Table S26: GO component analysis of ranked signals from CEU population using the T_2 test statistic.

Description	p-value	Enrichment	Genes
Integral to lumenal side of endoplasmic reticulum membrane	2.8×10^{-14}	73.0	*HLA-A*, *HLA-B*, *HLA-C*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQB1*, *HLA-DRA*, *HLA-DRB1*
ER to Golgi transport vesicle membrane	1.9×10^{-13}	60.9	*HLA-A*, *HLA-B*, *HLA-C*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQB1*, *HLA-DRA*, *HLA-DRB1*
Plasma membrane	5.7×10^{-13}	1.5	*ABCA1*, *ABCA4*, *ABCB5*, *ABCG8*, *ACPP*, *ADAM12*, *ADAM28*, *ADCY3*, *ADCY5*, *ADD2*, *ALDH9A1*, *ALPL*, *ANGPT1*, *ANGPT2*, *ANK2*, *ANK3*, *ANKS1B*, *ANO2*, *APBB1IP*, *ARHGAP24*, *ARHGEF18*, *ASAH2*, *ATP10D*, *ATP12A*, *ATP2B4*, *ATP6V0A4*, *ATP8A1*, *BAI3*, *BLNK*, *BMPR1B*, *BNC2*, *BTN3A1*, *BTN3A2*, *CACNA1A*, *CACNA1C*, *CADM2*, *CALN1*, *CAP1*, *CASR*, *CDH10*, *CDH13*, *CDH4*, *CDON*, *CHD1L*, *CHRM2*, *CHRNB3*, *CLDN10*, *CLDN14*, *CLEC12A*, *CLSTN2*, *CNGA3*, *CNR2*, *CNTN1*, *CNTN4*, *CNTN5*, *COL13A1*, *CPE*, *CSMD2*, *CSMD3*, *CUBN*, *CYBRD1*, *DCC*, *DCHS2*, *DGKH*, *DIO1*, *DISC1*, *DLG2*, *DLGAP1*, *DNER*, *DSC1*, *DSCAM*, *DSG1*, *DSG3*, *DTNA*, *DYM*, *DYNC2H1*, *DYSF*, *DYTN*, *ELMO1*, *ELTD1*, *EMID2*, *ENPP1*, *ENPP6*, *ERBB4*, *ESYT2*, *F5*, *FABP2*, *FAS*, *FAT2*, *FHIT*, *FLVCR1*, *FNDC1*, *FRAS1*, *FRMPD1*, *FSHR*, *GABBR1*, *GABRB2*, *GABRG3*, *GABRR1*, *GFRAL*, *GPC5*, *GPC6*, *GPHN*, *GPR111*, *GPR139*, *GPR146*, *GPR158*, *GPR39*, *GRB10*, *GRIA1*, *GRID2*, *GRIK2*, *GRIN2A*, *GRIP1*, *GRIP2*, *GRM5*, *GRM8*, *HLA-A*, *HLA-B*, *HLA-C*, *HLA-DOA*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQA2*, *HLA-DQB1*, *HLA-DQB2*, *HLA-DRA*, *HLA-DRB1*, *HLA-DRB5*, *HLA-G*, *HPSE2*, *IGSF5*, *INADL*, *INPP5D*, *ITGA1*, *IYD*, *KCNAB1*, *KCNH7*, *KCNIP4*, *KCNJ12*, *KCNK2*, *KCNMB2*, *KCNMB3*, *KCNQ3*, *KCNQ5*, *KIRREL3*, *KITLG*, *KL*, *KLRB1*, *KNG1*, *LAMA2*, *LHCGR*, *LPP*, *LRFN2*, *LRRC52*, *LSAMP*, *LYPD6B*, *MAGI2*, *MAPT*, *MARCH1*, *MDGA2*, *MPP5*, *MRAP2*, *MTUS1*, *MUC16*, *MYH9*, *MYO10*, *MYO16*, *MYO1B*, *MYOF*, *NBEA*, *NCAM2*, *NCS1*, *NEDD4*, *NETO1*, *NKAIN1*, *NKAIN3*, *NMUR2*, *NOTCH4*, *NPSR1*, *NRCAM*, *NRP1*, *NRXN1*, *NSL1*, *NTM*, *NTN4*, *NUP35*, *OPCML*, *OPRK1*, *OR10AG1*, *OR10C1*, *OR12D2*, *OR13C5*, *OR14A16*, *OR1N2*, *OR2AK2*, *OR2L13*, *OR2W3*, *OR4C3*, *OR4C45*, *OR51B2*, *OR51B6*, *OR51E1*, *OR51F1*, *OR51I2*, *OR51M1*, *OR52E2*, *OR52E6*, *OR52J3*, *OR52N4*, *OR5AC2*, *OR5F1*, *OR5I1*, *OR5P2*, *OR5W2*, *OR8H3*, *OR8I2*, *OR9K2*, *PALM2*, *PCDH15*, *PCDH17*, *PCDHA12*, *PCDHA13*, *PCDHA9*, *PDIA6*, *PHLDB2*, *PIK3C2B*, *PKDREJ*, *PKP1*, *PKP2*, *PLA2R1*, *PLCG2*, *PLSCR1*, *PLXNA4*, *PPYR1*, *PRKCE*, *PRKG1*, *PSD3*, *PTPN13*, *PTPRT*, *PTPRU*, *RAB31*, *RAMP3*, *RGS3*, *RGS6*, *RGS7*, *RIMBP2*, *RIMS2*, *RNPEP*, *RPSA*, *RTKN2*, *RYR2*, *SCARB1*, *SCN3B*, *SDF4*, *SELE*, *SEMA5A*, *SEMA6D*, *SGCG*, *SGCZ*, *SIRPA*, *SKAP2*, *SLC10A2*, *SLC12A6*, *SLC14A1*, *SLC14A2*, *SLC15A2*, *SLC16A14*, *SLC19A3*, *SLC1A2*, *SLC24A4*, *SLC27A6*, *SLC28A1*, *SLC28A3*, *SLC2A9*, *SLC7A7*, *SLC8A1*, *SLC9A4*, *SLCO1B1*, *SLCO1B3*, *SLCO5A1*, *SLCO6A1*, *SNCA*, *SNTG2*, *SPRED1*, *STYK1*, *SWAP70*, *SYK*, *TANC1*, *TAP1*, *TAP2*, *TEC*, *TECTA*, *TEK*, *TES*, *THSD7A*, *TIAM1*, *TPO*, *TRPC4*, *TRPC6*, *TSHR*, *TULP3*, *UNC13C*, *UNC93A*, *VAV2*, *VAV3*, *VNN1*, *WWOX*
MHC protein complex	7.5×10^{-13}	53.7	*HLA-A*, *HLA-B*, *HLA-C*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQB1*, *HLA-DRA*, *HLA-DRB1*
Transport vesicle membrane	7.9×10^{-13}	55.3	*CPE*, *HLA-A*, *HLA-B*, *HLA-C*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQB1*, *HLA-DRB1*

GO categories in which false discovery rate is less than 0.01.

Table S26 continued.

