Supplementary Information

A Distinct Human Plasma Cell Gene Signature in High-Resolution Temporal Response Patterns to Influenza Vaccine

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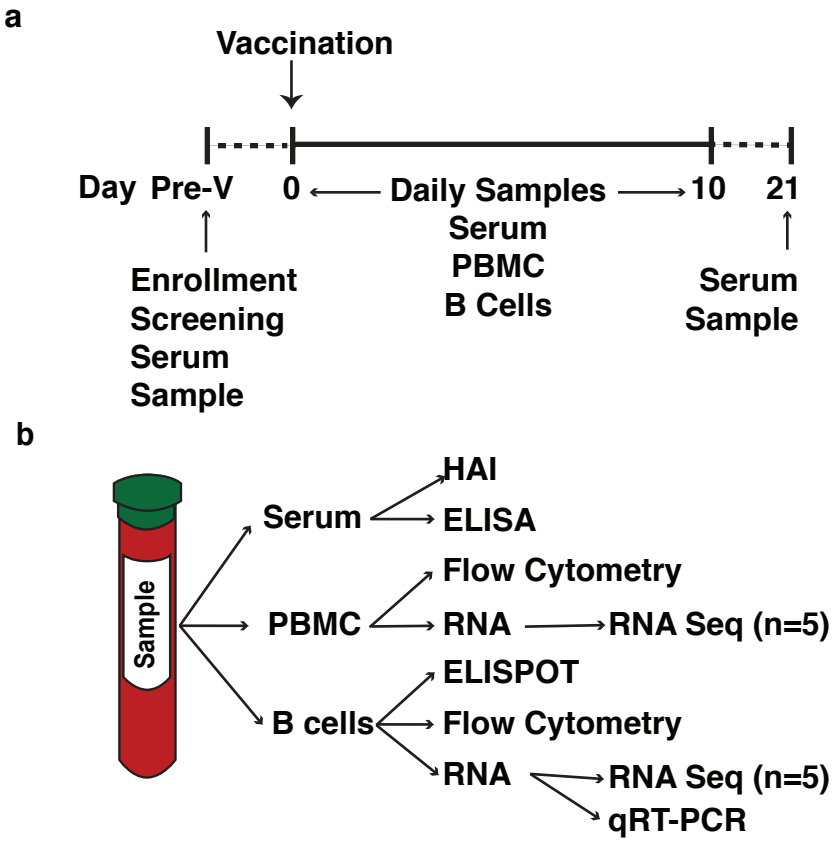
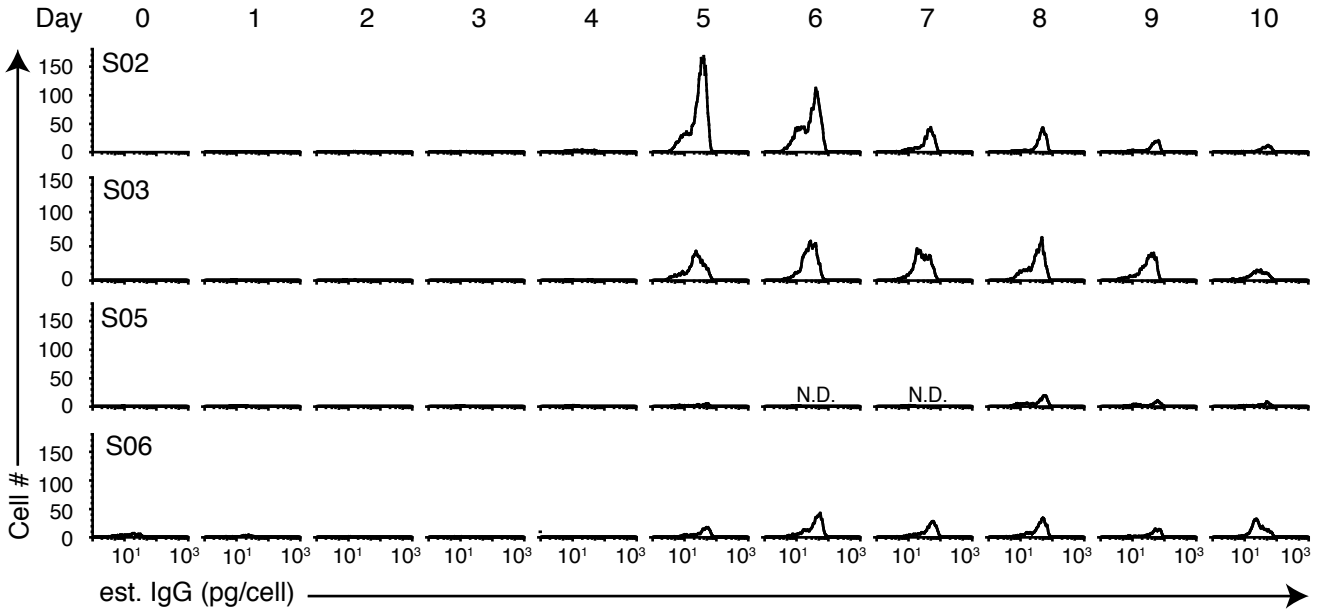


Supplementary Figure S1. High-Frequency Sampling Post-Vaccination

Peripheral blood was collected from 14 normal human volunteers in three cohorts over three consecutive months. Blood was collected prior to vaccination as well as days 0 to 10 after vaccination with FluLaval 2010 Influenza Trivalent Inactivated Vaccine. Blood was immediately processed into serum, PBMC and Bc-enriched samples. Cells were further separated into samples for RNA, flow cytometric analysis, and ELISPOT analysis. HAI and ELISA assays were performed on all serum samples. With daily sampling of subjects over 11 days and 7 assays, a total of 880 samples were analyzed. RNA from one cohort of five subjects was used for RNA Seq analysis with eight RNA samples reserved for qRT-PCR. RNA from one subject (S01) was used for pilot RNA Seq studies.



Supplementary Figure S2. Semi-quantitative ELISPOT analysis of vaccine-specific IgG secretion.

Enriched B cell samples were assessed for vaccine-specific IgG secreting cells (ASC) as published previously (Henn, et al. 2009). The typical bimodal secretion pattern of activated ASC was seen. The dynamics of high-rate vaccine-specific ASC paralleled plasmablast and plasma cell phenotype changes over the course of the study. Subject S02 had peak numbers of vaccine-specific ASC on day 05, earlier than subjects S03 and S06. (N.D. = no data)

Subject ID	Age	Sex	Seasonal 2007	Seasonal 2008	Seasonal 2009	Monovalent 2009	Seasonal 2010 (Study)
S01	43	M	**V**	**V**	V		
S02	20	F	**V**	**V**	V	V	
S03	27	M		**V**	V		
S04	47	F		**V**	V		
S05	23	M					
S06	36	F					
S07	44	F	**V**	**V**	V	V	
S08	22	F			V	V	
S09	22	F	**V**				
S10	20	M		**V**	V	V	
S11	27	M	**V**	**V**			
S12	43	F	**V**	**V**	V		
S13	21	M	**V**	**V**	V	V	
S14	36	M		**V**	V	V	
		A/H1N1	A/Solomon Isl. /3/2006	A/Brisbane /59/2007	A/Brisbane /59/2007	A/California /7/2009	A/California /7/2009
		A/H3N2	A/Wisconsin /672005	A/Brisbane /10/2007	A/Brisbane /10/2007	–	A/Victoria /210/2009 (like A/Perth /16/2009)
		B	B/Malaysia /2506/2004	B/Florida /4/2006	B/Brisbane /60/2008	–	B/Brisbane /60/2008

Supplementary Table S1. Study Participant Demographic and Vaccine Characteristics.

Fourteen human subjects were enrolled in three cohorts for this study. Three additional consenting subjects did not meet all of the study inclusion criteria. Subjects ranged in age from 20 to 47 years with equal numbers of each male and female. Blank spaces indicate a report of no vaccination that year. Two subjects, S05 and S06 reported no influenza vaccination in the previous three years. Half of the subjects had received the 2009 monovalent vaccine, which matched the A/California virus in the study vaccine. Ten of the subjects reported vaccination with the seasonal 2009 vaccine, which shared B/Brisbane with the study vaccine. Subject ID numbers were re-encoded for publication.

Supplementary Table S2. Post-vaccination serum changes in vaccine-specific antibody levels. Serum titers for vaccine antigens generally increased over the course of the study. Some subjects had high-level pre-vaccination immunity (S10 to A/California and A/Perth, S02 to A/California). Subject sera that did not show an increase significantly in response to vaccine include S12 (B/Brisbane), S08 and S13 (A/Perth, B/Brisbane). S02 increased in titer to A/Perth and B/Brisbane earlier than the other subjects. Vaccine-specific IgM as measured by ELISA increased significantly in all subjects except S12. IgG specific for vaccine increased significantly in all subjects except S03 and S13, which had high concentrations of vaccine-specific IgG at Day 00.

	A/Calif. HAI Titre		A/Perth HAI Titre		B/Brisb. HAI Titre		Anti-vaccine IgM		Anti-vaccine IgG		Anti- vaccine IgA	
Subject	Day 50% Increase	p-value	Day 50% Increase	p-value	Day 50% Increase	p-value	Day 50% Increase	p-value	Day 50% Increase	p-value	Day 50% Increase	p-value
S01	-	NS	7	0.0024	7	0.0008	8	0.0002	8	< 0.0001	1	0.0108
S02	-	NS	5	0.0001	6	0.0015	6	< 0.0001	6	0.0001	6	< 0.0001
S03	7	0.0014	-	NS	7	0.0224	8	0.0021	-	NS	8	0.0003
S04	7	< 0.0001	7	< 0.0001	-	NS	8	0.0066	8	0.0025	1	0.0211
S05	8	0.0002	9	< 0.0001	8	0.0017	8	0.0007	8	0.0001	8	0.0002
S06	7	0.0002	8	0.0122	7	< 0.0001	8	0.0048	8	0.0008	7	0.0009
S07	-	NS	-	NS	7	0.0396	7	0.0017	8	0.0269	-	NS
S08	7	0.0003	-	NS	-	NS	8	0.0001	7	0.0061	6	0.001
S09	8	0.0361	6	0.0002	7	0.0028	7	0.0001	6	0.0037	7	0.0031
S10	-	NS	-	NS	-	NS	8	0.0099	8	0.0017	8	0.0001
S11	8	0.0005	8	0.0122	8	0.0044	8	0.0017	8	0.0007	-	NS
S12	7	0.002	7	0.0005	6	0.0068	-	NS	7	0.0074	7	0.0005
S13	7	0.0024	-	NS	-	NS	8	0.0234	-	NS	7	0.0024
S14	8	0.0115	8	0.0007	9	0.017	8	0.0097	8	0.0023	7	0.0007

Supplementary Table S3. Genes Significantly Changed as Measured by RNA Seq. Functional Principal Component Analysis (FPCA) was used to estimate gene expression curves and the list of significant genes was chosen based on a permutation test and adjusted with multiple test correction, FDR=0.05. Subject S02 had the largest number of genes that varied significantly over time (5580 genes). S06 had few with only 2 significant genes, so for better comparisons, 1600 of the genes with the highest signal to noise ratio were added. After a 1.2-fold-change filter, S02 had 5256, S03 had 1309, S04 had 2147 genes, S05 had 1603 significantly varying genes. S06 had 1053 genes in the analysis.

	S02		S03		S04		S05		S06	
Rank	Gene Symbol	adj p-val	Gene Symbol	adj p-val	Gene Symbol	adj p-val	Gene Symbol	adj p-val	Gene Symbol	adj p-val
1	ACADM	0.002	DDOST	<0.001	PABPC4	<0.001	PRR5	0.001	TPT1	0.047
2	WNT5B	0.002	SEMA4A	<0.001	PHGDH	<0.001	PFN1	0.003	SYNE1	0.047
3	IGHG3	0.002	SLAMF7	<0.001	KCNN3	<0.001	ECH1	0.003	RPS7	0.053
4	IGHG1	0.002	ERLEC1	<0.001	SLAMF7	<0.001	PHIP	0.003	FER1L4	0.053
5	PSAT1	0.002	ITM2C	<0.001	ERLEC1	<0.001	EEF2	0.003	IGHG1	0.058
6	CD27	0.003	HDLBP	<0.001	INPP4A	<0.001	RPS15	0.003	SLCO3A1	0.093
7	SLC33A1	0.003	NT5DC2	<0.001	PDK1	<0.001	RPL8	0.003	CCR2	0.093
8	SAR1B	0.003	SPCS1	<0.001	ITM2C	<0.001	C12orf5	0.003	RPL34	0.093
9	FER1L4	0.003	CD38	<0.001	EDEM1	<0.001	RPL29	0.003	RPL27A	0.093
10	FKBP2	0.003	ELL2	<0.001	FNDC3B	<0.001	DDAH2	0.003	SEMA3G	0.093
11	LARP1B	0.003	SEC24A	<0.001	SEL1L3	<0.001	FAM91A1	0.003	TTC39B	0.093
12	RAB1A	0.003	SIL1	<0.001	SCARB2	<0.001	C16orf42	0.003	LOC401397	0.093
13	GALM	0.003	MZB1	<0.001	RAP1GDS1	<0.001	HLA-A	0.003	PARP14	0.093
14	ACP2	0.003	LMAN2	<0.001	MZB1	<0.001	IGHG3	0.003	CD38	0.093
15	EDEM1	0.003	SSR1	<0.001	C6orf129	<0.001	MIF	0.003	C9orf140	0.093
16	RPL36AL	0.003	TXNDC5	<0.001	MANEA	<0.001	ITM2C	0.003	ATP6V1G1	0.093
17	DLGAP4	0.003	ATXN1	<0.001	CITED2	<0.001	CD74	0.003	MDC1	0.093
18	SRPRB	0.003	MAN1A1	<0.001	CAV1	<0.001	SYNGR2	0.003	C5orf56	0.093
19	KANK1	0.003	GLCCI1	<0.001	NUCB2	<0.001	RPL13	0.003	PCYT1A	0.093
20	PRR12	0.003	CAV1	<0.001	CD27	<0.001	PEX16	0.003	INSR	0.093
21	SGK1	0.003	PDIA4	<0.001	IGHA1	<0.001	LAT	0.003	B2M	0.099
22	SSR4	0.003	GGH	<0.001	IDH2	<0.001	SMEK2	0.003	XBP1	0.099
23	WIPI1	0.003	SLC44A1	<0.001	SELS	<0.001	SAMD9L	0.003	AGPAT1	0.101
24	KLHL36	0.003	CD27	<0.001	BCKDK	<0.001	APRT	0.003	IGHA1	0.101
25	MCEE	0.003	FKBP11	<0.001	C17orf28	<0.001	SHISA5	0.003	PFDN5	0.101
26	RGS16	0.003	SPATS2	<0.001	PYCR1	<0.001	IGHG1	0.003	COMMD7	0.106
27	FNDC3B	0.003	HSP90B1	<0.001	KCNK6	<0.001	EIF3G	0.003	LOC90784	0.106
28	MAPKBP1	0.003	ERP29	<0.001	HSPA13	<0.001	RPS2	0.003	EML4	0.106
29	SEC31A	0.003	ALG5	<0.001	CECR1	<0.001	SAR1B	0.004	MIR650	0.110
30	TM9SF1	0.003	TMED10	<0.001	PRDX4	<0.001	ZDHHC21	0.004	WHSC1	0.110
31	RAPGEF2	0.003	IGHG1	<0.001	SSR4	<0.001	CRIP1	0.004	B4GALT1	0.110
32	CLINT1	0.003	IGHG3	<0.001	IGJ	<0.001	THUMPD1	0.004	SNTB2	0.110
33	USO1	0.003	PPIB	<0.001	RAPGEF5	<0.001	DNAL1	0.004	UNC13B	0.110
34	SLAMF7	0.003	IDH2	<0.001	CHPF	<0.001	CEP110	0.004	GAS5	0.110
35	LAMC1	0.003	TXNDC11	<0.001	LRPAP1	<0.001	ZBTB44	0.004	PERP	0.110
36	ITFG2	0.003	NOMO2	<0.001	DNAJB9	<0.001	MRPL38	0.004	NDUFB5	0.110
37	NUCB2	0.003	SEC11C	<0.001	DENND5B	<0.001	RPS5	0.004	NSA2	0.110
38	TRIB1	0.003	EDEM2	<0.001	MBNL2	<0.001	PHTF2	0.004	IL17RA	0.110
39	SELK	0.003	ERGIC3	<0.001	NOMO1	<0.001	GLTSCR2	0.004	LAMC1	0.110
40	MZB1	0.003	RPN2	<0.001	CMIP	<0.001	MAF1	0.004	TLR2	0.110
41	ERLEC1	0.003	XBP1	<0.001	KDELR1	<0.001	OSGEPL1	0.004	ZNF767	0.110
42	GUSB	0.003	PRDX4	<0.001	ZBP1	<0.001	CD81	0.004	IGHM	0.110
43	CDV3	0.003	B4GALT3	<0.001	PINK1	<0.001	SAMD9	0.004	PIGT	0.110
44	ANKRD36BP2	0.003	CHPF	<0.001	GLB1	<0.001	RBM38	0.004	FBXO34	0.110
45	RCBTB2	0.003	P4HB	<0.001	CDV3	<0.001	PPIG	0.004	IGLL5	0.110
46	TMED5	0.003	GALNT2	<0.001	UCHL1	<0.001	CD79A	0.004	CD80	0.118
47	SLC16A14	0.003	UBE2J1	<0.001	GOLPH3	<0.001	ZNF358	0.005	CIB1	0.123
48	ARFGAP3	0.003	CCNC	<0.001	SEC24A	<0.001	EZR	0.005	NEU1	0.124
49	LAX1	0.003	BHLHA15	<0.001	IGLL1	<0.001	ICAM3	0.005	MAP1LC3B	0.125
50	TSHR	0.003	FAM171A1	<0.001	TPST2	<0.001	FAM53B	0.005	KIAA1908	0.125
51	SEL1L3	0.003	NOMO1	<0.001	ZMPSTE24	<0.001	COL4A3BP	0.005	CD200R1	0.132
52	SKI	0.003	RRBP1	<0.001	FAM46C	<0.001	PTPN22	0.005	CXCR3	0.132
53	SEL1L	0.003	HM13	<0.001	PPP2R5A	<0.001	CGGBP1	0.005	BSG	0.132
54	CTSO	0.003	IGLL5	<0.001	ZBTB38	<0.001	LSM10	0.005	ATP5E	0.132
55	TM9SF3	0.003	EAF2	<0.001	WFS1	<0.001	UGGT1	0.005	SLC11A2	0.134
56	ARHGAP42	0.003	RPN1	<0.001	LMBRD2	<0.001	TEX264	0.005	EPM2AIP1	0.135
57	NEK8	0.003	FNDC3B	<0.001	SIL1	<0.001	MCM5	0.006	CLPTM1L	0.135
58	TXNDC15	0.003	WFS1	<0.001	NEU1	<0.001	HLA-DQB2	0.006	PLEKHA7	0.135
59	MTHFD2	0.003	TRAM1	<0.001	RRAGD	<0.001	RPLP2	0.006	ATOX1	0.139
60	MOXD1	0.003	TNFRSF17	<0.001	BHLHA15	<0.001	LSP1	0.006	ZNF207	0.139
61	IGF1	0.003	LMAN1	<0.001	OAF	<0.001	RAB1B	0.006	COL6A2	0.140
62	PDIA5	0.003	PSMD8	<0.001	ERN1	<0.001	PTPRCAP	0.006	CPXM1	0.141

63	HEXB	0.003	ISOC2	<0.001	ATF5	<0.001	ATP7A	0.006	AHI1	0.141
64	YIPF1	0.003	FAM46C	<0.001	DERL3	<0.001	DNAJC10	0.006	NBEAL2	0.141
65	SPCS3	0.003	PREB	<0.001	NT5DC2	<0.001	PPP2R4	0.006	FLJ44606	0.141
66	PIK3C2B	0.003	PDIA5	<0.001	HDLBP	<0.001	DOPEY1	0.006	ATP2B4	0.142
67	TRAM1	0.003	SEL1L3	<0.001	SELK	<0.001	CCDC71	0.006	INPP1	0.142
68	CASP10	0.003	TMED9	<0.001	GLRX	<0.001	DDX1	0.006	SH3BP2	0.142
69	HEATR6	0.003	TRAM2	<0.001	TXNDC15	<0.001	TNPO1	0.006	PLEKHG3	0.142
70	GLG1	0.003	MOXD1	<0.001	EPB41L2	<0.001	VPS28	0.006	THBS3	0.142
71	MANEA	0.003	RPS6KB2	<0.001	CREB3L2	<0.001	LSM7	0.006	ILDR1	0.142
72	LAP3	0.003	CKAP4	<0.001	TRIB1	<0.001	IPMK	0.006	CD48	0.142
73	CYCS	0.003	SEL1L	<0.001	PSAP	<0.001	POR	0.006	LIPA	0.142
74	GOLGA5	0.003	SSR4	<0.001	FNDC3A	<0.001	FUZ	0.006	VRK2	0.142
75	DYNLRB1	0.003	TXNDC15	<0.001	IFI35	<0.001	CROCC	0.006	PSENEN	0.143
76	CD38	0.003	ATP5L	<0.001	WIPI1	<0.001	RPL36	0.006	CENPO	0.143
77	UAP1	0.003	SRPR	<0.001	HM13	<0.001	VAT1	0.006	SURF1	0.144
78	SYNM	0.003	SMOX	<0.001	ADA	<0.001	SMCHD1	0.006	RPL39	0.144
79	DERL3	0.003	CRELD2	<0.001	WDR45	<0.001	ARHGAP5	0.007	ATP8B2	0.144
80	ZNF664	0.003	STT3A	<0.001	TMED9	<0.001	FAM173A	0.007	RPS3A	0.144
81	MEI1	0.003	SELK	<0.001	SEMA4A	<0.001	RAB11B	0.007	ARHGAP31	0.144
82	JSRP1	0.003	SPCS3	<0.001	SLC7A11	<0.001	MAP2K3	0.007	IRF4	0.144
83	SSR3	0.003	MANEA	<0.001	MGAT1	<0.001	CCDC22	0.007	TTYH2	0.144
84	OPRL1	0.003	NDUFB8	<0.001	SGK1	<0.001	HLA-F	0.007	TUBGCP5	0.144
85	CAV1	0.003	NUCB2	<0.001	CALU	<0.001	COX8A	0.007	STARD9	0.144
86	PRRC1	0.003	SEC61A1	<0.001	ALDH1L2	<0.001	NOSIP	0.007	DCLK2	0.144
87	SEC24D	0.003	SRPRB	<0.001	SEL1L	<0.001	SENP7	0.007	CAV1	0.144
88	RPN2	0.003	DNAJB11	<0.001	SLC7A5	<0.001	IL4R	0.007	PLCB2	0.144
89	CNKSR1	0.003	B4GALT1	<0.001	MALT1	<0.001	KIAA1033	0.007	NANP	0.144
90	IGLL5	0.003	HSPA13	<0.001	LMAN1	<0.001	PLEKHJ1	0.007	ITM2C	0.144
91	ACOXL	0.003	SEC61B	<0.001	EDEM2	<0.001	TLR7	0.007	RWDD3	0.144
92	DDX1	0.003	HSPA5	<0.001	RPN2	<0.001	MOBKL1A	0.007	EEF2K	0.145
93	SEC23B	0.003	SRP54	<0.001	ARMCX3	<0.001	ZDHHC17	0.007	MOXD1	0.145
94	FBXW7	0.003	PYCR1	<0.001	EDEM3	<0.001	SIKE1	0.007	CDCA7	0.145
95	SPARC	0.003	SSR2	<0.001	SRPR	<0.001	CAV1	0.007	ZNF180	0.145
96	SCFD1	0.003	SEC14L1	<0.001	MEI1	<0.001	SLC35F5	0.007	MACROD2	0.145
97	FAM171A1	0.003	ERP44	<0.001	DDOST	<0.001	BCLAF1	0.007	SLC4A8	0.145
98	NOTCH1	0.003	KIAA0114	<0.001	PCCB	<0.001	HDAC5	0.007	BTAF1	0.146
99	IFI27L1	0.003	DERL1	<0.001	HAX1	<0.001	TTLL12	0.007	ATPIF1	0.146
100	FAM55C	0.003	FBXO18	<0.001	TMCO1	<0.001	C11orf2	0.008	STAM	0.146
101	MNT	0.003	EDEM1	<0.001	COPG	<0.001	PTOV1	0.008	LRRN2	0.146
102	C17orf28	0.003	SUB1	<0.001	NT5E	<0.001	ZBTB22	0.008	RPL7A	0.146
103	PRDX4	0.003	SAR1B	<0.001	MOXD1	<0.001	PLD4	0.008	ATP11A	0.146
104	OSTC	0.003	ABCB9	<0.001	GLCCI1	<0.001	NCBP2	0.008	FAM98A	0.151
105	NFATC3	0.003	C14orf145	<0.001	DNAJC1	<0.001	FAM35A	0.008	SRSF5	0.151
106	ITM2C	0.004	STT3B	<0.001	VKORC1	<0.001	KCNG1	0.008	POLR1A	0.151
107	SPI1	0.004	ST6GALNAC4	<0.001	B9D1	<0.001	AGFG1	0.008	PSMB5	0.151
108	HSPA13	0.004	ISG20	<0.001	ERGIC3	<0.001	C12orf57	0.008	TRPM2	0.153
109	UNC13B	0.004	DCPS	0.001	MAPK1	<0.001	PIK3C2A	0.008	PAICS	0.153
110	PATZ1	0.004	IGJ	0.001	ITM2A	<0.001	IGHM	0.008	TNFRSF17	0.156
111	VEGFA	0.004	BMP6	0.001	ABCC4	<0.001	C9orf16	0.008	FLVCR1	0.158
112	REXO2	0.004	CALU	0.001	DNAJC3	<0.001	KRBA1	0.008	SYNJ2BP	0.158
113	NUMA1	0.004	SEC13	0.001	SEC11C	<0.001	CRELD1	0.008	RPL38	0.160
114	SPATS2	0.004	MAN2A1	0.001	ARFGAP3	<0.001	KLHDC10	0.008	MARCKS	0.160
115	DERL2	0.004	SF3B5	0.001	RGS16	<0.001	PRPF40A	0.008	BMP8B	0.160
116	ALDH18A1	0.004	SND1	0.001	SDC1	<0.001	COMTD1	0.008	ENTPD4	0.162
117	KCNN3	0.004	IFI27L1	0.001	TMEM214	<0.001	INO80D	0.008	ABHD2	0.163
118	TMED2	0.004	GMPPB	0.001	PDIA5	<0.001	CENPB	0.008	MYO1F	0.163
119	SUB1	0.004	NEU1	0.001	RNF122	<0.001	C19orf24	0.008	MFSD8	0.165
120	TMEM198	0.004	TMED2	0.001	FKBP2	<0.001	CYB5R3	0.008	NCAPH	0.165
121	IGKC	0.004	APOL1	0.001	ACAD8	<0.001	RAB7L1	0.008	RPS29	0.165
122	LOC96610	0.004	SLC33A1	0.001	FKBP11	<0.001	ALDOA	0.008	ITGB1	0.165
123	SELS	0.004	RBM47	0.001	SLC39A9	<0.001	RALGPS2	0.008	TBRG1	0.165
124	MAGT1	0.004	ROMO1	0.001	DERL2	<0.001	FOXP4	0.008	POLE	0.165
125	SEC22B	0.004	HYOU1	0.001	KLHL14	<0.001	EDEM3	0.008	ZNF132	0.165
126	PRDM1	0.004	MAGED1	0.001	MAGED1	<0.001	SCYL1	0.008	IGHG3	0.165
127	FKBP11	0.004	CLPTM1L	0.001	ETS1	<0.001	RABAC1	0.008	TXNDC5	0.165
128	STK10	0.004	DNAJC3	0.001	MFF	<0.001	RNF126	0.008	MRE11A	0.165
129	HSP90B1	0.004	OST4	0.001	MARS	<0.001	IMPAD1	0.008	TRIM46	0.165
130	JAZF1	0.004	41527.000	0.001	KDM2B	<0.001	CNOT6L	0.008	GIMAP7	0.165
131	MYO1D	0.004	GLDC	0.001	GFI1	<0.001	SHKBP1	0.008	CCR1	0.169
132	GYG1	0.004	OSTC	0.001	ERAP1	<0.001	NAA38	0.008	C13orf23	0.171
133	LTB	0.004	TRIB1	0.001	VEGFA	<0.001	POLR2I	0.008	PLEKHF2	0.171
134	MBNL2	0.004	NDUFA4	0.001	CTSD	<0.001	ARHGDIA	0.008	FLJ90757	0.173
135	RPS27L	0.004	SELL	0.001	OS9	<0.001	HLA-C	0.008	RAP1GAP2	0.174
136	SCAMP5	0.004	GANAB	0.001	C19orf10	<0.001	PJA2	0.008	ZNF234	0.174
137	FBXW4	0.004	ACAT1	0.001	PRKCSH	<0.001	NUCB1	0.009	TAF7	0.174
138	INPP4A	0.004	CALR	0.001	NUCB1	<0.001	PDLIM2	0.009	CCDC61	0.174
139	IGHM	0.004	CXCR3	0.001	SSR2	<0.001	CCDC50	0.009	HBXIP	0.174
140	NOMO2	0.004	KDELR2	0.001	KDELR2	<0.001	COBRA1	0.009	JHDM1D	0.174

141	BRPF1	0.004	PDIA6	0.001	JAK1	<0.001	C10orf118	0.009	DIP2A	0.174
142	KCNK6	0.004	LIME1	0.001	PIGT	<0.001	IGHD	0.009	FAM46C	0.174
143	HERPUD1	0.004	COPA	0.001	ST6GALNAC4	<0.001	XAB2	0.009	PLA2G12A	0.174
144	CITED2	0.004	DNAJC1	0.001	SPCS1	<0.001	LTBP3	0.009	NOP16	0.178
145	TMEM59	0.004	XAF1	0.001	ITGB7	<0.001	SF3A2	0.009	UCHL1	0.178
146	DNASE2	0.004	SEC24D	0.001	TM9SF2	<0.001	RCCD1	0.009	CRLS1	0.181
147	LMAN1	0.004	TMEM59	0.001	CNP	0.001	FOXN2	0.009	RPN2	0.183
148	IBTK	0.004	COPG	0.001	SLC1A4	0.001	ZNF664	0.009	IFIT5	0.183
149	CCR7	0.004	IGHM	0.001	SPATS2	0.001	LTB	0.009	ATP6V0E1	0.183
150	HCST	0.004	C1GALT1C1	0.001	HDAC1	0.001	HLA-H	0.009	RNFT1	0.183
151	PPP1R9B	0.004	FAM82A1	0.001	GORASP2	0.001	ZFYVE16	0.009	ACAD11	0.183
152	B4GALT3	0.004	RAP1GDS1	0.001	C2orf88	0.001	MICALL1	0.009	RAB3IP	0.186
153	C1GALT1C1	0.004	ITFG1	0.001	ARF4	0.001	YTHDC2	0.009	SLC25A30	0.186
154	GMPPA	0.004	OS9	0.001	SERP1	0.001	C14orf135	0.009	ABCA2	0.186
155	SDC1	0.004	CHCHD2	0.001	TARS	0.001	CTDSP1	0.009	GRIN3A	0.186
156	TRAM2	0.004	SELS	0.001	TBXAS1	0.001	ZDHHC12	0.009	CASP10	0.186
157	AXIN1	0.004	PIK3C2B	0.001	DERL1	0.001	SLTM	0.009	RRAGD	0.186
158	RBM47	0.004	UCHL1	0.001	C13orf18	0.001	CHD1	0.009	PTMS	0.186
159	FRAT1	0.004	SDF2L1	0.001	PHKA2	0.001	C9orf142	0.010	C22orf34	0.189
160	UBE2J1	0.004	GORASP2	0.001	PREB	0.001	U2SURP	0.010	C19orf10	0.191
161	TSG101	0.004	RRP7B	0.001	SLC33A1	0.001	ATR	0.010	NT5DC2	0.191
162	NFATC1	0.004	DUSP5	0.001	MCC	0.001	SSBP4	0.010	OCIAD2	0.191
163	TARS	0.004	AMPD3	0.001	MAN1B1	0.001	SLC35A5	0.010	BZRAP1	0.191
164	SLC7A5	0.004	ATP5A1	0.001	HERPUD1	0.001	SF3B5	0.010	TCTEX1D2	0.191
165	HDLBP	0.004	UBA5	0.001	SLC38A10	0.001	MAP1S	0.010	ADAT2	0.191
166	CECR1	0.004	KCNN3	0.001	SLC1A5	0.001	TSTD1	0.010	TRIO	0.191
167	XBP1	0.004	SSR3	0.001	ERGIC2	0.001	BLK	0.010	NCF1C	0.191
168	SRP54	0.004	UQCRQ	0.001	CKAP4	0.001	CD38	0.010	PTPRF	0.191
169	TPD52	0.004	ITGB7	0.001	FICD	0.001	ATP13A3	0.010	SLC38A5	0.191
170	ERAP1	0.004	SLC39A7	0.001	LASS6	0.001	LMAN2	0.010	SDC1	0.191
171	APOL1	0.004	LAX1	0.001	PDIA4	0.001	MS4A1	0.010	ZNF154	0.191
172	NT5DC2	0.004	ZBP1	0.001	B2M	0.001	NFATC1	0.010	COMMD6	0.191
173	ST6GALNAC4	0.004	CLN6	0.001	WARS	0.001	CCDC82	0.010	MIAT	0.191
174	GLRX	0.004	PIM2	0.001	PDXK	0.001	CYBA	0.010	PQBP1	0.191
175	DNAJC1	0.004	PRDX5	0.001	PAM	0.001	MED25	0.010	SEC14L1	0.191
176	PACS1	0.004	LRPAP1	0.001	USO1	0.001	SLC39A3	0.010	RNF125	0.191
177	DENND5B	0.004	WIPI1	0.001	ST7	0.001	SNX17	0.010	NTAN1	0.191
178	LARS	0.004	DAD1	0.002	C8orf80	0.001	EHD1	0.010	TMEM184B	0.191
179	SEC11C	0.004	USO1	0.002	ACO2	0.001	CORO1A	0.010	ANAPC16	0.191
180	NOMO1	0.004	COX7A2	0.002	SLC38A5	0.001	NCF1C	0.010	NBPF9	0.191
181	BRD1	0.004	C17orf28	0.002	GALNT2	0.001	ARPC1B	0.010	LRPAP1	0.191
182	ZC3H12A	0.004	UAP1	0.002	SLC39A14	0.001	ANKRD13D	0.010	RPRD1A	0.191
183	ZNF862	0.004	SUMF2	0.002	FBXO18	0.001	DENND4A	0.010	HIST1H2BK	0.192
184	SLC2A1	0.004	KCNK6	0.002	JSRP1	0.001	UPF2	0.010	YWHAG	0.192
185	ALDH1L2	0.004	DENND1B	0.002	SLC25A23	0.001	SAMD1	0.010	NDUFB3	0.192
186	C8orf80	0.004	GMPPA	0.002	ERC1	0.001	SP3	0.010	ATP2A2	0.192
187	ITFG1	0.004	IGF1	0.002	SLC16A14	0.001	PACS2	0.010	IL6R	0.192
188	SEC24A	0.004	RSBN1	0.002	PTPN12	0.001	C1orf86	0.010	SLFN11	0.192
189	CALU	0.004	HAX1	0.002	B4GALT3	0.001	FBXW5	0.010	SDK2	0.192
190	SIPA1	0.004	RCBTB2	0.002	LAP3	0.001	KIAA1370	0.010	NUCB2	0.192
191	EPRS	0.004	AKR1B1	0.002	SLC30A7	0.001	CNKSR2	0.010	ABAT	0.192
192	PKN1	0.004	MYO1D	0.002	ADARB1	0.001	RPH3AL	0.010	RHPN2	0.193
193	TMCO1	0.004	TMEM184B	0.002	ARCN1	0.001	SLC36A4	0.010	ZNF34	0.193
194	AKNA	0.004	SRM	0.002	C1orf43	0.001	PCM1	0.010	SLAMF7	0.193
195	41519.000	0.004	DERL2	0.002	ATXN1	0.001	MBD3	0.010	C14orf49	0.193
196	CCNC	0.004	MANF	0.002	CNKSR1	0.001	NENF	0.010	DNMT3B	0.193
197	OS9	0.004	MAGEH1	0.002	TXNDC11	0.001	MTA1	0.010	PSTPIP2	0.193
198	FBF1	0.005	ATP8B2	0.002	YIPF5	0.001	DEAF1	0.010	AHSA2	0.193
199	SLC44A1	0.005	C14orf2	0.002	QPCTL	0.001	P4HTM	0.010	LOC144438	0.193
200	ATXN1	0.005	PRDX2	0.002	MAN1A1	0.001	ZNF148	0.010	C11orf10	0.193
201	CREB3L2	0.005	BIK	0.002	UAP1	0.001	CDC27	0.010	RPL36AL	0.193
202	B4GALT2	0.005	ERAP1	0.002	FAM69A	0.001	NMI	0.010	FAM154B	0.193
203	ELL2	0.005	COPB2	0.002	MGAT2	0.001	ETHE1	0.010	EP400	0.193
204	CYTIP	0.005	B4GALT2	0.002	RAB37	0.001	XBP1	0.010	HIST1H1C	0.193
205	MAPK1	0.005	SELT	0.002	41524.000	0.001	CD46	0.011	SUPV3L1	0.193
206	GPLD1	0.005	TOR3A	0.002	UGGT2	0.001	DLGAP4	0.011	RPS15A	0.193
207	SRP72	0.005	MAGT1	0.002	SSR3	0.001	FKBP8	0.011	WDR19	0.193
208	PHKA1	0.005	HIST1H1C	0.002	UBE2J1	0.001	TRADD	0.011	C14orf166	0.193
209	SIN3B	0.005	IFI44L	0.003	YWHAG	0.001	TRIM28	0.011	SPATA13	0.193
210	ALG5	0.005	ZNF250	0.003	RCN1	0.001	NEMF	0.011	MYADM	0.193
211	SPCS2	0.005	PABPC4	0.003	XBP1	0.001	RALY	0.011	USP36	0.193
212	BTBD2	0.005	SLC38A10	0.003	ATF4	0.001	PARP9	0.011	ATP6V1H	0.193
213	OAT	0.005	CECR1	0.003	SERPINB9	0.001	FNDC3A	0.011	SLC25A23	0.193
214	SLC44A2	0.005	C4orf52	0.003	SEC24D	0.001	MPG	0.011	GPRASP1	0.193
215	DBNL	0.005	CD59	0.003	SCN3A	0.001	PIGQ	0.011	FUT8	0.193
216	ATOX1	0.005	YIPF1	0.003	CCR2	0.001	PTGES2	0.011	AMOT	0.193
217	RNASE6	0.005	CANX	0.003	SRPRB	0.001	CYC1	0.011	MYO1B	0.193
218	RRBP1	0.005	SERF2	0.003	LMAN2	0.001	RLTPR	0.011	SSR4	0.193

219	SCARB2	0.005	COX7B	0.003	FIG4	0.001	DRAP1	0.011	DCST2	0.194
220	CCT8	0.005	VAV3	0.003	SIPA1L1	0.001	RBM41	0.011	LOC645638	0.194
221	SPCS1	0.005	CREB3	0.003	ATRN	0.001	CTDSPL2	0.011	KIAA1530	0.194
222	SPPL2B	0.005	ALDH1L2	0.003	SP110	0.001	CDK2AP2	0.011	AOAH	0.194
223	IDE	0.005	GAPT	0.003	SRP72	0.001	C8orf37	0.011	GBP2	0.194
224	LSM14B	0.005	ABLIM1	0.003	CREB3	0.001	TAGLN2	0.011	ZNF35	0.194
225	DNAJB9	0.005	RAB12	0.003	MOGS	0.001	NUCB2	0.011	RPL30	0.194
226	PLEKHA2	0.005	SLC35B1	0.003	TMED5	0.001	SOCS4	0.011	WDHD1	0.194
227	IGHD	0.005	MGLL	0.003	MAN2B1	0.001	FOXK2	0.011	SLC16A1	0.194
228	NDUFA4	0.005	CHD3	0.003	CD38	0.001	RBM26	0.011	ZNF605	0.194
229	SRP68	0.005	C11orf10	0.003	OGDH	0.001	C19orf60	0.011	CLDND1	0.194
230	DGKD	0.005	ATP5J	0.003	RPN1	0.001	YIF1A	0.011	CYB561	0.194
231	GALNT2	0.005	BRP44L	0.003	LAMC1	0.001	RNF6	0.011	NUP155	0.194
232	ARMCX3	0.005	CASP10	0.003	PLOD3	0.001	TMTC3	0.011	SLC38A11	0.194
233	SRGN	0.005	ATP5I	0.003	GPRC5D	0.001	MMP17	0.011	SLC7A1	0.194
234	CLEC17A	0.005	PEBP1	0.003	PRKX	0.001	STT3B	0.011	WDFY2	0.194
235	FAM174A	0.005	YIF1B	0.003	LANCL1	0.001	SPATS2	0.011	WRB	0.194
236	MRPS33	0.005	ARF4	0.003	ATP13A1	0.001	SLAMF7	0.011	KIF14	0.194
237	BIRC3	0.005	ATP2A2	0.003	TMED10	0.001	LARS	0.012	CCDC53	0.194
238	SERP1	0.005	IDE	0.003	UBTF	0.001	CHMP1A	0.012	SLX4	0.194
239	GLDC	0.005	PDK1	0.003	PLD3	0.001	ANKRD12	0.012	GALNT2	0.195
240	SIL1	0.005	KDELR1	0.003	GOSR2	0.001	USP33	0.012	C18orf18	0.196
241	SLC39A14	0.005	WNT5B	0.003	KRTCAP2	0.001	JAK2	0.012	DHX33	0.198
242	GOLPH3L	0.005	SEC23B	0.003	ATXN7L3B	0.001	SEL1L	0.012	SPN	0.198
243	VCL	0.005	GCFC1	0.003	FOXO1	0.001	CCAR1	0.012	C1orf55	0.198
244	ZBP1	0.005	SLC16A14	0.003	KIF19	0.001	ZBTB38	0.012	GDF11	0.198
245	PERP	0.005	MGAT1	0.003	PLOD1	0.001	CNN2	0.012	RALGPS1	0.198
246	PMM2	0.005	B2M	0.003	RABAC1	0.001	PRCC	0.012	TMTC3	0.199
247	SEC61A1	0.005	NUDT2	0.003	ITCH	0.001	TOP2B	0.012	TCTN1	0.199
248	STT3A	0.005	ADIPOR1	0.003	SRM	0.001	MRPL28	0.012	SELPLG	0.202
249	DNAJC3	0.005	PERP	0.003	SLC39A7	0.001	RBM42	0.012	TCEA1	0.202
250	GPX7	0.005	FAM102B	0.003	CHST12	0.001	USP16	0.012	HSD17B7P2	0.203
251	EZR	0.005	SNRPG	0.003	PPIB	0.001	ZNF655	0.012	TGFBR2	0.203
252	MAST3	0.005	QPCTL	0.003	AGA	0.001	LIMD2	0.012	EAF2	0.203
253	CD37	0.005	SCARB2	0.003	DCAF12	0.001	TXNRD1	0.012	NOMO3	0.204
254	NDFIP2	0.005	ERC1	0.003	RAP2A	0.001	ZNF638	0.012	GPR160	0.204
255	PHF15	0.005	SLC1A4	0.003	TBC1D7	0.001	TLR6	0.012	PCK2	0.204
256	PHF12	0.005	MRPL22	0.003	BCL2	0.001	EPN1	0.012	ZNF445	0.206
257	KMO	0.005	TMEM165	0.003	PARM1	0.001	STOML1	0.012	TBC1D8	0.206
258	GLCCI1	0.005	MCC	0.003	VDR	0.001	EML4	0.012	MCM9	0.206
259	PIGT	0.005	EIF2S1	0.003	TMEM184B	0.001	HCG4	0.012	SLC35B1	0.209
260	QPCTL	0.005	SCAMP5	0.003	MLL5	0.001	UBE2A	0.012	PHACTR1	0.209
261	PYCR1	0.005	CENPM	0.003	B4GALT1	0.001	IGFLR1	0.012	BTF3	0.210
262	EDEM2	0.005	PSMA5	0.003	EIF2AK3	0.001	TYSND1	0.012	AARS	0.210
263	SEC14L1	0.005	ZNF638	0.004	SPARC	0.001	DBT	0.012	PDK1	0.210
264	MAN1A1	0.005	CNKSR1	0.004	SKAP1	0.001	WDR83	0.012	MZB1	0.211
265	DDOST	0.005	YWHAE	0.004	STT3A	0.001	ACTN4	0.012	GNAS	0.212
266	TBC1D10C	0.005	MLEC	0.004	IMPAD1	0.001	MRPL12	0.012	ZNF587	0.212
267	COPB2	0.005	ESR1	0.004	ISG20	0.001	HSPA13	0.012	CKAP4	0.213
268	FMNL3	0.005	SERP1	0.004	GARS	0.001	GLDC	0.012	THOC2	0.213
269	EAF2	0.005	GLG1	0.004	UNC13B	0.001	DNM2	0.012	RAD51	0.214
270	ATP8B2	0.005	PIK3CD	0.004	C13orf15	0.001	C14orf181	0.012	SSR2	0.214
271	TMEM80	0.005	COPE	0.004	SRP54	0.001	SACS	0.012	FOSL2	0.214
272	TXNDC11	0.005	NUCB1	0.004	ARID4A	0.001	LY6E	0.012	ABHD5	0.214
273	SSR2	0.005	CDR2	0.004	AARS	0.001	UCP2	0.012	GOLGA1	0.214
274	NELF	0.005	TM9SF2	0.004	GFPT1	0.001	ALKBH7	0.012	FOXN2	0.214
275	CHID1	0.006	MALT1	0.004	ATP6AP1	0.001	TSEN54	0.012	GABARAP	0.214
276	UCK2	0.006	EHD3	0.004	HLA-DMB	0.001	CHCHD10	0.013	PLCG1	0.214
277	BCL2L11	0.006	ARNT	0.004	TRAM1	0.001	TMOD2	0.013	IREB2	0.214
278	FBXO18	0.006	FAM69A	0.004	PRDX5	0.001	DYRK1B	0.013	NOL9	0.214
279	STT3B	0.006	IFNAR2	0.004	MPST	0.001	NCOR2	0.013	RAVER2	0.214
280	DPAGT1	0.006	MET	0.004	CDR2	0.001	SPINT2	0.013	UTP20	0.214
281	IDH2	0.006	PHF11	0.004	DNAJC7	0.001	CSK	0.013	HSP90B1	0.216
282	MTRR	0.006	BCL2L11	0.004	CYFIP2	0.001	41526.000	0.013	TNFAIP2	0.216
283	EVL	0.006	CHAC2	0.004	SLC44A1	0.001	ISYNA1	0.013	ZEB2	0.216
284	KIAA0114	0.006	SURF4	0.004	PDE1B	0.001	TMEM222	0.013	SEMA4G	0.216
285	SCAF4	0.006	TET3	0.004	GNL3	0.001	RC3H1	0.013	MYB	0.216
286	CYB561D1	0.006	TP53I11	0.005	FAM171A1	0.001	ARL6IP4	0.013	GALNT11	0.216
287	SLA	0.006	METTL7A	0.005	TMEM208	0.001	TCF3	0.013	GABPB1	0.216
288	RUNX2	0.006	TMEM147	0.005	MTSS1	0.001	HCFC1R1	0.013	IGJ	0.216
289	CISD2	0.006	C10orf76	0.005	NDRG3	0.001	BRWD3	0.013	ITGA6	0.216
290	ATP6AP1	0.006	TM9SF1	0.005	GMPPA	0.001	CALM3	0.013	PRKAB2	0.216
291	ZNF783	0.006	ME2	0.005	SPCS3	0.001	FCGRT	0.013	TWSG1	0.218
292	ATG13	0.006	ZCCHC2	0.005	TAF7	0.001	GOLGA4	0.013	KDELR1	0.218
293	FKBP15	0.006	RABAC1	0.005	SMAD3	0.001	LAP3	0.013	APOL1	0.219
294	TMED10	0.006	ARF1	0.005	GMPPB	0.001	PIK3R2	0.013	TNRC6A	0.219
295	KIAA0753	0.006	GPR172A	0.005	FAM8A1	0.001	IDH3B	0.013	NEK7	0.219
296	IFI27L2	0.006	ATG13	0.005	SEC61A1	0.001	DDX60L	0.013	PDIA4	0.220

