

Supplementary Table S2: Gene clusters expressed along the pseudotime trajectory

| Gene | Clusters |
|------------|----------|
| AP006222.2 | 1 |
| MRPL20 | 1 |
| NADK | 1 |
| C1orf86 | 1 |
| RER1 | 1 |
| TNFRSF14 | 1 |
| MMEL1 | 1 |
| PGD | 1 |
| PLOD1 | 1 |
| DHRS3 | 1 |
| TMEM51 | 1 |
| FHAD1 | 1 |
| SDHB | 1 |
| IGSF21 | 1 |
| CAPZB | 1 |
| MINOS1 | 1 |
| PLA2G2D | 1 |
| DDOST | 1 |
| LINC00339 | 1 |
| C1QA | 1 |
| C1QC | 1 |
| C1QB | 1 |
| EPHB2 | 1 |
| HMGCL | 1 |
| FUCA1 | 1 |
| MAN1C1 | 1 |
| ZNF593 | 1 |
| IFI6 | 1 |
| STX12 | 1 |
| ATPIF1 | 1 |
| PHACTR4 | 1 |
| SNHG12 | 1 |
| RAB42 | 1 |
| LAPTM5 | 1 |
| SDC3 | 1 |
| FABP3 | 1 |
| COL8A2 | 1 |
| LSM10 | 1 |
| ZC3H12A | 1 |
| PABPC4 | 1 |
| CAP1 | 1 |
| PPT1 | 1 |
| ZMPSTE24 | 1 |
| PPCS | 1 |
| PRDX1 | 1 |

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|--------------|---|
| AKR1A1 | 1 |
| TMEM69 | 1 |
| PIK3R3 | 1 |
| MKNK1 | 1 |
| ELAVL4 | 1 |
| TXNDC12 | 1 |
| BTF3L4 | 1 |
| SCP2 | 1 |
| TMEM59 | 1 |
| JUN | 1 |
| ATG4C | 1 |
| TCTEX1D1 | 1 |
| WLS | 1 |
| PIGK | 1 |
| IFI44L | 1 |
| CTBS | 1 |
| 15-Sep | 1 |
| LMO4 | 1 |
| GBP4 | 1 |
| ABCD3 | 1 |
| SORT1 | 1 |
| GSTM4 | 1 |
| LAMTOR5 | 1 |
| DRAM2 | 1 |
| ADORA3 | 1 |
| RAP1A | 1 |
| OLFML3 | 1 |
| SIKE1 | 1 |
| PTGFRN | 1 |
| REG4 | 1 |
| FCGR1B | 1 |
| POLR3GL | 1 |
| FCGR1A | 1 |
| PLEKHO1 | 1 |
| APH1A | 1 |
| C1orf54 | 1 |
| CTSS | 1 |
| CTSK | 1 |
| TNFAIP8L2 | 1 |
| TCHH | 1 |
| S100A13 | 1 |
| SLC39A1 | 1 |
| JTB | 1 |
| C1orf43 | 1 |
| RP11-350G8.5 | 1 |
| KRTCAP2 | 1 |
| GBA | 1 |

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|----------|---|
| FAM189B | 1 |
| LAMTOR2 | 1 |
| SEMA4A | 1 |
| SLC25A44 | 1 |
| C1orf85 | 1 |
| CD1B | 1 |
| IFI16 | 1 |
| DUSP23 | 1 |
| SLAMF8 | 1 |
| NCSTN | 1 |
| CD84 | 1 |
| ITLN1 | 1 |
| FCGR3A | 1 |
| OLFML2B | 1 |
| MGST3 | 1 |
| ALDH9A1 | 1 |
| TMCO1 | 1 |
| CREG1 | 1 |
| SFT2D2 | 1 |
| ATP1B1 | 1 |
| SOAT1 | 1 |
| IER5 | 1 |
| GLUL | 1 |
| NPL | 1 |
| RGL1 | 1 |
| RGS1 | 1 |
| GLRX2 | 1 |
| CFH | 1 |
| TMEM9 | 1 |
| RNPEP | 1 |
| ADIPOR1 | 1 |
| CYB5R1 | 1 |
| BTG2 | 1 |
| FAM72A | 1 |
| IL10 | 1 |
| CR1 | 1 |
| CD46 | 1 |
| NENF | 1 |
| ATF3 | 1 |
| NSL1 | 1 |
| CENPF | 1 |
| RRP15 | 1 |
| AIDA | 1 |
| TLR5 | 1 |
| EPHX1 | 1 |
| RAB4A | 1 |
| ARV1 | 1 |