Description	p-value	Enrichment	Genes
Intrinsic to membrane	1.0×10^{-12}	1.3	*ABCA1*, *ABCA13*, *ABCA4*, *ABCB5*, *ABCG8*, *ABO*, *ACBD5*, *ACPP*, *ADAM12*, *ADAM28*, *ADAM29*, *ADCY3*, *ADCY5*, *AIFM2*, *AJAP1*, *ALK*, *ALPL*, *ANK2*, *ART3*, *ASAH2*, *ASIC2*, *ASTN2*, *ATP10D*, *ATP2B4*, *ATP2C2*, *ATP6V0A4*, *ATP8A1*, *ATRNL1*, *BAI3*, *BMPR1B*, *BRI3BP*, *BTBD11*, *BTN3A1*, *BTN3A2*, *CACNA1A*, *CACNA1C*, *CACNA2D3*, *CADM2*, *CALN1*, *CASR*, *CDH10*, *CDH13*, *CDH4*, *CDHR2*, *CDKAL1*, *CDON*, *CHODL*, *CHRM2*, *CHRNB3*, *CHST11*, *CLCNKB*, *CLDN1*, *CLDN10*, *CLDN14*, *CLEC12A*, *CLEC1A*, *CLEC1B*, *CLEC6A*, *CLSTN2*, *CMTM7*, *CMTM8*, *CNGA3*, *CNR2*, *CNTN1*, *CNTN4*, *CNTN5*, *CNTNAP2*, *CNTNAP4*, *CNTNAP5*, *COL13A1*, *COL23A1*, *COLEC12*, *CSMD1*, *CSMD2*, *CSMD3*, *CUX1*, *CXADR*, *CYBRD1*, *CYP2E1*, *CYP4F12*, *CYP4F3*, *CYP4Z1*, *DAD1*, *DCC*, *DCHS2*, *DDR1*, *DERL3*, *DIO1*, *DISP1*, *DNER*, *DPP6*, *DPY19L4*, *DSC1*, *DSCAM*, *DSG1*, *DSG3*, *DYSF*, *ELOVL2*, *ELTD1*, *EMR1*, *ENPP1*, *ENPP6*, *EPHA6*, *EPHA7*, *EPHB1*, *ERAP1*, *ERAP2*, *ERBB4*, *ESYT2*, *EVC*, *EVC2*, *FAM189A1*, *FAS*, *FAT2*, *FAT3*, *FAT4*, *FCER2*, *FER1L6*, *FLT3*, *FLVCR1*, *FMO2*, *FMO5*, *FRAS1*, *FRRS1*, *FSHR*, *FUT9*, *GABBR1*, *GABRB2*, *GABRG3*, *GABRR1*, *GALNT10*, *GALNT2*, *GALNTL4*, *GALNTL6*, *GFRAL*, *GPC5*, *GPC6*, *GPR111*, *GPR139*, *GPR146*, *GPR158*, *GPR39*, *GRID2*, *GRIK2*, *GRIK3*, *GRIN2A*, *GRM5*, *GRM7*, *GRM8*, *HHAT*, *HHLA2*, *HLA-A*, *HLA-B*, *HLA-C*, *HLA-DOA*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQA2*, *HLA-DQB1*, *HLA-DQB2*, *HLA-DRA*, *HLA-DRB1*, *HLA-DRB5*, *HLA-G*, *HS3ST4*, *HS6ST3*, *IFI27L1*, *IGSF5*, *IL12RB2*, *IL1RL2*, *IMMP2L*, *ITPR2*, *IYD*, *KCNAB1*, *KCNH7*, *KCNJ12*, *KCNMB2*, *KCNMB3*, *KIAA0922*, *KIAA1324L*, *KIRREL3*, *KITLG*, *KL*, *KLRB1*, *LAMP3*, *LAPTM4B*, *LGR5*, *LHCGR*, *LHFPL2*, *LRFN2*, *LRFN5*, *LRP1B*, *LRRC52*, *LSAMP*, *LYPD6B*, *MAN1A1*, *MARCH1*, *MARCH4*, *MDGA2*, *MEGF10*, *MEGF11*, *MGAT1*, *MGAT5*, *MGST3*, *MRS2*, *MS4A12*, *MUC12*, *MUC16*, *MUC22*, *MYOF*, *NAALADL2*, *NALCN*, *NCAM2*, *NDST3*, *NDUFB1*, *NDUFB4*, *NETO1*, *NFASC*, *NKAIN1*, *NKAIN3*, *NMUR1*, *NMUR2*, *NOTCH4*, *NPSR1*, *NRCAM*, *NRG1*, *NRG3*, *NRP1*, *NRXN1*, *NTM*, *OCA2*, *ODZ3*, *ODZ4*, *OMA1*, *OPCML*, *OPRK1*, *OR10AG1*, *OR10C1*, *OR12D2*, *OR13C5*, *OR14A16*, *OR1L8*, *OR1N2*, *OR2AK2*, *OR2L13*, *OR2W3*, *OR4C3*, *OR4C45*, *OR51B2*, *OR51B6*, *OR51E1*, *OR51F1*, *OR51I2*, *OR51M1*, *OR52E2*, *OR52E6*, *OR52J3*, *OR52N4*, *OR5AC2*, *OR5F1*, *OR5I1*, *OR5P2*, *OR5W2*, *OR8H3*, *OR8I2*, *OR9K2*, *OTOP1*, *PCDH15*, *PCDH17*, *PCDHA1*, *PCDHA10*, *PCDHA11*, *PCDHA12*, *PCDHA13*, *PCDHA2*, *PCDHA3*, *PCDHA4*, *PCDHA5*, *PCDHA6*, *PCDHA7*, *PCDHA8*, *PCDHA9*, *PCDHAC1*, *PCNXL2*, *PDE3A*, *PGBD5*, *PI16*, *PIEZO2*, *PIGG*, *PINK1*, *PKD1L1*, *PKD1L2*, *PKDREJ*, *PKHD1*, *PKP2*, *PLA2R1*, *PLAUR*, *PLD5*, *PLEKHH2*, *PLSCR1*, *PLXDC2*, *PLXNA4*, *PNPLA3*, *PPYR1*, *PRPH2*, *PTCHD3*, *PTCHD4*, *PTPRB*, *PTPRD*, *PTPRF*, *PTPRM*, *PTPRT*, *PTPRU*, *QSOX1*, *RAMP3*, *RASAL1*, *RNF144B*, *RNF150*, *ROBO2*, *RRP12*, *RYR3*, *SCARB1*, *SCD5*, *SCN3B*, *SCNN1G*, *SDK1*, *SEC22A*, *SEC61B*, *SELE*, *SEMA5A*, *SEMA6D*, *SGCG*, *SGCZ*, *SIRPA*, *SLC10A2*, *SLC12A6*, *SLC12A8*, *SLC14A1*, *SLC14A2*, *SLC15A2*, *SLC15A5*, *SLC16A14*, *SLC17A5*, *SLC19A3*, *SLC1A2*, *SLC22A9*, *SLC24A4*, *SLC25A21*, *SLC25A25*, *SLC25A37*, *SLC27A6*, *SLC28A1*, *SLC28A3*, *SLC2A9*, *SLC30A9*, *SLC35B3*, *SLC35F3*, *SLC37A1*, *SLC38A9*, *SLC39A11*, *SLC5A12*, *SLC7A7*, *SLC8A1*, *SLC9A4*, *SLC9A9*, *SLC9C1*, *SLCO1B1*, *SLCO1B3*, *SLCO5A1*, *SLCO6A1*, *SORCS1*, *SORCS2*, *SORCS3*, *SPCS3*, *SPPL2C*, *SPTB*, *SPTLC3*, *SSR1*, *ST6GALNAC3*, *ST8SIA1*, *ST8SIA6*, *STEAP1B*, *STXBP6*, *STYK1*, *SYBU*, *SYNE1*, *SYNJ2BP*, *SYNPR*, *SYT9*, *TAP1*, *TAP2*, *TAS2R19*, *TAS2R20*, *TECTA*, *TEK*, *THSD7A*, *THSD7B*, *TM4SF4*, *TMC2*, *TMCC3*, *TMCO4*, *TMEM106B*, *TMEM117*, *TMEM128*, *TMEM132B*, *TMEM132C*, *TMEM132D*, *TMEM156*, *TMEM163*, *TMEM17*, *TMEM2*, *TMEM220*, *TMEM229B*, *TMEM244*, *TMEM51*, *TMEM63C*, *TMPRSS15*, *TMTC1*, *TMTC2*, *TNFRSF11A*, *TPO*, *TRAM2*, *TRHDE*, *TRPA1*, *TRPC4*, *TRPC6*, *TRPM3*, *TSHR*, *TSPAN9*, *UGT2A1*, *UGT2B7*, *UNC5C*, *UNC80*, *UNC93A*, *UST*, *VNN1*, *VOPP1*, *VSTM2B*, *WBSCR17*, *WDR11*, *XKR6*, *XXYLT1*, *XYLT1*, *YIPF1*, *ZDHHC14*, *ZDHHC7*

GO categories in which false discovery rate is less than 0.01.

Table S26 continued.