297	DAD1	0.006	ATG12	0.005	SEC23B	0.001	PKN1	0.013	C2orf28	0.220
298	PLD3	0.006	NDUFS3	0.005	MANF	0.001	CLN3	0.013	DYNC2LI1	0.220
299	NRD1	0.006	CCDC69	0.005	GUSB	0.001	SEC11C	0.013	GLYCTK	0.220
300	GFI1	0.006	LRRC59	0.005	GOLGA2	0.001	GPAA1	0.013	PALLD	0.220
301	ANKRD28	0.006	C6orf129	0.005	CRELD2	0.001	TFEB	0.013	MRPS33	0.220
302	PPIB	0.006	ACYP1	0.005	PHLPP2	0.001	RPAP3	0.013	TIGIT	0.220
303	IRF2BPL	0.006	CD320	0.005	LAX1	0.001	CAPN10	0.013	SLC43A3	0.220
304	SEC63	0.006	FMNL3	0.005	ZNF107	0.001	BIN1	0.013	TRIM47	0.220
305	NUS1	0.006	NDUFB9	0.005	IFI27L1	0.001	C19orf22	0.013	REXO2	0.220
306	ZBTB38	0.006	GPAA1	0.005	NIN	0.001	UBE2J2	0.013	LMO7	0.220
307	ITM2A	0.006	EML4	0.005	GPT2	0.001	CLIP2	0.013	PBLD	0.222
308	GFPT1	0.006	MTDH	0.005	REC8	0.001	USP15	0.013	YIF1B	0.223
309	CNP	0.006	NXF1	0.005	CD22	0.001	TGFB1	0.013	PDIA5	0.223
310	CD40	0.006	COX5A	0.005	PAN3	0.001	CCDC137	0.013	WDR60	0.223
311	KRI1	0.006	DDB1	0.005	COPA	0.001	ANKMY1	0.013	ITM2A	0.223
312	FAM46C	0.006	YKT6	0.005	RAB1A	0.001	VPS13A	0.013	DNM1L	0.223
313	SYNGAP1	0.006	SLC31A1	0.005	FNBP1	0.001	RPN2	0.013	PGM3	0.223
314	KCTD3	0.006	VCP	0.005	NDFIP2	0.001	WDR34	0.013	TMED9	0.223
315	SEC61G	0.006	ARFGAP3	0.005	SETD7	0.001	PRKAB2	0.013	GPANK1	0.223
316	ZNF260	0.006	TMED3	0.005	CHST15	0.001	MYO1G	0.013	KCNH8	0.223
317	RIN3	0.006	DENND5B	0.005	HSP90B1	0.001	C21orf2	0.013	ERLEC1	0.223
318	WDR77	0.006	HDAC1	0.005	RGS13	0.001	EPHB6	0.013	SLC16A14	0.223
319	CDR2	0.006	OGG1	0.005	RPS23	0.001	TMX3	0.013	RPL22L1	0.223
320	NDUFA1	0.006	WDFY4	0.005	P2RY14	0.001	DCXR	0.013	CHMP1B	0.224
321	HSPA5	0.006	CD72	0.005	APBB1	0.001	PCMTD1	0.013	ZNF358	0.224
322	C12orf23	0.006	ZNF300	0.005	B4GALT2	0.001	GPS1	0.013	ITPRIP	0.224
323	QSOX2	0.006	DNASE2	0.005	SLAMF1	0.001	SEC24D	0.014	KLF7	0.224
324	SEC61B	0.006	TMEM208	0.005	MLEC	0.001	SOLH	0.014	MTRR	0.224
325	SEMA4A	0.006	SUCLG1	0.005	TMED7	0.001	TRIP12	0.014	GUF1	0.224
326	CD59	0.006	FBXO33	0.005	SCFD1	0.001	GLCCI1	0.014	PDSS2	0.224
327	USP48	0.006	CLEC17A	0.005	FAM38A	0.001	ITCH	0.014	ZC3H6	0.224
328	AARS	0.006	GFPT1	0.005	TXLNA	0.001	ARPP19	0.014	PHLDB2	0.224
329	HM13	0.006	B9D1	0.005	SELL	0.001	ALDH1L2	0.014	IKZF5	0.224
330	TST	0.006	DSP	0.005	SH3BP5	0.001	RASSF7	0.014	MAP4K3	0.224
331	ERGIC3	0.006	CRIP1	0.006	SNRNP48	0.001	MBOAT7	0.014	PML	0.224
332	IQGAP2	0.006	KRI1	0.006	CLPTM1L	0.001	KNTC1	0.014	PLCD1	0.224
333	TNFRSF17	0.006	IMPAD1	0.006	IFI6	0.001	POLR2E	0.014	RSL24D1	0.224
334	IGJ	0.006	C1orf85	0.006	SPOCK2	0.001	WAS	0.014	ALDH1L2	0.224
335	MRPL51	0.006	NOL8	0.006	LOC643733	0.001	PRMT1	0.014	ZNF773	0.224
336	ALG8	0.006	FOXP1	0.006	UBA5	0.001	OBFC2A	0.014	EP400NL	0.224
337	HMHA1	0.006	USMG5	0.006	KDM5B	0.001	ATP2B1	0.014	C9orf21	0.224
338	ADIPOR1	0.006	UQCRH	0.006	RBM47	0.001	SLC39A14	0.015	ARVCF	0.224
339	MAPK1IP1L	0.006	NUFIP2	0.006	GNAS	0.001	THAP4	0.015	DDX17	0.224
340	PRRC2A	0.006	ERV3	0.006	IL4R	0.001	TSC22D4	0.015	IGKC	0.224
341	HK1	0.006	TXN	0.006	SND1	0.001	ZNF428	0.015	NUAK2	0.224
342	EI24	0.006	ARHGAP17	0.006	CBX1	0.002	EBP	0.015	ZBTB40	0.224
343	GNL3	0.006	HDHD1	0.006	CLCC1	0.002	HOOK3	0.015	TIMP1	0.224
344	CD24	0.006	TUFM	0.006	CXCR3	0.002	NUBP2	0.015	EIF2C2	0.224
345	DCPS	0.006	MDH2	0.006	DEK	0.002	FBXO11	0.015	ANKRD42	0.224
346	GORASP2	0.006	HIPK2	0.006	TMEM147	0.002	GOLT1B	0.015	SUMO2	0.224
347	ITGA3	0.006	ITSN2	0.006	ALG2	0.002	KRAS	0.015	TRAM2	0.224
348	NDUFA9	0.006	TNFRSF13B	0.006	KIF21A	0.002	ST6GALNAC6	0.015	ZYG11A	0.224
349	INPP5D	0.006	NDUFV2	0.006	TM9SF3	0.002	TANK	0.015	WNT16	0.224
350	NOM1	0.006	FAM55C	0.006	PDE7A	0.002	DIS3	0.015	PSMD11	0.224
351	GLT8D1	0.006	ZFP36L1	0.006	P4HB	0.002	RIF1	0.015	ST13	0.224
352	COX5A	0.007	TOP1	0.006	APOL6	0.002	NCF1	0.015	SERTAD2	0.224
353	AK3	0.007	MDM2	0.006	PCF11	0.002	TIMM13	0.015	AGAP3	0.224
354	TMEM64	0.007	DCAF12	0.006	PCM1	0.002	FAM46C	0.015	OGT	0.224
355	ARRDC1	0.007	SLC35A2	0.006	PKD1	0.002	SETD1A	0.015	GRIN3B	0.224
356	STARD7	0.007	SDC1	0.006	ZNF275	0.002	VPS54	0.015	RAB11FIP1	0.224
357	MYO9B	0.007	CTSH	0.006	CERK	0.002	ZNF292	0.015	LOC338758	0.224
358	COPA	0.007	COL4A3BP	0.006	EIF2S2	0.002	ANUBL1	0.015	TSC22D1	0.224
359	L3MBTL3	0.007	NCOA3	0.006	STT3B	0.002	PFKL	0.015	JRK	0.224
360	PACS2	0.007	MYO1B	0.006	SEC63	0.002	EFR3A	0.015	HMGB3	0.224
361	TPST2	0.007	BCKDK	0.006	AXIN2	0.002	PIK3R5	0.015	IDH2	0.224
362	ATP5I	0.007	GNAS	0.006	MAN2A1	0.002	POLD2	0.015	CD27	0.224
363	NUP88	0.007	CR2	0.006	PDIA3	0.002	RSRC2	0.015	ZNF507	0.224
364	GLUL	0.007	C15orf24	0.006	YKT6	0.002	NCBP1	0.015	TIMM17B	0.224
365	PI4K2B	0.007	ANAPC5	0.007	HSPA5	0.002	NME4	0.015	NACA	0.224
366	UGGT1	0.007	HMMR	0.007	CYTIP	0.002	GPSM3	0.015	GAPVD1	0.224
367	COPZ1	0.007	TMEM214	0.007	DAPK1	0.002	DPP7	0.016	FCRLA	0.224
368	DUSP5	0.007	TTC24	0.007	PSEN2	0.002	GUK1	0.016	DDOST	0.224
369	IER3IP1	0.007	SPARC	0.007	CHPF2	0.002	RAB31	0.016	RPL14	0.224
370	DENND1B	0.007	BANK1	0.007	SLC39A8	0.002	ERLEC1	0.016	C1RL	0.224
371	USP35	0.007	C13orf18	0.007	DENND1B	0.002	ZNF107	0.016	KIAA0748	0.224
372	ZMIZ2	0.007	C14orf156	0.007	C1orf85	0.002	NSUN5	0.016	P4HB	0.224
373	CKS2	0.007	ZNF525	0.007	C12orf23	0.002	LTN1	0.016	C20orf194	0.224
374	PDIA4	0.007	MACROD2	0.007	SRP68	0.002	FAM13B	0.016	CAB39L	0.224

375	PIM2	0.007	C8orf80	0.007	TBL2	0.002	CUL4B	0.016	ABHD12	0.224
376	KDELR1	0.007	SLC7A5	0.007	TAB2	0.002	KCTD9	0.016	N6AMT2	0.224
377	ZFP90	0.007	NUS1	0.007	CAMK2D	0.002	FPGS	0.016	FNIP2	0.224
378	CD22	0.007	PSMA6	0.007	GNA12	0.002	APC	0.016	CSF3R	0.224
379	PRKX	0.007	SLC38A5	0.007	VPS54	0.002	TXN2	0.016	TXK	0.224
380	LDLR	0.007	SDF4	0.007	PITPNM2	0.002	SYNCRIP	0.016	HMBS	0.224
381	XPO6	0.007	UBP1	0.007	SEC22B	0.002	CCDC91	0.016	ELK3	0.224
382	PREB	0.007	KLF10	0.007	FER1L4	0.002	JAZF1	0.016	C7orf43	0.224
383	CCR2	0.007	NOP10	0.007	BCL6	0.002	DMD	0.016	EFCAB4B	0.224
384	TMEM165	0.007	EIF4G1	0.007	KANK1	0.002	SH3GLB2	0.016	FAM96A	0.224
385	LEMD2	0.007	GHITM	0.007	RALB	0.002	ATF7IP2	0.016	HM13	0.227
386	DSTN	0.007	RUNDC2C	0.007	CLN6	0.002	FAM89B	0.016	HAUS6	0.227
387	PITPNM1	0.007	GYLTL1B	0.007	PRKCB	0.002	SLC44A2	0.016	CELF2	0.227
388	EHMT2	0.007	CBLN3	0.007	IFNAR1	0.002	SPCS3	0.016	NDUFV2	0.227
389	COPG	0.007	PARP12	0.007	IGHG1	0.002	NAA50	0.016	SDHAP2	0.227
390	ATXN2L	0.007	UGGT1	0.007	SDF4	0.002	UBA5	0.016	B3GNT2	0.227
391	C13orf18	0.007	GFI1	0.007	SF1	0.002	ATP6V0C	0.016	COLQ	0.227
392	MET	0.007	LRRC8C	0.007	PRKCE	0.002	COASY	0.016	C8orf80	0.227
393	FDX1	0.007	C14orf139	0.007	TMED2	0.002	MTFR1	0.016	ZNF654	0.227
394	NDUFV2	0.007	TOP3B	0.007	ZNF271	0.002	ERBB2IP	0.016	PRICKLE2	0.227
395	TTC39C	0.007	KIAA1147	0.007	SLC35B1	0.002	LIMS2	0.016	ZNF511	0.227
396	MLLT6	0.007	PLEKHA2	0.007	VAV3	0.002	TWF2	0.016	PLEC	0.227
397	FAM113A	0.007	CXorf65	0.007	AACS	0.002	CD47	0.016	LOC153684	0.227
398	FUS	0.007	FNBP4	0.007	GRK5	0.002	GNB2	0.016	DNAH8	0.227
399	SMPD2	0.007	C2orf67	0.007	HNRNPH3	0.002	FNDC3B	0.016	DTWD2	0.228
400	PHYHD1	0.007	SNX2	0.007	SEC14L1	0.002	CCDC47	0.016	TYMP	0.228
401	WFS1	0.007	ALG3	0.007	CHI3L2	0.002	MCC	0.016	PLEKHG2	0.228
402	PSPH	0.007	DDX58	0.007	FUCA2	0.002	CLTB	0.016	ZNF417	0.230
403	HYOU1	0.007	SNX22	0.007	ANKRD44	0.002	COQ10B	0.016	NF2	0.231
404	ATP5L	0.007	SP110	0.008	SRGN	0.002	CREB1	0.016	TBC1D22B	0.231
405	PURB	0.007	GBA	0.008	IDE	0.002	UBA6	0.016	ASPM	0.231
406	IL21R	0.007	SLC39A9	0.008	ARHGAP24	0.002	MZB1	0.016	SACS	0.231
407	SCAF8	0.007	SC5DL	0.008	CHID1	0.002	MFN1	0.016	EIF4G1	0.232
408	DAP	0.007	MAPK6	0.008	DHX9	0.002	ATXN2L	0.016	SLFN5	0.233
409	ITGB7	0.007	NDUFAB1	0.008	REV1	0.002	TNKS2	0.017	KTI12	0.234
410	ORC3	0.007	PIGT	0.008	BSG	0.002	CEP57	0.017	STAT1	0.234
411	CDC42BPB	0.007	GMDS	0.008	EPHA4	0.002	SKIV2L2	0.017	C1GALT1C1	0.235
412	DNAJB11	0.007	AQP3	0.008	ARRB2	0.002	PRKCSH	0.017	FAM168A	0.235
413	FLJ36031	0.007	ARL5A	0.008	ZNF525	0.002	USO1	0.017	KIAA0664L3	0.235
414	MOBKL1A	0.007	DERL3	0.008	FCRL3	0.002	SIRT7	0.017	RMI1	0.235
415	KDM6B	0.007	SEC61G	0.008	C11orf10	0.002	ZNF678	0.017	SORL1	0.235
416	CSNK1E	0.007	KLHL14	0.008	SEC61B	0.002	C8orf55	0.017	AUTS2	0.235
417	ABR	0.007	PTGS1	0.008	SEC11A	0.002	PNPLA6	0.017	ITPRIPL2	0.236
418	CLCC1	0.007	NUP88	0.008	ALG9	0.002	ACSF3	0.017	LOC646762	0.237
419	ST8SIA4	0.007	TLR6	0.008	MAN1A2	0.002	ELL2	0.017	SPSB1	0.238
420	RAP1GDS1	0.007	KIAA0922	0.008	CELF2	0.002	ZNF688	0.017	ADAM9	0.238
421	CDK6	0.007	TXNDC12	0.008	INPP5D	0.002	ZNF264	0.017	ZSCAN2	0.238
422	ATG4A	0.007	ATOX1	0.008	NCOA3	0.002	COL18A1	0.017	CASP3	0.238
423	RTN3	0.007	MRPL48	0.008	APOL1	0.002	STK11	0.017	POLE2	0.238
424	MAN1A2	0.007	TMED5	0.008	OAS2	0.002	MBD4	0.017	SAMD3	0.238
425	MICAL3	0.007	DOLPP1	0.008	DNAJC10	0.002	PGLS	0.017	MRPL45	0.238
426	GLB1	0.007	NCRNA00152	0.008	ADAR	0.002	SART1	0.017	LILRB2	0.238
427	MSRB2	0.007	HLA-DRB5	0.008	SLC31A1	0.002	GRINA	0.017	DLG4	0.238
428	SRP19	0.007	TRIM22	0.009	OSTC	0.002	PTK6	0.017	HIPK2	0.238
429	MRPL33	0.007	PPFIBP1	0.009	ELL2	0.002	ADAM8	0.017	LXN	0.238
430	FLOT2	0.008	ERGIC2	0.009	RBMS1	0.002	FCER2	0.017	C5orf30	0.238
431	DDR1	0.008	SNX1	0.009	TMEM59	0.002	ZYG11B	0.017	CEP78	0.238
432	LAMP2	0.008	LAP3	0.009	OAS1	0.002	KIFC2	0.017	ZBTB37	0.238
433	MLEC	0.008	CHST12	0.009	MAML2	0.002	NBN	0.017	SUFU	0.238
434	ALS2CR8	0.008	ABAT	0.009	ARID3A	0.002	SMC6	0.017	GANC	0.239
435	C7orf43	0.008	DDX60L	0.009	CBFA2T2	0.002	SMARCA4	0.017	KIAA1147	0.239
436	ZNF559	0.008	APOBEC3B	0.009	KIAA0513	0.002	RABEP1	0.017	RPS23	0.240
437	SSR1	0.008	PMVK	0.009	AP3D1	0.002	WDR13	0.017	C14orf21	0.241
438	TM9SF2	0.008	ANKRD36BP2	0.009	CASP3	0.002	TSPO	0.017	CCDC39	0.241
439	GMIP	0.008	INPP4A	0.009	HYOU1	0.002	MFSD3	0.017	ACOT7	0.241
440	GIGYF1	0.008	UQCRFS1	0.009	CD47	0.002	HS1BP3	0.017	DNAJC3	0.241
441	HIP1R	0.008	SLC25A46	0.009	DGKA	0.002	MPND	0.017	CFD	0.241
442	EPHB6	0.008	CD22	0.009	SYNGAP1	0.002	DCAF15	0.017	LY86	0.241
443	BLK	0.008	BTN2A1	0.009	RRBP1	0.002	HDLBP	0.017	IRAK3	0.241
444	TNRC6C	0.008	YTHDC2	0.009	ZBTB4	0.002	MAP2K2	0.017	KRBA2	0.243
445	METTL7A	0.008	BSG	0.009	LRRC59	0.002	RRM2B	0.017	CRY1	0.244
446	RPN1	0.008	ATP5J2	0.009	WDR11	0.002	AK3	0.017	ADAM28	0.244
447	FBXL12	0.008	FCER2	0.009	ZNF622	0.003	BCL7C	0.017	PIGG	0.244
448	SIK3	0.008	ENO3	0.009	SYVN1	0.003	C20orf27	0.017	CAMK1	0.244
449	C22orf13	0.008	VOPP1	0.009	WNT5B	0.003	CCDC92	0.017	GLMN	0.244
450	SLC1A4	0.008	RBM25	0.009	KIAA1147	0.003	DHCR7	0.017	LRTOMT	0.244
451	CADM1	0.008	UFD1L	0.009	GOLPH3L	0.003	MYO7B	0.017	PCDHGC3	0.244
452	ADA	0.008	GTF3C6	0.009	IKZF2	0.003	SEC24A	0.017	ZBTB7A	0.244

453	CYFIP2	0.008	HERPUD1	0.009	NOMO2	0.003	TECPR1	0.017	DTL	0.244
454	KDM4B	0.008	ALG2	0.009	SATB1	0.003	PRR14	0.018	PRDX2	0.244
455	CHD8	0.008	UBE2T	0.009	AIM1	0.003	CWF19L2	0.018	RPS24	0.244
456	ALG2	0.008	PRKCI	0.009	IRF8	0.003	ERO1L	0.018	PPIB	0.244
457	ADRBK1	0.008	POLR2L	0.009	C2orf28	0.003	UBXN4	0.018	B9D1	0.244
458	MAN2A1	0.008	ZNF493	0.010	PRDM1	0.003	ZNF385A	0.018	TXNDC11	0.244
459	COX7A2	0.008	ZNF234	0.010	OSBP	0.003	UBE2W	0.018	HIST1H2AC	0.244
460	RCN1	0.008	MBTPS2	0.010	QSOX1	0.003	WDR18	0.018	ACADSB	0.245
461	CLCN6	0.008	SGK1	0.010	MBNL3	0.003	C6orf211	0.018	NEK3	0.245
462	MKL1	0.008	PPA1	0.010	NPAT	0.003	TCL1A	0.018	STAC3	0.247
463	ZNF585B	0.008	ENAH	0.010	GLIPR1	0.003	FASN	0.018	SIL1	0.248
464	SLC39A9	0.008	CPEB4	0.010	LIME1	0.003	RHOBTB3	0.018	HERPUD2	0.248
465	MAP3K14	0.008	RAB1A	0.010	AEBP2	0.003	NUDT21	0.018	HECTD1	0.248
466	ARHGAP30	0.008	CREB3L2	0.010	SHMT2	0.003	TMX1	0.018	BASP1	0.248
467	COPB1	0.008	ATP5G3	0.010	SMAD4	0.003	NME2	0.018	TMED10	0.248
468	SUN2	0.008	PLEKHF2	0.010	EPRS	0.003	RAVER1	0.018	PIAS2	0.248
469	RFC1	0.008	LSP1	0.010	NANS	0.003	STXBP3	0.018	BCAP31	0.248
470	KIAA0922	0.008	RAB36	0.010	RPS6KA3	0.003	THRA	0.018	FANCD2	0.249
471	ATF4	0.008	IKBKE	0.010	GPR172A	0.003	H2AFX	0.018	C14orf118	0.249
472	C1orf52	0.008	NDUFB6	0.010	NET1	0.003	PPP5C	0.018	AFG3L1P	0.250
473	RRAGD	0.008	HLA-DRB1	0.010	DAAM1	0.003	B3GALT6	0.018	PTCD2	0.250
474	RLTPR	0.008	OAF	0.010	SEC61G	0.003	GMFB	0.018	KIAA1274	0.250
475	PABPC4	0.008	SP100	0.010	TPM3	0.003	CASP8AP2	0.018	SLC25A45	0.250
476	UCHL5	0.008	MGAT2	0.010	VCP	0.003	C3orf64	0.018	RBM25	0.250
477	FDPS	0.008	DMD	0.010	TTYH3	0.003	ERF	0.018	TSEN54	0.250
478	ZNF804A	0.008	WBSCR22	0.010	TAPBPL	0.003	ATP11C	0.018	NEIL1	0.250
479	UBE2G1	0.008	EPRS	0.010	VEZF1	0.003	MTR	0.018	SPARC	0.250
480	GARS	0.008	PLOD1	0.010	BRP44L	0.003	ZNF518A	0.018	PRDX6	0.250
481	IFNGR2	0.008	FXN	0.010	ITGAM	0.003	TBCB	0.018	ZNF410	0.250
482	HIP1	0.008	ATP6AP1	0.011	MYO7B	0.003	SPTLC1	0.018	THRA	0.250
483	PSMD7	0.008	ATF6	0.011	SEC13	0.003	TSHR	0.018	CHAF1A	0.250
484	FZD3	0.008	COMMD1	0.011	STARD13	0.003	CNOT6	0.018	ARID5B	0.250
485	CKAP4	0.008	CDV3	0.011	PRDM15	0.003	MRPL3	0.018	GSG2	0.250
486	C19orf10	0.008	PGRMC2	0.011	APOL2	0.003	PAK4	0.018	SRP19	0.250
487	PPARD	0.008	PARVG	0.011	PI4K2B	0.003	DVL2	0.019	KCTD3	0.250
488	SIGIRR	0.008	UQCRC1	0.011	PSIP1	0.003	LYL1	0.019	SPEN	0.250
489	UTP3	0.008	CNR2	0.011	STIM1	0.003	EIF2AK2	0.019	FASN	0.250
490	HLA-DQB2	0.008	CDC14A	0.011	SCARB1	0.003	LRRC58	0.019	BMS1P4	0.250
491	ELL	0.008	UNC119	0.011	SURF4	0.003	DGKZ	0.019	CACNB4	0.250
492	TCL1A	0.008	MLST8	0.011	GSTM2	0.003	CCDC88A	0.019	STK3	0.250
493	SH3TC1	0.008	GPRIN3	0.011	PKIG	0.003	S1PR4	0.019	ZNF101	0.250
494	GPRIN3	0.008	NDUFAF1	0.011	TMEM39A	0.003	RNPEPL1	0.019	RSF1	0.250
495	HLA-DMA	0.008	CNP	0.011	FAM65B	0.003	ARRDC1	0.019	MGAT5	0.250
496	COMMD3	0.008	VDR	0.011	ABLIM1	0.003	KLC4	0.019	TP53INP1	0.250
497	LRRC59	0.008	DGKA	0.011	MFSD11	0.003	FAM69B	0.019	HMBOX1	0.250
498	PSMA6	0.008	GUSB	0.011	SLC35E1	0.003	DHX36	0.019	LLPH	0.250
499	CHPF2	0.008	FAM38A	0.011	ARL6IP5	0.003	C19orf10	0.019	HEATR6	0.251
500	HRASLS2	0.008	HLA-DPB1	0.011	SETD2	0.003	TRAM2	0.019	EDN1	0.251
501	PFKFB2	0.008	RBM6	0.011	CR2	0.003	GHDC	0.019	ZBP1	0.251
502	LOC100506710	0.008	ZNF593	0.012	IRF1	0.003	PHPT1	0.019	FEM1B	0.251
503	ENTPD7	0.008	TEP1	0.012	PCK2	0.003	AGRN	0.019	RAD54L2	0.251
504	C14orf145	0.009	SLC4A7	0.012	COPB2	0.003	CDK10	0.019	AMICA1	0.251
505	HIPK2	0.009	DYNLRB1	0.012	STARD5	0.003	PICALM	0.019	DENND1B	0.251
506	MGAT2	0.009	VAMP4	0.012	SMEK1	0.003	RNH1	0.019	KIAA1797	0.251
507	AGPAT6	0.009	MRPL39	0.012	PTPRC	0.003	NDUFB7	0.019	ARID2	0.251
508	EIF5B	0.009	TSHR	0.012	CASP10	0.003	INTS5	0.019	IFI27L2	0.251
509	WDFY4	0.009	CD19	0.012	CCNC	0.003	IMPDH1	0.019	SURF4	0.252
510	FCER2	0.009	TTC14	0.012	CLIC1	0.003	LMAN1	0.019	DNAH1	0.252
511	MESDC2	0.009	CLCF1	0.012	CD96	0.003	AXIN1	0.019	C3AR1	0.252
512	SLC30A5	0.009	ATP6V0B	0.012	NCK2	0.003	LMBRD1	0.019	AKAP1	0.252
513	PAX5	0.009	RFC1	0.012	TRANK1	0.003	IGSF8	0.019	KDM4A	0.252
514	DRAM2	0.009	TM9SF3	0.012	EXT1	0.003	GRK6	0.019	RPN1	0.252
515	B9D1	0.009	NDUFA11	0.012	SLC30A5	0.003	VPS26A	0.019	LNPEP	0.252
516	SYT17	0.009	DYRK2	0.012	DYRK2	0.003	TNFRSF14	0.019	FICD	0.252
517	NBEA	0.009	SRP68	0.012	MCM9	0.003	ZNF518B	0.019	CHST15	0.252
518	ARF4	0.009	TXNDC17	0.012	L3MBTL3	0.003	COPB1	0.019	NPAT	0.252
519	GLTSCR2	0.009	CWC25	0.012	CALR	0.003	FAM20B	0.019	B3GNT7	0.252
520	ZNF767	0.009	GPRC5D	0.012	MTHFD2	0.003	RPS6KB2	0.019	PARP16	0.252
521	C9orf72	0.009	PBX2	0.012	SMC6	0.003	TNFSF10	0.019	ZNF624	0.252
522	FAM65A	0.009	MIXL1	0.012	SUB1	0.003	STK38L	0.019	GPM6B	0.252
523	CHST15	0.009	DDX49	0.012	CD37	0.003	ADRM1	0.019	LOC100131564	0.252
524	VOPP1	0.009	ZNF320	0.012	SESN2	0.004	CCDC117	0.019	TASP1	0.252
525	FAM69A	0.009	NTHL1	0.012	PHF20	0.004	GFPT1	0.019	LRFN1	0.252
526	KRTCAP2	0.009	GALNT14	0.012	LAIR1	0.004	NPTN	0.019	SGCE	0.252
527	MINK1	0.009	UBE2G1	0.012	TRAM2	0.004	ZNF296	0.019	NUDT13	0.252
528	PDE7A	0.009	EDF1	0.012	FITM2	0.004	SGSM3	0.019	SELS	0.252
529	PLEKHG1	0.009	PLA2G16	0.012	DSTN	0.004	IDH3A	0.019	MYSM1	0.252
530	SEC13	0.009	CYCS	0.012	FAR2	0.004	PPOX	0.019	KIAA0513	0.252

531	IMPAD1	0.009	SLC25A5	0.012	NAAA	0.004	SENP6	0.019	ZNF527	0.252
532	PARVG	0.009	GAS6	0.013	CAMK2N1	0.004	USP53	0.019	CLSTN3	0.252
533	ATP5A1	0.009	TCF19	0.013	MICAL3	0.004	STK40	0.020	ZYX	0.253
534	PDE8A	0.009	CD1A	0.013	ITFG1	0.004	EML3	0.020	CD93	0.253
535	MED15	0.009	CHST15	0.013	HIF1A	0.004	SLFN11	0.020	WDR90	0.253
536	FAF2	0.009	L3MBTL3	0.013	ALDH18A1	0.004	ATP6V0A2	0.020	STARD3NL	0.253
537	ARCN1	0.009	SMAD3	0.013	MIER1	0.004	CPNE3	0.020	MZT2A	0.253
538	GHITM	0.009	UHRF2	0.013	C6orf48	0.004	RBM10	0.020	ANKRD36BP1	0.253
539	ARL1	0.009	GAPDH	0.013	NEK9	0.004	C14orf80	0.020	C1orf38	0.253
540	ARRDC2	0.009	ZNF761	0.013	TLE1	0.004	SECISBP2L	0.020	SMG6	0.253
541	FGR	0.009	NOMO3	0.013	GBF1	0.004	CHUK	0.020	RXRA	0.253
542	TMED9	0.009	LDLRAP1	0.013	PEG10	0.004	RANBP2	0.020	C20orf111	0.253
543	HLA-DOB	0.009	TPST2	0.013	PAIP2B	0.004	RHOT2	0.020	RALY	0.253
544	ADCY7	0.009	SHMT1	0.013	STK17A	0.004	EIF3K	0.020	YWHAE	0.253
545	BCAP29	0.009	HNRNPAB	0.013	FAM129C	0.004	C11orf68	0.020	PAG1	0.253
546	HLA-DOA	0.009	TOP1MT	0.013	P2RX5	0.004	MFSD10	0.020	BARD1	0.253
547	ARHGAP17	0.009	PSMC3	0.013	PMM2	0.004	BRAT1	0.020	LAPTM4A	0.253
548	STAT6	0.009	ZDHHC12	0.013	ZNF821	0.004	TMED5	0.020	FAM120B	0.254
549	HLA-DMB	0.009	ANKRD57	0.013	TAF4	0.004	MFNG	0.020	MMACHC	0.254
550	TRMT1	0.009	KHNYN	0.013	DAP	0.004	YPEL3	0.020	PLXNA3	0.254
551	FNDC3A	0.009	POMP	0.013	GLTSCR1	0.004	ZMYM5	0.020	PLD3	0.254
552	CNPY3	0.009	STAT2	0.013	FTSJ1	0.004	RINT1	0.020	VPS13A	0.254
553	NEU1	0.009	CIITA	0.013	FBXW7	0.004	C1orf27	0.020	RNF146	0.254
554	TBXAS1	0.009	TANC1	0.013	STBD1	0.004	PSME4	0.020	ARL8A	0.254
555	OXSR1	0.009	FGD2	0.013	CEP120	0.004	MTERF	0.020	LOC100129387	0.254
556	OSGEP	0.009	WDSUB1	0.013	SPPL2B	0.004	NT5C	0.020	SLC39A10	0.254
557	ADAP2	0.009	SATB1	0.013	C17orf60	0.004	KCNQ1	0.021	LOC645212	0.254
558	KLF10	0.009	KIF21A	0.013	DNAJB11	0.004	MMP24	0.021	LOC375190	0.254
559	SND1	0.009	IBTK	0.013	RERE	0.004	POLG	0.021	LYZ	0.255
560	PTGES3	0.009	GGA2	0.013	XPO1	0.004	FAM195A	0.021	C3orf62	0.255
561	TIMD4	0.009	HEXB	0.013	AFF3	0.004	IGHG2	0.021	UQCRFS1	0.256
562	IER5	0.009	CDC6	0.013	GLG1	0.004	FAM109A	0.021	C6orf192	0.256
563	NME4	0.009	TMCO1	0.013	GGA2	0.004	SLC25A1	0.021	HCCS	0.256
564	ABCA2	0.009	AGAP6	0.014	TMC8	0.004	INO80E	0.021	C20orf30	0.256
565	DERL1	0.009	RNF44	0.014	CXCR7	0.004	OBSCN	0.021	PRDM1	0.256
566	CNPPD1	0.009	INADL	0.014	PRDX2	0.004	ACTR1B	0.021	PDE1B	0.256
567	ARHGEF18	0.009	HLA-DOB	0.014	PIM2	0.004	FAM76B	0.021	ATG2B	0.256
568	FAM129C	0.009	TIA1	0.014	STAT5B	0.004	SLC2A6	0.021	PSMB6	0.256
569	CCDC115	0.009	ARSB	0.014	HS2ST1	0.004	CCS	0.021	ZNF799	0.256
570	BMP2K	0.009	TMC8	0.014	RLTPR	0.004	ZNF45	0.021	TIGD5	0.257
571	E4F1	0.009	PILRB	0.014	SPECC1L	0.004	FLOT2	0.021	HMGN4	0.257
572	CSNK1G2	0.009	BCL11A	0.014	SOCS5	0.004	ATP5D	0.021	PARP15	0.257
573	GGA3	0.009	GLI1	0.014	PDIA6	0.004	ISOC2	0.021	HGSNAT	0.257
574	LIMD2	0.009	JUP	0.014	ERP44	0.004	ATRX	0.021	PUM1	0.257
575	MMADHC	0.009	POMT2	0.014	BMP2K	0.004	LOC730101	0.021	KCND1	0.257
576	GALK2	0.009	PRRC1	0.014	ZNF266	0.004	SDK2	0.021	C20orf12	0.257
577	ZNF529	0.009	AIM1	0.014	ACOXL	0.004	PCNXL2	0.021	FKBP2	0.257
578	PRMT5	0.009	FAM160A2	0.014	LGALS1	0.004	GPX1	0.021	KIAA0125	0.258
579	MYH9	0.009	CEPT1	0.014	LOC283663	0.004	RAPGEF2	0.021	CKS1B	0.258
580	FAIM3	0.009	RHBDD3	0.014	LONP1	0.004	MIIP	0.021	CCDC144B	0.258
581	DTX4	0.009	EIF2S2	0.014	HEXB	0.004	TMEM30A	0.021	LMAN2	0.259
582	FOXP1	0.009	TMOD2	0.014	IFI30	0.004	CAPN1	0.021	BNIP1	0.259
583	PIGK	0.009	BIRC3	0.014	MGAT5	0.004	TAOK1	0.021	SPIB	0.259
584	MRPL3	0.009	C17orf57	0.014	UGGT1	0.004	ARHGAP12	0.021	DFNB31	0.259
585	SELT	0.010	AP1G2	0.014	NRIP1	0.004	MLLT1	0.021	KIFC1	0.259
586	DCAF12	0.010	ATP5B	0.014	ZNF395	0.004	STAG2	0.021	UBC	0.259
587	MAP3K1	0.010	SLC39A14	0.014	ADM	0.004	YTHDF3	0.022	LSM11	0.260
588	RYK	0.010	PRPF39	0.014	PACS1	0.004	LIPT2	0.022	KCNAB1	0.261
589	NRAS	0.010	KIAA1033	0.014	RTN3	0.004	KIAA1430	0.022	TSEN34	0.262
590	BICD2	0.010	ATP6AP2	0.014	SLC39A10	0.004	IGJ	0.022	ESF1	0.262
591	PRIC285	0.010	PIGK	0.015	SIX5	0.004	KBTBD8	0.022	LOC541471	0.262
592	FKBP14	0.010	ELL	0.015	BACH2	0.004	HLA-DMB	0.022	SFPQ	0.262
593	CANX	0.010	C20orf3	0.015	SFXN4	0.004	PTBP1	0.022	ZNF532	0.263
594	CD79B	0.010	PRDM1	0.015	LARP1B	0.004	NFYB	0.022	CHCHD2	0.263
595	ZNF846	0.010	CASP3	0.015	C22orf13	0.004	ORAI1	0.022	FAM89B	0.263
596	NUDT5	0.010	C12orf10	0.015	ISG15	0.004	DLD	0.022	PEX1	0.263
597	ANG	0.010	STIM2	0.015	UHMK1	0.004	XRN1	0.022	SAMD4A	0.263
598	HCK	0.010	CD99L2	0.015	C15orf39	0.004	IQCG	0.022	FPGT	0.263
599	LCN10	0.010	MRPS18A	0.015	DDR1	0.004	PKNOX1	0.022	PLOD1	0.263
600	KDM4C	0.010	IGF2R	0.015	ZNF529	0.004	ABHD8	0.022	FAM54A	0.263
601	RNF216	0.010	IKBIP	0.015	N4BP2	0.004	MCTS1	0.022	BNIP3L	0.263
602	MYO1G	0.010	PARP14	0.015	RCBTB2	0.004	COPB2	0.022	STRADB	0.264
603	PIM1	0.010	VPS25	0.015	SCAMP5	0.004	SPIN3	0.022	NCOA2	0.264
604	CHD3	0.010	KMO	0.016	LIN52	0.004	SPPL2B	0.022	MAGED1	0.264
605	TFG	0.010	SESTD1	0.016	TNFRSF17	0.005	SLC39A4	0.022	ATP6V1E2	0.264
606	IRF8	0.010	FKBP2	0.016	ZNF418	0.005	RBM25	0.022	TUBA1A	0.264
607	PHC1	0.010	RALGPS2	0.016	LIMK2	0.005	SH2B2	0.022	LOC644961	0.264
608	BCL11A	0.010	NET1	0.016	NOTCH2	0.005	CD79B	0.022	LYRM1	0.264

609	IRF4	0.010	C4orf34	0.016	RANBP10	0.005	N4BP2	0.022	EZH2	0.264
610	CASP3	0.010	HVCN1	0.016	PIK3R5	0.005	TMCO1	0.022	ACADS	0.264
611	CEPT1	0.010	CEP290	0.016	RAPGEF2	0.005	SREBF1	0.022	P4HA1	0.264
612	PDDC1	0.010	MS4A1	0.016	BLK	0.005	ESF1	0.022	BROX	0.264
613	RNF44	0.010	ZFC3H1	0.016	EHD4	0.005	HMHA1	0.022	TRMT5	0.265
614	TIMM17A	0.010	PHPT1	0.016	ING5	0.005	ORC3	0.022	TYROBP	0.265
615	TMEM214	0.010	NANS	0.016	PDIK1L	0.005	ICAM2	0.022	CTH	0.265
616	C6orf129	0.010	ANKZF1	0.016	GPR155	0.005	CPEB4	0.022	APP	0.265
617	PRKCE	0.010	POP4	0.016	AIFM3	0.005	ZFPL1	0.022	LOC100133991	0.265
618	GIPR	0.010	NDUFA7	0.016	LRRC42	0.005	LINGO3	0.022	CD1C	0.266
619	ARHGAP4	0.010	KATNB1	0.016	CHD3	0.005	RNF187	0.022	C10orf2	0.266
620	PARM1	0.010	TMEM67	0.016	PSMC2	0.005	DCAF17	0.022	SUGP2	0.266
621	SLC39A7	0.010	E2F7	0.016	ACP2	0.005	DRG2	0.022	ELL2	0.266
622	BIN1	0.010	BDH2	0.016	FAM172A	0.005	C17orf70	0.022	TYMS	0.266
623	MORF4L2	0.010	PSMC2	0.016	CEP135	0.005	RIOK2	0.022	HSCB	0.266
624	COL9A2	0.010	IRF8	0.016	GANAB	0.005	ZZZ3	0.022	BMF	0.267
625	NUDCD3	0.010	SLC16A1	0.016	HLA-DMA	0.005	MRPL1	0.022	MRPL34	0.267
626	RFX5	0.010	CERK	0.017	SLC37A1	0.005	SCAF11	0.022	PYGL	0.268
627	CD74	0.010	LOC202781	0.017	IL10RA	0.005	SLC25A39	0.022	TANC2	0.268
628	KCTD13	0.010	KIAA1731	0.017	MYO1D	0.005	BAHD1	0.022	SFXN1	0.268
629	NUP214	0.010	C1orf43	0.017	BANK1	0.005	WNT10A	0.022	WWC1	0.269
630	SMCR8	0.010	MBNL2	0.017	MAGT1	0.005	PRDX4	0.022	XRN1	0.269
631	ZNF516	0.010	MAP9	0.017	RCAN3	0.005	PLAA	0.022	DNAH11	0.269
632	NT5C	0.010	GARS	0.017	IFIT1	0.005	IMP4	0.023	RICTOR	0.270
633	TXNDC17	0.010	OFD1	0.017	MBP	0.005	LRP10	0.023	PRCP	0.270
634	TPCN1	0.010	TECR	0.017	NDUFA13	0.005	ARFGEF1	0.023	POMP	0.270
635	LIMS1	0.010	NDFIP2	0.017	CADM1	0.005	DNAJB11	0.023	CPVL	0.271
636	SNX22	0.010	FTSJD1	0.017	EBF1	0.005	ABTB1	0.023	EAPP	0.271
637	MTSS1	0.010	SLC25A23	0.017	ORMDL3	0.005	ERLIN1	0.023	EID2	0.271
638	LMAN2	0.010	RBM3	0.017	TCTEX1D2	0.005	MRE11A	0.023	HIF1A	0.271
639	PSMA4	0.010	STOML2	0.017	TAF15	0.005	NDUFS7	0.023	TMEM2	0.271
640	SLC1A5	0.010	TRAF5	0.018	BST2	0.005	HSP90B1	0.023	PCNP	0.271
641	PRRC2B	0.010	AARS	0.018	ARFGAP1	0.005	INSIG2	0.023	C19orf42	0.271
642	MRPL13	0.010	CCR2	0.018	ATAD3A	0.005	NFKB2	0.023	ANLN	0.271
643	C20orf3	0.010	HARS2	0.018	HLA-DRA	0.005	TMEM184B	0.023	BYSL	0.271
644	ZNF548	0.010	SDHA	0.018	NOMO3	0.005	FNIP1	0.023	POLG2	0.271
645	DYNLL2	0.010	ECHS1	0.018	ZNF320	0.005	FES	0.023	CHPF	0.271
646	GPR180	0.010	RYK	0.018	ARRDC2	0.005	ARF5	0.023	ZNF621	0.271
647	BMP6	0.010	PSMA2	0.018	CARS	0.005	SYNPO	0.023	ZNF192	0.271
648	GGH	0.010	PARK7	0.018	UCK2	0.005	N4BP2L2	0.023	SLFN13	0.271
649	RASSF1	0.010	ITPR3	0.018	ASAP1	0.005	LYSMD3	0.023	DUSP16	0.271
650	ERN1	0.010	JRKL	0.018	MLLT6	0.005	SCFD1	0.023	ZNF37BP	0.271
651	UBA5	0.010	PATL1	0.018	TMEM70	0.005	DHRS13	0.023	TBC1D16	0.271
652	GNB5	0.010	PIF1	0.018	NEK8	0.005	ERGIC2	0.023	NCRNA00183	0.271
653	TRAK1	0.010	MEI1	0.018	RRM2B	0.005	ST3GAL2	0.023	LRRC59	0.271
654	DIEXF	0.010	C3orf52	0.018	SLC10A7	0.005	SRFBP1	0.023	ISG20	0.271
655	EHD1	0.010	PDHX	0.018	PDGFD	0.005	REXO1	0.023	ZNF256	0.271
656	TP53INP1	0.010	CYBASC3	0.018	NFATC1	0.005	TMEM188	0.023	ERP27	0.271
657	UBXN4	0.010	ERH	0.018	FAIM3	0.005	HNRNPUL2	0.023	LOC285359	0.272
658	TGFB1	0.010	TNFRSF13C	0.018	GUK1	0.005	POLM	0.023	XIST	0.272
659	XYLT2	0.010	HLA-DOA	0.018	FDFT1	0.005	PPDPF	0.023	APOBR	0.272
660	LRPAP1	0.010	ZNF333	0.018	KLHL6	0.005	HEXDC	0.023	PHF15	0.272
661	SGCE	0.010	CAMK2D	0.018	TRAK1	0.005	EIF4EBP1	0.023	NRIP1	0.272
662	CBX7	0.010	EIF5A	0.018	ANKIB1	0.005	SNRNP70	0.023	REL	0.272
663	SRPR	0.010	DNAJB9	0.018	PGM3	0.005	ABCA2	0.023	ANKMY1	0.272
664	SF1	0.010	ZNF107	0.018	KIF13A	0.005	SACM1L	0.023	KIAA1199	0.272
665	ERO1L	0.010	KCTD7	0.019	GOLGA3	0.005	RPS6KA3	0.023	CHCHD3	0.272
666	UNC119	0.010	NUP43	0.019	PNPLA7	0.005	CRIP2	0.023	HDHD3	0.272
667	MYO1E	0.010	CYC1	0.019	CASP8AP2	0.005	SAMSN1	0.023	SEL1L	0.272
668	PRKCB	0.010	TMEM175	0.019	CDCA7L	0.005	CAND1	0.023	GON4L	0.272
669	XKRX	0.010	MICAL3	0.019	FAM116B	0.005	ZNF92	0.023	POGLUT1	0.272
670	GGA2	0.010	SLC7A11	0.019	CHCHD2	0.005	CKAP4	0.023	SEC24D	0.272
671	PPP1R12C	0.010	CNPY2	0.019	KDM4A	0.005	IFITM2	0.023	LOC100130691	0.272
672	SIPA1L1	0.010	AHCY	0.019	OST4	0.005	AURKAIP1	0.023	MTG1	0.272
673	ELF4	0.010	CLTC	0.019	INADL	0.005	EXOSC5	0.024	FAM118A	0.272
674	RGS19	0.010	RLTPR	0.019	SNX10	0.005	MUS81	0.024	C8orf76	0.272
675	IDI1	0.010	TBL2	0.019	ARF1	0.005	NCEH1	0.024	NLRC5	0.273
676	MDM2	0.010	SYNGAP1	0.019	ZFP161	0.005	LLGL1	0.024	ANKRD36	0.273
677	BCAS4	0.010	MOBKL1A	0.019	ZDHHC2	0.005	TBRG4	0.024	HDLBP	0.273
678	NANS	0.010	GSTP1	0.019	NEK1	0.005	DUS3L	0.024	LRRC16B	0.273
679	ALG14	0.010	SLC25A3	0.020	TIMM17B	0.005	HDAC9	0.024	TNFRSF8	0.273
680	CRLF3	0.010	NDUFA13	0.020	CCDC93	0.005	MUDENG	0.024	TARDBP	0.273
681	DAGLB	0.010	ARMCX3	0.020	OAT	0.006	HAGHL	0.024	LGALS1	0.274
682	METTL4	0.010	CHCHD1	0.020	ELL	0.006	PWWP2B	0.024	SIRPB1	0.274
683	LOC253039	0.010	GTF2A2	0.020	DCPS	0.006	SLC25A24	0.024	MYO1D	0.274
684	EBF1	0.010	PLOD3	0.020	IGF1	0.006	PLEKHM2	0.024	RRBP1	0.274
685	GPRC5D	0.010	IGKC	0.020	ITSN2	0.006	FUK	0.024	GYG1	0.274
686	ORAI3	0.010	BACE1	0.020	CDK6	0.006	DPP9	0.024	SRRM2	0.275

687	POU2F2	0.010	TRAPPC2L	0.020	LDOC1	0.006	CTDP1	0.024	APOO	0.275
688	KLHL2	0.010	ENTPD7	0.020	C14orf147	0.006	SYT17	0.024	DHX15	0.275
689	ATP2A2	0.010	GALK2	0.020	TXLNG	0.006	PPP1R12A	0.024	ARNT	0.275
690	SIDT2	0.010	EEFSEC	0.020	TBC1D23	0.006	E4F1	0.024	RPS27L	0.275
691	C11orf10	0.010	RAD52	0.020	LSM14B	0.006	MIER2	0.024	AHNAK	0.275
692	SARM1	0.010	B3GNT9	0.020	ASS1	0.006	TBL1XR1	0.024	DAG1	0.275
693	CYBB	0.010	ERO1L	0.020	YIF1A	0.006	DNLZ	0.024	PPP2R3C	0.275
694	PAPOLG	0.010	ZNF195	0.020	EIF4G1	0.006	MTAP	0.024	ZXDC	0.275
695	TRAF3IP2	0.010	PRDX3	0.020	RNF44	0.006	FAM195B	0.024	SLC1A4	0.276
696	SNX1	0.010	HNRPDL	0.020	PIK3IP1	0.006	ZNF644	0.024	SEC61B	0.277
697	ARHGEF1	0.010	NDUFA9	0.020	DSE	0.006	ZHX1	0.024	MRVI1	0.277
698	USP38	0.010	SPTY2D1	0.020	SDCBP	0.006	REPIN1	0.024	RPUSD2	0.278
699	UBTF	0.010	TNFRSF10B	0.020	CADPS2	0.006	ELOF1	0.024	CIT	0.278
700	IFI35	0.010	CEP110	0.020	NAPA	0.006	SGSH	0.024	GMPR2	0.279
701	CR1	0.010	ADPGK	0.020	R3HCC1	0.006	TOR1AIP2	0.024	LYPLA1	0.279
702	GNAS	0.010	ZNF318	0.020	IRAK1	0.006	JMJD8	0.024	LOC283104	0.279
703	SRRM1	0.010	ALDH18A1	0.020	DTX4	0.006	SNX8	0.024	PCNT	0.279
704	GRB2	0.010	MESDC2	0.020	COPB1	0.006	KMO	0.024	CD4	0.279
705	MAP4K2	0.010	FAM65A	0.020	RHBDD3	0.006	RPS14	0.024	LRRC37A4	0.280
706	GBA	0.010	CDKN3	0.021	CLTC	0.006	MVP	0.024	MTHFD2	0.280
707	FAHD2A	0.010	MRPL3	0.021	NAGLU	0.006	PAFAH1B2	0.024	RASGRP1	0.281
708	CCNL2	0.010	GUK1	0.021	MESDC2	0.006	C5orf51	0.024	TRIM3	0.281
709	POU2AF1	0.010	MRPS7	0.021	RPL36AL	0.006	IDH3G	0.024	TNFSF12	0.281
710	PLOD1	0.010	C2orf18	0.021	OFD1	0.006	C1orf35	0.024	FAM116B	0.281
711	GOLGB1	0.010	WARS	0.021	APOBEC3G	0.006	ZBTB1	0.024	IFRD2	0.281
712	SYTL3	0.010	MRPS15	0.021	PHF15	0.006	TXNDC11	0.024	CCNT1	0.281
713	SLC41A2	0.010	PSMB6	0.021	KLF12	0.006	ZBTB41	0.024	DHX29	0.281
714	SERPINB9	0.010	CTNNAL1	0.022	GCNT1	0.006	THOC2	0.024	LRRK1	0.282
715	41528.000	0.010	FUCA2	0.022	C17orf91	0.006	FANCM	0.024	AQP3	0.282
716	CLTC	0.010	NME1	0.022	ATP6V0B	0.006	MNDA	0.024	TMEM5	0.282
717	NCOA3	0.010	TP73	0.022	EDF1	0.006	VKORC1L1	0.024	MAN1A1	0.282
718	LCK	0.010	ELOF1	0.022	ZNF215	0.006	C8orf82	0.024	ZBED6	0.282
719	MMP11	0.010	PSMD9	0.022	LYSMD3	0.006	PNPLA2	0.024	BCL2A1	0.282
720	MLL5	0.010	TMED1	0.022	CCND3	0.006	SLC25A32	0.024	SEC61A1	0.283
721	FOXJ2	0.010	ZADH2	0.022	COL19A1	0.006	RNF149	0.024	RNF144A	0.283
722	LBH	0.010	ZNF12	0.022	TMEM2	0.006	ATF6B	0.024	CHST2	0.283
723	C15orf44	0.010	DNAJC7	0.022	PLEKHA1	0.006	CAMK2D	0.024	DGCR14	0.284
724	HTT	0.010	PRDX1	0.022	SLC6A9	0.006	ZNF628	0.024	FOS	0.285
725	PRDM4	0.010	ZNF516	0.022	SHC1	0.006	GLTSCR1	0.024	DNAJC5B	0.285
726	EIF2S2	0.010	PTBP2	0.022	ZNF238	0.006	SS18	0.024	RPF1	0.285
727	ZNF786	0.010	ZSCAN18	0.022	TMOD2	0.006	ADRBK1	0.024	DDT	0.285
728	ZNF335	0.010	FTSJ1	0.022	MSN	0.006	MAP4K2	0.024	TNIK	0.286
729	C2orf88	0.010	MTHFD2	0.022	SRSF9	0.006	TAB1	0.024	CINP	0.286
730	GPR132	0.010	COX5B	0.022	EIF4A2	0.006	IGKC	0.024	CRELD2	0.286
731	PAPSS1	0.010	KIAA2013	0.022	METTL21A	0.006	SDF4	0.025	C13orf1	0.286
732	KCNG1	0.010	TIMM13	0.023	NAB1	0.006	CCR2	0.025	SLC7A5	0.286
733	LOC100499466	0.010	APOBEC3C	0.023	ZNF585B	0.006	EPS15	0.025	SNTA1	0.286
734	SFMBT1	0.010	SPCS2	0.023	ADM2	0.007	UNC13D	0.025	ABCA11P	0.286
735	CRAMP1L	0.010	ADAM10	0.023	SEC31A	0.007	TMUB1	0.025	COQ10B	0.286
736	TSPAN33	0.010	YIF1A	0.023	LIMD2	0.007	GYLTL1B	0.025	C7orf68	0.286
737	CEP110	0.010	SYT1	0.023	ZNF592	0.007	APBA3	0.025	ITFG1	0.286
738	TRIM65	0.010	AAK1	0.023	ARL1	0.007	IGF1	0.025	NFATC3	0.286
739	POLR1E	0.010	ZNF717	0.023	LRRC8D	0.007	ASNA1	0.025	MFSD5	0.286
740	PPM1F	0.010	ARHGAP9	0.023	ETFDH	0.007	ZMIZ2	0.025	LOC148696	0.287
741	KDELR2	0.011	PDIA3	0.023	ZNF25	0.007	CXXC5	0.025	UAP1	0.287
742	RERE	0.011	KDM4C	0.023	CCDC47	0.007	DNAJC4	0.025	ALG10B	0.287
743	MBTPS1	0.011	LYSMD2	0.023	GLUL	0.007	ACAP1	0.025	ACAD10	0.287
744	CRTC2	0.011	RAB40B	0.023	LTA4H	0.007	BHLHE41	0.025	ABCC2	0.287
745	TMEM184B	0.011	ARCN1	0.023	KIAA0114	0.007	ITGB2	0.025	DCPS	0.287
746	SLC38A5	0.011	ZNF117	0.023	SMAP2	0.007	RAD50	0.025	AKAP13	0.287
747	PWWP2B	0.011	CEP135	0.023	BCL11A	0.007	SIPA1	0.025	ATF7IP	0.287
748	CLPTM1L	0.011	TMEM39A	0.023	FOXP1	0.007	HSPB1	0.025	ZNF329	0.288
749	CARNS1	0.011	GLB1	0.023	PRDM4	0.007	AKAP9	0.025	UHRF1	0.288
750	CIITA	0.011	LOC100499466	0.023	C17orf87	0.007	WDR36	0.025	TARBP1	0.288
751	XPOT	0.011	SEC31A	0.023	DCP1A	0.007	SLC38A2	0.025	ARL10	0.288
752	CLCN7	0.011	ATG16L1	0.023	WDR19	0.007	TOR2A	0.025	CHI3L2	0.288
753	DLAT	0.011	GLRX	0.023	ALG14	0.007	JUP	0.025	ARHGAP33	0.288
754	SPINT1	0.011	LRRC8A	0.023	SUMF2	0.007	PHF20L1	0.025	MMP25	0.288
755	RSAD1	0.011	SNX4	0.023	SDCCAG3	0.007	ZNF800	0.025	NEK2	0.288
756	PDIA3	0.011	LITAF	0.024	HIP1	0.007	HDHD2	0.025	LMNB2	0.288
757	VCP	0.011	PARP15	0.024	ZNF337	0.007	CABIN1	0.025	MCOLN2	0.288
758	RAB37	0.011	RPS19BP1	0.024	RECK	0.007	LASS4	0.025	EP300	0.288
759	ZSCAN18	0.011	LSM3	0.024	TM9SF1	0.007	EHMT2	0.025	RNF19B	0.289
760	PCF11	0.011	CCDC50	0.024	KDM6B	0.007	SPNS1	0.025	SUPT3H	0.289
761	ANK1	0.011	RASA1	0.024	PIP4K2B	0.007	CPSF1	0.025	EIF2C3	0.289
762	MAU2	0.011	PLEKHG1	0.024	SDF2L1	0.007	IPO8	0.025	SBDS	0.289
763	PSTPIP1	0.011	CCDC124	0.024	41527.000	0.007	C7orf55	0.025	KCTD9	0.290
764	BRP44L	0.011	GOLPH3	0.024	ZSCAN18	0.007	LIME1	0.025	ZNF2	0.290