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|------------|---|
| GNPAT | 1 |
| NTPCR | 1 |
| SCCPDH | 1 |
| TMEM18 | 1 |
| ADI1 | 1 |
| PDIA6 | 1 |
| PQLC3 | 1 |
| LAPTM4A | 1 |
| RHOB | 1 |
| C2orf43 | 1 |
| FKBP1B | 1 |
| DTNB | 1 |
| SLC35F6 | 1 |
| ATRAID | 1 |
| MPV17 | 1 |
| DPY30 | 1 |
| RASGRP3 | 1 |
| FEZ2 | 1 |
| GALM | 1 |
| MORN2 | 1 |
| AC007246.3 | 1 |
| SLC8A1 | 1 |
| SRBD1 | 1 |
| PIGF | 1 |
| MCFD2 | 1 |
| ACYP2 | 1 |
| MDH1 | 1 |
| CNRIP1 | 1 |
| ANTXR1 | 1 |
| ANXA4 | 1 |
| TEX261 | 1 |
| NAGK | 1 |
| SPR | 1 |
| STAMPB | 1 |
| BOLA3 | 1 |
| LOXL3 | 1 |
| DOK1 | 1 |
| TGOLN2 | 1 |
| CAPG | 1 |
| VAMP8 | 1 |
| TMEM150A | 1 |
| CHMP3 | 1 |
| ANKRD36C | 1 |
| DUSP2 | 1 |
| LMAN2L | 1 |
| COX5B | 1 |
| COA5 | 1 |

| | |
|------------|---|
| MGAT4A | 1 |
| AC109826.1 | 1 |
| SULT1C2 | 1 |
| LINC00116 | 1 |
| MERTK | 1 |
| TMEM87B | 1 |
| TMEM37 | 1 |
| PTPN18 | 1 |
| MGAT5 | 1 |
| HNMT | 1 |
| RND3 | 1 |
| FMNL2 | 1 |
| NR4A2 | 1 |
| CD302 | 1 |
| SSB | 1 |
| METTL5 | 1 |
| CYBRD1 | 1 |
| GPR155 | 1 |
| DNAJC10 | 1 |
| SLC40A1 | 1 |
| OSGEPL1 | 1 |
| STAT1 | 1 |
| SLC39A10 | 1 |
| HSPE1 | 1 |
| PLCL1 | 1 |
| SPATS2L | 1 |
| NDUFB3 | 1 |
| CD28 | 1 |
| IDH1 | 1 |
| RPE | 1 |
| PNKD | 1 |
| CYP27A1 | 1 |
| MFF | 1 |
| PSMD1 | 1 |
| ARL4C | 1 |
| BHLHE40 | 1 |
| CAMK1 | 1 |
| RPUSD3 | 1 |
| FGD5 | 1 |
| ZFYVE20 | 1 |
| UBE2E2 | 1 |
| SLC4A7 | 1 |
| CMC1 | 1 |
| TGFBR2 | 1 |
| GLB1 | 1 |
| CRTAP | 1 |
| ITGA9 | 1 |

| | |
|---------------|---|
| ENTPD3-AS1 | 1 |
| SHISA5 | 1 |
| NDUFAF3 | 1 |
| KLHDC8B | 1 |
| GPX1 | 1 |
| RHOA | 1 |
| TCTA | 1 |
| GNAI2 | 1 |
| TUSC2 | 1 |
| MAPKAPK3 | 1 |
| TEX264 | 1 |
| ABHD14A | 1 |
| PPM1M | 1 |
| NISCH | 1 |
| STAB1 | 1 |
| SMIM4 | 1 |
| GLT8D1 | 1 |
| TMEM110 | 1 |
| CACNA2D3 | 1 |
| DNASE1L3 | 1 |
| SUCLG2 | 1 |
| CTD-2013N24.2 | 1 |
| ARL6IP5 | 1 |
| FRMD4B | 1 |
| MITF | 1 |
| MTRNR2L12 | 1 |
| NFKBIZ | 1 |
| ALCAM | 1 |
| ATP6V1A | 1 |
| TIMMDC1 | 1 |
| ITGB5 | 1 |
| CHST13 | 1 |
| CHCHD6 | 1 |
| PLXND1 | 1 |
| ATP2C1 | 1 |
| NUDT16 | 1 |
| ANAPC13 | 1 |
| RP11-85F14.5 | 1 |
| MRAS | 1 |
| RBP1 | 1 |
| HLTF | 1 |
| SUCNR1 | 1 |
| SSR3 | 1 |
| TIPARP | 1 |
| LXN | 1 |
| RARRES1 | 1 |
| MFSD1 | 1 |

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|--------------|---|
| SERPINI1 | 1 |
| GOLIM4 | 1 |
| GPR160 | 1 |
| NCEH1 | 1 |
| RP11-145M9.4 | 1 |
| GNB4 | 1 |
| DNAJC19 | 1 |
| PARL | 1 |
| ABCC5 | 1 |
| ALG3 | 1 |
| ETV5 | 1 |
| ST6GAL1 | 1 |
| LEPREL1 | 1 |
| HES1 | 1 |
| AC069513.4 | 1 |
| TFRC | 1 |
| MFSD7 | 1 |
| C4orf48 | 1 |
| RGS12 | 1 |
| LRPAP1 | 1 |
| CYTL1 | 1 |
| TBC1D14 | 1 |
| SLC2A9 | 1 |
| HS3ST1 | 1 |
| FAM200B | 1 |
| QDPR | 1 |
| LAP3 | 1 |
| SMIM20 | 1 |
| PGM2 | 1 |
| TBC1D1 | 1 |
| TLR1 | 1 |
| RBM47 | 1 |
| TMEM33 | 1 |
| OCIAD1 | 1 |
| SRD5A3 | 1 |
| PF4V1 | 1 |
| NAAA | 1 |
| CXCL9 | 1 |
| CXCL10 | 1 |
| SCARB2 | 1 |
| LINC01094 | 1 |
| BMP2K | 1 |
| RASGEF1B | 1 |
| ENOPH1 | 1 |
| MRPS18C | 1 |
| ABCG2 | 1 |
| SNCA | 1 |

