  
ALDH1A3  
GBP5  
TBC1D10C  
GRB14  
TF  
DGKH  
TPPP  
MYH9  
PPCDC  
FAM22D  
NRN1  
FAM181B  
TRIM29  
CECR1  
NRG3  
TMEM204  
CCND1

MFAP3L  
TM4SF4  
ZNF487P  
SNORA59B  
TP53AIP1  
CYS1  
SCIN  
SCN2B  
FGL1  
ANO1  
CHD5  
PHLDA1  
CDR2L  
RAB30  
APOBEC4  
OR56A1  
LONRF2  
P2RX5  
BTBD3  
TNFRSF19  
AHNAK2  
C10orf91  
FCN1

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The genes with decreased expression and hypermethylation are highlighted in bold.

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Table S2. Pathways related to genes expressed at lower levels after than before CapeOX.

| Pathways                             | p-value | Number of genes | Genes                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------|---------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GPCR ligand binding                  | 0.0001  | 32              | ADCYAP1R1,ADORA2A,ADRB1,AGTR1,CCK,CCL1,CRHR2,CX3CL1,CXCL10,CXCL6,DRD3,F2RL1,GPR37L1,GRM2,HCAR1,HCAR3,KEL,MCHR2,NMU,NPY1R,OPN4,PLPPR5,PTGIR,QRFPR,SCT,SHH,SSTR4,TAS2R1,TAS2R41,TRHR,VIPR2,WNT11                                                                                                                              |
| Class A/1 (Rhodopsin-like receptors) | 0.0037  | 23              | ADORA2A,ADRB1,AGTR1,CCK,CCL1,CX3CL1,CXCL10,CXCL6,DRD3,F2RL1,GPR37L1,HCAR1,HCAR3,KEL,MCHR2,NMU,NPY1R,OPN4,PLPPR5,PTGIR,QRFPR,SSTR4,TRHR                                                                                                                                                                                      |
| Signaling by GPCR                    | 0.0077  | 52              | ADCYAP1R1,ADORA2A,ADRB1,AGTR1,CCK,CCL1,CNGA1,CRHR2,CX3CL1,CXCL10,CXCL6,DRD3,F2RL1,GNAT3,GPR176,GPR32,GPR37L1,GRM2,HCAR1,HCAR3,IL5,KEL,MCHR2,NMU,NPY1R,OPN4,OR10A7,OR10H1,OR13C4,OR1L3,OR2AG1,OR2T5,OR4D6,OR52E2,OR52W1,OR5K2,OR5R1,OR7A17,OR8D2,PDE3B,PLPPR5,PTGIR,QRFPR,RGS9,SCT,SHH,SSTR4,TAS2R1,TAS2R41,TRHR,VIPR2,WNT11 |
| Peptide ligand-binding receptors     | 0.0190  | 15              | AGTR1,CCK,CCL1,CX3CL1,CXCL10,CXCL6,F2RL1,GPR37L1,KEL,MCHR2,NMU,NPY1R,QRFPR,SSTR4,TRHR                                                                                                                                                                                                                                       |
| GPCR downstream signalling           | 0.0190  | 48              | ADCYAP1R1,ADORA2A,ADRB1,AGTR1,CCK,CCL1,CNGA1,CRHR2,CX3CL1,CXCL10,CXCL6,DRD3,                                                                                                                                                                                                                                                |

|                 |        |    |                                                                                                                                                                                                                                                            |
|-----------------|--------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 |        |    | F2RL1,GNAT3,GPR176,GPR32,<br>GPR37L1,GRM2,HCAR1,HCAR3,IL5,<br>MCHR2,NMU,NPY1R,OPN4,OR10A7,<br>OR10H1,OR13C4,OR1L3,OR2AG1,<br>OR2T5,OR4D6,OR52E2,OR52W1,<br>OR5K2,OR5R1,OR7A17,OR8D2,<br>PDE3B,PTGIR,QRFPR,RGS9,SCT,<br>SSTR4,TAS2R1,TAS2R41,TRHR,<br>VIPR2 |
| Neuroactive     |        |    | ADCYAP1R1,ADORA2A,ADRB1,                                                                                                                                                                                                                                   |
| ligand-receptor | 0.0190 | 19 | AGTR1,CHRNA7,CRHR2,DRD3,                                                                                                                                                                                                                                   |
| interaction     |        |    | F2RL1,GABRA1,GABRD,GRIA2,<br>GRIK2,GRM2,MCHR2,NPY1R,PTGIR,<br>SSTR4,TRHR,VIPR2                                                                                                                                                                             |
| NGF-independant |        |    |                                                                                                                                                                                                                                                            |
| TRKA activation | 0.0463 | 3  | ADCYAP1R1,ADORA2A,NTRK2                                                                                                                                                                                                                                    |

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Table S3. Pathways related to genes expressed at higher levels after than before CapeOX.

| Pathways                        | p-value      | No of genes | Genes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------------------|--------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Immune System                   | 0.0000000163 | 134         | <p>ADA2,AIM2,ALOX5,ARG1,ARHGAP45,ARHGAP9,ATP8A1,BATF,BIN2,BLNK,C1QA,C1QB,C1QC,C5AR1,CAMK2B,CARD9,CCL2,CCL3,CCL3L3,CCL4,CCND1,CCR1,CCR5,CD14,CD209,CD300A,CD300C,CD33,CD44,CD53,CD68,CD80,CD93,CHGA,CLEC4A,COLEC12,CPN1,CSF1R,CTSS,CXCR1,DAP1,DNM3,DOCK2,F13A1,FBXL16,FCER1G,FCGR2A,FCGR3A,FCN1,FGR,FOLR3,FPR1,FPR2,FYB1,GATA3,GBP5,GMFG,GPR84,HAVCR2,HCK,HK3,HLA-DMB,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,HSPA6,IFI30,IL10RA,IL18,IL21R,IL36A,IL6R,IRF8,ITGAL,ITGB2,ITPR1,JAML,LAIR1,LCP2,LILRA2,LILRA3,LILRA4,LILRB1,LILRB4,LILRB5,LRMP,LY86,MGAM,MMP9,MNDA,MUCL1,MYH9,NCAM1,NCF2,NCF4,NCKAP1L,NFAM1,NLRC4,OSM,PECAM1,PIGR,PLA2G2A,PTPRC,RAET1E,RETN,RNASE2,RNASE6,RNF182,S100A8,S100A9,S100B,SARM1,SERPINA1,SIGLEC10,SIGLEC11,SIGLEC7,SLPI,SYK,TBC1D10C,TLR4,TLR6,TNF,TNFRSF1B,TNFSF13B,TNFSF4,TREM2,TRIM29,TRPM2,TYROBP,ULBP1,VAV1,VAV3,VTN</p> <p>ADA2,ALOX5,ARG1,ARHGAP45,ARHGAP9,ATP8A1,BIN2,C5AR1,CD14,CD300A,CD33,CD44,CD53,CD68,CD93,CTSS,CXCR1,DOCK2,FCER1G,FCGR2A,FCN1,FGR,FOLR3,FPR1,FPR2,GMFG,GPR84,HK3,HSPA6,ITGAL,ITGB2,LAIR1,LILRA3,LRMP,MGAM,MMP9,MNDA,NCKAP1L,NFAM1,PECAM1,PIGR,PTPRC,RETN,RNASE2,S100A8,S100A9,SERPINA1,SLPI,TBC1D10C,TNFRSF1B,TRPM2,TYROBP</p> |
| Neutrophil degranulation        | 0.0000000163 | 52          | <p>C1QA,C1QB,C1QC,C5AR1,FCGR2A,FCGR3A,FPR1,FPR2,FPR3,HLA-DMA,HLA-DMB,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,ITGAL,ITGB2</p> <p>ADA2,AIM2,ALOX5,ARG1,ARHGAP45,ARHGAP9,ATP8A1,BIN2,C1QA,C1QB,C1QC,C5AR1,CARD9,CD14,CD209,CD300A,CD33,CD44,CD53,CD68,CD93,CHGA,CLEC4A,CPN1,CTSS,CXCR1,DNM3,DOCK2,FCER1G,FCGR2A,FCGR3A,FCN1,FGR,FOLR3,FPR1,FPR2,GMFG,GPR84,HCK,HK3,HSPA6,ITG</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Staphylococcus aureus infection | 0.0000000163 | 17          | <p>C1QA,C1QB,C1QC,C5AR1,FCGR2A,FCGR3A,FPR1,FPR2,FPR3,HLA-DMA,HLA-DMB,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,ITGAL,ITGB2</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Innate Immune System            | 0.0000001668 | 83          | <p>ADA2,AIM2,ALOX5,ARG1,ARHGAP45,ARHGAP9,ATP8A1,BIN2,C1QA,C1QB,C1QC,C5AR1,CARD9,CD14,CD209,CD300A,CD33,CD44,CD53,CD68,CD93,CHGA,CLEC4A,CPN1,CTSS,CXCR1,DNM3,DOCK2,FCER1G,FCGR2A,FCGR3A,FCN1,FGR,FOLR3,FPR1,FPR2,GMFG,GPR84,HCK,HK3,HSPA6,ITG</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

|                                                                          |              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------------------------------|--------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                          |              |    | AL,ITGB2,ITPR1,LAIR1,LCP2,LILRA3,LRMP,LY86,MGAM,MMP9,MNDA,MUCL1,MYH9,NCF2,NCF4,NCKAP1L,NFAM1,NLRC4,PECAM1,PIGR,PLA2G2A,PTPRC,RETN,RNASE2,RNASE6,S100A8,S100A9,S100B,SARM1,SERPINA1,SLPI,SYK,TBC1D10C,TLR4,TLR6,TNFRSF1B,TREM2,TRPM2,TYROBP,VAV1,VAV3,VTN                                                                                                                                                                             |
| Osteoclast differentiation                                               | 0.0000003422 | 23 | BLNK,CAMK4,CSF1R,FCGR2A,FCGR3A,LCP2,LILRA2,LILRA3,LILRA4,LILRB1,LILRB2,LILRB3,LILRB4,LILRB5,NCF2,NCF4,SPI1,SYK,TGFB2,TGFBR1,TNF,TREM2,TYROBP,ABCA4,ACKR1,ADCY1,ADCY5,ADCY7,ADCYAP1,ADGRE1,ADGRE2,ADORA3,ADRB2,APOC2,APOE,BDKRB1,BDKRB2,C5AR1,CAMK4,CASR,CCL23,CCL4,CCR1,CCR4,CCR5,CCL2,CMKLR1,CXCR1,CXCR4,DGKH,FGD3,FGD4,FPR1,FPR2,FPR3,GNG2,GPR183,GPR37,GPR65,GPR84,HBEGF,HRH4                                                     |
| Signaling by GPCR                                                        | 0.0000005501 | 88 | ,HSPG2,HTR1A,ITPR1,MYO7A,NPW,NTSR1,NTSR2,OPN5,OR14A16,OR2A25,OR2A5,OR2M2,OR2T27,OR2T4,OR4A47,OR4F4,OR4M1,OR4X1,OR51E2,OR52E8,OR52K1,OR56A1,OR6C70,OR6K2,OR8G1,OR8H2,OR9G4,OR9Q1,OXTR,PDE4B,PDE8B,PIK3CG,PIK3R5,PLCB1,PLCB2,PLPPR3,PNOC,PREX1,REEP2,RGS1,RGS7,RHOB,RTPI,RXFP3,SDC2,VAV1,VAV3,VIP,WNT9B                                                                                                                                |
| Immunoregulatory interactions between a Lymphoid and a non-Lymphoid cell | 0.0000010140 | 22 | CD300A,CD300C,CD33,COLEC12,FCGR3A,ITGAL,ITGB2,JAML,LAIR1,LILRA2,LILRA3,LILRA4,LILRB1,LILRB4,LILRB5,RAET1E,SIGLEC10,SIGLEC11,SIGLEC7,TREM2,TYROBP,ULBP1                                                                                                                                                                                                                                                                               |
| GPCR downstream signalling                                               | 0.0000087603 | 81 | ABCA4,ADCY1,ADCY5,ADCY7,ADCYAP1,ADORA3,ADRB2,APOC2,APOE,BDKRB1,BDKRB2,C5AR1,CAMK4,CASR,CCL23,CCL4,CCR1,CCR4,CCR5,CXCR1,CXCR4,DGKH,FGD3,FGD4,FPR1,FPR2,FPR3,GNG2,GPR183,GPR37,GPR65,GPR84,HBEGF,HRH4,HSPG2,HTR1A,ITPR1,MYO7A,NPW,NTSR1,NTSR2,OPN5,OR14A16,OR2A25,OR2A5,OR2M2,OR2T27,OR2T4,OR4A47,OR4F4,OR4M1,OR4X1,OR51E2,OR52E8,OR52K1,OR56A1,OR6C70,OR6K2,OR8G1,OR8H2,OR9G4,OR9Q1,OXTR,PDE4B,PDE8B,PIK3CG,PIK3R5,PLCB1,PLCB2,PNOC,P |

|                                        |              |    |                                                                                                                                                                                                                                    |
|----------------------------------------|--------------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                        |              |    | REX1,REEP2,RGS1,RGS7,RHOB,RTP1,RXFP3,SDC2,VAV1,VAV3,VIP                                                                                                                                                                            |
| G alpha (i) signalling events          | 0.0000092943 | 40 | ABCA4,ADCY1,ADCY5,ADCY7,ADORA3,APOC2,APOE,BDKRB1,BDKRB2,C5AR1,CAMK4,CASR,CCL23,CCL4,CCR1,CCR4,CCR5,CXCR1,CXCR4,FPR1,FPR2,FPR3,GNG2,GPR183,GPR37,HRH4,HSPG2,HTR1A,ITPR1,MYO7A,NPW,OPN5,PD E4B,PLCB1,PLCB2,PNOC,RGS1,RGS7,RXFP3,SDC2 |
| Chemokine signaling pathway            | 0.0000124960 | 25 | ADCY1,ADCY5,ADCY7,CCL2,CCL23,CCL26,CCL3,CCL3L3,CCL4,CCL7,CCL8,CCR1,CCR4,CCR5,CXCR1,CXCR4,DOCK 2,FGR,GNG2,HCK,PLCB1,PLCB2,PREX1,VAV1,VAV3                                                                                           |
| Rheumatoid arthritis                   | 0.0000124960 | 17 | CCL2,CCL3,CCL3L3,CD80,HLA-DMA,HLA-DMB,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,IL18,ITGAL,ITGB2,TGFB2,TLR4,TNF,TNFSF13B                                                                                                                  |
| Interleukin-10 signaling               | 0.0000547144 | 12 | CCL2,CCL3,CCL3L3,CCL4,CCR1,CCR5,CD80,FPR1,IL10RA,IL18,TNF,TNFRSF1B                                                                                                                                                                 |
| Phagosome                              | 0.0000818970 | 21 | CD14,CD209,COLEC12,CTSS,FCGR2A,FCGR3A,HLA-DMA,HLA-DMB,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,ITGB2,MARCO,MSR1,NCF2,NCF4,SFTPD,TLR4,TLR6,TUBB2B                                                                                         |
| Leishmaniasis                          | 0.0001449224 | 14 | FCGR2A,FCGR3A,HLA-DMA,HLA-DMB,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,ITGB2,NCF2,NCF4,TGFB2,TLR4,TNF                                                                                                                                    |
| CXCR4-mediated signaling events        | 0.0002376808 | 16 | CXCR4,FGR,GNG2,HCK,HLA-DRA,ITGA7,ITGA8,MMP9,PIK3CG,PIK3R5,PLCB1,PLCB2,TPRC,RGS1,RHOB,VAV1                                                                                                                                          |
| Extracellular matrix organization      | 0.0002420537 | 30 | A2M,ADAMTS5,CD44,COL25A1,COL4A1,CTSS,DSPP,FBN2,GDF5,HSPG2,ITGA7,ITGA8,ITGAL,ITGB2,ITGB4,KLK7,KLKB1,LAMC2,LOXL2,MFAP5,MMP7,MMP9,NCAM1,P4HA3,P COLCE2,PECAM1,SDC2,TGFB2,TLL1,VTN                                                     |
| Tuberculosis                           | 0.0002540865 | 22 | CAMK2B,CARD9,CD14,CD209,CTSS,FCER1G,FCGR2A,FCGR3A,HLA-DMA,HLA-DMB,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,IL10RA,IL18,ITGB2,SYK,TGFB2,TLR4,TLR6,TNF                                                                                     |
| Cytokine-cytokine receptor interaction | 0.0003076946 | 28 | BMPRI1B,CCL2,CCL23,CCL26,CCL3,CCL3L3,CCL4,CCL7,CCL8,CCR1,CCR4,CCR5,CSF1R,CXCR1,CXCR4,GDF5,IL10R                                                                                                                                    |

|                                              |              |    |                                                                                                                                                                                                                         |
|----------------------------------------------|--------------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                              |              |    | A,IL18,IL21R,IL6R,OSM,TGFB2,TGFBR1,TNF,TNFRSF19,TNFRSF1B,TNFSF13B,TNFSF4                                                                                                                                                |
| Inflammatory bowel disease (IBD)             | 0.0008563141 | 12 | GATA3,HLA-DMA,HLA-DMB,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,IL18,IL21R,TGFB2,TLR4,TNF                                                                                                                                      |
| Toxoplasmosis                                | 0.0009218890 | 16 | ALOX5,CCR5,HLA-DMA,HLA-DMB,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,HSPA6,IL10RA,LAMC2,PIK3CG,PIK3R5,TGFB2,TLR4,TNF                                                                                                           |
| Chagas disease (American trypanosomiasis)    | 0.0010568260 | 15 | ADCY1,BDKRB2,C1QA,C1QB,C1QC,CCL2,CCL3,CCL3L3,PLCB1,PLCB2,TGFB2,TGFBR1,TLR4,TLR6,TNF                                                                                                                                     |
| Class A/1 (Rhodopsin-like receptors)         | 0.0010988299 | 30 | ACKR1,ADORA3,ADRB2,BDKRB1,BDKRB2,C5AR1,CCL23,CCR1,CCR4,CCR5,CCRL2,CMKLR1,CXCR1,CXCR4,FPR1,FPR2,FPR3,GPR183,GPR37,GPR65,HRH4,HTR1A,NPW,NTSR1,NTSR2,OPN5,OXTR,PLPPR3,PNOC,RXFP3                                           |
| Complement and coagulation cascades          | 0.0010988299 | 13 | A2M,BDKRB1,BDKRB2,C1QA,C1QB,C1QC,C5AR1,F13A1,ITGB2,KLKB1,SERPINA1,SERPIND1,VTN                                                                                                                                          |
| Peptide ligand-binding receptors             | 0.0014174225 | 21 | ACKR1,BDKRB1,BDKRB2,C5AR1,CCL23,CCR1,CCR4,CCR5,CCRL2,CXCR1,CXCR4,FPR1,FPR2,FPR3,GPR37,NPW,NTSR1,NTSR2,OXTR,PNOC,RXFP3                                                                                                   |
| Intestinal immune network for IgA production | 0.0014174225 | 10 | CD80,CXCR4,HLA-DMA,HLA-DMB,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,PIGR,TNFSF13B                                                                                                                                             |
| Malaria                                      | 0.0014174225 | 10 | ACKR1,CCL2,IL18,ITGAL,ITGB2,PECAM1,SDC2,TGFB2,TLR4,TNF                                                                                                                                                                  |
| Viral myocarditis                            | 0.0014174225 | 11 | CCND1,CD80,HLA-DMA,HLA-DMB,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,ITGAL,ITGB2,SGCD                                                                                                                                          |
| Asthma                                       | 0.0015969768 | 8  | FCER1G,HLA-DMA,HLA-DMB,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,TNF                                                                                                                                                           |
| GPCR ligand binding                          | 0.0016800383 | 37 | ACKR1,ADCYAP1,ADGRE1,ADGRE2,ADORA3,ADRB2,BDKRB1,BDKRB2,C5AR1,CASR,CCL23,CCR1,CCR4,CCR5,CCRL2,CMKLR1,CXCR1,CXCR4,FPR1,FPR2,FPR3,GNG2,GPR183,GPR37,GPR65,HRH4,HTR1A,NPW,NTSR1,NTSR2,OPN5,OXTR,PLPPR3,PNOC,RXFP3,VIP,WNT9B |

|                                                                      |              |    |                                                                                             |
|----------------------------------------------------------------------|--------------|----|---------------------------------------------------------------------------------------------|
| FCGR activation                                                      | 0.0046375920 | 5  | FCGR2A,FCGR3A,FGR,HCK,SYK                                                                   |
| Other semaphorin interactions                                        | 0.0048190021 | 6  | PLXNA2,PLXNC1,PTPRC,SEMA6D,TREM2,TYROBP                                                     |
| IL8- and CXCR1-mediated signaling events                             | 0.0059209448 | 7  | CXCR1,FGR,GNG2,HCK,PIK3CG,PLCB1,PLCB2                                                       |
| Platelet activation                                                  | 0.0063966334 | 15 | ADCY1,ADCY5,ADCY7,FCER1G,FCGR2A,FERMT3,GP6,ITPR1,LCP2,PIK3CG,PIK3R5,PLA2G4E,PLCB1,PLCB2,SYK |
| Allograft rejection                                                  | 0.0064151252 | 8  | CD80,HLA-DMA,HLA-DMB,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,TNF                                 |
| Hematopoietic cell lineage                                           | 0.0067429192 | 13 | CD14,CD33,CD37,CD44,CSF1R,HLA-DMA,HLA-DMB,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,IL6R,TNF       |
| Cholinergic synapse                                                  | 0.0076862592 | 14 | ADCY1,ADCY5,ADCY7,CACNA1D,CAMK2B,CAMK4,CHRNA6,CREB5,GNG2,ITPR1,PIK3CG,PIK3R5,PLCB1,PLCB2    |
| Formyl peptide receptors bind formyl peptides and many other ligands | 0.0095408723 | 4  | CCL23,FPR1,FPR2,FPR3                                                                        |
| Cortisol synthesis and secretion                                     | 0.0096181459 | 10 | ADCY1,ADCY5,ADCY7,CACNA1D,CREB5,ITPR1,KCNA4,PDE8B,PLCB1,PLCB2                               |
| Graft-versus-host disease                                            | 0.0098625098 | 8  | CD80,HLA-DMA,HLA-DMB,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,TNF                                 |
| Binding and Uptake of Ligands by Scavenger Receptors                 | 0.0114798995 | 8  | APOE,CD163,COL4A1,COLEC12,MARCO,MSR1,SSC5D,STAB1                                            |
| GPVI-mediated activation cascade                                     | 0.0129817099 | 9  | FCER1G,GP6,LCP2,PIK3CG,PIK3R5,RHOB,SYK,VAV1,VAV3                                            |
| Type I diabetes mellitus                                             | 0.0129817099 | 8  | CD80,HLA-DMA,HLA-DMB,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,TNF                                 |
| Regulation of TLR by endogenous ligand                               | 0.0156774710 | 5  | CD14,S100A8,S100A9,TLR4,TLR6                                                                |
| Interleukin-4 and 13 signaling                                       | 0.0157152663 | 13 | ALOX5,BATF,CCL2,CCND1,F13A1,GATA3,IL18,IL6R,ITGB2,MMP9,OSM,TNF,TNFRSF1B                     |