Description	p-value	Enrichment	Genes
Membrane part	1.9×10^{-12}	1.3	*ABCA1*, *ABCA13*, *ABCA4*, *ABCB5*, *ABCG8*, *ABO*, *ACBD5*, *ACPP*, *ADAM12*, *ADAM28*, *ADAM29*, *ADCY3*, *ADCY5*, *AIFM2*, *AJAP1*, *AKAP6*, *ALK*, *ALPL*, *ANGPT1*, *ANK2*, *ANK3*, *ANO2*, *ANO3*, *ARHGEF4*, *ART3*, *ASAH2*, *ASIC2*, *ASTN2*, *ATP10D*, *ATP12A*, *ATP2B4*, *ATP2C2*, *ATP6V0A4*, *ATP8A1*, *ATRNL1*, *BAI3*, *BBS9*, *BMPR1B*, *BRI3BP*, *BTBD11*, *BTN3A1*, *BTN3A2*, *C8A*, *CACNA1A*, *CACNA1C*, *CACNA2D3*, *CADM2*, *CALN1*, *CAMK2D*, *CASQ2*, *CASR*, *CATSPERB*, *CDH10*, *CDH13*, *CDH4*, *CDHR2*, *CDKAL1*, *CDON*, *CHODL*, *CHRM2*, *CHRNB3*, *CHST11*, *CLCNKB*, *CLDN1*, *CLDN10*, *CLDN14*, *CLEC12A*, *CLEC1A*, *CLEC1B*, *CLEC6A*, *CLSTN2*, *CMTM7*, *CMTM8*, *CNGA3*, *CNR2*, *CNTN1*, *CNTN4*, *CNTN5*, *CNTNAP2*, *CNTNAP4*, *CNTNAP5*, *COL13A1*, *COL23A1*, *COLEC12*, *CSMD1*, *CSMD2*, *CSMD3*, *CTNNA2*, *CUBN*, *CUX1*, *CXADR*, *CXCL12*, *CYBRD1*, *CYP2E1*, *CYP4F11*, *CYP4F12*, *CYP4F2*, *CYP4F3*, *CYP4Z1*, *DAB2*, *DAD1*, *DCC*, *DCHS2*, *DDR1*, *DERL3*, *DIO1*, *DISP1*, *DLC1*, *DMBT1*, *DNER*, *DPP6*, *DPY19L4*, *DSC1*, *DSCAM*, *DSG1*, *DSG3*, *DYSF*, *ELOVL2*, *ELTD1*, *EMR1*, *ENPP1*, *ENPP6*, *EPHA6*, *EPHA7*, *EPHB1*, *ERAP1*, *ERAP2*, *ERBB4*, *ERO1LB*, *ESYT2*, *EVC*, *EVC2*, *FAM163A*, *FAM189A1*, *FAS*, *FAT2*, *FAT3*, *FAT4*, *FCER2*, *FER*, *FER1L6*, *FGD5*, *FLT3*, *FLVCR1*, *FMO2*, *FMO5*, *FRAS1*, *FRRS1*, *FSHR*, *FUT9*, *GABBR1*, *GABRB2*, *GABRG3*, *GABRR1*, *GALNT10*, *GALNT2*, *GALNTL4*, *GALNTL6*, *GFRAL*, *GOLM1*, *GPC5*, *GPC6*, *GPR111*, *GPR139*, *GPR146*, *GPR158*, *GPR39*, *GRIA1*, *GRID2*, *GRIK2*, *GRIK3*, *GRIN2A*, *GRIP1*, *GRM5*, *GRM7*, *GRM8*, *HHAT*, *HHLA2*, *HK1*, *HLA-A*, *HLA-B*, *HLA-C*, *HLA-DOA*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQA2*, *HLA-DQB1*, *HLA-DQB2*, *HLA-DRA*, *HLA-DRB1*, *HLA-DRB5*, *HLA-G*, *HMGCLL1*, *HPSE*, *HS3ST4*, *HS6ST3*, *IFI27L1*, *IGSF5*, *IL12RB2*, *IL1RL2*, *IMMP2L*, *INADL*, *ITGA1*, *ITGA2*, *ITGB5*, *ITGBL1*, *ITPR2*, *IYD*, *KANK1*, *KCNA6*, *KCNAB1*, *KCNH7*, *KCNJ12*, *KCNK2*, *KCNMB2*, *KCNMB3*, *KCNQ3*, *KCNQ5*, *KIAA0922*, *KIAA1324L*, *KIRREL3*, *KITLG*, *KL*, *KLHL14*, *KLRB1*, *LAMP3*, *LAPTM4B*, *LGR5*, *LHCGR*, *LHFPL2*, *LRFN2*, *LRFN5*, *LRP1B*, *LRRC52*, *LSAMP*, *LYN*, *LYPD6B*, *MAN1A1*, *MARCH1*, *MARCH4*, *MDGA2*, *MEGF10*, *MEGF11*, *MGAT1*, *MGAT5*, *MGST3*, *MRS2*, *MS4A12*, *MUC12*, *MUC16*, *MUC22*, *MYH9*, *MYO10*, *MYOF*, *NAALADL2*, *NALCN*, *NAV3*, *NCALD*, *NCAM2*, *NDST3*, *NDUFA12*, *NDUFB1*, *NDUFB4*, *NEDD4*, *NETO1*, *NFASC*, *NKAIN1*, *NKAIN3*, *NMUR1*, *NMUR2*, *NOTCH4*, *NOXO1*, *NPSR1*, *NRCAM*, *NRG1*, *NRG3*, *NRP1*, *NRXN1*, *NTM*, *NUP210*, *NUP35*, *NUP88*, *OCA2*, *ODZ3*, *ODZ4*, *OMA1*, *OPCML*, *OPRK1*, *OR10AG1*, *OR10C1*, *OR12D2*, *OR13C5*, *OR14A16*, *OR1L8*, *OR1N2*, *OR2AK2*, *OR2L13*, *OR2W3*, *OR4C3*, *OR4C45*, *OR51B2*, *OR51B6*, *OR51E1*, *OR51F1*, *OR51I2*, *OR51M1*, *OR52E2*, *OR52E6*, *OR52J3*, *OR52N4*, *OR5AC2*, *OR5F1*, *OR5I1*, *OR5P2*, *OR5W2*, *OR8H3*, *OR8I2*, *OR9K2*, *OTOP1*, *PCDH15*, *PCDH17*, *PCDHA1*, *PCDHA10*, *PCDHA11*, *PCDHA12*, *PCDHA13*, *PCDHA2*, *PCDHA3*, *PCDHA4*, *PCDHA5*, *PCDHA6*, *PCDHA7*, *PCDHA8*, *PCDHA9*, *PCDHAC1*, *PCNXL2*, *PCSK9*, *PDE3A*, *PDIA6*, *PGBD5*, *PI16*, *PIEZO2*, *PIGG*, *PINK1*, *PKD1L1*, *PKD1L2*, *PKDREJ*, *PKHD1*, *PKP2*, *PLA2G4C*, *PLA2R1*, *PLAUR*, *PLD1*, *PLD5*, *PLEK*, *PLEKHH2*, *PLSCR1*, *PLXDC2*, *PLXNA4*, *PNPLA3*, *PPYR1*, *PRKAB2*, *PRPH2*, *PTCHD3*, *PTCHD4*, *PTGS1*, *PTPRB*, *PTPRD*, *PTPRF*, *PTPRM*, *PTPRT*, *PTPRU*, *QSOX1*, *RAB27A*, *RAMP3*, *RASAL1*, *RGS6*, *RGS7*, *RNF144B*, *RNF150*, *RNPEP*, *ROBO2*, *RRP12*, *RYR2*, *RYR3*, *SCARB1*, *SCD5*, *SCN3B*, *SCNN1G*, *SDHA*, *SDK1*, *SEC22A*, *SEC24D*, *SEC61B*, *SELE*, *SEMA5A*, *SEMA6D*, *SGCG*, *SGCZ*, *SHISA9*, *SIRPA*, *SLC10A2*, *SLC12A6*, *SLC12A8*, *SLC14A1*, *SLC14A2*, *SLC15A2*, *SLC15A5*, *SLC16A14*, *SLC17A5*, *SLC19A3*, *SLC1A2*, *SLC22A9*, *SLC24A4*, *SLC25A21*, *SLC25A25*, *SLC25A37*, *SLC27A6*, *SLC28A1*, *SLC28A3*, *SLC2A9*, *SLC30A9*, *SLC35B3*, *SLC35F3*, *SLC37A1*, *SLC38A9*, *SLC39A11*, *SLC5A12*, *SLC7A7*, *SLC8A1*, *SLC9A4*, *SLC9A9*, *SLC9C1*, *SLCO1B1*, *SLCO1B3*, *SLCO5A1*, *SLCO6A1*, *SNTG1*, *SNTG2*, *SNX5*, *SNX9*, *SORCS1*, *SORCS2*, *SORCS3*, *SPATA13*, *SPCS3*, *SPINK5*, *SPPL2C*, *SPRED1*, *SPTB*, *SPTLC3*, *SSR1*, *ST6GALNAC3*, *ST8SIA1*, *ST8SIA6*, *STEAP1B*, *STK39*, *STON2*, *STXBP6*, *STYK1*, *SYBU*, *SYK*, *SYNE1*, *SYNJ2BP*, *SYNPR*, *SYT9*, *TAP1*, *TAP2*, *TAS2R19*, *TAS2R20*, *TECTA*, *TEK*, *THSD7A*, *THSD7B*, *TM4SF4*, *TMC2*, *TMCC3*, *TMCO4*, *TMEM106B*, *TMEM117*, *TMEM128*, *TMEM132B*, *TMEM132C*, *TMEM132D*, *TMEM156*, *TMEM163*, *TMEM17*, *TMEM2*, *TMEM220*, *TMEM229B*, *TMEM244*, *TMEM51*, *TMEM63C*, *TMPRSS15*, *TMTC1*, *TMTC2*, *TNFRSF11A*, *TNR*, *TPO*, *TRAM2*, *TRHDE*, *TRPA1*, *TRPC4*, *TRPC6*, *TRPM3*, *TSHR*, *TSPAN9*, *UGT2A1*, *UGT2B7*, *UNC5C*, *UNC80*, *UNC93A*, *UST*, *VNN1*, *VOPP1*, *VSTM2B*, *VWF*, *WBSCR17*, *WDR11*, *WWC1*, *XKR6*, *XXYLT1*, *XYLT1*, *YIPF1*, *ZDHHC14*, *ZDHHC7*

GO categories in which false discovery rate is less than 0.01.

Table S26 continued.