| | |
|---------------|---|
| CISD2 | 1 |
| SEC24B-AS1 | 1 |
| PLA2G12A | 1 |
| KIAA1109 | 1 |
| RP13-884E18.2 | 1 |
| NDUFC1 | 1 |
| MGST2 | 1 |
| CTSO | 1 |
| PDGFC | 1 |
| FAM198B | 1 |
| TMEM144 | 1 |
| 1-Mar | 1 |
| RWDD4 | 1 |
| KIAA1430 | 1 |
| CYP4V2 | 1 |
| MIR4458HG | 1 |
| CTNND2 | 1 |
| FAM105A | 1 |
| ANKH | 1 |
| FYB | 1 |
| DAB2 | 1 |
| PTGER4 | 1 |
| SEPP1 | 1 |
| EMB | 1 |
| NDUFS4 | 1 |
| NAIP | 1 |
| FCHO2 | 1 |
| HEXB | 1 |
| IQGAP2 | 1 |
| CRHBP | 1 |
| AGGF1 | 1 |
| LHFPL2 | 1 |
| MTRNR2L2 | 1 |
| MEF2C | 1 |
| RHOBTB3 | 1 |
| GLRX | 1 |
| REEP5 | 1 |
| CCDC112 | 1 |
| DTWD2 | 1 |
| HSD17B4 | 1 |
| SNX2 | 1 |
| SNX24 | 1 |
| PPIC | 1 |
| ACSL6 | 1 |
| UQCRQ | 1 |
| TGFBI | 1 |
| EGR1 | 1 |

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|--------------|---|
| CD14 | 1 |
| GNPDA1 | 1 |
| NDFIP1 | 1 |
| ABLIM3 | 1 |
| CSF1R | 1 |
| GPX3 | 1 |
| GM2A | 1 |
| SLC36A1 | 1 |
| ATOX1 | 1 |
| LARP1 | 1 |
| HAVCR2 | 1 |
| TTC1 | 1 |
| NUDCD2 | 1 |
| DOCK2 | 1 |
| DUSP1 | 1 |
| RPL26L1 | 1 |
| ATP6V0E1 | 1 |
| LMAN2 | 1 |
| RGS14 | 1 |
| TMED9 | 1 |
| RUFY1 | 1 |
| CANX | 1 |
| LTC4S | 1 |
| RNF130 | 1 |
| MAPK9 | 1 |
| SERPINB6 | 1 |
| NQO2 | 1 |
| PXDC1 | 1 |
| F13A1 | 1 |
| LY86 | 1 |
| SSR1 | 1 |
| TMEM14C | 1 |
| TMEM14B | 1 |
| MCUR1 | 1 |
| CD83 | 1 |
| MYLIP | 1 |
| TPMT | 1 |
| C6orf62 | 1 |
| RP3-369A17.4 | 1 |
| HLA-E | 1 |
| HLA-C | 1 |
| AIF1 | 1 |
| HSPA1A | 1 |
| HSPA1B | 1 |
| NEU1 | 1 |
| C2 | 1 |
| HLA-DMB | 1 |

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|---------------|---|
| HLA-DMA | 1 |
| HLA-DOA | 1 |
| WDR46 | 1 |
| CUTA | 1 |
| C6orf1 | 1 |
| NUDT3 | 1 |
| UHRF1BP1 | 1 |
| GLO1 | 1 |
| TREM2 | 1 |
| CUL9 | 1 |
| DNPH1 | 1 |
| YIPF3 | 1 |
| SLC29A1 | 1 |
| HSP90AB1 | 1 |
| NFKBIE | 1 |
| RP11-444E17.6 | 1 |
| PLA2G7 | 1 |
| PAQR8 | 1 |
| GCLC | 1 |
| DST | 1 |
| SLC17A5 | 1 |
| ME1 | 1 |
| RRAGD | 1 |
| PRDM1 | 1 |
| SEC63 | 1 |
| OSTM1 | 1 |
| SNX3 | 1 |
| CD164 | 1 |
| FIG4 | 1 |
| FAM26F | 1 |
| RWDD1 | 1 |
| HDDC2 | 1 |
| HINT3 | 1 |
| ARHGAP18 | 1 |
| EPB41L2 | 1 |
| AKAP7 | 1 |
| STX7 | 1 |
| SLC18B1 | 1 |
| SGK1 | 1 |
| RP11-557H15.4 | 1 |
| IFNGR1 | 1 |
| CCDC28A | 1 |
| ABRACL | 1 |
| RP3-460G2.2 | 1 |
| GPR126 | 1 |
| AIG1 | 1 |
| FUCA2 | 1 |