|                                           |              |     |                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------|--------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IL8- and CXCR2-mediated signaling events  | 0.0157152663 | 7   | DOCK2,FGR,GNG2,HCK,PIK3CG,PLCB1,PLCB2                                                                                                                                                                                                                                                                                                                                                                                 |
| Oxytocin signaling pathway                | 0.0165913656 | 16  | ADCY1,ADCY5,ADCY7,CACNA1D,CACNA2D3,CAMK2B,CAMK4,CCND1,ITPR1,OXTR,PIK3CG,PIK3R5,PLA2G4E,PLCB1,PLCB2,TRPM2                                                                                                                                                                                                                                                                                                              |
| Amoebiasis                                | 0.0180205956 | 12  | ADCY1,ARG1,CD14,COL4A1,ITGB2,LAMC2,PLCB1,PLCB2,SERPINB4,TGFB2,TLR4,TNF                                                                                                                                                                                                                                                                                                                                                |
| Cell adhesion molecules (CAMs)            | 0.0273234335 | 15  | CADM3,CD80,HLA-DMA,HLA-DMB,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,ITGA8,ITGAL,ITGB2,NCAM1,PECAM1,PTPRC,SDC2,BLNK,CD14,CD209,CD300A,CD300C,CD33,CD80,COLEC12,CTSS,DAPP1,DNM3,FBXL16,FCGR3A,FYB1,HLA-DMB,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,IFI30,ITGAL,ITGB2,ITPR1,JAML,LAIR1,LCP2,LILRA2,LILRA3,LILRA4,LILRB1,LILRB4,LILRB5,NCF2,NCF4,PTPRC,RAET1E,RNF182,SIGLEC10,SIGLEC11,SIGLEC7,SYK,TLR4,TLR6,TREM2,TYROBP,ULBP1,VAV1 |
| Adaptive Immune System                    | 0.0304935578 | 47  |                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Scavenging by Class A Receptors           | 0.0325813448 | 5   | APOE,COL4A1,COLEC12,MARCO,MSR1                                                                                                                                                                                                                                                                                                                                                                                        |
| Natural killer cell mediated cytotoxicity | 0.0328720450 | 14  | CD48,FCER1G,FCGR3A,ITGAL,ITGB2,LCP2,RAET1E,SYK,TNF,TYROBP,ULBP1,ULBP2,VAV1,VAV3                                                                                                                                                                                                                                                                                                                                       |
| Collagen formation                        | 0.0339868101 | 11  | COL25A1,COL4A1,CTSS,ITGB4,LAMC2,LOXL2,MMP7,MMP9,P4HA3,PCOLCE2,TLL1                                                                                                                                                                                                                                                                                                                                                    |
| Dilated cardiomyopathy (DCM)              | 0.0339868101 | 11  | ADCY1,ADCY5,ADCY7,CACNA1D,CACNA2D3,ITGA7,ITGA8,ITGB4,SGCD,TGFB2,TNF                                                                                                                                                                                                                                                                                                                                                   |
| Antigen processing and presentation       | 0.0357546219 | 10  | CTSS,HLA-DMA,HLA-DMB,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,HSPA6,IFI30,TNF                                                                                                                                                                                                                                                                                                                                               |
| Signaling Pathways                        | 0.0384717718 | 130 | A2M,ABCA4,ACKR1,ADCY1,ADCY5,ADCY7,ADCYAP1,ADGRE1,ADGRE2,ADORA3,ADRB2,ALDH1A3,APOC2,APOE,ARHGAP24,ARHGAP25,ARHGAP26,ARHGAP45,ARHGAP9,ARHGDIB,BDKRB1,BDKRB2,BMPRI1B,C5AR1,CAMK2B,CAMK4,CASR,CCL23,CCL4,CCND1,CCR1,CCR4,CCR5,CCRL                                                                                                                                                                                        |

|                                                   |              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------|--------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                   |              |    | 2,CD80,CMKLR1,COL4A1,CXCR1,CXCR4,DGKH,DNM3,FGD3,FGD4,FGF5,FGFBP1,FPR1,FPR2,FPR3,GLI1,GNG2,GPR183,GPR37,GPR65,GPR84,HBEGF,HHIP,HPN,HRH4,HSPG2,HTR1A,IL6R,ITPR1,LAMC2,LINGO1,MFNG,MMP9,MYH9,MYO7A,NCAM1,NCF2,NCF4,NCKAP1L,NPW,NRG3,NTSR1,NTSR2,OPN5,OR14A16,OR2A25,OR2A5,OR2M2,OR2T27,OR2T4,OR4A47,OR4F4,OR4M1,OR4X1,OR51E2,OR52E8,OR52K1,OR56A1,OR6C70,OR6K2,OR8G1,OR8H2,OR9G4,OR9Q1,OXTR,PCSK5,PDE4B,PDE8B,PGR,PIK3CG,PIK3R5,PLCB1,PLCB2,PLPPR3,PNOC,PREX1,REEP2,RGS1,RGS7,RHOB,RSP01,RTP1,RUNX3,RXFP3,S100B,SDC2,ST3GAL6,STARD13,SYK,TERT,TGFBR1,TLE2,TNF,VAV1,VAV3,VIP,WNT9B |
| Interferon gamma signaling                        | 0.0387630629 | 11 | CAMK2B,CD44,GBP5,HLA-DPA1,HLA-DQA1,HLA-DQA2,HLA-DRA,IFI30,IRF8,NCAM1,TRIM29                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Elastic fibre formation                           | 0.0407569910 | 7  | FBN2,GDF5,ITGA8,LOXL2,MFAP5,TGFB2,VTN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Rho GTPase cycle                                  | 0.0417106036 | 14 | A2M,ARHGAP24,ARHGAP25,ARHGAP26,ARHGAP45,ARHGAP9,ARHGDIB,FGD3,FGD4,PREX1,RHOB,STARD13,VAV1,VAV3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Integrin cell surface interactions                | 0.0417106036 | 9  | CD44,COL4A1,HSPG2,ITGA7,ITGA8,ITGAL,ITGB2,PECAM1,VTN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Classical antibody-mediated complement activation | 0.0451067419 | 3  | C1QA,C1QB,C1QC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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Table S4. Genes with altered expression in commonly CapeOX-resistant cells and in three oxaliplatin-resistant cell lines.

| Genes with commonly increased expression in CapeOX-resistant cells and in three oxaliplatin-resistant cell lines | Genes with commonly decreased expression in CapeOX-resistant cells and in three oxaliplatin-resistant cell lines |
|------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| VTN                                                                                                              | ZSCAN5B                                                                                                          |
| UCP2                                                                                                             | ZNF879                                                                                                           |
| TERT                                                                                                             | ZNF480                                                                                                           |
| STYK1                                                                                                            | ZNF439                                                                                                           |
| STXBP6                                                                                                           | ZNF213                                                                                                           |
| SLCO2B1                                                                                                          | ZFP3                                                                                                             |
| NPPB                                                                                                             | ZBP1                                                                                                             |
| MGAT3                                                                                                            | YTHDC1                                                                                                           |
| MFSD2A                                                                                                           | XAF1                                                                                                             |
| LILRA4                                                                                                           | WNT9B                                                                                                            |
| IRF8                                                                                                             | WNT1                                                                                                             |
| IGF2BP3                                                                                                          | WFDC10A                                                                                                          |
| IFI30                                                                                                            | WDR64                                                                                                            |
| HRCT1                                                                                                            | VEGFA                                                                                                            |
| HNMT                                                                                                             | VAX1                                                                                                             |
| HLA-DMA                                                                                                          | UGT3A2                                                                                                           |
| GPR183                                                                                                           | TUBB1                                                                                                            |
| FOLR3                                                                                                            | TTLL2                                                                                                            |
| FGFBP1                                                                                                           | TTC29                                                                                                            |
| FGD3                                                                                                             | TTC22                                                                                                            |
| FAM105A                                                                                                          | TTC17                                                                                                            |
| EPN3                                                                                                             | TSHZ2                                                                                                            |
| CCL4                                                                                                             | TSGA13                                                                                                           |
| CCL3                                                                                                             | TRPV6                                                                                                            |
| C19orf77                                                                                                         | TRPV5                                                                                                            |
| ARHGDIB                                                                                                          | TRIB3                                                                                                            |
| APOC1                                                                                                            | TREML4                                                                                                           |
| APOBEC4                                                                                                          | TNFSF10                                                                                                          |
| ABCA12                                                                                                           | TMEM71                                                                                                           |

TMEM30C  
TMEM155  
TMEM132C  
TMC5  
TM4SF4  
TLR9  
TIGD6  
TFF1  
TCN1  
TCL1A  
TBX21  
TAS2R4  
SYT17  
SYNDIG1  
SUB1  
STXBP2  
SSTR5  
SRD5A2  
SPRR2F  
SPRR2E  
SPRR2D  
SPRR2C  
SPRR2B  
SPRR2A  
SPATA16  
SOX21  
SNORA70B  
SNORA22  
SLC38A4  
SLC35F3  
SLC35D3  
SLC34A2  
SLC28A3  
SLC26A9  
SLC15A3  
SHOX2

SH3GL3  
SERPINI2  
SERPINB4  
SDC4P  
SCN1B  
S100A7A  
RSPH4A  
RPH3A  
RP1  
RND1  
RLN3  
RIMS1  
RICTOR  
RGS11  
RETN  
RBCK1  
PYGB  
PTPRM  
PTPRH  
PTPN5  
PTCHD2  
PRSS3  
PRSS1  
PRR24  
PROX1  
PRNT  
PRAMEF22  
PPP2R5B  
PPP1R15A  
PPM1L  
POU4F2  
POLR2M  
PNPLA7  
PLXNA2  
PLEKHH2  
PLA2G7

PLA2G4D  
PGLYRP2  
PGA3  
PEX16  
PDE3A  
PDE11A  
PCDHB14  
PCDHB12  
PCDHB11  
PCDHB10  
PAD11  
PACS2  
PABPC4L  
OSMR  
OR8H2  
OR8B4  
OR7A17  
OR6N1  
OR6C65  
OR5H14  
OR5D13  
OR5B2  
OR56B4  
OR52I1  
OR51G1  
OR4N2  
OR4D5  
OR2W5  
OR2T34  
OR2A7  
OR1L3  
OR13A1  
OR11H6  
OR10T2  
OR10A4  
OLFM1

OAS2  
NUPR1  
NPHP3-AS1  
NLRC5  
NFIX  
NCKAP1L  
NCAN  
NAT8  
NANOS2  
MYO5A  
MYH6  
MXD1  
MX2  
MUCL1  
MUC5B  
MTVR2  
MT4  
MSGN1  
MMP10  
MMP1  
MLPH  
MGC12916  
LRRTM2  
LRRN4CL  
LPAR6  
LOXL2  
LOC731789  
LOC349196  
LOC285593  
LOC284412  
LOC100271722  
LOC100128164  
LOC100127888  
LINC00473  
LINC00304  
LINC00301

LIN28B  
LGI4  
LGALS9C  
LCN2  
LCA5L  
LAMP3  
LAMC2  
KRT75  
KRT6C  
KRT6B  
KRT24  
KRT20  
KLK9  
KLK6  
KLHDC7B  
KLF3  
KLF2  
KIR2DS4  
KIF21B  
KIF1A  
KIAA1199  
KCNQ1OT1  
JHDM1D  
JAK1  
IZUMO1  
ITPKA  
ITGB8  
ITGB7  
ITGB6  
ITGA2  
IRF7  
IRF1  
IPO9  
INPP4B  
INHBE  
IL2RB

IL21R  
IL13  
IL10  
IKZF1  
IGSF10  
IGFL4  
IGFBP1  
IFI35  
IFI27  
IFI16  
HTR1E  
HSD3B2  
HLA-J  
HLA-G  
HLA-F  
HLA-C  
HLA-B  
HKDC1  
HIPK4  
HES7  
HES3  
HENMT1  
HDAC4  
HBEGF  
H1FOO  
GUCA1A  
GTSF1  
GTPBP2  
GTF2IRD2B  
GTF2IRD2  
GPR110  
GOLGA7B  
GNAT1  
GLIPR1  
GLI1  
GKN2

GCNT7  
GALNT3  
GABRR2  
FUT3  
FUT1  
FNDC7  
FLNB  
FLJ33360  
FKBP6  
FHDC1  
FGD5  
FEV  
FBP1  
FBLN7  
FAM83E  
FAM83C  
FAM59B  
FAM43A  
FAM19A2  
FAM189A1  
FAIM3  
F13A1  
EXT1  
ELANE  
EGF  
ECM1  
ECE1  
EBF2  
EBF1  
DST  
DOCK10  
DNAJC12  
DNAJB7  
DKFZP434K028  
DHRS9  
DENND4A

DEFB4A  
DEFB119  
DEFB112  
DEFB1  
DCDC2B  
DBX1  
DAPP1  
CYP2E1  
CRX  
CRISPLD2  
CRB1  
COCH  
CHST15  
CECR2  
CEACAM7  
CEACAM6  
CEACAM5  
CDCP1  
CD59  
CD200R1  
CCRL2  
CCR3  
CCL23  
CCL11  
CCDC69  
CCDC27  
CCDC140  
CCDC11  
CCDC105  
CBX4  
CATSPERB  
CATSPER4  
CASQ1  
CASP5  
CASP4  
CASP1

CAPN9  
CACNG2  
C6orf223  
C6orf163  
C5orf28  
C4orf47  
C3orf62  
C3orf36  
C2orf62  
C1orf228  
C17orf66  
C17orf104  
C12orf71  
C12orf70  
C12orf39  
BTG1  
BTC  
BTBD18  
BST2  
BDH2  
BCAR4  
B2M  
AVPR1B  
ATP2C2  
ATF5  
ASS1  
ASB14  
ART3  
ARMC2  
ARL4C  
ARHGEF2  
ARHGAP26  
AQP2  
AOC4  
ANXA13  
ANO1

ANKRD53  
ANKRD30A  
ANGPTL2  
AMY1C  
ALX1  
AKAP6  
ADM2  
ADAMTS14  
ADAM7  
ADAM3A  
ACYP2  
ACTA1  
ACMSD  
ABCG1  
A4GNT

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Table S5. Pathways related to genes exhibiting common changes between CapeOX-resistant cells and oxaliplatin-resistant cells.

| Pathways                                | p-value   | Number of |
|-----------------------------------------|-----------|-----------|
| Interferon alpha/beta signaling         | 4.3479E-  | 14        |
| Interferon Signaling                    | 0.0014888 | 17        |
| Endosomal/Vacuolar pathway              | 0.0015508 | 5         |
| Interferon gamma signaling              | 0.0026871 | 11        |
| Human papillomavirus infection          | 0.0027066 | 21        |
| Immune System                           | 0.0080277 | 69        |
|                                         | 6         |           |
| Signaling by GPCR                       | 0.0089466 | 47        |
|                                         | 9         |           |
| Cytokine Signaling in Immune system     | 0.0102287 | 32        |
| Olfactory Signaling Pathway             | 0.0304814 | 21        |
| GPCR downstream signalling              | 0.0304814 | 43        |
| Antigen Presentation: Folding, assembly | 0.0304814 | 5         |
| Allograft rejection                     | 0.0304814 | 6         |
| G alpha (s) signalling events           | 0.0433466 | 25        |
| Antigen processing and presentation     | 0.0433466 | 8         |

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Genes

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BST2,HLA-B,HLA-C,HLA-F,HLA-G,IFI27,IFI35,IRF1,IRF7,IRF8,JAK1,MX2,OAS2,XAF1

B2M,BST2,FLNB,HLA-B,HLA-C,HLA-F,HLA-

B2M,HLA-B,HLA-C,HLA-F,HLA-G

B2M,HLA-B,HLA-C,HLA-F,HLA-G,IFI30,IRF1,IRF7,IRF8,JAK1,OAS2

EGF,HDAC4,HES3,HES7,HLA-B,HLA-C,HLA-F,HLA-

ASB14,B2M,BST2,CASP1,CASP4,CCL11,CCL3,CCL4,CD200R1,CD59,CEACAM6,CRISPLD2,DAPP1,DEFB1,DEFB12,DEFB19,DEFB4A,ELANE,FI3A1,FLNB,FOLR3,GLIPR1,HLA-

ADM2,ARHGEF2,AVPR1B,CCL23,CCL4,CCR3,CCRL2,DHRS9,ECE1,FGD3,GNAT1,GPR183,GUCA1A,HBEGF,HTR1E,IL2RB,JAK1,LPAR6,OR10A4,OR10T2,OR11H6,OR13A1,ORIL3,O

B2M,BST2,CASP1,CCL11,CCL3,CCL4,FI3A1,FLNB,HLA-B,HLA-C,HLA-F,HLA-

OR10A4,OR10T2,OR11H6,OR13A1,ORIL3,OR2A7,OR2T34,OR2W5,OR4D5,OR4N2,OR51G1

ADM2,ARHGEF2,AVPR1B,CCL23,CCL4,CCR3,DHRS9,FGD3,GNAT1,GPR183,GUCA1A,HB

B2M,HLA-B,HLA-C,HLA-F,HLA-G

HLA-B,HLA-C,HLA-DMA,HLA-F,HLA-G,IL10

ADM2,OR10A4,OR10T2,OR11H6,OR13A1,ORIL3,OR2A7,OR2T34,OR2W5,OR4D5,OR4N2,O

B2M,HLA-B,HLA-C,HLA-DMA,HLA-F,HLA-G,IFI30,KIR2DS4

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Table S6. Genes exhibiting common alterations between CapeOX-resistant cells and fluorouracil-resistant AGS cells.

| Genes commonly increased in expression in CapeOX-resistant cells and fluorouracil-resistant AGS | Genes commonly decreased in expression in CapeOX-resistant cells and fluorouracil-resistant AGS |
|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| ZNF556                                                                                          | WDR52                                                                                           |
| ZBED2                                                                                           | TRIM42                                                                                          |
| VTN                                                                                             | TRHR                                                                                            |
| ULBP2                                                                                           | TMC5                                                                                            |
| TSPAN33                                                                                         | TLR9                                                                                            |
| TRPV2                                                                                           | TDGF1                                                                                           |
| TRPM2                                                                                           | TAS2R41                                                                                         |
| TMEM156                                                                                         | SSTR4                                                                                           |
| TMC8                                                                                            | SPACA4                                                                                          |
| TLE2                                                                                            | SNORA22                                                                                         |
| THEG                                                                                            | SLC34A2                                                                                         |
| TERT                                                                                            | SFMBT2                                                                                          |
| TCL1B                                                                                           | S100A7A                                                                                         |
| TBC1D10C                                                                                        | RNF175                                                                                          |
| STYK1                                                                                           | RFPL1-AS1                                                                                       |
| STXBP6                                                                                          | RAB33B                                                                                          |
| STARD13                                                                                         | PLA2G7                                                                                          |
| ST8SIA4                                                                                         | PLA2G4D                                                                                         |
| SPON2                                                                                           | OR7A17                                                                                          |
| SNORA59B                                                                                        | OR2L1P                                                                                          |
| SLCO2B1                                                                                         | OR1L3                                                                                           |
| SLC6A19                                                                                         | OR10A7                                                                                          |
| SLC16A6                                                                                         | NPHS1                                                                                           |
| SERPINA1                                                                                        | MYH6                                                                                            |
| S100A9                                                                                          | MPL                                                                                             |
| RIMS4                                                                                           | MGC16275                                                                                        |
| RASSF4                                                                                          | KIF26A                                                                                          |
| PTGES                                                                                           | KIAA1211                                                                                        |
| PSCA                                                                                            | KCNK12                                                                                          |
| PLEKHA7                                                                                         | KCNA1                                                                                           |

|              |          |
|--------------|----------|
| PLCB2        | IL1RL1   |
| PDE8B        | IL10     |
| NXPH3        | HSD3B2   |
| NPW          | HOXD9    |
| NPR3         | HOXD11   |
| NPPB         | FBXO15   |
| NOXRED1      | FBLN7    |
| NFAM1        | FAIM3    |
| MYO7A        | ENPP2    |
| MYO1F        | ELANE    |
| MLXIPL       | DKK4     |
| MGAT3        | DEFB4A   |
| MFSD2A       | CYP7B1   |
| MFAP5        | CYP3A5   |
| MFAP3L       | CST2     |
| MCAM         | CRHR2    |
| LY6G5B       | CLCA3P   |
| LST1         | CD3G     |
| LRRC36       | CASQ1    |
| LOC100129034 | C5orf60  |
| LILRA4       | C1orf116 |
| LILRA3       | C11orf53 |
| LDHD         | B3GNT3   |
| KRT28        | ANXA13   |
| KRT23        | AGR2     |
| KLK7         |          |
| KLK5         |          |
| KCNK6        |          |
| KCNK13       |          |
| ITGA7        |          |
| IRF8         |          |
| IL36A        |          |
| IGFL2        |          |
| IGF2BP3      |          |
| IFI30        |          |
| HPN          |          |

HPD  
HLA-DMB  
HLA-DMA  
HBBP1  
GPX3  
GGTLC1  
FXVD6  
FOLR4  
FOLR3  
FGFBP1  
FGD3  
FBXL16  
FAM105A  
ERN2  
EPN3  
ENTPD2  
DKFZp434J0226  
CYTH4  
CYP1A1  
CSF1R  
CPN1  
CMYA5  
CHGA  
CD163L1  
CD163  
CCR1  
CATSPER1  
CARD9  
C1orf210  
C19orf77  
BLNK  
BIN2  
BDKRB1  
ARHGDIB  
APOE  
APOC1

APOBEC4

APCDD1L

ALOX5

ADAP2

ABCA12

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Table S7. Genes exhibiting altered methylation levels among ascetic fluid cancer cells collected before and after CapeOX and drug-resistant AGS cells.