Description	p-value	Enrichment	Genes
Integral to membrane	4.6×10^{-12}	1.3	*ABCA1*, *ABCA13*, *ABCA4*, *ABCB5*, *ABCG8*, *ABO*, *ACBD5*, *ACPP*, *ADAM12*, *ADAM28*, *ADAM29*, *ADCY3*, *ADCY5*, *AIFM2*, *AJAP1*, *ALK*, *ALPL*, *ANK2*, *ART3*, *ASAH2*, *ASIC2*, *ASTN2*, *ATP10D*, *ATP2B4*, *ATP2C2*, *ATP6V0A4*, *ATP8A1*, *ATRNL1*, *BAI3*, *BMPR1B*, *BRI3BP*, *BTBD11*, *BTN3A1*, *BTN3A2*, *CACNA1A*, *CACNA1C*, *CACNA2D3*, *CADM2*, *CALN1*, *CASR*, *CDH10*, *CDH4*, *CDHR2*, *CDKAL1*, *CDON*, *CHODL*, *CHRM2*, *CHRNB3*, *CHST11*, *CLCNKB*, *CLDN1*, *CLDN10*, *CLDN14*, *CLEC12A*, *CLEC1A*, *CLEC1B*, *CLEC6A*, *CLSTN2*, *CMTM7*, *CMTM8*, *CNGA3*, *CNR2*, *CNTNAP2*, *CNTNAP4*, *CNTNAP5*, *COL13A1*, *COL23A1*, *COLEC12*, *CSMD1*, *CSMD2*, *CSMD3*, *CUX1*, *CXADR*, *CYBRD1*, *CYP4F12*, *CYP4F3*, *CYP4Z1*, *DAD1*, *DCC*, *DCHS2*, *DDR1*, *DERL3*, *DIO1*, *DISP1*, *DNER*, *DPP6*, *DPY19L4*, *DSC1*, *DSCAM*, *DSG1*, *DSG3*, *DYSF*, *ELOVL2*, *ELTD1*, *EMR1*, *ENPP1*, *ENPP6*, *EPHA6*, *EPHA7*, *EPHB1*, *ERAP1*, *ERAP2*, *ERBB4*, *ESYT2*, *EVC*, *EVC2*, *FAM189A1*, *FAS*, *FAT2*, *FAT3*, *FAT4*, *FCER2*, *FER1L6*, *FLT3*, *FLVCR1*, *FMO2*, *FMO5*, *FRAS1*, *FRRS1*, *FSHR*, *FUT9*, *GABBR1*, *GABRB2*, *GABRG3*, *GABRR1*, *GALNT10*, *GALNT2*, *GALNTL4*, *GALNTL6*, *GFRAL*, *GPC5*, *GPC6*, *GPR111*, *GPR139*, *GPR146*, *GPR158*, *GPR39*, *GRID2*, *GRIK2*, *GRIK3*, *GRIN2A*, *GRM5*, *GRM7*, *GRM8*, *HHAT*, *HHLA2*, *HLA-A*, *HLA-B*, *HLA-C*, *HLA-DOA*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQA2*, *HLA-DQB1*, *HLA-DQB2*, *HLA-DRA*, *HLA-DRB1*, *HLA-DRB5*, *HLA-G*, *HS3ST4*, *HS6ST3*, *IFI27L1*, *IGSF5*, *IL12RB2*, *IL1RL2*, *IMMP2L*, *ITPR2*, *IYD*, *KCNAB1*, *KCNH7*, *KCNJ12*, *KCNMB2*, *KCNMB3*, *KIAA0922*, *KIAA1324L*, *KIRREL3*, *KITLG*, *KL*, *KLRB1*, *LAMP3*, *LAPTM4B*, *LGR5*, *LHCGR*, *LHFPL2*, *LRFN2*, *LRFN5*, *LRP1B*, *LRRC52*, *MAN1A1*, *MARCH1*, *MARCH4*, *MEGF10*, *MEGF11*, *MGAT1*, *MGAT5*, *MGST3*, *MRS2*, *MS4A12*, *MUC12*, *MUC16*, *MUC22*, *MYOF*, *NAALADL2*, *NALCN*, *NCAM2*, *NDST3*, *NDUFB1*, *NDUFB4*, *NETO1*, *NFASC*, *NKAIN1*, *NKAIN3*, *NMUR1*, *NMUR2*, *NOTCH4*, *NPSR1*, *NRCAM*, *NRG1*, *NRG3*, *NRP1*, *NRXN1*, *OCA2*, *ODZ3*, *ODZ4*, *OMA1*, *OPCML*, *OPRK1*, *OR10AG1*, *OR10C1*, *OR12D2*, *OR13C5*, *OR14A16*, *OR1L8*, *OR1N2*, *OR2AK2*, *OR2L13*, *OR2W3*, *OR4C3*, *OR4C45*, *OR51B2*, *OR51B6*, *OR51E1*, *OR51F1*, *OR51I2*, *OR51M1*, *OR52E2*, *OR52E6*, *OR52J3*, *OR52N4*, *OR5AC2*, *OR5F1*, *OR5I1*, *OR5P2*, *OR5W2*, *OR8H3*, *OR8I2*, *OR9K2*, *OTOP1*, *PCDH15*, *PCDH17*, *PCDHA1*, *PCDHA10*, *PCDHA11*, *PCDHA12*, *PCDHA13*, *PCDHA2*, *PCDHA3*, *PCDHA4*, *PCDHA5*, *PCDHA6*, *PCDHA7*, *PCDHA8*, *PCDHA9*, *PCDHAC1*, *PCNXL2*, *PDE3A*, *PGBD5*, *PI16*, *PIEZO2*, *PIGG*, *PINK1*, *PKD1L1*, *PKD1L2*, *PKDREJ*, *PKHD1*, *PKP2*, *PLA2R1*, *PLAUR*, *PLD5*, *PLEKHH2*, *PLSCR1*, *PLXDC2*, *PLXNA4*, *PNPLA3*, *PPYR1*, *PRPH2*, *PTCHD3*, *PTCHD4*, *PTPRB*, *PTPRD*, *PTPRF*, *PTPRM*, *PTPRT*, *PTPRU*, *QSOX1*, *RAMP3*, *RNF144B*, *RNF150*, *ROBO2*, *RRP12*, *RYR3*, *SCARB1*, *SCD5*, *SCN3B*, *SCNN1G*, *SDK1*, *SEC22A*, *SEC61B*, *SELE*, *SEMA5A*, *SEMA6D*, *SGCG*, *SGCZ*, *SIRPA*, *SLC10A2*, *SLC12A6*, *SLC12A8*, *SLC14A1*, *SLC14A2*, *SLC15A2*, *SLC15A5*, *SLC16A14*, *SLC17A5*, *SLC19A3*, *SLC1A2*, *SLC22A9*, *SLC24A4*, *SLC25A21*, *SLC25A25*, *SLC25A37*, *SLC27A6*, *SLC28A1*, *SLC28A3*, *SLC2A9*, *SLC30A9*, *SLC35B3*, *SLC35F3*, *SLC37A1*, *SLC38A9*, *SLC39A11*, *SLC5A12*, *SLC7A7*, *SLC8A1*, *SLC9A4*, *SLC9A9*, *SLC9C1*, *SLCO1B1*, *SLCO1B3*, *SLCO5A1*, *SLCO6A1*, *SORCS1*, *SORCS2*, *SORCS3*, *SPCS3*, *SPPL2C*, *SPTLC3*, *SSR1*, *ST6GALNAC3*, *ST8SIA1*, *ST8SIA6*, *STEAP1B*, *STXBP6*, *STYK1*, *SYBU*, *SYNE1*, *SYNJ2BP*, *SYNPR*, *SYT9*, *TAP1*, *TAP2*, *TAS2R19*, *TAS2R20*, *TEK*, *THSD7A*, *THSD7B*, *TM4SF4*, *TMC2*, *TMCC3*, *TMCO4*, *TMEM106B*, *TMEM117*, *TMEM128*, *TMEM132B*, *TMEM132C*, *TMEM132D*, *TMEM156*, *TMEM163*, *TMEM17*, *TMEM2*, *TMEM220*, *TMEM229B*, *TMEM244*, *TMEM51*, *TMEM63C*, *TMPRSS15*, *TMTC1*, *TMTC2*, *TNFRSF11A*, *TPO*, *TRAM2*, *TRHDE*, *TRPA1*, *TRPC4*, *TRPC6*, *TRPM3*, *TSHR*, *TSPAN9*, *UGT2A1*, *UGT2B7*, *UNC5C*, *UNC80*, *UNC93A*, *UST*, *VNN1*, *VOPP1*, *VSTM2B*, *WBSCR17*, *WDR11*, *XKR6*, *XXYLT1*, *XYLT1*, *YIPF1*, *ZDHHC14*, *ZDHHC7*
Endocytic vesicle membrane	1.2×10^{-11}	24.8	*CUBN*, *DMBT1*, *HLA-A*, *HLA-B*, *HLA-C*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQB1*, *HLA-DRA*, *HLA-DRB1*

GO categories in which false discovery rate is less than 0.01.

Table S26 continued.