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|----------|---|
| PHACTR2 | 1 |
| UTRN | 1 |
| RAB32 | 1 |
| SASH1 | 1 |
| PCMT1 | 1 |
| CCDC170 | 1 |
| GTF2H5 | 1 |
| TAGAP | 1 |
| SLC22A1 | 1 |
| MPC1 | 1 |
| RNASET2 | 1 |
| FAM20C | 1 |
| TTYH3 | 1 |
| KDEL2 | 1 |
| ZDHHC4 | 1 |
| NDUFA4 | 1 |
| TMEM106B | 1 |
| MACC1 | 1 |
| GPNMB | 1 |
| FAM221A | 1 |
| SKAP2 | 1 |
| HIBADH | 1 |
| SCRN1 | 1 |
| EEPD1 | 1 |
| TMED4 | 1 |
| VOPP1 | 1 |
| GBAS | 1 |
| GUSB | 1 |
| LIMK1 | 1 |
| NCF1 | 1 |
| CCL24 | 1 |
| HSPB1 | 1 |
| FGL2 | 1 |
| CD36 | 1 |
| HGF | 1 |
| TP53TG1 | 1 |
| FZD1 | 1 |
| AKAP9 | 1 |
| PON2 | 1 |
| BRI3 | 1 |
| LAMTOR4 | 1 |
| GAL3ST4 | 1 |
| AP1S1 | 1 |
| ZNHIT1 | 1 |
| RABL5 | 1 |
| ARMC10 | 1 |
| PSMC2 | 1 |

| | |
|---------------|---|
| GPR85 | 1 |
| LINC00998 | 1 |
| CPED1 | 1 |
| NDUFA5 | 1 |
| METTL2B | 1 |
| CALU | 1 |
| ATP6V1F | 1 |
| RP11-38M8.1 | 1 |
| AKR1B1 | 1 |
| WDR91 | 1 |
| TBXAS1 | 1 |
| PARP12 | 1 |
| NDUFB2 | 1 |
| PDIA4 | 1 |
| ATP6V0E2 | 1 |
| LINC00996 | 1 |
| GIMAP8 | 1 |
| GIMAP4 | 1 |
| GIMAP1 | 1 |
| GIMAP5 | 1 |
| TMEM176B | 1 |
| TMEM176A | 1 |
| CDK5 | 1 |
| TMUB1 | 1 |
| RHEB | 1 |
| DHRX | 1 |
| ARSD | 1 |
| RP11-733O18.1 | 1 |
| TLR7 | 1 |
| TLR8 | 1 |
| PIR | 1 |
| MBTPS2 | 1 |
| PRDX4 | 1 |
| CYBB | 1 |
| MID1IP1 | 1 |
| ATP6AP2 | 1 |
| GPR34 | 1 |
| GPR82 | 1 |
| VSIG4 | 1 |
| EDA | 1 |
| COX7B | 1 |
| ATP7A | 1 |
| CYSLTR1 | 1 |
| SH3BGRL | 1 |
| ARMCX1 | 1 |
| NGFRAP1 | 1 |
| TCEAL4 | 1 |

| | |
|---------------|---|
| TCEAL3 | 1 |
| TCEAL1 | 1 |
| PGRMC1 | 1 |
| TMEM255A | 1 |
| LAMP2 | 1 |
| MCTS1 | 1 |
| AIFM1 | 1 |
| VMA21 | 1 |
| BCAP31 | 1 |
| SSR4 | 1 |
| ARHGAP4 | 1 |
| RENBP | 1 |
| DNASE1L1 | 1 |
| ATP6AP1 | 1 |
| MPP1 | 1 |
| TMLHE | 1 |
| CLN8 | 1 |
| CTSB | 1 |
| MSR1 | 1 |
| ASAH1 | 1 |
| LPL | 1 |
| GFRA2 | 1 |
| DOK2 | 1 |
| SORBS3 | 1 |
| ADAM28 | 1 |
| ADAMDEC1 | 1 |
| DPYSL2 | 1 |
| LEPROTL1 | 1 |
| RP11-11N9.4 | 1 |
| EIF4EBP1 | 1 |
| HTRA4 | 1 |
| ADAM9 | 1 |
| SMIM19 | 1 |
| GGH | 1 |
| DNAJC5B | 1 |
| TRAM1 | 1 |
| TMEM70 | 1 |
| LY96 | 1 |
| FABP5 | 1 |
| ATP6V0D2 | 1 |
| WWP1 | 1 |
| CPQ | 1 |
| MTDH | 1 |
| COX6C | 1 |
| ENPP2 | 1 |
| RP11-489O18.1 | 1 |
| SLC45A4 | 1 |