| Gene     | Increase in methylation levels after CapeOX | Gene     | Decrease in methylation levels after CapeOX | Gene      | Increase in methylation levels of fluorouracil-resistant AGS | Gene    | Decrease in methylation levels of fluorouracil-resistant AGS | Gene      | Increase in methylation levels of oxaliplatin-resistant AGS | Gene     | Decrease in methylation levels of oxaliplatin-resistant AGS |
|----------|---------------------------------------------|----------|---------------------------------------------|-----------|--------------------------------------------------------------|---------|--------------------------------------------------------------|-----------|-------------------------------------------------------------|----------|-------------------------------------------------------------|
| FAM193A  | 0.228                                       | PI3      | -0.400                                      | NELL2     | 0.938                                                        | ABL2    | -0.868                                                       | OR5AK2    | 0.942                                                       | SULT1C4  | -0.897                                                      |
| FMO1     | 0.165                                       | PDCD1LG2 | -0.258                                      | OR5J2     | 0.917                                                        | SGK223  | -0.729                                                       | HBG1      | 0.899                                                       | DENND5A  | -0.588                                                      |
| GPR75    | 0.142                                       | IFI44L   | -0.160                                      | HBG1      | 0.907                                                        | IL32    | -0.689                                                       | HBB       | 0.859                                                       | FAM111A  | -0.575                                                      |
| NPHS1    | 0.140                                       | SFTA1P   | -0.106                                      | OR51B4    | 0.883                                                        | PRRT1   | -0.645                                                       | OR52I2    | 0.842                                                       | FAS      | -0.547                                                      |
| SEMA3B   | 0.139                                       |          |                                             | OR8K5     | 0.871                                                        | PPT2    | -0.642                                                       | EHF       | 0.841                                                       | KCNQ1OT1 | -0.541                                                      |
| ANGPTL7  | 0.139                                       |          |                                             | SERPINB12 | 0.864                                                        | BCL2    | -0.620                                                       | OR51B6    | 0.829                                                       | OR10A5   | -0.540                                                      |
| YPEL3    | 0.136                                       |          |                                             | HBB       | 0.858                                                        | PP14571 | -0.594                                                       | OR51E1    | 0.822                                                       | HLA-DRA  | -0.540                                                      |
| WISP1    | 0.126                                       |          |                                             | LCE1D     | 0.857                                                        | NXNL2   | -0.589                                                       | KRTAP19-1 | 0.804                                                       | ZNF23    | -0.538                                                      |
| STK38L   | 0.126                                       |          |                                             | KRTAP19-1 | 0.853                                                        | AHDC1   | -0.581                                                       | UBQLNL    | 0.797                                                       | HEPHL1   | -0.515                                                      |
| ARHGEF25 | 0.118                                       |          |                                             | OR51B2    | 0.852                                                        | MFAP5   | -0.563                                                       | MBNL1     | 0.794                                                       | BMP2     | -0.495                                                      |
| SLC44A2  | 0.117                                       |          |                                             | OR51M1    | 0.843                                                        | STX11   | -0.562                                                       | OR51E2    | 0.787                                                       | SBF2     | -0.495                                                      |
| MAB21L2  | 0.114                                       |          |                                             | OR2M4     | 0.838                                                        | C1QTNF6 | -0.557                                                       | OR51B5    | 0.775                                                       | GLIPR1L2 | -0.475                                                      |

|           |       |              |       |          |        |            |       |           |        |
|-----------|-------|--------------|-------|----------|--------|------------|-------|-----------|--------|
| OR10J1    | 0.111 | LOC286094    | 0.834 | FAS      | -0.554 | LOC150622  | 0.740 | OR5M8     | -0.466 |
| KLK11     | 0.110 | OR51E1       | 0.832 | ZNF23    | -0.552 | CPSF4L     | 0.714 | TOM1      | -0.466 |
| FXYD1     | 0.108 | OR51B6       | 0.832 | ZFR      | -0.547 | ST6GALNAC1 | 0.704 | TMEM216   | -0.464 |
| GPR110    | 0.106 | PPP1R3A      | 0.831 | CYP2W1   | -0.526 | SORBS1     | 0.702 | PROL1     | -0.463 |
| APBB2     | 0.106 | OR10AG1      | 0.817 | UPK2     | -0.522 | PRB4       | 0.697 | LOC441666 | -0.457 |
| AREG      | 0.106 | GDPD4        | 0.816 | GNA15    | -0.519 | S100P      | 0.695 | C1QTNF6   | -0.446 |
| ELF3      | 0.105 | MBNL1        | 0.810 | SLC6A13  | -0.507 | KIAA1467   | 0.694 | DLEU2L    | -0.429 |
| PART1     | 0.105 | PAR4         | 0.809 | SPHK1    | -0.505 | OR2M4      | 0.685 | LDLRAD3   | -0.423 |
| LOC285419 | 0.102 | OR8H3        | 0.808 | OLR1     | -0.496 | TFF1       | 0.682 | DDAH1     | -0.417 |
| MSLN      | 0.102 | DKFZp434L192 | 0.807 | ACMSD    | -0.489 | OR5M11     | 0.678 | ADAMDEC1  | -0.413 |
| ECELIP2   | 0.102 | PRB2         | 0.804 | LARP1    | -0.489 | PRB2       | 0.674 | ZBED3     | -0.407 |
| C1QA      | 0.101 | C7orf62      | 0.802 | ZBED2    | -0.487 | GDPD4      | 0.670 | FGFR2     | -0.374 |
| PYGM      | 0.100 | OR2G3        | 0.801 | GLIPR1L2 | -0.480 | LINC00478  | 0.668 | OR4F15    | -0.373 |
|           |       | IPW          | 0.801 | CYR61    | -0.472 | OR52N1     | 0.662 | TMPRSS2   | -0.372 |
|           |       | UBQLNL       | 0.798 | FAM110C  | -0.471 | TRPV6      | 0.661 | RAB37     | -0.362 |
|           |       | PDE4B        | 0.795 | PTRF     | -0.470 | PAPPA      | 0.654 | HNF1A-AS1 | -0.357 |
|           |       | OR52J3       | 0.795 | AKAP2    | -0.457 | BAIAP2L2   | 0.647 | IRF8      | -0.356 |
|           |       | ZNF479       | 0.794 | CCBP2    | -0.454 | POSTN      | 0.637 | PPT2      | -0.356 |
|           |       | PLN          | 0.791 | GTF2IRD1 | -0.453 | C7orf62    | 0.637 | GUCY2C    | -0.355 |
|           |       | OR4X2        | 0.784 | CCDC153  | -0.453 | RNF186     | 0.636 | OLR1      | -0.355 |
|           |       | SORBS1       | 0.777 | SMARCA2  | -0.445 | OR2AK2     | 0.631 | RPL23     | -0.351 |
|           |       | SLC30A8      | 0.774 | IL6      | -0.443 | OR51B4     | 0.630 | FGD3      | -0.351 |
|           |       | OR5D18       | 0.774 | ALG1L    | -0.442 | OR51B2     | 0.629 | CCDC71    | -0.338 |

|           |       |           |        |           |       |           |        |
|-----------|-------|-----------|--------|-----------|-------|-----------|--------|
| OR52A1    | 0.766 | ARHGEF38  | -0.442 | OR2M5     | 0.628 | PART1     | -0.337 |
| KRTAP6-2  | 0.762 | CNDP2     | -0.435 | MC4R      | 0.628 | OR4C13    | -0.332 |
| OR52E2    | 0.757 | DDAH1     | -0.433 | TK2       | 0.619 | OR2A7     | -0.325 |
| OR5T1     | 0.757 | ARL14     | -0.433 | OR51M1    | 0.618 | SDS       | -0.323 |
| TEX15     | 0.757 | TRPC7     | -0.431 | SLC23A3   | 0.617 | FLJ45340  | -0.321 |
| OR5T3     | 0.756 | SCARA5    | -0.427 | OR4K2     | 0.614 | WFDC13    | -0.320 |
| ZNF876P   | 0.755 | HYAL1     | -0.426 | TM4SF1    | 0.612 | SYT4      | -0.320 |
| KRTAP15-1 | 0.746 | CCBL2     | -0.422 | IFITM3    | 0.611 | SUSD1     | -0.319 |
| PRB4      | 0.744 | PCDHB11   | -0.421 | EIF4G1    | 0.605 | OR4N4     | -0.319 |
| LCE1B     | 0.740 | IDI2-AS1  | -0.420 | CLEC19A   | 0.604 | LINC00094 | -0.319 |
| OR51B5    | 0.739 | SULT1C4   | -0.416 | LOC286094 | 0.603 | PALMD     | -0.318 |
| LOC284578 | 0.737 | LINC00277 | -0.416 | PRSS1     | 0.602 | RAMP1     | -0.317 |
| OR51V1    | 0.736 | RAMP1     | -0.416 | HBE1      | 0.600 | C15orf23  | -0.316 |
| OR2M5     | 0.724 | TEAD3     | -0.414 | LOC257358 | 0.600 | SLC38A1   | -0.315 |
| PRSS1     | 0.721 | UACA      | -0.413 | LINC00305 | 0.598 | SGK223    | -0.314 |
| LOC150622 | 0.720 | GPR87     | -0.409 | FLJ42289  | 0.594 | LOC728613 | -0.313 |
| SERPINA9  | 0.718 | LMCD1     | -0.407 | UBQLN3    | 0.592 | OR6C70    | -0.305 |
| LCE3D     | 0.717 | PROM2     | -0.406 | CCDC102B  | 0.592 | EMR4P     | -0.304 |
| OR2AK2    | 0.714 | NOTCH3    | -0.404 | SP100     | 0.579 | SCARA5    | -0.299 |
| GZMK      | 0.712 | HSD17B6   | -0.400 | TEX15     | 0.574 | PMCHL1    | -0.296 |
| LCE2D     | 0.708 | SUSD1     | -0.400 | CLEC1B    | 0.572 | PTPRQ     | -0.296 |
| OR52R1    | 0.707 | ANXA9     | -0.397 | PRB1      | 0.569 | MRAP2     | -0.295 |
| OR5D14    | 0.706 | TRPC1     | -0.395 | SNHG4     | 0.565 | MPL       | -0.283 |

|           |       |              |        |              |       |           |        |
|-----------|-------|--------------|--------|--------------|-------|-----------|--------|
| CYP4A11   | 0.704 | SYT4         | -0.393 | OR2G3        | 0.563 | GRN       | -0.280 |
| OR5R1     | 0.704 | FAM63A       | -0.393 | MAFG         | 0.558 | AMTN      | -0.280 |
| MMP26     | 0.702 | ZNF556       | -0.387 | SLC43A1      | 0.554 | ANGPT2    | -0.278 |
| ADAM7     | 0.701 | JPH3         | -0.386 | LCE1D        | 0.552 | FAM186A   | -0.272 |
| OR8J3     | 0.698 | SPACA7       | -0.385 | OR52A5       | 0.551 | ADNP2     | -0.271 |
| UGT2A3    | 0.697 | KNDC1        | -0.383 | MGAT4A       | 0.549 | C17orf101 | -0.270 |
| OR5W2     | 0.693 | C1orf56      | -0.378 | KRT6B        | 0.543 | GAMT      | -0.265 |
| OR51A7    | 0.693 | MSRA         | -0.376 | C17orf110    | 0.542 | PCDH15    | -0.264 |
| OR10W1    | 0.686 | EMP1         | -0.373 | LCE6A        | 0.542 | TCAP      | -0.261 |
| KRTAP22-1 | 0.684 | TMPRSS2      | -0.372 | GPR111       | 0.541 | RFPL4A    | -0.261 |
| LINC00478 | 0.683 | FST          | -0.370 | FGA          | 0.540 | FGFBP1    | -0.253 |
| OR52D1    | 0.682 | CALD1        | -0.368 | PI3          | 0.537 | DRD3      | -0.253 |
| KPRP      | 0.682 | MFSD1        | -0.366 | KPRP         | 0.537 | BLOC1S1   | -0.253 |
| KRTAP7-1  | 0.677 | WWP2         | -0.358 | LOC100127888 | 0.530 | NTS       | -0.251 |
| PLA2G2E   | 0.676 | DST          | -0.355 | C17orf96     | 0.529 | RPH3A     | -0.249 |
| OR5M11    | 0.672 | FNIP2        | -0.349 | PLEKHN1      | 0.529 | TMEM132B  | -0.249 |
| FOLH1B    | 0.669 | FGD3         | -0.349 | SPRR2G       | 0.527 | CYR61     | -0.248 |
| OR9G4     | 0.668 | GGT6         | -0.349 | YWHAE        | 0.522 | HLA-DRB5  | -0.246 |
| LINC00052 | 0.667 | DKFZP434A062 | -0.345 | LOC148145    | 0.522 | CDH17     | -0.244 |
| OR56B1    | 0.664 | YSK4         | -0.345 | SLC31A2      | 0.521 | NCR1      | -0.244 |
| FAT3      | 0.659 | BTBD9        | -0.344 | CDK14        | 0.516 | BTBD9     | -0.243 |
| DKK4      | 0.658 | GOLT1A       | -0.342 | PDE7B        | 0.515 | FAM124A   | -0.242 |
| OR52E8    | 0.655 | EMP2         | -0.338 | C16orf48     | 0.515 | OR1N1     | -0.242 |

|           |       |            |        |           |       |           |        |
|-----------|-------|------------|--------|-----------|-------|-----------|--------|
| ZNF727    | 0.651 | CST6       | -0.337 | PGC       | 0.513 | TSG1      | -0.241 |
| OR13A1    | 0.650 | ARAP1      | -0.337 | GPX2      | 0.510 | FLYWCH1   | -0.239 |
| OR8K3     | 0.649 | HNFI1A-AS1 | -0.336 | MSLNL     | 0.507 | CORO2A    | -0.237 |
| OR8B2     | 0.648 | NACAP1     | -0.329 | ATP2C2    | 0.507 | PSG11     | -0.237 |
| SPINT4    | 0.648 | LOC619207  | -0.326 | INPP5J    | 0.506 | MSX2P1    | -0.237 |
| LCE2B     | 0.644 | IRS1       | -0.326 | EMR3      | 0.506 | SLCO1C1   | -0.234 |
| OR56A1    | 0.643 | OR2A14     | -0.324 | GSDMC     | 0.505 | C4orf50   | -0.234 |
| PGC       | 0.643 | PTPRQ      | -0.324 | MIR7-3HG  | 0.504 | CLEC10A   | -0.233 |
| CCDC102B  | 0.637 | KIAA0664   | -0.324 | ODF3B     | 0.498 | LUZP1     | -0.232 |
| C10orf10  | 0.637 | AXL        | -0.321 | NRG4      | 0.495 | SYN2      | -0.232 |
| POSTN     | 0.634 | RHOD       | -0.321 | KRTAP12-2 | 0.492 | PCDHGB1   | -0.232 |
| OR2M2     | 0.634 | DENND3     | -0.321 | ONECUT2   | 0.492 | ANKMY1    | -0.232 |
| YIPF7     | 0.632 | MIA        | -0.320 | BRD4      | 0.492 | ACY3      | -0.229 |
| SCN7A     | 0.628 | MED12L     | -0.319 | OR56A3    | 0.492 | APOA2     | -0.229 |
| PDE7B     | 0.626 | SPRED3     | -0.314 | CFB       | 0.491 | UGT2B11   | -0.226 |
| LCE6A     | 0.622 | NTF4       | -0.311 | RIMS1     | 0.488 | C14orf182 | -0.225 |
| PZP       | 0.621 | PALMD      | -0.310 | LINC00052 | 0.485 | SST       | -0.225 |
| SPRR2G    | 0.615 | ATF6B      | -0.309 | LCE1E     | 0.485 | SPRR2D    | -0.225 |
| SLC22A24  | 0.615 | C8orf33    | -0.308 | KCNMB1    | 0.484 | SRRM4     | -0.225 |
| PAPPA     | 0.613 | CES3       | -0.308 | TFEB      | 0.484 | DLGAP3    | -0.223 |
| XIRP2     | 0.612 | ABLIM3     | -0.307 | CCRL2     | 0.484 | B3GALT6   | -0.220 |
| OR4K2     | 0.612 | SYDE1      | -0.307 | OR5AP2    | 0.483 | METAP1D   | -0.218 |
| LOC148145 | 0.611 | NOL10      | -0.306 | GALNT5    | 0.482 | BTBD18    | -0.217 |

|              |       |          |        |           |       |           |        |
|--------------|-------|----------|--------|-----------|-------|-----------|--------|
| CNGB3        | 0.610 | BMP2     | -0.306 | GNAI2     | 0.482 | CCDC144A  | -0.216 |
| HNF4A        | 0.609 | POGLUT1  | -0.303 | SRPK2     | 0.480 | PRAMEF20  | -0.216 |
| LSAMP-AS3    | 0.608 | FAM186A  | -0.302 | KRTAP20-3 | 0.479 | OR6C1     | -0.215 |
| PRB1         | 0.607 | ELL2     | -0.301 | PLA2G2E   | 0.479 | OR10A3    | -0.215 |
| LOC100131726 | 0.605 | GAL3ST4  | -0.297 | CKMT1A    | 0.478 | LRG1      | -0.212 |
| OR8D1        | 0.603 | APOD     | -0.296 | OR8J3     | 0.478 | DENND3    | -0.209 |
| OR8I2        | 0.602 | C9orf69  | -0.296 | TBXAS1    | 0.478 | CYP2A7    | -0.208 |
| BPIFA3       | 0.597 | DNAH12   | -0.295 | PZP       | 0.476 | HSD3B2    | -0.208 |
| GYPA         | 0.597 | PACSIN2  | -0.295 | SH3TC1    | 0.476 | AKAP2     | -0.206 |
| UBD          | 0.596 | MOXD2P   | -0.293 | FREM1     | 0.471 | LINC00410 | -0.206 |
| OR2T6        | 0.596 | CHD8     | -0.291 | LIME1     | 0.470 | ZNF117    | -0.205 |
| WFDC8        | 0.594 | CC2D2A   | -0.291 | LCE1B     | 0.468 | TUBB8     | -0.205 |
| OTUD7A       | 0.593 | AMDHD2   | -0.291 | FUT1      | 0.468 | C1QTNF4   | -0.202 |
| CSRNP3       | 0.592 | HEPHL1   | -0.290 | SLA       | 0.467 | ANKRD53   | -0.202 |
| OR8H2        | 0.592 | ZNF827   | -0.289 | CSRNP3    | 0.464 | ENTPD8    | -0.201 |
| LCE2A        | 0.591 | ARC      | -0.288 | BTBD3     | 0.464 | PRSS8     | -0.201 |
| APCS         | 0.589 | MAPK8    | -0.288 | GBP1      | 0.464 | CHST12    | -0.201 |
| C1orf68      | 0.589 | EDN3     | -0.288 | DAPL1     | 0.463 | LINC00277 | -0.201 |
| CDK14        | 0.586 | BFSP1    | -0.286 | OR51T1    | 0.462 | EMB       | -0.201 |
| OR2AG1       | 0.583 | KIAA1549 | -0.286 | AKR1C4    | 0.461 | HS3ST1    | -0.199 |
| UBQLN3       | 0.580 | SEC16B   | -0.285 | SLC10A2   | 0.460 | SCAMP5    | -0.197 |
| OR4C3        | 0.580 | WIZ      | -0.284 | IL1RN     | 0.458 | RTBDN     | -0.196 |
| SCN10A       | 0.580 | TNFSF12  | -0.283 | PRG3      | 0.458 | NCAM1     | -0.194 |

|           |       |           |        |              |       |              |        |
|-----------|-------|-----------|--------|--------------|-------|--------------|--------|
| INHBE     | 0.580 | FAM71D    | -0.280 | C1orf68      | 0.457 | FCAR         | -0.193 |
| PCK1      | 0.579 | MRAP2     | -0.280 | OR8B2        | 0.457 | SURF2        | -0.192 |
| ARHGAP15  | 0.579 | PBXIP1    | -0.280 | DOC2B        | 0.454 | DSG2         | -0.191 |
| OR4L1     | 0.579 | TBL1XR1   | -0.278 | OR5D16       | 0.452 | OR10H4       | -0.191 |
| OR51G1    | 0.579 | TGM1      | -0.277 | LCE4A        | 0.452 | TMC3         | -0.191 |
| MMP12     | 0.578 | ZNF467    | -0.274 | TAAR9        | 0.449 | SOX6         | -0.190 |
| MAFG      | 0.575 | ZNF117    | -0.274 | OR10AG1      | 0.448 | IFNA4        | -0.190 |
| C16orf78  | 0.575 | PHF11     | -0.274 | FAM170B      | 0.447 | LTBP3        | -0.189 |
| OPN5      | 0.574 | PRAP1     | -0.272 | S100Z        | 0.446 | LOC146481    | -0.189 |
| OR5AK2    | 0.570 | NR2F1     | -0.272 | A1CF         | 0.445 | LOC100128554 | -0.188 |
| OR51E2    | 0.567 | CRIP1     | -0.272 | EVI5         | 0.444 | LRRC3B       | -0.188 |
| KRTAP11-1 | 0.567 | GRN       | -0.272 | REG3A        | 0.444 | CSHL1        | -0.187 |
| OR2D3     | 0.566 | ANKS4B    | -0.272 | PLN          | 0.443 | FNIP2        | -0.187 |
| LCE4A     | 0.565 | RAD51C    | -0.271 | C10orf10     | 0.443 | CRYGS        | -0.186 |
| CYP2C9    | 0.564 | TMCC2     | -0.271 | HMGB4        | 0.442 | CCBL2        | -0.186 |
| OR8K1     | 0.564 | LOC441666 | -0.271 | LSAMP-AS3    | 0.442 | SEC16B       | -0.185 |
| OR2M3     | 0.564 | BIK       | -0.268 | NAV2         | 0.441 | SNORA33      | -0.185 |
| TAAR5     | 0.563 | SNAPC4    | -0.268 | LGALS14      | 0.440 | LINGO2       | -0.184 |
| FGF20     | 0.562 | CRMP1     | -0.266 | CLEC12B      | 0.438 | LIG4         | -0.184 |
| KRTAP19-6 | 0.561 | ACRBP     | -0.266 | ACCSL        | 0.437 | IFI16        | -0.183 |
| PCDHB17   | 0.560 | AFAP1     | -0.264 | LOC100131726 | 0.437 | PABPC3       | -0.182 |
| HAVCR1    | 0.558 | ACY3      | -0.262 | USH1C        | 0.435 | SERTAD4      | -0.181 |
| CLDN17    | 0.556 | RPL22     | -0.261 | INHBE        | 0.434 | TACC1        | -0.181 |