765	KDM2B	0.011	ZMAT1	0.024	HLA-DOB	0.007	AGPAT2	0.025	MAP3K4	0.290
766	GYLTL1B	0.011	SDHAP3	0.024	TMED3	0.007	FAM69A	0.025	SLC44A1	0.290
767	STIM2	0.011	STX7	0.024	CBX7	0.007	APPL1	0.025	ATP5A1	0.290
768	SLC17A9	0.011	ZNF395	0.025	ALG1	0.007	CAPNS1	0.025	GPAM	0.290
769	LPCAT4	0.011	SMCR7L	0.025	ATP2A2	0.007	ARHGAP4	0.025	NETO2	0.290
770	PKD1	0.011	C19orf63	0.025	FMNL3	0.007	LTBP4	0.025	P2RX7	0.291
771	NAT10	0.011	CTSD	0.025	ANAPC16	0.007	FBXL15	0.026	FASTKD3	0.291
772	AFG3L1P	0.011	BCL2	0.025	DBNL	0.007	WDR81	0.026	ERLIN1	0.291
773	AGA	0.011	CDKN2C	0.025	ITM2B	0.007	PDIA4	0.026	BOLA1	0.291
774	LYN	0.011	LY86	0.025	CAST	0.007	SEPN1	0.026	ATXN1	0.291
775	SMOX	0.011	PSME1	0.025	SELT	0.007	PRPF4B	0.026	FAM18A	0.292
776	TBC1D22A	0.011	TMEM64	0.025	MCF2L	0.007	ARMC10	0.026	KIAA1467	0.292
777	HSF4	0.011	CHD7	0.025	CCNDBP1	0.007	LRWD1	0.026	FBN1	0.292
778	ZNF768	0.011	CBR1	0.025	TRABD	0.007	ASPSCR1	0.026	MKS1	0.292
779	TXNDC5	0.011	MIF	0.025	ATG12	0.007	SMAD2	0.026	FAM126A	0.292
780	NEK2	0.011	CSRP1	0.025	LOC100129034	0.007	SIGIRR	0.026	TTC24	0.292
781	RINL	0.011	PRPF4B	0.025	LRRFIP1	0.007	FAM107B	0.026	BUB1B	0.293
782	SRA1	0.011	MPHOSPH8	0.025	LAPTM5	0.007	APAF1	0.026	LMNA	0.293
783	CCDC88B	0.011	ATP5G1	0.025	SPIN1	0.007	TRMT2A	0.026	41336.000	0.293
784	STAP1	0.011	FAM178A	0.025	MPG	0.007	MANEA	0.026	STARD5	0.293
785	CYP51A1	0.011	COPS2	0.026	SDCCAG8	0.007	C12orf52	0.026	HSPA5	0.293
786	ACSS1	0.011	RUFY1	0.026	FAM65A	0.007	FCGBP	0.026	TMEM159	0.293
787	CCDC93	0.011	GCA	0.026	SAV1	0.007	SLC30A6	0.026	PPP4R1L	0.293
788	SLC35B1	0.011	CRTC2	0.026	NDUFV2	0.007	PDIA5	0.026	CADM1	0.293
789	HHEX	0.011	AFF3	0.026	ZMAT1	0.007	GYPC	0.026	LMAN1	0.293
790	TMBIM1	0.011	DDX26B	0.026	C16orf58	0.007	RNMT	0.026	TMEM110	0.293
791	IGLL1	0.011	FAM116B	0.026	HIVEP1	0.007	FEM1C	0.026	PRPSAP2	0.293
792	EPAS1	0.011	NUP160	0.026	PPARD	0.007	RMND5B	0.026	MANF	0.293
793	C13orf15	0.011	KRTCAP2	0.026	RAB3D	0.007	RHBDD1	0.026	CHST7	0.293
794	ZMPSTE24	0.011	RHOB	0.026	FAM53B	0.007	COMT	0.026	SPCS1	0.293
795	TBP	0.011	COX6B1	0.026	PDS5A	0.007	NDUFAF3	0.026	ELK4	0.293
796	JUP	0.011	NFKBID	0.026	ROD1	0.007	ZNF865	0.026	RSG1	0.293
797	PIK3AP1	0.011	MRPS16	0.026	HP1BP3	0.007	MBLAC2	0.026	SCARNA9	0.293
798	ZBTB8OS	0.011	TTC12	0.026	FCHO2	0.007	ITPKB	0.026	CST3	0.293
799	FAM100B	0.011	REL	0.026	SSBP2	0.007	CCM2	0.026	ANG	0.294
800	C15orf24	0.011	CELF1	0.026	TBC1D1	0.007	TBC1D23	0.026	ZFP28	0.294
801	COPS2	0.011	RAPGEF2	0.026	SPCS2	0.007	MAD2L2	0.026	SERPINA1	0.294
802	LHFPL2	0.011	PTTG1	0.026	CLINT1	0.007	MED15	0.026	STT3A	0.294
803	PSMC2	0.011	AVEN	0.026	C7orf11	0.007	SF3B4	0.026	SORT1	0.294
804	ERP44	0.011	SCAF4	0.026	ZFP36L1	0.008	ZNF100	0.026	PEAK1	0.294
805	MAP2K6	0.011	C5orf24	0.026	TMEM198	0.008	TMEM134	0.026	MXI1	0.294
806	PLEC	0.011	MYADM	0.026	MYST3	0.008	TPCN1	0.026	LIMA1	0.294
807	UBAP2	0.011	NAA25	0.026	C1GALT1C1	0.008	SLC30A7	0.026	LOC96610	0.294
808	FOXJ3	0.011	IFNAR1	0.026	ZNHIT6	0.008	USP25	0.026	QPCTL	0.295
809	IFNAR1	0.011	PDXK	0.026	IGHG3	0.008	ZNF208	0.026	C9orf100	0.295
810	SORBS3	0.011	PTPRG	0.026	LOC100506710	0.008	OGFR	0.026	MKI67	0.295
811	RUFY1	0.011	DCAF10	0.026	CNTNAP2	0.008	EBF1	0.026	TMEM177	0.296
812	PLEKHO1	0.011	CHML	0.026	USP18	0.008	WDTC1	0.026	ZCCHC11	0.297
813	SURF4	0.011	HNRNPH1	0.026	SRP19	0.008	GNPDA2	0.026	C12orf51	0.298
814	TRAPPC2	0.011	NDUFA1	0.026	MMP11	0.008	ZDHHC24	0.026	MBD5	0.298
815	PSMB1	0.011	C18orf25	0.026	KIAA0430	0.008	FBXO28	0.026	C11orf57	0.298
816	SPG11	0.011	NETO2	0.026	RBM14	0.008	ZNF512	0.026	PSMC1	0.298
817	DCK	0.011	ECH1	0.026	LOC284749	0.008	ZBTB33	0.026	ANKAR	0.298
818	PDIA6	0.011	MCAT	0.027	LPGAT1	0.008	TTC7A	0.026	NAV1	0.299
819	ARGLU1	0.011	SFT2D2	0.027	PARP16	0.008	DOCK11	0.026	CCL28	0.299
820	ABCB4	0.011	USPL1	0.027	SLC44A2	0.008	SGPP1	0.026	IGHE	0.300
821	GIT2	0.011	SLC35B2	0.027	SLC39A11	0.008	NCF1B	0.026	KIF27	0.300
822	STAT5B	0.011	ZNF440	0.027	CDK2AP2	0.008	CCDC39	0.026	NDNL2	0.300
823	CROCC	0.011	SLAMF1	0.027	ARHGEF6	0.008	CCR7	0.026	HAAO	0.300
824	FGD3	0.011	FER1L4	0.027	FCRL2	0.008	BCL3	0.026	ZNF420	0.300
825	FCGRT	0.011	GINS1	0.027	RHBDD1	0.008	BCAS4	0.026	FLJ12334	0.300
826	ELMO1	0.011	ELOVL5	0.027	PITHD1	0.008	CEBPZ	0.026	MLF2	0.300
827	KTI12	0.011	LAMTOR2	0.027	SLC3A2	0.008	TRIM4	0.026	ZMIZ2	0.300
828	LDB1	0.011	CDC14B	0.027	POLDIP2	0.008	DNAJB14	0.026	CTPS	0.300
829	B4GALT4	0.011	SFSWAP	0.027	IFT57	0.008	KIAA0776	0.026	PIM2	0.300
830	MARS	0.011	LRRK2	0.027	TBC1D5	0.008	COPS8	0.026	C9orf95	0.300
831	ERP29	0.011	CITED2	0.028	CCR7	0.008	CAPS	0.026	C19orf2	0.300
832	CXorf38	0.011	FSIP2	0.028	ESD	0.008	ABHD13	0.026	CDCA8	0.300
833	HLA-DPB1	0.011	R3HCC1	0.028	BIRC3	0.008	ATG4B	0.026	LILRA1	0.300
834	CDK13	0.011	SLCO5A1	0.028	ZNF608	0.008	TBC1D10C	0.026	COL19A1	0.300
835	CR2	0.011	C14orf147	0.028	TIMM17A	0.008	ZNF146	0.026	APTX	0.300
836	LOC541471	0.011	CCDC17	0.028	PRMT2	0.008	MAP3K10	0.026	PRDM10	0.300
837	PIK3CG	0.011	PSTPIP1	0.028	SLC6A16	0.008	PARP11	0.026	TXNDC15	0.300
838	ZC3H12B	0.011	ZNF238	0.028	RPLP0	0.008	TELO2	0.026	LOC100128881	0.301
839	CCDC90A	0.011	EARS2	0.028	CUTA	0.008	POLRMT	0.026	ZNF286A	0.301
840	YARS	0.011	DTX3	0.028	MBTPS2	0.008	IDUA	0.026	SLC26A2	0.301
841	UFC1	0.011	PAQR8	0.028	NR2C2	0.008	HTATSF1	0.026	CD84	0.301
842	FUT8	0.011	EIF3I	0.028	PABPC1L	0.008	BTBD2	0.026	ELP2	0.301

843	ARF6	0.011	ZNF767	0.028	SORL1	0.008	GTPBP10	0.026	NDUFA4	0.301
844	HIST1H1C	0.011	BLMH	0.028	ZNF75A	0.008	SLC10A3	0.027	PHYHD1	0.301
845	TNFRSF13C	0.011	RBM5	0.028	BLCAP	0.008	JMJD1C	0.027	MTCP1	0.301
846	CBFA2T3	0.011	E2F8	0.028	RFC1	0.008	MATR3	0.027	NME6	0.301
847	LILRB4	0.011	ITGB1	0.028	DHDDS	0.009	ANGEL2	0.027	NLRP1	0.301
848	CYTH3	0.011	TIMM8B	0.028	MARCKSL1	0.009	SIRT6	0.027	MYOF	0.301
849	ZNF738	0.011	FAM111A	0.028	S1PR2	0.009	PYCR1	0.027	SLC41A2	0.303
850	ACOX1	0.011	LOC728407	0.028	TXNDC5	0.009	CTSZ	0.027	SMAD7	0.304
851	PPIF	0.011	MRPL12	0.028	GOLGA5	0.009	FMR1	0.027	ITIH4	0.304
852	SNX29	0.011	MTMR4	0.028	UBE2R2	0.009	MAN1A1	0.027	NUP107	0.304
853	AAK1	0.011	C5orf41	0.028	CYTH3	0.009	STXBP2	0.027	XKRX	0.304
854	ERGIC2	0.011	BAK1	0.028	B3GNT9	0.009	COX5B	0.027	RIC3	0.304
855	GGT7	0.011	ECI1	0.028	CALM1	0.009	CCDC88B	0.027	CBLB	0.304
856	TPP1	0.011	RNF146	0.028	BCL7A	0.009	EXOC6	0.027	TUBA1B	0.304
857	TARBP1	0.011	HHEX	0.028	C20orf24	0.009	MOBKL2B	0.027	RPE	0.306
858	RABAC1	0.011	ZNF83	0.028	LOC100294145	0.009	PLA2G6	0.027	FLJ35220	0.306
859	ADM	0.012	ZNF548	0.028	ANG	0.009	LOC221710	0.027	PDIA6	0.306
860	HLA-E	0.012	KIF13B	0.028	SIRT1	0.009	ISG20	0.027	MGEA5	0.306
861	TXN	0.012	SRRD	0.029	ACADVL	0.009	MBNL2	0.027	GPRIN3	0.306
862	SLC38A10	0.012	RIC3	0.029	MTDH	0.009	TXNDC5	0.027	C2orf3	0.306
863	ZFP36L1	0.012	POP7	0.029	LPCAT4	0.009	CDIPT	0.027	UBL7	0.306
864	GRINA	0.012	FCGBP	0.029	MAPK6	0.009	HMGA1	0.028	MON1A	0.306
865	DENND4B	0.012	KIAA2018	0.029	PSMB1	0.009	PDCD4	0.028	NR3C2	0.306
866	SPOCK2	0.012	PRMT1	0.029	PIK3C2B	0.009	ZMYM2	0.028	BCL7C	0.306
867	ME2	0.012	ZNF485	0.029	SAR1B	0.009	ACBD5	0.028	BST2	0.306
868	RAB6A	0.012	SEC23A	0.029	HNRPDL	0.009	NEK7	0.028	SLC25A33	0.306
869	MANBA	0.012	ARID3B	0.029	KIAA1737	0.009	RFX7	0.028	S100A11	0.306
870	HNRPDL	0.012	TAF1C	0.029	MYO15B	0.009	FAM190A	0.028	ZDHHC2	0.306
871	PPP2CA	0.012	FOXRED1	0.029	DAD1	0.009	LYRM7	0.028	GPRC5D	0.306
872	PPP1R3B	0.012	RGS16	0.029	SNX2	0.009	ZNF687	0.028	FAM83D	0.306
873	UBAC2	0.012	PSAT1	0.029	ST8SIA4	0.009	IGHA2	0.028	SPAG16	0.306
874	LZTFL1	0.012	FAM84B	0.029	COX7A2	0.009	C1orf96	0.028	SELRC1	0.306
875	TRAF5	0.012	LUC7L3	0.029	SLC12A4	0.009	CSNK1G2	0.028	IBA57	0.306
876	BHLHA15	0.012	PRRC2C	0.029	GALNT14	0.009	TLE2	0.028	NKTR	0.306
877	MRPS31	0.012	CCR6	0.029	ZBTB44	0.009	ZNF777	0.028	PHF19	0.306
878	FLJ31306	0.012	MRPL40	0.029	GOLIM4	0.009	FAM102B	0.028	GNGT2	0.306
879	ABHD15	0.012	MEF2A	0.029	VARS	0.009	ZMAT3	0.028	HK3	0.306
880	EXOSC1	0.012	DTX1	0.029	CTH	0.009	ABCD1	0.028	DUSP5	0.307
881	PRDX5	0.012	ZWINT	0.029	MANBA	0.009	ZNF136	0.028	RNF139	0.307
882	CTSD	0.012	PLEKHA1	0.029	SNX22	0.009	CDK18	0.028	GBP4	0.307
883	BCL2L1	0.012	SCN3A	0.029	EIF5B	0.009	TFEC	0.028	ITGA3	0.307
884	ZNF600	0.012	PSMB3	0.029	CNR2	0.009	PPIP5K2	0.028	SPCS2	0.307
885	PSMA5	0.012	SMURF2	0.029	RRP7A	0.009	LENG9	0.028	PNPLA7	0.307
886	DENND3	0.012	IER3IP1	0.029	SCNN1B	0.009	ICOSLG	0.028	CACNA2D2	0.307
887	COX19	0.012	NDUFB10	0.029	FOXRED1	0.009	C11orf21	0.028	CNP	0.308
888	TMEM108	0.012	DNAJA4	0.029	WEE1	0.009	NUPL1	0.028	BAZ2B	0.308
889	CPEB4	0.012	ZNF302	0.029	NUS1	0.009	GXYLT1	0.028	FNDC3B	0.308
890	MAPRE2	0.012	C20orf24	0.030	PLEKHG1	0.009	ANK2	0.028	TSHR	0.308
891	MPEG1	0.012	TTC39C	0.030	MRPS33	0.009	OPA1	0.028	KRCC1	0.308
892	MORC3	0.012	LRRC37A2	0.030	LMO7	0.009	RRBP1	0.028	NEAT1	0.309
893	TMC8	0.012	SNAP47	0.030	CDC42SE1	0.009	HLA-G	0.028	SDF2L1	0.309
894	NISCH	0.012	ZMPSTE24	0.030	HPRT1	0.009	KLF16	0.029	LRIG2	0.309
895	C14orf43	0.012	CHD1L	0.030	ALOX5AP	0.009	SDHD	0.029	BIRC5	0.309
896	PABPC1L	0.012	RIMKLB	0.030	MCEE	0.009	MAN1A2	0.029	RPL23AP64	0.309
897	C15orf39	0.012	TRAF1	0.030	ATF2	0.009	MACC1	0.029	PAIP2B	0.310
898	ZNF160	0.012	ARHGAP18	0.030	PLEKHF2	0.009	CLIC4	0.029	POLR2G	0.310
899	ZFYVE27	0.012	C2CD3	0.030	PARP11	0.009	SLC2A5	0.029	ZNF678	0.310
900	ENDOD1	0.012	ERGIC1	0.030	PSPH	0.009	C1GALT1	0.029	C21orf58	0.310
901	PSMB2	0.012	KCTD17	0.030	ZNF91	0.009	TMEM65	0.029	VPREB3	0.310
902	ITPKB	0.012	PSMB1	0.030	PSME1	0.009	IFNAR1	0.029	WFS1	0.310
903	C2orf7	0.012	SLC29A3	0.030	KCTD2	0.009	WDFY1	0.029	LOC100507217	0.311
904	GMEB2	0.012	MORC4	0.030	ITFG2	0.009	CHCHD5	0.029	HYLS1	0.311
905	CRTAP	0.012	PRR11	0.030	ENDOD1	0.010	USP45	0.029	KCTD7	0.311
906	TMED7	0.012	EXOSC1	0.030	TANC1	0.010	NR1D2	0.029	KCNC4	0.311
907	FBXO44	0.012	ZNF76	0.030	SH3BP2	0.010	CACNA2D2	0.029	RNF145	0.312
908	NDUFS2	0.012	ERAP2	0.030	ATP5A1	0.010	KLHL24	0.029	ZNF711	0.312
909	RRM2B	0.012	MYL6B	0.030	ABCB6	0.010	PVRIG	0.029	IAH1	0.313
910	ABLIM1	0.012	IQGAP2	0.030	SLC25A30	0.010	C16orf86	0.029	B4GALT3	0.313
911	KEAP1	0.012	C12orf75	0.030	NR3C2	0.010	HNRNPA3	0.029	SESN1	0.313
912	PRKCI	0.012	RPS27L	0.031	USP12	0.010	GADD45GIP1	0.029	DICER1	0.313
913	CDCA7L	0.012	DPP3	0.031	SPINT2	0.010	SSR1	0.029	FOSB	0.313
914	TMEM50A	0.012	FAM129C	0.031	METTL7A	0.010	CCDC58	0.029	CLECL1	0.313
915	EIF2AK3	0.012	KIAA0141	0.031	SPRED1	0.010	SRP54	0.029	LOC220906	0.314
916	VAV2	0.012	MRPS2	0.031	CYP51A1	0.010	FAM193B	0.029	RASSF4	0.314
917	ARL13B	0.012	AGPAT3	0.031	ZNF664	0.010	MESDC1	0.029	ZBTB43	0.314
918	RPL13	0.012	BACH2	0.031	LOC151162	0.010	TOR1AIP1	0.029	BRCA2	0.314
919	ANKRD10	0.012	RALY	0.031	TSPAN33	0.010	UBE4A	0.029	GLDC	0.314
920	PLCB2	0.012	DDX1	0.031	MNT	0.010	PPP6R1	0.029	LOC100129726	0.314

921	EXOC2	0.012	PCF11	0.031	C17orf79	0.010	RHOG	0.029	CFLAR	0.314
922	ZNF215	0.012	COL9A2	0.031	CEP110	0.010	PIP5K1C	0.029	DKFZP686I15217	0.314
923	PPP1R13B	0.012	ZNF154	0.031	RASGRP2	0.010	CEP70	0.029	COX16	0.314
924	KCNA2	0.012	PSMD1	0.031	ERP29	0.010	IFNGR1	0.029	ATF5	0.314
925	TTC24	0.012	KCNIP2	0.031	ZNF160	0.010	GDAP1	0.029	CEACAM21	0.314
926	LYSMD2	0.012	DYNC1LI2	0.031	GLDC	0.010	SPI1	0.029	CLTB	0.314
927	KIAA1147	0.012	PLXNA3	0.031	HCST	0.010	MAST2	0.029	PDXDC2P	0.314
928	VPREB3	0.012	TMED7	0.031	PRDM2	0.010	MIB2	0.029	ZNF529	0.314
929	HLA-DRB1	0.012	ANAPC11	0.031	CD19	0.010	ZNF23	0.030	IKBIP	0.314
930	SH2D3C	0.012	UQCRC2	0.032	CHAC2	0.010	MOSPD2	0.030	PGP	0.314
931	CYTH1	0.012	RPL36AL	0.032	RAB3IP	0.010	H1FX	0.030	TMEM182	0.315
932	DHODH	0.012	LOC389641	0.032	TFG	0.010	FBRS	0.030	LOC652276	0.315
933	CD19	0.012	CCDC56	0.032	DOPEY2	0.010	CNFN	0.030	PRDX4	0.315
934	CLN6	0.012	FAM177A1	0.032	FAM98A	0.010	RANBP3	0.030	CFP	0.315
935	KLHL3	0.012	OSBP2	0.032	ASB1	0.010	ZNF444	0.030	AIF1	0.315
936	TOP1	0.012	MYBL2	0.032	LAMP3	0.010	ATP13A2	0.030	OTUD6B	0.315
937	BCL9L	0.012	GSPT1	0.032	CENPK	0.010	ARHGEF18	0.030	DIEXF	0.315
938	ARL5A	0.012	SFRS18	0.032	NCRNA00094	0.010	CHPF	0.030	SEC24A	0.315
939	SWAP70	0.012	ATF4	0.032	JTB	0.010	CCNT2	0.030	TROAP	0.315
940	CBL	0.012	FH	0.032	CR1	0.010	RNF146	0.030	RCN1	0.315
941	YWHAG	0.012	ZFP62	0.032	TPD52	0.010	PPIB	0.030	LDHA	0.315
942	TTC9	0.012	CLPB	0.032	HCLS1	0.010	ARL6IP1	0.030	LOC678655	0.315
943	SYNGR2	0.012	HLA-DRA	0.032	TCEB2	0.010	STAM2	0.030	PLEKHA4	0.315
944	USMG5	0.012	PCMTD2	0.032	PLEKHA2	0.010	FCHO1	0.030	UBE2M	0.316
945	YWHAE	0.012	LGALS9	0.032	SLC7A1	0.010	CNOT7	0.030	C17orf58	0.316
946	HVCN1	0.012	ETFB	0.032	HMBS	0.010	MED13	0.030	MMRN1	0.316
947	APBB1	0.012	NKIRAS2	0.032	ITPKB	0.010	C10orf46	0.030	SEC11C	0.316
948	TNFRSF1B	0.012	ENDOD1	0.032	ZNF675	0.010	HERC4	0.030	WDR62	0.316
949	TMEM203	0.012	HLA-DMA	0.032	TIA1	0.010	C6orf170	0.030	VDR	0.316
950	P4HB	0.012	TIMM17A	0.032	C22orf23	0.010	ZC3H3	0.030	HYOU1	0.317
951	PPDPF	0.012	ADAM23	0.033	ADRBK2	0.010	ZNF524	0.030	MLEC	0.318
952	RUNDC2C	0.012	NDUFA6	0.033	RRAGB	0.010	IFT88	0.030	SEPSECS	0.318
953	TNRC18	0.012	MRPS22	0.033	KIAA0776	0.010	SELS	0.030	PASK	0.318
954	UQCRH	0.012	PSMA4	0.033	RASSF6	0.010	DGKE	0.030	ARHGAP12	0.318
955	TNIP2	0.012	TXNL4A	0.033	LDLR	0.010	ARHGEF17	0.030	NFAT5	0.318
956	CHPF	0.012	POLDIP2	0.033	TSHR	0.010	NADSYN1	0.030	ZIK1	0.318
957	ZBTB4	0.012	POLM	0.033	QSOX2	0.011	UBR1	0.030	SDHAP3	0.318
958	SMAD3	0.012	MRPL53	0.033	DNASE2	0.011	C11orf83	0.030	GPX7	0.318
959	COX6A1	0.012	ARRDC2	0.033	NDST2	0.011	CCT6B	0.030	INO80D	0.319
960	CDC14B	0.012	SEPN1	0.033	SORBS3	0.011	NUDT3	0.030	DMXL1	0.319
961	GLT25D1	0.012	GPKOW	0.033	C17orf48	0.011	SDAD1	0.030	TRIM33	0.319
962	ARNTL2	0.012	FAM190A	0.033	HSD17B8	0.011	PHF6	0.030	CCNB1	0.319
963	R3HDM2	0.012	BCAP31	0.033	C8orf37	0.011	CHURC1	0.030	HEATR1	0.319
964	ANXA5	0.012	AURKAIP1	0.033	PSMB4	0.011	SNRPB	0.030	ZKSCAN1	0.319
965	WDTC1	0.012	ZNF783	0.033	C1orf162	0.011	SHARPIN	0.030	COX6C	0.319
966	RELB	0.012	IKBKB	0.033	OSBPL11	0.011	C7orf43	0.030	COL24A1	0.320
967	FLJ10038	0.012	FCHSD2	0.033	CHAC1	0.011	ETFB	0.030	TRIM56	0.320
968	FAM193A	0.012	PAN3	0.033	SLC16A6	0.011	ZNF282	0.030	GABBR1	0.321
969	MRPS14	0.012	TROAP	0.033	RAB11FIP4	0.011	EFHD2	0.030	LOC202181	0.321
970	FAM98A	0.012	AP1S3	0.033	KMO	0.011	ZNF175	0.030	MXRA8	0.322
971	TMEM104	0.012	BEND4	0.033	CGGBP1	0.011	PIN1	0.030	ZNF516	0.322
972	TMUB2	0.012	PDE7A	0.033	SNX30	0.011	MAN2B1	0.030	CLSPN	0.323
973	SH2B1	0.012	ZC3H12A	0.033	RAB34	0.011	MINK1	0.030	MFHAS1	0.323
974	ARAP1	0.012	SLC10A7	0.033	RWDD2A	0.011	FAM73A	0.030	RALGAPA1	0.323
975	CXCL16	0.012	TRMT61B	0.033	CD84	0.011	SSR4	0.030	GAS6	0.323
976	ZNF83	0.012	PITPNM1	0.033	MYO1F	0.011	ZNF273	0.030	EMR2	0.323
977	LSM1	0.012	ASB1	0.033	ZCCHC2	0.011	HIAT1	0.030	POLI	0.324
978	ZCCHC6	0.012	MAP7D1	0.033	SAMD9L	0.011	HMGN2	0.030	C10orf105	0.324
979	ZNF274	0.012	PRKAG1	0.033	CPEB4	0.011	C1orf9	0.030	MRPS25	0.324
980	TNFRSF10B	0.012	SIX5	0.033	TCL1A	0.011	SBNO2	0.030	CR1	0.324
981	HBS1L	0.012	ZNF33B	0.033	GNB5	0.011	RIN3	0.030	KIF18B	0.324
982	PPP6R1	0.012	ANKFY1	0.033	GMPS	0.011	NAA35	0.030	TTC32	0.324
983	ARHGEF7	0.012	DYNLL1	0.033	GOLGB1	0.011	C6orf62	0.030	PPP1R15A	0.324
984	ZNF266	0.012	DIEXF	0.033	IKZF1	0.011	TMEM64	0.031	ANKRD36B	0.324
985	CDKN2D	0.012	YARS	0.033	PRRC1	0.011	C7orf58	0.031	ERP44	0.324
986	CSNK1D	0.012	SLC2A5	0.034	IRF7	0.011	SNAPC1	0.031	LILRA3	0.324
987	C5orf33	0.012	PAX5	0.034	SDR42E1	0.011	ZNHIT6	0.031	LRRC25	0.324
988	RC3H1	0.012	TCERG1	0.034	TCN2	0.011	ATP2A2	0.031	LILRA2	0.324
989	SLC15A3	0.012	EIF3J	0.034	WDR41	0.011	TYW3	0.031	SH3RF1	0.324
990	GANAB	0.012	PRMT5	0.034	ANAPC5	0.011	KLHDC4	0.031	RPL22	0.324
991	SGSM2	0.012	TRPC1	0.034	SCYL1	0.011	GUF1	0.031	C12orf47	0.324
992	SEMA4B	0.012	TYMS	0.034	ZNF498	0.011	MAP4K5	0.031	LOC619207	0.324
993	DLD	0.012	COX8A	0.034	ZSCAN29	0.011	TKT	0.031	TPI1	0.324
994	SIPA1L3	0.012	C18orf10	0.034	RAB31	0.011	SCARB2	0.031	MGAT4A	0.325
995	RPL39	0.012	WASF1	0.034	PCID2	0.011	FER	0.031	LOC400958	0.325
996	DAB2IP	0.012	PINK1	0.034	PBX2	0.011	RAPGEF1	0.031	ESCO2	0.325
997	ANKFY1	0.012	CRYZL1	0.034	USP25	0.011	CDC40	0.031	PSMB1	0.325
998	MYL6B	0.012	MRPS33	0.034	WSB1	0.011	ZNF512B	0.031	MTR	0.325

999	MSTO1	0.012	GABBR1	0.034	NDUFA1	0.011	ENDOD1	0.031	CCNF	0.325
1000	MAP3K4	0.012	KEAP1	0.034	ATXN7	0.011	CRTC1	0.031	RASGEF1A	0.325
1001	FADS3	0.012	PLAGL1	0.035	GDF11	0.011	CDAN1	0.031	ANGPTL6	0.325
1002	TMEM175	0.012	ATHL1	0.035	TRPV3	0.011	CALU	0.031	HTT	0.325
1003	LTA4H	0.012	MPG	0.035	IBTK	0.011	TRAPPC6A	0.031	DCUN1D3	0.325
1004	ATF6	0.012	DAP	0.035	TRIO	0.011	OGFRL1	0.032	FLJ45340	0.325
1005	CHCHD2	0.012	METTL11A	0.035	CD5	0.011	ZNF493	0.032	GLCCI1	0.325
1006	HLA-DQB1	0.012	MRPL51	0.035	KIAA0754	0.011	TCIRG1	0.032	DYNLT3	0.325
1007	HDAC5	0.012	GLIPR1	0.035	TREML2	0.011	ZNF480	0.032	C8orf38	0.325
1008	AES	0.013	C13orf15	0.035	CHMP7	0.011	UNK	0.032	PFKFB2	0.325
1009	BEX4	0.013	SNF8	0.035	SACS	0.011	PLCH2	0.032	ANKRD37	0.325
1010	SLC25A23	0.013	SMAD4	0.035	SLC35A2	0.011	ATM	0.032	41524.000	0.325
1011	JRKL	0.013	MIR155HG	0.035	GGT7	0.012	KLHL28	0.032	AHNAK2	0.325
1012	MADD	0.013	BBS9	0.035	GVINP1	0.012	FRA10AC1	0.032	WHSC1L1	0.325
1013	MAGI3	0.013	JSRP1	0.035	UQCRC1	0.012	MAPK3	0.032	SGK196	0.325
1014	C1orf43	0.013	FICD	0.035	COX6B1	0.012	GTF2A2	0.032	MAGEF1	0.325
1015	ILF2	0.013	DENND4B	0.035	LOXL2	0.012	SPOCK2	0.032	CLOCK	0.325
1016	OST4	0.013	SAMD4A	0.035	BAG1	0.012	LOC389333	0.032	SNAPC3	0.325
1017	SEC11A	0.013	JAK3	0.035	COMMD3	0.012	UBE2J1	0.032	PRR7	0.325
1018	KIAA1797	0.013	ZNF260	0.035	MPP7	0.012	KPNA3	0.032	TPST2	0.325
1019	FBRS	0.013	LOC100506710	0.035	CHML	0.012	SLC25A36	0.032	LENG8	0.325
1020	C17orf96	0.013	ZBED5	0.035	STAT6	0.012	LRRC56	0.032	CAPRIN2	0.325
1021	TIMM23	0.013	TMED8	0.035	MTX1	0.012	SBF1	0.032	FKBP11	0.325
1022	TAF15	0.013	IGLL1	0.035	HLA-DOA	0.012	CYorf15B	0.032	VSIG1	0.325
1023	XPC	0.013	DECR1	0.035	FCRL1	0.012	SAR1A	0.032	CCND2	0.325
1024	PIP4K2B	0.013	C17orf91	0.036	HLA-DQB1	0.012	ADCK4	0.032	MON1B	0.325
1025	SMARCC2	0.013	GSTZ1	0.036	ABCB8	0.012	TIMM17A	0.032	PRKAA1	0.325
1026	RUNX3	0.013	CD83	0.036	RPS19BP1	0.012	ZNF238	0.032	TRIM24	0.325
1027	CAMK2G	0.013	PIKFYVE	0.036	FDPS	0.012	GLS	0.032	TACC3	0.325
1028	NGRN	0.013	TMEM126A	0.036	DFFB	0.012	PPPDE1	0.032	FSCN1	0.325
1029	C9orf7	0.013	SPC25	0.036	CCDC76	0.012	RASGRP3	0.032	GUSBP4	0.325
1030	EIF3J	0.013	FAM21C	0.036	NDUFV3	0.012	GAS8	0.032	DNAJB11	0.325
1031	FAM60A	0.013	FAM96B	0.036	BLVRA	0.012	FAM117B	0.032	MCART1	0.325
1032	SERTAD2	0.013	TAGLN	0.036	SCAF4	0.012	C6orf1	0.032	MAMDC4	0.325
1033	EIF2AK4	0.013	AEBP1	0.036	SLC30A6	0.012	TRAF1	0.032	AIM1	0.325
1034	MANF	0.013	POLR2F	0.036	CHMP2A	0.012	FGD3	0.033	ACBD5	0.325
1035	RASD1	0.013	C6orf136	0.036	NDUFB8	0.012	UAP1	0.033	PDCD7	0.325
1036	MAPK6	0.013	UCHL5	0.036	ZBTB24	0.012	NDUFA13	0.033	HIVEP3	0.325
1037	MYADM	0.013	ADRBK2	0.036	JAZF1	0.012	C7orf26	0.033	FANCC	0.325
1038	SP110	0.013	SEC11A	0.036	MED13L	0.012	ELK1	0.033	TLR8	0.325
1039	RNF11	0.013	CCDC117	0.036	CHRNB1	0.012	GTF3C3	0.033	PREB	0.325
1040	PLIN2	0.013	UNC13B	0.036	ATXN2L	0.012	C9orf69	0.033	TRAPPC6B	0.325
1041	KIAA0355	0.013	SNORA61	0.036	CNPY2	0.012	C19orf6	0.033	ATF7IP2	0.325
1042	NES	0.013	SLC35C1	0.036	JUP	0.012	APBB1	0.033	SCML4	0.325
1043	GOSR2	0.013	TRAK1	0.036	TNFRSF11A	0.012	COG5	0.033	TSPYL1	0.325
1044	SERINC3	0.013	MSL3	0.036	KIFAP3	0.012	LSR	0.033	ZXDB	0.325
1045	POFUT2	0.013	SHCBP1	0.036	ZP3	0.012	RPP30	0.033	SLC27A5	0.325
1046	DDX60L	0.013	ATP5C1	0.036	XRRA1	0.012	KTN1	0.033	NLRX1	0.325
1047	SLC25A38	0.013	HERC4	0.036	CYBB	0.012	SLC25A29	0.033	TMEM141	0.325
1048	VDAC1	0.013	IL2RA	0.036	NFATC3	0.012	MEGF9	0.033	TPR	0.325
1049	ZNF354B	0.013	BET1L	0.036	ABCB9	0.012	TMEM87B	0.033	EGR1	0.325
1050	TMEM208	0.013	C1orf63	0.036	TK2	0.012	SREBF2	0.033	TFR2	0.325
1051	MCC	0.013	NDUFA2	0.036	ENTPD4	0.012	ABI1	0.033	ABHD3	0.325
1052	ZNF646	0.013	GOT1	0.036	HLA-DPA1	0.012	RELA	0.033	ANUBL1	0.326
1053	CHP	0.013	MPST	0.037	UBE3B	0.012	IL6ST	0.033	EEA1	0.326
1054	APPL1	0.013	FAM120C	0.037	CLEC17A	0.012	FBXL12	0.033		
1055	SGPL1	0.013	POU2F2	0.037	KEAP1	0.012	SMC3	0.033		
1056	TRAPPC10	0.013	PPP1CA	0.037	RPS6KB2	0.013	RBM47	0.033		
1057	CCDC47	0.013	CCDC76	0.037	SLC35A5	0.013	ROCK1	0.033		
1058	GABBR1	0.013	YIPF6	0.037	BCAP29	0.013	EEA1	0.033		
1059	CEBPZ	0.013	TST	0.037	MSL1	0.013	NUDT1	0.033		
1060	ALOX5	0.013	ST7	0.037	GLT8D1	0.013	KCTD13	0.033		
1061	PTPN6	0.013	FDX1	0.037	HVCN1	0.013	PSMA5	0.033		
1062	MZF1	0.013	SRSF9	0.037	ANKRD28	0.013	KYNU	0.033		
1063	PRDX2	0.013	BAG1	0.037	CERCAM	0.013	MRPS31	0.033		
1064	MEGF6	0.013	ZCCHC7	0.037	TIMM23	0.013	METTL7A	0.033		
1065	SEC24C	0.013	ZNF391	0.037	IRF4	0.013	LYRM5	0.033		
1066	PCMTD2	0.013	MARCKSL1	0.037	MRPL28	0.013	PKD1	0.033		
1067	RPS6KA1	0.013	TMEM179B	0.037	PSME2	0.013	GGPS1	0.033		
1068	YKT6	0.013	AASS	0.037	GPRASP1	0.013	PKN2	0.033		
1069	QTRTD1	0.013	ATPIF1	0.037	CCDC69	0.013	MCL1	0.033		
1070	CDC42SE1	0.013	MTMR9	0.037	TMEM165	0.013	FBXL3	0.033		
1071	EIF2S1	0.013	CHAF1B	0.038	TWISTNB	0.013	PKD1P1	0.033		
1072	NFKB2	0.013	PHLPP1	0.038	PPFIBP2	0.013	GSTP1	0.033		
1073	IL6ST	0.013	CCR10	0.038	SEC24C	0.013	APPBP2	0.033		
1074	TBC1D10A	0.013	GGA1	0.038	DENND5A	0.013	POLK	0.033		
1075	WDR45	0.013	TAF4	0.038	ZNF493	0.013	NAA16	0.033		
1076	ARHGAP18	0.013	SLC7A1	0.038	EFEMP2	0.013	RASAL3	0.034		

1077	C12orf11	0.013	MAPRE1	0.038	DCK	0.013	BRF1	0.034
1078	DNAJC7	0.013	SPATA6	0.038	CHL1	0.013	C16orf72	0.034
1079	STX7	0.013	TUBG1	0.038	MGLL	0.013	LOC100506710	0.034
1080	RNASET2	0.013	ALOX5	0.038	PLCB2	0.013	GNAI3	0.034
1081	LOC92249	0.013	TRIO	0.038	CLIC4	0.013	KDELR2	0.034
1082	AKR1A1	0.013	ZBTB24	0.038	PATZ1	0.013	ARHGAP39	0.034
1083	MAN2B1	0.013	C5orf33	0.038	ARL16	0.013	KPNA4	0.034
1084	NR2C2	0.013	DSTN	0.038	KIF13B	0.013	ATP6V0E2	0.034
1085	ZNF275	0.013	MAP2K6	0.038	BEX4	0.013	ATAD1	0.034
1086	MBP	0.013	HMBS	0.038	MAP4K3	0.013	TMEM5	0.034
1087	LFNG	0.013	CDCA7L	0.038	ZNF790	0.013	C11orf24	0.034
1088	FICD	0.013	RGL2	0.038	D2HGDH	0.013	RFNG	0.034
1089	PIK3CD	0.013	GTF2A1	0.038	HSF4	0.013	KIAA1731	0.034
1090	SFSWAP	0.013	NEURL4	0.038	CDC42BPB	0.013	R3HCC1	0.034
1091	TP53I11	0.013	CDC25A	0.038	TFEB	0.013	FAM172A	0.034
1092	SFXN4	0.013	BUB1	0.038	ARHGEF1	0.013	ARAP2	0.034
1093	AKR1B1	0.013	PLXNA1	0.038	IER3IP1	0.013	MED16	0.034
1094	CMIP	0.013	SLC3A2	0.038	WDFY4	0.013	DENND5B	0.034
1095	MTMR10	0.013	MANBA	0.038	NAA25	0.013	RBAK	0.034
1096	KLF11	0.013	ZNF589	0.038	EMB	0.013	NUP205	0.034
1097	GMPPB	0.013	KIAA0430	0.038	PHPT1	0.013	POLR2A	0.034
1098	ARSB	0.013	MCEE	0.038	IRAK3	0.013	CLIP1	0.034
1099	PSMD8	0.013	ALG9	0.038	DUSP18	0.013	BLVRB	0.034
1100	ZNF84	0.013	IFI35	0.039	C7orf29	0.013	DECR2	0.034
1101	PLAGL1	0.013	LCN10	0.039	ST6GAL1	0.013	HLA-L	0.034
1102	CYBASC3	0.013	PTK2	0.039	NDUFB7	0.013	ZC3H7B	0.034
1103	FNTA	0.013	NCRNA00201	0.039	RASAL2	0.013	ZNF267	0.034
1104	FAM65B	0.013	TMEM70	0.039	PUM1	0.013	41340.000	0.034
1105	DPP3	0.013	TMEM85	0.039	MRPS25	0.013	XRCC1	0.034
1106	HSD17B12	0.013	HEXIM2	0.039	HERC2P2	0.013	SCAND1	0.034
1107	PMS1	0.013	ZNF506	0.039	AKR1A1	0.013	SYTL1	0.034
1108	ARID4A	0.013	MRPL20	0.039	ZNF845	0.013	SPTY2D1	0.034
1109	CKAP2	0.013	SLC2A4RG	0.039	POU2F2	0.013	TTC14	0.034
1110	LTBP4	0.013	C2orf47	0.039	TMEM71	0.013	PRR12	0.034
1111	PBRM1	0.013	MYH3	0.039	YIF1B	0.013	ATN1	0.034
1112	SLC39A8	0.013	EPB41L4A	0.039	IL7	0.014	TMEM175	0.034
1113	SLC16A1	0.013	LOC100128252	0.039	ZNF200	0.014	ESCO1	0.034
1114	CRADD	0.013	TEX10	0.039	NUP160	0.014	CCNYL1	0.034
1115	CNNM4	0.013	PHF15	0.039	41334.000	0.014	POC5	0.034
1116	TNFRSF13B	0.013	YIPF2	0.039	LRRC27	0.014	HEATR7A	0.034
1117	ZNF12	0.013	SMPD3	0.039	SERF2	0.014	ROMO1	0.034
1118	RASSF2	0.013	SIVA1	0.039	LY86	0.014	LOC647979	0.034
1119	NOTCH2	0.013	ZNF558	0.039	PGRMC2	0.014	VPS35	0.034
1120	PAPOLA	0.013	ITPR1	0.039	ZNF865	0.014	TTYH3	0.034
1121	MRPL14	0.013	C14orf182	0.039	SAR1A	0.014	OSBPL8	0.034
1122	SNRK	0.013	FBXL8	0.039	MX1	0.014	MPI	0.034
1123	AEBP1	0.013	RUFY2	0.039	COX5A	0.014	PARP10	0.034
1124	CUTA	0.013	PDE8A	0.040	NEIL1	0.014	NRIP1	0.034
1125	RPAIN	0.013	MRE11A	0.040	PEAK1	0.014	MLL4	0.034
1126	GPHN	0.013	GYG1	0.040	OBFC2A	0.014	FKBP11	0.034
1127	MFF	0.013	ZNF189	0.040	AASS	0.014	MRPL39	0.035
1128	KBTBD11	0.013	SLC25A11	0.040	MORF4L2	0.014	FAM149B1	0.035
1129	ZDHHC6	0.013	HACE1	0.040	ARHGEF7	0.014	MRPS10	0.035
1130	ITGA8	0.013	ZSWIM7	0.040	MSH2	0.014	ORC2	0.035
1131	FAM53B	0.013	MTFP1	0.040	SLC4A7	0.014	STX10	0.035
1132	ADRBK2	0.013	APOBEC3F	0.040	EPHB4	0.014	MAD1L1	0.035
1133	AXIN2	0.013	PRDM2	0.040	PSMA6	0.014	TRDMT1	0.035
1134	ZNF333	0.013	ABCA1	0.040	ISOC2	0.014	DHX58	0.035
1135	PGM3	0.013	UBE2C	0.040	DNM2	0.014	MBD6	0.035
1136	NOD1	0.013	ZNF208	0.040	SSH2	0.014	QPCTL	0.035
1137	CEP164	0.013	RNPC3	0.040	DPY19L2P2	0.014	SCAI	0.035
1138	SPPL2A	0.013	UBA7	0.040	IPW	0.014	LIN54	0.035
1139	UGGT2	0.013	MAGED2	0.040	ATF6	0.014	GATAD2A	0.035
1140	STMN3	0.013	PHKA2	0.040	CD200	0.014	TBL3	0.035
1141	MS4A1	0.013	NDUFB7	0.041	SGCB	0.014	PIGT	0.035
1142	RABEP1	0.013	CD37	0.041	RNASEH2B	0.014	ZRANB2	0.035
1143	PRKAA1	0.013	PRDM15	0.041	OPTN	0.014	DDOST	0.035
1144	MLL4	0.013	FAM169A	0.041	EID2B	0.014	LRRC47	0.035
1145	PWP2	0.013	PAAF1	0.041	CANX	0.014	SLC25A23	0.035
1146	TMEM39A	0.013	KIAA1377	0.041	TRPV2	0.014	POLD1	0.036
1147	YIPF5	0.013	KIF3A	0.041	ABHD13	0.014	TOP1	0.036
1148	MYO1F	0.013	ZCCHC18	0.041	DRAM2	0.014	ATXN1	0.036
1149	ALG9	0.014	FCRL2	0.041	HSD17B10	0.014	FAM113A	0.036
1150	FAM175A	0.014	MKLN1	0.041	STAT1	0.014	MKL1	0.036
1151	PITPNM2	0.014	PBX3	0.041	IRS2	0.014	TRIB1	0.036
1152	GIT1	0.014	SCP2	0.041	P2RX1	0.014	HDHD1	0.036
1153	CEACAM1	0.014	FAM160B2	0.041	FDX1	0.014	TMEM180	0.036
1154	RPS27	0.014	ALKBH7	0.041	AMZ2P1	0.014	FAM102A	0.036

1155	LOC283070	0.014	UGGT2	0.041	GNS	0.014	OTUD6B	0.036
1156	FOXO3	0.014	HGSNAT	0.041	AQP3	0.014	DMTF1	0.036
1157	LYL1	0.014	SLC30A5	0.041	TMOD3	0.014	NFE2L2	0.036
1158	RASGRP2	0.014	SGOL2	0.041	GMDS	0.014	OXR1	0.036
1159	GLB1L	0.014	CCDC47	0.041	TYMP	0.014	NUCKS1	0.036
1160	MTDH	0.014	MTX1	0.041	ANKRD39	0.014	SMARCAD1	0.036
1161	MEPCE	0.014	NBPF9	0.041	MRPL23	0.014	ZBTB7A	0.036
1162	FCRLA	0.014	QRSL1	0.041	FCRLA	0.014	MRPL30	0.036
1163	PPP1R3E	0.014	CCDC45	0.041	METTL21B	0.014	DTX3L	0.036
1164	C1orf162	0.014	PAN2	0.041	FAM111B	0.014	PRDX5	0.036
1165	GNAZ	0.014	TPI1	0.041	ZNF181	0.014	ZNF43	0.036
1166	FAM38B	0.014	ADA	0.041	SWAP70	0.015	CACNB2	0.036
1167	SEPSECS	0.014	MPDU1	0.041	NMT2	0.015	CCNC	0.036
1168	SURF6	0.014	LDHB	0.042	NUP153	0.015	FBXW7	0.036
1169	PQLC1	0.014	KRIT1	0.042	MAP2K6	0.015	PMS1	0.036
1170	NOL7	0.014	CBFA2T2	0.042	TAF12	0.015	ALKBH8	0.036
1171	SFMBT2	0.014	TRIM23	0.042	EML3	0.015	TBC1D17	0.036
1172	MDC1	0.014	ZC3H12D	0.042	PCMTD2	0.015	MPP5	0.036
1173	SCIN	0.014	TAF1A	0.042	TCFL5	0.015	LMF2	0.036
1174	ATXN7L3B	0.014	PHGDH	0.042	NFIC	0.015	CRELD2	0.036
1175	LARP4	0.014	ZNF100	0.042	FLOT2	0.015	KRIT1	0.036
1176	C20orf111	0.014	PHF21A	0.042	LY96	0.015	STARD10	0.036
1177	TFEB	0.014	FCRLA	0.042	POGK	0.015	EML2	0.036
1178	LOC100294145	0.014	ALG14	0.042	COL24A1	0.015	GSDMD	0.036
1179	MAP3K8	0.014	RFXANK	0.042	SPG11	0.015	SUN2	0.036
1180	JAK1	0.014	AP2M1	0.042	HERC3	0.015	CELSR2	0.037
1181	SIN3A	0.014	RASGRP2	0.042	SFI1	0.015	AKNA	0.037
1182	HLA-DRA	0.014	COMMD4	0.042	IL6R	0.015	KIAA1704	0.037
1183	FXN	0.014	RERE	0.042	ACOX1	0.015	USP49	0.037
1184	MTCH1	0.014	WDR11	0.042	SNHG7	0.015	RFXANK	0.037
1185	IRF2BP2	0.014	RAN	0.042	SGSM2	0.015	NOC4L	0.037
1186	SATB1	0.014	SH3YL1	0.042	LTB	0.015	PSME2	0.037
1187	ATG16L2	0.014	NDUFC1	0.042	FGD3	0.015	EFHA1	0.037
1188	MAGED1	0.014	LOC100131801	0.042	NAP1L1	0.015	DDX50	0.037
1189	RBM5	0.014	SCML4	0.042	RARA	0.015	NCLN	0.037
1190	KBTBD2	0.014	RASGRP3	0.042	C12orf11	0.015	SERINC1	0.037
1191	PLOD3	0.014	BTLA	0.042	EPHB6	0.015	PUS7L	0.037
1192	TCF7	0.014	KIAA1407	0.042	LARP4	0.015	MTMR9	0.037
1193	IKZF1	0.014	CLDND1	0.042	ZNF140	0.015	ADORA2A	0.037
1194	LOC728743	0.014	ASF1B	0.042	ZMYND8	0.015	DOCK10	0.037
1195	SLC30A6	0.014	ZNFX1	0.042	BTBD9	0.015	INTS7	0.037
1196	C6orf192	0.014	FAN1	0.042	PDXDC1	0.015	DAK	0.037
1197	PDK1	0.014	UGDH	0.042	CAMK2G	0.015	NETO2	0.037
1198	TFRC	0.014	GFM2	0.042	ZNF292	0.015	FRMD8	0.037
1199	SLC2A5	0.014	PMS2P1	0.042	USP35	0.015	ABHD11	0.037
1200	N4BP3	0.014	IL6R	0.042	MMADHC	0.015	FADS3	0.037
1201	AP2B1	0.014	FARS2	0.042	LRCH4	0.015	TLR10	0.037
1202	CENPE	0.014	ZNF512	0.042	VDAC1	0.015	FLNA	0.037
1203	C9orf119	0.014	CAPRIN2	0.043	GOLGA2B	0.015	CSNK1G3	0.037
1204	TOR3A	0.014	NDUFS5	0.043	KIAA1033	0.015	INPP5E	0.037
1205	C8orf37	0.014	RNASEL	0.043	SMAGP	0.015	FBRSL1	0.038
1206	LAIR1	0.014	ARL1	0.043	SETBP1	0.015	MRPL23	0.038
1207	MAP3K3	0.014	MYEOV2	0.043	LOC283070	0.015	DEF8	0.038
1208	CUL4A	0.014	PRKAG2	0.043	ANKH	0.015	S100PBP	0.038
1209	ANXA2	0.014	BTNL9	0.043	ZHX3	0.015	USP37	0.038
1210	TCL1B	0.014	YIPF5	0.043	COMMD4	0.015	AP1B1	0.038
1211	HLA-DQA2	0.014	DDX17	0.043	ASPHD2	0.015	AKR7A2	0.038
1212	NR3C2	0.014	ICOSLG	0.043	CROCC	0.015	ZNF581	0.038
1213	SUMF2	0.014	SNHG1	0.043	NRBP1	0.015	MAP3K11	0.038
1214	TMEM184C	0.014	GIPR	0.043	TNFRSF13B	0.015	PRKCI	0.038
1215	PATL1	0.014	ZNF397	0.043	RASGRF1	0.015	ACP2	0.038
1216	TBX6	0.014	MBNL3	0.043	ARPC5L	0.015	PPM1K	0.038
1217	CD47	0.014	TCEB1	0.043	GIGYF2	0.015	FAM108A1	0.038
1218	LDHB	0.014	CYP2U1	0.043	ZNF548	0.016	PPP6R2	0.038
1219	SRSF9	0.014	HIVEP3	0.044	C5	0.016	ATP2A3	0.038
1220	PTPRK	0.014	IFIT5	0.044	ALG13	0.016	PPP1R14A	0.038
1221	IDUA	0.014	CHD2	0.044	GPAA1	0.016	AKT2	0.038
1222	NET1	0.014	UBAP1	0.044	CIITA	0.016	CRYZL1	0.038
1223	NDUFAF1	0.014	PDXP	0.044	DHPS	0.016	IGHA1	0.038
1224	TIMM44	0.014	IGHD	0.044	ZNF83	0.016	IRF3	0.038
1225	RG9MTD3	0.014	KCNAB3	0.044	ARFIP2	0.016	IL7	0.038
1226	SDF2L1	0.014	ZNF274	0.044	MAGEH1	0.016	GOLPH3	0.038
1227	ADI1	0.014	TMEM220	0.044	PIGK	0.016	CALML4	0.038
1228	ZNF354A	0.014	ATAD2B	0.045	YTHDC1	0.016	C16orf74	0.038
1229	OPTN	0.014	IFI44	0.045	ARAP2	0.016	ARL8B	0.038
1230	BCOR	0.014	STRAP	0.045	LCP1	0.016	CHERP	0.038
1231	MKNK2	0.014	SIN3B	0.045	TAPT1	0.016	TRAM1	0.038
1232	DCUN1D4	0.014	TARS	0.045	ARHGAP22	0.016	MEGF6	0.038

1233	C18orf25	0.014	GALNT6	0.045	TSPYL2	0.016	ABCA5	0.038
1234	LAPTM5	0.014	C20orf29	0.045	NDUFAF1	0.016	AMDHD2	0.038
1235	ZBTB26	0.014	SLBP	0.045	ZFX	0.016	ANKRD36BP2	0.038
1236	MBD6	0.014	MBD4	0.045	NR1D2	0.016	PPA2	0.038
1237	CXCR5	0.014	GLT25D1	0.045	BCKDHA	0.016	SRSF10	0.038
1238	H6PD	0.014	DTX3L	0.045	CISD2	0.016	GBP1	0.038
1239	TRAF3IP3	0.014	C15orf39	0.045	NOD1	0.016	CRTC2	0.038
1240	CBX1	0.014	CLCN6	0.045	CD320	0.016	PDCD10	0.038
1241	PEX2	0.014	POLQ	0.045	CD1D	0.016	KLF2	0.038
1242	LRCH4	0.014	CUTA	0.045	MFSD6	0.016	C12orf4	0.038
1243	CCDC69	0.014	QTRTD1	0.045	LOC643749	0.016	SLC9A1	0.038
1244	CCDC137	0.014	C1orf122	0.045	ZNF860	0.016	SPAG9	0.038
1245	TBL1X	0.014	ARNTL2	0.045	FAM96B	0.016	GPD2	0.038
1246	TMEM150A	0.014	TSPAN33	0.045	SERTAD2	0.017	HSD17B10	0.038
1247	ANKRD44	0.014	ERN1	0.045	HIP1R	0.017	C7orf59	0.038
1248	BCL6	0.014	SMC6	0.045	CCDC90A	0.017	XPO1	0.038
1249	KLHL14	0.014	COPS3	0.045	PAX5	0.017	BAG5	0.038
1250	SPTY2D1	0.014	KIAA1704	0.045	STK24	0.017	HLTF	0.038
1251	DYNLL1	0.014	ATP1B3	0.045	KIAA1731	0.017	FAM126B	0.038
1252	EARS2	0.014	PI4K2B	0.045	IGFBP4	0.017	LOC388796	0.038
1253	ALG3	0.014	WIBG	0.045	TUBA1A	0.017	TAZ	0.038
1254	UQCRB	0.014	LOC100271722	0.045	TP73	0.017	ZNF431	0.039
1255	KIF21B	0.014	SERPINB9	0.046	TRMT2B	0.017	MOSPD3	0.039
1256	ZNF566	0.014	TAF12	0.046	ZNF431	0.017	CPNE5	0.039
1257	CREBBP	0.014	RASGEF1B	0.046	C3orf63	0.017	MRPL41	0.039
1258	STK38	0.014	HMGB3	0.046	MORC3	0.017	NARS	0.039
1259	TUG1	0.014	TLR1	0.046	FOXK1	0.017	XPOT	0.039
1260	PELI2	0.014	SLC29A2	0.046	HOMER3	0.017	SPSB3	0.039
1261	GAB3	0.014	VRK1	0.046	TFR2	0.017	NUP37	0.039
1262	KLF16	0.014	MBTD1	0.046	AZI2	0.017	UBQLN1	0.039
1263	ZNF618	0.014	MRPL36	0.046	ATP5C1	0.017	ZNF615	0.039
1264	CREB3	0.014	SEC31B	0.046	PLA2G6	0.017	TUBA4A	0.039
1265	STIM1	0.014	MTMR10	0.046	ZNF737	0.017	HDAC7	0.039
1266	CALR	0.014	DIS3L2	0.046	SYPL1	0.017	TSPAN32	0.039
1267	PGK1	0.014	ZNF862	0.046	CCDC117	0.017	ALG12	0.039
1268	TIGD7	0.014	SLC5A6	0.046	HPS3	0.017	PRRC2A	0.039
1269	SYAP1	0.014	SLCO4A1	0.046	KIAA0930	0.017	MCCC1	0.039
1270	WSB1	0.014	HJURP	0.046	ZNF407	0.017	OSBPL3	0.039
1271	PGRMC2	0.014	MX2	0.046	CD74	0.017	ZFP2	0.039
1272	SEPT7P2	0.014	NR2C2	0.047	WDR18	0.017	KIAA1009	0.039
1273	USP39	0.014	CINP	0.047	MRPL55	0.017	MYO1D	0.039
1274	EXT1	0.014	CABLES1	0.047	DUSP5	0.017	MAML3	0.039
1275	TBL2	0.014	ASPHD2	0.047	TCL6	0.017	LHPP	0.040
1276	KIAA0368	0.014	CLMN	0.047	CIRBP	0.017	BTAF1	0.040
1277	ATP5G3	0.014	STK17A	0.047	CHD1	0.017	TP53I13	0.040
1278	GPR172A	0.014	ATP10D	0.047	PILRB	0.018	WDR67	0.040
1279	PARP14	0.014	ZNF418	0.047	FAM116A	0.018	NCOA3	0.040
1280	USP37	0.014	TARDBP	0.047	C5orf42	0.018	DENND1C	0.040
1281	USP20	0.014	TARBP1	0.047	C7orf40	0.018	RPN1	0.040
1282	SP100	0.014	ST8SIA4	0.047	LOC100130581	0.018	C10orf137	0.040
1283	ACAP1	0.014	CEP97	0.047	PROCA1	0.018	GTF2F2	0.040
1284	NUCB1	0.014	CCT7	0.047	PIK3CD	0.018	HSPA5	0.040
1285	SPINT2	0.014	SLC1A5	0.047	CCNT2	0.018	SNX2	0.040
1286	PRDX3	0.014	MTRR	0.047	ITPK1	0.018	TAGAP	0.040
1287	BSG	0.015	ZNF814	0.047	MEF2C	0.018	SRSF9	0.040
1288	DYRK1A	0.015	POLR1E	0.047	CASP7	0.018	SCAMP4	0.040
1289	CSK	0.015	ALG1	0.048	SCYL3	0.018	CLCN4	0.040
1290	SLC25A37	0.015	RABEP2	0.048	ATP7A	0.018	WDR85	0.040
1291	MICALL1	0.015	UBL5	0.048	TARSL2	0.018	EML5	0.040
1292	NOP10	0.015	GPX7	0.048	OAS3	0.018	NCKAP5L	0.040
1293	ZBTB22	0.015	POC1A	0.048	NISCH	0.018	QSER1	0.040
1294	BAZ1A	0.015	CAPN3	0.048	ZDHHC16	0.018	ZNF652	0.041
1295	ZMYM3	0.015	NSUN5P2	0.048	HIPK3	0.018	STYX	0.041
1296	H2AFV	0.015	KIF4A	0.048	PSMD9	0.018	SNX6	0.041
1297	FCHO1	0.015	DCTN3	0.048	SLC17A9	0.018	IFT80	0.041
1298	GMNN	0.015	HERC3	0.049	ZNF43	0.018	ARHGEF1	0.041
1299	SLC25A45	0.015	PSMD12	0.049	REL	0.018	MYNN	0.041
1300	NETO2	0.015	GGT7	0.049	PXK	0.018	ZBTB11	0.041
1301	HLA-DRB5	0.015	HLA-DMB	0.049	IFNAR2	0.018	CCDC106	0.041
1302	LPAR5	0.015	DOPEY2	0.050	CRLS1	0.018	CAB39	0.041
1303	EML3	0.015	PIGV	0.050	ABR	0.018	PTK2B	0.041
1304	KIAA1274	0.015	LILRB4	0.050	ACER2	0.018	RABEP2	0.041
1305	ZNF337	0.015	ISOC1	0.050	G6PC3	0.018	ZNF708	0.041
1306	KIAA1407	0.015	C6orf192	0.050	USP37	0.018	BARD1	0.041
1307	PPFIBP2	0.015	PSMD7	0.050	BHLHE41	0.018	TMEM129	0.041
1308	ZBTB44	0.015	ZNF821	0.050	FGD1	0.018	SEMA4B	0.041
1309	PLD2	0.015	MASP2	0.050	MOBKL1A	0.019	GTF3C6	0.041
1310	CCDC117	0.015			DECR1	0.019	SCAF1	0.041

1311	SPIB	0.015	KRT18	0.019	IPO7	0.041
1312	ITPR1	0.015	LOC399815	0.019	CXXC1	0.041
1313	RHOQ	0.015	MYBL1	0.019	MRPL50	0.041
1314	EIF3A	0.015	ANKRD11	0.019	SLC44A1	0.041
1315	OSM	0.015	LGMN	0.019	HGS	0.041
1316	ANKIB1	0.015	TNFSF4	0.019	INTS1	0.041
1317	EFHD2	0.015	BEND4	0.019	DOT1L	0.041
1318	CELSR1	0.015	TST	0.019	ERO1LB	0.041
1319	ZNF226	0.015	FKBP14	0.019	TNIP2	0.041
1320	PSMA3	0.015	VNN2	0.019	PEX13	0.041
1321	ZNF264	0.015	MYOM1	0.019	ZNF784	0.041
1322	LGALS1	0.015	ARMCX2	0.019	MCOLN1	0.041
1323	MIER1	0.015	OTUD3	0.019	C9orf86	0.041
1324	ABHD3	0.015	MTR	0.019	ALDH16A1	0.041
1325	USPL1	0.015	ABHD12	0.019	UBA3	0.041
1326	CCDC88A	0.015	P2RY10	0.019	CHTF18	0.041
1327	ARSD	0.015	SF3B5	0.019	FGD6	0.041
1328	MMP17	0.015	ZC3H12D	0.019	LZTS2	0.041
1329	NADSYN1	0.015	STMN3	0.019	HIP1R	0.041
1330	NUDT16	0.015	TTC39C	0.019	OSTC	0.041
1331	ST3GAL1	0.015	TMED1	0.019	BLZF1	0.041
1332	ITGA4	0.015	NAV1	0.019	DDX54	0.041
1333	MAGEH1	0.015	COX18	0.019	CD164	0.041
1334	CAPN2	0.015	EIF2AK2	0.019	UTP11L	0.041
1335	C5orf43	0.015	TSPAN3	0.019	MIER1	0.041
1336	DDX60	0.015	TBXA2R	0.019	EXOC5	0.041
1337	PI4KA	0.015	PION	0.019	WAPAL	0.041
1338	PTK2	0.015	FAM69B	0.019	PURB	0.041
1339	EIF4G1	0.015	JMY	0.019	CLDND1	0.041
1340	LOC283663	0.015	ZNF516	0.019	TGFBR1	0.041
1341	MOGS	0.015	CSDA	0.019	C19orf63	0.041
1342	ARAP2	0.015	PCDH9	0.019	ENGASE	0.041
1343	CCDC14	0.015	INSR	0.019	ARFGAP3	0.042
1344	AIM1	0.015	COMMD6	0.020	SH3TC1	0.042
1345	NDUFS5	0.015	IDI1	0.020	ZNF507	0.042
1346	REXO1	0.015	WBSCR22	0.020	FAM3A	0.042
1347	LAT2	0.015	FCHSD2	0.020	GET4	0.042
1348	EZH1	0.015	STK38	0.020	VAC14	0.042
1349	ZNF711	0.015	BEX5	0.020	TRAF7	0.042
1350	DYRK2	0.015	LAMP2	0.020	CNO	0.042
1351	CRTC1	0.015	TRAPPC2	0.020	WDR48	0.042
1352	PION	0.015	YARS	0.020	SOS2	0.042
1353	TLN1	0.015	POLI	0.020	SUB1	0.042
1354	DENND2D	0.015	APP	0.020	C1orf151	0.042
1355	TNFSF12	0.015	CROCCP2	0.020	ANKRD44	0.042
1356	DENND2C	0.015	TTC35	0.020	ATG9B	0.042
1357	C6orf48	0.015	PSMC3	0.020	SEC61A1	0.042
1358	SLC10A7	0.015	MAP2	0.020	GPR137	0.042
1359	RAPGEF1	0.015	MRPL51	0.020	PLXNA1	0.042
1360	RABEP2	0.015	ABCB1	0.020	RBCK1	0.042
1361	NUP153	0.015	TGFBR2	0.020	SIPA1L3	0.042
1362	KIAA1267	0.015	SLC9A3R1	0.020	NEDD1	0.042
1363	MST4	0.015	ZNF555	0.020	SAAL1	0.042
1364	ZFAND5	0.015	COX6C	0.020	C19orf25	0.042
1365	PRR11	0.015	PHF17	0.020	UNC119	0.042
1366	DVL2	0.015	UTP18	0.020	C5orf22	0.042
1367	HEXDC	0.015	INPP5A	0.020	ZSCAN18	0.042
1368	CNOT8	0.015	GPLD1	0.020	MBNL3	0.042
1369	ZNF268	0.015	DIMT1L	0.020	LIN7C	0.042
1370	ELF2	0.015	ARL11	0.020	PHF3	0.042
1371	NCR3	0.015	C17orf85	0.020	RB1	0.042
1372	SMCR7L	0.015	PREX1	0.020	IDE	0.042
1373	LOC221442	0.015	ARID4B	0.020	ORAI3	0.042
1374	S1PR2	0.015	LEPRE1	0.020	CYHR1	0.042
1375	COPS6	0.015	ZCCHC18	0.020	FAR1	0.042
1376	CCDC90B	0.015	KIAA1407	0.020	FBXL6	0.042
1377	MGAT1	0.015	TUG1	0.020	INTS2	0.042
1378	BST2	0.015	MS4A1	0.021	MGRN1	0.042
1379	KLF2	0.015	TAP1	0.021	TLN1	0.042
1380	ENTPD4	0.015	ETAA1	0.021	TM9SF3	0.042
1381	PSMA2	0.015	GPR160	0.021	PTPRJ	0.042
1382	PRKCSH	0.015	PPARA	0.021	KIAA1468	0.042
1383	MGA	0.015	PAPSS1	0.021	FAM83G	0.042
1384	CBFA2T2	0.015	TCF7	0.021	ZYX	0.042
1385	DECR1	0.015	FAM89B	0.021	DNPEP	0.042
1386	ESF1	0.015	SMOX	0.021	TXLNG	0.042
1387	MTMR4	0.015	SLC25A24	0.021	TBX6	0.042
1388	CHAC2	0.015	MSL3	0.021	SPOPL	0.042

1389	ASAP1	0.015		SLC35B2	0.021		MCOLN2	0.042
1390	RBX1	0.015		ATP6V0E2	0.021		LUC7L3	0.043
1391	ICOSLG	0.015		SLC2A13	0.021		L1CAM	0.043
1392	HLA-DRB6	0.015		LINGO3	0.021		SLC29A2	0.043
1393	MLH3	0.015		SESN1	0.021		DDX60	0.043
1394	ANKRD11	0.015		ZNF502	0.021		ZNF362	0.043
1395	LOC646762	0.015		CYB5A	0.021		DYNC1I2	0.043
1396	FGD2	0.015		TAF13	0.021		TMED2	0.043
1397	UCHL3	0.015		ADAM28	0.021		GAMT	0.043
1398	TP53BP2	0.015		APBB2	0.021		GPS2	0.043
1399	C17orf57	0.015		RDX	0.021		GPRIN1	0.043
1400	ERH	0.015		GNB4	0.021		CLN5	0.043
1401	SCAMP2	0.015		SSSCA1	0.021		PITPNB	0.043
1402	ZNF776	0.015		CDHR3	0.021		PRKAR1A	0.043
1403	ZNF793	0.015		PRCP	0.021		CCDC124	0.043
1404	AFF3	0.015		YPEL1	0.021		REST	0.043
1405	TMEM85	0.015		SLC9A7	0.021		ITPA	0.043
1406	ETF1	0.015		RPL26L1	0.021		PGM3	0.043
1407	BANK1	0.015		DLGAP4	0.021		IL1RAP	0.043
1408	FCRL3	0.015		ZNF429	0.021		ATAD3B	0.043
1409	PPM1M	0.015		MTHFD1L	0.021		ZNF668	0.043
1410	DCTN2	0.015		C7orf26	0.021		GMIP	0.043
1411	MGLL	0.015		LCOR	0.021		SH2D3A	0.043
1412	HEMK1	0.015		NBEA	0.021		NR2C1	0.043
1413	MSL3	0.015		CHST7	0.022		UHMK1	0.043
1414	EPB41L2	0.015		ADCK2	0.022		UBR2	0.043
1415	MTHFR	0.015		SLC38A9	0.022		TCEB2	0.043
1416	HLA-DPA1	0.015		C10orf58	0.022		STAT1	0.043
1417	PLEKHF2	0.015		GPR15	0.022		DOHH	0.043
1418	DNAJB2	0.015		TAF9	0.022		INF2	0.043
1419	GMDS	0.015		MDM1	0.022		RAB11FIP2	0.043
1420	ETV6	0.015		PLEKHH3	0.022		ZNF513	0.043
1421	RAP1A	0.015		TNFRSF13C	0.022		ZNF598	0.043
1422	IFNAR2	0.015		SNF8	0.022		DIMT1L	0.043
1423	ETS1	0.015		GPM6B	0.022		MICAL1	0.043
1424	SIGLEC10	0.015		ZNF767	0.022		ANP32E	0.043
1425	C19orf71	0.015		ATN1	0.022		ZNF84	0.043
1426	CHTOP	0.015		FAM177B	0.022		IQCE	0.043
1427	DEXI	0.015		ZNF559	0.022		SASS6	0.043
1428	DDX55	0.015		WWC3	0.022		P4HB	0.043
1429	MED13L	0.015		UGCG	0.022		COMMD2	0.044
1430	TAGAP	0.015		TXLNB	0.022		HCFC1	0.044
1431	LIME1	0.015		CLCN6	0.022		NUDT16L1	0.044
1432	ATG12	0.015		PVRIG	0.022		GLRX2	0.044
1433	C1orf85	0.015		NME4	0.022		DBP	0.044
1434	ATP6V0B	0.015		RIMKLB	0.022		SMG6	0.044
1435	APAF1	0.015		GSTZ1	0.022		ARAP1	0.044
1436	KCNH8	0.015		MCART6	0.022		KIAA0913	0.044
1437	SERF2	0.015		ALG8	0.022		GPA33	0.044
1438	ZMAT1	0.015		C14orf43	0.022		ATP2C1	0.044
1439	ZNF100	0.015		PPCDC	0.022		CCDC75	0.044
1440	UHRF2	0.015		NQO1	0.022		POLD3	0.044
1441	TSTD1	0.015		TRIP6	0.022		ORMDL3	0.044
1442	JUND	0.015		FAM40A	0.022		SLC39A13	0.044
1443	IKBKG	0.015		ABCC5	0.022		PRMT7	0.044
1444	KIAA0495	0.015		SESN3	0.022		KDM6B	0.044
1445	RBBP8	0.015		CARNS1	0.022		HNRNPH1	0.044
1446	FUCA2	0.015		HMHA1	0.022		RFC1	0.044
1447	TRMT2B	0.015		MRPS26	0.022		UHRF1BP1	0.044
1448	IGFLR1	0.015		SEMA4B	0.022		UBXN11	0.044
1449	NR1D1	0.015		GPD2	0.023		SUV420H1	0.044
1450	ZNF211	0.015		GSTP1	0.023		ASNSD1	0.044
1451	ZNF692	0.016		IL12RB2	0.023		GDPD5	0.044
1452	ERC1	0.016		HTR3A	0.023		LRRC45	0.044
1453	MAPRE1	0.016		ATP5J2	0.023		MRPL49	0.044
1454	CHST12	0.016		RNF130	0.023		TMEM160	0.044
1455	ASB16	0.016		ZNF708	0.023		PI4K2B	0.045
1456	FOXP4	0.016		ANXA4	0.023		FLYWCH1	0.045
1457	ADARB1	0.016		HCK	0.023		TRIOBP	0.045
1458	FCHSD1	0.016		KATNAL1	0.023		LARP4	0.045
1459	MRPS15	0.016		ATAD2B	0.023		ECI1	0.045
1460	FYCO1	0.016		HMGXB3	0.023		PCYOX1	0.045
1461	B3GNT9	0.016		SYTL2	0.023		POLL	0.045
1462	SUCLG1	0.016		ITPR1	0.023		BAIAP3	0.045
1463	GTF2B	0.016		PLEK	0.023		JMY	0.045
1464	TBCD	0.016		GABBR1	0.023		SARS2	0.045
1465	TAF1	0.016		TTC24	0.023		SMG1	0.045
1466	B2M	0.016		CTSO	0.023		PSMA3	0.045

1467	VDR	0.016		ZBTB1	0.023	MRPL47	0.045
1468	MBNL3	0.016		SEMA3G	0.023	BTBD7	0.045
1469	ZNF33A	0.016		KCNIP2	0.023	RB1CC1	0.045
1470	RELT	0.016		PEA15	0.023	RPUSD1	0.045
1471	PDCL3	0.016		PASK	0.023	ETNK1	0.046
1472	NUF2	0.016		GSPT1	0.023	PPP1CB	0.046
1473	SHFM1	0.016		CASK	0.023	HPCAL1	0.046
1474	ZNF512	0.016		NPHP1	0.023	RPAP2	0.046
1475	HLA-F	0.016		KIN	0.023	SEC63	0.046
1476	SNED1	0.016		SNORD104	0.024	GMEB2	0.046
1477	NUAK2	0.016		STX6	0.024	YTHDC1	0.046
1478	PSMD11	0.016		ZNF318	0.024	FAM160B2	0.046
1479	PPP1R14A	0.016		YIPF3	0.024	NFKBIB	0.046
1480	ATPAF1	0.016		SKAP2	0.024	BZW1	0.046
1481	ZNF593	0.016		ZYG11A	0.024	RANGAP1	0.046
1482	CROCCP2	0.016		CSTB	0.024	PKN3	0.046
1483	UBE2E1	0.016		SIK2	0.024	TCF7	0.046
1484	ABCB1	0.016		THAP2	0.024	MDM2	0.046
1485	DENND1C	0.016		IKBIP	0.024	CCDC85B	0.046
1486	LGALS9	0.016		SDK2	0.024	PIK3CA	0.046
1487	FGFR1	0.016		IDI2-AS1	0.024	C16orf52	0.046
1488	TRIM56	0.016		EIF2AK4	0.024	MAGOHB	0.047
1489	PRDX1	0.016		FAH	0.024	SLC22A18	0.047
1490	KCP	0.016		SCAF11	0.024	AAAS	0.047
1491	PCGF3	0.016		SNX13	0.024	EPT1	0.047
1492	CDK5RAP2	0.016		RBM3	0.024	PRIC285	0.047
1493	KLF8	0.016		LRRC8C	0.024	LIG4	0.047
1494	WRNIP1	0.016		NAA35	0.024	IGHE	0.047
1495	LOC647310	0.016		PIK3AP1	0.024	SLC25A17	0.047
1496	SYTL1	0.016		ZNF721	0.024	C3orf38	0.047
1497	GATAD1	0.016		ENC1	0.024	MTX3	0.047
1498	ATP6AP2	0.016		LYST	0.024	LMNB2	0.047
1499	PCNXL2	0.016		WDR5B	0.024	SGTA	0.047
1500	ZNF395	0.016		MAT2A	0.024	FZR1	0.047
1501	TPP2	0.016		ZNF274	0.024	MAP7D1	0.047
1502	GOLGA2B	0.016		KIAA1468	0.024	TMEM161A	0.047
1503	ARF1	0.016		ETFA	0.024	IFI44L	0.047
1504	CHMP7	0.016		PLXNA3	0.024	ABCA7	0.047
1505	ZNF737	0.016		CCT8	0.025	TCEB1	0.047
1506	ARHGEF6	0.016		HKR1	0.025	WWP2	0.047
1507	GCA	0.016		TSPYL4	0.025	TLK1	0.047
1508	PGAP3	0.016		GAPDH	0.025	ACAP2	0.047
1509	CAST	0.016		ANKS6	0.025	CIC	0.047
1510	FBRSL1	0.016		FCGR2B	0.025	TBC1D10B	0.047
1511	GSTM2	0.016		MINPP1	0.025	SRM	0.047
1512	CHMP1B	0.016		CD99L2	0.025	PCGF5	0.047
1513	CEP97	0.016		ZNF808	0.025	THAP2	0.047
1514	SELL	0.016		XPOT	0.025	ATP6V1A	0.047
1515	CERK	0.016		IGSF8	0.025	SLC5A3	0.047
1516	EZH2	0.016		MIB2	0.025	NOL8	0.047
1517	NCRNA00152	0.016		MMACHC	0.025	DICER1	0.047
1518	INTS9	0.016		RALGPS2	0.025	MRPL4	0.047
1519	SLAIN2	0.016		USPL1	0.025	AP1S3	0.047
1520	UCHL1	0.016		ABCB4	0.025	GLTPD1	0.047
1521	COX6B1	0.016		MAPRE2	0.025	IFIT3	0.047
1522	CXXC5	0.016		BBX	0.025	IFI44	0.047
1523	CLCF1	0.016		NUFIP2	0.025	FEZ2	0.047
1524	TBRG1	0.016		ALOX5	0.025	ICK	0.047
1525	GPR137B	0.016		KIAA1024	0.025	KAT2B	0.048
1526	GOLPH3	0.016		SDHA	0.025	ETAA1	0.048
1527	DCLRE1A	0.016		AP1S2	0.025	FAM38A	0.048
1528	HLA-DQA1	0.016		PTPRF	0.026	CUL3	0.048
1529	ZYX	0.016		GAPT	0.026	ANKHD1	0.048
1530	UBXN1	0.016		ARHGAP17	0.026	ROD1	0.048
1531	SOX12	0.016		UFD1L	0.026	PTPN23	0.048
1532	NBEAL2	0.016		ROMO1	0.026	PDS5B	0.048
1533	KIAA0141	0.016		SGSH	0.026	TRMT1	0.048
1534	C14orf149	0.016		CCR9	0.026	ACO2	0.048
1535	GRAP2	0.016		PSMD8	0.026	SMYD2	0.048
1536	PACSIN2	0.016		SPN	0.026	SRSF6	0.048
1537	MED23	0.016		POMP	0.026	MAPK9	0.048
1538	RECK	0.016		ZNF333	0.026	C21orf91	0.048
1539	CYP2U1	0.016		CYBA	0.026	ALKBH4	0.048
1540	RNF135	0.016		DPPA4	0.026	GOLPH3L	0.048
1541	EIF2AK2	0.016		FAM117A	0.026	ANK3	0.048
1542	POMP	0.016		CDC14A	0.026	CHIC1	0.048
1543	AQP3	0.016		YLPM1	0.026	PPP1CC	0.048
1544	SSBP2	0.016		NEK6	0.026	RFX1	0.048

1545	CLK2	0.016	GAS6	0.026	MBTD1	0.048
1546	IFNGR1	0.016	TMEM80	0.026	ZER1	0.048
1547	PBX2	0.016	ZNF23	0.026	SLC39A8	0.048
1548	HNRNPH3	0.016	RSBN1	0.026	IRAK1	0.048
1549	SDF4	0.016	MPV17L2	0.026	CEP350	0.048
1550	CTSH	0.016	UPP1	0.026	CPEB3	0.048
1551	ZNF70	0.016	CTBS	0.026	BRCA2	0.048
1552	PHF11	0.016	C7orf41	0.026	GNA12	0.048
1553	RPS6KA2	0.016	ADD2	0.026	PSEN1	0.048
1554	YPEL3	0.016	TANC2	0.026	CCDC59	0.048
1555	PRDM2	0.016	ZBTB43	0.026	CCDC76	0.048
1556	SETD2	0.016	PDCD6IP	0.027	CBFB	0.048
1557	DCAF15	0.016	CDC34	0.027	PITPNM1	0.048
1558	ELOVL5	0.016	ZNF468	0.027	XPO4	0.048
1559	ARRB2	0.016	EIF2C4	0.027	TROVE2	0.048
1560	NICN1	0.016	MTFP1	0.027	ATHL1	0.048
1561	ATG5	0.016	ZNF84	0.027	C19orf20	0.048
1562	PINK1	0.016	PTPRS	0.027	IMPA1	0.048
1563	DENND5A	0.016	FBXL5	0.027	BRCC3	0.048
1564	TBC1D1	0.016	LY6E	0.027	ZDHHC8	0.049
1565	ZNF238	0.016	TCTN1	0.027	MFGE8	0.049
1566	BZW1	0.016	ANKRD26	0.027	LIPE	0.049
1567	POLR3GL	0.016	TXN	0.027	RNF138	0.049
1568	MED22	0.016	EAF2	0.027	PARD6A	0.049
1569	MGEA5	0.016	KIF3C	0.027	SLC25A42	0.049
1570	RANBP10	0.016	ZNF558	0.027	SH3GLB1	0.049
1571	CD72	0.016	ANO6	0.027	IBTK	0.049
1572	BACH2	0.016	ZNF138	0.027	TFR2	0.049
1573	C17orf91	0.016	HSD17B11	0.027	SLC12A7	0.049
1574	BRD4	0.016	ICAM4	0.027	KANK3	0.049
1575	AHSA2	0.016	DPM2	0.027	WASH2P	0.049
1576	EDEM3	0.016	BAK1	0.027	PCYT2	0.049
1577	FAM160A2	0.016	ZNF471	0.027	LOC100132356	0.049
1578	B3GNT7	0.016	ZNF550	0.027	CORO7	0.049
1579	ZNF816	0.016	RNF219	0.027	CD82	0.049
1580	SIX5	0.016	IKBKB	0.027	CTSD	0.049
1581	LOC100134229	0.016	BCL9L	0.027	GLI4	0.049
1582	ADAT2	0.016	DPH5	0.027	CHAD	0.049
1583	STAT5A	0.016	STARD9	0.027	DENND1B	0.049
1584	CTC1	0.016	MMP17	0.027	AZI2	0.049
1585	SYPL1	0.016	MYLIP	0.027	KIAA0196	0.049
1586	KDSR	0.016	CYB5R3	0.027	SEC61B	0.049
1587	COX6C	0.016	CD82	0.027	USP19	0.049
1588	WNT4	0.016	FAM111A	0.027	L3MBTL3	0.049
1589	C20orf7	0.016	HIC2	0.027	ELL	0.050
1590	INF2	0.016	IPO11	0.027	FERMT3	0.050
1591	ZNF594	0.016	BLZF1	0.027	SNORA8	0.050
1592	ZFP28	0.016	NDUFA8	0.027	LRRC40	0.050
1593	C19orf6	0.016	SYNM	0.027	PSMB10	0.050
1594	WASF2	0.016	FLYWCH1	0.028	SNAP23	0.050
1595	CUL9	0.016	PFKFB2	0.028	BBIP1	0.050
1596	HSD17B10	0.016	SLC46A3	0.028	DDX11	0.050
1597	PEAK1	0.016	AMN1	0.028	GOPC	0.050
1598	NRF1	0.016	KIAA0090	0.028	KRCC1	0.050
1599	FAM110A	0.016	PHF1	0.028	ARSA	0.050
1600	TRIM33	0.016	CHP	0.028	DYNLL1	0.050
1601	NEMF	0.016	OSGEP	0.028	CDC73	0.050
1602	SLC3A2	0.016	PTGS1	0.028	SCYL2	0.050
1603	RGL2	0.016	KDM4B	0.028	TRAPPC5	0.050
1604	MYST3	0.016	SLC35C1	0.028		
1605	WDR47	0.016	C19orf24	0.028		
1606	ASAH1	0.016	GOPC	0.028		
1607	WDR82	0.016	ZNF343	0.028		
1608	IARS	0.016	AHCYL2	0.028		
1609	GCN1L1	0.016	RIN3	0.028		
1610	LRRC8C	0.016	ANKRD37	0.028		
1611	CEP135	0.016	SNRPG	0.028		
1612	MYST1	0.016	RFT1	0.028		
1613	FAM116B	0.016	EPC1	0.028		
1614	NSUN5	0.016	LMNA	0.028		
1615	WDR5B	0.016	BEX2	0.028		
1616	FAM111A	0.016	UFC1	0.028		
1617	FAM84B	0.016	C7orf43	0.028		
1618	TREML2	0.016	TNFRSF10B	0.028		
1619	REC8	0.016	ACAT1	0.028		
1620	CCDC130	0.016	STRADB	0.029		
1621	FAM102A	0.016	HLA-DPB1	0.029		
1622	STK11IP	0.016	C2orf68	0.029		

1623	TXNRD1	0.016	IFT74	0.029
1624	WDR11	0.016	MBTD1	0.029
1625	TSPAN13	0.016	CTSC	0.029
1626	NR1H2	0.016	ARSB	0.029
1627	ZNF420	0.016	ZFAT	0.029
1628	EIF2A	0.016	RNF144B	0.029
1629	C6orf211	0.016	AXIN1	0.029
1630	LIG4	0.016	MAP3K14	0.029
1631	BRD3	0.016	ZNF137P	0.029
1632	SMURF1	0.016	NR3C1	0.029
1633	ZNF493	0.016	FADS3	0.029
1634	CCDC9	0.016	FCER2	0.029
1635	SSH2	0.016	ZSWIM7	0.029
1636	WWC3	0.016	RHOC	0.029
1637	MIXL1	0.016	ZBTB39	0.029
1638	C20orf103	0.016	ZXDB	0.029
1639	TBC1D5	0.016	PRPS2	0.029
1640	B4GALT1	0.016	SYNPO	0.029
1641	MAGEE1	0.016	SNX18	0.029
1642	SH2D3A	0.016	DCLRE1C	0.029
1643	RPS6KA3	0.016	ZNF528	0.029
1644	SCN3A	0.016	NDUFS2	0.029
1645	ASRGL1	0.016	DUSP3	0.029
1646	SH3BP2	0.016	MCOLN2	0.029
1647	SCAF11	0.016	MAPK3	0.029
1648	SLC9A3R1	0.016	ZNF783	0.029
1649	AIFM1	0.016	PCNXL2	0.029
1650	NSUN5P2	0.016	EYA3	0.029
1651	C2orf68	0.016	GNG11	0.030
1652	RFX7	0.016	ADI1	0.030
1653	DNMBP	0.016	ZMIZ2	0.030
1654	NENF	0.016	LGALS8	0.030
1655	SLC25A4	0.016	CDK19	0.030
1656	GTF2A1	0.016	ZNF510	0.030
1657	GOLIM4	0.016	HLA-DQA1	0.030
1658	SH3YL1	0.016	MPEG1	0.030
1659	ZFP3	0.016	MCL1	0.030
1660	LRPPRC	0.016	ATXN7L1	0.030
1661	PTPRCAP	0.016	IGHA2	0.030
1662	CAMK2D	0.016	IFI27L2	0.030
1663	NDUFS1	0.017	MYH3	0.030
1664	DDX6	0.017	PAWR	0.030
1665	LOC100129034	0.017	IL24	0.030
1666	ELL3	0.017	ZNF362	0.030
1667	NARG2	0.017	WDR52	0.030
1668	MTERFD2	0.017	LCN10	0.030
1669	SKA3	0.017	ZNF252	0.030
1670	CNR2	0.017	GLRX5	0.031
1671	CCNG2	0.017	ZNF706	0.031
1672	PRR13	0.017	ZNF836	0.031
1673	LIMS2	0.017	MYO1E	0.031
1674	SLC31A1	0.017	SLC12A7	0.031
1675	APLP2	0.017	QRSL1	0.031
1676	TMEM173	0.017	RWDD3	0.031
1677	MAP3K11	0.017	PSMD14	0.031
1678	VASP	0.017	APH1B	0.031
1679	RXRB	0.017	COX6A1	0.031
1680	TP73	0.017	ZNF512	0.031
1681	KIF13B	0.017	TRIM69	0.031
1682	ATAT1	0.017	CREBBP	0.031
1683	PATL2	0.017	HHEX	0.031
1684	CCDC85B	0.017	C16orf62	0.031
1685	TFDP2	0.017	CLIP2	0.031
1686	PDLIM2	0.017	STAT4	0.031
1687	CAPN3	0.017	GGH	0.031
1688	PGLS	0.017	ZFP90	0.031
1689	TMEM33	0.017	NOM1	0.031
1690	HEATR5B	0.017	ESR1	0.031
1691	MRPS25	0.017	NDUFS3	0.031
1692	KIAA1683	0.017	FANCD2	0.031
1693	ZNF138	0.017	GGA3	0.031
1694	PDCD6IP	0.017	RUNDC2C	0.031
1695	ATP5H	0.017	CD24	0.031
1696	POLRMT	0.017	LOC283194	0.031
1697	KIFAP3	0.017	GCA	0.032
1698	EMG1	0.017	ZNF358	0.032
1699	MAML1	0.017	C11orf21	0.032
1700	PAN2	0.017	C22orf39	0.032

1701	DCAF17	0.017	TRADD	0.032
1702	D2HGDH	0.017	MRPL3	0.032
1703	SDK2	0.017	CSNK1G2	0.032
1704	OFD1	0.017	C20orf195	0.032
1705	KIAA2026	0.017	IFITM1	0.032
1706	ZNF107	0.017	TUBE1	0.032
1707	ZNF167	0.017	TXNDC12	0.032
1708	CORO1A	0.017	GBP4	0.032
1709	UHMK1	0.017	ARHGAP18	0.032
1710	TP53I13	0.017	RLIM	0.032
1711	LMO4	0.017	ZNF507	0.032
1712	IKBKB	0.017	SRGAP3	0.032
1713	WHAMM	0.017	CASP2	0.032
1714	PHF1	0.017	MET	0.032
1715	NAAA	0.017	LOC100132356	0.032
1716	INTS2	0.017	OXCT2	0.032
1717	TRIM14	0.017	SLA	0.032
1718	ORAOV1	0.017	NETO1	0.032
1719	RBM12B	0.017	GALE	0.032
1720	NAP1L1	0.017	TMEM156	0.032
1721	ANO9	0.017	CCNG2	0.032
1722	TCEA2	0.017	C2orf56	0.032
1723	PCCA	0.017	CSRP2BP	0.032
1724	CLPX	0.017	ZNF382	0.032
1725	KIAA0494	0.017	ABTB1	0.032
1726	POLD4	0.017	NENF	0.032
1727	GBF1	0.017	P2RX4	0.032
1728	MBLAC2	0.017	AUTS2	0.033
1729	PPA1	0.017	RTCD1	0.033
1730	SEPHS1	0.017	KLF9	0.033
1731	SFT2D3	0.017	SCAND2	0.033
1732	SLC25A46	0.017	SIAH2	0.033
1733	SGSH	0.017	COX8A	0.033
1734	FIG4	0.017	PSMB3	0.033
1735	ANAPC5	0.017	RRP36	0.033
1736	SLC2A6	0.017	FZD3	0.033
1737	FAM108B1	0.017	ZDHHC14	0.033
1738	CD6	0.017	ERH	0.033
1739	CNO	0.017	GIPR	0.033
1740	MAX	0.017	YPEL2	0.033
1741	EIF4A2	0.017	PPFIBP1	0.033
1742	NBPF9	0.017	MYL6B	0.033
1743	RAB7L1	0.017	REXO2	0.033
1744	SH3BGRL3	0.017	TP63	0.033
1745	TBC1D19	0.017	EIF2B3	0.034
1746	ORAI1	0.017	FCGBP	0.034
1747	HGSNAT	0.017	FAM160B2	0.034
1748	FAM122B	0.017	TSTA3	0.034
1749	KDM3B	0.017	STARD8	0.034
1750	ZC3H4	0.017	PRNP	0.034
1751	MYL6	0.017	ZNF229	0.034
1752	ZNF701	0.017	C14orf101	0.034
1753	SEPN1	0.017	TUFM	0.034
1754	ZER1	0.017	MRPS18A	0.034
1755	SMC4	0.017	FBLN2	0.034
1756	EIF2C4	0.017	CLYBL	0.034
1757	CLPTM1	0.017	ERO1L	0.034
1758	UFD1L	0.017	ANKRD46	0.034
1759	KCTD1	0.017	CD63	0.034
1760	PAQR8	0.017	SAMD4A	0.034
1761	KIAA0090	0.017	SUCLA2	0.034
1762	PFKL	0.017	PRKRIR	0.034
1763	MED29	0.017	CINP	0.034
1764	SNN	0.017	BPGM	0.034
1765	TRIM68	0.017	VEGFB	0.034
1766	FAM159A	0.017	TBC1D4	0.034
1767	LINGO3	0.017	PSMC1	0.034
1768	PSMA1	0.017	DSP	0.034
1769	CHD6	0.017	ARHGAP31	0.034
1770	ANKMY1	0.017	CTC1	0.034
1771	ATHL1	0.017	SERPINF1	0.035
1772	RPS19BP1	0.017	CD151	0.035
1773	PEX5	0.017	SLC41A2	0.035
1774	MTA1	0.017	OASL	0.035
1775	CD200	0.017	LOC100130950	0.035
1776	FGD4	0.017	DFNB31	0.035
1777	COQ5	0.017	ZNF667	0.035
1778	RALGPS1	0.017	CAMLG	0.035

1779	C3orf47	0.017	TMEM126A	0.035
1780	HMOX1	0.017	UST	0.035
1781	GTF3C6	0.017	EPC2	0.035
1782	UBE2V2	0.017	OTUD7B	0.035
1783	KIFC2	0.017	ANO9	0.035
1784	FOXK1	0.017	TET3	0.035
1785	ATP5C1	0.017	KCNN4	0.035
1786	GPR160	0.017	EMG1	0.035
1787	SLC29A2	0.017	SRSF10	0.035
1788	SCYL1	0.017	PVT1	0.035
1789	TTYH3	0.017	LHFPL2	0.035
1790	RAB27A	0.017	FBXO11	0.035
1791	ATP6V1D	0.017	CWC22	0.035
1792	RHOC	0.017	RPS27L	0.035
1793	XYLT1	0.017	EPSTI1	0.035
1794	ABCB9	0.017	COG6	0.035
1795	FASTKD1	0.017	SLC25A22	0.035
1796	MAML2	0.017	ZBTB8OS	0.035
1797	CNN2	0.017	ZNF267	0.035
1798	NSUN5P1	0.017	PSMD7	0.035
1799	ARHGAP24	0.017	CPD	0.035
1800	NDUFA13	0.017	BTBD2	0.035
1801	NAA50	0.017	TCTN3	0.035
1802	FYN	0.017	APLP2	0.035
1803	HPS1	0.017	PARVG	0.035
1804	ASCC3	0.017	SOBP	0.035
1805	UNC93B1	0.017	AKAP11	0.035
1806	HIBCH	0.017	CENPC1	0.036
1807	MIIP	0.017	SERPINB1	0.036
1808	ABCD2	0.017	RLF	0.036
1809	MS4A14	0.017	PPP4R1	0.036
1810	LLGL1	0.017	RYK	0.036
1811	OSBP	0.017	TECPR2	0.036
1812	PLCD1	0.017	JHDM1D	0.036
1813	FNBP4	0.017	NPHP3	0.036
1814	UQCRQ	0.017	SKP2	0.036
1815	LOC730101	0.017	STAP1	0.036
1816	CXCR3	0.017	MYO6	0.036
1817	POLG	0.017	HEXIM2	0.036
1818	PEBP1	0.017	CDK13	0.036
1819	ITGB2	0.017	ZNF681	0.036
1820	CINP	0.017	C15orf24	0.036
1821	PRMT2	0.017	INO80	0.037
1822	SRSF5	0.017	HLA-DRB1	0.037
1823	C12orf51	0.017	EML2	0.037
1824	RHOH	0.017	PSMA2	0.037
1825	PRPF3	0.017	RHOQ	0.037
1826	CRLS1	0.017	ZNF518A	0.037
1827	CENPF	0.017	TFDP2	0.037
1828	PARP2	0.017	USP53	0.037
1829	41342.000	0.017	FH	0.037
1830	UQCRFS1	0.017	SRRM2	0.037
1831	ZC3H12D	0.017	ZNF829	0.037
1832	IL7	0.017	PSMA5	0.037
1833	ZFC3H1	0.017	SYT17	0.037
1834	C18orf8	0.017	ZNF789	0.037
1835	UBXN8	0.017	DYRK1A	0.037
1836	RBAK	0.017	MFSD4	0.037
1837	HMMR	0.017	ATF1	0.037
1838	LY86	0.017	GOT1	0.037
1839	LPGAT1	0.017	KIAA0240	0.037
1840	KCTD7	0.017	ARNTL2	0.037
1841	PKIG	0.017	ITPRIPL2	0.037
1842	DPM2	0.017	HGSNAT	0.037
1843	ICAM3	0.017	INO80E	0.037
1844	ITPR3	0.017	HIBCH	0.037
1845	SIAE	0.017	BCAR3	0.038
1846	TBC1D7	0.017	SEPN1	0.038
1847	ING4	0.017	OR13A1	0.038
1848	C6orf120	0.017	EIF3J	0.038
1849	SRXN1	0.017	UFM1	0.038
1850	TTC14	0.017	KAT2A	0.038
1851	TANC2	0.017	FAM13B	0.038
1852	PNRC1	0.017	AKT3	0.038
1853	ZEB2	0.017	TCEAL4	0.038
1854	ZBTB33	0.017	FBXO6	0.038
1855	LOC100129550	0.017	SESTD1	0.038
1856	ZNF542	0.017	LDLRAP1	0.038