| | |
|---------------|---|
| ARC | 1 |
| LY6E | 1 |
| SLC52A2 | 1 |
| TONSL | 1 |
| PPAPDC2 | 1 |
| BNC2 | 1 |
| PTPLAD2 | 1 |
| IFT74 | 1 |
| ACO1 | 1 |
| NDUFB6 | 1 |
| CD72 | 1 |
| CCDC107 | 1 |
| HINT2 | 1 |
| CLTA | 1 |
| FXN | 1 |
| ZFAND5 | 1 |
| ALDH1A1 | 1 |
| DAPK1 | 1 |
| CKS2 | 1 |
| GADD45G | 1 |
| NFIL3 | 1 |
| FAM120A | 1 |
| SLC35D2 | 1 |
| AAED1 | 1 |
| TRIM14 | 1 |
| CORO2A | 1 |
| GNG10 | 1 |
| SLC31A2 | 1 |
| SLC31A1 | 1 |
| STOM | 1 |
| NDUFA8 | 1 |
| PTGS1 | 1 |
| NEK6 | 1 |
| SLC2A8 | 1 |
| ENG | 1 |
| AK1 | 1 |
| DPM2 | 1 |
| RP11-545E17.3 | 1 |
| CCBL1 | 1 |
| DOLK | 1 |
| PPP2R4 | 1 |
| DPP7 | 1 |
| ZMYND11 | 1 |
| KLF6 | 1 |
| RP11-536K7.3 | 1 |
| SFMBT2 | 1 |
| PHYH | 1 |

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|---------------|---|
| FRMD4A | 1 |
| MRC1L1 | 1 |
| SLC39A12 | 1 |
| MSRB2 | 1 |
| OTUD1 | 1 |
| ACBD5 | 1 |
| WAC-AS1 | 1 |
| RP11-472N13.3 | 1 |
| ARHGAP12 | 1 |
| NRP1 | 1 |
| ZNF32 | 1 |
| CXCL12 | 1 |
| NCOA4 | 1 |
| RP11-556E13.1 | 1 |
| CISD1 | 1 |
| TMEM26 | 1 |
| EGR2 | 1 |
| SGPL1 | 1 |
| PCBD1 | 1 |
| UNC5B | 1 |
| SLC29A3 | 1 |
| C10orf54 | 1 |
| PSAP | 1 |
| MYOZ1 | 1 |
| PLAU | 1 |
| COMTD1 | 1 |
| C10orf11 | 1 |
| KCNMA1 | 1 |
| TMEM254 | 1 |
| FAM213A | 1 |
| LIPA | 1 |
| FFAR4 | 1 |
| BLNK | 1 |
| HPS1 | 1 |
| PKD2L1 | 1 |
| SCD | 1 |
| FAM178A | 1 |
| C10orf76 | 1 |
| USMG5 | 1 |
| CACUL1 | 1 |
| SFXN4 | 1 |
| RGS10 | 1 |
| HTRA1 | 1 |
| MKI67 | 1 |
| MGMT | 1 |
| FUOM | 1 |
| IFITM3 | 1 |

| | |
|----------|---|
| CD151 | 1 |
| TSPAN4 | 1 |
| CHID1 | 1 |
| AP2A2 | 1 |
| IFITM10 | 1 |
| CTSD | 1 |
| ASCL2 | 1 |
| CD81 | 1 |
| SLC22A18 | 1 |
| STIM1 | 1 |
| TPP1 | 1 |
| PPFIBP2 | 1 |
| TMEM9B | 1 |
| ADM | 1 |
| LYVE1 | 1 |
| PLEKHA7 | 1 |
| NUCB2 | 1 |
| TMEM86A | 1 |
| CD59 | 1 |
| LMO2 | 1 |
| APIP | 1 |
| HSD17B12 | 1 |
| EXT2 | 1 |
| CKAP5 | 1 |
| ACP2 | 1 |
| NR1H3 | 1 |
| SPI1 | 1 |
| MTCH2 | 1 |
| UBE2L6 | 1 |
| SERPING1 | 1 |
| CTNND1 | 1 |
| MPEG1 | 1 |
| MS4A6A | 1 |
| MS4A4A | 1 |
| MS4A7 | 1 |
| MS4A14 | 1 |
| CYB561A3 | 1 |
| TMEM138 | 1 |
| RAB3IL1 | 1 |
| B3GAT3 | 1 |
| C11orf83 | 1 |
| TMEM179B | 1 |
| ATL3 | 1 |
| RTN3 | 1 |
| MARK2 | 1 |
| COX8A | 1 |
| VEGFB | 1 |