|              |       |           |        |           |       |          |        |
|--------------|-------|-----------|--------|-----------|-------|----------|--------|
| OR5B17       | 0.555 | MESP1     | -0.261 | AGMO      | 0.431 | GJC3     | -0.179 |
| OR2H2        | 0.553 | CHID1     | -0.260 | GRIA1     | 0.431 | TAS2R10  | -0.179 |
| C17orf110    | 0.553 | LAT       | -0.260 | HAVCR2    | 0.430 | DEFB123  | -0.178 |
| RASAL3       | 0.553 | NRGN      | -0.258 | OR10P1    | 0.430 | NACAP1   | -0.178 |
| OR52E4       | 0.550 | COMT      | -0.258 | OR52N2    | 0.429 | PSMF1    | -0.177 |
| KRT6B        | 0.546 | HBA2      | -0.257 | EDN2      | 0.429 | BTNL9    | -0.177 |
| HBE1         | 0.546 | MPP3      | -0.256 | OR51I2    | 0.428 | ZNF37BP  | -0.176 |
| LPPR1        | 0.545 | OR5M8     | -0.255 | C1orf158  | 0.426 | MLLT1    | -0.175 |
| SLC10A2      | 0.544 | KIF2A     | -0.254 | OR8K5     | 0.426 | CLEC4M   | -0.175 |
| C20orf197    | 0.544 | LOC728323 | -0.254 | SLC01B3   | 0.425 | AMOTL1   | -0.175 |
| VN1R4        | 0.540 | VPS37B    | -0.253 | CD163L1   | 0.425 | ACTL8    | -0.175 |
| REG3A        | 0.538 | AGSK1     | -0.253 | TMEM200A  | 0.425 | KRT18P55 | -0.173 |
| C21orf54     | 0.536 | GDPD5     | -0.252 | OR2G6     | 0.424 | WFDC9    | -0.172 |
| OR52A5       | 0.535 | RMND5A    | -0.251 | FMN1      | 0.423 | ANKS4B   | -0.172 |
| TIMM13       | 0.534 | OR6C70    | -0.251 | OR5J2     | 0.423 | ABCA1    | -0.172 |
| LOC100129055 | 0.534 | FXYP7     | -0.249 | TMEM190   | 0.423 | KTN1     | -0.170 |
| TMEM202      | 0.532 | SFRP4     | -0.247 | SLC27A2   | 0.423 | INPP1    | -0.170 |
| OR1Q1        | 0.530 | LMO7      | -0.247 | CYP4F12   | 0.423 | GIMAP4   | -0.170 |
| SEMG1        | 0.530 | FAM26D    | -0.245 | OR5P2     | 0.422 | BPIFC    | -0.169 |
| REG3G        | 0.530 | DARS      | -0.245 | OR5T3     | 0.421 | BRCA1    | -0.169 |
| A2M          | 0.529 | CALCR     | -0.245 | ADH1B     | 0.420 | CAMK4    | -0.169 |
| OR5AP2       | 0.529 | KTN1      | -0.245 | PRSS37    | 0.420 | ACADL    | -0.168 |
| XKR3         | 0.529 | AGPAT4    | -0.244 | KRTAP19-6 | 0.419 | SIX1     | -0.167 |

|           |       |         |        |          |       |           |        |
|-----------|-------|---------|--------|----------|-------|-----------|--------|
| LGALS14   | 0.523 | CCDC136 | -0.243 | NPFFR2   | 0.418 | OR2A14    | -0.166 |
| EMR2      | 0.522 | OSBPL3  | -0.243 | MEP1B    | 0.416 | ATP13A4   | -0.166 |
| TAS2R9    | 0.517 | YPEL3   | -0.243 | DEFB131  | 0.415 | TUBBP5    | -0.166 |
| KRTAP13-3 | 0.517 | B3GALT6 | -0.242 | OR10W1   | 0.415 | IGSF21    | -0.165 |
| HHATL     | 0.517 | PCDHGB1 | -0.239 | AGR2     | 0.415 | FPR3      | -0.165 |
| TPTE2     | 0.516 | SKIL    | -0.238 | PCYT2    | 0.413 | PATE4     | -0.164 |
| NFIL3     | 0.514 | TOM1    | -0.238 | IMPG1    | 0.412 | ELSPBP1   | -0.163 |
| OR4P4     | 0.513 | FASTK   | -0.236 | OLFM3    | 0.409 | OR12D3    | -0.162 |
| EMR3      | 0.513 | ACOT7   | -0.236 | PLCL2    | 0.408 | LOC441455 | -0.161 |
| OR4S1     | 0.509 | KLHDC5  | -0.236 | IFNA8    | 0.407 | GSG1L     | -0.161 |
| OR6A2     | 0.507 | SNORA33 | -0.235 | UGT1A6   | 0.407 | DYRK2     | -0.160 |
| HBBP1     | 0.506 | ANO4    | -0.235 | SECTM1   | 0.406 | ZNF702P   | -0.160 |
| KRTAP19-4 | 0.506 | NPAS2   | -0.235 | FGF20    | 0.405 | SNORA37   | -0.160 |
| GPX2      | 0.503 | SAA3P   | -0.234 | HLA-DQB1 | 0.405 | ARL14     | -0.157 |
| TM4SF1    | 0.502 | RPLP1   | -0.234 | C1QTNF7  | 0.405 | RALGPS1   | -0.157 |
| OR5D16    | 0.500 | PRINS   | -0.234 | FXYD4    | 0.404 | ZNF675    | -0.157 |
| OR4A16    | 0.500 | SURF2   | -0.232 | CNGB3    | 0.403 | CCDC105   | -0.157 |
| NWD1      | 0.499 | GALNT12 | -0.231 | BCMO1    | 0.401 | LOC619207 | -0.156 |
| FBXO41    | 0.499 | CLEC4M  | -0.231 | OR4N5    | 0.401 | ROPN1L    | -0.156 |
| OR5M1     | 0.498 | PDILT   | -0.231 | OTUD7A   | 0.400 | SLCO1B1   | -0.156 |
| OR52B2    | 0.497 | DNLZ    | -0.230 | FAM66D   | 0.399 | GSTTP1    | -0.156 |
| RUNX1T1   | 0.497 | RNF151  | -0.229 | FBLIM1   | 0.398 | OR6B3     | -0.156 |
| LCE1E     | 0.496 | ZNF280D | -0.229 | SERPINE1 | 0.398 | ANKRD2    | -0.154 |

|              |       |          |        |           |       |           |        |
|--------------|-------|----------|--------|-----------|-------|-----------|--------|
| GPR141       | 0.494 | ZNF606   | -0.228 | HOMER3    | 0.394 | CUL1      | -0.153 |
| APOA2        | 0.492 | LY6G6D   | -0.228 | NMS       | 0.394 | LRRN4     | -0.152 |
| CYP2A13      | 0.492 | KRT13    | -0.228 | TPTE2     | 0.394 | C5AR1     | -0.150 |
| OR8U1        | 0.491 | ALPK2    | -0.228 | OR4K17    | 0.392 | FCRL1     | -0.150 |
| NDN          | 0.490 | DISP2    | -0.226 | VPREB1    | 0.390 | ZNF790    | -0.150 |
| OR51I1       | 0.490 | NRXN1    | -0.226 | OR2M2     | 0.389 | OAZ3      | -0.150 |
| C4orf6       | 0.486 | ENHO     | -0.226 | C20orf160 | 0.389 | FAM21C    | -0.149 |
| LIP1         | 0.484 | OLA1     | -0.226 | FAM19A1   | 0.388 | SPRED3    | -0.148 |
| OR1J2        | 0.482 | OAZ3     | -0.226 | MVP       | 0.387 | PRAMEF22  | -0.148 |
| LCE1C        | 0.480 | SULT1A2  | -0.222 | ELMO3     | 0.387 | PKD2L2    | -0.148 |
| OR10P1       | 0.479 | KCNE3    | -0.220 | LOC644649 | 0.384 | H19       | -0.147 |
| OR52N1       | 0.478 | CAMK2N2  | -0.219 | GGT6      | 0.384 | GZMA      | -0.146 |
| OR1J4        | 0.478 | KIAA0284 | -0.219 | OR4C3     | 0.384 | MEF2A     | -0.145 |
| LOC100128554 | 0.477 | GPR110   | -0.218 | CD53      | 0.384 | ZNF91     | -0.145 |
| CHODL-AS1    | 0.477 | MINPP1   | -0.218 | UEVLD     | 0.382 | IL17A     | -0.145 |
| OR2H1        | 0.476 | SMCR5    | -0.215 | NHSL1     | 0.381 | MBD3L1    | -0.144 |
| OR52N2       | 0.475 | KCNH8    | -0.215 | IFI44     | 0.381 | ZNF521    | -0.144 |
| ALDOB        | 0.474 | RTN4RL1  | -0.215 | PSORS1C3  | 0.381 | BBOX1     | -0.144 |
| KLHL10       | 0.473 | RPH3A    | -0.214 | VN1R4     | 0.381 | KLK3      | -0.143 |
| KRTAP13-1    | 0.473 | MLANA    | -0.214 | TEAD1     | 0.381 | NOL10     | -0.143 |
| TAAR9        | 0.471 | C1orf21  | -0.214 | OR4A16    | 0.381 | GBAP1     | -0.143 |
| SH3GLB1      | 0.470 | ACPL2    | -0.214 | C10orf108 | 0.380 | LOC339535 | -0.142 |
| GNG3         | 0.468 | CAPN2    | -0.214 | CMKLR1    | 0.380 | C9orf24   | -0.142 |

|          |       |          |        |              |       |           |        |
|----------|-------|----------|--------|--------------|-------|-----------|--------|
| IQCF2    | 0.468 | TUBBP5   | -0.213 | OR5B3        | 0.379 | GPR32     | -0.142 |
| C16orf48 | 0.468 | TNRC6B   | -0.213 | GPR115       | 0.379 | CDX2      | -0.141 |
| MYH6     | 0.464 | NUP188   | -0.212 | C15orf38     | 0.379 | AGSK1     | -0.140 |
| FLJ42289 | 0.464 | VCAM1    | -0.212 | ARNTL        | 0.378 | MMP24     | -0.139 |
| SLC18A1  | 0.464 | MAFA     | -0.211 | TNFAIP8L2    | 0.378 | PCDHA10   | -0.138 |
| APLNR    | 0.463 | TACC1    | -0.211 | OR2M3        | 0.377 | SPATS2    | -0.138 |
| PDYN     | 0.463 | A2ML1    | -0.211 | KCNH8        | 0.377 | ALPP      | -0.137 |
| RIMS1    | 0.461 | CLMN     | -0.208 | PIN1P1       | 0.376 | OR4N3P    | -0.137 |
| DEFB131  | 0.460 | DNMT3A   | -0.208 | DLGAP2       | 0.375 | LOC284551 | -0.137 |
| CD163L1  | 0.460 | DPPA2    | -0.207 | HBD          | 0.375 | KCTD8     | -0.136 |
| OR2L8    | 0.460 | SIGLEC5  | -0.207 | ARHGEF38     | 0.374 | PRRT1     | -0.136 |
| IL7R     | 0.460 | CCR5     | -0.206 | SMTNL1       | 0.374 | HSPA1A    | -0.135 |
| OR51I2   | 0.459 | HNMT     | -0.205 | OR5H15       | 0.373 | SGCD      | -0.134 |
| LCE1A    | 0.456 | LYPD6B   | -0.205 | OR5B17       | 0.373 | DCAF4     | -0.134 |
| EVI5     | 0.455 | ADAMTSL2 | -0.205 | KLK13        | 0.373 | PAH       | -0.134 |
| OR1M1    | 0.455 | NEIL1    | -0.205 | LRRN3        | 0.372 | GPS1      | -0.134 |
| SPOP     | 0.454 | TRABD    | -0.204 | KRTAP22-2    | 0.372 | ZNF175    | -0.134 |
| OR4K13   | 0.453 | EPHX2    | -0.204 | NFIL3        | 0.371 | HLA-DPB1  | -0.133 |
| GYPB     | 0.453 | ELOVL7   | -0.201 | PLEKHG6      | 0.370 | SCN10A    | -0.133 |
| OR4A15   | 0.453 | ZNF512B  | -0.201 | OR4K1        | 0.370 | NPPA      | -0.133 |
| MASIL    | 0.452 | SETD7    | -0.201 | TMEM139      | 0.370 | GPRIN2    | -0.132 |
| NLRP13   | 0.452 | C6orf47  | -0.201 | LOC100131551 | 0.370 | NFATC2    | -0.130 |
| FCRL1    | 0.452 | TMC6     | -0.200 | C2orf72      | 0.369 | MRGPRX4   | -0.130 |

|           |       |           |        |           |       |          |        |
|-----------|-------|-----------|--------|-----------|-------|----------|--------|
| C1orf158  | 0.452 | LINC00162 | -0.199 | SIGIRR    | 0.367 | DISP2    | -0.130 |
| MC4R      | 0.452 | FLYWCH1   | -0.198 | UCK1      | 0.366 | IAPP     | -0.130 |
| ACCSL     | 0.451 | ZNF134    | -0.198 | RERGL     | 0.366 | KIAA1549 | -0.130 |
| LOC644649 | 0.449 | CSDC2     | -0.196 | ITGB7     | 0.366 | LPPR2    | -0.130 |
| OR5P2     | 0.448 | SNORD17   | -0.196 | COMT      | 0.365 | TMEM179  | -0.129 |
| KRTAP19-2 | 0.448 | AMMECR1L  | -0.195 | IGFL1     | 0.365 | HNRNPCL1 | -0.129 |
| TK2       | 0.448 | FAM5C     | -0.195 | SLC30A8   | 0.364 | SLC7A14  | -0.128 |
| OR4K17    | 0.447 | C6orf136  | -0.195 | ARL6IP4   | 0.364 | FAM167A  | -0.128 |
| FUT1      | 0.447 | OR2A7     | -0.194 | VTCN1     | 0.363 | TBC1D29  | -0.128 |
| OR9G1     | 0.446 | SBF1P1    | -0.193 | MS4A8B    | 0.362 | UBE2D4   | -0.128 |
| C1QTNF7   | 0.445 | KLK8      | -0.193 | SYT13     | 0.362 | TTC30A   | -0.128 |
| OR4D1     | 0.444 | ZNF814    | -0.193 | KRTAP23-1 | 0.362 | HEPN1    | -0.127 |
| SCGB1D1   | 0.443 | RALGPS1   | -0.193 | KRTAP19-2 | 0.361 | GPX3     | -0.127 |
| SLC26A7   | 0.440 | JPH2      | -0.192 | PAR5      | 0.361 | APOC1    | -0.126 |
| C20orf160 | 0.439 | KLK13     | -0.191 | MEF2D     | 0.359 | PYDC2    | -0.126 |
| SDC4P     | 0.438 | SIX1      | -0.190 | ZNF727    | 0.359 | CRY2     | -0.125 |
| OR5AS1    | 0.438 | TMEM132B  | -0.190 | ZNF767    | 0.359 | FRMD6    | -0.125 |
| HAVCR2    | 0.436 | SCEL      | -0.189 | CCT8L2    | 0.359 | OR4S1    | -0.124 |
| GRM8      | 0.436 | H19       | -0.188 | FAM151A   | 0.359 | KRTAP9-3 | -0.124 |
| TNFSF10   | 0.435 | FBRSL1    | -0.187 | DAGLA     | 0.357 | KRTAP9-9 | -0.124 |
| TRIM77P   | 0.435 | CYP21A2   | -0.187 | SP140L    | 0.357 | RLN2     | -0.124 |
| NOX4      | 0.433 | RHBDL2    | -0.187 | REG1B     | 0.357 | ODF3     | -0.123 |
| CHGA      | 0.431 | ZNF548    | -0.187 | KRTAP6-3  | 0.357 | ZNF606   | -0.122 |

|              |       |           |        |           |       |           |        |
|--------------|-------|-----------|--------|-----------|-------|-----------|--------|
| TAAR8        | 0.431 | AK8       | -0.187 | SLPI      | 0.357 | PRAMEF1   | -0.122 |
| GP1BB        | 0.431 | MDF1      | -0.186 | LITAF     | 0.356 | CEACAM22P | -0.122 |
| GRM3         | 0.428 | IFTM1     | -0.185 | OR6M1     | 0.355 | C21orf128 | -0.121 |
| OR2L3        | 0.428 | MYO1A     | -0.185 | OR6F1     | 0.354 | OR14I1    | -0.121 |
| LOC100131551 | 0.427 | SLC38A8   | -0.184 | IAH1      | 0.353 | CT62      | -0.121 |
| OR6T1        | 0.427 | KIAA1522  | -0.184 | HLA-DOB   | 0.353 | LOC646498 | -0.120 |
| CHRNA6       | 0.426 | SLC39A2   | -0.184 | C17orf108 | 0.352 | PGBD2     | -0.120 |
| OR8G2        | 0.426 | PLAC8     | -0.184 | PCDHB2    | 0.352 | SPRR1B    | -0.119 |
| TMEM200A     | 0.426 | C2orf69   | -0.184 | CD209     | 0.352 | TTC28     | -0.119 |
| NR1H4        | 0.425 | IL27RA    | -0.183 | OR8H3     | 0.351 | MIA       | -0.118 |
| CYP4F11      | 0.425 | ASPHD1    | -0.183 | CCDC92    | 0.351 | PROKR2    | -0.117 |
| DEFB116      | 0.425 | ESM1      | -0.181 | ZNF479    | 0.350 | ASB18     | -0.117 |
| CLC          | 0.423 | ZBED4     | -0.180 | MMP12     | 0.350 | CDH10     | -0.117 |
| TIMD4        | 0.422 | SERTAD4   | -0.180 | LGALS4    | 0.350 | CSDC2     | -0.117 |
| OR7D4        | 0.420 | OR10K1    | -0.180 | GAS2      | 0.349 | LOC440905 | -0.116 |
| OR51A2       | 0.420 | ANKRD2    | -0.179 | REG3G     | 0.349 | EPOR      | -0.116 |
| DAPL1        | 0.418 | BLOC1S1   | -0.179 | PAR1      | 0.348 | PCDHB10   | -0.116 |
| GLIPR1       | 0.417 | DLGAP3    | -0.178 | OR2L8     | 0.348 | CBX6      | -0.115 |
| PEAR1        | 0.411 | ENPP2     | -0.178 | MYL5      | 0.348 | UBTFL1    | -0.115 |
| CD207        | 0.409 | C9orf173  | -0.178 | TRIM38    | 0.346 | CACNG5    | -0.115 |
| OR5M10       | 0.405 | LOC284023 | -0.178 | AIM1      | 0.345 | TMC7      | -0.115 |
| CLEC1B       | 0.404 | ACADL     | -0.178 | LINC00483 | 0.344 | HLA-F-AS1 | -0.115 |
| OR5L1        | 0.403 | CCDC71    | -0.177 | PPP1R17   | 0.344 | CYP26B1   | -0.115 |

|           |       |           |        |           |       |           |        |
|-----------|-------|-----------|--------|-----------|-------|-----------|--------|
| SLC22A10  | 0.403 | RAB7L1    | -0.177 | CHODL-AS1 | 0.343 | VIP       | -0.114 |
| CLECL1    | 0.400 | MSLN      | -0.176 | KRTAP2-4  | 0.343 | FRS2      | -0.114 |
| OR5M3     | 0.399 | SYT14     | -0.176 | LIPI      | 0.342 | OVGP1     | -0.114 |
| FAM71C    | 0.399 | MIA3      | -0.176 | OR10G7    | 0.341 | RGS2      | -0.113 |
| DEFB1     | 0.398 | DBNDD2    | -0.176 | SNORD124  | 0.341 | NMU       | -0.113 |
| ELAVL4    | 0.398 | FIGNL2    | -0.176 | IL23A     | 0.341 | STX11     | -0.113 |
| LCE3E     | 0.397 | LOC285401 | -0.175 | DMBT1     | 0.340 | C3P1      | -0.113 |
| MMP3      | 0.396 | EPB41L1   | -0.174 | ZNF217    | 0.340 | MAP4K2    | -0.113 |
| FGF21     | 0.396 | PTGS2     | -0.173 | TMEM82    | 0.340 | CEP112    | -0.113 |
| TRPV6     | 0.395 | NLRP1     | -0.173 | TRIM77P   | 0.339 | HHAT      | -0.113 |
| OR6F1     | 0.395 | SLC25A29  | -0.173 | DST       | 0.339 | FRRS1     | -0.113 |
| PGA3      | 0.394 | FAM84A    | -0.173 | EPS8L1    | 0.339 | C16orf96  | -0.112 |
| THSD7B    | 0.394 | KIAA1217  | -0.173 | GLIPR1    | 0.339 | BFSP1     | -0.112 |
| ITGA7     | 0.394 | TNFSF13   | -0.172 | REG1A     | 0.338 | KRTAP5-10 | -0.112 |
| IGFL1     | 0.392 | SRA1      | -0.171 | MMP3      | 0.338 | C19orf12  | -0.112 |
| LOC153910 | 0.392 | ZNF615    | -0.170 | C22orf25  | 0.338 | PTGS2     | -0.111 |
| KRTAP20-4 | 0.392 | IFIT1     | -0.170 | CCL13     | 0.338 | STX19     | -0.111 |
| IFNA7     | 0.391 | KC6       | -0.169 | OR10S1    | 0.337 | ARNT2     | -0.111 |
| XDH       | 0.391 | SRPK2     | -0.168 | MSLN      | 0.336 | PGM5      | -0.111 |
| SI00A7    | 0.390 | ENTPD8    | -0.168 | IL17RC    | 0.336 | LILRB4    | -0.111 |
| PAR1      | 0.389 | BCHE      | -0.166 | MICAL2    | 0.335 | FLJ10661  | -0.111 |
| OR4N5     | 0.389 | CACNG5    | -0.166 | MAPK8IP1  | 0.335 | PLAC8     | -0.111 |
| SERPINB11 | 0.388 | HCRT1     | -0.165 | FGF21     | 0.335 | HAS3      | -0.110 |

|           |       |         |        |          |       |           |        |
|-----------|-------|---------|--------|----------|-------|-----------|--------|
| KLK2      | 0.387 | CFC1    | -0.165 | PHF2     | 0.335 | ZNF732    | -0.110 |
| OR4A47    | 0.386 | INSL4   | -0.165 | TAAR8    | 0.334 | LOC340094 | -0.109 |
| LRTM1     | 0.385 | MED13L  | -0.165 | TSPAN33  | 0.333 | YSK4      | -0.109 |
| TFF1      | 0.384 | GBAP1   | -0.164 | SLC16A3  | 0.332 | SPRN      | -0.109 |
| PAR5      | 0.384 | FAM159B | -0.164 | NOX4     | 0.332 | LCA5L     | -0.109 |
| KRTAP6-3  | 0.383 | ZNF613  | -0.164 | ARHGAP15 | 0.331 | CDC14C    | -0.108 |
| OR10G7    | 0.382 | GNAZ    | -0.164 | ENHO     | 0.331 | MLL3      | -0.108 |
| PIN1P1    | 0.380 | CCKBR   | -0.164 | TRDMT1   | 0.330 | LOC643406 | -0.108 |
| FAM24A    | 0.380 | AGPAT1  | -0.163 | COL6A1   | 0.330 | HRAS      | -0.107 |
| KRTAP19-8 | 0.379 | HLA-DRA | -0.163 | BCL2L14  | 0.330 | OR8D4     | -0.107 |
| OR5D13    | 0.378 | ZNF614  | -0.163 | RASSF9   | 0.330 | DEFA3     | -0.107 |
| HBD       | 0.378 | SCN4B   | -0.163 | KIF12    | 0.330 | KLB       | -0.106 |
| GALNT5    | 0.378 | ZNF420  | -0.162 | MSMB     | 0.329 | LIMCH1    | -0.106 |
| OR4D2     | 0.378 | PLEKHA4 | -0.162 | ZKSCAN3  | 0.328 | LILRB1    | -0.106 |
| NOD2      | 0.378 | NDFIP1  | -0.161 | KIAA1683 | 0.327 | HLCS      | -0.105 |
| OR4K1     | 0.378 | SIGLEC6 | -0.160 | AHSP     | 0.327 | S100A7A   | -0.105 |
| ELSPBP1   | 0.377 | IGF2BP2 | -0.159 | APITD1   | 0.327 | ERC2      | -0.105 |
| SLC36A2   | 0.377 | CEACAM5 | -0.159 | CHRNA6   | 0.327 | C12orf39  | -0.105 |
| COL6A5    | 0.377 | NDRG2   | -0.159 | OR4A15   | 0.324 | HNMT      | -0.105 |
| MEP1B     | 0.376 | METRN   | -0.159 | ACPL2    | 0.323 | CACNG6    | -0.105 |
| NTS       | 0.376 | C9orf9  | -0.158 | OR52R1   | 0.322 | TRIM21    | -0.104 |
| DEFB124   | 0.376 | RASSF1  | -0.158 | FLJ46361 | 0.322 | NPR3      | -0.104 |
| ACTL9     | 0.375 | CT62    | -0.158 | TREX1    | 0.322 | LOC728875 | -0.104 |