Description	p-value	Enrichment	Genes
Membrane	3.0×10^{-11}	1.2	*ABCA1*, *ABCA4*, *ABCB5*, *ABCC11*, *ABCC4*, *ABCG8*, *ABO*, *ACACB*, *ACBD5*, *ACER1*, *ACPP*, *ACSBG2*, *ACSL1*, *ADAM12*, *ADAM28*, *ADCY3*, *ADCY5*, *ADD2*, *ADORA3*, *AFAP1L2*, *AIFM2*, *AKAP12*, *AKAP6*, *ALDH9A1*, *ALPL*, *ALS2*, *AMPH*, *ANGPT1*, *ANGPT2*, *ANK2*, *ANK3*, *ANKS1B*, *ANO2*, *ANTXR2*, *AP1S3*, *AP3B1*, *APBA2*, *APBB1IP*, *APBB2*, *APP*, *AQP8*, *AQP9*, *ARHGAP24*, *ARHGEF18*, *ASAH2*, *ASAP1*, *ATP10B*, *ATP10D*, *ATP12A*, *ATP2A3*, *ATP2B4*, *ATP2C2*, *ATP6V0A4*, *ATP6V1D*, *ATP8A1*, *ATP8B1*, *AVEN*, *B4GALT1*, *BAI3*, *BBS9*, *BCL2L14*, *BCR*, *BICD1*, *BLNK*, *BMPR1B*, *BNC2*, *BRI3BP*, *BSPRY*, *BTN3A1*, *BTN3A2*, *C3*, *C8A*, *CACNA1A*, *CACNA1C*, *CACNB2*, *CADM2*, *CADPS*, *CADPS2*, *CALN1*, *CAMK2D*, *CAP1*, *CASQ2*, *CASR*, *CBFA2T3*, *CD244*, *CD52*, *CDH10*, *CDH12*, *CDH13*, *CDH18*, *CDH4*, *CDH9*, *CDKAL1*, *CDON*, *CHD1L*, *CHL1*, *CHN2*, *CHRM2*, *CHRNB3*, *CHST11*, *CLCN6*, *CLDN10*, *CLDN14*, *CLDN16*, *CLDN23*, *CLEC12A*, *CLSTN2*, *CNGA3*, *CNR2*, *CNTN1*, *CNTN2*, *CNTN4*, *CNTN5*, *CNTNAP2*, *COG5*, *COG6*, *COL13A1*, *COL23A1*, *CORO2B*, *COX16*, *CPAMD8*, *CPE*, *CRYM*, *CSMD2*, *CSMD3*, *CUBN*, *CUX1*, *CXADR*, *CYB5R2*, *CYBRD1*, *CYP2E1*, *CYP4F11*, *CYP4F12*, *CYP4F2*, *CYP4F3*, *CYP4F8*, *CYP4Z1*, *DAAM1*, *DAB2*, *DAD1*, *DCC*, *DCHS2*, *DGKB*, *DGKH*, *DIO1*, *DISC1*, *DLG2*, *DLGAP1*, *DMBT1*, *DNAAF1*, *DNER*, *DNM1L*, *DOCK1*, *DOCK2*, *DOCK4*, *DOPEY2*, *DRAM1*, *DSC1*, *DSCAM*, *DSG1*, *DSG3*, *DTNA*, *DYM*, *DYNC2H1*, *DYSF*, *DYTN*, *EGFR*, *ELMO1*, *ELOVL2*, *ELOVL6*, *ELOVL7*, *ELTD1*, *EMCN*, *EMID2*, *EMR2*, *ENDOU*, *ENOX1*, *ENPP1*, *ENPP6*, *EPHA7*, *EPHB1*, *ERAP1*, *ERAP2*, *ERBB4*, *ERC2*, *ERO1LB*, *ERVFRD-1*, *ESR1*, *ESYT2*, *EXOC2*, *EXT1*, *EZR*, *F2RL2*, *F5*, *FABP2*, *FAS*, *FAT2*, *FAT3*, *FAT4*, *FCGR2C*, *FHIT*, *FLVCR1*, *FMN1*, *FMO2*, *FNDC1*, *FRAS1*, *FREM2*, *FRMPD1*, *FSHR*, *FUT9*, *FZD6*, *GAA*, *GABBR1*, *GABBR2*, *GABRB2*, *GABRG3*, *GABRR1*, *GALNT10*, *GALNT13*, *GALNT2*, *GALNTL4*, *GALNTL6*, *GAS2*, *GFRAL*, *GNAL*, *GPC5*, *GPC6*, *GPHN*, *GPR111*, *GPR116*, *GPR139*, *GPR146*, *GPR158*, *GPR39*, *GPR65*, *GPR78*, *GRB10*, *GRIA1*, *GRID2*, *GRIK2*, *GRIK3*, *GRIK4*, *GRIN2A*, *GRIN3A*, *GRIP1*, *GRIP2*, *GRM5*, *GRM7*, *GRM8*, *GUCA1A*, *HAAO*, *HADH*, *HCRTR2*, *HHAT*, *HIP1*, *HK1*, *HLA-A*, *HLA-B*, *HLA-C*, *HLA-DOA*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQA2*, *HLA-DQB1*, *HLA-DQB2*, *HLA-DRA*, *HLA-DRB1*, *HLA-DRB5*, *HLA-F*, *HLA-G*, *HMGCLL1*, *HPSE*, *HPSE2*, *HS3ST2*, *HS3ST4*, *HTR1E*, *IGSF5*, *INADL*, *INPP5D*, *INSR*, *ITGA1*, *ITGA11*, *ITGA2*, *ITGA9*, *ITGAE*, *ITGB5*, *ITPR1*, *ITPR2*, *IYD*, *KAZN*, *KCNA6*, *KCNAB1*, *KCNB2*, *KCNH7*, *KCNIP4*, *KCNJ12*, *KCNJ15*, *KCNJ6*, *KCNK10*, *KCNK2*, *KCNMA1*, *KCNMB2*, *KCNMB3*, *KCNQ3*, *KCNQ5*, *KIAA0319*, *KIAA0528*, *KIF13A*, *KIF16B*, *KIRREL3*, *KITLG*, *KL*, *KLHL14*, *KLRB1*, *KNG1*, *KSR2*, *LAMA2*, *LAMP3*, *LEPR*, *LGR6*, *LHCGR*, *LOXL2*, *LPGAT1*, *LPP*, *LRFN2*, *LRRC1*, *LRRC4C*, *LRRC52*, *LRRK2*, *LRRTM4*, *LSAMP*, *LYN*, *LYPD6B*, *MAGI1*, *MAGI2*, *MAN1A1*, *MAN2A1*, *MAPT*, *MARCH1*, *MARCH4*, *MBP*, *MCC*, *MDGA2*, *MGAT1*, *MGAT5*, *MGAT5B*, *MGST3*, *MPP5*, *MRAP2*, *MRGPRX4*, *MRS2*, *MRTO4*, *MTCH1*, *MTHFS*, *MTUS1*, *MUC16*, *MYH9*, *MYO10*, *MYO16*, *MYO1B*, *MYO5B*, *MYO7A*, *MYOF*, *NAV3*, *NBEA*, *NCAM2*, *NCS1*, *NDST3*, *NDST4*, *NDUFA12*, *NDUFB1*, *NDUFB10*, *NDUFB4*, *NEDD4*, *NETO1*, *NFASC*, *NKAIN1*, *NKAIN3*, *NLGN1*, *NMNAT2*, *NMUR1*, *NMUR2*, *NOTCH4*, *NPHS2*, *NPLOC4*, *NPSR1*, *NRCAM*, *NRG1*, *NRP1*, *NRXN1*, *NSL1*, *NTM*, *NTN4*, *NTRK1*, *NUP210*, *NUP35*, *OCA2*, *ODZ3*, *OMA1*, *OPCML*, *OPRK1*, *OR10AD1*, *OR10AG1*, *OR10C1*, *OR12D2*, *OR13C2*, *OR13C5*, *OR14A16*, *OR1L8*, *OR1N2*, *OR2AK2*, *OR2B11*, *OR2J2*, *OR2L13*, *OR2T4*, *OR2W3*, *OR4C3*, *OR4C45*, *OR51B2*, *OR51B6*, *OR51E1*, *OR51F1*, *OR51I2*, *OR51L1*, *OR51M1*, *OR51Q1*, *OR52D1*, *OR52E2*, *OR52E6*, *OR52J3*, *OR52N2*, *OR52N4*, *OR5AC2*, *OR5F1*, *OR5I1*, *OR5P2*, *OR5W2*, *OR8G1*, *OR8H2*, *OR8H3*, *OR8I2*, *OR8U8*, *OR9G1*, *OR9G9*, *OR9K2*, *OR9Q1*, *PAK2*, *PALM2*, *PAPPA2*, *PAQR8*, *PARD3*, *PARD3B*, *PCDH15*, *PCDH17*, *PCDH9*, *PCDHA12*, *PCDHA13*, *PCDHA9*, *PCLO*, *PDE4D*, *PDGFA*, *PDGFD*, *PDIA6*, *PEX5L*, *PGAP3*, *PGLYRP4*, *PGS1*, *PHLDB2*, *PIGG*, *PIK3C2B*, *PIK3C2G*, *PINK1*, *PKD1L1*, *PKDREJ*, *PKP1*, *PKP2*, *PLA2G4C*, *PLA2G4D*, *PLA2G4E*, *PLA2G6*, *PLA2R1*, *PLAUR*, *PLCB1*, *PLCG2*, *PLCH1*, *PLD1*, *PLOD2*, *PLSCR1*, *PLXNA4*, *PNPLA3*, *POMT1*, *PPAP2A*, *PPP1R14C*, *PPP2CA*, *PPP3CA*, *PPYR1*, *PREX1*, *PRICKLE1*, *PRICKLE2*, *PRKCA*, *PRKCB*, *PRKCE*, *PRKG1*, *PROKR2*, *PROM1*, *PSD3*, *PSTPIP2*, *PTGER3*, *PTGS1*, *PTPN13*, *PTPRN2*, *PTPRT*, *PTPRU*, *PYGL*, *RAB12*, *RAB17*, *RAB27A*, *RAB31*, *RAB36*, *RAB3C*, *RAC2*, *RAMP3*, *RAPGEF4*, *RECK*, *RFTN1*, *RGS3*, *RGS6*, *RGS7*, *RIMBP2*, *RIMS2*, *RNF144B*, *RNPEP*, *ROBO1*, *RPSA*, *RRP12*, *RTKN2*, *RYR1*, *RYR2*, *RYR3*, *SBF2*, *SCARA3*, *SCARB1*, *SCD5*, *SCGN*, *SCN3B*, *SDF4*, *SDHA*, *SEC22A*, *SEC24D*, *SELE*, *SEMA3A*, *SEMA3E*, *SEMA5A*, *SEMA6D*, *SERINC5*, *SGCG*, *SGCZ*, *SGIP1*, *SH3GL2*, *SIPA1L1*, *SIRPA*, *SIRT3*, *SKAP2*, *SLC10A2*, *SLC12A6*, *SLC14A1*, *SLC14A2*, *SLC15A2*, *SLC16A14*, *SLC17A5*, *SLC19A3*, *SLC1A2*, *SLC1A6*, *SLC22A16*, *SLC22A5*, *SLC24A2*, *SLC24A4*, *SLC25A21*, *SLC25A25*, *SLC25A37*, *SLC26A9*, *SLC27A6*, *SLC28A1*, *SLC28A2*, *SLC28A3*, *SLC2A9*, *SLC35B3*, *SLC35D2*, *SLC41A3*, *SLC7A7*, *SLC8A1*, *SLC9A4*, *SLC9A8*, *SLC9A9*, *SLC9C1*, *SLCO1B1*, *SLCO1B3*, *SLCO5A1*, *SLCO6A1*, *SNCA*, *SNTG2*, *SNX19*, *SNX24*, *SNX25*, *SNX5*, *SNX7*, *SNX9*, *SOAT1*, *SOAT2*, *SORCS1*, *SORCS2*, *SORCS3*, *SPCS3*, *SPINK5*, *SPPL2C*, *SPRED1*, *SPRED3*, *SPTLC3*, *SQRDL*, *SSR1*, *ST3GAL6*, *ST8SIA6*, *STARD13*, *STT3A*, *STYK1*, *SVEP1*, *SVIL*, *SWAP70*, *SYBU*, *SYK*, *SYN3*, *SYNE1*, *SYNPR*, *SYT1*, *SYT6*, *SYT9*, *TACSTD2*, *TANC1*, *TAP1*, *TAP2*, *TAS1R2*, *TEC*, *TECTA*, *TEK*, *TES*, *TESC*, *THSD7A*, *TIAM1*, *TMEM106B*, *TMEM163*, *TOR1A*, *TPO*, *TRPC4*, *TRPC6*, *TSHR*, *TSPAN9*, *TTLL10*, *TULP3*, *TYMS*, *UGT2B7*, *UNC13A*, *UNC13C*, *UNC5C*, *UNC93A*, *UST*, *VAV1*, *VAV2*, *VAV3*, *VNN1*, *VOPP1*, *VPS37C*, *WBSCR17*, *WLS*, *WNK2*, *WWOX*, *XXYLT1*, *XYLT1*, *XYLT2*, *ZFYVE28*, *ZW10*
Cell junction	4.9×10^{-11}	2.0	*ABCB5*, *ABI1*, *AFAP1*, *AJAP1*, *AMPH*, *AMTN*, *ANK2*, *ANK3*, *ANKS1B*, *APBB1IP*, *ARHGAP24*, *ARHGEF18*, *BSPRY*, *CADM2*, *CADPS*, *CADPS2*, *CCDC85C*, *CDC42BPA*, *CDHR2*, *CDSN*, *CHRM2*, *CHRNB3*, *CLDN1*, *CLDN10*, *CLDN14*, *COL13A1*, *CTNNA2*, *CTNNA3*, *CTNND2*, *CXADR*, *DISC1*, *DLC1*, *DLG2*, *DLGAP1*, *DSC1*, *DSG1*, *DSG3*, *DTNA*, *EPHX2*, *ERC2*, *FAT2*, *FER*, *FMN1*, *FNDC1*, *FRMD4A*, *GABBR1*, *GABRB2*, *GABRG3*, *GABRR1*, *GPHN*, *GRIA1*, *GRID2*, *GRIK2*, *GRIK3*, *GRIN2A*, *GRIP1*, *IGSF5*, *INADL*, *IQSEC1*, *ITGB5*, *KAZN*, *LAMA1*, *LPP*, *LRFN2*, *MAGI2*, *MPP5*, *MYH9*, *NCS1*, *NETO1*, *NFASC*, *NFIA*, *NRXN1*, *PARD3B*, *PCLO*, *PHACTR1*, *PKP1*, *PKP2*, *PLEKHA7*, *POLR1E*, *PSD3*, *PTPRM*, *PTPRU*, *RIMBP2*, *RIMS2*, *SEPT11*, *SHISA9*, *SLC8A1*, *SNCA*, *SYN3*, *SYNPR*, *SYT9*, *TANC1*, *TEK*, *TES*, *TIAM1*, *TMEM163*, *TNS1*, *TRIM9*, *TRPC4*, *TRPC6*, *UNC13C*
MHC class II protein complex	2.8×10^{-10}	86.9	*HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQB1*, *HLA-DRA*, *HLA-DRB1*