1857	GAS6	0.017	C12orf44	0.038
1858	TMEM71	0.017	SP140L	0.038
1859	C1R	0.017	BMP6	0.038
1860	C17orf85	0.017	NXF1	0.038
1861	STK24	0.017	CLCN7	0.038
1862	CAND1	0.017	OGFRL1	0.038
1863	ZNF557	0.017	DUSP22	0.038
1864	SPECC1L	0.017	AKAP10	0.038
1865	ANAPC4	0.017	ZDHHC12	0.038
1866	ZNF524	0.017	NUP88	0.038
1867	SHISA5	0.017	GPSM3	0.038
1868	PARP12	0.017	ATP5B	0.038
1869	ZNF687	0.017	NAGA	0.038
1870	CDKN3	0.017	MRPS11	0.038
1871	TMOD2	0.017	PAN2	0.038
1872	PAQR6	0.017	LRRC1	0.038
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1875	GRIPAP1	0.017	HERC4	0.038
1876	SPTBN2	0.017	TAGAP	0.038
1877	ZNF385A	0.017	KIAA1377	0.038
1878	CREG1	0.017	SUPT3H	0.038
1879	NCRNA00201	0.017	FAM175A	0.038
1880	TMEM63A	0.017	SIDT2	0.038
1881	ELMOD3	0.017	ANUBL1	0.038
1882	RDH10	0.017	DPM3	0.038
1883	RNF10	0.017	C1orf63	0.038
1884	DEPDC1	0.017	RNF125	0.038
1885	GALNT7	0.017	LRCH1	0.038
1886	PGS1	0.017	GIGYF1	0.038
1887	CTNNAL1	0.017	YIPF1	0.038
1888	ATP1B3	0.017	DDX1	0.039
1889	RDX	0.017	MTERFD2	0.039
1890	FAM109A	0.017	PARP15	0.039
1891	CHEK1	0.017	SCN4A	0.039
1892	ZNF26	0.017	RAI1	0.039
1893	MAGED2	0.017	THNSL2	0.039
1894	HS2ST1	0.017	FASTKD2	0.039
1895	ZNF317	0.017	SP4	0.039
1896	ZNF706	0.018	KLHL24	0.039
1897	ZFP14	0.018	TRAF3IP1	0.039
1898	ZNF441	0.018	RETSAT	0.039
1899	TMEM126B	0.018	ORMDL2	0.039
1900	FAM178A	0.018	PIAS2	0.039
1901	NXF1	0.018	ACAP2	0.039
1902	CNPY2	0.018	MANBAL	0.039
1903	BLOC1S2	0.018	KCTD7	0.039
1904	SNHG1	0.018	NOL7	0.039
1905	SMARCA2	0.018	RNF146	0.039
1906	RPL26L1	0.018	RBKS	0.039
1907	FCRL1	0.018	ZNF736	0.039
1908	SIGLEC14	0.018	STX16	0.039
1909	NDUFB4	0.018	TNRC6C	0.039
1910	NR3C1	0.018	CROCCP3	0.039
1911	MCF2L	0.018	KIAA0355	0.039
1912	IL27RA	0.018	ATP5G3	0.039
1913	PYGB	0.018	GCNT2	0.039
1914	GPSM3	0.018	BACE2	0.040
1915	TRIM22	0.018	SLC6A6	0.040
1916	YPEL1	0.018	GLT25D1	0.040
1917	DVL1	0.018	RPAIN	0.040
1918	AHDC1	0.018	ZBTB10	0.040
1919	MFSD10	0.018	UTP3	0.040
1920	RHOG	0.018	LRRK2	0.040
1921	BTN2A2	0.018	SLC25A15	0.040
1922	NECAP2	0.018	WSCD2	0.040
1923	NNT	0.018	CLPB	0.040
1924	ZNF592	0.018	SLC23A2	0.040
1925	TGFBR2	0.018	GAMT	0.040
1926	TMX1	0.018	TNFRSF10D	0.040
1927	ITCH	0.018	BTG1	0.040
1928	GPR65	0.018	FLJ43663	0.040
1929	LOC25845	0.018	COX7A2L	0.040
1930	SP1	0.018	DYNLT3	0.040
1931	SNHG7	0.018	FANCG	0.040
1932	RAF1	0.018	NOXA1	0.040
1933	C1orf55	0.018	ZNF770	0.040
1934	PILRB	0.018	CMTM3	0.040

1935	DTX3L	0.018	PTAR1	0.040
1936	EDF1	0.018	MPHOSPH8	0.040
1937	ZFP161	0.018	YIPF6	0.040
1938	CXorf23	0.018	ZAK	0.040
1939	GPRASP1	0.018	UBE2L6	0.040
1940	HYI	0.018	IL21R	0.041
1941	NDUFB2	0.018	KRBA1	0.041
1942	PPFIBP1	0.018	ATPIF1	0.041
1943	CAPRIN2	0.018	LOC150776	0.041
1944	IL6R	0.018	TLR4	0.041
1945	LSM5	0.018	NDUFB6	0.041
1946	RNF220	0.018	SNX1	0.041
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1952	C6orf115	0.018	GSTT1	0.041
1953	AP1G2	0.018	ECI2	0.041
1954	TSPYL2	0.018	GAS7	0.041
1955	ANKLE2	0.018	USP13	0.041
1956	PLEKHH3	0.018	ABCA1	0.041
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1958	UNK	0.018	PIK3C2A	0.041
1959	SRM	0.018	KIAA1244	0.041
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1963	P2RX5-TAX1BP3	0.018	EZH1	0.041
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1965	C14orf181	0.018	LOC100134229	0.041
1966	LOC284749	0.018	NEDD4L	0.041
1967	DGKA	0.018	ADAP2	0.041
1968	SUMF1	0.018	NFYB	0.041
1969	NBPF1	0.018	LOC220906	0.041
1970	TESK2	0.018	ORAI3	0.041
1971	PSMB6	0.018	EIF5A	0.042
1972	NRBP1	0.018	ALG3	0.042
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1974	USF2	0.018	CLK2	0.042
1975	SGK223	0.018	GAB3	0.042
1976	ATP11B	0.018	C19orf38	0.042
1977	RWDD1	0.018	C16orf91	0.042
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1979	ATP5B	0.018	TBL1X	0.042
1980	RBMS1	0.018	POLR3D	0.042
1981	TRAF4	0.018	DENR	0.042
1982	RAP1GAP2	0.018	PDK3	0.042
1983	CEP120	0.018	HBS1L	0.042
1984	SETDB1	0.018	EPHX1	0.042
1985	RWDD2A	0.018	ANKRA2	0.042
1986	NDUFAB1	0.018	CEP192	0.042
1987	WBSCR22	0.018	USP44	0.042
1988	MBD4	0.018	ACSL3	0.042
1989	APOL2	0.018	SLC25A37	0.042
1990	KIAA0430	0.018	VPS41	0.042
1991	ABHD5	0.018	NDUFB11	0.042
1992	SLC12A7	0.018	PRMT1	0.042
1993	SLC30A7	0.018	C17orf90	0.042
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1996	COTL1	0.018	MPP6	0.043
1997	FAM102B	0.018	F2R	0.043
1998	NDUFV3	0.018	TLR10	0.043
1999	FOXO4	0.018	SNX25	0.043
2000	LTB4R	0.018	PXN	0.043
2001	CECR2	0.018	CEACAM1	0.043
2002	MBTPS2	0.018	KRI1	0.043
2003	DAZAP2	0.018	LOC729513	0.043
2004	ETFA	0.018	LRRC37BP1	0.043
2005	LOC100506144	0.018	NDUFS8	0.043
2006	WDR61	0.018	ARHGAP9	0.043
2007	SFXN1	0.018	CRBN	0.043
2008	TRPS1	0.018	TAGLN	0.043
2009	LOC155060	0.018	TC2N	0.043
2010	C19orf22	0.018	MGEA5	0.043
2011	C1orf106	0.018	PRMT5	0.044
2012	RPL23AP7	0.018	PAQR6	0.044

2013	TRIM44	0.018	PCCA	0.044
2014	XRCC4	0.018	TLR6	0.044
2015	CELF6	0.018	GCET2	0.044
2016	GOLGA2	0.018	RNASE4	0.044
2017	LOC100129196	0.018	ARHGAP33	0.044
2018	XRCC5	0.018	POLR3GL	0.044
2019	CCDC154	0.018	FBXL12	0.044
2020	AP3D1	0.018	RMI1	0.044
2021	LOC202781	0.018	FAM26F	0.044
2022	41336.000	0.018	RNF181	0.044
2023	PCBP2	0.018	SOX5	0.044
2024	CARD11	0.018	ENTPD7	0.044
2025	POGK	0.018	C2orf81	0.044
2026	ZNF154	0.018	NDUFAB1	0.044
2027	KIF4A	0.018	GRPEL2	0.044
2028	GPR55	0.018	ZNF268	0.044
2029	ISG20	0.018	KIAA1467	0.044
2030	PMEPA1	0.018	PHF16	0.044
2031	CD83	0.018	C18orf18	0.044
2032	SKAP1	0.018	MEAF6	0.044
2033	SNX11	0.018	MAP7D1	0.044
2034	TET3	0.018	LOC100129250	0.044
2035	ZNF358	0.018	TNK1	0.044
2036	STX4	0.018	GUF1	0.044
2037	GCET2	0.018	C6orf25	0.044
2038	RALGAPA2	0.018	CYP2U1	0.044
2039	SF3A1	0.018	TOP1	0.044
2040	STK40	0.018	GAB1	0.044
2041	HAX1	0.018	DNAJC19	0.045
2042	TMCO6	0.018	IMMP2L	0.045
2043	SNX30	0.018	IFITM2	0.045
2044	SBF2	0.018	KIAA2018	0.045
2045	MAPK8IP3	0.018	ARSG	0.045
2046	ZNF320	0.018	DISP1	0.045
2047	MAPKAPK2	0.018	DOLK	0.045
2048	DHX58	0.018	PMPCA	0.045
2049	NSMCE4A	0.018	LIMS1	0.045
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2053	RAB3D	0.018	LATS1	0.045
2054	TMEM111	0.018	BBS1	0.045
2055	RIMKLB	0.018	TPP1	0.045
2056	KLHL20	0.018	FOXO3	0.045
2057	NDUFB5	0.018	SNHG5	0.045
2058	SRSF8	0.018	CD59	0.045
2059	KAT2A	0.018	ECE2	0.045
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2061	CCBL1	0.018	RNF138	0.045
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2068	TCEAL8	0.018	PRCD	0.046
2069	SMAGP	0.018	ZBED5	0.046
2070	FNBP1	0.018	LOC100499489	0.046
2071	ZNF717	0.018	PNRC1	0.046
2072	CLK4	0.018	NBPF10	0.046
2073	PI4KB	0.018	TSNARE1	0.046
2074	COCH	0.018	DDX60L	0.046
2075	ACSL4	0.018	ZNF302	0.046
2076	SLC25A29	0.018	MST1	0.046
2077	TRAF1	0.018	TSPAN18	0.046
2078	LANCL2	0.019	ELMOD3	0.046
2079	IL10RA	0.019	ZNF569	0.046
2080	DCTN3	0.019	SOCS1	0.046
2081	TSC22D2	0.019	CHCHD4	0.046
2082	AACS	0.019	PGM2L1	0.046
2083	ZNF431	0.019	HOPX	0.046
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2085	SLC30A4	0.019	HECA	0.047
2086	TMEM2	0.019	ARSD	0.047
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2088	APH1B	0.019	APOBEC3C	0.047
2089	ATAD2B	0.019	RPA1	0.047
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2093	ZNF318	0.019	TMEM159	0.047
2094	MFSD2A	0.019	PSMB6	0.047
2095	DNAJC15	0.019	CLMN	0.047
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2126	UNKL	0.019	NOTCH1	0.049
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2129	CCNT2	0.019	SIPA1	0.049
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2131	ADAM10	0.019	USP45	0.049
2132	MT1X	0.019	SLC9A9	0.049
2133	SNX2	0.019	NDUFS5	0.049
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2136	INO80	0.019	DIDO1	0.049
2137	MX2	0.019	AP1S3	0.049
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2140	HCG26	0.019	RCOR3	0.050
2141	SESTD1	0.019	C20orf94	0.050
2142	FAM172A	0.019	ATP5G1	0.050
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2213	ZCCHC8	0.019
2214	LYRM4	0.019
2215	TMEM222	0.019
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2217	ADD2	0.019
2218	ZNF821	0.019
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2227	SP140L	0.019
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2233	CIRBP	0.019
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2236	C5orf53	0.019
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4871	PSME1	0.040
4872	NAF1	0.040
4873	DOCK11	0.040
4874	FLVCR1	0.040
4875	TRPM2	0.040
4876	C6orf72	0.040
4877	UBIAD1	0.040
4878	MCM3AP-AS1	0.040
4879	IPO11	0.040
4880	C19orf55	0.040
4881	PPIE	0.040
4882	GIMAP2	0.040
4883	PL-5283	0.040
4884	WWOX	0.040
4885	PPID	0.040
4886	LOC220729	0.040
4887	MBOAT1	0.040
4888	AGPAT1	0.040
4889	PIP5K1A	0.040
4890	GATSL3	0.040
4891	FAM63A	0.040
4892	CARM1	0.040
4893	AGK	0.040
4894	H2AFY	0.040
4895	AP1B1	0.040
4896	SEC24B	0.040
4897	CUBN	0.040
4898	SPIN4	0.040

4899	PDZD11	0.040
4900	CACNA2D4	0.040
4901	TRDMT1	0.040
4902	ABCC4	0.041
4903	CLPP	0.041
4904	CCND1	0.041
4905	ZNF208	0.041
4906	TLE2	0.041
4907	CDK5	0.041
4908	C7orf13	0.041
4909	HTR3A	0.041
4910	NDRG3	0.041
4911	XRCC6	0.041
4912	CCNF	0.041
4913	EXOSC6	0.041
4914	GLRX5	0.041
4915	CDK5RAP3	0.041
4916	COX17	0.041
4917	FLJ35776	0.041
4918	RCCD1	0.041
4919	SIT1	0.041
4920	IL15RA	0.041
4921	LNX2	0.041
4922	PALLD	0.041
4923	TREX2	0.041
4924	ARFRP1	0.041
4925	PHC3	0.041
4926	TNFAIP1	0.041
4927	ZNF32	0.041
4928	GNA11	0.041
4929	WDR17	0.041
4930	ZNF580	0.041
4931	LYPD2	0.041
4932	RASGEF1B	0.041
4933	ZC3H3	0.041
4934	C17orf79	0.041
4935	COX8A	0.041
4936	NUDT2	0.041
4937	ZNF665	0.041
4938	ANAPC11	0.041
4939	HDAC10	0.041
4940	PHACTR2	0.041
4941	C17orf106-CDK3	0.041
4942	ATP5J2	0.041
4943	TRIM52	0.041
4944	SLC35B2	0.041
4945	KCTD12	0.041
4946	INPP5B	0.041
4947	HOXB4	0.041
4948	TGFBI	0.041
4949	FAM129B	0.041
4950	KIF22	0.041
4951	ID3	0.041
4952	UTP15	0.041
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4954	MTRF1	0.041
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4956	LOC100133991	0.041
4957	LRCH3	0.041
4958	USP21	0.041
4959	LOC150776	0.041
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4961	NUDT7	0.042
4962	TYROBP	0.042
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4964	GLS2	0.042
4965	DSCC1	0.042
4966	DUS2L	0.042
4967	MPHOSPH9	0.042
4968	CCDC92	0.042
4969	ZFP36L2	0.042
4970	C20orf194	0.042
4971	PRMT6	0.042
4972	C7orf41	0.042
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4974	CHAD	0.042
4975	MCM4	0.042
4976	TK1	0.042

4977	GINS2	0.042
4978	DHRS12	0.042
4979	FANCF	0.042
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4989	RNF114	0.042
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5008	C3orf54	0.042
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5011	PHYH	0.042
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5014	ZFAND2B	0.043
5015	ARL11	0.043
5016	NUMBL	0.043
5017	ZNF799	0.043
5018	LOC400927	0.043
5019	NUDT16L1	0.043
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5021	STX12	0.043
5022	ZBTB1	0.043
5023	DNAJC4	0.043
5024	EPR1	0.043
5025	POC5	0.043
5026	C6orf35	0.043
5027	WAC	0.043
5028	ATP6V0A2	0.043
5029	ZNF582	0.043
5030	STK11	0.043
5031	KIF15	0.043
5032	MAP7D2	0.043
5033	PSMB4	0.043
5034	C1orf201	0.043
5035	GLI1	0.043
5036	PRMT7	0.043
5037	POMT2	0.043
5038	REM2	0.043
5039	ACTG1	0.043
5040	CX3CR1	0.043
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5043	LOC100216545	0.043
5044	NAB1	0.043
5045	GRID2IP	0.043
5046	DNAJB12	0.043
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5048	RASA1	0.043
5049	TC2N	0.044
5050	MCM10	0.044
5051	ZNRD1-AS1	0.044
5052	AIF1	0.044
5053	RSPO1	0.044
5054	MLH1	0.044

5055	CAMLG	0.044
5056	SLC22A18	0.044
5057	EFHA1	0.044
5058	CAMKMT	0.044
5059	DNAJA2	0.044
5060	VDAC2	0.044
5061	OGFR	0.044
5062	SMAP2	0.044
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5066	TAL1	0.044
5067	STK17B	0.044
5068	ZNF839	0.044
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5073	CHM	0.044
5074	ZDHHC5	0.044
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5076	GPD2	0.044
5077	SAMD4A	0.044
5078	C16orf75	0.044
5079	DNAJC17	0.044
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5082	GATM	0.044
5083	TCEB1	0.044
5084	ZNF30	0.044
5085	FNIP2	0.044
5086	FAM195B	0.044
5087	C1orf86	0.044
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5091	KIAA0284	0.044
5092	STAT2	0.044
5093	TTC9C	0.044
5094	NXPH4	0.044
5095	ATM	0.044
5096	WDHD1	0.044
5097	FAM190A	0.044
5098	ZBTB11	0.044
5099	RASL11A	0.044
5100	FBXO5	0.044
5101	EXOC8	0.044
5102	HMGCL	0.044
5103	CST3	0.044
5104	KIAA1712	0.044
5105	LRRC27	0.044
5106	NF1	0.044
5107	TMEM159	0.044
5108	NTNG2	0.044
5109	ZNF44	0.044
5110	NPAT	0.044
5111	MTPAP	0.044
5112	DOK2	0.044
5113	VKORC1L1	0.045
5114	C15orf23	0.045
5115	PRR5L	0.045
5116	C6orf57	0.045
5117	LRDD	0.045
5118	RALY	0.045
5119	TMTC1	0.045
5120	ZDHHC13	0.045
5121	NIPSNAP3B	0.045
5122	NEAT1	0.045
5123	RUVBL2	0.045
5124	SNRPG	0.045
5125	COL7A1	0.045
5126	MRE11A	0.045
5127	CYHR1	0.045
5128	ZNF546	0.045
5129	NFAT5	0.045
5130	UBL3	0.045
5131	RCOR1	0.045
5132	GSTCD	0.045

5133	C5orf25	0.045
5134	TRMT11	0.045
5135	KIAA0174	0.045
5136	MRPS11	0.045
5137	GNPDA2	0.045
5138	LYPLAL1	0.045
5139	THAP3	0.045
5140	LIMD1	0.045
5141	MACF1	0.045
5142	XAF1	0.045
5143	C1GALT1	0.045
5144	SASH3	0.045
5145	SLC35B3	0.045
5146	CCT6P1	0.045
5147	SLC25A36	0.045
5148	C3	0.045
5149	ZWILCH	0.045
5150	TMEM65	0.045
5151	NDOR1	0.045
5152	PAK2	0.045
5153	NIT1	0.045
5154	ANK3	0.045
5155	NUTF2	0.045
5156	CNTROB	0.045
5157	CLC	0.045
5158	OSBPL11	0.046
5159	ALAS1	0.046
5160	PAQR7	0.046
5161	MEAF6	0.046
5162	DLG4	0.046
5163	TRPM7	0.046
5164	RNASEK	0.046
5165	MLL	0.046
5166	LOC100499489	0.046
5167	UGCG	0.046
5168	SLC38A1	0.046
5169	C5	0.046
5170	LAMTOR2	0.046
5171	KIAA1432	0.046
5172	RRNAD1	0.046
5173	GLRX2	0.046
5174	NOTCH2NL	0.046
5175	USP13	0.046
5176	CCDC34	0.046
5177	MMS19	0.046
5178	ZFAND2A	0.046
5179	UBE2S	0.046
5180	ZNF37BP	0.046
5181	STBD1	0.046
5182	THSD1P1	0.046
5183	RAPGEF5	0.046
5184	TBCC	0.046
5185	MFHAS1	0.046
5186	MAGOHB	0.046
5187	SAFB	0.046
5188	PSMC4	0.046
5189	DIRC2	0.046
5190	BRWD1	0.046
5191	RXRA	0.046
5192	C7orf26	0.046
5193	VBP1	0.046
5194	DMD	0.046
5195	LTBR	0.046
5196	ITPRIP	0.046
5197	MOV10	0.046
5198	VPS54	0.046
5199	SPTAN1	0.046
5200	ZNF207	0.046
5201	BDP1	0.046
5202	VPS52	0.046
5203	ZNF90	0.046
5204	TTC39B	0.046
5205	ZNF624	0.046
5206	RNF144B	0.046
5207	IKZF2	0.046
5208	FUT10	0.047
5209	GUCY1A3	0.047
5210	IFT88	0.047

5211	LUC7L	0.047
5212	ZNF623	0.047
5213	RAB8B	0.047
5214	GNG3	0.047
5215	SLC22A23	0.047
5216	TSEN15	0.047
5217	AGPAT2	0.047
5218	ROGDI	0.047
5219	VANGL1	0.047
5220	FBXO2	0.047
5221	CKAP5	0.047
5222	ZNF35	0.047
5223	TDRD7	0.047
5224	MAFB	0.047
5225	LOC339929	0.047
5226	SOLH	0.047
5227	MALAT1	0.047
5228	ZNF250	0.047
5229	ZNF672	0.047
5230	KIAA1908	0.047
5231	RPA3	0.047
5232	HELB	0.048
5233	C9orf95	0.048
5234	CKS1B	0.048
5235	BCCIP	0.048
5236	UBE2C	0.048
5237	ZNF468	0.048
5238	UBQLN2	0.048
5239	PLCG1	0.048
5240	RALGAPA1	0.048
5241	LOC283922	0.048
5242	PIGH	0.048
5243	KIAA0748	0.048
5244	PRKCH	0.048
5245	TBCB	0.048
5246	GUCA1B	0.048
5247	CUL7	0.048
5248	ECD	0.048
5249	CORO2A	0.048
5250	METAP2	0.048
5251	FAM127B	0.048
5252	ITFG3	0.048
5253	PARP9	0.048
5254	DNAJC6	0.048
5255	ZNF609	0.048
5256	PPWD1	0.048

Supplementary Table S4. Changes in Classic B Cell Phenotypes. Significant changes were seen in percentages of CD19+CD27- naïve B cells, CD19+CD27+ memory B cells, CD27++CD38++CD20loCD138- plasmablasts and CD27++CD38++CD20loCD138+ plasma cells after vaccination as measured by flow cytometry and a variant of the EDGE method by Storey et al. P-values show significant changes in plasmablast populations in all subjects except S05, which showed a significant change in Memory B cell populations, but not the other cell types. Significant changes were seen in plasma cell populations in all subjects except S05. The p-value for change in plasma cell populations in S02 was 0.06, despite a large increase in plasma cells. This may have been because despite the magnitude of the change, only two timepoints were increased from baseline. Phenotypic changes preceded evident serum anti-vaccine antibody level changes.

Subject	Measure	Naïve	Memory	Plasmablast	Plasma Cell
S02	Day of Increase	5	-	5	5
	p-value	0.0369	0.2787	0.0044	0.0604
S03	Day of Increase	-	-	6	6
	p-value	0.4434	0.0906	0.0189	0.0017
S04	Day of Increase	-	-	6	5
	p-value	0.3943	0.3691	0.007	0.0002
S05	Day of Increase	-	3	-	-
	p-value	0.1779	0.0305	0.1251	0.0985
S06	Day of Increase	-	-	10	9
	p-value	0.406	0.7775	0.009	0.016

Supplementary Table S5. Correlation analysis of qRT-PCR gene expression data and cellular phenotype as assessed by FACS. Pearson correlation test and Benjamini-Hochberg multiple testing procedure is applied to control FDR at 0.05 level. Individual genes in S07, S08, S10 and S12 were found to correlate with the percentage of CD19loCD20loCD27++CD38++CD138+ plasma cells, CD19loCD20loCD27++CD38++CD138- plasmablasts or CD19+CD20+CD27+CD38+CD138- memory B cell subpopulations.

Subject	PCR	Cell Subpopulation	cor.coef	adj.pval
S12	CD38	plasmablast	0.8936	0.0287
S12	IRF4	plasmablast	0.8535	0.0491
S12	XBP1	plasmablast	0.9431	0.0059
S07	IRF8	naiveBCell	0.8602	0.0308
S07	PAX5	naiveBCell	0.8706	0.0262
S07	CD27	plasmablast	0.9098	0.0143
S07	CD38	plasmablast	0.9042	0.0143
S07	CD59	plasmablast	0.8370	0.0442
S07	IRF4	plasmablast	0.8513	0.0346
S07	XBP1	plasmablast	0.8756	0.0262
S07	CD27	plasmaCell	0.9195	0.0143
S07	SDC1	plasmaCell	0.8740	0.0262
S08	CD27	plasmablast	0.8422	0.0333
S08	CD38	plasmablast	0.8490	0.0331
S08	PRDM1	plasmablast	0.8573	0.0326
S08	XBP1	plasmablast	0.8850	0.0171
S08	PRDM1	plasmaCell	0.9147	0.0089
S08	SDC1	plasmaCell	0.9098	0.0089
S08	CD27	plasmablast	0.8422	0.0333
S08	CD38	plasmablast	0.8490	0.0331
S08	PRDM1	plasmablast	0.8573	0.0326
S08	XBP1	plasmablast	0.8850	0.0171
S08	PRDM1	plasmaCell	0.9147	0.0089

Supplementary Table S6. Genes in the plasma cell gene signature (PCgs), their adjusted p-values and correlation with percentage of CD19+ CD27hi CD38hi CD138- plasmablasts and CD19lo CD27hi CD38hi CD138+ plasma cell populations for each subject. Pearson correlation tests with Benjamini-Hochberg testing procedure was applied to control FDR at 0.05 level. 2033 Genes Differentially Expressed between CD27lo and CD27hi in vitro activated human memory B cell subsets (microarray). Also, the common significant gene sets between in vivo RNA Seq and in vitro microarray data. (N.C .= Not correlated)

	S02 Plasma Cell		S03 Plasma Cell		S04 Plasma Cell		S02 Plasmablast		S03 Plasmablast		S04 Plasmablast		
742 gene PCgs	Adj.pval	Cor.coef	Adj.pval	Cor.coef	Adj.pval	Cor.coef	Adj.pval	Cor.coef	Adj.pval	Cor.coef	Adj.pval	Cor.coef	Common CD27lo:CD27hi and PCgs
IGHG1	0.00004	0.95243	0.00810	0.90380	0.00191	0.89799	0.00180	0.86002	0.04307	0.73347	N.C.	N.C.	ABCB9
CD38	< 0.00001	0.99285	0.01180	0.87170	0.00020	0.95712	0.00019	0.92613	0.04137	0.73750	0.03311	0.75260	ADRBK2
FER1L4	< 0.00001	0.97500	0.02218	0.81170	0.00230	0.89261	0.00085	0.88723	0.03346	0.76440	N.C.	N.C.	AFF3
SPARC	0.00006	0.94755	0.02699	0.79006	0.00059	0.92980	0.00358	0.82732	0.03887	0.74558	N.C.	N.C.	AIM1
SDC1	< 0.00001	0.97976	0.00715	0.92912	0.00080	0.92261	0.00125	0.87423	N.C.	N.C.	N.C.	N.C.	ALG2
FAM171A1	0.00003	0.95653	0.00827	0.89905	0.00023	0.95192	0.00023	0.92130	N.C.	N.C.	N.C.	N.C.	ALG3
CCR2	< 0.00001	0.99020	0.04003	0.74072	0.00063	0.92854	0.00006	0.94651	N.C.	N.C.	N.C.	N.C.	ALOX5
UNC13B	< 0.00001	0.98457	N.C.	N.C.	0.00038	0.94042	0.00004	0.95149	N.C.	N.C.	N.C.	N.C.	ANAPC5
CAV1	< 0.00001	0.99515	0.00715	0.91928	0.00011	0.97003	0.00024	0.92054	0.02228	0.81137	N.C.	N.C.	APOL1
GLDC	< 0.00001	0.99191	0.01081	0.87954	0.00442	0.86909	0.00011	0.93577	0.02147	0.81690	0.03095	0.75797	ARCN1
SLC16A14	< 0.00001	0.98270	0.02706	0.78950	0.00087	0.91951	0.00050	0.90237	N.C.	N.C.	N.C.	N.C.	ARF1
WNT5B	0.00003	0.95672	0.01122	0.87680	0.00583	0.85801	0.00025	0.91945	N.C.	N.C.	N.C.	N.C.	ARF4
CXCR3	0.00011	0.93596	0.01659	0.84089	0.00693	0.85010	0.00025	0.91961	0.03101	0.77145	N.C.	N.C.	ARFGAP3
DUSP5	< 0.00001	0.99373	0.01741	0.83385	0.01206	0.82134	0.00013	0.93260	0.03653	0.75379	0.00928	0.83524	ARHGAP17
ABCB9	0.00002	0.96247	0.01934	0.82553	0.00466	0.86663	0.00004	0.95446	N.C.	N.C.	0.01927	0.79354	ARHGAP9
GGH	< 0.00001	0.99305	0.00923	0.89153	0.01534	0.80807	0.00003	0.95742	0.04042	0.73972	0.00453	0.86794	ARL1
TXNDC5	< 0.00001	0.99136	0.00715	0.92335	0.00324	0.88051	0.00006	0.94794	0.02161	0.81591	N.C.	N.C.	ARMCX3
CHPF	< 0.00001	0.98587	0.00810	0.90356	0.00015	0.96682	0.00006	0.94581	0.01880	0.82763	N.C.	N.C.	ARRDC2
IGF1	< 0.00001	0.99269	0.03403	0.76231	0.00556	0.86006	0.00027	0.91761	N.C.	N.C.	N.C.	N.C.	ATAD2B
SDF2L1	0.00001	0.97451	0.02191	0.81415	0.00200	0.89659	0.00001	0.96775	0.02711	0.78834	0.01915	0.79405	ATF6
PDIA4	< 0.00001	0.99506	0.00923	0.89098	0.00023	0.95179	0.00005	0.94907	0.02525	0.79808	0.04763	0.72051	ATP5G1
XBP1	< 0.00001	0.99739	0.00953	0.88859	0.00027	0.94740	0.00008	0.94138	0.02658	0.79147	0.03406	0.75029	ATP6AP1
BMP6	< 0.00001	0.98932	0.00715	0.92407	0.01096	0.82687	0.00023	0.92168	0.01741	0.83372	0.02748	0.76773	ATPIF1
ELL2	< 0.00001	0.99765	0.01045	0.88117	0.00073	0.92474	0.00007	0.94487	0.02798	0.78371	0.02760	0.76733	ATXN1
TSHR	0.00001	0.96789	0.01090	0.87838	0.00558	0.85974	0.00095	0.88343	N.C.	N.C.	0.02949	0.76214	B2M
PDIA5	< 0.00001	0.99003	0.00731	0.91596	0.00025	0.94904	0.00042	0.90706	0.03964	0.74256	N.C.	N.C.	B4GALT1
FNDC3B	< 0.00001	0.98187	0.01441	0.85911	0.00008	0.97587	0.00074	0.89134	N.C.	N.C.	N.C.	N.C.	B4GALT3
MOXD1	< 0.00001	0.99407	0.00810	0.90421	0.00020	0.95746	0.00008	0.94143	0.04101	0.73851	N.C.	N.C.	B9D1
IGHG3	< 0.00001	0.97966	0.00810	0.90453	0.00669	0.85148	0.00043	0.90626	0.03639	0.75474	N.C.	N.C.	BACH2
VDR	< 0.00001	0.97713	0.04774	0.72180	0.00039	0.93962	0.00001	0.96740	N.C.	N.C.	0.04239	0.73102	BAG1
HSP90B1	< 0.00001	0.99651	0.00962	0.88697	0.00053	0.93236	0.00011	0.93560	0.03235	0.76775	0.03446	0.74903	BANK1
MANF	< 0.00001	0.97971	0.02658	0.79127	0.00038	0.94067	0.00002	0.96535	0.02841	0.78164	0.03711	0.74274	BCL11A
FKBP11	< 0.00001	0.99491	0.00715	0.92371	0.00018	0.96096	0.00011	0.93614	0.02208	0.81266	N.C.	N.C.	BCL2
NET1	0.00004	0.95494	0.03842	0.74670	0.00092	0.91764	0.00002	0.96538	0.03964	0.74268	0.01796	0.79800	BMP6
CHAC2	< 0.00001	0.97652	0.01632	0.84317	0.00146	0.90548	0.00003	0.95884	0.02457	0.80169	0.02646	0.77042	BRP44L
RRBP1	< 0.00001	0.99535	0.01032	0.88395	0.00142	0.90626	0.00007	0.94417	0.02957	0.77654	N.C.	N.C.	BSG
SMOX	< 0.00001	0.98674	0.00856	0.89711	0.00733	0.84713	0.00018	0.92699	0.03139	0.76993	0.04734	0.72114	C11orf10
GFI1	< 0.00001	0.98771	0.02469	0.80122	0.00023	0.95321	0.00017	0.92759	0.03890	0.74457	N.C.	N.C.	C13orf18
SLAMF7	< 0.00001	0.99022	0.00827	0.89898	0.00016	0.96284	0.00024	0.92057	0.02782	0.78524	N.C.	N.C.	C15orf24
MZB1	< 0.00001	0.98909	0.00715	0.92282	0.00015	0.96534	0.00033	0.91285	0.02573	0.79534	N.C.	N.C.	C17orf28
BHLHA15	< 0.00001	0.98359	0.00227	0.95716	0.00016	0.96370	0.00010	0.93809	0.01686	0.83798	N.C.	N.C.	C1orf85
ITM2C	< 0.00001	0.99489	0.00715	0.92927	0.00011	0.96997	0.00023	0.92162	0.02445	0.80237	N.C.	N.C.	C6orf129
B9D1	< 0.00001	0.98458	0.01686	0.83685	0.00034	0.94366	0.00026	0.91831	N.C.	N.C.	N.C.	N.C.	CALR
CKAP4	< 0.00001	0.99199	0.00810	0.90540	0.00045	0.93581	0.00003	0.95888	0.01934	0.82564	N.C.	N.C.	CALU
SEC11C	< 0.00001	0.99717	0.01045	0.88269	0.00015	0.96572	0.00012	0.93452	0.02523	0.79839	0.04993	0.71638	CAMK2D
NOMO2	< 0.00001	0.98468	0.01441	0.85737	0.00429	0.87004	0.00049	0.90289	0.04743	0.72246	N.C.	N.C.	CANX
TNFRSF17	< 0.00001	0.99599	0.01178	0.87215	0.00130	0.90862	0.00005	0.94854	0.02217	0.81194	0.01633	0.80365	CASP10
UCHL1	0.00008	0.94138	0.01285	0.86623	0.00025	0.94898	0.00001	0.96676	0.01619	0.84638	N.C.	N.C.	CAV1
WIPI1	< 0.00001	0.98660	0.01602	0.84874	0.00004	0.98729	0.00023	0.92147	N.C.	N.C.	N.C.	N.C.	CCDC117
CRELD2	0.00003	0.95768	0.00856	0.89630	0.00060	0.92929	0.00004	0.95149	0.02324	0.80721	N.C.	N.C.	CCDC69
PRDX4	< 0.00001	0.99008	0.00715	0.93555	0.00008	0.97949	0.00021	0.92392	0.02573	0.79561	N.C.	N.C.	CD19
SEC24A	< 0.00001	0.99581	0.00715	0.91881	0.00008	0.97438	0.00010	0.93860	0.02994	0.77496	N.C.	N.C.	CD22
TMEM184B	< 0.00001	0.99325	0.02573	0.79564	0.00058	0.93014	0.00006	0.94711	N.C.	N.C.	N.C.	N.C.	CD27
PPIB	< 0.00001	0.99677	0.00810	0.90248	0.00036	0.94225	0.00006	0.94683	0.02199	0.81347	0.04046	0.73478	CD38
OAF	0.00022	0.92220	0.01619	0.84603	0.00008	0.97750	0.00009	0.93999	0.04431	0.73022	N.C.	N.C.	CD59
MAN1A1	< 0.00001	0.99674	0.00827	0.90033	0.00023	0.95264	0.00007	0.94472	0.02913	0.77881	0.03196	0.75513	CDCA7L
AQP3	0.00003	0.95945	0.03653	0.75378	0.00644	0.85352	0.00002	0.96297	0.02711	0.78851	0.03844	0.73971	CECR1
RBM47	< 0.00001	0.99737	0.01659	0.84087	0.00084	0.92116	0.00009	0.93914	N.C.	N.C.	0.04160	0.73246	CHCHD2
SLC44A1	< 0.00001	0.99588	0.00827	0.89927	0.00053	0.93203	0.00006	0.94806	0.02523	0.79847	0.04000	0.73580	CHD3
ST7	0.00020	0.92440	N.C.	N.C.	0.00038	0.93997	0.00042	0.90674	N.C.	N.C.	N.C.	N.C.	CHPF
TRAM2	< 0.00001	0.99736	0.01519	0.85283	0.00085	0.92032	0.00005	0.95069	0.03669	0.75262	0.01482	0.81005	CHST12
GALNT14	0.00505	0.80949	0.01343	0.86363	0.00801	0.84264	0.00074	0.89138	0.02177	0.81486	0.03446	0.74914	CHST15
GPRC5D	< 0.00001	0.99300	0.02161	0.81598	0.00172	0.90105	0.00022	0.92236	0.00798	0.91291	N.C.	N.C.	CIITA
HSPA5	< 0.00001	0.99406	0.01619	0.84592	0.00046	0.93518	0.00003	0.95627	0.02949	0.77732	0.03127	0.75711	CITED2
SCAMP5	0.00008	0.94166	0.03992	0.74150	0.00310	0.88204	0.00163	0.86393	N.C.	N.C.	N.C.	N.C.	CKAP4
TXNDC11	< 0.00001	0.99587	0.00810	0.90498	0.00030	0.94572	0.00009	0.94025	0.02337	0.80648	N.C.	N.C.	CLMN
PDIA6	< 0.00001	0.98692	0.01604	0.84852	0.00142	0.90629	0.00002	0.96547	0.02699	0.78988	0.02304	0.78065	CLPTM1L
P4HB	< 0.00001	0.98560	0.01130	0.87523	0.00041	0.93778	0.00003	0.95930	0.02534	0.79746	0.02782	0.76674	CNKSR1
SLC38A5	0.00001	0.97336	N.C.	N.C.	0.00046	0.93469	0.00001	0.96861	N.C.	N.C.	N.C.	N.C.	CNPY2
STT3A	< 0.00001	0.99717	0.01536	0.85209	0.00041	0.93822	0.00006	0.94774	0.02204	0.81286	0.04800	0.71976	COPA
HYOU1	< 0.00001	0.99194	0.01848	0.82997	0.00108	0.91358	0.00003	0.95909	0.02328	0.80676	0.03988	0.73616	COPB2
SEC61B	< 0.00001	0.98934	0.01441	0.85869	0.00065	0.92737	0.00002	0.95989	0.02573	0.79573	0.03188	0.75536	CPEB4
NDFIP2	0.00001	0.97035	0.02699	0.78983	0.00324	0.88040	0.00047	0.90409	N.C.	N.C.	N.C.	N.C.	CR2
SIL1	< 0.00001	0.99759	0.00798	0.91150	0.00008	0.97469	0.00009	0.94085	0.03842	0.74673	N.C.	N.C.	CREB3
LMAN1	< 0.00001	0.99653	0.01180	0.87190	0.00017	0.96141	0.00012	0.93507	0.03081	0.77219	N.C.	N.C.	CREB3L2

IGLL1	0.00079	0.88950	0.02398	0.80464	0.00021	0.95530	0.01911	0.72622	N.C.	N.C.	N.C.	N.C.	CUTA
RGS16	0.00003	0.95629	0.03497	0.75902	0.00021	0.95559	0.00087	0.88619	0.01686	0.83673	N.C.	N.C.	DAD1
SLC7A5	< 0.00001	0.98327	0.02586	0.79455	0.00023	0.95229	0.00003	0.95554	0.01619	0.84751	N.C.	N.C.	DAP
TRIB1	< 0.00001	0.98401	0.00923	0.89087	0.00011	0.97136	0.00055	0.89969	0.01401	0.86172	N.C.	N.C.	DCPS
DNAJC1	< 0.00001	0.99306	0.01081	0.87955	0.00022	0.95421	0.00020	0.92430	0.03081	0.77229	N.C.	N.C.	DDOST
DCAF12	< 0.00001	0.99719	0.03039	0.77375	0.00019	0.95900	0.00004	0.95238	0.02711	0.78852	0.03988	0.73615	DENND1B
C1GALT1C1	< 0.00001	0.98696	0.01045	0.88272	0.00310	0.88223	0.00011	0.93599	0.03853	0.74638	0.02144	0.78615	DENND5B
SLC1A4	< 0.00001	0.98680	0.01848	0.83024	0.00065	0.92729	0.00002	0.96154	0.02741	0.78688	N.C.	N.C.	DERL1
TP73	0.00063	0.89606	0.03620	0.75568	0.01978	0.79211	0.00003	0.95629	0.03630	0.75513	N.C.	N.C.	DERL2
ALDH1L2	0.00037	0.91038	0.01635	0.84294	0.00025	0.94961	0.00609	0.79929	0.02534	0.79748	N.C.	N.C.	DERL3
RPN2	< 0.00001	0.99374	0.00953	0.88922	0.00018	0.96075	0.00019	0.92614	0.03801	0.74878	N.C.	N.C.	DNAJB9
DNAJB11	< 0.00001	0.99534	0.01486	0.85435	0.00134	0.90782	0.00004	0.95492	0.02616	0.79311	0.02552	0.77320	DNAJC1
HM13	< 0.00001	0.99593	0.00962	0.88767	0.00015	0.96459	0.00006	0.94621	0.02284	0.80916	N.C.	N.C.	DNAJC3
NT5DC2	< 0.00001	0.99284	0.00810	0.90608	0.00025	0.94981	0.00024	0.92083	0.01879	0.82828	N.C.	N.C.	DNASE2
IL6R	0.00004	0.95372	N.C.	N.C.	0.00816	0.84165	0.00002	0.96289	0.04156	0.73713	0.01993	0.79121	DYRK2
CALU	< 0.00001	0.99277	0.02173	0.81534	0.00022	0.95383	0.00003	0.95656	N.C.	N.C.	N.C.	N.C.	EAF2
TXN	0.00001	0.97164	0.04411	0.73094	0.00865	0.83889	< 0.00001	0.97601	0.03620	0.75568	0.01548	0.80751	EDEM2
PRDM1	< 0.00001	0.99126	0.02711	0.78865	0.00089	0.91905	0.00023	0.92160	0.02482	0.80054	0.03358	0.75139	EDF1
SEMA4A	< 0.00001	0.99388	0.00798	0.91234	0.00023	0.95163	0.00005	0.94948	0.01686	0.83778	N.C.	N.C.	EIF5A
ERLEC1	< 0.00001	0.98137	0.00856	0.89633	0.00008	0.98284	0.00069	0.89372	0.04364	0.73220	N.C.	N.C.	ELL
PYCR1	< 0.00001	0.98358	0.00227	0.96662	0.00041	0.93783	0.00001	0.96981	0.01772	0.83265	N.C.	N.C.	ELL2
GMPPB	< 0.00001	0.97593	0.01441	0.85744	0.00038	0.94003	0.00001	0.96642	0.02369	0.80575	0.03668	0.74410	ERAP1
NUCB2	0.00001	0.97217	0.01151	0.87353	0.00008	0.98084	0.00146	0.86848	N.C.	N.C.	N.C.	N.C.	ERC1
NOMO1	< 0.00001	0.99269	0.00827	0.89970	0.00022	0.95461	0.00018	0.92710	0.02586	0.79450	N.C.	N.C.	ERGIC2
C17orf28	0.00004	0.95349	0.00715	0.92410	0.00016	0.96302	0.00240	0.84734	0.02257	0.81046	N.C.	N.C.	ERGIC3
IDH2	< 0.00001	0.99540	0.00827	0.90062	0.00009	0.97278	0.00006	0.94704	0.02289	0.80871	N.C.	N.C.	ERLEC1
IFI27L1	< 0.00001	0.99010	0.01323	0.86468	0.00036	0.94236	0.00007	0.94302	0.03123	0.77046	N.C.	N.C.	ERO1L
FAM46C	< 0.00001	0.99629	0.00715	0.93742	0.00037	0.94136	0.00007	0.94495	0.01736	0.83423	N.C.	N.C.	ERP44
SPATS2	< 0.00001	0.99093	0.00810	0.90296	0.00023	0.95165	0.00007	0.94333	0.02865	0.78094	N.C.	N.C.	FAM129C
MYO1D	< 0.00001	0.99568	0.01624	0.84480	0.00174	0.90057	0.00012	0.93501	0.01619	0.84784	0.03357	0.75148	FAM46C
SEC24D	< 0.00001	0.99432	0.01478	0.85497	0.00039	0.93925	0.00022	0.92253	0.02489	0.79995	N.C.	N.C.	FAM69A
ATXN1	0.00001	0.97435	0.00856	0.89607	0.00038	0.94016	0.00044	0.90564	0.02602	0.79374	N.C.	N.C.	FBXO18
PHGDH	0.00024	0.92059	0.04482	0.72884	0.00020	0.95755	0.00001	0.96978	N.C.	N.C.	N.C.	N.C.	FCER2
MGLL	0.00001	0.97020	0.02140	0.81726	0.01704	0.80095	0.00006	0.94617	0.03399	0.76259	N.C.	N.C.	FCRL2
LRRC59	< 0.00001	0.98329	0.02951	0.77681	0.00083	0.92158	0.00001	0.97164	0.03880	0.74587	0.03077	0.75852	FCRLA
NANS	< 0.00001	0.97853	0.03904	0.74403	0.00109	0.91337	< 0.00001	0.97578	0.04733	0.72268	N.C.	N.C.	FKBP11
CLPTM1L	< 0.00001	0.98763	0.01741	0.83384	0.00074	0.92455	0.00003	0.95919	0.02742	0.78678	0.04046	0.73471	FKBP2
IGJ	0.00043	0.90614	0.00292	0.95209	0.00018	0.96000	0.00984	0.77142	0.03227	0.76813	N.C.	N.C.	FMNL3
SLC35B1	< 0.00001	0.98740	0.02449	0.80208	0.00067	0.92690	0.00004	0.95267	0.03790	0.74902	0.02856	0.76437	FNDC3B
MCC	< 0.00001	0.97622	0.01686	0.83849	0.00014	0.96789	0.00055	0.89979	N.C.	N.C.	N.C.	N.C.	FOXP1
ARNTL2	0.00010	0.93739	0.03620	0.75540	N.C.	N.C.	0.00039	0.90898	N.C.	N.C.	N.C.	N.C.	FTSJ1
CNKSR1	< 0.00001	0.97969	0.00686	0.94032	0.00020	0.95709	0.00101	0.88128	0.01591	0.84972	N.C.	N.C.	FUCA2
MANEA	< 0.00001	0.99229	0.01122	0.87617	0.00024	0.95046	0.00033	0.91344	0.02994	0.77499	N.C.	N.C.	GABBR1
QPCTL	< 0.00001	0.98259	0.01589	0.85014	0.00063	0.92825	0.00006	0.94544	0.04192	0.73614	N.C.	N.C.	GALNT2
PLOD1	< 0.00001	0.98404	N.C.	N.C.	0.00041	0.93785	0.00005	0.94914	N.C.	N.C.	N.C.	N.C.	GANAB
JSRP1	0.00002	0.96120	0.00880	0.89396	0.00023	0.95123	0.00139	0.87014	0.03235	0.76773	N.C.	N.C.	GAPT
HSPA13	< 0.00001	0.99780	0.00923	0.89084	0.00008	0.97704	0.00011	0.93628	0.02894	0.77998	N.C.	N.C.	GAS6
RPN1	< 0.00001	0.99228	0.01090	0.87821	0.00037	0.94129	0.00006	0.94822	0.02720	0.78775	0.04305	0.72949	GFPT1
CD320	0.00131	0.87245	0.01659	0.84125	0.01225	0.82048	0.00010	0.93801	0.02920	0.77846	0.04539	0.72460	GGA2
LIME1	0.00001	0.96938	0.01619	0.84633	0.00079	0.92298	0.00002	0.96303	0.02140	0.81727	0.04557	0.72418	GGH
SELS	< 0.00001	0.99078	0.01706	0.83529	0.00011	0.97105	0.00005	0.95090	0.02711	0.78864	N.C.	N.C.	GLCCI1
CALR	0.00001	0.97188	0.01645	0.84186	0.00106	0.91421	0.00002	0.96495	0.02618	0.79291	0.02489	0.77527	GLG1
FAM116B	0.00008	0.94179	N.C.	N.C.	0.00925	0.83548	0.00003	0.95587	N.C.	N.C.	N.C.	N.C.	GLRX
BAK1	0.00034	0.91240	0.04715	0.72308	0.01812	0.79748	0.00042	0.90682	0.01848	0.82997	N.C.	N.C.	GMPPA
C11orf10	0.00001	0.97491	0.02440	0.80294	0.00084	0.92131	< 0.00001	0.97711	0.02455	0.80186	0.02552	0.77333	GMPPB
GLCCI1	< 0.00001	0.99824	0.00719	0.91747	0.00058	0.93014	0.00008	0.94213	0.02822	0.78272	N.C.	N.C.	GNAS
RCBTB2	< 0.00001	0.98176	0.02022	0.82207	0.00130	0.90882	0.00042	0.90710	N.C.	N.C.	N.C.	N.C.	GORASP2
CD27	< 0.00001	0.97614	0.00227	0.95779	0.00036	0.94266	0.00101	0.88128	0.01686	0.83655	N.C.	N.C.	GPAA1
TST	< 0.00001	0.99139	N.C.	N.C.	0.00499	0.86435	0.00018	0.92676	0.03887	0.74496	0.02774	0.76699	GPR172A
C13orf15	0.00001	0.96637	0.00866	0.89469	0.00040	0.93863	0.00010	0.93713	0.01045	0.88238	N.C.	N.C.	GSTP1
KDELR2	< 0.00001	0.98599	0.01686	0.83867	0.00017	0.96157	0.00002	0.96293	0.03951	0.74300	0.04840	0.71898	GUSB
DDOST	< 0.00001	0.99714	0.00810	0.90693	0.00016	0.96318	0.00008	0.94214	0.02440	0.80257	N.C.	N.C.	HDLBP
GAPDH	0.00026	0.91886	0.04782	0.72147	0.01386	0.81380	0.00002	0.96452	0.04042	0.73978	0.01591	0.80554	HERPUD1
DNAJC3	< 0.00001	0.99646	0.01186	0.86996	0.00016	0.96296	0.00008	0.94090	0.02879	0.78059	0.04944	0.71729	HEXB
APOL1	0.00003	0.95564	0.01441	0.85945	0.00035	0.94299	0.00072	0.89216	0.03790	0.74909	0.02053	0.78907	HHEX
SEC61G	< 0.00001	0.99519	N.C.	N.C.	0.00052	0.93260	0.00003	0.95606	N.C.	N.C.	0.02596	0.77166	HLA-DMB
SEC61A1	< 0.00001	0.99457	0.01619	0.84673	0.00046	0.93495	0.00005	0.95042	0.02894	0.77977	0.03830	0.74002	HLA-DOA
HDLBP	< 0.00001	0.99531	0.00798	0.91196	0.00023	0.95341	0.00015	0.92957	0.02177	0.81482	N.C.	N.C.	HLA-DPB1
DCPS	< 0.00001	0.98760	0.01441	0.85757	0.00224	0.89354	0.00009	0.93987	0.02199	0.81330	0.04276	0.73009	HLA-DRA
C1orf85	0.00001	0.97220	0.01476	0.85553	0.00040	0.93876	0.00039	0.90881	0.02594	0.79414	N.C.	N.C.	HM13
KCNK6	< 0.00001	0.98364	0.00798	0.91143	0.00026	0.94835	0.00072	0.89236	0.01602	0.84872	N.C.	N.C.	HNRPDL
UAP1	< 0.00001	0.98093	0.00715	0.93033	0.00093	0.91743	0.00104	0.88058	0.04637	0.72462	N.C.	N.C.	HSP90B1
SSR3	< 0.00001	0.99673	0.01772	0.83280	0.00020	0.95717	0.00009	0.93900	0.03812	0.74807	0.02499	0.77490	HSPA13
MAGED1	< 0.00001	0.97869	0.00810	0.90362	0.00059	0.92962	0.00004	0.95425	0.02275	0.80945	N.C.	N.C.	HVCN1
SLC31A1	0.00005	0.95100	0.02824	0.78252	0.00036	0.94201	0.00003	0.95647	0.04990	0.71720	0.02149	0.78596	IDE
STT3B	< 0.00001	0.99530	0.01441	0.85927	0.00032	0.94474	0.00011	0.93551	0.02894	0.77960	0.02679	0.76943	IDH2
TMEM208	< 0.00001	0.98087	0.03081	0.77247	0.00045	0.93613	0.00021	0.92400	N.C.	N.C.	N.C.	N.C.	IFI27L1
DENND1B	< 0.00001	0.98549	0.00715	0.92417	0.00038	0.94100	0.00005	0.95000	0.04208	0.73572	0.02270	0.78204	IFI35
CDR2	< 0.00001	0.98544	0.02894	0.77965	0.00450	0.86831	0.00003	0.95728	N.C.	N.C.	N.C.	N.C.	IFNAR1
LMAN2	< 0.00001	0.98945	0.01032	0.88363	0.00041	0.93753	0.00004	0.95170	0.02573	0.79599	N.C.	N.C.	IFNAR2
YIF1B	0.00036	0.91065	0.01444	0.85689	0.00801	0.84261	0.00007	0.94471	0.01880	0.82768	N.C.	N.C.	IGF1
C8orf80	0.00001	0.96664	0.02264	0.80999	0.00064	0.92787	0.00177	0.86084	0.01619	0.84688	N.C.	N.C.	IGHG1
CHST12	0.00002	0.96505	0.04515	0.72776	0.0009	0.91861	0.00087	0.88626	N.C.	N.C.	N.C.	N.C.	IGJ
SEL1L	< 0.00001	0.98630	0.00923	0.89175	0.00033	0.94440	0.00045	0.90512	0.04127	0.73772	N.C.	N.C.	IL6R
TMED9	< 0.00001	0.98339	0.01686	0.83711	0.00027	0.94795	0.00003	0.95596	0.02969	0.77607	N.C.	N.C.	IMPAD1