|           |       |           |        |          |       |           |        |
|-----------|-------|-----------|--------|----------|-------|-----------|--------|
| OR5AN1    | 0.374 | FAM136A   | -0.158 | GP1BB    | 0.322 | PLEKHF2   | -0.104 |
| PCDHB2    | 0.374 | SARS      | -0.158 | XKR3     | 0.322 | PRKACG    | -0.103 |
| CAMK1G    | 0.374 | AXDND1    | -0.157 | SAMD9    | 0.321 | ATF7IP    | -0.103 |
| OR2T1     | 0.373 | LRRC27    | -0.157 | OR8G2    | 0.321 | LOC284009 | -0.103 |
| KRTAP12-2 | 0.372 | DEFB126   | -0.156 | PRR21    | 0.320 | NFYB      | -0.102 |
| C14orf177 | 0.372 | LINC00094 | -0.156 | CHGA     | 0.320 | RGS13     | -0.102 |
| OR7D2     | 0.371 | CAMKK2    | -0.155 | OR2A42   | 0.320 | OR10J5    | -0.102 |
| CCDC92    | 0.370 | PFKP      | -0.153 | MASIL    | 0.319 | CXCR1     | -0.102 |
| OR2L2     | 0.370 | PKD2L2    | -0.153 | PRSS33   | 0.319 | FFAR3     | -0.102 |
| CCL23     | 0.369 | DNALI1    | -0.152 | SPATA12  | 0.319 | DEFB119   | -0.102 |
| FLJ46361  | 0.368 | LTBP3     | -0.152 | CLSTN3   | 0.318 | SPRR2B    | -0.101 |
| C8orf34   | 0.368 | HOXC13    | -0.151 | OPN5     | 0.318 | HSPA6     | -0.101 |
| LGALS4    | 0.367 | SLC27A2   | -0.150 | OR2M7    | 0.317 | FANCE     | -0.101 |
| OR6Q1     | 0.367 | CTSL3     | -0.149 | GNG12    | 0.316 | SLC17A1   | -0.101 |
| OR51T1    | 0.366 | ARCN1     | -0.149 | RILP     | 0.316 | SPDYE4    | -0.100 |
| KRTAP2-4  | 0.365 | ACSF2     | -0.148 | PYHIN1   | 0.316 | ZNF701    | -0.100 |
| REG1B     | 0.365 | PHF2      | -0.148 | MMP26    | 0.315 |           |        |
| CYP4A22   | 0.365 | F13B      | -0.148 | GRM1     | 0.315 |           |        |
| KRTAP23-1 | 0.365 | PAPL      | -0.147 | CCDC102A | 0.315 |           |        |
| TBXAS1    | 0.365 | TMEM95    | -0.147 | TNFRSF9  | 0.314 |           |        |
| TCL6      | 0.364 | LRRN4     | -0.147 | MKRN7P   | 0.313 |           |        |
| OR13C4    | 0.363 | FEZF2     | -0.146 | IQCF2    | 0.313 |           |        |
| PRAMEF12  | 0.363 | MAP4K2    | -0.146 | RASSF1   | 0.313 |           |        |

|              |       |          |        |           |       |
|--------------|-------|----------|--------|-----------|-------|
| OR6K2        | 0.363 | HSD17B2  | -0.146 | BMF       | 0.312 |
| LHX6         | 0.363 | PCDHGB8P | -0.146 | UPK3B     | 0.312 |
| LOC100127888 | 0.362 | FGFBP1   | -0.146 | GYPA      | 0.312 |
| ZKSCAN3      | 0.362 | MMD      | -0.145 | LGALS9    | 0.312 |
| RERGL        | 0.362 | VASN     | -0.144 | BPIFA3    | 0.311 |
| CD5L         | 0.361 | PRODH2   | -0.144 | C4orf19   | 0.311 |
| PRAMEF4      | 0.361 | KANK1    | -0.143 | PCDHB17   | 0.310 |
| AQP10        | 0.360 | ST5      | -0.143 | CARTPT    | 0.309 |
| TEAD1        | 0.360 | DSCR9    | -0.143 | NWD1      | 0.309 |
| OR1L3        | 0.360 | ZNF160   | -0.142 | SLC6A19   | 0.309 |
| DMBT1        | 0.357 | NME2     | -0.142 | SLC36A2   | 0.308 |
| OR52L1       | 0.357 | SMAD5    | -0.142 | DNAJC5B   | 0.308 |
| LOC389033    | 0.356 | GJC3     | -0.142 | DNMT3B    | 0.307 |
| HAMP         | 0.356 | C8orf86  | -0.142 | LIPH      | 0.307 |
| C20orf79     | 0.356 | SHH      | -0.142 | SEC14L3   | 0.306 |
| GPR142       | 0.356 | TMEM114  | -0.141 | ANGPT4    | 0.306 |
| CDK10        | 0.356 | LRRC3    | -0.140 | C7orf66   | 0.306 |
| CYP4F2       | 0.355 | ZBTB40   | -0.140 | SERPINA9  | 0.306 |
| LCP2         | 0.355 | SVOPL    | -0.139 | AGA       | 0.306 |
| IMPG1        | 0.354 | SELL     | -0.139 | LDHD      | 0.306 |
| ZNF610       | 0.353 | MEF2D    | -0.138 | LCE1C     | 0.305 |
| INSL5        | 0.353 | KCTD8    | -0.138 | OR4K13    | 0.304 |
| TFAP2B       | 0.350 | CSRP2    | -0.138 | C17orf109 | 0.304 |

|         |       |          |        |              |       |
|---------|-------|----------|--------|--------------|-------|
| ZNF404  | 0.350 | TTC30A   | -0.138 | HAVCR1       | 0.304 |
| OR5B3   | 0.349 | SOX13    | -0.137 | LOC441204    | 0.304 |
| OR7C1   | 0.348 | CD209    | -0.137 | C17orf77     | 0.303 |
| S100P   | 0.348 | SST      | -0.136 | WFDC6        | 0.303 |
| FBLIM1  | 0.347 | HRAS     | -0.136 | CFHR4        | 0.302 |
| CLEC19A | 0.347 | GALNT6   | -0.136 | LOC285501    | 0.301 |
| SLC24A5 | 0.347 | LCTL     | -0.136 | OR1M1        | 0.301 |
| LPO     | 0.346 | C4orf26  | -0.136 | ABI3BP       | 0.301 |
| PRKG2   | 0.345 | ARG1     | -0.135 | DPP6         | 0.300 |
| C7orf66 | 0.345 | SFTPD    | -0.135 | TMEM225      | 0.300 |
| DEFB121 | 0.344 | PLA2G4E  | -0.135 | OR51F2       | 0.300 |
| KCNMB1  | 0.344 | C2orf62  | -0.134 | FABP5        | 0.298 |
| OR6C4   | 0.343 | DDN      | -0.134 | ACRBP        | 0.298 |
| SH3TC1  | 0.342 | FANCE    | -0.134 | GRAMD1B      | 0.298 |
| ACR     | 0.341 | ZNF461   | -0.134 | MAB21L1      | 0.298 |
| PAX4    | 0.340 | SHBG     | -0.133 | LOC100129055 | 0.298 |
| C4orf19 | 0.340 | LY6G6E   | -0.133 | OR7G3        | 0.297 |
| IL5RA   | 0.339 | KIAA1671 | -0.133 | SPINK14      | 0.297 |
| PLCL2   | 0.339 | ZNF468   | -0.132 | HABP2        | 0.297 |
| LCK     | 0.338 | DYX1C1   | -0.132 | HTR5A        | 0.297 |
| ANK2    | 0.337 | ZNF264   | -0.132 | LOC202181    | 0.296 |
| ZNF71   | 0.337 | CNOT6    | -0.132 | UNC13C       | 0.296 |
| NAV2    | 0.336 | CCNDBP1  | -0.131 | SEL1L2       | 0.296 |

|          |       |            |        |           |       |
|----------|-------|------------|--------|-----------|-------|
| OR52I1   | 0.336 | ADORA1     | -0.131 | SOX13     | 0.295 |
| CCT8L2   | 0.336 | GNG13      | -0.131 | OR8H2     | 0.295 |
| OR2T4    | 0.335 | C14orf64   | -0.131 | TUB       | 0.295 |
| SLA      | 0.333 | C19orf26   | -0.131 | REG1P     | 0.295 |
| OR5T2    | 0.333 | UCA1       | -0.130 | FLJ41941  | 0.294 |
| CCR2     | 0.333 | HAPLN2     | -0.130 | OR5T1     | 0.294 |
| VPREB1   | 0.332 | ZNF132     | -0.130 | LOC389033 | 0.294 |
| ZNF217   | 0.332 | WHAMM      | -0.130 | LIMS1     | 0.293 |
| TREM2    | 0.332 | GAL3ST2    | -0.130 | LPL       | 0.293 |
| CD53     | 0.331 | GPI        | -0.129 | MTERF     | 0.293 |
| OR2T33   | 0.331 | FAM100A    | -0.129 | CLEC11A   | 0.293 |
| MYCT1    | 0.331 | ZC3H14     | -0.129 | ALDH3B1   | 0.293 |
| HPYR1    | 0.330 | C20orf24   | -0.129 | KRTAP21-1 | 0.292 |
| ZNF705A  | 0.329 | NES        | -0.128 | HPYR1     | 0.292 |
| CARTPT   | 0.329 | BCR        | -0.128 | FAM196B   | 0.292 |
| OR7A17   | 0.326 | SLC22A18AS | -0.128 | OR3A4P    | 0.292 |
| HTR3B    | 0.325 | CCDC124    | -0.127 | BPIFB1    | 0.291 |
| C11orf53 | 0.324 | CREM       | -0.126 | RXFP4     | 0.291 |
| OR3A4P   | 0.324 | LOC155060  | -0.126 | LCE2D     | 0.291 |
| OR8H1    | 0.324 | LINC00238  | -0.126 | SULT1E1   | 0.290 |
| OR52I2   | 0.324 | IGFBP6     | -0.126 | RP1       | 0.290 |
| ABCD2    | 0.324 | ZNF107     | -0.126 | GLYATL3   | 0.290 |
| ADAM28   | 0.324 | PYDC2      | -0.125 | SAMD11    | 0.289 |

|           |       |           |        |            |       |
|-----------|-------|-----------|--------|------------|-------|
| LOC93432  | 0.324 | TPPP      | -0.125 | CRMP1      | 0.289 |
| CLEC11A   | 0.324 | OR6C75    | -0.125 | PKIG       | 0.288 |
| OR51G2    | 0.323 | KRTAP5-5  | -0.124 | FAM160A1   | 0.288 |
| PANX3     | 0.322 | PATE4     | -0.124 | MRPL23-AS1 | 0.288 |
| MYL5      | 0.322 | LIG4      | -0.124 | OR8A1      | 0.288 |
| OR7G2     | 0.322 | ATP6V1G1  | -0.123 | NELL2      | 0.287 |
| ANO2      | 0.322 | SPIRE2    | -0.123 | ZNF876P    | 0.287 |
| UG0898H09 | 0.322 | STRA6     | -0.123 | INSL5      | 0.287 |
| DNTT      | 0.321 | LRP8      | -0.122 | GYPB       | 0.287 |
| FCRLA     | 0.321 | EXTL3     | -0.122 | SLC15A5    | 0.287 |
| LAIR2     | 0.321 | STX19     | -0.122 | OR2H1      | 0.287 |
| OR4C16    | 0.320 | RBMXL1    | -0.122 | OR5T2      | 0.286 |
| UNC5CL    | 0.320 | LFNG      | -0.121 | IL7R       | 0.286 |
| NSFL1C    | 0.320 | HLA-DRB6  | -0.121 | ACMSD      | 0.286 |
| ATCAY     | 0.319 | KIF12     | -0.121 | GC         | 0.286 |
| FREM1     | 0.319 | MLLT1     | -0.121 | ACER3      | 0.286 |
| CLEC4D    | 0.319 | SOCS5     | -0.120 | ARHGEF18   | 0.285 |
| PDZRN4    | 0.319 | ZNF80     | -0.120 | POTEE      | 0.285 |
| KIF2B     | 0.318 | SLC17A6   | -0.120 | LIX1       | 0.285 |
| RPL13AP17 | 0.317 | FRRS1     | -0.119 | G6PC       | 0.285 |
| ATP2C2    | 0.317 | ARHGEF19  | -0.119 | ITLN1      | 0.285 |
| WFDC10B   | 0.317 | LOC285501 | -0.119 | ALDOB      | 0.285 |
| SPINT3    | 0.316 | CPT1C     | -0.119 | ESRRG      | 0.285 |

|           |       |          |        |           |       |
|-----------|-------|----------|--------|-----------|-------|
| CNTN1     | 0.316 | ALDH5A1  | -0.119 | LCE3D     | 0.284 |
| C4orf22   | 0.316 | ARHGEF40 | -0.119 | TRIM29    | 0.284 |
| OR4N2     | 0.316 | PTGES2   | -0.118 | ATOH1     | 0.283 |
| BRD4      | 0.316 | BCAR3    | -0.118 | KRT23     | 0.283 |
| MGC21881  | 0.316 | C10orf91 | -0.118 | FAM118A   | 0.283 |
| FBNP1     | 0.314 | CD44     | -0.118 | PDZD3     | 0.283 |
| ZNF492    | 0.313 | CFB      | -0.118 | LINC00294 | 0.283 |
| TSPAN33   | 0.312 | PROL1    | -0.117 | GNB5      | 0.282 |
| LILRA3    | 0.311 | GJB3     | -0.116 | TNFSF10   | 0.282 |
| OR4C15    | 0.310 | TMEM139  | -0.116 | LINC00346 | 0.282 |
| KRTAP22-2 | 0.309 | DDX19B   | -0.116 | DNMBP     | 0.282 |
| NLRP9     | 0.309 | RGS2     | -0.116 | KCNJ2     | 0.282 |
| GRM4      | 0.308 | HLCS     | -0.115 | C11orf91  | 0.281 |
| OR13C3    | 0.308 | PDCD1LG2 | -0.115 | ACR       | 0.281 |
| KRTAP19-7 | 0.308 | MAN2B2   | -0.115 | TENC1     | 0.280 |
| CNBD1     | 0.308 | KLHL3    | -0.114 | EDN3      | 0.280 |
| SEC14L3   | 0.307 | ZNF211   | -0.114 | FAM83F    | 0.280 |
| PPP1R17   | 0.307 | ACTR3B   | -0.114 | DCN       | 0.278 |
| OR11H6    | 0.307 | GLUL     | -0.113 | UBD       | 0.278 |
| SFTA1P    | 0.307 | SLC12A5  | -0.113 | PCK1      | 0.278 |
| GZMA      | 0.306 | PSD      | -0.113 | ZBTB40    | 0.278 |
| UGT3A2    | 0.305 | GGN      | -0.113 | LALBA     | 0.277 |
| FSD1L     | 0.305 | NEK6     | -0.112 | PAX4      | 0.277 |

|            |       |          |        |         |       |
|------------|-------|----------|--------|---------|-------|
| EBI3       | 0.304 | NGDN     | -0.112 | PRAMEF4 | 0.277 |
| BPIFA1     | 0.304 | FAM111A  | -0.112 | PCDHA4  | 0.276 |
| OR51S1     | 0.303 | NPEPL1   | -0.112 | SLC39A4 | 0.276 |
| OR5V1      | 0.303 | PLEKHF2  | -0.112 | OASI    | 0.276 |
| IFI44      | 0.303 | ZNF83    | -0.112 | OR6C4   | 0.275 |
| GRM5       | 0.302 | FAM21C   | -0.111 | RIN1    | 0.275 |
| HTR5A      | 0.301 | C12orf10 | -0.111 | HLA-C   | 0.275 |
| SCN3A      | 0.301 | RAB37    | -0.111 | OR1F1   | 0.275 |
| OR4C6      | 0.301 | VEPH1    | -0.110 | XDH     | 0.274 |
| FLJ41941   | 0.299 | TRIT1    | -0.110 | CD5L    | 0.273 |
| GGT8P      | 0.299 | CD1A     | -0.110 | CCDC64B | 0.272 |
| REG1A      | 0.298 | OSR2     | -0.109 | LRFN4   | 0.272 |
| NAT8       | 0.298 | DEFB119  | -0.109 | ATCAY   | 0.272 |
| FSHB       | 0.297 | ZNF445   | -0.109 | MGP     | 0.272 |
| OR5I1      | 0.297 | GLRX     | -0.109 | RAET1E  | 0.271 |
| ADAMDEC1   | 0.297 | TBKBP1   | -0.109 | DLL3    | 0.270 |
| OR2L1P     | 0.296 | ZNF816   | -0.109 | MAPK15  | 0.270 |
| ST6GALNAC1 | 0.296 | PARP11   | -0.108 | DSCR9   | 0.269 |
| OR4S2      | 0.296 | C2orf54  | -0.108 | CLIP2   | 0.269 |
| UCK1       | 0.295 | SLCO5A1  | -0.108 | OR5AU1  | 0.269 |
| CNGA4      | 0.295 | DOC2B    | -0.108 | OR10C1  | 0.269 |
| OC90       | 0.295 | GAMT     | -0.108 | HNFB4A  | 0.268 |
| OR2M7      | 0.294 | GPS1     | -0.108 | SH3BGR  | 0.268 |

|           |       |          |        |           |       |
|-----------|-------|----------|--------|-----------|-------|
| POTEE     | 0.293 | OR10J1   | -0.108 | CLDN17    | 0.268 |
| PRSS33    | 0.292 | TM4SF19  | -0.107 | WISP2     | 0.268 |
| LOC339568 | 0.291 | C15orf38 | -0.107 | KBTBD10   | 0.268 |
| C21orf15  | 0.291 | FOLR1    | -0.107 | CPNE2     | 0.267 |
| OR1A2     | 0.290 | NLRP4    | -0.107 | TRIT1     | 0.267 |
| TREML4    | 0.290 | ZNF442   | -0.106 | FSHB      | 0.266 |
| FLJ25758  | 0.290 | NFYB     | -0.106 | LOC285548 | 0.266 |
| AMBRA1    | 0.289 | PRELP    | -0.105 | DBNDD2    | 0.266 |
| PWRN1     | 0.289 | PITPNA   | -0.105 | C20orf118 | 0.265 |
| DEFB104B  | 0.289 | CYP26B1  | -0.104 | DARC      | 0.265 |
| EPX       | 0.288 | RNASEL   | -0.104 | OR13C4    | 0.265 |
| LOC285548 | 0.287 | RRP1B    | -0.104 | SPP2      | 0.264 |
| RDH8      | 0.287 | CSRP2BP  | -0.104 | THSD7B    | 0.264 |
| ODF3B     | 0.286 | OR14C36  | -0.104 | FSD1L     | 0.264 |
| ZG16B     | 0.286 | FAM57B   | -0.103 | LSAMP     | 0.264 |
| FMN1      | 0.285 | ATF7IP2  | -0.103 | KRTAP19-7 | 0.263 |
| FLJ33360  | 0.285 | DLL4     | -0.103 | GZMB      | 0.263 |
| CFHR5     | 0.285 | PURG     | -0.103 | DKK4      | 0.262 |
| POTED     | 0.285 | WRN      | -0.103 | SUSD2     | 0.262 |
| OR10C1    | 0.285 | LRRC56   | -0.103 | SLC18A1   | 0.262 |
| ABP1      | 0.284 | RANBP3L  | -0.102 | TMC05A    | 0.261 |
| TUSC3     | 0.283 | HAPLN3   | -0.102 | AGBL2     | 0.261 |
| A1CF      | 0.282 | RAP1A    | -0.102 | OR7D2     | 0.261 |

|           |       |           |        |              |       |
|-----------|-------|-----------|--------|--------------|-------|
| LALBA     | 0.281 | SYNGR3    | -0.102 | GGT8P        | 0.261 |
| TAS2R8    | 0.281 | LUC7L     | -0.101 | HHATL        | 0.260 |
| LSAMP     | 0.280 | GNE       | -0.101 | IFI30        | 0.259 |
| SCHIP1    | 0.280 | CIITA     | -0.101 | CLSTN1       | 0.259 |
| SLC23A3   | 0.280 | KREMEN2   | -0.101 | CYP4F2       | 0.259 |
| CMA1      | 0.279 | CST5      | -0.101 | OR2T34       | 0.258 |
| PCSK2     | 0.279 | C17orf101 | -0.100 | ITGB4        | 0.258 |
| SPP2      | 0.278 |           |        | LINGO4       | 0.257 |
| CRP       | 0.277 |           |        | RASL11B      | 0.257 |
| MARCKSL1  | 0.277 |           |        | GDPD3        | 0.257 |
| TTC29     | 0.277 |           |        | LCK          | 0.257 |
| LCE2C     | 0.277 |           |        | C6orf118     | 0.256 |
| CRH       | 0.277 |           |        | CNTN1        | 0.256 |
| IL10RB    | 0.276 |           |        | NDUFA4L2     | 0.255 |
| GPR144    | 0.276 |           |        | ZNF787       | 0.255 |
| OR4N4     | 0.276 |           |        | FOLH1B       | 0.255 |
| FGG       | 0.275 |           |        | AKAP7        | 0.255 |
| CCL1      | 0.274 |           |        | LOC100124692 | 0.255 |
| OR5AR1    | 0.274 |           |        | KIAA0664     | 0.254 |
| LOC150568 | 0.273 |           |        | LOC284837    | 0.254 |
| MSR1      | 0.273 |           |        | TRIM65       | 0.253 |
| SPINK14   | 0.272 |           |        | LOC284578    | 0.253 |
| TRIM29    | 0.272 |           |        | OR10J3       | 0.252 |