GO categories in which false discovery rate is less than 0.01.

Table S26 continued.

Description	p-value	Enrichment	Genes
Plasma membrane part	1.7×10^{-9}	1.5	*ABCA1*, *ABCA4*, *ABCB5*, *ABCG8*, *ADAM29*, *ADCY3*, *AJAP1*, *ALK*, *ANK2*, *ANK3*, *ARHGEF4*, *ART3*, *ASIC2*, *ATP12A*, *ATP2B4*, *ATP6V0A4*, *BBS9*, *BMPR1B*, *C8A*, *CACNA1A*, *CACNA1C*, *CAMK2D*, *CASQ2*, *CASR*, *CATSPERB*, *CDH13*, *CDH4*, *CDHR2*, *CHRM2*, *CHRNB3*, *CLCNKB*, *CLDN1*, *CLEC1A*, *CLEC1B*, *CNR2*, *CNTNAP2*, *CTNNA2*, *CUBN*, *CXADR*, *CXCL12*, *CYBRD1*, *CYP4F12*, *CYP4F2*, *DAB2*, *DCC*, *DDR1*, *DISP1*, *DLC1*, *DSCAM*, *DSG1*, *DYSF*, *EMR1*, *ENPP1*, *EPHA6*, *EPHA7*, *EPHB1*, *ERBB4*, *EVC*, *EVC2*, *FAS*, *FCER2*, *FER*, *FGD5*, *FLT3*, *FLVCR1*, *GABBR1*, *GABRB2*, *GABRR1*, *GOLM1*, *GPC5*, *GPC6*, *GPR39*, *GRIA1*, *GRID2*, *GRIK2*, *GRIK3*, *GRIN2A*, *GRM5*, *GRM7*, *GRM8*, *HLA-A*, *HLA-B*, *HLA-C*, *HLA-DOA*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQA2*, *HLA-DQB1*, *HLA-DQB2*, *HLA-DRA*, *HLA-DRB1*, *HLA-DRB5*, *HLA-G*, *IL12RB2*, *IL1RL2*, *INADL*, *ITGA1*, *ITGA2*, *ITGB5*, *ITGBL1*, *KANK1*, *KCNA6*, *KCNK2*, *KCNMB2*, *KCNMB3*, *KCNQ3*, *KCNQ5*, *KL*, *LGR5*, *LHCGR*, *LYN*, *MEGF10*, *MEGF11*, *MUC12*, *MYH9*, *MYO10*, *MYOF*, *NEDD4*, *NMUR1*, *NOTCH4*, *NOXO1*, *NRCAM*, *NRG1*, *NRG3*, *NRXN1*, *OPCML*, *OPRK1*, *PCDHA1*, *PCDHA10*, *PCDHA11*, *PCDHA2*, *PCDHA3*, *PCDHA4*, *PCDHA5*, *PCDHA6*, *PCDHA7*, *PCDHA8*, *PCDHAC1*, *PCSK9*, *PKHD1*, *PLA2R1*, *PLAUR*, *PLEK*, *PLSCR1*, *PPYR1*, *PRKAB2*, *PTPRB*, *PTPRD*, *PTPRF*, *PTPRM*, *PTPRU*, *RAB27A*, *RAMP3*, *RASAL1*, *RGS6*, *RGS7*, *RNPEP*, *ROBO2*, *SCARB1*, *SCN3B*, *SCNN1G*, *SELE*, *SGCG*, *SGCZ*, *SHISA9*, *SLC10A2*, *SLC12A6*, *SLC14A1*, *SLC14A2*, *SLC15A2*, *SLC17A5*, *SLC1A2*, *SLC28A1*, *SLC2A9*, *SLC5A12*, *SLC7A7*, *SLC8A1*, *SLC9A4*, *SLC9C1*, *SLCO1B1*, *SLCO1B3*, *SNTG1*, *SNTG2*, *SNX5*, *SNX9*, *SPATA13*, *SPRED1*, *SPTB*, *STK39*, *SYK*, *TEK*, *TMEM17*, *TNFRSF11A*, *TPO*, *TRHDE*, *TRPA1*, *TRPC4*, *TSHR*, *TSPAN9*, *VWF*, *WWC1*
Integral to endoplasmic reticulum membrane	2.2×10^{-9}	31.8	*HLA-A*, *HLA-B*, *HLA-C*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQB1*, *HLA-DRB1*
Cytoplasmic vesicle membrane	6.3×10^{-9}	42.3	*CPE*, *DMBT1*, *HLA-A*, *HLA-C*, *HLA-DPA1*, *HLA-DPB1*
Cell projection part	6.5×10^{-9}	1.82	*ABI1*, *ALS2*, *AMPH*, *ANK3*, *ANKS1B*, *APBB2*, *APP*, *ARHGEF4*, *ATP6V0A4*, *ATP8B1*, *BBS9*, *CACNA1C*, *CHRM2*, *CNTNAP2*, *CTNND2*, *CUBN*, *CXADR*, *CYBRD1*, *DCC*, *DFNB31*, *DISC1*, *DLG2*, *DLGAP1*, *DNAAF1*, *DNAH11*, *DNAH12*, *DNAH14*, *DNAH5*, *DNAH8*, *DSCAM*, *DYNC2H1*, *EMR2*, *ERBB4*, *ERC2*, *ESR1*, *EVC*, *EVC2*, *EZR*, *FGD5*, *FOPNL*, *FSCB*, *FZD6*, *GABBR1*, *GRIA1*, *GRID2*, *GRIK2*, *GRIK3*, *GRIK4*, *GRIN2A*, *GRIN3A*, *GRM5*, *GRM7*, *HAP1*, *IFT57*, *KANK1*, *KCNQ3*, *KIF5C*, *KIRREL3*, *LRRK2*, *LYN*, *MAGI2*, *MAP2*, *MAPT*, *MYO10*, *MYO5A*, *MYO5B*, *NCS1*, *NETO1*, *NFASC*, *NLGN1*, *NRCAM*, *NRP1*, *NRXN1*, *PACRG*, *PKD1L1*, *PKHD1*, *PLCB4*, *PLEK*, *PROM1*, *PSD3*, *PTPRF*, *PTPRN2*, *RAPGEF4*, *ROBO1*, *ROBO2*, *RUFY3*, *SCARB1*, *SCN1A*, *SEPT11*, *SHISA9*, *SIPA1L1*, *SLC1A2*, *SLC8A1*, *SLC9C1*, *SNCA*, *SNTG1*, *SPAG16*, *SPATA13*, *SYNJ2*, *TANC1*, *TEKT1*, *TEKT4*, *TIAM2*, *TMEM17*, *TTLL11*, *WWC1*
Clathrin-coated endocytic vesicle membrane	8.0×10^{-9}	55.3	*HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQB1*, *HLA-DRA*, *HLA-DRB1*
Vesicle membrane	8.8×10^{-9}	40.6	*CPE*, *DMBT1*, *HLA-A*, *HLA-C*, *HLA-DPA1*, *HLA-DPB1*
Intrinsic to endoplasmic reticulum membrane	9.4×10^{-9}	26.8	*HLA-A*, *HLA-B*, *HLA-C*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQB1*, *HLA-DRB1*
Cell projection	9.8×10^{-9}	2.6	*ACPP*, *ADCY5*, *APBB1IP*, *APBB2*, *APOA1BP*, *ARHGAP24*, *ARPC5*, *BMPR1B*, *CACNA1A*, *CADM2*, *CATSPERB*, *CNGA3*, *CNTN4*, *CNTNAP2*, *CTNNA3*, *DYNC2H1*, *FAM65B*, *FGD5*, *FOPNL*, *FRMD4B*, *GRIA1*, *GRIP1*, *IFT57*, *IQGAP2*, *ITGA1*, *KALRN*, *KCNIP4*, *KIRREL3*, *KLHL1*, *KLHL14*, *KLHL24*, *LDHC*, *LRRC16A*, *MAPT*, *MYO10*, *MYO1B*, *MYO3A*, *MYO5B*, *MYRIP*, *NRCAM*, *PKHD1*, *PTPRM*, *RELN*, *RPTOR*, *SEMA3A*, *SEPT11*, *SLC9C1*, *SPATA13*, *SWAP70*, *SYNPR*, *WWOX*
Coated vesicle membrane	1.5×10^{-8}	25.3	*HLA-A*, *HLA-B*, *HLA-C*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQB1*, *HLA-DRB1*
Trans-Golgi network membrane	3.3×10^{-8}	45.1	*HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQB1*, *HLA-DRA*, *HLA-DRB1*
Cytoplasmic vesicle part	3.5×10^{-8}	32.6	*CPE*, *DMBT1*, *HLA-A*, *HLA-C*, *HLA-DPA1*, *HLA-DPB1*
Phagocytic vesicle membrane	2.6×10^{-7}	124.3	*DMBT1*, *HLA-A*, *HLA-B*, *HLA-C*
Integral to organelle membrane	2.7×10^{-7}	15.4	*HLA-A*, *HLA-B*, *HLA-C*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQB1*, *HLA-DRB1*
Intrinsic to organelle membrane	6.1×10^{-7}	13.7	*HLA-A*, *HLA-B*, *HLA-C*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQB1*, *HLA-DRB1*
Synapse	2.5×10^{-6}	2.3	*ABI1*, *APBB2*, *APP*, *CADM2*, *CADPS*, *CAMK2D*, *CHRM2*, *CPLX1*, *CXADR*, *DFNB31*, *EGFLAM*, *EPHA7*, *GRID2*, *GRIN3A*, *GRM7*, *INSR*, *MAGI2*, *MYH9*, *MYO7A*, *MYRIP*, *NETO1*, *NLGN1*, *NRCAM*, *NRG1*, *NRXN1*, *NTM*, *PCDH15*, *PCLO*, *PDZRN3*, *PHACTR1*, *PTPRF*, *RAPGEF4*, *RIMBP2*, *SEPT11*, *SERPINE2*, *SHISA9*, *SNCA*
Synapse part	6.1×10^{-6}	1.8	*ALS2*, *AMPH*, *ANK2*, *ANK3*, *ANKS1B*, *CACNA1C*, *CADPS2*, *CHRM2*, *CHRNB3*, *CLSTN2*, *CNTN2*, *CTNND2*, *DDC*, *DISC1*, *DLG2*, *DLGAP1*, *DPYSL2*, *EPHA7*, *ERBB4*, *ERC2*, *ESR1*, *GABBR1*, *GABBR2*, *GABRB2*, *GABRG3*, *GABRR1*, *GPHN*, *GRIA1*, *GRID2*, *GRIK2*, *GRIK3*, *GRIK4*, *GRIN2A*, *GRIN3A*, *GRIP1*, *GRM5*, *GRM7*, *GRM8*, *LRFN2*, *LRRK2*, *LRRTM4*, *LYN*, *MAGI2*, *NCS1*, *NETO1*, *NLGN1*, *NRXN1*, *PCLO*, *PLCB4*, *PSD3*, *PTPRN2*, *RAB3C*, *RIMS2*, *SIPA1L1*, *SLC1A2*, *STON2*, *SYN3*, *SYNE1*, *SYNPR*, *SYT1*, *SYT6*, *SYT9*, *TANC1*, *TMEM163*, *TRIM9*, *UNC13A*, *UNC13C*
Synaptic membrane	7.1×10^{-6}	2.4	*ANK2*, *ANK3*, *ANKS1B*, *CADPS2*, *CHRM2*, *CHRNB3*, *CLSTN2*, *DISC1*, *DLG2*, *DLGAP1*, *EPHA7*, *ERC2*, *GABBR1*, *GABRB2*, *GABRG3*, *GABRR1*, *GPHN*, *GRIA1*, *GRID2*, *GRIK2*, *GRIK3*, *GRIN2A*, *GRIP1*, *GRM7*, *GRM8*, *LRFN2*, *NCS1*, *NETO1*, *NRXN1*, *PSD3*, *RIMS2*, *SLC1A2*, *SYNE1*, *TANC1*, *UNC13C*
MHC class I protein complex	9.2×10^{-6}	135.2	*HLA-A*, *HLA-B*, *HLA-C*
Endosome membrane	1.1×10^{-5}	9.6	*HLA-A*, *HLA-B*, *HLA-C*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQB1*, *HLA-DRB1*

GO categories in which false discovery rate is less than 0.01.

Table S26 continued.