ISOC2	0.00045	0.90536	0.01686	0.83981	0.00193	0.89770	0.00002	0.96366	0.04338	0.73284	0.00698	0.84971	IRF8
KCNN3	0.00007	0.94482	0.01130	0.87533	0.00082	0.92211	0.00303	0.83584	0.02969	0.77597	N.C.	N.C.	ISG20
OSTC	< 0.00001	0.99325	0.01686	0.83788	0.00082	0.92215	0.00005	0.94893	0.02523	0.79845	0.02072	0.78846	ITM2C
B4GALT1	0.00002	0.96086	0.01478	0.85506	0.00037	0.94143	0.00002	0.96008	0.03104	0.77122	0.03127	0.75708	ITPR1
LAX1	< 0.00001	0.98350	0.00227	0.95956	0.00130	0.90884	0.00066	0.89485	0.02573	0.79555	N.C.	N.C.	JUP
MET	0.00047	0.90369	0.00810	0.90700	0.02047	0.78941	0.00065	0.89514	0.03966	0.74244	0.04160	0.73239	KCNN3
CASP3	< 0.00001	0.97521	0.04081	0.73896	0.00126	0.90968	0.00001	0.97458	0.03777	0.74940	0.04008	0.73561	KDELR1
SGK1	0.00005	0.94987	0.02482	0.80057	0.00072	0.92545	0.00201	0.85518	0.02994	0.77515	N.C.	N.C.	KDELR2
SRM	0.00007	0.94450	0.02025	0.82162	0.00039	0.93945	0.00001	0.97408	0.01880	0.82766	N.C.	N.C.	KIAA0114
ZBP1	< 0.00001	0.97868	0.01503	0.85372	0.00022	0.95383	0.00025	0.91939	N.C.	N.C.	N.C.	N.C.	KIAA0430
SEC13	< 0.00001	0.98524	0.01686	0.83726	0.00164	0.90246	0.00001	0.96665	0.03669	0.75247	0.04250	0.73063	KIAA1033
C15orf24	< 0.00001	0.98340	0.03351	0.76414	0.02824	0.76553	0.00002	0.96369	N.C.	N.C.	0.04810	0.71948	KIAA1147
ERGIC2	< 0.00001	0.98483	0.01632	0.84353	0.00018	0.95949	0.00034	0.91241	N.C.	N.C.	N.C.	N.C.	KIF13B
MYL6B	< 0.00001	0.97666	N.C.	N.C.	0.01686	0.80181	0.00011	0.93561	N.C.	N.C.	0.03078	0.75840	KMO
UBE2J1	< 0.00001	0.99512	0.01122	0.87611	0.00009	0.97274	0.00017	0.92774	0.03265	0.76688	0.04269	0.73027	KRTCAP2
NEU1	< 0.00001	0.99337	0.02161	0.81613	0.00019	0.95851	0.00010	0.93802	0.04584	0.72578	N.C.	N.C.	L3MBTL3
RABAC1	< 0.00001	0.97938	0.01285	0.86680	0.00030	0.94591	0.00005	0.94827	0.00923	0.89168	N.C.	N.C.	LAX1
CD59	< 0.00001	0.98957	0.01045	0.88216	0.02846	0.76481	0.00013	0.93237	0.02022	0.82203	0.01532	0.80819	LDLRAP1
PIM2	< 0.00001	0.98089	0.00810	0.90682	0.00041	0.93755	0.00020	0.92440	0.01619	0.84507	0.01689	0.80158	LMAN1
WFS1	< 0.00001	0.97631	0.00227	0.95698	0.00025	0.94865	0.00036	0.91073	0.01703	0.83563	N.C.	N.C.	LMAN2
SPCS3	< 0.00001	0.99507	0.01441	0.85859	0.00028	0.94689	0.00014	0.93155	0.03497	0.75897	0.03210	0.75481	LRPAP1
GAS6	0.00003	0.95592	0.04402	0.73120	0.02303	0.78092	0.00017	0.92809	N.C.	N.C.	0.02557	0.77273	LRRC59
ALG1	0.00015	0.93036	0.03887	0.74519	0.00950	0.83397	0.00003	0.95535	0.03842	0.74663	N.C.	N.C.	LRRK2
UGGT2	0.00002	0.96293	N.C.	N.C.	0.00015	0.96583	0.00256	0.84433	N.C.	N.C.	0.04102	0.73367	LY86
MAN2A1	< 0.00001	0.99030	0.01151	0.87324	0.00084	0.92121	0.00018	0.92660	0.03007	0.77458	0.02824	0.76546	MAGED1
FUCA2	0.00001	0.97439	N.C.	N.C.	0.00055	0.93133	0.00012	0.93447	N.C.	N.C.	0.04142	0.73283	MAGEH1
SLC39A7	< 0.00001	0.99069	0.03668	0.75283	0.00073	0.92472	0.00002	0.96478	N.C.	N.C.	N.C.	N.C.	MAGT1
SUB1	< 0.00001	0.99419	0.02324	0.80749	0.00073	0.92480	0.00004	0.95516	0.04444	0.72948	0.01987	0.79166	MAN1A1
FICD	0.00019	0.92607	N.C.	N.C.	0.00095	0.91664	0.00532	0.80677	N.C.	N.C.	N.C.	N.C.	MAN2A1
GT6GALNAC4	< 0.00001	0.98942	0.01325	0.86427	0.00017	0.96166	0.00005	0.94951	0.01619	0.84530	N.C.	N.C.	MANEA
ARF4	< 0.00001	0.99103	0.02699	0.78985	0.00008	0.97447	0.00006	0.94820	0.04575	0.72651	0.03583	0.74583	MANF
PREB	< 0.00001	0.98255	0.00810	0.90577	0.00092	0.91770	0.00010	0.93867	0.01482	0.85469	N.C.	N.C.	MAP2K6
ERN1	0.00001	0.97461	N.C.	N.C.	0.00018	0.96047	0.00001	0.97165	N.C.	N.C.	N.C.	N.C.	MBNL2
ALG14	< 0.00001	0.98487	N.C.	N.C.	0.00314	0.88161	0.00020	0.92433	0.03292	0.76541	N.C.	N.C.	MCEE
SIX5	0.00058	0.89850	N.C.	N.C.	0.00182	0.89936	0.00258	0.84398	N.C.	N.C.	N.C.	N.C.	MEI1
TPST2	< 0.00001	0.99403	N.C.	N.C.	0.00011	0.97052	0.00005	0.94954	N.C.	N.C.	N.C.	N.C.	METTL7A
TMED3	0.00024	0.92042	0.03440	0.76114	0.00052	0.93287	0.00006	0.94712	0.04234	0.73518	0.02544	0.77372	MGAT1
GFPT1	< 0.00001	0.99269	0.02134	0.81785	0.00020	0.95702	0.00007	0.94328	0.02161	0.81591	0.04249	0.73079	MGAT2
ESR1	0.00007	0.94463	0.01562	0.85094	N.C.	N.C.	0.00030	0.91522	0.01441	0.85876	N.C.	N.C.	MLEC
KDELR1	< 0.00001	0.99708	0.02291	0.80848	0.00008	0.97655	0.00005	0.94948	0.02594	0.79422	N.C.	N.C.	MS4A1
MGAT2	< 0.00001	0.98451	0.01285	0.86663	0.00041	0.93796	0.00027	0.91751	0.02324	0.80705	N.C.	N.C.	MTDH
C17orf91	0.00206	0.85388	0.04431	0.73019	0.00342	0.87843	0.02448	0.70595	N.C.	N.C.	N.C.	N.C.	MTHFD2
ACAT1	0.00017	0.92748	0.01686	0.83664	0.01927	0.79355	0.00007	0.94301	N.C.	N.C.	0.03446	0.74906	MZB1
MLEC	< 0.00001	0.99078	0.01478	0.85522	0.00046	0.93475	0.00007	0.94408	0.01879	0.82841	0.04133	0.73305	NANS
LRPAP1	< 0.00001	0.99065	0.00866	0.89463	0.00018	0.95980	0.00002	0.96166	0.02534	0.79727	N.C.	N.C.	NCOA3
IKBIP	0.00007	0.94360	0.04192	0.73620	0.02854	0.76457	0.00006	0.94549	N.C.	N.C.	N.C.	N.C.	NDUFA1
C6orf129	0.00002	0.96047	0.01696	0.83602	0.00023	0.95359	0.00011	0.93643	0.02374	0.80543	N.C.	N.C.	NDUFA13
SRPR	< 0.00001	0.98955	0.00953	0.88848	0.00018	0.95944	0.00003	0.95944	0.02658	0.79119	N.C.	N.C.	NDUFB8
SLC25A23	0.00005	0.94968	0.03112	0.77091	0.00544	0.86091	0.00007	0.94390	N.C.	N.C.	N.C.	N.C.	NDUFS5
TMEM214	< 0.00001	0.98270	0.03620	0.75543	0.00085	0.92048	0.00001	0.96824	0.03265	0.76661	N.C.	N.C.	NET1
CCNC	< 0.00001	0.99243	0.01591	0.84976	0.00131	0.90844	0.00006	0.94702	0.03663	0.75350	0.02923	0.76285	NEU1
SURF4	< 0.00001	0.98622	0.02949	0.77693	0.00058	0.93016	0.00001	0.97114	0.02711	0.78811	0.02949	0.76209	NT5DC2
SRPRB	< 0.00001	0.99173	0.00986	0.88606	0.00033	0.94410	0.00009	0.94073	0.02896	0.77949	N.C.	N.C.	NUCB2
SPCS1	< 0.00001	0.99659	0.00810	0.91011	0.00015	0.96678	0.00007	0.94482	0.03384	0.76315	0.03859	0.73931	NUP160
SEC14L1	< 0.00001	0.99160	0.00856	0.89632	0.00095	0.91687	0.00009	0.94065	0.02489	0.79986	0.03686	0.74364	NUP88
TMED2	< 0.00001	0.99304	0.01625	0.84446	0.00023	0.95118	0.00004	0.95309	0.03078	0.77271	0.01141	0.82473	NUS1
ENTPD7	< 0.00001	0.98171	0.02193	0.81396	0.03988	0.73634	0.00013	0.93251	0.04307	0.73351	0.01853	0.79591	OFD1
NDUFAF1	< 0.00001	0.98158	0.04516	0.72768	0.01155	0.82402	0.00007	0.94329	N.C.	N.C.	0.02272	0.78192	OS9
PRDX2	< 0.00001	0.97665	0.00859	0.89569	0.00516	0.86310	0.00004	0.95256	0.02849	0.78141	N.C.	N.C.	OST4
CANX	< 0.00001	0.99256	0.02061	0.82044	0.00460	0.86712	0.00003	0.95630	0.03585	0.75684	0.00429	0.87010	P4HB
PLOD3	0.00002	0.96274	N.C.	N.C.	0.00099	0.91585	0.00001	0.97072	N.C.	N.C.	N.C.	N.C.	PARP15
FAM69A	< 0.00001	0.98348	0.01686	0.83767	0.00208	0.89546	0.00014	0.93191	N.C.	N.C.	N.C.	N.C.	PDE7A
SLC39A14	0.00002	0.96377	0.01635	0.84279	0.00040	0.93877	0.00006	0.94679	0.03534	0.75806	N.C.	N.C.	PDIA4
MTDH	< 0.00001	0.97706	0.01996	0.82319	0.00310	0.88206	0.00004	0.95440	0.03887	0.74468	0.00918	0.83600	PDIA5
ATP5G3	0.00008	0.94248	0.03265	0.76650	0.03141	0.75652	0.00008	0.94273	0.02573	0.79548	0.01816	0.79732	PDIA6
HEXB	0.00001	0.97237	0.01959	0.82454	0.00021	0.95554	0.00063	0.89585	N.C.	N.C.	0.02994	0.76057	PDK1
SAR1B	< 0.00001	0.97727	0.01619	0.84608	0.00527	0.86228	0.00014	0.93205	0.04911	0.71883	0.02304	0.78061	PDXK
COPB2	< 0.00001	0.99551	0.01090	0.87895	0.00358	0.87666	0.00003	0.95702	0.02201	0.81315	N.C.	N.C.	PGRMC2
TMED10	< 0.00001	0.99641	0.00810	0.90560	0.00023	0.95260	0.00008	0.94091	0.02264	0.81010	0.02365	0.77852	PIGK
TM9SF1	< 0.00001	0.97845	0.02384	0.80513	0.00645	0.85337	0.00009	0.93998	0.03812	0.74782	N.C.	N.C.	PIK3C2B
TIMM17A	0.00001	0.97301	N.C.	N.C.	0.00530	0.86198	< 0.00001	0.98288	N.C.	N.C.	0.03908	0.73823	PIK3CD
GIPR	0.00203	0.85474	N.C.	N.C.	N.C.	N.C.	0.01398	0.74852	N.C.	N.C.	N.C.	N.C.	PINK1
ADA	< 0.00001	0.97922	N.C.	N.C.	0.00015	0.96600	0.00035	0.91156	N.C.	N.C.	N.C.	N.C.	PLAGL1
PSMB6	0.00003	0.95576	0.03505	0.75866	0.03763	0.74163	< 0.00001	0.97590	0.02534	0.79734	N.C.	N.C.	PLEKHA2
MTHFD2	< 0.00001	0.98316	0.03425	0.76156	0.00083	0.92177	0.00010	0.93841	0.02894	0.77983	0.03077	0.75855	PLEKHF2
KLHL14	< 0.00001	0.97630	0.00719	0.91678	0.00045	0.93604	0.00004	0.95319	0.04715	0.72308	N.C.	N.C.	PPIB
TRAM1	< 0.00001	0.98987	0.01411	0.86129	0.00015	0.96613	0.00047	0.90401	N.C.	N.C.	0.02856	0.76433	PRDM1
GANAB	< 0.00001	0.98709	0.02173	0.81530	0.00236	0.89158	0.00005	0.94871	N.C.	N.C.	0.02846	0.76486	PRDM15
SND1	< 0.00001	0.98596	0.01390	0.86215	0.00100	0.91563	0.00003	0.95540	0.01686	0.83985	N.C.	N.C.	PRDX4
ALG2	0.00003	0.95896	0.02025	0.82139	0.00029	0.94636	0.00069	0.89358	0.02691	0.79038	N.C.	N.C.	PRDX5
IDE	< 0.00001	0.97949	0.01441	0.85752	0.00337	0.87899	0.00083	0.88816	0.02602	0.79370	N.C.	N.C.	PREB
B4GALT3	< 0.00001	0.98668	0.01151	0.87396	0.00064	0.92771	0.00006	0.94720	0.02793	0.78426	N.C.	N.C.	PRRC1
NETO2	0.00053	0.90086	0.02822	0.78282	0.04467	0.72581	0.00046	0.90475	0.01122	0.87665	N.C.	N.C.	PSMB6
FKBP2	0.00002	0.96553	0.02774	0.78572	0.00045	0.93580	0.00048	0.90324	0.01422	0.86068	N.C.	N.C.	PSMC2
EDEM2	< 0.00001	0.99294	0.01165	0.87268	0.00020	0.95786	0.00006	0.94592	N.C.	N.C.	N.C.	N.C.	PSMD7

SRP54	< 0.00001	0.99059	0.01422	0.86078	0.00037	0.94123	0.00006	0.94645	0.02008	0.82283	0.02552	0.77324	PSMD8
MTFP1	0.00068	0.89408	N.C.	N.C.	0.02557	0.77293	0.00003	0.95617	N.C.	N.C.	N.C.	N.C.	PSMD9
TXNDC15	0.00001	0.96755	0.01441	0.85785	0.00021	0.95513	0.00024	0.92091	0.03542	0.75779	N.C.	N.C.	PTGS1
MAGT1	< 0.00001	0.99164	0.01696	0.83593	0.00109	0.91332	0.00006	0.94547	0.03704	0.75145	0.01993	0.79128	RABAC1
GMPPA	< 0.00001	0.98662	0.02523	0.79879	0.00038	0.94081	0.00006	0.94587	0.02586	0.79458	N.C.	N.C.	RAP1GDS1
BSG	0.00001	0.97263	0.03994	0.74137	0.00183	0.89917	0.00003	0.95644	0.03653	0.75403	N.C.	N.C.	RAPGEF2
B3GNT9	0.00034	0.91275	N.C.	N.C.	0.00596	0.85680	0.00114	0.87742	N.C.	N.C.	N.C.	N.C.	RASGRP2
DAD1	< 0.00001	0.98043	0.01643	0.84219	0.00269	0.88707	0.00003	0.95655	0.03753	0.75002	0.04310	0.72927	RBM47
VCP	< 0.00001	0.98001	0.02022	0.82193	0.00120	0.91089	0.00003	0.95715	0.02489	0.79994	0.04765	0.72042	RHBDD3
AARS	< 0.00001	0.98525	N.C.	N.C.	0.00047	0.93428	0.00004	0.95252	N.C.	N.C.	N.C.	N.C.	RIMKLB
SPCS2	< 0.00001	0.98963	N.C.	N.C.	0.00740	0.84655	0.00024	0.92014	N.C.	N.C.	N.C.	N.C.	ROMO1
SSR4	0.00001	0.96680	0.00715	0.92217	0.00024	0.95076	0.00133	0.87196	0.01446	0.85656	N.C.	N.C.	RPN2
LAP3	< 0.00001	0.98255	0.03902	0.74414	0.00023	0.95281	0.00013	0.93368	0.04956	0.71798	N.C.	N.C.	RPS27L
MAPK6	< 0.00001	0.98068	0.01122	0.87685	0.00276	0.88624	0.00001	0.96562	0.02457	0.80162	0.01570	0.80655	RPS6KB2
CHCHD2	0.00002	0.96425	0.02501	0.79953	0.00040	0.93847	0.00001	0.97200	0.03265	0.76632	0.00718	0.84808	RRBP1
TNFRSF13B	0.00012	0.93381	0.02933	0.77801	0.03801	0.74071	0.00256	0.84442	0.04029	0.74008	N.C.	N.C.	SAR1B
INPP4A	0.00001	0.97402	0.03887	0.74507	0.00024	0.95066	0.00153	0.86667	N.C.	N.C.	N.C.	N.C.	SATB1
B4GALT2	0.00036	0.91121	0.00810	0.90935	0.00723	0.84776	0.00514	0.80856	0.01186	0.87042	N.C.	N.C.	SCAF4
COMMD4	0.00940	0.77420	N.C.	N.C.	0.01915	0.79399	0.00180	0.85998	0.02177	0.81507	N.C.	N.C.	SCARB2
COPG	< 0.00001	0.98540	0.02374	0.80546	0.00023	0.95242	0.00001	0.97039	0.02797	0.78382	N.C.	N.C.	SDF2L1
ALG3	0.00005	0.95099	0.02573	0.79593	N.C.	N.C.	0.00003	0.95747	N.C.	N.C.	N.C.	N.C.	SDF4
ATP5A1	< 0.00001	0.98559	0.01619	0.84568	0.00455	0.86765	0.00002	0.96209	0.02138	0.81765	0.02127	0.78677	SEC11C
YIF1A	0.00018	0.92658	N.C.	N.C.	0.00281	0.88556	0.00006	0.94674	N.C.	N.C.	0.02230	0.78311	SEC13
EIF4G1	0.00001	0.96798	0.02642	0.79209	0.00276	0.88617	0.00002	0.96332	0.02920	0.77834	0.03127	0.75694	SEC14L1
DERL1	< 0.00001	0.99231	0.01619	0.84508	0.00008	0.97563	0.00006	0.94776	0.03497	0.75887	0.02902	0.76333	SEC23B
NDUFB6	0.00013	0.93265	0.03994	0.74132	N.C.	N.C.	0.00003	0.95940	0.03249	0.76740	N.C.	N.C.	SEC24A
SLC35A2	0.00093	0.88421	0.02162	0.81575	0.00724	0.84763	0.00093	0.88417	N.C.	N.C.	N.C.	N.C.	SEC31A
SEC23B	< 0.00001	0.97671	0.03123	0.77046	0.00018	0.96041	0.00034	0.91222	N.C.	N.C.	N.C.	N.C.	SEC61A1
CNPY2	0.00006	0.94719	0.03161	0.76944	0.00969	0.83262	0.00003	0.95971	0.02642	0.79207	0.03477	0.74820	SEC61B
ARSB	< 0.00001	0.98372	0.03497	0.75929	0.00700	0.84941	0.00020	0.92514	0.02813	0.78325	0.00656	0.85245	SEL1L
ROMO1	0.00010	0.93793	0.01959	0.82447	0.00943	0.83430	0.00033	0.91341	0.03036	0.77389	0.01377	0.81427	SEL1L3
DENND5B	< 0.00001	0.98322	0.00715	0.92150	0.00021	0.95560	0.00051	0.90175	N.C.	N.C.	N.C.	N.C.	SELK
TOP1	< 0.00001	0.97949	0.01686	0.83796	0.03446	0.74905	0.00002	0.96266	0.02609	0.79341	0.04333	0.72879	SELL
PDIA3	< 0.00001	0.99091	0.03265	0.76698	0.00036	0.94194	0.00003	0.95531	0.03697	0.75173	0.02418	0.77704	SELS
MESDC2	< 0.00001	0.98359	0.01444	0.85677	0.00231	0.89242	0.00004	0.95321	0.02103	0.81931	0.01591	0.80558	SELT
CASP10	0.00002	0.96265	0.00106	0.97609	0.00356	0.87687	0.00075	0.89111	0.01598	0.84928	0.04737	0.72102	SEMA4A
NUCB1	0.00001	0.97230	0.02774	0.78574	0.00023	0.95273	0.00004	0.95175	0.03994	0.74124	N.C.	N.C.	SERP1
COX8A	0.00363	0.82653	N.C.	N.C.	0.01987	0.79171	0.00051	0.90185	0.04116	0.73805	0.03561	0.74637	SESTD1
MAGEH1	0.00018	0.92713	0.02718	0.78787	0.00236	0.89143	0.00001	0.97195	N.C.	N.C.	0.00708	0.84884	SF3B5
ZDHHC12	0.00308	0.83484	0.02328	0.80688	0.00951	0.83384	0.00044	0.90597	0.02905	0.77914	N.C.	N.C.	SGK1
COMMD1	0.00093	0.88426	N.C.	N.C.	0.01386	0.81380	0.00005	0.94922	N.C.	N.C.	0.00909	0.83646	SLAMF7
NDUFB7	0.00042	0.90703	N.C.	N.C.	0.01476	0.81046	0.00002	0.96515	N.C.	N.C.	N.C.	N.C.	SLC1A4
PSMA5	0.00005	0.95129	0.01186	0.87009	0.01279	0.81820	0.00001	0.97169	0.01632	0.84330	0.00158	0.90342	SLC31A1
GOT1	0.00205	0.85419	N.C.	N.C.	0.02327	0.77958	0.00020	0.92472	N.C.	N.C.	N.C.	N.C.	SLC33A1
ATP2A2	< 0.00001	0.98496	0.02124	0.81817	0.00250	0.88928	0.00004	0.95266	0.02534	0.79734	0.02312	0.78015	SLC35B1
SLC39A9	< 0.00001	0.99479	0.04364	0.73228	0.00023	0.95181	0.00013	0.93260	N.C.	N.C.	N.C.	N.C.	SLC38A10
GLRX	< 0.00001	0.97864	0.02061	0.82041	0.00023	0.95146	0.00047	0.90372	0.03384	0.76306	N.C.	N.C.	SLC44A1
GORASP2	< 0.00001	0.98734	0.01536	0.85197	0.00025	0.94869	0.00001	0.96626	0.02786	0.78457	N.C.	N.C.	SLC7A1
UBA5	< 0.00001	0.97932	0.02090	0.81968	0.00093	0.91727	0.00007	0.94417	N.C.	N.C.	N.C.	N.C.	SMAD3
PHPT1	0.00014	0.93208	N.C.	N.C.	0.01201	0.82180	0.00049	0.90314	N.C.	N.C.	N.C.	N.C.	SMC6
KIAA0114	< 0.00001	0.97832	0.01441	0.85763	0.00209	0.89522	0.00002	0.96291	0.02440	0.80256	0.00770	0.84463	SND1
TMED1	0.00240	0.84732	N.C.	N.C.	0.00146	0.90552	0.00305	0.83555	0.04829	0.72057	N.C.	N.C.	SNX22
SELK	0.00003	0.95906	0.00962	0.88706	0.00020	0.95689	0.00044	0.90549	0.02826	0.78238	N.C.	N.C.	SP110
SCARB2	< 0.00001	0.97527	0.01032	0.88431	0.00008	0.97825	0.00115	0.87704	N.C.	N.C.	N.C.	N.C.	SPATS2
ITGB7	0.00004	0.95490	0.02774	0.78582	0.00151	0.90454	0.00098	0.88254	0.03887	0.74523	N.C.	N.C.	SPCS1
PIGT	< 0.00001	0.99291	N.C.	N.C.	0.00015	0.96575	0.00004	0.95202	N.C.	N.C.	0.03988	0.73620	SPCS3
USO1	< 0.00001	0.98646	0.01519	0.85269	0.00053	0.93221	0.00041	0.90740	N.C.	N.C.	N.C.	N.C.	SRM
TM9SF2	< 0.00001	0.99227	0.01441	0.85818	0.00029	0.94650	0.00012	0.93412	0.04235	0.73501	N.C.	N.C.	SRP54
RAPGEF2	0.00009	0.94044	N.C.	N.C.	0.00172	0.90119	0.00242	0.84688	N.C.	N.C.	N.C.	N.C.	SRP68
NDUFS5	0.00006	0.94730	N.C.	N.C.	0.02301	0.78105	0.00007	0.94382	N.C.	N.C.	0.00549	0.86053	SRPR
EDEM1	< 0.00001	0.99056	0.00715	0.92378	0.00008	0.97545	0.00020	0.92482	0.03668	0.75288	N.C.	N.C.	SRPRB
BRP44L	0.00003	0.95738	0.01045	0.88129	0.00079	0.92303	0.00001	0.96737	0.02140	0.81730	N.C.	N.C.	SSR2
MRPL51	< 0.00001	0.98747	N.C.	N.C.	0.01149	0.82439	0.00008	0.94128	N.C.	N.C.	N.C.	N.C.	SSR3
PDXK	0.00025	0.91964	0.03742	0.75035	0.00015	0.96523	0.00002	0.96175	N.C.	N.C.	N.C.	N.C.	SSR4
SSR2	< 0.00001	0.98827	0.01645	0.84199	0.00020	0.95660	0.00005	0.94986	0.02609	0.79337	N.C.	N.C.	ST6GALNAC4
GARS	0.00001	0.97030	0.02969	0.77603	0.00024	0.95037	< 0.00001	0.97729	0.03384	0.76304	0.04610	0.72311	STK17A
COX6B1	0.00004	0.95304	N.C.	N.C.	0.01235	0.82005	0.00001	0.96905	N.C.	N.C.	N.C.	N.C.	STT3A
COX5A	0.00001	0.96699	0.03734	0.75057	0.00453	0.86794	0.00004	0.95412	0.03653	0.75385	0.01118	0.82581	STT3B
RAB1A	< 0.00001	0.98968	0.02989	0.77543	0.00035	0.94316	0.00012	0.93515	0.02786	0.78462	0.04944	0.71720	SUMF2
SLC33A1	0.00003	0.95804	0.01147	0.87458	0.00102	0.91510	0.00125	0.87421	0.03727	0.75075	N.C.	N.C.	SURF4
CTSD	< 0.00001	0.98816	N.C.	N.C.	0.00020	0.95663	0.00011	0.93601	N.C.	N.C.	N.C.	N.C.	TAF12
FBXO18	< 0.00001	0.98222	0.01151	0.87339	0.00118	0.91129	0.00005	0.95130	0.03068	0.77305	N.C.	N.C.	TET3
GALNT2	< 0.00001	0.99210	0.01225	0.86879	0.00019	0.95851	0.00027	0.91764	0.02247	0.81077	N.C.	N.C.	TM9SF1
GSTP1	0.00016	0.92908	N.C.	N.C.	0.01653	0.80294	0.00003	0.95657	N.C.	N.C.	0.03936	0.73763	TM9SF2
DERL3	0.00001	0.97104	0.01880	0.82786	0.00023	0.95123	0.00072	0.89223	0.04192	0.73612	N.C.	N.C.	TM9SF3
YIPF5	< 0.00001	0.98358	0.03081	0.77209	0.00073	0.92506	0.00012	0.93472	N.C.	N.C.	N.C.	N.C.	TMC8
FOXRED1	0.00203	0.85452	N.C.	N.C.	0.02322	0.77985	0.00021	0.92389	N.C.	N.C.	N.C.	N.C.	TMCO1
UQCRH	0.00001	0.96775	0.04444	0.72974	0.03972	0.73683	0.00003	0.95916	N.C.	N.C.	0.02824	0.76561	TMED10
OST4	0.00001	0.96917	0.00827	0.89925	0.00561	0.85940	0.00015	0.92996	0.01045	0.88203	N.C.	N.C.	TMED2
BCKDK	0.00084	0.88780	0.01602	0.84887	0.00036	0.94257	0.00002	0.96523	0.01285	0.86632	N.C.	N.C.	TMED3
UGGT1	< 0.00001	0.97610	0.02482	0.80051	0.00324	0.88054	0.00085	0.88724	N.C.	N.C.	0.04023	0.73522	TMED5
MEI1	0.00001	0.96728	0.02786	0.78472	0.00032	0.94498	0.00024	0.92026	0.02517	0.79902	N.C.	N.C.	TMED7
PSMC2	0.00019	0.92600	N.C.	N.C.	0.00372	0.87541	0.00087	0.88627	N.C.	N.C.	0.04674	0.72210	TMEM147
CLN6	0.00002	0.96546	0.00810	0.90638	0.00034	0.94370	0.00022	0.92291	0.01625	0.84434	0.03105	0.75762	TMEM184B
ITFG1	0.00020	0.92429	0.01285	0.86616	0.00309	0.88238	0.00705	0.79135	N.C.	N.C.	N.C.	N.C.	TMEM208

SLC38A10	< 0.00001	0.97563	0.01631	0.84406	0.00021	0.95508	0.00006	0.94712	0.02399	0.80453	N.C.	N.C.	TMEM214
COX7A2	< 0.00001	0.98174	0.02863	0.78107	0.00846	0.84009	0.00002	0.96432	N.C.	N.C.	0.04435	0.72658	TMEM39A
UFD1L	0.00002	0.96296	0.01442	0.85717	0.03078	0.75835	0.00002	0.96395	0.02685	0.79059	0.03912	0.73809	TMEM59
ERP44	< 0.00001	0.98523	0.02402	0.80426	0.00149	0.90484	0.00003	0.95852	N.C.	N.C.	0.03973	0.73674	TMEM70
MBNL2	< 0.00001	0.98192	0.00948	0.88964	0.00027	0.94744	0.00098	0.88247	N.C.	N.C.	N.C.	N.C.	TNFRSF10B
C14orf147	0.00014	0.93208	0.04351	0.73258	0.00085	0.92073	0.00009	0.93988	N.C.	N.C.	0.02961	0.76146	TNFRSF17
C15orf39	0.00001	0.96701	N.C.	N.C.	0.01185	0.82273	0.00088	0.88613	0.03887	0.74553	N.C.	N.C.	TOP1
CLTC	< 0.00001	0.98915	0.02193	0.81387	0.00235	0.89181	0.00006	0.94782	0.04442	0.72995	0.02447	0.77626	TPST2
CNP	< 0.00001	0.98271	0.03634	0.75491	0.00015	0.96492	0.00004	0.95465	N.C.	N.C.	N.C.	N.C.	TRAM1
ARFGAP3	0.00001	0.97293	0.02402	0.80432	0.00021	0.95608	0.00125	0.87429	0.04402	0.73115	N.C.	N.C.	TRAM2
WBSCR22	0.00013	0.93278	0.03497	0.75893	0.02083	0.78814	0.00004	0.95448	0.02822	0.78292	N.C.	N.C.	TRIB1
ATPIF1	0.00095	0.88342	N.C.	N.C.	0.02312	0.78018	0.00033	0.91342	N.C.	N.C.	N.C.	N.C.	TRIO
SLC1A5	0.00005	0.95097	0.03668	0.75275	0.00085	0.92038	0.00138	0.87077	0.01045	0.88186	N.C.	N.C.	TSPAN33
ATF6	0.00001	0.96700	0.02106	0.81873	0.02305	0.78049	0.00070	0.89311	0.03902	0.74421	N.C.	N.C.	TTC39C
CREB3	0.00001	0.96875	0.04856	0.71983	0.00108	0.91362	0.00009	0.93971	N.C.	N.C.	N.C.	N.C.	TXN
ALG9	0.00001	0.96738	0.03440	0.76122	0.00085	0.92034	0.00005	0.94929	N.C.	N.C.	N.C.	N.C.	TXNDC11
SELT	< 0.00001	0.97907	0.01865	0.82923	0.00056	0.93091	0.00004	0.95229	0.03663	0.75331	0.01690	0.80140	TXNDC15
CPEB4	0.00010	0.93851	0.04234	0.73523	0.01014	0.83059	0.00402	0.82153	N.C.	N.C.	N.C.	N.C.	TXNDC5
SEL1L3	0.00006	0.94755	0.00810	0.90548	0.00008	0.97652	0.00382	0.82403	N.C.	N.C.	N.C.	N.C.	UAP1
MTX1	0.00070	0.89302	0.03723	0.75090	0.02815	0.76594	0.00104	0.88049	0.03403	0.76226	N.C.	N.C.	UBA5
TMEM147	0.00156	0.86589	0.02440	0.80319	0.00025	0.94958	0.00076	0.89066	0.02754	0.78645	0.02390	0.77774	UBE2J1
NDUFA13	0.00013	0.93325	N.C.	N.C.	0.00236	0.89144	0.00004	0.95379	N.C.	N.C.	N.C.	N.C.	UFD1L
GPAA1	0.00015	0.93025	0.01686	0.83731	0.00710	0.84869	0.00001	0.96619	0.01848	0.83041	0.03768	0.74142	UGGT1
UGDH	0.00008	0.94221	N.C.	N.C.	0.02967	0.76127	0.00015	0.92975	N.C.	N.C.	N.C.	N.C.	USO1
NUS1	< 0.00001	0.99075	0.02782	0.78534	0.00562	0.85929	0.00002	0.96545	N.C.	N.C.	N.C.	N.C.	WBSCR22
PRDX5	0.00005	0.94992	0.01519	0.85291	0.00090	0.91856	0.00041	0.90757	0.01591	0.84960	N.C.	N.C.	WDFY4
GSTZ1	0.00120	0.87578	N.C.	N.C.	N.C.	N.C.	0.00274	0.84087	N.C.	N.C.	N.C.	N.C.	WFS1
CREB3L2	< 0.00001	0.98387	0.02199	0.81333	0.00035	0.94333	0.00013	0.93248	0.02841	0.78174	N.C.	N.C.	WIPI1
SDF4	0.00002	0.96067	0.02268	0.80981	0.00102	0.91503	0.00007	0.94438	0.04584	0.72594	N.C.	N.C.	XBP1
YARS	0.00001	0.96761	N.C.	N.C.	0.02819	0.76578	0.00002	0.96380	N.C.	N.C.	N.C.	N.C.	YIPF5
ATP5G1	0.00084	0.88762	N.C.	N.C.	0.03461	0.74868	0.00005	0.95057	N.C.	N.C.	0.02447	0.77628	ZBP1
IFNAR2	0.00003	0.95770	0.02754	0.78636	0.01265	0.81889	0.00040	0.90834	0.04534	0.72719	0.01995	0.79104	ZCCHC2
OS9	< 0.00001	0.98031	0.02505	0.79934	0.00046	0.93495	0.00039	0.90900	N.C.	N.C.	N.C.	N.C.	ZFP36L1
PSMA2	0.00003	0.95544	0.04427	0.73048	0.01488	0.80979	< 0.00001	0.97588	0.04956	0.71802	0.00241	0.89062	ZNF107
EPRS	< 0.00001	0.99015	0.01865	0.82909	0.00085	0.92088	0.00020	0.92434	N.C.	N.C.	0.03686	0.74343	ZNF238
MCEE	0.00044	0.90549	N.C.	N.C.	0.00442	0.86899	0.00499	0.81004	N.C.	N.C.	N.C.	N.C.	ZNF318
DERL2	0.00010	0.93756	0.03768	0.74961	0.00015	0.96439	0.00022	0.92227	N.C.	N.C.	N.C.	N.C.	ZNF320
MGAT1	0.00002	0.96316	0.01686	0.83772	0.00018	0.95943	0.00008	0.94154	0.02177	0.81465	N.C.	N.C.	ZNF83
RHBDD3	0.00087	0.88629	0.02913	0.77882	0.00337	0.87906	0.00001	0.96965	0.01519	0.85299	N.C.	N.C.	ZSCAN18
CITED2	< 0.00001	0.98088	0.03534	0.75802	0.00020	0.95735	0.00024	0.92025	0.03910	0.74378	N.C.	N.C.	
TARS	< 0.00001	0.98908	N.C.	N.C.	0.00064	0.92800	0.00005	0.94860	0.03441	0.76095	N.C.	N.C.	
TMCO1	< 0.00001	0.99398	0.01643	0.84243	0.00024	0.95042	0.00038	0.90989	0.04725	0.72287	N.C.	N.C.	
DNAJB9	0.00009	0.93980	0.02022	0.82230	0.00024	0.95079	0.00328	0.83173	N.C.	N.C.	N.C.	N.C.	
NDUFV2	0.00003	0.95563	N.C.	N.C.	0.00236	0.89156	0.00041	0.90789	N.C.	N.C.	0.02149	0.78590	
ERAP1	< 0.00001	0.99340	0.01362	0.86299	0.00046	0.93533	0.00034	0.91220	N.C.	N.C.	N.C.	N.C.	
DNASE2	0.00001	0.97373	0.01981	0.82363	0.00645	0.85326	0.00010	0.93745	0.02936	0.77779	N.C.	N.C.	
MPST	0.00187	0.85839	0.01632	0.84376	0.00142	0.90651	0.00036	0.91087	0.00715	0.92895	N.C.	N.C.	
LSM3	0.00174	0.86146	N.C.	N.C.	0.02373	0.77826	0.00006	0.94642	N.C.	N.C.	0.02994	0.76049	
CDV3	< 0.00001	0.98855	0.03465	0.76023	0.00016	0.96358	0.00037	0.91057	0.04584	0.72590	N.C.	N.C.	
HERPUD1	0.00001	0.96730	0.00715	0.92612	0.00085	0.92047	0.00160	0.86475	0.01619	0.84673	N.C.	N.C.	
RPS19BP1	0.00159	0.86512	0.02711	0.78898	0.01796	0.79800	0.00011	0.93625	0.02264	0.81013	N.C.	N.C.	
CECR1	0.00004	0.95289	0.02423	0.80375	0.00022	0.95450	0.00236	0.84804	N.C.	N.C.	N.C.	N.C.	
SF3B5	0.00017	0.92793	0.01323	0.86487	0.00413	0.87175	0.00002	0.96297	0.02573	0.79542	0.03686	0.74355	
PSMD8	0.00001	0.97425	0.01122	0.87608	0.02011	0.79056	0.00001	0.96599	0.03096	0.77168	N.C.	N.C.	
ELL	< 0.00001	0.98401	0.04364	0.73210	0.00224	0.89346	0.00041	0.90791	N.C.	N.C.	N.C.	N.C.	
NDUFAB1	0.00033	0.91338	0.02525	0.79818	0.01059	0.82848	0.00024	0.92073	0.03441	0.76080	0.00136	0.90753	
IMPAD1	< 0.00001	0.98600	0.01182	0.87130	0.00045	0.93568	0.00023	0.92141	0.03979	0.74209	N.C.	N.C.	
EAF2	0.00001	0.96565	0.01122	0.87585	0.00760	0.84528	0.00074	0.89147	0.04163	0.73694	0.04460	0.72607	
KEAP1	0.00022	0.92228	0.04101	0.73836	0.00716	0.84830	0.00012	0.93398	0.03964	0.74255	N.C.	N.C.	
GLB1	< 0.00001	0.98108	0.02488	0.80029	0.00023	0.95267	0.00004	0.95178	0.02230	0.81123	N.C.	N.C.	
LDLRAP1	0.00013	0.93354	0.03403	0.76235	0.03310	0.75277	0.00005	0.95005	0.04782	0.72150	N.C.	N.C.	
MRPS18A	0.00637	0.79685	N.C.	N.C.	0.01279	0.81830	0.00572	0.80280	N.C.	N.C.	N.C.	N.C.	
SERP1	0.00023	0.92172	0.01965	0.82421	0.00013	0.96900	0.00012	0.93500	0.02157	0.81656	0.03859	0.73938	
SLC7A1	0.00014	0.93096	N.C.	N.C.	0.00801	0.84271	0.00012	0.93452	N.C.	N.C.	N.C.	N.C.	
PSMD9	0.00091	0.88495	0.04192	0.73613	0.00751	0.84575	0.00121	0.87532	0.04599	0.72537	N.C.	N.C.	
TUFM	0.00051	0.90163	0.03663	0.75337	0.01591	0.80519	0.00004	0.95247	0.02829	0.78224	0.04585	0.72362	
COPA	< 0.00001	0.99419	0.01562	0.85090	0.00085	0.92020	0.00003	0.95664	0.03951	0.74298	N.C.	N.C.	
GPR172A	0.00007	0.94500	0.02725	0.78749	0.00195	0.89740	0.00083	0.88825	0.02211	0.81227	N.C.	N.C.	
KIF21A	0.00440	0.81659	N.C.	N.C.	0.00654	0.85268	0.00592	0.80088	N.C.	N.C.	N.C.	N.C.	
EIF2S2	< 0.00001	0.97697	0.00715	0.93265	0.00070	0.92605	0.00010	0.93813	0.00798	0.91134	N.C.	N.C.	
GNAS	< 0.00001	0.98789	0.04847	0.72003	0.00045	0.93581	0.00011	0.93657	N.C.	N.C.	N.C.	N.C.	
MAP2K6	0.00017	0.92761	0.02831	0.78211	0.01532	0.80821	0.00104	0.88053	N.C.	N.C.	0.03988	0.73633	
FTSJ1	0.00019	0.92540	N.C.	N.C.	0.00309	0.88272	0.00003	0.95591	N.C.	N.C.	N.C.	N.C.	
PSMA6	0.00030	0.91566	0.01880	0.82776	0.00878	0.83826	0.00015	0.93008	0.03357	0.76387	0.03686	0.74350	
PSMB3	0.00033	0.91279	N.C.	N.C.	0.01591	0.80519	0.00002	0.96471	N.C.	N.C.	0.03898	0.73846	
PABPC4	< 0.00001	0.99012	0.01619	0.84539	0.00008	0.98138	0.00008	0.94275	0.02025	0.82140	N.C.	N.C.	
TMED7	0.00001	0.97294	0.03812	0.74797	0.00071	0.92562	0.00120	0.87574	0.04197	0.73597	N.C.	N.C.	
GMDS	0.00001	0.96641	0.01659	0.84083	0.00351	0.87750	0.00030	0.91525	0.01486	0.85427	0.02172	0.78506	
YIPF1	0.00007	0.94313	0.01182	0.87120	0.04737	0.72097	0.00218	0.85168	0.02894	0.78004	N.C.	N.C.	
KIF13B	0.00006	0.94639	0.02147	0.81687	0.01443	0.81167	0.00088	0.88604	0.02440	0.80308	N.C.	N.C.	
ALDH18A1	< 0.00001	0.97829	N.C.	N.C.	0.00413	0.87163	0.00051	0.90179	N.C.	N.C.	N.C.	N.C.	
FH	0.00177	0.86068	N.C.	N.C.	0.03420	0.74978	0.00045	0.90529	N.C.	N.C.	0.03645	0.74470	
IER3IP1	0.00003	0.95800	0.01848	0.83030	0.00380	0.87453	0.00002	0.96074	0.03668	0.75277	0.01225	0.82052	
DSTN	< 0.00001	0.99130	N.C.	N.C.	0.00174	0.90061	0.00028	0.91715	N.C.	N.C.	N.C.	N.C.	
MRPS33	0.00021	0.92319	N.C.	N.C.	0.01478	0.81031	0.00312	0.83417	0.03492	0.75962	N.C.	N.C.	