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|-----------|-------|-----------|-------|
| OR2G6     | 0.272 | FOXK1     | 0.252 |
| GPR78     | 0.271 | MDS2      | 0.252 |
| ITLN1     | 0.271 | SLC24A5   | 0.252 |
| FAM196B   | 0.270 | SH3GLB1   | 0.251 |
| SERPINB3  | 0.270 | KRTAP22-1 | 0.251 |
| WIPF3     | 0.270 | CD207     | 0.251 |
| OR56A3    | 0.269 | OR51Q1    | 0.251 |
| KRTAP5-3  | 0.267 | BCL9      | 0.251 |
| DEFB105B  | 0.266 | GPR144    | 0.251 |
| DEFB106B  | 0.266 | EPN1      | 0.250 |
| ENAH      | 0.266 | TM4SF19   | 0.250 |
| CHST4     | 0.266 | PDZK1IP1  | 0.250 |
| KRTAP12-4 | 0.265 | TAS2R13   | 0.250 |
| C12orf50  | 0.264 | PCSK2     | 0.249 |
| REG1P     | 0.264 | C20orf197 | 0.249 |
| PRSS37    | 0.263 | ANO2      | 0.249 |
| GRIA1     | 0.262 | PRAME     | 0.249 |
| ANGPT4    | 0.262 | NRXN2     | 0.249 |
| OR5L2     | 0.262 | C1QC      | 0.249 |
| PROP1     | 0.262 | SLC39A2   | 0.249 |
| EPN1      | 0.261 | SPINT4    | 0.249 |
| OR1C1     | 0.261 | TAPBP     | 0.249 |
| LHFPL4    | 0.261 | NRTN      | 0.248 |

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|----------|-------|-----------|-------|
| SLPI     | 0.261 | AKR1CL1   | 0.247 |
| FMO5     | 0.261 | LOC150568 | 0.246 |
| CFHR4    | 0.260 | UBA7      | 0.245 |
| KIAA1984 | 0.260 | OR56B1    | 0.244 |
| TNR      | 0.260 | PER1      | 0.244 |
| IGSF5    | 0.259 | OR2L2     | 0.244 |
| C2orf72  | 0.259 | TREML4    | 0.244 |
| DNMBP    | 0.258 | MALL      | 0.244 |
| MAB21L1  | 0.258 | KIFC3     | 0.243 |
| RTN4RL2  | 0.258 | NRBP2     | 0.243 |
| ZNF329   | 0.257 | SHD       | 0.243 |
| LPL      | 0.257 | PDZRN4    | 0.243 |
| CD1B     | 0.257 | ANXA8L2   | 0.243 |
| FAM160A1 | 0.256 | HIST1H4A  | 0.243 |
| GABRA6   | 0.256 | PRSS35    | 0.243 |
| SMOX     | 0.256 | OR10X1    | 0.243 |
| OVCH2    | 0.255 | ACAP1     | 0.242 |
| TAAR1    | 0.255 | C2CD4A    | 0.241 |
| RP1      | 0.255 | UBXN6     | 0.241 |
| TAAR6    | 0.255 | TUBAL3    | 0.241 |
| CSF2     | 0.255 | SELENBP1  | 0.241 |
| MUC16    | 0.253 | TIMM13    | 0.241 |
| ADH4     | 0.253 | OR5W2     | 0.241 |

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|-----------|-------|---------------|-------|
| LOC284837 | 0.252 | ST6GALNAC6    | 0.240 |
| SAMD11    | 0.252 | KRTAP6-2      | 0.240 |
| TCHH      | 0.251 | ARFGAP3       | 0.239 |
| CLEC2B    | 0.250 | ZFHX3         | 0.239 |
| FSHR      | 0.250 | FAM108A1      | 0.239 |
| SLC6A19   | 0.250 | TMPRSS11E     | 0.239 |
| SNUPN     | 0.250 | LOC730668     | 0.239 |
| TMIGD1    | 0.250 | RP11-165H20.1 | 0.238 |
| KCNJ2     | 0.250 | BHLHE22       | 0.238 |
| CDH22     | 0.249 | HLA-E         | 0.237 |
| DCN       | 0.248 | MARCKSL1      | 0.236 |
| NRTN      | 0.248 | TCTEX1D4      | 0.236 |
| OR2T2     | 0.248 | LOC90784      | 0.236 |
| ZNF835    | 0.248 | OR2T1         | 0.236 |
| GABRG2    | 0.246 | GLRX          | 0.235 |
| OR5P3     | 0.246 | LRTM1         | 0.235 |
| CAD       | 0.246 | C8orf33       | 0.234 |
| SH3BGR    | 0.245 | TMEM156       | 0.234 |
| PILRA     | 0.245 | CAPN14        | 0.234 |
| LOC257358 | 0.244 | OR11H6        | 0.234 |
| TYR       | 0.244 | CNBD1         | 0.234 |
| C16orf45  | 0.244 | CSF2          | 0.233 |
| LRRN3     | 0.244 | STK38L        | 0.233 |

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|----------|-------|----------|-------|
| TRIM42   | 0.244 | MUC15    | 0.233 |
| IL25     | 0.243 | ARHGAP32 | 0.233 |
| CSMD2    | 0.243 | DEFB1    | 0.233 |
| FCRL3    | 0.243 | LILRA3   | 0.232 |
| OR11A1   | 0.243 | HEMGN    | 0.232 |
| ESRRG    | 0.243 | CSF3     | 0.232 |
| IL29     | 0.243 | SYBU     | 0.232 |
| C16orf89 | 0.242 | CD44     | 0.232 |
| AGTR1    | 0.242 | CD69     | 0.231 |
| IAH1     | 0.242 | ADH4     | 0.231 |
| HEPACAM2 | 0.241 | KREMEN2  | 0.231 |
| FLJ43860 | 0.241 | CNGA4    | 0.231 |
| SLED1    | 0.241 | FBRSL1   | 0.231 |
| CHRNA2   | 0.241 | POTEF    | 0.230 |
| CADM2    | 0.240 | NDN      | 0.230 |
| UBA7     | 0.240 | MYCT1    | 0.230 |
| C8A      | 0.240 | RBP2     | 0.230 |
| SHD      | 0.239 | GAS8     | 0.230 |
| C6orf118 | 0.239 | KCNH2    | 0.230 |
| PRR21    | 0.239 | CD300LG  | 0.230 |
| SNRK     | 0.239 | DYX1C1   | 0.230 |
| TFEC     | 0.238 | F10      | 0.230 |
| C14orf23 | 0.238 | DEFB124  | 0.229 |

|           |       |              |       |
|-----------|-------|--------------|-------|
| OR5B2     | 0.238 | LOC100188947 | 0.229 |
| BAGE4     | 0.238 | LAMA5        | 0.229 |
| BAGE      | 0.238 | TNFSF13      | 0.229 |
| PSORS1C3  | 0.237 | CDCP1        | 0.229 |
| DUSP13    | 0.237 | TAS2R8       | 0.228 |
| PDE4C     | 0.237 | BRSK1        | 0.228 |
| CYP11B2   | 0.237 | MS4A10       | 0.228 |
| ATP1A3    | 0.236 | ZNF484       | 0.228 |
| FAM20B    | 0.236 | RBP5         | 0.228 |
| SOHLH2    | 0.235 | DDX19B       | 0.228 |
| HAR1A     | 0.235 | IFIT3        | 0.228 |
| TRPM8     | 0.234 | TAAR1        | 0.228 |
| IFI30     | 0.234 | DEFB105B     | 0.227 |
| SP100     | 0.234 | DEFB106B     | 0.227 |
| ACTL8     | 0.233 | KRTAP10-8    | 0.227 |
| SLC39A4   | 0.233 | MRPL28       | 0.226 |
| GPR139    | 0.233 | OR2T6        | 0.226 |
| TMTC1     | 0.233 | APBA2        | 0.225 |
| SYNGR2    | 0.233 | IL29         | 0.224 |
| KCNJ6     | 0.232 | ATP8B2       | 0.224 |
| LOC648691 | 0.232 | FOLH1        | 0.224 |
| NPBWR2    | 0.232 | DUSP13       | 0.223 |
| C17orf77  | 0.232 | NEUROG3      | 0.223 |

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|--------------|-------|-----------|-------|
| PLG          | 0.231 | PPARD     | 0.222 |
| PDE1A        | 0.230 | ZNF532    | 0.222 |
| SERPINB4     | 0.230 | OR4P4     | 0.222 |
| CESIP1       | 0.230 | AGBL1     | 0.222 |
| CXCR1        | 0.230 | UQCRC1    | 0.221 |
| OR14A16      | 0.230 | PROP1     | 0.221 |
| FBXW2        | 0.230 | EPHA10    | 0.221 |
| LOC100144604 | 0.229 | RORC      | 0.220 |
| SLC17A1      | 0.229 | OR4L1     | 0.220 |
| MIR7-3HG     | 0.229 | POTED     | 0.220 |
| SIRPB1       | 0.229 | PRIC285   | 0.220 |
| OR52N5       | 0.229 | ALDH3A1   | 0.220 |
| WTH3DI       | 0.229 | CELF5     | 0.220 |
| AHSP         | 0.229 | IGFBP5    | 0.219 |
| BHLHE22      | 0.228 | UGT3A2    | 0.219 |
| C6orf164     | 0.228 | SEPP1     | 0.218 |
| OR4C12       | 0.228 | WSCD2     | 0.218 |
| LOC284276    | 0.228 | C15orf63  | 0.218 |
| OR7A5        | 0.227 | OR8K3     | 0.218 |
| RAET1E       | 0.227 | LOC284276 | 0.217 |
| KCNC2        | 0.227 | MYL9      | 0.217 |
| CST9         | 0.227 | FBXO34    | 0.217 |
| PER1         | 0.226 | GPR142    | 0.217 |

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|-------------|-------|-----------|-------|
| CHRM5       | 0.226 | OR8B8     | 0.216 |
| DEFB115     | 0.225 | CLVS1     | 0.216 |
| SEC13       | 0.225 | SFTA2     | 0.216 |
| GPR156      | 0.225 | EFNA3     | 0.216 |
| SLC2A4RG    | 0.225 | SUMO1P3   | 0.216 |
| ODF3        | 0.224 | OR52N5    | 0.215 |
| SLCO1B3     | 0.224 | EPB41     | 0.215 |
| VSTM1       | 0.224 | CCR2      | 0.215 |
| MMP7        | 0.223 | PI15      | 0.215 |
| AGBL1       | 0.223 | GRM3      | 0.215 |
| PCDH12      | 0.223 | OR13C3    | 0.215 |
| WSCD2       | 0.223 | SLC16A4   | 0.214 |
| SNORD116-19 | 0.222 | HPCAL1    | 0.214 |
| LY86-AS1    | 0.222 | RGL3      | 0.214 |
| OR6N2       | 0.222 | HMHA1     | 0.214 |
| PCLO        | 0.222 | PRKG2     | 0.214 |
| CA9         | 0.221 | KRTAP27-1 | 0.213 |
| MS4A8B      | 0.221 | CNN3      | 0.213 |
| SERTM1      | 0.221 | MPST      | 0.213 |
| PCDHA4      | 0.221 | OR12D2    | 0.213 |
| DOCK2       | 0.221 | EIF3G     | 0.213 |
| APBA2       | 0.221 | GK2       | 0.213 |
| OR4D11      | 0.220 | APLNR     | 0.213 |

|           |       |          |       |
|-----------|-------|----------|-------|
| KRT23     | 0.220 | SLC38A7  | 0.213 |
| GALR3     | 0.220 | C1orf192 | 0.213 |
| MUCL1     | 0.219 | OR5P3    | 0.213 |
| LPAR6     | 0.219 | KLK8     | 0.213 |
| DEFB129   | 0.219 | C10orf91 | 0.213 |
| CPSF4L    | 0.219 | FCRL4    | 0.213 |
| SEL1L2    | 0.218 | C11orf21 | 0.212 |
| MMP9      | 0.218 | GYPE     | 0.211 |
| FAM151A   | 0.218 | UGT3A1   | 0.211 |
| ITGAV     | 0.218 | OR5B2    | 0.211 |
| PTTG3P    | 0.218 | MYOM2    | 0.211 |
| OR6M1     | 0.217 | OR5D14   | 0.211 |
| UGT3A1    | 0.217 | WFDC11   | 0.211 |
| CPEB1     | 0.216 | GLT6D1   | 0.211 |
| PROX1     | 0.216 | OR2T12   | 0.210 |
| TRDN      | 0.216 | FSHR     | 0.210 |
| MICAL2    | 0.216 | RRAGA    | 0.210 |
| SLURP1    | 0.215 | OR9G4    | 0.209 |
| KIAA1324L | 0.215 | ZNF341   | 0.209 |
| SERPINB2  | 0.215 | TGM2     | 0.209 |
| TNFAIP8   | 0.214 | PSD      | 0.208 |
| KCTD16    | 0.214 | CYP7A1   | 0.208 |
| CRX       | 0.214 | SDR16C5  | 0.208 |

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|-----------|-------|-----------|-------|
| GLT6D1    | 0.214 | RDH8      | 0.208 |
| KRT19     | 0.214 | SLC12A1   | 0.208 |
| LRRC55    | 0.214 | TNNI3     | 0.208 |
| TASIR2    | 0.214 | PATE2     | 0.207 |
| OR2W3     | 0.213 | ALB       | 0.207 |
| ARNTL     | 0.213 | ZFP57     | 0.207 |
| KCNH2     | 0.212 | ATHL1     | 0.207 |
| BTBD3     | 0.212 | KIAA1324L | 0.207 |
| LINGO4    | 0.212 | PQLC2     | 0.206 |
| PIPOX     | 0.211 | ALDH2     | 0.206 |
| GPR4      | 0.210 | FAM176B   | 0.206 |
| CLVS1     | 0.210 | FAM134B   | 0.206 |
| CEACAM7   | 0.210 | GPATCH1   | 0.206 |
| ROPN1     | 0.210 | SLAMF7    | 0.206 |
| LILRB1    | 0.210 | KLK6      | 0.206 |
| NRBP2     | 0.210 | OR4C16    | 0.205 |
| IQUB      | 0.209 | CSF1R     | 0.205 |
| RILP      | 0.209 | MAN2B2    | 0.205 |
| GNG12     | 0.209 | PDC       | 0.205 |
| SIGLEC16  | 0.209 | MX2       | 0.204 |
| LOC283914 | 0.208 | OR2L3     | 0.204 |
| POM121L2  | 0.208 | ADAM28    | 0.204 |
| IRF8      | 0.208 | TSSK6     | 0.203 |

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|-----------|-------|------------|-------|
| FAM71B    | 0.207 | SCN3A      | 0.203 |
| PNLIPRP3  | 0.207 | KRT17      | 0.203 |
| FGF7      | 0.206 | SGCZ       | 0.203 |
| CLEC7A    | 0.206 | SLC22A18AS | 0.203 |
| ASTN1     | 0.206 | FHL5       | 0.203 |
| GK2       | 0.206 | ZG16B      | 0.203 |
| HABP2     | 0.205 | OR10A6     | 0.202 |
| WISP2     | 0.205 | CD33       | 0.202 |
| FABP2     | 0.204 | TMEM95     | 0.202 |
| LINC00341 | 0.204 | TMTC1      | 0.202 |
| PLCB4     | 0.204 | TMEM54     | 0.202 |
| TMC4      | 0.204 | C10orf90   | 0.201 |
| GRXCR1    | 0.203 | EFCAB9     | 0.201 |
| SCGB1D2   | 0.203 | FLJ43860   | 0.201 |
| PYHIN1    | 0.203 | STC1       | 0.201 |
| FAM83F    | 0.203 | PPP1R3A    | 0.201 |
| HRH3      | 0.202 | TCHH       | 0.200 |
| GBP1      | 0.202 | LRRC55     | 0.200 |
| IFITM3    | 0.202 | DEFB113    | 0.200 |
| CPA3      | 0.202 | SLC17A6    | 0.200 |
| G6PC      | 0.202 | C4orf6     | 0.200 |
| SLC44A5   | 0.202 | POM121L2   | 0.200 |
| BRSK1     | 0.201 | ABHD14A    | 0.200 |

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|-----------|-------|----------|-------|
| AQP8      | 0.201 | PLCB4    | 0.199 |
| LCE3A     | 0.201 | TAAR5    | 0.199 |
| REP15     | 0.201 | SIL1     | 0.199 |
| LINC00293 | 0.201 | CHRM5    | 0.199 |
| PRG3      | 0.201 | SLC25A20 | 0.199 |
| PELO      | 0.200 | COL9A1   | 0.198 |
| C15orf63  | 0.200 | PAR4     | 0.198 |
| KRTAP27-1 | 0.200 | OR3A2    | 0.198 |
| LRIT2     | 0.200 | MAP7D1   | 0.198 |
| COL9A1    | 0.200 | BTN3A2   | 0.198 |
| CD84      | 0.200 | IL15     | 0.198 |
| OR1F2P    | 0.199 | KIAA1984 | 0.197 |
| PNLIPRP1  | 0.199 | KCNAB1   | 0.197 |
| TCN1      | 0.199 | CERS2    | 0.197 |
| DAGLA     | 0.199 | TYRP1    | 0.197 |
| OR4X1     | 0.199 | SPAG4    | 0.197 |
| BCKDK     | 0.199 | OR14A16  | 0.197 |
| ASRGL1    | 0.198 | CHRM2    | 0.197 |
| OR2AG2    | 0.198 | LYPD3    | 0.196 |
| CCDC60    | 0.198 | TMEM72   | 0.196 |
| SPAG11B   | 0.198 | FAM153A  | 0.196 |
| DLL3      | 0.197 | RAB36    | 0.196 |
| ZNF334    | 0.197 | IL5RA    | 0.196 |

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|-----------|-------|-------------|-------|
| FOLH1     | 0.197 | CLEC7A      | 0.195 |
| NXPH1     | 0.197 | OR2T4       | 0.195 |
| FHL5      | 0.197 | DOCK2       | 0.195 |
| LPIN1     | 0.196 | TMEM40      | 0.195 |
| OR10S1    | 0.196 | EML6        | 0.195 |
| LOC388692 | 0.196 | TMPRSS11BNL | 0.195 |
| ARF5      | 0.195 | FAM183B     | 0.195 |
| MALL      | 0.195 | SPTBN5      | 0.194 |
| OR12D2    | 0.195 | GPR162      | 0.194 |
| VSX2      | 0.195 | HLA-F       | 0.194 |
| NPPA      | 0.195 | NCKAP5      | 0.194 |
| GJA10     | 0.195 | POGLUT1     | 0.193 |
| MYH15     | 0.195 | PCLO        | 0.192 |
| CNTN2     | 0.194 | MMP9        | 0.192 |
| PRAMEF2   | 0.194 | IKBKE       | 0.192 |
| S100A7L2  | 0.194 | OR2AG2      | 0.192 |
| VN1R2     | 0.194 | SEMG1       | 0.192 |
| RAB36     | 0.193 | LCE3A       | 0.192 |
| LOC201651 | 0.193 | STMN4       | 0.192 |
| CRISP1    | 0.193 | ARHGEF40    | 0.192 |
| OR14I1    | 0.192 | IFNA7       | 0.191 |
| OR3A2     | 0.192 | KRTAP13-3   | 0.191 |
| KIAA0125  | 0.192 | SPOP        | 0.191 |

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|-----------|-------|-----------|-------|
| FGF22     | 0.192 | KRTAP10-5 | 0.191 |
| UGT1A6    | 0.191 | JPH3      | 0.190 |
| BPIFB3    | 0.191 | SLC2A4RG  | 0.190 |
| LOC441204 | 0.191 | GNB1      | 0.190 |
| GSDMC     | 0.191 | OR8H1     | 0.190 |
| TMEM225   | 0.191 | NSFL1C    | 0.190 |
| PTN       | 0.191 | PILRA     | 0.190 |
| OR4C46    | 0.190 | SEMA3G    | 0.189 |
| FAM131A   | 0.190 | APOD      | 0.189 |
| NEUROD4   | 0.190 | ZNF474    | 0.189 |
| OR51F2    | 0.190 | CRP       | 0.189 |
| OR6N1     | 0.190 | HRH3      | 0.188 |
| SECTM1    | 0.190 | CACNB3    | 0.188 |
| CPNE4     | 0.189 | CD84      | 0.188 |
| DLGAP2    | 0.189 | VNN1      | 0.188 |
| TGIF2     | 0.189 | RASAL3    | 0.188 |
| CDA       | 0.189 | CHDH      | 0.188 |
| FOXP2     | 0.189 | HMGCS2    | 0.188 |
| HHLA1     | 0.189 | KDM2B     | 0.188 |
| C20orf203 | 0.188 | TCN1      | 0.188 |
| C22orf43  | 0.188 | EPX       | 0.187 |
| TECTA     | 0.188 | ARHGEF35  | 0.187 |
| PIK3IP1   | 0.188 | BCL2L15   | 0.187 |

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|-----------|-------|-----------|-------|
| ZNF525    | 0.188 | CYP11B2   | 0.187 |
| ALMS1P    | 0.187 | EHHADH    | 0.186 |
| OR10A6    | 0.187 | MGAT1     | 0.186 |
| PRAME     | 0.187 | PDE4B     | 0.185 |
| FLJ45079  | 0.187 | FXN       | 0.185 |
| FCRL4     | 0.187 | OR4D11    | 0.185 |
| KRTAP13-2 | 0.187 | CCDC168   | 0.185 |
| CER1      | 0.186 | SCHIP1    | 0.185 |
| GRM1      | 0.186 | SERPINB11 | 0.185 |
| CHRM2     | 0.185 | MAT1A     | 0.185 |
| DEFB118   | 0.185 | CNTN4     | 0.184 |
| TFAP2D    | 0.185 | GNG3      | 0.184 |
| FCN1      | 0.185 | VSTM1     | 0.184 |
| EFNA3     | 0.185 | SUMO1     | 0.183 |
| OR2Y1     | 0.184 | C16orf45  | 0.183 |
| MUM1      | 0.184 | IPO11     | 0.183 |
| SNURF     | 0.184 | PACS2     | 0.182 |
| ITGA1     | 0.184 | RHOBTB2   | 0.182 |
| COL6A4P2  | 0.184 | SNURF     | 0.182 |
| PDE2A     | 0.183 | OR1D2     | 0.182 |
| OR52B4    | 0.183 | MFSD1     | 0.182 |
| OR7G1     | 0.183 | LPIN1     | 0.182 |
| NPFFR2    | 0.183 | PPP1R13B  | 0.182 |

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|-----------|-------|----------|-------|
| FFAR2     | 0.183 | TPSG1    | 0.182 |
| LRP5      | 0.183 | KRTAP5-3 | 0.182 |
| FFAR3     | 0.182 | FNDC7    | 0.182 |
| KLB       | 0.182 | UGT2A3   | 0.182 |
| RORC      | 0.182 | IDO2     | 0.181 |
| MBL1P     | 0.182 | SLC39A14 | 0.181 |
| TNFSF4    | 0.182 | TAT      | 0.181 |
| SCNN1G    | 0.182 | CPEB1    | 0.181 |
| C16orf92  | 0.181 | ANKRD34C | 0.180 |
| SH2D2A    | 0.181 | FAM24A   | 0.180 |
| CERS2     | 0.181 | GALNT12  | 0.180 |
| FAM170B   | 0.181 | SH3D21   | 0.179 |
| GZMB      | 0.181 | CALCOCO2 | 0.179 |
| NCKAP5    | 0.180 | CCDC70   | 0.179 |
| FAM183B   | 0.180 | GALR3    | 0.179 |
| STC1      | 0.180 | GPR153   | 0.179 |
| TNFAIP8L3 | 0.180 | IL25     | 0.179 |
| RSAD2     | 0.180 | HOXC13   | 0.179 |
| GALNTL5   | 0.180 | DEFB118  | 0.179 |
| EMR1      | 0.180 | SFTPD    | 0.178 |
| OR2G2     | 0.180 | LCN2     | 0.178 |
| ZNF320    | 0.179 | DEFB126  | 0.178 |
| OR2L13    | 0.179 | OR52B4   | 0.178 |