| | |
|---------------|---|
| PRDX5 | 1 |
| BATF2 | 1 |
| ARL2 | 1 |
| CCDC85B | 1 |
| YIF1A | 1 |
| ZDHHC24 | 1 |
| CTSF | 1 |
| ADRBK1 | 1 |
| POLD4 | 1 |
| TMEM134 | 1 |
| NDUFV1 | 1 |
| UNC93B1 | 1 |
| ALDH3B1 | 1 |
| CCND1 | 1 |
| LAMTOR1 | 1 |
| FOLR2 | 1 |
| INPPL1 | 1 |
| SLCO2B1 | 1 |
| TPBGL | 1 |
| ARRB1 | 1 |
| ACER3 | 1 |
| NDUFC2 | 1 |
| ALG8 | 1 |
| TMEM126A | 1 |
| CTSC | 1 |
| ALKBH8 | 1 |
| ACAT1 | 1 |
| SDHD | 1 |
| IL18 | 1 |
| PTS | 1 |
| CADM1 | 1 |
| USP2 | 1 |
| ROBO3 | 1 |
| SLC37A2 | 1 |
| TMEM218 | 1 |
| RP11-480C22.1 | 1 |
| ST14 | 1 |
| NINJ2 | 1 |
| C12orf5 | 1 |
| DYRK4 | 1 |
| CD9 | 1 |
| LTBR | 1 |
| TAPBPL | 1 |
| PTMS | 1 |
| CD4 | 1 |
| LPCAT3 | 1 |
| CD163L1 | 1 |

| | |
|-----------|---|
| CD163 | 1 |
| C3AR1 | 1 |
| M6PR | 1 |
| A2M | 1 |
| CLEC2B | 1 |
| CREBL2 | 1 |
| HEBP1 | 1 |
| PLBD1 | 1 |
| H2AFJ | 1 |
| DERA | 1 |
| CMAS | 1 |
| ITPR2 | 1 |
| TM7SF3 | 1 |
| ZCRB1 | 1 |
| SLC48A1 | 1 |
| TMBIM6 | 1 |
| COX14 | 1 |
| METTL7A | 1 |
| NR4A1 | 1 |
| ITGB7 | 1 |
| SMUG1 | 1 |
| BLOC1S1 | 1 |
| ESYT1 | 1 |
| CNPY2 | 1 |
| LRP1 | 1 |
| PIP4K2C | 1 |
| OS9 | 1 |
| TSPAN31 | 1 |
| FAM19A2 | 1 |
| GNS | 1 |
| TMEM19 | 1 |
| PLXNC1 | 1 |
| IKBIP | 1 |
| ARL1 | 1 |
| CHPT1 | 1 |
| GNPTAB | 1 |
| CCDC53 | 1 |
| IGF1 | 1 |
| HSP90B1 | 1 |
| APPL2 | 1 |
| CMKLR1 | 1 |
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| DHRS4L2 | 1 |
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| GMPR2 | 1 |
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| SNX6 | 1 |
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| FAM173A | 1 |
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| GOT2 | 1 |

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| CCL4L2 | 1 |
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| SPATA20 | 1 |
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| CD300LF | 1 |
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| MRO | 1 |
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| WDR7 | 1 |
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| KDSR | 1 |
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| PIGT | 1 |
| CTSA | 1 |
| PLTP | 1 |
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| BSG | 1 |
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| CALR | 1 |
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| GIPC1 | 1 |
| DNAJB1 | 1 |
| TECR | 1 |
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| KLF2 | 1 |
| SMIM7 | 1 |
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| ERCC2 | 1 |
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| S100A8 | 2 |
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| CXCL3 | 2 |

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| AREG | 2 |
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| RP11-462G22.1 | 2 |
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| PURB | 2 |
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| PGK1 | 2 |
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| TKTL1 | 2 |
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| PAG1 | 2 |
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| SDC2 | 2 |
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| MSANTD3 | 2 |
| SLC44A1 | 2 |
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| TNFSF8 | 2 |
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| HNRNPF | 2 |
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| P4HA1 | 2 |
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| NRIP3 | 2 |
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| MMP1 | 2 |
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| CLEC4E | 2 |
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| GPR84 | 2 |
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| USP12 | 2 |
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| ERO1L | 2 |
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| RP11-349A22.5 | 2 |
| PRKCH | 2 |
| RP11-47I22.2 | 2 |
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| HIF1A-AS2 | 2 |
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| AQP9 | 2 |
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| CA12 | 2 |
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| METTL9 | 2 |

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| CCL2 | 2 |
| CCL23 | 2 |
| CCL3 | 2 |
| CCL4 | 2 |
| CCL3L3 | 2 |
| CCL4L1 | 2 |
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| RP11-806H10.4 | 2 |
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| EPB41L3 | 2 |
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| SERPINB2 | 2 |
| SERPINB8 | 2 |
| SMOX | 2 |