IBTK	< 0.00001	0.98339	0.03081	0.77205	0.00693	0.85005	0.00049	0.90315	N.C.	N.C.	0.03686	0.74347
LRRC8C	0.00001	0.96768	0.02106	0.81878	0.03142	0.75642	0.00004	0.95282	0.03081	0.77232	N.C.	N.C.
CLPB	0.00319	0.83307	0.01323	0.86485	0.02522	0.77426	0.00080	0.88923	0.02161	0.81590	N.C.	N.C.
TMED5	< 0.00001	0.98895	0.02289	0.80869	0.00047	0.93426	0.00012	0.93482	N.C.	N.C.	N.C.	N.C.
ATP5B	0.00007	0.94431	N.C.	N.C.	0.01844	0.79628	0.00004	0.95515	N.C.	N.C.	0.00637	0.85415
SRP68	< 0.00001	0.98424	0.02469	0.80117	0.00025	0.94884	0.00007	0.94308	0.04003	0.74079	N.C.	N.C.
SLC30A5	0.00003	0.95533	0.01879	0.82857	0.00076	0.92404	0.00131	0.87272	0.04956	0.71807	0.01591	0.80539
ERGIC3	0.00006	0.94746	0.00715	0.92534	0.00038	0.94006	0.00242	0.84693	0.03015	0.77435	N.C.	N.C.
CERK	0.00013	0.93229	0.04638	0.72440	0.00173	0.90087	0.00008	0.94271	0.03620	0.75587	N.C.	N.C.
SLC35C1	0.00019	0.92567	0.02618	0.79281	0.03711	0.74272	0.00169	0.86263	0.02177	0.81474	N.C.	N.C.
GOLPH3	0.00003	0.95650	0.02957	0.77653	0.00004	0.98627	0.00103	0.88076	N.C.	N.C.	N.C.	N.C.
GUSB	0.00002	0.96416	0.04533	0.72727	0.00656	0.85239	0.00015	0.93078	0.02785	0.78504	N.C.	N.C.
UQCRC1	0.00195	0.85661	0.03836	0.74711	0.01663	0.80259	0.00011	0.93560	0.03834	0.74722	N.C.	N.C.
TM9SF3	< 0.00001	0.99498	0.04841	0.72018	0.00016	0.96394	0.00018	0.92680	N.C.	N.C.	0.01646	0.80323
GSPT1	0.00007	0.94493	N.C.	N.C.	0.01745	0.79958	0.00011	0.93563	0.03488	0.75976	0.02193	0.78426
TMEM59	0.00001	0.97405	0.02949	0.77697	0.00038	0.94012	0.00056	0.89930	N.C.	N.C.	N.C.	N.C.
CCDC47	0.00001	0.97122	0.04418	0.73075	0.00527	0.86236	0.00014	0.93186	N.C.	N.C.	N.C.	N.C.
CINP	0.00027	0.91733	0.02217	0.81182	0.03051	0.75922	0.00047	0.90415	N.C.	N.C.	N.C.	N.C.
ST8SIA4	0.00005	0.95068	N.C.	N.C.	0.00802	0.84252	0.00235	0.84831	N.C.	N.C.	N.C.	N.C.
NDUFB8	0.00094	0.88387	0.01975	0.82389	0.01326	0.81621	0.00058	0.89828	N.C.	N.C.	N.C.	N.C.
PRRC1	< 0.00001	0.97789	0.01934	0.82548	0.00515	0.86327	0.00030	0.91510	N.C.	N.C.	0.02196	0.78404
PI4K2B	0.00001	0.96721	0.03753	0.75010	0.00412	0.87186	0.00012	0.93414	N.C.	N.C.	N.C.	N.C.
ERH	0.00005	0.94924	0.01659	0.84128	0.02651	0.77008	0.00001	0.97425	0.04769	0.72194	0.04363	0.72803
KRTCAP2	0.00006	0.94613	N.C.	N.C.	0.00015	0.96555	0.00038	0.90988	N.C.	N.C.	N.C.	N.C.
TMEM70	0.00228	0.84988	N.C.	N.C.	0.00847	0.83984	0.00586	0.80143	N.C.	N.C.	N.C.	N.C.
FDX1	0.00003	0.95753	N.C.	N.C.	0.00644	0.85355	0.00030	0.91540	N.C.	N.C.	N.C.	N.C.
NDUFA1	< 0.00001	0.98339	N.C.	N.C.	0.00130	0.90857	0.00023	0.92116	N.C.	N.C.	0.02303	0.78078
RFC1	< 0.00001	0.98353	0.01686	0.83996	0.00595	0.85696	0.00004	0.95403	0.03497	0.75896	N.C.	N.C.
ATP5C1	0.00003	0.95675	N.C.	N.C.	0.00309	0.88239	0.00012	0.93531	N.C.	N.C.	0.00559	0.85962
PRMT5	0.00009	0.93915	N.C.	N.C.	0.03475	0.74837	0.00003	0.95862	N.C.	N.C.	0.02854	0.76451
POMP	0.00009	0.93951	N.C.	N.C.	0.00700	0.84951	< 0.00001	0.98265	N.C.	N.C.	0.00146	0.90557
SNRPG	0.00405	0.82103	0.02941	0.77761	0.03972	0.73684	0.00042	0.90701	N.C.	N.C.	N.C.	N.C.
PDK1	0.00061	0.89684	0.00715	0.92177	0.00008	0.97426	0.01425	0.74729	0.04584	0.72586	N.C.	N.C.
SLC7A11	0.00440	0.81654	0.02209	0.81254	0.00023	0.95200	0.01655	0.73666	0.03641	0.75462	N.C.	N.C.
SNF8	0.00149	0.86751	N.C.	N.C.	0.00802	0.84245	0.00023	0.92207	N.C.	N.C.	N.C.	N.C.
ARMCX3	0.00006	0.94693	0.02549	0.79679	0.00147	0.90526	0.00390	0.82299	N.C.	N.C.	N.C.	N.C.
PIGK	0.00001	0.97263	0.02905	0.77921	0.00380	0.87449	0.00046	0.90469	N.C.	N.C.	0.01973	0.79231
DAP	0.00002	0.96020	N.C.	N.C.	0.00488	0.86507	0.00006	0.94625	N.C.	N.C.	N.C.	N.C.
PSMC3	0.00153	0.86651	N.C.	N.C.	0.00921	0.83579	0.00011	0.93615	N.C.	N.C.	N.C.	N.C.
ZMPSTE24	0.00007	0.94510	N.C.	N.C.	0.00023	0.95312	0.00014	0.93105	N.C.	N.C.	N.C.	N.C.
TMEM39A	0.00063	0.89609	0.02734	0.78711	0.00751	0.84578	0.00664	0.79465	0.01643	0.84229	N.C.	N.C.
ATP5J2	0.00195	0.85660	N.C.	N.C.	N.C.	N.C.	0.00112	0.87797	N.C.	N.C.	N.C.	N.C.
ANAPC5	0.00005	0.94925	0.02782	0.78519	0.00940	0.83457	0.00002	0.96286	N.C.	N.C.	0.02994	0.76046
ARHGAP18	0.00064	0.89541	N.C.	N.C.	0.01476	0.81044	0.00983	0.77148	N.C.	N.C.	0.01360	0.81495
RPS27L	0.00002	0.96548	N.C.	N.C.	0.00967	0.83284	0.00014	0.93135	N.C.	N.C.	0.01551	0.80735
ARF1	0.00006	0.94787	0.02573	0.79577	0.00583	0.85792	0.00001	0.96691	0.02711	0.78853	N.C.	N.C.
PSMB1	0.00005	0.94980	0.04575	0.72629	0.00310	0.88210	< 0.00001	0.98853	0.04029	0.74010	0.00798	0.84307
ATP6AP1	< 0.00001	0.98233	0.03653	0.75382	0.00239	0.89100	0.00057	0.89871	N.C.	N.C.	N.C.	N.C.
SEC31A	< 0.00001	0.97945	0.04383	0.73173	0.00091	0.91807	0.00076	0.89067	N.C.	N.C.	0.01186	0.82262
ATP6V0B	0.00016	0.92935	0.02971	0.77584	0.00073	0.92511	0.00008	0.94221	0.03497	0.75887	0.04250	0.73066
CUTA	0.00008	0.94229	N.C.	N.C.	0.01018	0.83031	0.00002	0.96128	0.04485	0.72863	N.C.	N.C.
CHST15	0.00002	0.96505	0.04515	0.72776	0.0009	0.91861	0.00087	0.88626	N.C.	N.C.	N.C.	N.C.
ISG20	0.00180	0.86021	0.00866	0.89483	0.00092	0.91791	0.00584	0.80170	0.01772	0.83278	N.C.	N.C.
ERO1L	0.00003	0.95951	0.03123	0.77037	0.00762	0.84510	0.00101	0.88159	0.04812	0.72089	0.01327	0.81610
DECR1	0.00007	0.94481	N.C.	N.C.	0.02111	0.78730	0.00013	0.93249	0.03265	0.76643	N.C.	N.C.
RPL36AL	0.00004	0.95291	0.04427	0.73054	0.00224	0.89344	0.00066	0.89468	N.C.	N.C.	0.03663	0.74432
IFI35	0.00091	0.88478	N.C.	N.C.	0.00025	0.94935	0.00669	0.79420	N.C.	N.C.	N.C.	N.C.
GUK1	0.00381	0.82427	N.C.	N.C.	0.00250	0.88927	0.00511	0.80887	N.C.	N.C.	N.C.	N.C.
SLC10A7	0.00150	0.86725	0.00719	0.91705	0.00053	0.93205	0.00604	0.79973	0.03985	0.74191	0.00751	0.84581
FAM96B	0.00249	0.84576	N.C.	N.C.	0.03938	0.73753	0.00025	0.91942	N.C.	N.C.	N.C.	N.C.
R3HCC1	0.00421	0.81897	0.02549	0.79685	0.01059	0.82854	0.01021	0.76905	N.C.	N.C.	N.C.	N.C.
DNAJC7	0.00001	0.97223	0.04388	0.73157	0.00041	0.93782	0.00019	0.92592	N.C.	N.C.	N.C.	N.C.
ARL1	0.00036	0.91091	0.01686	0.83828	0.00198	0.89693	0.00680	0.79317	N.C.	N.C.	0.01901	0.79450
SUMF2	0.00002	0.96153	0.02211	0.81235	0.00925	0.83551	0.00042	0.90719	N.C.	N.C.	N.C.	N.C.
ERP29	0.00003	0.95561	0.01619	0.84544	0.00364	0.87604	0.00014	0.93144	N.C.	N.C.	0.01591	0.80513
TXNDC12	0.00013	0.93247	0.03992	0.74154	N.C.	N.C.	0.00189	0.85797	0.03707	0.75126	N.C.	N.C.
SLC35B2	0.00586	0.80148	N.C.	N.C.	0.02154	0.78569	0.00129	0.87328	N.C.	N.C.	N.C.	N.C.
NCOA3	0.00040	0.90833	0.00856	0.89784	0.00466	0.86665	0.00597	0.80040	N.C.	N.C.	N.C.	N.C.
EDF1	0.00026	0.91879	N.C.	N.C.	0.01318	0.81655	0.00002	0.96519	N.C.	N.C.	N.C.	N.C.
SRSF9	0.00005	0.94988	0.03451	0.76054	0.00336	0.87922	0.00010	0.93799	0.01151	0.87375	N.C.	N.C.
HAX1	0.00016	0.92911	0.01848	0.83066	0.00039	0.93932	0.00002	0.96289	N.C.	N.C.	N.C.	N.C.
ASPHD2	0.00741	0.78841	0.01879	0.82849	0.02140	0.78631	0.03971	0.65744	0.01441	0.85810	N.C.	N.C.
TMEM165	0.00001	0.97074	0.00715	0.91971	0.02166	0.78527	0.00093	0.88407	0.01032	0.88376	N.C.	N.C.
SDHA	0.00164	0.86370	N.C.	N.C.	0.00847	0.83995	0.00240	0.84740	N.C.	N.C.	N.C.	N.C.
MBTPS2	0.00023	0.92116	0.00953	0.88851	0.01591	0.80546	0.00738	0.78863	0.02711	0.78881	N.C.	N.C.
SLC3A2	0.00007	0.94331	N.C.	N.C.	0.00424	0.87055	0.00002	0.96115	N.C.	N.C.	N.C.	N.C.
GLG1	0.00001	0.97153	0.02786	0.78487	0.00274	0.88648	0.00125	0.87411	N.C.	N.C.	0.03141	0.75654
PINK1	0.00009	0.94086	N.C.	N.C.	0.00087	0.91958	0.00045	0.90514	N.C.	N.C.	N.C.	N.C.
CCDC117	0.00084	0.88751	0.00715	0.92022	0.01735	0.80001	0.00555	0.80436	0.00856	0.89623	N.C.	N.C.
POLDIP2	0.00058	0.89835	N.C.	N.C.	0.00539	0.86136	0.00050	0.90235	N.C.	N.C.	N.C.	N.C.
RPS6KB2	0.00412	0.82021	0.01686	0.83740	0.00413	0.87154	0.00076	0.89051	0.02894	0.77963	N.C.	N.C.
PSMD7	0.00001	0.96588	N.C.	N.C.	0.01482	0.81010	0.00009	0.94030	N.C.	N.C.	N.C.	N.C.
CD99L2	0.00159	0.86517	0.03887	0.74505	0.04488	0.72542	0.00383	0.82391	0.02658	0.79120	N.C.	N.C.
PRDM15	0.01488	0.74412	0.01475	0.85571	0.00717	0.84821	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
ERC1	0.00003	0.95566	0.00962	0.88735	0.00130	0.90858	0.00072	0.89240	N.C.	N.C.	N.C.	N.C.

RAP1GDS1	0.00009	0.93939	0.01686	0.83793	0.00016	0.96264	0.00437	0.81693	N.C.	N.C.	N.C.	N.C.
SLAMF1	0.00091	0.88501	0.01858	0.82962	0.00583	0.85787	0.00292	0.83785	0.04962	0.71782	N.C.	N.C.
ATF4	0.00012	0.93527	N.C.	N.C.	0.00040	0.93843	0.00057	0.89885	N.C.	N.C.	N.C.	N.C.
C1orf43	0.00015	0.93035	0.02920	0.77835	0.00033	0.94440	< 0.00001	0.98379	N.C.	N.C.	N.C.	N.C.
METTL7A	0.00014	0.93112	0.00715	0.91849	0.00665	0.85184	0.00461	0.81394	0.03096	0.77161	N.C.	N.C.
EIF5A	0.00405	0.82120	0.03663	0.75337	0.02298	0.78118	0.00040	0.90812	0.03351	0.76414	0.00644	0.85368
CCDC69	0.00001	0.96893	0.03668	0.75279	0.00796	0.84321	0.00010	0.93831	N.C.	N.C.	0.01164	0.82355
RBM3	0.00065	0.89536	N.C.	N.C.	0.02293	0.78136	0.00078	0.88997	N.C.	N.C.	0.02577	0.77222
APOBEC3C	0.00058	0.89814	0.03276	0.76585	0.04021	0.73533	0.00025	0.91926	0.04235	0.73503	N.C.	N.C.
SEC11A	0.00011	0.93552	0.02482	0.80075	0.00089	0.91889	0.00310	0.83457	N.C.	N.C.	0.02994	0.76055
SERF2	0.02888	0.68996	0.00715	0.92014	0.00413	0.87166	0.00187	0.85841	0.01151	0.87347	N.C.	N.C.
ARCN1	0.00004	0.95396	0.00923	0.89061	0.00086	0.91997	0.00155	0.86607	0.01090	0.87819	N.C.	N.C.
YKT6	0.00006	0.94784	N.C.	N.C.	0.00078	0.92330	0.00028	0.91709	N.C.	N.C.	N.C.	N.C.
MRPL3	0.00008	0.94173	0.01182	0.87086	0.01546	0.80763	0.00013	0.93343	0.01045	0.88136	0.03730	0.74226
EIF3J	0.00135	0.87155	N.C.	N.C.	N.C.	N.C.	0.00124	0.87449	0.04444	0.72969	N.C.	N.C.
DDX1	0.00003	0.95772	N.C.	N.C.	0.02812	0.76607	0.00083	0.88814	N.C.	N.C.	0.04320	0.72905
TBL2	0.00043	0.90637	0.01182	0.87085	0.00544	0.86100	0.00553	0.80459	0.02586	0.79451	N.C.	N.C.
PGRMC2	0.00044	0.90603	0.00227	0.95607	0.00245	0.89008	0.00907	0.77643	0.01686	0.83939	N.C.	N.C.
TAF12	0.00077	0.89033	N.C.	N.C.	0.01118	0.82579	0.01743	0.73299	N.C.	N.C.	N.C.	N.C.
PSME1	0.02299	0.71136	0.02106	0.81866	0.00089	0.91888	0.01390	0.74901	0.04124	0.73785	0.01618	0.80424
IFNAR1	0.00004	0.95497	0.02525	0.79794	0.00181	0.89960	0.00302	0.83606	N.C.	N.C.	N.C.	N.C.
B2M	0.00328	0.83161	0.01686	0.83911	0.00008	0.97592	0.02505	0.70378	0.04515	0.72781	N.C.	N.C.
BAG1	0.00599	0.80016	0.04832	0.72040	0.03168	0.75579	0.00367	0.82604	N.C.	N.C.	N.C.	N.C.
SEPT10	0.0001	-0.93754	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.	N.C.
TTC24	0.00001	-0.96861	0.02602	-0.79382	0.00644	-0.85363	0.00031	-0.91443	N.C.	N.C.	N.C.	N.C.
RUNDC2C	< 0.00001	-0.97811	0.02324	-0.80725	0.01305	-0.81719	0.00001	-0.96579	0.03404	-0.76212	N.C.	N.C.
SESTD1	0.00049	-0.90275	0.01619	-0.84762	0.02180	-0.78472	0.00099	-0.88229	0.02729	-0.78730	N.C.	N.C.
LCN10	0.00004	-0.95340	N.C.	N.C.	0.03791	-0.74095	0.00104	-0.88030	N.C.	N.C.	N.C.	N.C.
SAMD4A	0.01550	-0.74118	N.C.	N.C.	0.03420	-0.74992	0.03110	-0.68241	N.C.	N.C.	N.C.	N.C.
KCNIP2	0.00515	-0.80835	0.04101	-0.73840	0.02323	-0.77976	0.01362	-0.75041	N.C.	N.C.	N.C.	N.C.
DDX60L	0.00017	-0.92734	0.02969	-0.77617	0.02737	-0.76801	0.00012	-0.93498	0.02711	-0.78815	N.C.	N.C.
ABCA1	0.01526	-0.74239	N.C.	N.C.	0.03406	-0.75024	0.02178	-0.71601	N.C.	N.C.	N.C.	N.C.
BIRC3	0.00002	-0.96289	N.C.	N.C.	0.00449	-0.86847	0.00015	-0.92999	N.C.	N.C.	0.02651	-0.77010
LY86	0.00003	-0.95765	N.C.	N.C.	0.02047	-0.78930	0.00046	-0.90457	0.03704	-0.75149	N.C.	N.C.
ZFP36L1	0.00007	-0.94495	0.02649	-0.79184	0.00888	-0.83777	0.00083	-0.88820	N.C.	N.C.	N.C.	N.C.
GGT7	0.00002	-0.96281	0.04584	-0.72573	0.01591	-0.80550	0.00263	-0.84298	N.C.	N.C.	N.C.	N.C.
VAV3	0.00073	-0.89185	0.02320	-0.80779	0.00085	-0.92041	0.00032	-0.91378	0.02894	-0.78001	N.C.	N.C.
TTC39C	0.00006	-0.94550	N.C.	N.C.	0.01561	-0.80689	0.00026	-0.91850	N.C.	N.C.	N.C.	N.C.
CHD3	0.00002	-0.96263	0.00923	-0.89230	0.00112	-0.91234	0.00066	-0.89480	N.C.	N.C.	0.04126	-0.73322
RIMKLB	0.00291	-0.83797	0.01632	-0.84375	0.02140	-0.78632	0.00964	-0.77261	0.04607	-0.72516	N.C.	N.C.
GAPT	0.00024	-0.92023	0.02616	-0.79304	0.02303	-0.78078	0.00027	-0.91781	N.C.	N.C.	0.02189	-0.78443
TNFRSF10B	0.00001	-0.96987	0.01886	-0.82714	0.04079	-0.73411	0.00049	-0.90305	0.03669	-0.75235	N.C.	N.C.
JUP	0.00010	-0.93843	0.02489	-0.80005	0.00794	-0.84343	0.00266	-0.84252	N.C.	N.C.	0.02649	-0.77027
KIAA1407	0.00030	-0.91504	0.03904	-0.74396	0.01193	-0.82224	0.00293	-0.83763	0.01865	-0.82921	N.C.	N.C.
AFF3	0.00027	-0.91791	N.C.	N.C.	0.00046	-0.93466	0.00026	-0.91867	N.C.	N.C.	N.C.	N.C.
FMNL3	< 0.00001	-0.99027	0.01706	-0.83541	0.00058	-0.93024	0.00006	-0.94654	0.01848	-0.83018	0.00969	-0.83266
L3MBTL3	0.00002	-0.96534	0.03620	-0.75561	0.00379	-0.87471	0.00049	-0.90274	0.01709	-0.83511	N.C.	N.C.
FOXP1	0.00001	-0.96610	0.04003	-0.74079	0.00847	-0.83986	0.00026	-0.91856	N.C.	N.C.	N.C.	N.C.
ZMAT1	0.00025	-0.91914	0.03289	-0.76554	0.00249	-0.88954	0.00113	-0.87770	0.03667	-0.75315	N.C.	N.C.
ATAD2B	0.00020	-0.92432	0.04485	-0.72870	0.00938	-0.83474	0.00038	-0.90992	N.C.	N.C.	N.C.	N.C.
SATB1	0.00011	-0.93708	0.03620	-0.75537	0.00153	-0.90413	0.00089	-0.88559	N.C.	N.C.	0.04546	-0.72441
BACH2	0.00027	-0.91807	N.C.	N.C.	0.01011	-0.83078	0.00164	-0.86368	N.C.	N.C.	N.C.	N.C.
TMOD2	0.00086	-0.88690	N.C.	N.C.	0.00095	-0.91663	0.00817	-0.78252	N.C.	N.C.	N.C.	N.C.
INADL	0.00067	-0.89452	0.04599	-0.72536	0.00112	-0.91256	0.00122	-0.87506	N.C.	N.C.	0.02737	-0.76809
PLEKHA1	0.00243	-0.84668	0.03653	-0.75431	0.00795	-0.84332	0.00771	-0.78591	0.02106	-0.81896	N.C.	N.C.
PTBP2	0.00110	-0.87860	0.03555	-0.75749	N.C.	N.C.	0.00166	-0.86321	N.C.	N.C.	N.C.	N.C.
PDE7A	0.00002	-0.96086	N.C.	N.C.	0.00241	-0.89072	0.00014	-0.93201	N.C.	N.C.	N.C.	N.C.
ZNF238	0.00008	-0.94151	N.C.	N.C.	0.00112	-0.91245	0.00038	-0.90972	N.C.	N.C.	0.03127	-0.75694
HLA-DOB	< 0.00001	-0.97553	0.04485	-0.72858	0.00925	-0.83543	0.00034	-0.91210	N.C.	N.C.	N.C.	N.C.
PTGS1	0.00168	-0.86274	0.01554	-0.85141	0.00740	-0.84652	0.00079	-0.88945	N.C.	N.C.	0.00557	-0.85988
HLA-DMB	< 0.00001	-0.98050	N.C.	N.C.	0.00108	-0.91360	0.00024	-0.92088	N.C.	N.C.	N.C.	N.C.
MOBKL1A	0.00002	-0.96425	0.01186	-0.87005	0.00740	-0.84660	0.00109	-0.87897	0.01325	-0.86424	N.C.	N.C.
CDC14A	0.00083	-0.88810	0.01619	-0.84635	0.01206	-0.82143	0.00060	-0.89753	0.03620	-0.75568	0.04576	-0.72383
PLEKHG1	0.00001	-0.96672	N.C.	N.C.	0.01141	-0.82472	0.00001	-0.96977	N.C.	N.C.	N.C.	N.C.
AIM1	0.00006	-0.94777	N.C.	N.C.	0.00018	-0.96014	0.00023	-0.92118	N.C.	N.C.	0.02552	-0.77312
ADRBK2	0.00009	-0.94052	N.C.	N.C.	0.01193	-0.82225	0.00067	-0.89429	N.C.	N.C.	N.C.	N.C.
BANK1	0.00007	-0.94453	N.C.	N.C.	0.00164	-0.90236	0.00007	-0.94351	0.04969	-0.71765	N.C.	N.C.
CAMK2D	0.00009	-0.93937	N.C.	N.C.	0.00556	-0.86000	0.00074	-0.89136	N.C.	N.C.	N.C.	N.C.
ABLIM1	0.00005	-0.95140	0.03073	-0.77288	0.00243	-0.89035	0.00014	-0.93173	0.03384	-0.76317	N.C.	N.C.
KIAA1147	0.00012	-0.93518	0.02324	-0.80715	0.00111	-0.91274	0.00042	-0.90700	0.02786	-0.78450	N.C.	N.C.
FAM129C	0.00004	-0.95372	0.04832	-0.72039	0.00096	-0.91651	0.00279	-0.83995	N.C.	N.C.	N.C.	N.C.
TET3	0.00045	-0.90515	0.00810	-0.90418	N.C.	N.C.	0.00062	-0.89666	0.03971	-0.74227	N.C.	N.C.
PHF15	< 0.00001	-0.97747	N.C.	N.C.	0.00953	-0.83361	0.00013	-0.93266	N.C.	N.C.	N.C.	N.C.
HVCN1	0.00002	-0.96254	0.02398	-0.80465	0.01620	-0.80411	0.00055	-0.89959	N.C.	N.C.	N.C.	N.C.
CR2	0.00052	-0.90107	0.02793	-0.78410	0.00088	-0.91934	0.00180	-0.86018	N.C.	N.C.	N.C.	N.C.
MS4A1	0.00001	-0.97155	0.02642	-0.79210	0.00645	-0.85332	0.00010	-0.93841	0.02204	-0.81290	0.03809	-0.74050
CD22	0.00001	-0.97245	0.01881	-0.82748	0.00054	-0.93179	0.00073	-0.89180	0.03404	-0.76208	0.03572	-0.74610
ARHGAP17	< 0.00001	-0.97817	0.04081	-0.73890	0.01163	-0.82367	0.00027	-0.91801	N.C.	N.C.	0.01289	-0.81778
CYP2U1	0.00012	-0.93523	N.C.	N.C.	0.03862	-0.73921	0.00086	-0.88693	N.C.	N.C.	0.03881	-0.73883
SNX22	0.00003	-0.95734	0.01713	-0.83488	0.00637	-0.85426	0.00191	-0.85738	N.C.	N.C.	0.03477	-0.74825
ZNF318	0.00124	-0.87468	0.02440	-0.80325	0.03668	-0.74412	0.00342	-0.82943	0.03632	-0.75501	N.C.	N.C.
FAM65A	0.00002	-0.96006	0.03812	-0.74789	0.00337	-0.87898	0.00094	-0.88370	N.C.	N.C.	0.03017	-0.75996
GABBR1	0.00040	-0.90856	0.04192	-0.73632	0.01687	-0.80171	0.00632	-0.79728	N.C.	N.C.	N.C.	N.C.
LRRK2	0.00107	-0.87946	N.C.	N.C.	0.02954	-0.76185	0.00040	-0.90846	N.C.	N.C.	N.C.	N.C.
HHEX	0.00004	-0.95261	N.C.	N.C.	0.01741	-0.79978	0.00053	-0.90073	N.C.	N.C.	N.C.	N.C.

DOPEY2	0.00019	-0.92561	N.C.	N.C.	0.00199	-0.89677	0.00173	-0.86181	N.C.	N.C.	N.C.	N.C.
CIITA	0.00004	-0.95481	0.03265	-0.76620	0.00801	-0.84270	0.00043	-0.90637	N.C.	N.C.	0.03311	-0.75252
PAX5	0.00002	-0.96166	N.C.	N.C.	0.01096	-0.82683	0.00014	-0.93130	N.C.	N.C.	N.C.	N.C.
PIK3CD	0.00003	-0.95882	0.01959	-0.82460	0.00453	-0.86805	0.00124	-0.87454	N.C.	N.C.	0.00626	-0.85493
BCL11A	0.00002	-0.96512	N.C.	N.C.	0.01155	-0.82408	0.00005	-0.94991	N.C.	N.C.	N.C.	N.C.
TAGLN	0.00309	-0.83479	N.C.	N.C.	0.00599	-0.85656	0.01387	-0.74913	N.C.	N.C.	0.00181	-0.89953
IRF8	0.00003	-0.95671	0.03707	-0.75123	0.00253	-0.88892	0.00131	-0.87248	0.02523	-0.79848	N.C.	N.C.
SMAD3	0.00005	-0.95087	0.01843	-0.83097	0.00163	-0.90264	0.00100	-0.88170	0.02193	-0.81375	N.C.	N.C.
ZNF107	0.00017	-0.92802	N.C.	N.C.	0.00078	-0.92349	0.00145	-0.86878	N.C.	N.C.	N.C.	N.C.
ZNF516	0.00013	-0.93307	0.01686	-0.83838	0.01373	-0.81447	0.00020	-0.92435	N.C.	N.C.	N.C.	N.C.
BCL2	0.00083	-0.88805	N.C.	N.C.	0.00342	-0.87848	0.00077	-0.89016	N.C.	N.C.	N.C.	N.C.
FCRLA	0.00002	-0.96493	N.C.	N.C.	0.00899	-0.83716	0.00008	-0.94186	N.C.	N.C.	0.02108	-0.78744
ZNF320	0.00279	-0.83995	N.C.	N.C.	0.00656	-0.85238	0.00069	-0.89336	N.C.	N.C.	N.C.	N.C.
ITPR1	0.00042	-0.90690	N.C.	N.C.	0.01690	-0.80148	0.00087	-0.88658	N.C.	N.C.	N.C.	N.C.
PIK3C2B	0.00001	-0.97250	0.01686	-0.83685	0.00299	-0.88382	0.00041	-0.90760	0.04242	-0.73483	N.C.	N.C.
TNFRSF13C	0.00007	-0.94534	N.C.	N.C.	0.02510	-0.77458	0.00149	-0.86744	N.C.	N.C.	N.C.	N.C.
ZNF154	0.00027	-0.91812	0.03887	-0.74498	0.02824	-0.76539	0.00027	-0.91770	N.C.	N.C.	N.C.	N.C.
HLA-DOA	0.00005	-0.94906	0.03186	-0.76892	0.00865	-0.83899	0.00022	-0.92263	0.04444	-0.72961	N.C.	N.C.
ZNF525	0.00837	-0.78113	0.01441	-0.85943	0.00038	-0.94008	0.00194	-0.85687	N.C.	N.C.	N.C.	N.C.
DYRK2	0.00004	-0.95239	N.C.	N.C.	0.00093	-0.91731	0.00009	-0.93965	N.C.	N.C.	N.C.	N.C.
CNR2	0.00005	-0.95104	0.00810	-0.90282	0.00356	-0.87683	0.00055	-0.90001	0.01441	-0.85926	0.02547	-0.77359
ZCCHC18	0.00097	-0.88297	N.C.	N.C.	0.02557	-0.77275	0.00636	-0.79696	N.C.	N.C.	N.C.	N.C.
BEND4	0.00371	-0.82554	N.C.	N.C.	0.02709	-0.76875	0.00426	-0.81834	N.C.	N.C.	N.C.	N.C.
WDFY4	0.00001	-0.96929	0.04743	-0.72239	0.00345	-0.87813	0.00011	-0.93551	N.C.	N.C.	0.02960	-0.76155
PPFIBP1	0.00938	-0.77435	N.C.	N.C.	N.C.	N.C.	0.00158	-0.86525	N.C.	N.C.	N.C.	N.C.
ALOX5	0.00005	-0.94940	0.02191	-0.81416	0.00374	-0.87513	0.00403	-0.82137	N.C.	N.C.	0.02339	-0.77924
FCRL2	0.00022	-0.92289	N.C.	N.C.	0.00322	-0.88083	0.00368	-0.82595	N.C.	N.C.	N.C.	N.C.
RAB12	0.00156	-0.86591	0.01612	-0.84818	N.C.	N.C.	0.01322	-0.75248	0.02706	-0.78943	N.C.	N.C.
FCGBP	0.00552	-0.80469	N.C.	N.C.	N.C.	N.C.	0.03143	-0.68144	N.C.	N.C.	N.C.	N.C.
SLC4A7	0.00161	-0.86449	0.02440	-0.80257	0.02949	-0.76206	0.00589	-0.80117	0.03265	-0.76691	N.C.	N.C.
QRSL1	0.00101	-0.88142	N.C.	N.C.	0.01067	-0.82814	0.00176	-0.86111	N.C.	N.C.	0.01519	-0.80871
SYNGAP1	0.00004	-0.95375	0.01229	-0.86849	0.00038	-0.93994	0.00202	-0.85500	0.03384	-0.76291	N.C.	N.C.
GCA	0.00043	-0.90620	N.C.	N.C.	0.03359	-0.75129	0.00362	-0.82670	N.C.	N.C.	N.C.	N.C.
ENDOD1	0.00052	-0.90123	0.01090	-0.87858	0.01447	-0.81149	0.00025	-0.91924	0.03269	-0.76605	N.C.	N.C.
PARVG	< 0.00001	-0.98192	0.01624	-0.84467	0.01840	-0.79653	0.00058	-0.89816	0.04003	-0.74099	0.02931	-0.76263
KMO	0.00010	-0.93866	N.C.	N.C.	0.00309	-0.88258	0.00009	-0.94070	0.03902	-0.74425	N.C.	N.C.
ARRDC2	0.00012	-0.93406	N.C.	N.C.	0.00064	-0.92779	0.00328	-0.83175	N.C.	N.C.	N.C.	N.C.
HLA-DRA	0.00005	-0.94881	N.C.	N.C.	0.00281	-0.88555	0.00011	-0.93545	N.C.	N.C.	N.C.	N.C.
SCN3A	0.00111	-0.87817	N.C.	N.C.	0.00245	-0.89013	0.00379	-0.82458	N.C.	N.C.	N.C.	N.C.
CD37	0.00001	-0.97237	N.C.	N.C.	0.00196	-0.89725	0.00140	-0.87009	N.C.	N.C.	0.02960	-0.76156
PARP15	0.00054	-0.90049	0.04325	-0.73312	0.02593	-0.77181	0.00267	-0.84233	0.03812	-0.74804	N.C.	N.C.
ZNF302	0.00015	-0.92966	0.02935	-0.77789	0.02157	-0.78556	0.00341	-0.82976	N.C.	N.C.	N.C.	N.C.
RASGRP2	0.00004	-0.95208	0.02824	-0.78251	0.00107	-0.91401	0.00266	-0.84253	N.C.	N.C.	0.01428	-0.81229
AASS	0.00164	-0.86371	0.03620	-0.75605	0.02305	-0.78044	0.00412	-0.82009	N.C.	N.C.	N.C.	N.C.
FCER2	0.00004	-0.95404	0.03887	-0.74491	0.02125	-0.78691	0.00262	-0.84322	N.C.	N.C.	0.01747	-0.79947
ZNF83	0.00009	-0.94025	0.02289	-0.80862	0.00669	-0.85156	0.00258	-0.84389	0.02289	-0.80874	N.C.	N.C.
OFD1	0.00003	-0.95605	0.03669	-0.75233	0.00455	-0.86763	0.00220	-0.85125	N.C.	N.C.	N.C.	N.C.
TSPAN33	0.00002	-0.96289	N.C.	N.C.	0.00977	-0.83223	0.00057	-0.89856	N.C.	N.C.	0.03543	-0.74682
CLEC17A	0.00004	-0.95216	0.02025	-0.82176	0.00592	-0.85727	0.00058	-0.89811	0.02786	-0.78448	N.C.	N.C.
RNF44	0.00004	-0.95222	0.02822	-0.78278	0.00130	-0.90867	0.00166	-0.86327	N.C.	N.C.	0.02069	-0.78861
PLAGL1	0.00011	-0.93593	N.C.	N.C.	0.03541	-0.74692	0.00103	-0.88073	N.C.	N.C.	N.C.	N.C.
SEPN1	0.00059	-0.89765	0.03081	-0.77218	0.01140	-0.82492	0.00290	-0.83814	N.C.	N.C.	N.C.	N.C.
PILRB	0.00027	-0.91783	0.01686	-0.83700	0.01591	-0.80508	0.00324	-0.83227	N.C.	N.C.	N.C.	N.C.
MICAL3	0.00003	-0.95904	0.03265	-0.76634	0.00309	-0.88263	0.00038	-0.90950	0.03653	-0.75389	N.C.	N.C.
SELL	0.00023	-0.92123	0.00810	-0.90224	0.00299	-0.88371	0.00232	-0.84870	N.C.	N.C.	N.C.	N.C.
CEP110	0.00004	-0.95337	N.C.	N.C.	0.00603	-0.85624	0.00037	-0.91023	N.C.	N.C.	N.C.	N.C.
GLIPR1	0.00494	-0.81059	0.01910	-0.82649	0.00353	-0.87724	0.01195	-0.75922	0.01632	-0.84329	N.C.	N.C.
ZNF767	0.00004	-0.95436	0.04444	-0.72975	0.01591	-0.80521	0.00091	-0.88475	N.C.	N.C.	N.C.	N.C.
GLT25D1	0.00004	-0.95363	0.03235	-0.76781	0.02598	-0.77156	0.00420	-0.81910	0.04584	-0.72572	N.C.	N.C.
C13orf18	0.00001	-0.96903	0.03112	-0.77095	0.00021	-0.95480	0.00034	-0.91205	0.03812	-0.74836	N.C.	N.C.
ZNF333	0.00074	-0.89147	0.02104	-0.81916	0.03420	-0.74985	0.00086	-0.88704	0.01081	-0.87983	N.C.	N.C.
HLA-DMA	< 0.00001	-0.98320	0.04402	-0.73121	0.00325	-0.88025	0.00087	-0.88660	0.04493	-0.72839	0.03711	-0.74290
ZCCHC2	0.00136	-0.87124	0.02525	-0.79797	0.02341	-0.77913	0.00073	-0.89188	N.C.	N.C.	N.C.	N.C.
HLA-DPB1	0.00003	-0.95604	0.02920	-0.77853	0.01193	-0.82217	0.00047	-0.90400	N.C.	N.C.	0.00897	-0.83729
POU2F2	0.00001	-0.97117	0.02949	-0.77701	0.00824	-0.84114	0.00101	-0.88157	N.C.	N.C.	0.04938	-0.71743
MANBA	0.00001	-0.97376	0.04497	-0.72825	0.00258	-0.88840	0.00070	-0.89301	N.C.	N.C.	N.C.	N.C.
MARCKSL1	0.00209	-0.85316	0.02711	-0.78811	0.01844	-0.79633	0.00657	-0.79525	N.C.	N.C.	N.C.	N.C.
ZNF274	0.00004	-0.95180	0.02838	-0.78189	0.02754	-0.76753	0.00034	-0.91271	0.04003	-0.74088	N.C.	N.C.
ZSCAN18	0.00024	-0.92085	0.02022	-0.82221	0.00671	-0.85129	0.00413	-0.81990	N.C.	N.C.	N.C.	N.C.
CLCN6	0.00003	-0.95965	N.C.	N.C.	0.00228	-0.89290	0.00230	-0.84919	N.C.	N.C.	0.04000	-0.73583
DGKA	0.00004	-0.95170	0.02586	-0.79495	0.00260	-0.88810	0.00155	-0.86610	0.03812	-0.74821	N.C.	N.C.
ARHGAP9	0.00030	-0.91549	0.02711	-0.78880	0.02017	-0.79026	0.00494	-0.81067	N.C.	N.C.	0.00900	-0.83704
MYH3	0.00124	-0.87472	N.C.	N.C.	0.01205	-0.82156	0.00025	-0.91911	N.C.	N.C.	N.C.	N.C.
ZNF548	0.00015	-0.93004	N.C.	N.C.	0.02249	-0.78259	0.00138	-0.87077	N.C.	N.C.	N.C.	N.C.
HLA-DRB5	0.00005	-0.95127	0.03104	-0.77126	0.04305	-0.72942	0.00028	-0.91695	N.C.	N.C.	0.03768	-0.74140
TRAK1	0.00001	-0.96628	N.C.	N.C.	0.00208	-0.89554	0.00055	-0.89996	N.C.	N.C.	0.04202	-0.73167
NUP88	0.00005	-0.95109	0.03068	-0.77312	N.C.	N.C.	0.00089	-0.88571	N.C.	N.C.	N.C.	N.C.
STK17A	0.00040	-0.90841	N.C.	N.C.	0.01116	-0.82600	0.00136	-0.87129	N.C.	N.C.	N.C.	N.C.
KIAA2018	0.00139	-0.87040	N.C.	N.C.	N.C.	N.C.	0.00111	-0.87817	0.03497	-0.75922	N.C.	N.C.
ZNF395	0.00004	-0.95499	0.04049	-0.73955	0.00824	-0.84116	0.00063	-0.89589	N.C.	N.C.	N.C.	N.C.
PLEKHA2	0.00001	-0.96699	0.04782	-0.72157	0.01318	-0.81659	0.00004	-0.95492	0.03265	-0.76648	N.C.	N.C.
SCAF4	0.00009	-0.93894	N.C.	N.C.	0.00942	-0.83443	0.00027	-0.91728	N.C.	N.C.	N.C.	N.C.
SNX2	0.00025	-0.91907	N.C.	N.C.	0.00816	-0.84171	0.00029	-0.91614	N.C.	N.C.	N.C.	N.C.
PLEKHF2	0.00068	-0.89384	0.04444	-0.72955	0.02193	-0.78419	0.00130	-0.87289	N.C.	N.C.	N.C.	N.C.
OC10050671	0.00002	-0.96240	0.03139	-0.76994	0.00908	-0.83654	0.00073	-0.89198	0.01954	-0.82495	N.C.	N.C.

SP110	0.00009	-0.93942	0.02949	-0.77715	0.00087	-0.91955	0.00016	-0.92943	N.C.	N.C.	N.C.	N.C.
VAMP4	0.00189	-0.85800	0.01619	-0.84646	0.02954	-0.76181	0.00160	-0.86476	0.02440	-0.80282	N.C.	N.C.
RALGPS2	0.00036	-0.91092	N.C.	N.C.	0.00951	-0.83376	0.00006	-0.94555	0.04024	-0.74031	N.C.	N.C.
CLMN	0.00153	-0.86661	N.C.	N.C.	0.04338	-0.72855	0.00137	-0.87100	N.C.	N.C.	N.C.	N.C.
ZBTB24	0.00138	-0.87053	N.C.	N.C.	0.02180	-0.78479	0.00162	-0.86437	N.C.	N.C.	N.C.	N.C.
HGSNAT	0.00030	-0.91517	N.C.	N.C.	0.01386	-0.81378	0.00202	-0.85488	0.03574	-0.75710	N.C.	N.C.
TLR6	0.00117	-0.87652	0.03812	-0.74842	0.01306	-0.81708	0.00040	-0.90855	0.02797	-0.78382	0.01989	-0.79154
HLA-DRB1	0.00002	-0.96042	0.03441	-0.76081	0.03142	-0.75637	0.00012	-0.93419	N.C.	N.C.	0.01993	-0.79129
ZNF493	0.00031	-0.91443	0.04638	-0.72434	0.00700	-0.84935	0.00087	-0.88635	N.C.	N.C.	N.C.	N.C.
CEP135	0.00135	-0.87157	0.02805	-0.78348	0.00530	-0.86204	0.00014	-0.93192	N.C.	N.C.	N.C.	N.C.
SERPINB9	< 0.00001	0.99183	N.C.	N.C.	0.00037	-0.94158	0.00284	-0.83921	N.C.	N.C.	0.03488	-0.74793
PLXNA3	0.00153	-0.86647	N.C.	N.C.	0.01084	-0.82740	0.00659	-0.79502	N.C.	N.C.	N.C.	N.C.
ZNF512	0.00003	-0.95743	N.C.	N.C.	0.02011	-0.79048	0.00030	-0.91537	0.03669	-0.75234	N.C.	N.C.
PAN3	0.00047	-0.90403	N.C.	N.C.	0.00081	-0.92233	0.00111	-0.87821	N.C.	N.C.	N.C.	N.C.
TMC8	0.00006	-0.94751	0.01686	-0.83661	0.00085	-0.92065	0.00245	-0.84634	N.C.	N.C.	0.04382	-0.72761
CD19	0.00003	-0.95778	0.02324	-0.80744	0.00142	-0.90627	0.00138	-0.87065	N.C.	N.C.	N.C.	N.C.
ZC3H12D	0.00049	-0.90273	0.03841	-0.74696	0.04460	-0.72599	0.00344	-0.82913	N.C.	N.C.	N.C.	N.C.
MSL3	0.00005	-0.94905	N.C.	N.C.	0.01421	-0.81259	0.00198	-0.85583	N.C.	N.C.	N.C.	N.C.
HERC4	0.00106	-0.87981	N.C.	N.C.	N.C.	N.C.	0.00025	-0.91981	N.C.	N.C.	N.C.	N.C.
RSBN1	0.00534	-0.80650	0.00962	-0.88710	0.03713	-0.74262	0.01369	-0.75006	0.02658	-0.79127	N.C.	N.C.
KRI1	0.00005	-0.94891	0.03265	-0.76628	0.01853	-0.79598	0.00198	-0.85574	N.C.	N.C.	0.01048	-0.82906
FAM160B2	0.00035	-0.91136	0.02699	-0.78975	0.01978	-0.79203	0.00422	-0.81887	N.C.	N.C.	N.C.	N.C.
RNF146	0.00300	-0.83638	0.04515	-0.72785	0.03077	-0.75865	0.01525	-0.74249	N.C.	N.C.	N.C.	N.C.
ITSN2	0.00086	-0.88701	N.C.	N.C.	0.00091	-0.91820	0.00022	-0.92265	N.C.	N.C.	0.03353	-0.75168
MBTD1	0.00219	-0.85154	N.C.	N.C.	0.03820	-0.74026	0.00109	-0.87903	0.01881	-0.82737	N.C.	N.C.
SMC6	0.00039	-0.90930	N.C.	N.C.	0.00237	-0.89127	0.00004	-0.95402	N.C.	N.C.	N.C.	N.C.
RLTPR	0.00012	-0.93424	0.03357	-0.76394	0.00306	-0.88306	0.00219	-0.85157	N.C.	N.C.	0.04283	-0.72990
ZNF418	0.00715	-0.79054	N.C.	N.C.	0.00060	-0.92926	0.02285	-0.71197	0.03887	-0.74476	0.02047	-0.78935
KIAA0430	0.00033	-0.91281	N.C.	N.C.	0.00411	-0.87203	0.00090	-0.88535	0.02949	-0.77728	N.C.	N.C.
ZBED5	0.00057	-0.89865	0.02217	-0.81183	0.03311	-0.75262	0.00328	-0.83160	N.C.	N.C.	N.C.	N.C.
GGA2	< 0.00001	-0.98428	0.03842	-0.74668	0.00125	-0.91001	0.00026	-0.91816	N.C.	N.C.	N.C.	N.C.
CHML	0.00099	-0.88213	0.03887	-0.74536	0.00595	-0.85688	0.00081	-0.88865	0.02711	-0.78821	N.C.	N.C.
KIAA1033	0.00308	-0.83498	N.C.	N.C.	0.00315	-0.88145	0.00298	-0.83688	0.04295	-0.73387	N.C.	N.C.
ZNF821	0.00100	-0.88183	N.C.	N.C.	0.00164	-0.90230	0.01158	-0.76122	N.C.	N.C.	N.C.	N.C.
PRDM2	0.00051	-0.90188	0.04970	-0.71757	0.00959	-0.83330	0.00022	-0.92262	0.02586	-0.79469	N.C.	N.C.
USPL1	0.00014	-0.93120	N.C.	N.C.	0.01018	-0.83036	0.00027	-0.91766	N.C.	N.C.	N.C.	N.C.
SMAD4	0.00022	-0.92307	N.C.	N.C.	0.00965	-0.83297	0.00253	-0.84487	N.C.	N.C.	N.C.	N.C.
IKBKB	0.00030	-0.91527	N.C.	N.C.	0.01205	-0.82153	0.00414	-0.81981	0.03992	-0.74160	0.01995	-0.79109
WDR11	0.00121	-0.87538	N.C.	N.C.	0.00266	-0.88748	0.00028	-0.91651	0.03620	-0.75588	N.C.	N.C.
HERC3	0.00638	-0.79672	N.C.	N.C.	0.01262	-0.81904	0.01329	-0.75213	N.C.	N.C.	N.C.	N.C.
TAF4	0.00269	-0.84185	N.C.	N.C.	0.00085	-0.92091	0.00330	-0.83135	N.C.	N.C.	N.C.	N.C.
TRIO	0.01233	-0.75713	N.C.	N.C.	0.00460	-0.86712	0.01507	-0.74331	N.C.	N.C.	N.C.	N.C.
HNRPDL	0.00016	-0.92843	0.02725	-0.78746	0.01827	-0.79696	0.00144	-0.86913	0.04812	-0.72089	N.C.	N.C.
ZNF783	0.00001	-0.96982	N.C.	N.C.	0.01428	-0.81222	0.00024	-0.92068	N.C.	N.C.	0.02390	-0.77776
MBNL3	0.00036	-0.91080	N.C.	N.C.	0.00421	-0.87093	0.00062	-0.89668	N.C.	N.C.	N.C.	N.C.
NXF1	0.00061	-0.89712	0.02994	-0.77494	0.03310	-0.75279	0.00358	-0.82740	N.C.	N.C.	N.C.	N.C.
CBFA2T2	0.00011	-0.93571	N.C.	N.C.	0.00041	-0.93765	0.00020	-0.92458	N.C.	N.C.	N.C.	N.C.
PCF11	0.00005	-0.95071	N.C.	N.C.	0.00126	-0.90980	0.00049	-0.90290	N.C.	N.C.	N.C.	N.C.
FAM111A	0.00022	-0.92287	N.C.	N.C.	0.02552	-0.77315	0.00259	-0.84369	N.C.	N.C.	N.C.	N.C.
TIA1	0.00410	-0.82037	N.C.	N.C.	0.02557	-0.77284	0.00849	-0.78026	N.C.	N.C.	N.C.	N.C.
CDCA7L	0.00029	-0.91636	N.C.	N.C.	0.00232	-0.89227	0.00236	-0.84808	N.C.	N.C.	0.04408	-0.72707
NUFIP2	0.00106	-0.87984	0.01934	-0.82562	0.01499	-0.80940	0.00147	-0.86812	0.03441	-0.76082	N.C.	N.C.
KCTD7	0.00063	-0.89621	0.02793	-0.78408	0.02495	-0.77506	0.00139	-0.87034	0.02270	-0.80966	N.C.	N.C.
ZSWIM7	0.01549	-0.74126	0.03425	-0.76159	0.01901	-0.79455	0.02237	-0.71368	0.04256	-0.73455	N.C.	N.C.
C1orf63	0.00035	-0.91177	N.C.	N.C.	0.03711	-0.74283	0.00715	-0.79050	N.C.	N.C.	N.C.	N.C.
CCDC76	0.00841	-0.78078	0.04528	-0.72743	0.02609	-0.77127	0.03878	-0.65979	0.03687	-0.75197	N.C.	N.C.
NR2C2	0.00013	-0.93287	0.04296	-0.73379	0.00700	-0.84939	0.00115	-0.87691	0.03887	-0.74471	N.C.	N.C.
RYK	0.00151	-0.86707	0.03812	-0.74798	0.01206	-0.82127	0.01270	-0.75517	N.C.	N.C.	N.C.	N.C.
PAN2	0.00024	-0.92021	N.C.	N.C.	0.04381	-0.72770	0.00270	-0.84166	N.C.	N.C.	N.C.	N.C.
SNX1	0.00004	-0.95176	0.02449	-0.80211	0.01668	-0.80239	0.00021	-0.92340	0.01692	-0.83628	N.C.	N.C.
PCMTD2	0.00005	-0.94931	N.C.	N.C.	0.03095	-0.75788	0.00015	-0.93068	N.C.	N.C.	N.C.	N.C.
FCHSD2	0.00045	-0.90507	N.C.	N.C.	0.02196	-0.78399	0.00008	-0.94124	0.04575	-0.72644	N.C.	N.C.
ATG12	0.00174	-0.86157	0.04867	-0.71952	0.01561	-0.80698	0.00112	-0.87779	N.C.	N.C.	N.C.	N.C.
PBX2	0.00026	-0.91869	0.02994	-0.77490	0.00291	-0.88457	0.00168	-0.86290	0.03886	-0.74570	0.03356	-0.75155
ASB1	0.00197	-0.85604	0.03834	-0.74731	0.01279	-0.81823	0.00491	-0.81091	0.03767	-0.74971	N.C.	N.C.
PHKA2	0.00904	-0.77667	N.C.	N.C.	0.00041	-0.93826	0.03317	-0.67616	N.C.	N.C.	N.C.	N.C.
RERE	0.00044	-0.90594	0.03653	-0.75393	0.00347	-0.87785	0.00514	-0.80851	N.C.	N.C.	N.C.	N.C.
MPHOSPH8	0.00010	-0.93730	0.03114	-0.77079	0.04338	-0.72855	0.00036	-0.91131	0.04431	-0.73033	N.C.	N.C.
NUP160	0.00308	-0.83489	N.C.	N.C.	0.00421	-0.87080	0.01016	-0.76939	N.C.	N.C.	N.C.	N.C.
KIAA1731	0.03844	-0.66064	0.03834	-0.74737	0.00734	-0.84702	0.01293	-0.75405	N.C.	N.C.	N.C.	N.C.
HDAC1	0.00229	-0.84947	0.01032	-0.88378	0.00407	-0.87239	0.01170	-0.76054	N.C.	N.C.	N.C.	N.C.
NAA25	0.00774	-0.78568	N.C.	N.C.	0.00907	-0.83668	0.01343	-0.75137	N.C.	N.C.	N.C.	N.C.

Supplementary Table S7. Functional Gene Enrichment Analysis. The top 30 categories are shown for GO Terms and Pathway Analyses along with the number of genes in the category. The p-values were derived from the EASE score probability 'P Value', and a modified Fisher's exact test that is more conservative than the standard Fisher's exact test. Ten of the top 30 categories describe genes involved in endoplasmic reticulum development, protein production, transport, or degradation. This is consistent with the large increases in immunoglobulin production machinery seen in differentiating plasma cells.

	Term	# Genes	p-value	Adj. p-value
The top 30 categories	GO:0005783~endoplasmic reticulum	155	7.07E-49	3.01E-46
GOTERM_CC_ALL	GO:0044444~cytoplasmic part	374	1.60E-45	3.54E-43
GOTERM_CC_FAT	GO:0044432~endoplasmic reticulum part	84	9.98E-39	2.13E-36
GOTERM_CC_ALL	GO:0005737~cytoplasm	457	1.23E-35	1.36E-33
GOTERM_CC_FAT	GO:0031090~organelle membrane	129	6.53E-26	9.27E-24
GOTERM_CC_FAT	GO:0042175~nuclear envelope-endoplasmic reticulum network	59	2.06E-23	2.19E-21
GOTERM_CC_FAT	GO:0005789~endoplasmic reticulum membrane	57	4.61E-23	3.93E-21
REACTOME_PATHWAY	REACT_15380:Diabetes pathways	62	2.06E-22	1.13E-20
GOTERM_CC_ALL	GO:0043231~intracellular membrane-bounded organelle	449	3.78E-22	1.87E-20
GOTERM_CC_ALL	GO:0043227~membrane-bounded organelle	449	4.71E-22	2.09E-20
GOTERM_CC_FAT	GO:0012505~endomembrane system	97	8.07E-21	5.73E-19
GOTERM_CC_ALL	GO:0044424~intracellular part	537	1.38E-18	5.57E-17
GOTERM_CC_ALL	GO:0005622~intracellular	545	1.85E-16	7.55E-15
GOTERM_CC_FAT	GO:0005788~endoplasmic reticulum lumen	27	2.46E-16	1.35E-14
GOTERM_CC_ALL	GO:0043229~intracellular organelle	469	6.79E-16	1.84E-14
GOTERM_CC_ALL	GO:0043226~organelle	469	9.17E-16	2.32E-14
GOTERM_CC_FAT	GO:0005793~ER-Golgi intermediate compartment	20	1.35E-15	7.09E-14
GOTERM_CC_FAT	GO:0005794~Golgi apparatus	91	1.40E-14	6.62E-13
GOTERM_CC_ALL	GO:0016020~membrane	389	1.09E-12	2.69E-11
GOTERM_BP_FAT	GO:0034976~response to endoplasmic reticulum stress	16	1.44E-12	3.74E-09
GOTERM_BP_FAT	GO:0046907~intracellular transport	69	2.32E-12	3.00E-09
KEGG_PATHWAY	hsa00510:N-Glycan biosynthesis	19	2.32E-12	3.78E-10
GOTERM_CC_ALL	GO:0044464~cell part	649	3.37E-12	7.88E-11
GOTERM_CC_ALL	GO:0005623~cell	649	3.50E-12	7.77E-11
GOTERM_BP_FAT	GO:0015031~protein transport	75	5.22E-12	4.51E-09
GOTERM_BP_FAT	GO:0045184~establishment of protein localization	75	8.32E-12	5.39E-09
GOTERM_BP_FAT	GO:0008104~protein localization	80	5.45E-11	2.82E-08
GOTERM_BP_FAT	GO:0010498~proteasomal protein catabolic process	23	1.48E-10	6.41E-08
GOTERM_BP_FAT	GO:0043161~proteasomal ubiquitin-dependent protein catabolic process	23	1.48E-10	6.41E-08

Supplementary **Table S8. Significantly varying genes from RNA Seq studies of high-frequency PBMC samples after vaccinations for influenza.Related to Figure 7.** Gene significance was tested using FPCA and eigenfunctions, while restricting the false discovery rate to 0.05. These genes are ranked according to the weight of each genes positive or negative loadings on each eigenfunction.