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|---------------|-------|-----------|-------|
| PKIA          | 0.179 | AQP8      | 0.178 |
| C9orf117      | 0.179 | RNF2      | 0.178 |
| LINC00173     | 0.179 | TJP2      | 0.178 |
| COL6A6        | 0.178 | TCF7      | 0.177 |
| DKFZp566F0947 | 0.178 | UNC5CL    | 0.177 |
| KCNAB1        | 0.178 | SAA4      | 0.177 |
| CYP2F1        | 0.177 | LEPR      | 0.177 |
| OMD           | 0.177 | TACC2     | 0.177 |
| TCEB3C        | 0.177 | UG0898H09 | 0.177 |
| FXVD4         | 0.177 | NOD2      | 0.177 |
| LINC00305     | 0.177 | FAM109B   | 0.177 |
| DARC          | 0.177 | OR6K3     | 0.177 |
| DSCR4         | 0.176 | SP110     | 0.177 |
| HNF4G         | 0.176 | MED13L    | 0.176 |
| PPARD         | 0.176 | SNN       | 0.176 |
| ZNF506        | 0.175 | ALDH1A2   | 0.176 |
| PKD1L3        | 0.175 | PRAMEF2   | 0.176 |
| RXFP4         | 0.175 | LAIR2     | 0.176 |
| CEACAM8       | 0.175 | OR5D18    | 0.175 |
| GYPE          | 0.175 | ACTL9     | 0.175 |
| RGR           | 0.175 | NPBWR2    | 0.174 |
| GABRR3        | 0.175 | RNASEL    | 0.174 |
| CGA           | 0.174 | CCDC108   | 0.174 |

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|--------------|-------|--------------|-------|
| KCNIP4-IT1   | 0.174 | BCKDK        | 0.174 |
| CELSR2       | 0.174 | RHOJ         | 0.173 |
| MEIS3        | 0.174 | YIPF7        | 0.173 |
| LOC286367    | 0.174 | OR6X1        | 0.173 |
| MS4A10       | 0.174 | OR5AS1       | 0.173 |
| CD33         | 0.173 | MACROD2      | 0.173 |
| GP6          | 0.173 | ETS1         | 0.173 |
| IL17F        | 0.173 | INSRR        | 0.173 |
| CSF3         | 0.173 | C8A          | 0.173 |
| ANKFN1       | 0.173 | BCAS1        | 0.172 |
| MAPK13       | 0.173 | RUNX1T1      | 0.172 |
| ST6GALNAC6   | 0.173 | C21orf54     | 0.172 |
| ZFP57        | 0.172 | RWDD2B       | 0.172 |
| BCL2L15      | 0.172 | CADM2        | 0.172 |
| FBXL16       | 0.172 | DUSP2        | 0.172 |
| DEFB135      | 0.172 | DKFZp434L192 | 0.172 |
| OR2T34       | 0.172 | FRG2B        | 0.171 |
| C1QC         | 0.172 | ATF6B        | 0.171 |
| LOC100129794 | 0.172 | KIAA0922     | 0.171 |
| BDH2         | 0.172 | PKIA         | 0.171 |
| ZNF804B      | 0.171 | ZNF610       | 0.171 |
| BCMO1        | 0.171 | LPPR1        | 0.171 |
| EPB41        | 0.171 | RUNDC3A      | 0.171 |

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|-----------|-------|-----------|-------|
| OR2T27    | 0.171 | TMIGD1    | 0.170 |
| GPR153    | 0.171 | MIA2      | 0.170 |
| PNLIP     | 0.171 | FAT2      | 0.170 |
| PCDH15    | 0.171 | OR8B4     | 0.170 |
| GLYATL3   | 0.171 | RTN4RL2   | 0.170 |
| GPR133    | 0.170 | KCNC4     | 0.170 |
| TOMM20L   | 0.170 | CEACAM1   | 0.170 |
| CDH20     | 0.170 | TBL1XR1   | 0.170 |
| ATP8B2    | 0.170 | GLT8D1    | 0.170 |
| UBXN6     | 0.170 | SULF1     | 0.170 |
| NDUFV1    | 0.169 | CRB2      | 0.170 |
| TMEM119   | 0.169 | SLC29A1   | 0.170 |
| TREML2    | 0.169 | LOC399744 | 0.170 |
| BPIFB2    | 0.169 | TUSC3     | 0.169 |
| ZNF257    | 0.169 | ANXA9     | 0.169 |
| BSG       | 0.169 | DNTT      | 0.169 |
| OR9Q2     | 0.169 | ANKFN1    | 0.169 |
| COL11A1   | 0.169 | TTLL13    | 0.169 |
| SH3BGRL3  | 0.169 | FCGRT     | 0.168 |
| C17orf109 | 0.168 | RPS6KL1   | 0.168 |
| PDZD3     | 0.168 | ZBTB47    | 0.168 |
| AKR1CL1   | 0.168 | OR7G1     | 0.168 |
| ZNF90     | 0.168 | MYO1C     | 0.168 |

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|----------|-------|----------|-------|
| OR5E1P   | 0.168 | LCE2B    | 0.168 |
| SCN2A    | 0.168 | PPP1R26  | 0.168 |
| SP140L   | 0.168 | OR52I1   | 0.168 |
| NRL      | 0.168 | GABRB1   | 0.167 |
| C3orf74  | 0.167 | GALNTL5  | 0.167 |
| ASB15    | 0.167 | SERPINB2 | 0.167 |
| IQCK     | 0.167 | C3orf65  | 0.167 |
| CLTCL1   | 0.167 | SULT1B1  | 0.167 |
| ATOH1    | 0.166 | NLRP8    | 0.167 |
| PFKM     | 0.166 | KCNC3    | 0.167 |
| CD72     | 0.166 | C12orf10 | 0.167 |
| OR51L1   | 0.165 | DCTD     | 0.167 |
| GOLGA6L6 | 0.165 | KCNJ9    | 0.166 |
| HMGB4    | 0.165 | ABHD14B  | 0.166 |
| ATF7IP   | 0.165 | FHAD1    | 0.166 |
| C6orf226 | 0.164 | RGS3     | 0.166 |
| TTC7B    | 0.164 | POR      | 0.166 |
| C19orf18 | 0.164 | SLC4A10  | 0.165 |
| NEK7     | 0.164 | MYBPC2   | 0.165 |
| OR6C68   | 0.164 | ZNF580   | 0.165 |
| SHISA7   | 0.164 | CDH22    | 0.165 |
| C8orf22  | 0.163 | HES3     | 0.165 |
| MYT1L    | 0.163 | LEMD2    | 0.165 |

|          |       |           |       |
|----------|-------|-----------|-------|
| HERC2P4  | 0.163 | OR1F2P    | 0.165 |
| ETFB     | 0.163 | ALDH5A1   | 0.165 |
| CTSG     | 0.163 | CLECL1    | 0.165 |
| IQCJ     | 0.163 | OR7C1     | 0.165 |
| VENTXP7  | 0.163 | C9orf169  | 0.165 |
| TYRP1    | 0.162 | FANK1     | 0.164 |
| CA1      | 0.162 | PAQR6     | 0.164 |
| BAIAP2L2 | 0.162 | C8orf22   | 0.164 |
| SLC29A3  | 0.162 | FASTK     | 0.164 |
| FAM26E   | 0.161 | LSM2      | 0.164 |
| OR11H12  | 0.161 | FAM92B    | 0.164 |
| FDX1L    | 0.161 | TTR       | 0.164 |
| HMGCS2   | 0.161 | NAT8      | 0.164 |
| ZNF695   | 0.161 | HOXC4     | 0.163 |
| MPST     | 0.160 | ENTPD2    | 0.163 |
| OR2J3    | 0.160 | TRPM2     | 0.163 |
| ZNF266   | 0.160 | KRTAP19-4 | 0.163 |
| LDB3     | 0.160 | VENTXP7   | 0.163 |
| EIF3G    | 0.160 | RMND5A    | 0.163 |
| HEPACAM  | 0.160 | FUT2      | 0.162 |
| LHX5     | 0.160 | ZNF525    | 0.162 |
| IFNA14   | 0.160 | TCEB3C    | 0.162 |
| ATP2B2   | 0.159 | TTC4      | 0.162 |

|         |       |          |       |
|---------|-------|----------|-------|
| BEST1   | 0.159 | RHOD     | 0.162 |
| MSMB    | 0.159 | KRT19    | 0.162 |
| OR52K2  | 0.159 | FOLR1    | 0.162 |
| ELN     | 0.159 | OR6K6    | 0.161 |
| LCN1    | 0.158 | HLA-A    | 0.161 |
| SPDYE4  | 0.158 | B3GNT7   | 0.161 |
| SAA2    | 0.158 | HSD17B2  | 0.161 |
| KLK6    | 0.158 | SLC23A2  | 0.161 |
| ZNF433  | 0.158 | FFAR2    | 0.161 |
| CCDC70  | 0.158 | RNF151   | 0.161 |
| MBD3L1  | 0.158 | CYP4F11  | 0.161 |
| PKHD1   | 0.158 | ADAMTS10 | 0.161 |
| GIMAP1  | 0.158 | TMEM232  | 0.161 |
| SPATA19 | 0.158 | ZBTB43   | 0.161 |
| MKRN7P  | 0.158 | FLJ35390 | 0.160 |
| OR12D3  | 0.157 | NCOA2    | 0.160 |
| EMR4P   | 0.157 | IL18RAP  | 0.160 |
| CYP7B1  | 0.157 | SH2D2A   | 0.160 |
| LCN2    | 0.157 | SDSL     | 0.159 |
| HPSE2   | 0.157 | LACTB    | 0.159 |
| TTR     | 0.157 | C21orf56 | 0.159 |
| OPLAH   | 0.157 | HSD17B6  | 0.159 |
| ZMAT4   | 0.157 | OR13A1   | 0.159 |

|           |       |              |       |
|-----------|-------|--------------|-------|
| GLP1R     | 0.157 | OR2W1        | 0.159 |
| SLC23A1   | 0.156 | PHLPP2       | 0.159 |
| ADAMTS13  | 0.156 | GRM8         | 0.158 |
| TRPM2     | 0.156 | SLC7A7       | 0.158 |
| FAM166B   | 0.156 | SERPINB4     | 0.158 |
| SLC15A5   | 0.156 | ZNF169       | 0.158 |
| CPNE2     | 0.155 | SPDEF        | 0.158 |
| ASB18     | 0.155 | EIF2C1       | 0.158 |
| FAM176B   | 0.155 | ACSM5        | 0.157 |
| S100Z     | 0.155 | LOC100129794 | 0.157 |
| PIK3R6    | 0.155 | CLEC12A      | 0.157 |
| LOC728875 | 0.155 | VN1R2        | 0.157 |
| CCDC135   | 0.155 | OR1Q1        | 0.157 |
| ADAM6     | 0.155 | DPF1         | 0.156 |
| PRSS35    | 0.155 | AQP3         | 0.156 |
| CRB1      | 0.154 | CCDC30       | 0.156 |
| C5orf62   | 0.154 | CES1P1       | 0.156 |
| LSM2      | 0.154 | CSH2         | 0.156 |
| CCDC168   | 0.153 | IFITM1       | 0.156 |
| LRP1B     | 0.153 | CALHM3       | 0.156 |
| SH3BP1    | 0.153 | COL22A1      | 0.156 |
| RNF222    | 0.152 | ZNF385D      | 0.156 |
| RNASE2    | 0.152 | PRG2         | 0.155 |

|          |       |          |       |
|----------|-------|----------|-------|
| RTP2     | 0.152 | NXPH1    | 0.155 |
| ITGB7    | 0.152 | C11orf52 | 0.155 |
| ZNF208   | 0.151 | TBC1D3G  | 0.155 |
| SLC12A1  | 0.151 | SCGB1D2  | 0.155 |
| OR1D2    | 0.151 | SNHG7    | 0.155 |
| TMEM145  | 0.151 | MANEAL   | 0.155 |
| FPR3     | 0.151 | LAMP3    | 0.155 |
| ZNF766   | 0.151 | OR7A10   | 0.155 |
| UNC13C   | 0.150 | PAK2     | 0.154 |
| CPB2     | 0.150 | PNLIP    | 0.154 |
| CALY     | 0.150 | OR10Z1   | 0.154 |
| C3orf67  | 0.150 | FLJ45079 | 0.154 |
| LDLRAD2  | 0.150 | FCER1A   | 0.154 |
| RASL11A  | 0.150 | FAM71C   | 0.154 |
| MUC6     | 0.150 | GABRP    | 0.154 |
| TRIB3    | 0.149 | TMEM100  | 0.154 |
| SLC22A6  | 0.149 | SCN2A    | 0.154 |
| SCGB1C1  | 0.149 | PDE1A    | 0.154 |
| RACGAP1P | 0.149 | HTR2B    | 0.154 |
| OR2Z1    | 0.148 | C3orf74  | 0.154 |
| OTOL1    | 0.148 | MAPK10   | 0.153 |
| ACER3    | 0.148 | DRD2     | 0.153 |
| OR8B3    | 0.148 | ARF5     | 0.153 |

|             |       |           |       |
|-------------|-------|-----------|-------|
| FRG2C       | 0.148 | ADAMTS13  | 0.153 |
| CHAT        | 0.148 | OR52K2    | 0.153 |
| TTL11       | 0.146 | ARPC1B    | 0.153 |
| LRRN2       | 0.146 | TNFAIP8L3 | 0.153 |
| KRTAP25-1   | 0.146 | WIPF3     | 0.152 |
| BCL2L14     | 0.146 | NFU1      | 0.152 |
| FAM49A      | 0.146 | KIAA0125  | 0.152 |
| TAT         | 0.146 | MT2A      | 0.152 |
| CYP4F8      | 0.146 | FGF17     | 0.152 |
| PPP2CB      | 0.146 | ZEB2      | 0.152 |
| ZNF169      | 0.146 | TBKBP1    | 0.152 |
| LAMA5       | 0.146 | BDKRB2    | 0.152 |
| TMPRSS11BNL | 0.146 | RGR       | 0.151 |
| TRAPPC10    | 0.145 | LOC286367 | 0.151 |
| APBB2       | 0.145 | TRIM62    | 0.151 |
| OR5H15      | 0.145 | GPHN      | 0.151 |
| LIME1       | 0.145 | SP8       | 0.151 |
| OR8B4       | 0.145 | CLC       | 0.151 |
| DEFB133     | 0.145 | OR10G4    | 0.151 |
| RNF186      | 0.145 | MYH6      | 0.150 |
| SLC29A1     | 0.144 | KRTAP25-1 | 0.150 |
| KIAA0317    | 0.144 | ZMAT4     | 0.150 |
| OR10A7      | 0.144 | HAMP      | 0.150 |

|          |       |           |       |
|----------|-------|-----------|-------|
| STMN2    | 0.144 | KRT1      | 0.150 |
| VPS54    | 0.144 | OR6C2     | 0.150 |
| SMTNL1   | 0.144 | ENPP2     | 0.150 |
| GPR88    | 0.143 | OR52H1    | 0.150 |
| STAG3    | 0.143 | DSCR4     | 0.149 |
| GPC2     | 0.143 | PEAK1     | 0.149 |
| FAM102A  | 0.143 | DEFB121   | 0.149 |
| CFHR2    | 0.143 | C14orf23  | 0.149 |
| PHACTR1  | 0.143 | C4orf22   | 0.149 |
| LGR6     | 0.143 | CYB561D1  | 0.149 |
| MFI2     | 0.143 | ADARB1    | 0.149 |
| POTEF    | 0.143 | SSR4P1    | 0.149 |
| APOBEC1  | 0.142 | CCDC14    | 0.149 |
| SERPINB7 | 0.142 | HCG9      | 0.149 |
| SYT3     | 0.142 | ABP1      | 0.149 |
| ALDH3B1  | 0.142 | SYT5      | 0.148 |
| TMEM206  | 0.142 | MUC2      | 0.148 |
| CST2     | 0.142 | TAS2R7    | 0.148 |
| SLC35F4  | 0.142 | METTL7A   | 0.148 |
| VNN1     | 0.141 | VANGL1    | 0.148 |
| SPATS2   | 0.141 | FCRLB     | 0.148 |
| GALNT13  | 0.141 | SDC4P     | 0.148 |
| NTN3     | 0.141 | LOC201651 | 0.148 |

|           |       |          |       |
|-----------|-------|----------|-------|
| C6orf222  | 0.140 | ZNF512B  | 0.147 |
| TAS2R7    | 0.140 | LDLRAD2  | 0.147 |
| ANTXR2    | 0.140 | SH3BGRL3 | 0.147 |
| ZNF385D   | 0.140 | NDFIP1   | 0.147 |
| KLK3      | 0.140 | SPATS2L  | 0.147 |
| LY86      | 0.140 | SH3BP1   | 0.147 |
| FERD3L    | 0.140 | HEPACAM  | 0.147 |
| ZNF137P   | 0.140 | ADRB1    | 0.147 |
| OR10X1    | 0.139 | ZNF709   | 0.147 |
| CACNG7    | 0.139 | SAA2     | 0.147 |
| ZEB2      | 0.139 | SLC35F4  | 0.146 |
| SAMD9     | 0.139 | ASIP     | 0.146 |
| LOC90246  | 0.139 | MED4     | 0.146 |
| OR51F1    | 0.139 | CLDN9    | 0.146 |
| PNLIPRP2  | 0.138 | OR6C68   | 0.146 |
| OR2AT4    | 0.138 | MYT1L    | 0.146 |
| GABARAPL1 | 0.138 | ALKBH7   | 0.146 |
| CRY2      | 0.138 | OPLAH    | 0.146 |
| RELT      | 0.138 | KIAA2013 | 0.145 |
| KIR2DL4   | 0.138 | OR7A5    | 0.145 |
| SULF1     | 0.138 | TRIM42   | 0.145 |
| RETNLB    | 0.138 | C17orf28 | 0.145 |
| TAB1      | 0.138 | SEC13    | 0.145 |

|           |       |           |       |
|-----------|-------|-----------|-------|
| SH3D21    | 0.138 | KRTAP13-2 | 0.145 |
| MX2       | 0.138 | KLF2      | 0.145 |
| APTX      | 0.138 | UBE2J2    | 0.145 |
| ILDR2     | 0.137 | SLC4A4    | 0.144 |
| B3GNT1    | 0.137 | CD1E      | 0.144 |
| ACAP1     | 0.137 | ZNF215    | 0.144 |
| CCDC102A  | 0.137 | KANK1     | 0.144 |
| ETSI      | 0.137 | LRRC26    | 0.144 |
| GABRP     | 0.137 | CRX       | 0.144 |
| ALPL      | 0.137 | FRMD4A    | 0.144 |
| INPP5J    | 0.136 | TAAR2     | 0.144 |
| LOC200726 | 0.136 | IDO1      | 0.143 |
| ANKRD1    | 0.136 | KLHL25    | 0.143 |
| S100A7A   | 0.136 | GAB2      | 0.143 |
| FAM153A   | 0.136 | DBC1      | 0.143 |
| C21orf56  | 0.136 | C19orf77  | 0.143 |
| KIAA1467  | 0.136 | IPW       | 0.143 |
| SRRM3     | 0.136 | ATP11A    | 0.143 |
| TRIM21    | 0.136 | CCDC83    | 0.142 |
| OR4M1     | 0.136 | RARG      | 0.142 |
| CCL4      | 0.136 | C14orf177 | 0.142 |
| ACSM4     | 0.136 | GSTM1     | 0.142 |
| SGCD      | 0.135 | HBBP1     | 0.142 |

|           |       |           |       |
|-----------|-------|-----------|-------|
| ARHGAP22  | 0.135 | CD72      | 0.142 |
| GABRB1    | 0.135 | TMEM9     | 0.142 |
| SNRPN     | 0.135 | SERPINB12 | 0.142 |
| MRGPRG    | 0.135 | PKHD1     | 0.142 |
| OR7G3     | 0.135 | CCL4      | 0.142 |
| EPHA10    | 0.135 | REP15     | 0.142 |
| C14orf180 | 0.134 | RBMXL1    | 0.141 |
| GBP3      | 0.134 | GORASP2   | 0.141 |
| LINC00486 | 0.134 | C2orf68   | 0.141 |
| KCNA5     | 0.134 | ATP1A3    | 0.141 |
| PPP1R26   | 0.133 | KRT222    | 0.141 |
| C19orf77  | 0.133 | SCGB1D1   | 0.141 |
| HGF       | 0.133 | SNORA81   | 0.140 |
| RPL3L     | 0.133 | LYN       | 0.140 |
| LGALS9    | 0.133 | TMEM119   | 0.140 |
| GRAMD1B   | 0.133 | TMEM163   | 0.140 |
| ZNF426    | 0.133 | LINC00304 | 0.140 |
| FANCC     | 0.133 | KIAA1161  | 0.140 |
| IDO2      | 0.133 | CPSF1     | 0.140 |
| CALN1     | 0.133 | OR52B2    | 0.140 |
| SHANK1    | 0.133 | LHX6      | 0.140 |
| TMC3      | 0.133 | GLP1R     | 0.140 |
| CYP2C18   | 0.132 | CYP11B1   | 0.140 |

