

Table S12: GO component analysis of top 100 signals, when compared to all signals, from CEU population using the T_1 test statistic.

Description	p -value	Enrichment	Genes
Integral to luminal side of endoplasmic reticulum membrane	5.0×10^{-17}	72.1	HLA-A, HLA-B, HLA-C, HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5
ER to Golgi transport vesicle membrane	4.5×10^{-16}	60.1	HLA-A, HLA-B, HLA-C, HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5
MHC protein complex	1.9×10^{-15}	53.0	HLA-A, HLA-B, HLA-C, HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5
Transport vesicle membrane	8.0×10^{-15}	36.1	CPE, HLA-A, HLA-B, HLA-C, HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5
MHC class II protein complex	4.2×10^{-13}	90.1	HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5
Endocytic vesicle membrane	6.2×10^{-13}	24.8	DMBT1, HLA-A, HLA-B, HLA-C, HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5
Intrinsic to endoplasmic reticulum membrane	8.6×10^{-12}	19.6	FMO5, HLA-A, HLA-B, HLA-C, HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5
Clathrin-coated endocytic vesicle membrane	2.0×10^{-11}	57.4	HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5
Integral to endoplasmic reticulum membrane	3.7×10^{-11}	21.2	HLA-A, HLA-B, HLA-C, HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5
Trans-Golgi network membrane	1.0×10^{-10}	46.7	HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5
Coated vesicle membrane	3.7×10^{-10}	16.9	HLA-A, HLA-B, HLA-C, HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5
Cytoplasmic vesicle membrane	6.4×10^{-9}	8.1	CPE, DMBT1, HLA-A, HLA-B, HLA-C, HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5, SNX19
Vesicle membrane	1.1×10^{-8}	7.8	CPE, DMBT1, HLA-A, HLA-B, HLA-C, HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5, SNX19
Intrinsic to organelle membrane	1.2×10^{-8}	10.1	FMO5, HLA-A, HLA-B, HLA-C, HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5
Integral to organelle membrane	4.7×10^{-8}	10.2	HLA-A, HLA-B, HLA-C, HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5
Cytoplasmic vesicle part	1.4×10^{-7}	6.3	CPE, DMBT1, HLA-A, HLA-B, HLA-C, HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5, SNX19
Clathrin-coated vesicle membrane	4.4×10^{-7}	14.9	HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5
Endosome membrane	3.7×10^{-6}	6.4	HLA-A, HLA-B, HLA-C, HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5
Endosomal part	5.7×10^{-6}	6.1	HLA-A, HLA-B, HLA-C, HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5
Lysosomal membrane	6.0×10^{-6}	10.1	HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5
Vacuolar membrane	1.8×10^{-5}	8.5	HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5
Phagocytic vesicle membrane	1.9×10^{-5}	24.9	DMBT1, HLA-A, HLA-B, HLA-C
Plasma membrane	3.7×10^{-5}	2.0	ANK2, ANK3, APBB1IP, BNC2, CHRN3, CPE, DLG2, EMID2, FHIT, FRAS1, GRIN2A, HLA-A, HLA-B, HLA-C, HLA-DPA1, HLA-DPB1, HLA-DQA1, HLA-DQB1, HLA-DRA, HLA-DRB1, HLA-DRB5, IGSF5, ITGA1, KCNJ12, MAGI2, OR4C3, OR4C45, OR51B6, OR51F1, OR5W2, RGS6, RIMBP2, SLC2A9, TRPC6
Cell junction	9.6×10^{-5}	3.4	ANK2, ANK3, APBB1IP, CDSN, CHRN3, CTNNA3, DLG2, GRIN2A, IGSF5, MAGI2, POLR1E, RIMBP2, TRPC6
MHC class I protein complex	1.8×10^{-4}	27.0	HLA-A, HLA-B, HLA-C

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