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| SDC4 | 2 |
| B4GALT5 | 2 |
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| SEMA6B | 2 |
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| SIGLEC14 | 2 |
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| FPR2 | 2 |
| OSCAR | 2 |
| LILRA2 | 2 |
| FCAR | 2 |
| CTB-61M7.2 | 2 |
| ZNF787 | 2 |
| MIF | 2 |
| GGT5 | 2 |
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| DNTTIP2 | 3 |
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| S100A10 | 3 |
| RPS27 | 3 |
| ARHGEF2 | 3 |
| TAGLN2 | 3 |
| UAP1 | 3 |
| LAD1 | 3 |
| CD55 | 3 |
| H3F3A | 3 |
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| VRK2 | 3 |
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| MAP4K4 | 3 |
| MIR4435-1HG | 3 |
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| SELK | 3 |
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| ACHE | 3 |
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| AP1S2 | 3 |
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| SYN1 | 3 |
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| YWHAZ | 3 |
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| VDR | 3 |
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| NAA25 | 3 |
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| CTSG | 3 |
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| BAZ1A | 3 |
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| WARS | 3 |
| GPR132 | 3 |
| CRIP1 | 3 |
| THBS1 | 3 |
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| ISG20 | 3 |
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| USP7 | 3 |
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| NDE1 | 3 |
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| CCL17 | 3 |
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| CHERP | 3 |
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| UPB1 | 3 |
| NEFH | 3 |
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| SAMSN1 | 3 |
| RUNX1 | 3 |
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| ERI3 | 4 |
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| HSPB11 | 4 |
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| SERBP1 | 4 |
| TYW3 | 4 |
| ACADM | 4 |
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| PARP1 | 4 |
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| RNASEH1 | 4 |
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| HADHB | 4 |
| SNX17 | 4 |
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| PPIL3 | 4 |
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| MRPS25 | 4 |
| SATB1 | 4 |
| CSRNP1 | 4 |
| RPSA | 4 |
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| UQCRC1 | 4 |
| APEH | 4 |
| CYB561D2 | 4 |
| ABHD14B | 4 |
| TWF2 | 4 |
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| TKT | 4 |
| APPL1 | 4 |
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| FILIP1L | 4 |
| NDUFB4 | 4 |
| HCLS1 | 4 |
| CNBP | 4 |
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| RAP2B | 4 |
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| JMY | 4 |
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| HLA-DRB1 | 4 |
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| PSMB9 | 4 |
| HLA-DPA1 | 4 |
| HLA-DPB1 | 4 |
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| UQCC2 | 4 |

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| C1GALT1 | 4 |
| RPA3 | 4 |
| AHR | 4 |
| TOMM7 | 4 |
| CYCS | 4 |
| CPVL | 4 |
| GGCT | 4 |
| LSM5 | 4 |
| AOAH | 4 |
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| XIST | 4 |
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| SLC25A5 | 4 |
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| RPL12 | 4 |
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| UBAC1 | 4 |
| CARD9 | 4 |
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| GDI2 | 4 |
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| RSU1 | 4 |
| APBB1IP | 4 |
| RASSF4 | 4 |
| ALOX5 | 4 |
| TSPAN15 | 4 |
| PALD1 | 4 |
| MRPS16 | 4 |
| CHCHD1 | 4 |
| ADK | 4 |
| GLUD1 | 4 |
| EXOC6 | 4 |
| ENTPD1 | 4 |
| EXOSC1 | 4 |
| BLOC1S2 | 4 |
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| NPM3 | 4 |
| FBXL15 | 4 |
| PRDX3 | 4 |
| UROS | 4 |
| GLRX3 | 4 |
| ECHS1 | 4 |
| RNH1 | 4 |
| TALDO1 | 4 |
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| MRPL17 | 4 |
| RPL27A | 4 |

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| POLR2G | 4 |
| RARRES3 | 4 |
| DNAJC4 | 4 |
| TRMT112 | 4 |
| RNASEH2C | 4 |
| FIBP | 4 |
| DRAP1 | 4 |
| BANF1 | 4 |
| MRPL11 | 4 |
| CORO1B | 4 |
| GSTP1 | 4 |
| NDUFS8 | 4 |
| COA4 | 4 |
| UCP2 | 4 |
| CLNS1A | 4 |
| PRCP | 4 |
| TMEM126B | 4 |
| C11orf73 | 4 |
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| PAFAH1B2 | 4 |
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| LIMA1 | 4 |
| BIN2 | 4 |
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| PA2G4 | 4 |
| MYL6B | 4 |
| ATP5B | 4 |
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| GPN3 | 4 |
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| ERP29 | 4 |
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| PXMP2 | 4 |
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| EPSTI1 | 4 |
| DNAJC15 | 4 |
| ESD | 4 |

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| RNASEH2B | 4 |
| VPS36 | 4 |
| GPR183 | 4 |
| GAS6 | 4 |
| OSGEP | 4 |
| APEX1 | 4 |
| RNASE2 | 4 |
| NDRG2 | 4 |
| OXA1L | 4 |
| HAUS4 | 4 |
| PSMB5 | 4 |
| PSME2 | 4 |
| NEDD8 | 4 |
| FKBP3 | 4 |
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| ACTR10 | 4 |
| TIMM9 | 4 |
| CHURC1 | 4 |
| ZFP36L1 | 4 |
| COX16 | 4 |
| SLIRP | 4 |
| FOXN3 | 4 |
| NDUFB1 | 4 |
| C14orf2 | 4 |
| PLD4 | 4 |
| EMC4 | 4 |
| SRP14 | 4 |
| DUT | 4 |
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| UBL7 | 4 |
| COX5A | 4 |
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| SEC11A | 4 |
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| FES | 4 |
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| C16orf13 | 4 |