Description	p-value	Enrichment	Genes
Extracellular matrix part	1.3×10^{-5}	2.2	*ADAMTS1*, *AMTN*, *C1QTNF3*, *CCBE1*, *COL13A1*, *COL21A1*, *COL23A1*, *COL24A1*, *COL27A1*, *COL4A1*, *COL4A2*, *COL4A3*, *COL5A1*, *COL5A2*, *COL9A1*, *COLEC12*, *EGFLAM*, *EMID1*, *EMID2*, *FBN2*, *FREM2*, *LAMA1*, *LAMA2*, *LAMC1*, *LAMC2*, *LEPREL1*, *LOXL2*, *MATN2*, *MBL2*, *NID2*, *NTN1*, *NTN4*, *SCARA3*, *SNCA*, *THBS2*, *THSD4*, *TIMP2*, *TNR*
Endosomal part	1.6×10^{-5}	9.1	*HLA-A*, *HLA-B*, *HLA-C*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQB1*, *HLA-DRB1*
Cell-cell junction	1.6×10^{-5}	2.3	*5)*, *ABCB5*, *AMTN*, *ANK2*, *ANK3*, *CCDC85C*, *CDC42BPA*, *CDSN*, *CLDN1*, *CLDN10*, *CLDN14*, *COL13A1*, *CTNNA3*, *DSC1*, *DSG1*, *DSG3*, *FAT2*, *FNDC1*, *FRMD4A*, *IGSF5*, *INADL*, *KAZN*, *LAMA1*, *MAGI2*, *MPP5*, *MYH9*, *PKP1*, *PKP2*, *PLEKHA7*, *PTPRM*, *PTPRU*, *SLC8A1*, *TEK*, *TIAM1*, *TRPC4*, *TRPC6*
Intrinsic to plasma membrane	2.0×10^{-5}	1.9	*ABCA1*, *ABCA4*, *ABCB5*, *ADCY3*, *ALK*, *ANK2*, *ART3*, *BMPR1B*, *CDH4*, *CNR2*, *EMR1*, *FCER2*, *FLVCR1*, *GPC5*, *GPC6*, *GPR39*, *GRIK2*, *GRIN2A*, *HLA-A*, *HLA-B*, *HLA-C*, *HLA-DPA1*, *HLA-DQA1*, *HLA-DQA2*, *HLA-DRA*, *HLA-DRB1*, *IL1RL2*, *KCNMB2*, *KL*, *LHCGR*, *MUC12*, *NOTCH4*, *NRCAM*, *NRG3*, *NRXN1*, *OPCML*, *OPRK1*, *PCDHA1*, *PCDHA10*, *PCDHA11*, *PCDHA2*, *PCDHA3*, *PCDHA4*, *PCDHA5*, *PCDHA6*, *PCDHA7*, *PCDHA8*, *PCDHAC1*, *PKHD1*, *PLSCR1*, *PPYR1*, *PTPRB*, *PTPRD*, *PTPRM*, *RAMP3*, *SLC15A2*, *SLC2A9*, *SLCO1B1*, *SLCO1B3*, *SPTB*, *TEK*, *TSHR*
Integral to plasma membrane	2.0×10^{-5}	1.7	*ABCA1*, *ABCA4*, *ABCB5*, *ADCY3*, *ALK*, *ANK2*, *ART3*, *ATP2B4*, *BMPR1B*, *CDH4*, *CHRM2*, *CLCNKB*, *CLDN1*, *CLEC1A*, *CNR2*, *DDR1*, *EMR1*, *EPHB1*, *FCER2*, *FLT3*, *FLVCR1*, *GABRR1*, *GPC5*, *GPC6*, *GPR39*, *GRID2*, *GRIK2*, *GRIN2A*, *GRM5*, *GRM8*, *HLA-A*, *HLA-B*, *HLA-C*, *HLA-DPA1*, *HLA-DQA1*, *HLA-DQA2*, *HLA-DRA*, *HLA-DRB1*, *IL1RL2*, *KCNMB2*, *KCNMB3*, *KL*, *LHCGR*, *MUC12*, *NOTCH4*, *NRCAM*, *NRG3*, *NRXN1*, *OPCML*, *OPRK1*, *PCDHA1*, *PCDHA10*, *PCDHA11*, *PCDHA2*, *PCDHA3*, *PCDHA4*, *PCDHA5*, *PCDHA6*, *PCDHA7*, *PCDHA8*, *PCDHAC1*, *PLA2R1*, *PLSCR1*, *PPYR1*, *PTPRB*, *PTPRD*, *PTPRM*, *PTPRU*, *RAMP3*, *SCARB1*, *SLC15A2*, *SLC17A5*, *SLC2A9*, *SLCO1B1*, *SLCO1B3*, *TEK*, *TPO*, *TRPA1*, *TSHR*
Cytoskeleton	3.1×10^{-5}	1.6	*ABI1*, *ABLIM1*, *ACTA2*, *ACTL8*, *ACTR2*, *ADH4*, *AFAP1*, *AKAP12*, *AMPH*, *ANK2*, *ANK3*, *APBB1IP*, *ARHGAP24*, *ARPC5*, *BICD1*, *CABP5*, *CAP1*, *CDSN*, *CORO2B*, *COTL1*, *CTNNA2*, *CTNNA3*, *CTTNBP2NL*, *DAPK1*, *DDX20*, *DOCK2*, *ELMO1*, *ERC2*, *EZR*, *FAM65B*, *FER*, *FGD5*, *FHOD3*, *FMN1*, *FRMD4A*, *FRMD4B*, *FRMPD1*, *GPHN*, *GYS2*, *HAP1*, *INPP5D*, *IQGAP2*, *KALRN*, *KAZN*, *KITLG*, *KLHL1*, *KLHL3*, *KLHL5*, *LDB3*, *LRRFIP1*, *MAD1L1*, *MLPH*, *MTSS1*, *MYH9*, *MYO9B*, *MYOZ2*, *MYRIP*, *NME8*, *NUP35*, *PCLO*, *PDLIM1*, *PHLDB2*, *PLEKHH2*, *PPP2CA*, *PRKCE*, *PSTPIP2*, *PTPN13*, *PTPN14*, *PTPN21*, *SELE*, *SGCG*, *SGCZ*, *SHROOM3*, *SLC30A9*, *SMARCA2*, *SNCA*, *SNTG1*, *SNTG2*, *SORBS2*, *SPRR1B*, *SPTB*, *STK39*, *SVIL*, *SYBU*, *SYNE1*, *TBCA*, *TEC*, *TNS1*, *TRIM9*, *TRPC4*, *UBXN11*
Clathrin-coated vesicle membrane	4.6×10^{-5}	14.3	*HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQB1*, *HLA-DRA*, *HLA-DRB1*
Neuron projection	7.2×10^{-5}	1.7	*ALS2*, *ANKS1A*, *APP*, *BMPR1B*, *CACNA1A*, *CADM2*, *CDH13*, *CHL1*, *CHRM2*, *CNR2*, *CNTN4*, *CNTNAP2*, *CPLX1*, *CTNNA2*, *CXADR*, *DCC*, *DDC*, *DFNB31*, *DNER*, *DSCAM*, *EPHA7*, *EPHB1*, *GABBR1*, *GABBR2*, *GRIA1*, *GRID2*, *GRIK3*, *GRIK4*, *GRIN3A*, *GRIP1*, *GRM7*, *GRM8*, *HAP1*, *ITGA1*, *KALRN*, *KCNIP4*, *KCNJ6*, *KIF5C*, *KIRREL3*, *KLHL1*, *KLHL14*, *KLHL24*, *LRRK2*, *MAPT*, *MYO10*, *MYO5A*, *MYO5B*, *NCAM2*, *NCS1*, *NLGN1*, *NOV*, *NRCAM*, *NTM*, *ODZ4*, *PEX5L*, *PRKCA*, *PTPN13*, *RAB27A*, *RAPGEF4*, *RELN*, *RPTOR*, *SEMA3A*, *SEPT11*, *SIPA1L1*, *SLC1A2*, *SLC8A1*, *SNCA*, *SYNPR*, *SYT1*, *TRIM9*
Extracellular matrix	7.3×10^{-5}	1.9	*ABI3BP*, *ADAMTS12*, *ADAMTS14*, *ADAMTS16*, *ADAMTS18*, *ADAMTS20*, *ADAMTSL1*, *ADAMTSL3*, *AMTN*, *CDON*, *CHL1*, *COL4A1*, *COL4A2*, *COL5A1*, *COL5A2*, *DMBT1*, *DPT*, *EFEMP1*, *EPYC*, *FBN2*, *FGF1*, *FRAS1*, *GPC5*, *GPC6*, *GPLD1*, *HPSE2*, *IGFBP7*, *LAMA1*, *LAMA2*, *LAMC1*, *LTBP1*, *MATN2*, *MEPE*, *MMP20*, *NAV2*, *NID2*, *NOV*, *PLSCR1*, *PXDN*, *RELN*, *SERPINE2*, *SPARCL1*, *SPOCK3*, *SPON1*, *TECTA*, *TNN*, *TNR*, *VIT*, *VWF*
Vacuolar membrane	8.0×10^{-5}	8.5	*CUBN*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQB1*, *HLA-DRA*, *HLA-DRB1*
Lysosomal membrane	8.2×10^{-5}	10.1	*CUBN*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQB1*, *HLA-DRA*, *HLA-DRB1*
Postsynaptic membrane	8.8×10^{-5}	2.1	*ANK2*, *ANK3*, *ANKS1B*, *CADPS2*, *CHRM2*, *CHRNB3*, *CLSTN2*, *DISC1*, *DLG2*, *DLGAP1*, *EPHA7*, *GABBR1*, *GABBR2*, *GABRB2*, *GABRG3*, *GABRR1*, *GPHN*, *GRIA1*, *GRID2*, *GRIK2*, *GRIK3*, *GRIK4*, *GRIN2A*, *GRIN3A*, *GRIP1*, *GRM7*, *LRFN2*, *LRRTM4*, *NCS1*, *NETO1*, *NLGN1*, *PSD3*, *SIPA1L1*, *SYNE1*, *TANC1*
Proteinaceous extracellular matrix	1.3×10^{-4}	2.0	*ABI3BP*, *ADAMTS12*, *ADAMTS14*, *ADAMTS16*, *ADAMTS18*, *ADAMTS20*, *ADAMTSL1*, *ADAMTSL3*, *AMTN*, *CHL1*, *DMBT1*, *DPT*, *EFEMP1*, *EPYC*, *FBN2*, *FGF1*, *GPC5*, *GPC6*, *GPLD1*, *HPSE2*, *LAMA1*, *LTBP1*, *MATN2*, *MEPE*, *MMP20*, *NAV2*, *PXDN*, *RELN*, *SPARCL1*, *SPOCK3*, *SPON1*, *TECTA*, *TNN*, *TNR*, *VIT*, *VWF*
Sarcolemma	1.6×10^{-4}	11.2	*ADCY5*, *ANK2*, *ANK3*, *LAMA2*, *SGCG*, *SGCZ*
Vacuolar part	2.1×10^{-4}	6.3	*CUBN*, *GPC5*, *HLA-DPA1*, *HLA-DPB1*, *HLA-DQA1*, *HLA-DQB1*, *HLA-DRA*, *HLA-DRB1*
Golgi membrane	3.2×10^{-4}	17.3	*HLA-A*, *HLA-C*, *HLA-DPA1*, *HLA-DPB1*

GO categories in which false discovery rate is less than 0.01.