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|--------------|-------|-----------|-------|
| CECR2        | 0.132 | LOC200726 | 0.140 |
| PTH          | 0.132 | DEFB135   | 0.140 |
| NOS1         | 0.132 | OR2Y1     | 0.139 |
| INMT         | 0.132 | TRIB3     | 0.139 |
| ITGAL        | 0.132 | GOLGA6L5  | 0.139 |
| OR2A42       | 0.131 | FBN3      | 0.139 |
| ICAM3        | 0.131 | SNORA74A  | 0.139 |
| TNN          | 0.131 | OR52L1    | 0.139 |
| DHH          | 0.131 | CYP7B1    | 0.139 |
| WDFY1        | 0.131 | IL18R1    | 0.139 |
| TAS1R3       | 0.131 | PER4      | 0.139 |
| AMY1C        | 0.130 | SSBP4     | 0.139 |
| MUC2         | 0.130 | FSTL3     | 0.138 |
| SELENBP1     | 0.130 | LINC00112 | 0.138 |
| MYL1         | 0.130 | ITGAV     | 0.138 |
| KRT28        | 0.130 | EFEMP2    | 0.138 |
| KCNH1        | 0.130 | SLC10A5   | 0.138 |
| PTCHD2       | 0.130 | FBL       | 0.138 |
| LOC100124692 | 0.130 | DET1      | 0.138 |
| KRT76        | 0.129 | OR6P1     | 0.138 |
| LINC00244    | 0.129 | USP18     | 0.138 |
| FBN3         | 0.129 | GYLTL1B   | 0.137 |
| CIQA         | 0.129 | GJB3      | 0.137 |

|          |       |          |       |
|----------|-------|----------|-------|
| CCL18    | 0.129 | RNASE2   | 0.137 |
| GAS2     | 0.129 | PNLIPRP1 | 0.137 |
| APOH     | 0.129 | SCGB2A2  | 0.137 |
| LCN8     | 0.129 | TNFSF12  | 0.137 |
| SLC4A10  | 0.129 | GNA15    | 0.136 |
| CEACAM18 | 0.129 | TIMD4    | 0.136 |
| TRIM49   | 0.129 | CST9     | 0.136 |
| GABRA1   | 0.129 | LILRA1   | 0.136 |
| ANO7     | 0.129 | MBL1P    | 0.136 |
| DMKN     | 0.129 | LCP2     | 0.135 |
| SIGLEC11 | 0.128 | LRP1B    | 0.135 |
| SUMO1    | 0.128 | NRGN     | 0.135 |
| TMEM232  | 0.128 | FCRLA    | 0.135 |
| GABRA5   | 0.128 | CARD14   | 0.135 |
| CLEC12A  | 0.128 | GPD1     | 0.135 |
| MUC12    | 0.128 | CNTD2    | 0.135 |
| LILRB5   | 0.128 | PTH      | 0.135 |
| TFEB     | 0.128 | IL27RA   | 0.135 |
| RBFOX3   | 0.128 | LUZP6    | 0.135 |
| DLX3     | 0.128 | C22orf31 | 0.135 |
| ADH7     | 0.128 | FAT3     | 0.135 |
| FTMT     | 0.127 | GPBP1    | 0.134 |
| TUBAL3   | 0.127 | SAA1     | 0.134 |

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|--------------|-------|-----------|-------|
| HSPA1A       | 0.127 | FDX1L     | 0.134 |
| TFR2         | 0.127 | TNN       | 0.134 |
| CHRNA7       | 0.127 | ACAN      | 0.134 |
| LINC00304    | 0.127 | HSPA4L    | 0.134 |
| ZNF19        | 0.127 | HLA-DRB6  | 0.134 |
| PHACTR3      | 0.127 | TOMM20L   | 0.134 |
| KIRREL3      | 0.126 | MNDA      | 0.134 |
| OR10A3       | 0.126 | ASRGL1    | 0.134 |
| ZNF233       | 0.126 | KPNA7     | 0.134 |
| FRMD4A       | 0.126 | EXTL3     | 0.134 |
| LCN6         | 0.126 | CYTH4     | 0.134 |
| OR1N1        | 0.126 | BLID      | 0.133 |
| IL18RAP      | 0.126 | TMEM63C   | 0.133 |
| LCT          | 0.126 | ZNF28     | 0.133 |
| LOC100129935 | 0.125 | SLC16A7   | 0.133 |
| TREX1        | 0.125 | LOC648691 | 0.133 |
| LINC00314    | 0.125 | CELSR2    | 0.133 |
| OR11H4       | 0.125 | SFTA1P    | 0.133 |
| KRTAP10-1    | 0.125 | SERPINB7  | 0.133 |
| DBC1         | 0.125 | TMPRSS11F | 0.133 |
| CAMK2A       | 0.125 | EPN3      | 0.132 |
| TPRX1        | 0.125 | FAM188B   | 0.132 |
| RDH5         | 0.125 | PKP3      | 0.132 |

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|-----------|-------|----------|-------|
| HK2       | 0.125 | C6orf222 | 0.132 |
| DENND2C   | 0.125 | SCARNA9  | 0.132 |
| SAA1      | 0.125 | HAO2     | 0.132 |
| CRB2      | 0.124 | FOXO1    | 0.132 |
| BBOX1     | 0.124 | SCNN1D   | 0.132 |
| PPIE      | 0.124 | SLC7A1   | 0.131 |
| LOC392196 | 0.124 | FXYP7    | 0.131 |
| TCF7      | 0.124 | GOLGA8F  | 0.131 |
| SEMA3F    | 0.124 | CYB5R3   | 0.131 |
| PAH       | 0.124 | MED27    | 0.131 |
| LOC400940 | 0.123 | RBAK     | 0.130 |
| SLCO1B1   | 0.123 | CAMK2A   | 0.130 |
| HSD3B7    | 0.123 | SLC2A8   | 0.130 |
| C1orf170  | 0.123 | HGF      | 0.130 |
| CAPN14    | 0.123 | GABRR3   | 0.130 |
| C1R       | 0.123 | LCN6     | 0.130 |
| GRIP1     | 0.123 | CCDC42   | 0.130 |
| DDI1      | 0.123 | WDFY1    | 0.130 |
| SERPINI2  | 0.123 | APCS     | 0.130 |
| HHIPL2    | 0.123 | HTR3A    | 0.130 |
| GOLGA8F   | 0.123 | RANBP3L  | 0.130 |
| PRR7      | 0.122 | SLC14A2  | 0.130 |
| ALDH2     | 0.122 | GLTPD2   | 0.129 |

|           |       |          |       |
|-----------|-------|----------|-------|
| CA14      | 0.122 | ATP6V1G1 | 0.129 |
| ATP9A     | 0.122 | FRG1     | 0.129 |
| ARL6IP4   | 0.122 | IGFBP6   | 0.129 |
| KRTAP5-9  | 0.122 | SNRPN    | 0.129 |
| ITFG3     | 0.121 | WDR49    | 0.129 |
| ZNF550    | 0.121 | ARHGAP22 | 0.129 |
| PRAMEF11  | 0.121 | KRTAP4-1 | 0.129 |
| LRP3      | 0.121 | VPS13D   | 0.129 |
| PRLR      | 0.121 | PTGES2   | 0.129 |
| CISD3     | 0.121 | PWWP2B   | 0.129 |
| VNN2      | 0.121 | PODNL1   | 0.128 |
| RHBDF2    | 0.121 | SMOX     | 0.128 |
| SPTSSB    | 0.120 | GOLGA6L6 | 0.128 |
| PHYH      | 0.120 | IL17F    | 0.128 |
| RRAGA     | 0.120 | OR9G1    | 0.128 |
| C10orf90  | 0.120 | CDK10    | 0.128 |
| KRTAP21-1 | 0.120 | AMBRA1   | 0.128 |
| ELAVL2    | 0.120 | TREML1   | 0.128 |
| KLF1      | 0.120 | TFR2     | 0.127 |
| OR2B6     | 0.120 | PARP6    | 0.127 |
| OR4D5     | 0.119 | MUM1     | 0.127 |
| TREH      | 0.119 | ANKRD1   | 0.127 |
| CCL14     | 0.119 | B3GALNT1 | 0.127 |

|          |       |           |       |
|----------|-------|-----------|-------|
| TMEM82   | 0.119 | CCL18     | 0.127 |
| MAT1A    | 0.119 | GNAT3     | 0.127 |
| CPZ      | 0.119 | LCN8      | 0.127 |
| PDZK1IP1 | 0.119 | PP2D1     | 0.127 |
| FGA      | 0.119 | C14orf180 | 0.127 |
| OR10G4   | 0.119 | BEST1     | 0.127 |
| C3orf14  | 0.119 | FLJ42709  | 0.127 |
| OR6K6    | 0.118 | SGCB      | 0.127 |
| C8B      | 0.118 | SLC5A1    | 0.127 |
| INSRR    | 0.118 | LGR6      | 0.126 |
| NLRP5    | 0.118 | EMP1      | 0.126 |
| LARP4B   | 0.118 | PAPLN     | 0.126 |
| DAB1     | 0.118 | TPD52     | 0.126 |
| KCNK16   | 0.118 | OR1C1     | 0.126 |
| PAM      | 0.118 | PRSS55    | 0.126 |
| PGLYRP2  | 0.118 | FAM74A3   | 0.126 |
| OR2S2    | 0.118 | SCN7A     | 0.126 |
| CSMD1    | 0.117 | C21orf15  | 0.126 |
| COL18A1  | 0.117 | TNP1      | 0.125 |
| ZNF736   | 0.117 | NDUFB6    | 0.125 |
| KCNH4    | 0.117 | TYMP      | 0.125 |
| GNAT3    | 0.117 | CEACAM8   | 0.125 |
| ZNF486   | 0.117 | VSX2      | 0.125 |

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|-----------|-------|----------|-------|
| G6PC2     | 0.117 | C3orf67  | 0.125 |
| PART1     | 0.117 | PACSI    | 0.125 |
| ARL4C     | 0.116 | RNF213   | 0.125 |
| KBTBD10   | 0.116 | DENND2C  | 0.124 |
| OR10H4    | 0.116 | PDCD1LG2 | 0.124 |
| C22orf31  | 0.116 | MPRIIP   | 0.124 |
| LYPD5     | 0.116 | SET      | 0.124 |
| FYTTD1    | 0.116 | BSPH1    | 0.124 |
| MYH7      | 0.115 | GPR133   | 0.124 |
| CLDN25    | 0.115 | KRT28    | 0.124 |
| IGSF22    | 0.115 | CNOT6    | 0.124 |
| ZNF580    | 0.115 | SCEL     | 0.124 |
| ARGFXP2   | 0.115 | ENDOU    | 0.123 |
| NPFFR1    | 0.115 | SYNGR2   | 0.123 |
| MPPED1    | 0.115 | BTBD19   | 0.123 |
| ALDH1A2   | 0.115 | SLC6A6   | 0.123 |
| GSG1L     | 0.115 | SH3TC2   | 0.123 |
| LOC729668 | 0.115 | CHRFAM7A | 0.123 |
| OTOA      | 0.115 | KIAA0247 | 0.123 |
| CD80      | 0.115 | ACTR3B   | 0.123 |
| SLC5A1    | 0.115 | CAPSL    | 0.123 |
| SLC2A5    | 0.114 | KRT13    | 0.123 |
| ZP4       | 0.114 | DDX4     | 0.122 |

|           |       |          |       |
|-----------|-------|----------|-------|
| TRPC4     | 0.114 | SIGLEC16 | 0.122 |
| LINC00294 | 0.114 | OR5E1P   | 0.122 |
| RPE65     | 0.114 | MDM4     | 0.122 |
| CDH26     | 0.114 | PVRL4    | 0.122 |
| OR56B4    | 0.114 | CA9      | 0.122 |
| SLC17A4   | 0.114 | NCKIPSD  | 0.122 |
| OR6K3     | 0.114 | PHLDB2   | 0.122 |
| ZNF735    | 0.114 | SDCBP2   | 0.122 |
| KRTAP19-5 | 0.114 | CTSA     | 0.122 |
| OR4B1     | 0.114 | MYH15    | 0.121 |
| ZNF175    | 0.113 | PPP5K1   | 0.121 |
| ACSM5     | 0.113 | RBM47    | 0.121 |
| TREML1    | 0.113 | C16orf89 | 0.120 |
| ANKS1B    | 0.113 | OR5H2    | 0.120 |
| OR9K2     | 0.113 | ZBTB17   | 0.120 |
| MYOM2     | 0.113 | OR5L1    | 0.120 |
| AKR1B10   | 0.113 | PANX3    | 0.120 |
| DEFA5     | 0.113 | OR2T33   | 0.120 |
| MRGPRX3   | 0.113 | PFKM     | 0.120 |
| MUC13     | 0.113 | ALPL     | 0.120 |
| RBM45     | 0.112 | F2RL2    | 0.120 |
| KRT16     | 0.112 | ARGFXP2  | 0.120 |
| SCARNA2   | 0.112 | ERVFRD-1 | 0.119 |

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|----------|-------|-----------|-------|
| ATP6V1G3 | 0.112 | TECTA     | 0.119 |
| DNAH9    | 0.112 | TBC1D21   | 0.119 |
| RFTN2    | 0.112 | SLC9A3R2  | 0.119 |
| NEU1     | 0.112 | OR7D4     | 0.119 |
| GABRB3   | 0.112 | CHST4     | 0.119 |
| SFTPA1   | 0.112 | ITPRIPL2  | 0.119 |
| RPF1     | 0.112 | ZNF517    | 0.119 |
| SIRPG    | 0.112 | IL17C     | 0.119 |
| C1QL1    | 0.112 | PAQR4     | 0.119 |
| PGLYRP4  | 0.112 | PTPN22    | 0.119 |
| PCDHA8   | 0.112 | RASGRP4   | 0.118 |
| ASIP     | 0.112 | LOC645752 | 0.118 |
| TNFRSF9  | 0.111 | MF12      | 0.118 |
| SLC31A2  | 0.111 | VNN2      | 0.118 |
| FAM27L   | 0.111 | PLA2G4A   | 0.118 |
| OR4D10   | 0.111 | HNF4G     | 0.118 |
| HLA-DPA1 | 0.111 | PRLR      | 0.118 |
| SYNDIG1  | 0.111 | C10orf71  | 0.118 |
| NCOA2    | 0.111 | ZNF19     | 0.118 |
| NDRG1    | 0.111 | LHFPL4    | 0.118 |
| AICDA    | 0.111 | OR6N2     | 0.118 |
| PTX4     | 0.111 | LCN1      | 0.118 |
| OR8A1    | 0.111 | ANTXR2    | 0.118 |

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|-----------|-------|----------|-------|
| OXCT1     | 0.111 | BCAS4    | 0.118 |
| CXCR6     | 0.110 | EP400    | 0.118 |
| DISC1     | 0.110 | LRP5     | 0.117 |
| MIP       | 0.110 | IBSP     | 0.117 |
| MAP3K14   | 0.110 | SNUPN    | 0.117 |
| ZBTB17    | 0.110 | FER1L4   | 0.117 |
| MDGA2     | 0.110 | RPE65    | 0.117 |
| GRAP2     | 0.110 | FLJ33360 | 0.117 |
| RESP18    | 0.110 | GRIP1    | 0.117 |
| FCRLB     | 0.110 | NPAS4    | 0.117 |
| DEFB127   | 0.110 | TREH     | 0.116 |
| LOC649395 | 0.110 | COL11A1  | 0.116 |
| C11orf21  | 0.109 | SCG2     | 0.116 |
| WFDC10A   | 0.109 | CACNG7   | 0.116 |
| MPRIP     | 0.109 | GBP1P1   | 0.116 |
| IDO1      | 0.109 | KRTAP2-1 | 0.116 |
| CNTD2     | 0.109 | NDRG1    | 0.116 |
| YWHAE     | 0.109 | PGLYRP2  | 0.116 |
| CFHR1     | 0.108 | SLC17A9  | 0.116 |
| RHBDF1    | 0.108 | NAIP     | 0.116 |
| SP8       | 0.108 | OR2AT4   | 0.116 |
| HLA-DQA1  | 0.108 | ATXN1    | 0.116 |
| PTPN22    | 0.108 | PLG      | 0.115 |

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|----------|-------|-----------|-------|
| CTSA     | 0.107 | MLLT4     | 0.115 |
| NR1I3    | 0.107 | FGG       | 0.115 |
| HSPA5    | 0.107 | KRTAP5-9  | 0.115 |
| FER1L6   | 0.107 | LINC00442 | 0.115 |
| KRT16P2  | 0.107 | OR5AN1    | 0.115 |
| AGMO     | 0.107 | SEPN1     | 0.114 |
| LOC90784 | 0.107 | TGIF2     | 0.114 |
| PDE4D    | 0.106 | GSTP1     | 0.114 |
| SP140    | 0.106 | MMP10     | 0.114 |
| OBSCN    | 0.106 | CD82      | 0.114 |
| ZNF709   | 0.106 | ST8SIA6   | 0.113 |
| SLC26A3  | 0.106 | ASB1      | 0.113 |
| SPRR2D   | 0.106 | ADORA2B   | 0.113 |
| CYYR1    | 0.105 | BET3L     | 0.113 |
| GRIK1    | 0.105 | FTSJD2    | 0.113 |
| GRIN3A   | 0.105 | OR3A3     | 0.113 |
| CSTA     | 0.105 | PCDHA11   | 0.113 |
| EML5     | 0.105 | ZFP62     | 0.113 |
| GRIK5    | 0.105 | LARP4B    | 0.113 |
| PAQR6    | 0.105 | BMS1P1    | 0.113 |
| AGAP2    | 0.105 | RASL11A   | 0.113 |
| COL6A1   | 0.105 | IGSF22    | 0.113 |
| LITAF    | 0.104 | PPFIA3    | 0.113 |

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|----------|-------|----------|-------|
| MOB3A    | 0.104 | LCE2A    | 0.113 |
| NOVA2    | 0.104 | HYAL1    | 0.113 |
| ZNF660   | 0.104 | INMT     | 0.112 |
| TECTB    | 0.104 | DEFA5    | 0.112 |
| TFDP2    | 0.104 | NAPEPLD  | 0.112 |
| MAPK10   | 0.104 | C10orf57 | 0.112 |
| ODZ2     | 0.104 | GGNBP1   | 0.112 |
| GPIHBP1  | 0.103 | PRR5     | 0.112 |
| OR56A4   | 0.103 | ANK1     | 0.112 |
| FO XK1   | 0.103 | CACNB2   | 0.112 |
| BAIAP3   | 0.103 | RCN1     | 0.112 |
| BPESC1   | 0.103 | SIRPB1   | 0.112 |
| WIPF2    | 0.103 | HPSE2    | 0.112 |
| AFF3     | 0.103 | MUC6     | 0.112 |
| RGS5     | 0.103 | ADH1C    | 0.112 |
| PLCL1    | 0.103 | PGA3     | 0.111 |
| CLEC2D   | 0.103 | CDKN1C   | 0.111 |
| ANKRD34C | 0.102 | TREML2   | 0.111 |
| BPIFA2   | 0.102 | CERS4    | 0.111 |
| MGP      | 0.102 | BRD7     | 0.111 |
| KCNJ1    | 0.102 | GPR88    | 0.111 |
| PIP4K2A  | 0.102 | NAT1     | 0.111 |
| C5AR1    | 0.102 | FAM125B  | 0.111 |

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|-----------|-------|-----------|-------|
| SIGIRR    | 0.102 | APOBEC1   | 0.111 |
| ARL11     | 0.102 | LOC283922 | 0.111 |
| CACNB2    | 0.102 | KIF2A     | 0.111 |
| PTPRJ     | 0.102 | OR9Q2     | 0.111 |
| CMIP      | 0.102 | FERD3L    | 0.111 |
| TMCO5A    | 0.101 | SLC44A5   | 0.110 |
| ZNF605    | 0.101 | ZNF560    | 0.110 |
| CCR3      | 0.101 | HDHD3     | 0.110 |
| KRTAP24-1 | 0.101 | DHH       | 0.110 |
| AIM2      | 0.101 | NEK7      | 0.110 |
| SIL1      | 0.101 | PYROXD2   | 0.110 |
| OR3A3     | 0.101 | OR2T10    | 0.109 |
| KIAA1161  | 0.101 | GNE       | 0.109 |
| PDGFD     | 0.101 | ZFP112    | 0.109 |
| NENF      | 0.101 | BRD3      | 0.109 |
| MYT1      | 0.101 | MMP13     | 0.109 |
| OR9A4     | 0.101 | OR4X2     | 0.109 |
| CELF5     | 0.101 | OR6C75    | 0.109 |
| GYLTL1B   | 0.100 | SYDE1     | 0.109 |
| ZNF843    | 0.100 | KC6       | 0.109 |
| ARMS2     | 0.100 | MAP6D1    | 0.109 |
| ATP4A     | 0.100 | C19orf55  | 0.109 |
|           |       | LOC392196 | 0.108 |

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|-----------|-------|
| LGALS2    | 0.108 |
| LCE2C     | 0.108 |
| TMEM8C    | 0.108 |
| MYH7      | 0.108 |
| MDGA2     | 0.108 |
| OR2J3     | 0.108 |
| SLURP1    | 0.108 |
| APOH      | 0.108 |
| SCOC      | 0.108 |
| ARHGEF33  | 0.107 |
| CPZ       | 0.107 |
| C6orf226  | 0.107 |
| C3orf14   | 0.107 |
| OR51A7    | 0.107 |
| KLKB1     | 0.107 |
| DEFB133   | 0.107 |
| USH2A     | 0.107 |
| LINC00293 | 0.106 |
| ATM       | 0.106 |
| C2orf71   | 0.106 |
| ALDH3B2   | 0.106 |
| NDUFB10   | 0.106 |
| KRT2      | 0.106 |

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|------------|-------|
| MST1R      | 0.106 |
| FLJ43663   | 0.106 |
| MRS2P2     | 0.106 |
| OR5M1      | 0.106 |
| KIF2B      | 0.106 |
| KCNC2      | 0.105 |
| RPF1       | 0.105 |
| TGFB3      | 0.105 |
| AKR1C1     | 0.105 |
| AGXT       | 0.105 |
| C8orf44    | 0.105 |
| RPL13AP17  | 0.105 |
| ABHD11-AS1 | 0.105 |
| DSG3       | 0.105 |
| TH         | 0.105 |
| SERPINI2   | 0.105 |
| TYR        | 0.105 |
| CCL23      | 0.104 |
| COL6A6     | 0.104 |
| PER2       | 0.104 |
| DNAJC11    | 0.104 |
| BMP5       | 0.104 |
| DDI1       | 0.104 |

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|---------------|-------|
| DKFZP586I1420 | 0.104 |
| GBP3          | 0.104 |
| ITPR2         | 0.104 |
| ZNF782        | 0.104 |
| KLRG1         | 0.104 |
| PHYH          | 0.104 |
| ACOT7         | 0.103 |
| LINC00324     | 0.103 |
| LILRB5        | 0.103 |
| KLK11         | 0.103 |
| CCDC135       | 0.103 |
| OR2B11        | 0.103 |
| PTCHD2        | 0.103 |
| RCL1          | 0.103 |
| CHI3L1        | 0.103 |
| ABCA6         | 0.103 |
| FAM45A        | 0.103 |
| TRPC4         | 0.103 |
| C2orf90       | 0.103 |
| RABL5         | 0.103 |
| CIDEA         | 0.103 |
| OR2L13        | 0.103 |
| OR13C8        | 0.103 |

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|---------|-------|
| GPR78   | 0.102 |
| CDK2AP1 | 0.102 |
| SELPLG  | 0.102 |
| GNG7    | 0.102 |
| ZBTB34  | 0.102 |
| NR5A2   | 0.102 |
| CYP2C8  | 0.102 |
| CA1     | 0.101 |
| LAT     | 0.101 |
| MRAS    | 0.101 |
| AKR7A3  | 0.101 |
| TAS1R3  | 0.101 |
| NTF4    | 0.101 |
| CSTA    | 0.101 |
| KIRREL3 | 0.101 |
| VASN    | 0.101 |
| IGF2BP2 | 0.101 |
| CPNE6   | 0.101 |
| PGLYRP4 | 0.101 |
| CDHR5   | 0.101 |
| TM4SF4  | 0.101 |
| FAM26E  | 0.100 |
| ARL6IP1 | 0.100 |

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| KRTAP15-1 | 0.100 |
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|-------|-------|
| SYTL1 | 0.100 |
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| LINC00475 | 0.100 |
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