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| THOC6 | 4 |
| CORO7 | 4 |
| HMOX2 | 4 |
| NAGPA | 4 |
| EMP2 | 4 |
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| GGA2 | 4 |
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| CHD9 | 4 |
| HERPUD1 | 4 |
| CIAPIN1 | 4 |
| CKLF | 4 |
| NAE1 | 4 |
| COTL1 | 4 |
| COX4I1 | 4 |
| RNF166 | 4 |
| APRT | 4 |
| SERPINF1 | 4 |
| TAX1BP3 | 4 |
| PSMB6 | 4 |
| SLC25A11 | 4 |
| PFN1 | 4 |
| RPAIN | 4 |
| C1QBP | 4 |
| CLEC10A | 4 |
| ASGR1 | 4 |
| TMEM256 | 4 |
| ZBTB4 | 4 |
| LSMD1 | 4 |
| RANGRF | 4 |
| ZSWIM7 | 4 |
| LGALS9 | 4 |
| EVI2B | 4 |
| UTP6 | 4 |
| VPS25 | 4 |
| SLC25A39 | 4 |
| ATP5G1 | 4 |
| PHB | 4 |
| NME1 | 4 |
| MMD | 4 |
| SKA2 | 4 |

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| DCAF7 | 4 |
| PSMC5 | 4 |
| GNA13 | 4 |
| PRKCA | 4 |
| HN1 | 4 |
| MRPS7 | 4 |
| MIF4GD | 4 |
| SLC25A19 | 4 |
| GALK1 | 4 |
| SYNGR2 | 4 |
| C17orf89 | 4 |
| ANAPC11 | 4 |
| STRA13 | 4 |
| DCXR | 4 |
| GPS1 | 4 |
| CCDC57 | 4 |
| OGFOD3 | 4 |
| PSMG2 | 4 |
| TPGS2 | 4 |
| ATP5A1 | 4 |
| IER3IP1.1 | 4 |
| CYB5A | 4 |
| TXNL4A | 4 |
| PSMF1 | 4 |
| ITPA | 4 |
| C20orf27 | 4 |
| TMEM230 | 4 |
| PCNA | 4 |
| DSTN | 4 |
| CST3 | 4 |
| APMAP | 4 |
| ACSS1 | 4 |
| COMMD7 | 4 |
| AHCY | 4 |
| DYNLRB1 | 4 |
| ERGIC3 | 4 |
| BLCAP | 4 |
| CD40 | 4 |
| PFDN4 | 4 |
| ATP5E | 4 |
| PSMA7 | 4 |
| PPDPF | 4 |
| ATP5D | 4 |
| MKNK2 | 4 |
| PLEKHJ1 | 4 |
| C19orf70 | 4 |
| NDUFA11 | 4 |

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|------------|-------|---|
| ALKBH7 | | 4 |
| | 2-Mar | 4 |
| MYO1F | | 4 |
| EIF3G | | 4 |
| DNMT1 | | 4 |
| MRPL4 | | 4 |
| WDR83OS | | 4 |
| JUNB | | 4 |
| PRDX2 | | 4 |
| GADD45GIP1 | | 4 |
| C19orf53 | | 4 |
| PKN1 | | 4 |
| PGLS | | 4 |
| CCDC124 | | 4 |
| IFI30 | | 4 |
| LSM4 | | 4 |
| NDUFA13 | | 4 |
| URI1 | | 4 |
| FXYD5 | | 4 |
| POLR2I | | 4 |
| SPINT2 | | 4 |
| KCNK6 | | 4 |
| EIF3K | | 4 |
| ECH1 | | 4 |
| MRPS12 | | 4 |
| ZFP36 | | 4 |
| EXOSC5 | | 4 |
| RPS19 | | 4 |
| PAFAH1B3 | | 4 |
| ZNF428 | | 4 |
| TRAPPC6A | | 4 |
| BAX | | 4 |
| CD37 | | 4 |
| ALDH16A1 | | 4 |
| ETFB | | 4 |
| UBE2S | | 4 |
| ISOC2 | | 4 |
| ZNF524 | | 4 |
| RPS5 | | 4 |
| MRPL40 | | 4 |
| TANGO2 | | 4 |
| RANBP1 | | 4 |
| CHCHD10 | | 4 |
| SNRPD3 | | 4 |
| RTCB | | 4 |
| TXN2 | | 4 |
| LGALS2 | | 4 |

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| POLR2F | 4 |
| TOMM22 | 4 |
| APOBEC3C | 4 |
| RPL3 | 4 |
| TNRC6B | 4 |
| ADSL | 4 |
| ST13 | 4 |
| RBX1 | 4 |
| NHP2L1 | 4 |
| SMDT1 | 4 |
| NDUFA6 | 4 |
| RRP7A | 4 |
| TSPO | 4 |
| SAMM50 | 4 |
| PARVG | 4 |
| DENND6B | 4 |
| TYMP | 4 |
| CCT8 | 4 |
| SOD1 | 4 |
| ATP5O | 4 |
| PFKL | 4 |
| SUMO3 | 4 |
| YBEY | 4 |
| S100B | 4 |
| PRMT2 | 4 |