	S02				S03				S04				S05						S06			
		eigen 1		eigen 2		eigen 1		eigen 1		eigen 2		eigen 1		eigen 2		eigen 3		eigen 1		eigen 2
Rank	eigen 1 pos	neg	eigen 2 pos	neg	eigen 1 pos	neg	eigen 1 pos	neg	eigen 2 pos	neg	eigen 1 pos	neg	eigen 2 pos	neg	eigen 3 pos	neg	eigen 1 pos	neg	eigen 2 pos	neg
1	LYZ	IGHM	IGHG1	DDX17	PSAP	TXNIP	LYZ	RPL19	ACTB	AHNAK	FLNA	B2M	FCN1	B2M	FLNA	TXNIP	LYZ	IGHG1	TPT1	IGHG1
2	PSAP	IGHG1	IGHM	MS4A1	CTSS	RPS6	VCAN	RPS12	FTL	XIST	HLA-C	TXNIP	FLNA	TXNIP	HLA-C	RPS6	PSAP	TPT1	RPS3	VCAN
3	CTSS	TPT1	IGJ	ARHGEF1	CYBB	ETS1	AHNAK	RPS19	FCN1	VCAN	PLEC	PTPRC	LRP1	ETS1	PTPRC	ETS1	VCAN	RPS4X	RPS6	LYZ
4	VCAN	IGJ	IGLL5	MYO1F	FCN1	RPL3	CTSS	RPS11	SERPINA1	SRRM2	HMHA1	ETS1	ITGB2	PTPRC	ITGB2	RPL30	CTSS	RPS6	RPL3	IGLL5
5	CD74	IGKC	IGKC	ITGAX	LRP1	RPS3	MPEG1	RPL37	ACTG1	MACF1	CORO1A	ACTR2	PLEC	ARL4C	TNFAIP2	RPL5	CYBB	RPL3	RPS4X	PSAP
6	ACTB	IGLL5	LYZ	ATHL1	SERPINA1	RPS18	FCN1	RPLP2	CORO1A	ATM	ITGB2	MBNL1	FTL	CALM1	MYO1F	RPS24	MPEG1	IGLL5	RPL4	CYBB
7	FGL2	ETS1	HSP90B1	TMC8	IFI30	RPL30	LRP1	SUN2	PFN1	SYNE2	9-Sep	YWHAZ	GRN	GNG2	EFHD2	RPL35A	FGL2	RPL30	RPL30	LRP1
8	FCN1	RPS6	PSAP	NBEAL2	COTL1	RPS14	FGL2	RPL8	LSP1	SMG1	AKNA	RPS6	PLXNB2	RPL30	LRP1	RPL26	ITGB2	RPL4	RPS15A	MPEG1
9	HLA-DRA	RPS4X	FGL2	OGT	TNFAIP2	RPL5	CYBB	RPS16	ALDOA	LYZ	ADRBK1	ADD3	TKT	RPS6	PLCB2	TMEM66	FCN1	RPS18	SPOCK2	TTN
10	CYBB	RPS3	LOC96610	PLCB2	FGR	IL7R	ACTB	RPL28	S100A6	MYCBP2	ARHGAP4	CANX	CORO1A	SLC38A1	FMNL1	RPS25	LRP1	RPS3	RPS18	CTSS
11	S100A9	HSP90B1	CTSS	LYST	GRN	RPL32	APLP2	ACTG1	ICAM3	MLL	FMNL1	STK17B	PKM2	PIP4K2A	CD300E	RPS13	IFI30	RPS8	RPL32	IGHG3
12	MPEG1	RPL3	VCAN	CD22	CX3CR1	RPS12	KCTD12	CORO1A	S100A11	VPS13C	MYO1F	RPS24	IL17RA	ITM2B	AKNA	NAP1L1	S100A8	ATHL1	RPS14	SH3BP2
13	LCP1	RPS18	HSPA5	FAIM3	HLA-DPA1	RPS15A	CD14	RPL37A	RPS11	UBR4	TNFAIP2	C12orf35	CD300E	JAK1	MYO9B	RPL15	SERPINA1	SPOCK2	RPL13	EDEM1
14	FTL	DDX17	FCN1	TNFRSF1B	IQGAP1	RPL31	SRRM2	RPL18	CD14	USP34	TCIRG1	CALM1	TNFAIP2	YWHAZ	MYO1G	TMEM123	GRN	RPL13	RPS8	PARP14
15	ITGB2	OGT	CYBB	RASGRP2	NOTCH2	RPL27	CCR2	AES	RPL28	AKAP13	LIMD2	GNG2	CD4	RPS25	SH3BP2	SRSF5	COTL1	RPLP2	CD3E	PDIA4
16	LRP1	RPL30	XBP1	LOC283663	TNFRSF1B	RPS20	AKAP13	GLTSCR2	UBA52	MLL3	PIK3CD	MYL12A	CTSD	GZMA	ARL4C	CSDE1	TNFRSF1B	TCF7	RPS16	SEL1L3
17	IFI30	RPS8	ACTB	TCF7	HLA-DRB1	TCF7	CPVL	UBA52	TYROBP	FGL2	NUMA1	YWHAB	STAB1	C12orf35	HLA-F	EIF4B	KCTD12	SLC38A1	RPS12	TLR2
18	SERPINA1	RPS15A	LCP1	CHD3	WARS	RPL34	TGFBI	PFN1	GABARAP	PRRC2C	HLA-F	RPL26	ALDOA	FGFBP2	PIK3CD	RPL24	FGR	RPS12	RPL10A	GNS
19	COTL1	ATHL1	MPEG1	IL7R	ITGAX	RPL37	DMXL2	PBXIP1	CFP	HERC1	SBF1	PTP4A2	HK3	CDC42SE2	TCIRG1	HSP90B1	APLP2	RPS15A	RPS29	S100A8
20	TNFAIP2	RPL5	PDIA4	FCRL1	PLXNB2	RPS5	SERPINA1	EEF1G	MYL6	ATP8B2	TBC1D10C	CD164	HLA-C	PTP4A2	NOTCH1	NCL	CX3CR1	RPL32	RPS23	PIK3AP1
21	GRN	IL7R	ITM2C	LRP1	CSF1R	PIK3IP1	TLR4	LTB	RPL37A	BAZ2A	ALDOA	SLC38A1	ZYX	MYL12A	ARAP1	CALM1	CD68	RPL34	RPL35A	PLXNB2
22	APLP2	RPS12	SEL1L3	SUN2	SAMHD1	RPS29	XIST	IL2RG	GNB2	SPCS3	ARAP1	UHMK1	MYO1F	GZMH	C12orf35	BTF3	CD14	RPS14	RPLP2	TNFAIP2
23	HLA-DPA1	SPOCK2	UBE2J1	SH3BP2	CD68	LDHB	GAS7	RPL36	RPS19	UBR5	NOTCH1	MATR3	ANPEP	RPL26	FCN1	RPL6	CTSB	PBXIP1	EEF1G	DMXL2
24	FGR	RPS14	CD74	CEBPB	ITGAM	RPL10A	CD300E	JUNB	RPL19	BPTF	ZYX	7-Sep	ARAP1	ADD3	KLRD1	ZC3HAV1	DUSP6	DGKA	RPL34	IRAK3
25	TNFRSF1B	RPL32	P4HB	STAT5B	LYN	RPS23	FTL	RPS21	SASH3	HELZ	LRCH4	RPL5	CSF1R	MBNL1	GZMH	MATR3	STAB1	EEF1G	RPS13	KLF4
26	VIM	RPS19	RPS4X	WDFY4	HCK	RPS21	MYCBP2	RPL38	JUNB	PHC3	MYO9B	HNRNPK	CST3	HSP90B1	ADAM8	9-Sep	C10orf54	LDHB	RPS25	CD300E
27	CTSB	TCF7	HLA-DRA	CSF1R	TGFBI	RPL27A	SPTLC2	RPL13A	RPS9	LRRFIP1	FAM38A	ROD1	9-Sep	PRKCH	CYBA	RPL22	CTSD	EDEM1	TCF7	CD93
28	CD68	ARHGEF1	FAM46C	NOTCH1	GNS	RPS27A	ZEB2	CD247	AIF1	LRP1	ARHGDIA	GVINP1	STAT6	ACTR2	CTSD	JAK1	TNFAIP2	MLL	RPL13A	ZEB2
29	CECR1	TMC8	MZB1	AES	CPVL	FAM102A	IRAK3	LCK	SUN2	TAOK1	FTL	CSDE1	MAN2B1	ID2	ACTN4	UBE2D3	PLXNB2	GVINP1	RPS21	CD36
30	HLA-DRB1	RPL37	IGHG3	MLLT6	DMXL2	FAIM3	SULF2	ICAM3	ZFP36	SEC31A	MYO1G	HSP90B1	HMHA1	IL2RG	MYBL1	RPL23A	CSF1R	ABLIM1	RPL27A	CX3CR1
31	KCTD12	RPS20	RPN2	SLC44A2	MS4A6A	PBXIP1	ANXA5	EEF1D	CTSS	RORA	LRP1	ACTR3	ARHGAP4	PPP2R5C	FERMT3	SLC38A1	CPVL	SPTAN1	RPL26	FGR
32	NCF2	RPLP2	SAMHD1	EHBP1L1	CD300E	ITK	SLC7A7	RPS9	RPS6KA1	DMXL2	PTPN6	TRAM1	ADRBK1	DDX6	FGFBP2	YWHAZ	CD93	RPL35A	RPS27A	CD14
33	TKT	MLLT6	TYMP	BCL9L	TKT	CD3E	VPS13C	CD6	MOBKL2A	DICER1	POLR2A	CDC42SE2	TCIRG1	CD164	CST3	BCL2	CD300E	FAIM3	RPL14	SLC11A1
34	MSN	LOC96610	CECR1	LYN	PLEK	RPL38	TLR2	RPL35	CSK	LNPEP	CCDC88B	RPL30	NUMA1	TGFBR3	B2M	HNRNPK	TGFBI	CD3E	RPL38	ADRBK2
35	CD93	RPL31	TPT1	SPTAN1	CECR1	LBH	DICER1	IFITM1	SEPX1	ERAP1	LTB	TMEM123	POU2F2	SRSF5	CCDC88B	TTC3	GNS	SEL1L3	LDHB	SAT1
36	NOTCH2	LDHB	IFI30	FTH1	TPP1	EEF1D	MACF1	RPS2	RPS16	PHIP	CYBA	CDC42	LIMD2	CD2	SRCAP	CDC42SE2	ITGAM	RPS23	PBXIP1	FGL2
37	DUSP6	RPL34	RPS3	OBSCN	PPT1	RPL24	LRRFIP1	FAM102A	CNN2	AKAP9	PARP10	CAST	PTPN6	PRKACB	ARHGAP27	TOP2B	WARS	RPS16	CYFIP2	PTPN12
38	TYMP	SLC38A1	SEC61A1	POU2F2	SH3BP2	RPL13A	CFP	RPL14	RPL37	ASH1L	ABCA7	ARL6IP5	CCDC88B	KLRD1	ANPEP	CD4	TYMP	RPS29	ATHL1	LTA4H
39	PLXNB2	RPL27	MAN1A1	ARHGAP27	HLA-DQB1	LEF1	IFNGR1	LSP1	KIAA1949	C12orf51	PKN1	NAP1L1	FAM38A	UHMK1	ITM2B	15-Sep	LTA4H	ATP8B2	SPTAN1	1-Mar
40	LTA4H	DGKA	PPIB	SPOCK2	TYMP	LDLRAP1	TIMP2	PTPRCAP	CCND3	PIKFYVE	PLCB2	ITM2B	CAPG	STOM	PLEC	PPP1CC	HCK	EPB41	CD6	KCTD12
41	FTH1	ATP8B2	LMAN1	PECAM1	STAB1	RPL29	MLL3	RPL29	EEF1D	BDP1	FGD3	RPS6KA3	SNRNP70	7-Sep	UNC13D	RPL29	C1orf38	RPS25	RPL24	PTPRE
42	CD14	RPL18	TRAM1	FGR	IL17RA	NELL2	CORO1C	EHD1	P2RY13	BRWD1	EFHD2	RPL15	TSPO	CNOT6L	EMR2	CANX	ZEB2	CD6	RPL12	HCK
43	LYN	SUN2	RPN1	FCRL3	PIK3AP1	PDE3B	1-Mar	IER2	CAPZB	VPS13A	NCOR2	RPL35A	EMR2	MATR3	CORO1A	KTN1	TYROBP	SPTBN1	LCK	CPVL
44	HLA-DPB1	CYFIP2	OAS2	ABCA7	AOAH	ITPKB	S100A6	CD7	RPL8	TNRC6B	FKBP8	MAPK1	CIITA	RPS24	IL17RA	SYNCRIP	PIK3AP1	CDC25B	FAIM3	CD163
45	CD36	SPTAN1	SUB1	RASSF2	CD97	RPS7	ADRBK2	1-Sep	RPL18	NFAT5	SLC9A3R1	CALM2	ABCA7	DDX3X	STAB1	NDFIP1	LYN	TTC3	CDC42SE2	DUSP6
46	SAMHD1	CHD3	IGHA1	LBH	NFAM1	HIVEP2	ZMIZ1	ATP8B2	BSG	RUNX1	RPL29	GZMA	LRCH4	TMEM66	KIF21B	LTB	FCER1G	6-Sep	CD5	AOAH
47	C10orf54	AES	EDEM1	CTC1	LILRB2	NPM1	BACH1	RPS7	RPLP2	HECTD1	RNF44	ARPC2	MICAL1	ARPC2	TYK2	SET	MS4A6A	RPL38	LBH	FKBP1A
48	DMXL2	ITK	OAS3	PIK3IP1	LTA4H	TOMM7	TET3	CD2	TUBA1A	ZFC3H1	SRCAP	SH3BGRL	PRAM1	GNPTAB	CIITA	TAB2	CD36	RPL13A	CDKN1B	QKI
49	CSF1R	EEF1G	TXNDC11	FGD3	HK3	ACRNA0018	PRRC2C	CNN2	IFITM1	TTN	UNC13D	KLRD1	FERMT3	FAM107B	TGFBR3	FAM107B	CST3	EVL	NELL2	TFEC
50	ATP6V1B2	RPL35A	SPCS3	DOCK5	ZEB2	6-Sep	ATP11A	TOMM7	ATP6V0D1	CLINT1	TNK2	TMPO	TYK2	TRAM1	CSF1R	PDS5A	GAS7	RPS27A	FAM107B	ANPEP
51	GNS	CD3E	FTL	CYTH1	TYROBP	GAS5	SMG1	UCP2	RPL29	CEP110	LRP10	ARL4C	RPL29	NFATC3	DENND4B	LSM14A	AOAH	LBH	EEF1B2	SPI1
52	HCK	RPS5	HYOU1	TBC1D10C	GAS7	ITM2A	KIAA1033	FXYD5	GSN	UGGT1	ADAM8	TMEM66	PLXND1	KLRB1	TNRC18	PTP4A2	RXRA	RPL26	RPL22	DOK3
53	CTSD	RPS16	GRN	FAM129C	SAT1	PSIP1	TAOK1	IL32	TIMP2	AFF4	PPP6R1	XRCC5	LSP1	NCL	DOK3	RPL36AL	TLR2	SLC7A6	ATP8B2	IFNGR1
54	TGFBI	RPS29	SSR3	C10orf54	STAT2	AQP3	GLIPR1	LIME1	UCP2	SMC5	GRN	FAM107B	GRINA	SLAMF6	GRN	EIF3M	PLBD1	RPL27A	LAT	MSL3
55	LYST	RPL37A	DDOST	IL17RA	EMILIN2	PHF1	CLEC12A	GNB2	EHD1	TRPM7	FERMT3	CDV3	RNH1	XBP1	ADRBK1	ADD3	SLC7A7	RPL10A	ITGB2	TYMP
56	PIK3AP1	PBXIP1	CTSB	TNFAIP2	RXRA	DOCK9	TMEM170B	CCND3	SLC15A3	PTAR1	CTSD	PIP4K2A	GSTP1	IDS	CTDSP1	RPS6KA3	SAT1	CYFIP2	ABLIM1	YWHAG
57	CTSZ	PIK3IP1	SERPINA1	ZYX	MYD88	KDM3A	TMEM167A	BCL11B	IFNGR1	CPSF6	DENND4B	GNPTAB	ATP11A	MYBL1	PSD4	C11orf58	CD163	LDLRAP1	LDLRAP1	IFI30
58	CD300E	RPS23	VCP	RPLP2	SLC7A7	TRAF1	FKBP15	S1PR4	ATP5G2	SPG11	LSP1	KTN1	SH3BP2	PDCD4	LFNG	IL2RG	TLR4	LEF1	CDC25B	APAF1
59	LILRB2	RPS25	SEC11C	OC10050671	C1orf38	STK17A	UBR4	FBL	FES	SETD5	HLA-H	SRSF5	FMNL1	RPL5	POLR2A	HNRNPD	SULF2	MDN1	GAS5	CD68
60	IL17RA	RPL10A	PIM2	CHD2	SULF2	CD28	FAR1	DENND2D	RPL36	CDK12	S1PR4	JAK1	CLCN7	TOP2B	GPR65	GSPT1	TLR8	TMEM63A	NPM1	WARS
61	NFAM1	RPS27A	CD38	KIF21B	CPPED1	PPP1R2	DNAJC13	BIN1	OAZ2	CBX5	ARHGAP27	SPCS3	FLII	GNA13	MVP	CMPK1	SPI1	RPS13	RPS7	FCER1G
62	MEGF9	EVL	ELL2	ATP2A3	HLA-DQA1	FOXP1	SIRPB2	LIMK2	CD247	KIAA1033	DNM2	CAPZA1	TPCN1	STK17A	HMHA1	GTF3A	NFAM1	RPL14	RPSA	CKAP4
63	CPVL	FAIM3	RPL37A	RAB11FIP1	ASAH1	DUSP16	SCPEP1	MYL6	CD7	NLRC3	CST3	PUM2	MYO1G	RPL35A	GZMA	HECA	QKI	CDC42SE2	COMMD6	YWHAE
64	SLC7A7	ZAP70	MSN	SYTL1	SYK	LIMK2	P2RY13	CAPZB	TNIP1	HOOK3	MAN2B1	GNA13	KIAA0930	ARAP2	FAM38A	BCLAF1	ANPEP	NELL2	COX7C	C9orf72
65	TPP1	CYLD	STT3B	ARGLU1	FGD2	RPL9	MFSD1	PLEKHG3	HLA-H	GOLGA3	FLII	CGGBP1	TTYH3	RBM3	UHMK1	PAPOLA	IFNGR1	TTN	CD96	SLC7A7
66	ASAH1	RASGRP2	TP53INP1	NOTCH2	SCPEP1	KIAA0748	BAZ2A	ZFP36	TADA3	MLXIP	PPP1R9B	RAD21	GAA	YWHAB	ABTB1	UGP2	EMILIN2	OBSCN	RPL36AL	ZFAND5
67	CX3CR1	RBL2	RPLP0	RASA3	RNF130	APBB1	CREG1	SASH3	SH2D3C	OBSCN	CTDSP1	CD47	MVP	LBR	HK3	XRCC5	ANXA2	PIM2	ITPKB	CD38
68	C1orf38	ABLIM1	STT3A	ADD3	DPYSL2	TRAT1	HOOK3	CPNE1	SULF2	RICTOR	TYK2	PPP2R5C	STXBP2	IFI16	IQSEC1	PLCL2	CTSA	IGHG3	CTSD	LYN
69	CST3	RPLP0	RPS23	SPTBN1	ANXA2	CACNA1I	ATM	EIF3G	RPS2	FOXK1	CSF1R	DDX3X	INPPL1	ACTR3	SLC9A3R1	SH3KBP1	DPYD	TC2N	BCR	CASP1
70	ARAP1	SRSF5	DPYD	ACAP1	CASP1	GPRASP1	SEC31A	NLRC3	SLC7A7	PRR14L	PLXNB2	ARAP2	TNRC18	SAMD9	ARHGAP4	SMEK1	ZFAND5	LCK	SKI	ZNF710
71	TLR4	PLCG1	CPVL	PSD4	EMR2	C6orf48	C9orf72	RNF167	TGFBI	GLS	TKT	CNOT6L	PPP1R9B	HECA	LRP10	TBL1XR1	MYD88	ITPR3	FAM117A	GVINP1
72	HLA-DRB5	ATP2A3	SEL1L	ALOX5	ZFP106	LY9	NAIP	CCM2	ANXA11	MAVS	CSNK1G2	ADAM10	PFKL	HSPA5	ARAP2	TMED10	DMXL2	TBC1D4	TC2N	FGD2
73	RASSF2	RPS13	CLPTM1L	PAG1	MS4A7	CD8B	SLC24A4	RPS6KA1	RPL14	JHDM1D	WAS	CMPK1	APOBR	ZBTB44	PLXND1	EIF5B	PECAM1	RPL24	TOMM7	LILRB1
74	DPYD	SEL1L3	SSR2	PBXIP1	CORO1C	C2orf89	OGFRL1	LDB1	LTB	KCTD12	GNB2	PAPOLA	ARHGEF11	ZC3HAV1	PLXNB2	HMGN4	AIF1	PDIA4	EPB41	DENND5B
75	IRAK3	CDC25B	SLC44A1	LFNG	CFP	UBASH3A	CD86	SYNE2	IL2RG	DNAJC13	PKD1	ZDHHC20	UBXN11	PLCL2	RNF44	SENP6	SH3BP2	CBX7	NOSIP	PLXND1
76	S100A6	ADD3	SND1	CCNL2	NAGA	TTC39C	AIF1	KIAA1949	PLEKHG3	SACS	KIF21B	RPL24	MAPK8IP3	CDC42	IFI16	EID1	CFP	RPL12	TMEM63A	LGALS9
77	SPI1	ACAP1	JAK2	RBL2	SLC11A1	TCF3	TYROBP	RHOH	S1PR4	FAM102A	INTS1	TMEM30A	HLA-F	ROD1	WAS	CAPZA1	FAM198B	FLJ31306	DPP4	GRAMD4
78	MS4A6A	LCK	IFI16	CEBPD	ALOX5	NUCB2	SCARB2	HLA-H	RPL35	RIF1	PTK2B	C3orf63	ZMIZ2	CDV3	SAMD9	RBMX	LILRB1	KIAA1147	CD3D	NAGA
79	AMICA1	RPS21	SECTM1	DGKA	KIAA0930	LRRN3	ANTXR2	ANXA11	RNF167	CCR2	ZMIZ2	PDIA3	POLR2A	GPR65	LSP1	YWHAB	PTAFR	RPS21	CD28	ITPR3
80	MYO1F	6-Sep	C19orf10	CLEC7A	CAMKK2	SLC2A4RG	CD300LB	SNHG5	CPVL	DMXL1	SNRNP70	IDS	SRCAP	RAD21	RAB1B	PRKACB	CYP1B1	RPS7	FOXO1	GPX1
81	ITGAM	CD6	ERLEC1	TCL1A	CLEC7A	TSPYL2	TFEC	MOBKL2A	HDAC5	KIAA0368	FLOT2	PDS5A	TNK2	UBE2D3	IL18RAP	AGFG1	SLC11A1	UBR5	DUSP16	FAM198B
82	S100A4	FAM102A	POU2AF1	BACH2	ADRBK2	CEP68	SNX2	BET1L	PPP2R4	TNKS	CIC	RAB8B	ARHGDIA	SET	BCL3	LDHA	PGD	CD5	DOCK9	RASSF4
83	TYROBP	RPL27A	SEC24D	PDE7A	HLA-DMB	FCGBP	TBC1D9	ATP5G2	PADI4	BMPR2	FBXW5	RPS13	PNPLA6	PUM2	UPF1	TAX1BP1	RNF130	DOCK9	AGAP2	RELT
84	AOAH	NUP210	LRRC59	TMEM63A	CHST15	EPHX2	BNIP3L	LY9	CCM2	ANO6	MAPK8IP3	BCLAF1	UBA1	PYHIN1	PPP6R1	IGBP1	PLXND1	VPS13A	USP36	JAK2
85	EMILIN2	ANXA6	TMED9	ST3GAL1	PECAM1	USP53	AKAP9	BHLHE40	CYBB	PRKX	MVP	ZC3HAV1	MYO9B	CANX	ULK1	TMPO	GPX1	MSL3	PDE3B	STAB1
86	AP1S2	XBP1	ATP6V1B2	ZAP70	TIMP2	ATP6V0E2	SPCS3	HNRNPUL2	ITPRIP	ATXN7	ABTB1	DDX6	MAN2C1	PAPOLA	ARHGEF3	CCT8	IRAK3	TRAF5	GAS7	P2RX7
87	SULF2	EDEM1	RPL30	SPI1	KIAA0513	ACSL6	PIKFYVE	SKAP1	EIF3G	SUZ12	PNPLA2	RBM3	ATXN2L	SP100	SAMD3	IARS2	PTPRE	PDE3B	SKAP1	CSF1R
88	AIF1	LEF1	TNFRSF17	EFHD2	JAK2	CDR2	BST1	RELA	TLR2	CHD1	STAT6	SLAMF6	SLC38A10	MEX3C	SLC38A10	ST13	TTYH3	RPSA	EVL	CTNNA1
89	MYD88	CYTH1	ANXA5	ARAP1	SH2B3	FAM134B	DAPK1	TNIP1	SCPEP1	SPTLC2	MAP3K11	ELF1	SLC43A2	OPTN	GNPTAB	UBA2	SCPEP1	CD28	C10orf54	CLEC12A
90	TTYH3	RPL24	CTSH	EMR2	STX11	ASNSD1	MLL	APBB1	NR1H2	EXOC5	ATXN2L	SYNCRIP	RNPEP	FAM49B	ATP11A	ACTR3	CAPG	RLTPR	PIM2	AIF1
91	RXRA	CDC42SE2	GLCCI1	CREBZF	FKBP15	LOC439949	HELZ	TADA3	RPL13A	HEATR5B	MAP7D1	TC2N	IQSEC1	TMED10	WDR81	API5	NPC2	AQP3	EAPP	FGD4
92	SECTM1	ITGB7	HLA-DPA1	SWAP70	CTNNA1	EPHA4	HERC1	SORBS3	LDB1	FNDC3A	ACTN4	TMED10	ABR	IL18RAP	APOBEC3G	HNRNPR	LGALS9	CD96	FLT3LG	CD63
93	CFP	PDIA4	IRF4	TRAF3IP3	ZNF385A	KCNN4	GNB4	SLA2	MAF1	MPEG1	MINK1	IFI16	DOK3	TC2N	NCOR2	LIMD2	RASSF4	EEF1B2	DGKA	SLC7A6
94	PPT1	RPL38	CASP1	EIF2C4	TTYH3	PLEKHG4	MLXIP	PTPN7	ZEB2	IRAK3	DEF6	ATP6AP2	FAM65A	RPL24	CSNK1G2	CDC42	MFSD1	SFI1	ARHGAP15	C3AR1
95	EFHD2	UBE2J1	TNFSF13B	HCK	F13A1	MAGED1	FES	CSK	PTPRCAP	WHSC1	PITPNM1	7-Mar	SLC12A9	KLRF1	ADAM10	PTPN11	ZNF385A	FAM107B	FCGBP	LGALS3
96	GAS7	IL2RG	DNAJB11	RIN3	OAS3	NR3C2	SNX10	C12orf57	DAPK1	SCARB2	KDM6B	DEK	GNB2	DEK	MBNL1	FAM55C	TIMP2	PHF1	GZMK	COBLL1
97	ANXA5	RPL7A	STX11	FCRL2	LRRC25	LSR	SLC37A2	ADCK3	RGS3	PHACTR2	MXD4	ARPC3	INTS1	CD47	PSMB10	GLUD1	DPYSL2	NPM1	LEF1	ATP6AP1
98	ZYX	ITM2C	CD68	CD79B	NPC2	SNHG5	FGD4	SH2D2A	PRDX5	ATP11A	LFNG	TOP2B	LTB	LSM14A	ZMIZ2	C3orf63	DOK2	ITPKB	CBX7	TLR8
99	TLR8	TMEM63A	ZBTB38	SLC11A1	SECTM1	DNAJB2	ANO6	HARS	FXYD5	GNB4	TNRC18	ATRX	FAM129B	MAPK1	SETDB1	HSPA5	PTPN12	RPL22	TSPYL2	MPP1
100	MS4A7	SPTBN1	DUSP6	BLK	MEFV	DIMT1L	TNS3	HDAC5	RDBP	OC10049946	MICAL1	ID2	PLD3	YWHAQ	PTPN6	UBE2D2	LILRA5	SACS	AQP3	FAM49A
101	HK3	ST6GAL1	RPL5	KIAA1147	RASSF4	C22orf29	KIAA1432	DNAJB2	CD33	AKAP12	TNFRSF14	SET	OGDH	NUCKS1	APOBR	7-Mar	CASP1	CACNA1I	CEP120	ARHGAP31
102	CPPED1	CTC1	HLA-DRB1	MYST3	SORT1	CTSF	SETD7	RORA	APLP2	FOXN2	DPP7	STAG2	EDC4	TMEM123	PTK2B	MYL12B	NAGA	DUSP16	UNC119B	VPS13A
103	LILRB1	RORA	LDHB	PTPRE	LST1	SGK223	SRGAP2	HMOX2	CPNE1	USP33	C15orf39	EIF4B	AP2A1	STAT4	SETD1B	PDCD4	LILRA3	LY9	GRAMD1A	SLC43A3
104	GABARAP	ARL4C	CD300E	CX3CR1	OAS1	ACRNA0028	NLRP12	COASY	FKBP15	FAR1	C11orf2	ATP11B	DENND4B	ARL6IP5	INPPL1	AZIN1	GSTP1	ANKH	TBC1D4	GRN
105	LRRC25	CLEC2D	FBXO18	ITPKB	LILRA6	NRCAM	AGFG1	POLR3GL	HNRNPUL2	ZNF518A	MKL1	NCL	TNFRSF14	STAG2	MAEA	CBFB	NAGK	SKI	PTAFR	CEBPA
106	TLR2	RPL14	SCARB2	HIVEP2	ZDHHC7	DPH5	MAVS	C9orf16	SNX11	PIK3C2A	FBRS	PJA2	ARHGAP27	SAMD3	MEX3C	PCF11	PARP14	HINT1	SIRPG	ANXA2
107	LIPA	SBF1	ITGB7	SIDT2	SKAP2	HAUS5	PHIP	TBC1D10A	BHLHE40	ERLEC1	ZBTB7B	MYBL1	CPSF1	PCF11	ZNF710	SRSF8	SECTM1	PEBP1	DPH5	MS4A6A
108	TMEM176B	RPL13A	AOAH	EZH1	XAF1	HABP4	RP2	EOMES	PIM3	GFPT1	FURIN	EPS15	CYBA	RAB8B	FURIN	CGGBP1	CCR1	CDKN1B	ABHD14B	P2RX1
109	PGD	LBH	RPL6	PLCG1	ATP11A	TAF1D	LNPEP	MAF1	SLC37A2	ANKRD28	PFKL	TTC3	DPP7	HNRNPK	SLC43A2	CDV3	LILRA1	NOSIP	ACSL6	MAFB
110	STX11	CHD2	SEC24A	OC10012903	POU2F2	CCDC104	C3AR1	NDUFS3	RPL38	AES	SLC38A10	SERP1	PITPNM1	HOPX	CD164	ARHGAP15	C3AR1	STMN3	SULF2	MFSD1
111	PLBD1	BCL2	IRAK3	CYFIP2	MYOF	PLCD1	USP34	PLCD1	PSMB3	BCL11B	SH3BP2	KIF5B	ZBTB7B	CGGBP1	TSC2	FAM190B	KIAA0513	CD3D	ANO9	SLC38A1
112	MYOF	PIM1	OAS1	FRY	PRKACA	BDH1	JHDM1D	SMAD7	NLRP12	KRAS	YPEL3	FAM49B	SLC12A7	SH2D1B	S1PR4	TOMM20	CTNNA1	ANO9	STMN3	TSPO
113	SPTLC2	ESYT1	GABARAP	PILRB	PRAM1	KIAA0391	ASH1L	ZER1	LIME1	IPO9	PSD4	PTGES3	SH3TC1	GVINP1	PHRF1	STK17A	YWHAG	IGF1R	SGALNACT	ADAMTSL4

235	PAK1	PCMTD2	CTSD	ZEB2	ZSWIM6	IPO9	MAPK13	RFX3	TUFM	FXR1	PPP6R2	DR1	PDLIM7	ARF4	MAML3	DBP	MFGE8	LPCAT2
236	HPSE	HINT1	DARS	FOXP1	SPECC1	XPO5	RPS21	C3orf58	CIITA	ATP13A3	ROGDI	DCK	PFKL	SH3BP5	ARHGEF10L	C11orf68	SNED1	ZNF721
237	MAPKAPK3	DUSP16	PRCP	GAPT	HAVCR2	BACE1	NAT14	C4orf32	KIAA0930	SRP9	MFSD10	PRKAA1	PPM1A	MEGF6	P2RX1	TXNDC5	SACS	STARD8
238	CCR1	DCAF8	RPL35	CFD	MAML3	SLFN12	HGF	SLC38A7	TRAF7	RALGAPB	NUP214	PCNP	RNPEP	THOC7	MTMR11	TNK1	RAB34	C15orf52
239	RIN3	SFI1	RPL23A	TET3	BMP2K	ANKRD36BP1	SAMSN1	OC1002718	OSBPL7	BNIP2	C7orf43	TBK1	TNS3	DDX6	ODF3B	PDE6B	CST3	SIGLEC1
240	FAR1	BUB3	GFPT1	MPRIP	TOM1	SUZ12	BNIP3L	LHFPL2	CRTC1	PTPN11	USP5	PPP3CB	PNKP	GPR160	GPBAR1	ZNF789	LOC389906	KYNU
241	NAPSB	TPP2	GYG1	HDAC7	ICAM1	CHORDC1	PAICS	TPPP	PLD3	ITCH	P2RX1	EPS15	RAB8B	SCYL2	ITPRIPL2	SERGEF	DHRS13	ASGR1
242	PRAM1	PHF1	MFSD1	RNPEP	PLIN3	CLTCL1	C12orf57	DENND2D	NDOR1	UBA2	DNASE1L1	STXBP3	C15orf39	NDUFA1	DRAM1	LOC389906	AGTRAP	BLVRB
243	IRF5	VAMP1	NUCB2	C15orf17	TLR6	LOC121456		ENTPD7	ZNF598	IBTK	BRAT1	SRSF8	ACTR2	VAMP4	PFKFB4	URGCP	KCTD7	FAM105A
244	RNH1	TNFRSF25	ZNF664	PDCD4	ADAP2	HEATR5B		ZNF121	ARRDC1	SP100	HLA-G	NUCB2	ZNF148	LSM3	RASA4	FLJ13197	GSTP1	SLITRK4
245	ZMIZ1	CD3D	FAM55C	LST1	ATG7	C1GALT1C1		LY9	HPCAL1	RAD23B	ARHGAP1	SMC5	CC2D1A	LYAR	VDR	MUTYH	HOOK1	ITPRIPL2
246	HK2	LY9	EIF2AK3	SLAMF6	LOC284837	LPAR1		SLC35B4	PTOV1	PLAC8	PRR12	UGP2	MIER1	CNOT6L	TNFSF13	EAPP	ALDH2	EPB41L3
247	ATP6V0D1	ANO9	RPS20	KIAA1310	FADS1	SLC35B4		MUC20	MEN1	CNOT8	SLC1A5	HMGN4	ENPP5	NCLN	KYNU	ZDHHC23	NEK11	GUCY1B3
248	GCH1	SYNGAP1	C1orf162	RLTPR	KIF13B	UBR1		LCORL	ZDHHC8	VPS26A	PPP4C	FOXN3	EPN1	LANCL1	CKAP4	B3GALTL	GPR180	PPOX
249	ARRB1	OXNAD1	ALDH18A1	DDHD2	PID1	LRP3		CD2	SCRIB	RAP2C	ADAP1	LMAN1	PRAM1	FBXO33	SESTD1	KRBA2	LMO7	ODF3B
250	MFSD1	TNRC6C	PLBD1	SULF2	CLEC4A	SMURF1		GPM6B	MTCH1	PRKD3	FAM73B	KIF5B	MAN2B2	SCFD1	FNIP2	ZFP41		PECAM1
251	OAS1	STMN3	UQCRH	ETS2	SLC39A11	ZNF37A		RHOH	DOT1L	DSTN	CAMTA2	BTBD1	SIN3B	SH3BGRL	PCTP	KIF21A		TSSK3
252	CAMKK2	SEC11C	GNB4	PASK	MARCO	GPR141		CPM	MARS	FAM116A	RAI1	ZMYND11	REXO1	SLMAP	TCN2	OC100270804		RSAD2
253	PILRA	PRKD2	TNFRSF13B	PSIP1	ABHD3	ENTPD7		FCGR2C	HIP1R	CDK6	FURIN	SNX6	MAN2B1	SACS	DOK1	CCDC23		EXOG
254	CRISPLD2	ORMDL3	WBSCR22	VAV2	CAMK1	GCNT2		GPR141	GTPBP2	USP47	DDX54	LDHA	GPAA1	PCNA	C19orf59	YBEY		PLXDC2
255	ARHGAP27	NAP1L4	HLA-DRB5	ZNF33B	STS	GSN		C15orf28	MED25	SH3KBP1	LMF2	TAB2	RBM42	TAB3	RNASE2	RAB23		KCNC3
256	LST1	PEBP1	NOMO1	RPS15A	ARSB	HIVEP1		CLTCL1	PPP4C	GSPT1	DHPS	SMU1	NDRG1	THEMIS	GRAMD4	NEK11		SLC4A8
257	APOBR	PRDM1	KAT2B	PLXNB2	SIGLEC14	CSPP1		FAM18B2	TELO2	NRIP1	TTC31	C19orf2	PTPN22	SKAP1	ATF5	C8orf84		KRBA2
258	NDST1	ZBTB38	MARS	NCRNA0028	TBC1D2	HUS1		RGAG4	GPS1	STXBP3	CHMP1A	SEC63	GAA	TSN	NCKAP5L	EDARADD		C17orf60
259	SIRPB2	SNHG5	MDFIC	FAM160B2	ALPK1	SPG11		C9orf72	BRAT1	GLUD1	HIP1R	FYTTD1	SOS1	TECPR1	MCOLN1	STXBP1		C12orf45
260	NID1	DDOST	QKI	NEK6	OAF	DAAM1		SLC25A16	MID1IP1	SEC63	ANXA11	NDFIP1	SLC27A3	BNIP2	PARVB	SSTR3		IDH1
261	HIATL1	FBL	PATL1	TRAF5	CDK19	ZNF484		MOBKL2B	CPSF3L	SMC3	FBRS	LPGAT1	WIZ	MRPS33	RNF146	GPR126		PLSCR1
262	TBC1D8	MYST3	MAPKAPK3	NCF2	ZNF185	LRP12		ADAM9	PTPN23	ZNF148	SETDB1	CMC1	TTC31	SMC3	CYP2S1	ZNF420		FES
263	TMEM127	USP20	SEC61G	SQSTM1	FAM26F	TTN		FLJ39653	GPX4	SH2D1B	ATP13A2	NCALD	PLD2	SSR3	SIGLEC1	TSTD1		NFAM1
264	RASSF4	PRKCA	RAB8A	NAPSB	FMNL2	CEP192		PAR-SN	YIPF3	PPM1A	ANO8	LEPROTL1	D2HGDH	KDSR	CCDC149	OC100507266		PRKACA
265	ACSL4	GAS5	SDF4	ZNF337	DSC2	RGAG4		CDKL5	HLA-L	GABPA	STK11IP	TNFAIP8	ABCA7	ANXA11	GNA15	ACCN2		CACNA2D3
266	HLA-DQB1	PDE4DIP	GNL3	NT5E	LOC401233	C2orf67		TFEC	ZC3H3	KIAA0232	LRRC41	PLAC8	STAT6	EIF2S1	TSPAN4	ZNF830		MYOF
267	SIGLEC14	ST3GAL1	NUS1	DCAF8	PLB1	SLC38A7		CSPP1	PNKP	SLMAP	UPF1	XPOT	NEK7	RAD21	STARD8	FAAH2		CCDC149
268	POU2F2	PASK	CMIP	ATP11A	EVI5	ANKRD36		ZNF608	SLC12A7	ARF4	PABPC1L	BCL2	SPNS1	TUFM	PLA2G4A	MOBKL2B		LGALS2
269	PLEKHB2	FOXP1	DAD1	SNX22	FLVCR2	YIPF6		LOC387647	CYC1	TBL1XR1	RPS6KB2	IKZF2	MXD3	RAD17	ATG7			APLP2
270	RAB7A	KDM3A	CPNE5	SLC16A3	FCGR2C	ZNF785		HARS	TCF3	KPNA3	HEATR7A	CEP120	KDM4B	C4orf3	EVI5			PLA2G4A
271	NUDT16	EZH1	EAF2	CARD11	GALNT6	POLR3A		ZNF785	GGA1	DARS	LRP10	BZW1	CD244	RPS6KB1	FAM118B			UBTD1
272	CEBPB	MAF	CARD16	OFD1	STARD8	LOC387647		RBMS2	TMEM129	ARHGAP15	C9orf86	C11orf58	XBP1	CLPX	GCNT1			C19orf59
273	C1orf162	TRAT1	AHR	CLEC2D	CXCR2P1	GPR180		ST14	CD4	FYTTD1	C9orf139	SETD3	FGFRL1	PPP2R3C	NUDT19			FLVCR2
274	ALDH1A1	LIMK2	ATG3	CLCN7	LATS2	RFX3		LOC93622	NEURL4	CCDC47	CLN6	UFM1	HPS1	TAF7	ITGAV			TNFSF13
275	CEBPD	KLRB1	BCL2	GLIPR1	ARID3A	PHC3		PRKAG2	TRPV2	LEPROTL1	PLEKHM2	VAMP4	FLOT2	MAPK9	JDP2			TMED8
276	WDFY3	HERC2	MTHFD1	TAGLN	UAP1L1	SH2D3C		C14orf45	ZNF710	SH3BP5	PKN1	C1GALT1	MLYCD	PSMA2	NRG1			SLC31A1
277	ADAMTSL4	GCC2	GLB1	ASXL1	ATG4C	DPY19L3		ZNF93	GSK3A	PSMA2	ULK1	RAP2C	TSSC4	COPS2	ASGR1			P2RY12
278	ATP6V0C	OFD1	GLRX	BTLA	CMPK2	TULP4		SPECC1	PISD	EIF2S1	SLC27A3	DARS	POLR2E	RBM34	SLITRK4			MTMR11
279	TMEM167A	DENND1C	SLC8A1	MAPK14	DRAM1	SETD5		FER	FBXO44	CEP57	ACAA1	SRP9	PTPN23	CCNC	HOMER3			NDST1
280	SNX2	SLC9A3R1	RPL3	LOC728392	PXK	MOBKL2B		GNAL	CDK2AP2	C1GALT1	SHARPIN	CASC4	PTOV1	ACADM	RETN			GRAP
281	CLEC12A	SGALNACT	ADAM19	SLC24A4	ULK2	BLZF1		MAGEF1	SIPA1L3	FAM55C	POLR2E	SH3BGRL	AKAP5	MAP2K4	P2RY12			LTBR
282	FES	ANKZF1	MARCKS	FOSL2	CHN2	S100A11		C5orf15	OTUB1	ZMYND11	ACP5	TPD52	IL18R1	GGA1	RSAD2			PFKFB4
283	GLIPR1	DENND2D	ETS1	RALGDS	TMEM106A	C15orf28		LY75	ACAA1	PLEKHA1	KCNK6	UBE2D2	ACAP3	NARS	MAP3K8			ZNF805
284	KIAA1033	ZCCHC11	TLR7	NR2C1	C15orf38	FLJ39653		ZNF484	ATP13A2	EIF5B	NEURL4	UCHL5	GPX4	FTL	ITSN1			CD300C
285	PRKACA	ELL2	CHPF	GOLGA8A	HDHD1	GOLT1B		YWHAE	MFN2	PPP3CB	SIPA1L3	NCAM1	FAM65A	FKBP3	RAB34			IRF3
286	KCNE3	PPP1R2	NLRP3	RNF144B	PVR	LCORL		LETM2	CHMP1A	VAMP4	PTOV1	NCK1	MINK1	MRPL42	KCTD21			C19orf60
287	CR1	FLT3LG	GAS7	PPAPDC1B	TMEM140	HELB		RBPMS	RBM42	NFATC3	ZNF335	HNRNPR	NT5C	MED4	GUCY1B3			CYP2S1
288	LGALS3	KCNA3	C15orf24	FCRL5	FUT4	FADS2		CARD6	ELL	SYTL2	KIAA0415	RAD23B	LBR	NDUFA5	HGF			NUDT19
289	SCARB2	RALGDS	NAGA	VASH1	RUSC2	PSMD14		NEDD4L	TP53I13	GTF3A	SIRT7	RALGAPB	HMGXB3	CRTAM	UBTD1			KCTD21
290	CMIP	CD27	RAB31	KIAA0513	BTN2A2	ITGB8		P2RX7	AAMP	C19orf2	ERCC1	ATP13A3	ARHGEF10L	COX7B	VENTX			LYRM7
291	LAT2	STT3B	CLEC4E	ZNF529	ASGR1	C9orf102		LRP12	WWP2	KIAA1430	KDELR1	IARS2	STK11IP	MSH2	PPARGC1B			AIFM3
292	SLC8A1	BIN1	RABAC1	HLA-DQB1	VPS37C	LOC100271836		CORO1C	USP5	PITPNB	SOLH	CYB5B	TELO2	RALA	SLC4A8			HGF
293	RAB3D	STT3A	HEXB	MAP3K3	ZBTB47	LOC100294362		FGD4	FAM73B	XPOT	FKBP8	AZIN1	GSK3A	TC2N	TMED8			C8orf84
294	SLC15A3	ACSS1	GORASP2	AGAP2	IQSEC2	KIF3A		RPS12	CC2D1A	TSN	PDLIM2	KIAA1430	ECH1	BZW1	MMP17			VDR
295	LTBR	IPCEF1	ARHGAP31	LOC253039	MPZL2	CDKL5		KRT18	HECTD3	IL18R1	SELO	TARP	MAP3K10	ZDHHC20	CLEC12B			CLEC4E
296	SRC	CDK6	C4orf32	COL18A1	ZNF438	ZNF121		SESTD1	PLXND1	MDM2	E4F1	LY75	LOC284837	DSTN	AIFM3			ITSN1
297	DUSP3	MAL	DPYSL2	PDE3B	SAMD4A	MPHOSPH9		SLC24A4	NUP214	APOBEC3G	D2HGDH	SUZ12	CHMP6	ATF1	CACNA2D3			APOBEC3A
298	IFI16	LRRC8C	PEA15	TLR2	C7orf58	NEDD4L		SLC35A1	BCL3	TRA2B	DVL1	MDFIC	ZDHHC24	C19orf2	C17orf60			LOC728743
299	KDM1B	STAT4	HINT1	MAP3K8	RAB12	SLFN12L		GCNT2	TOM1	SNTB2	ZNF687	ZDHHC20	SBF1	ABCB1	SPRED2			ZNF789
300	ZDHHC20	MGAT4A	NUDT16	DEF6	SASH1	ZNF608		GCET2	PRAM1	NUCB2	ZBTB17	SMC3	LRRC33	DDX1	AFMID			SLC31A2
301	CUX1	PPP1R16B	CD59	INPP4B	SCARF1	FER		FBL	HLA-G	LYPLA1	LIME1	TRIM5	ACO2	POLR2B	KCNC3			ZAK
302	NAAA	ANKH	IDE	DENND2D	TMTC1	GUF1		LOC121456	PIP5K1C	LMAN1	PRPF19	SCYL2	SCAF1	DNAJC8	C12orf45			TTC3
303	CYP1B1	MEGF6	FBL	TTC9	MT2A	RALGAPA1			COBRA1	MAN1A1	PPDPF	OAT	EDC4	NEURL4	C15orf52			BCL2L12
304	MBD2	SGSM3	RPL27	RTKN2	HGF	LETM2			SPNS1	SCFD1	HPCAL1	AKAP5	ZDHHC8	ERH				ANKRD50
305	CD1D	GPRASP1	B4GALT3	TIGIT	BTBD3	FLVCR1			BRF1	CD244	USP20	IL18R1	SH3TC1	KIF5B				PRPF39
306	TTC7A	OC1002332	SDF2L1	ZNF117	SHROOM1	ZNF621			TUT1	GOLPH3	PHRF1	SSR3	CAMTA2	ATP5J				STXBP1
307	LPCAT2	KAT2B	COBLL1	PDE4DIP	RIN1	IGSF9B			RAD23A	SEC62	LOC642852	PPP3CC	CCM2	TBK1				NLGN2
308	FKBP1A	KIAA1370	LIMK1	IL11RA	SDC3	ANGEL2			ADAP1	OPTN	NCDN	RSL24D1	BANP	SCAMP1				DZIP3
309	GM2A	KIAA0125	AIF1	COL19A1	MMP17	RBPMS			SELO	TBK1	REXO1	ZMPSTE24	LIME1	FAM116A				MMP17
310	RNPEP	SCML4	SRPRB	ZEB1	RUFY4	C14orf45			POLD4	PIGK	CDK16	VAV3	TNIP1	ZNF271				KIAA1539
311	LGALS1	IL11RA	FAM98A	NPL	ITSN1	RIMKLB			RAI1	RSBN1	C16orf53	MSH2	DEF8	GOT1				TYROBP
312	CD300LF	CACNA1I	GM2A	SH2D1A	C3	EIF4E			SLC27A3	SETDB2	CC2D1A	RPS6KB1	IKZF2	ZBTB44				DRAM1
313	SNAP23	PAN2	SRM	ZC3H12D	HYAL2	GPR35			ABCF3	LANCL1	SLC16A5	SACS	PLIN3	RSBN1				GNA15
314	RNF144B	RHOH	ARSB	UNC119	KIAA1467	TMEM70			DDX39A	MAPK9	DEF6	RAB18	SNTB2	NUBPL				SPRED2
315	DOK3	BCR	COX7A2	ZNF737	SH3PXD2B	DGKH			DVL1	CEP120	NDUFS7	SEC61G	MAT2B	ABHD13				RAB23
316	CRTAP	ST6GALNAC	IL32	AP2A1	MED12L	PAR5			SIRT7	CUL3	SLC25A11	CD244	HLA-L	MRPL13				GPBAR1
317	GSTP1	SSR3	LGALS2	LTBP4	SLC22A16	MCART1			EMR2	COPS2	DNAJC4	KIAA1715	NCDN	PLEKHM2				HNMT
318	TNS3	LIME1	PITPNB	CYLD	CMTM1	CEP290			POLD1	BTBD1	PNKP	ACTN4	MAN2C1	EHMT2				INPP5E
319	SPG21	CDR2	SLC31A2	KIF2A		GNE			MAP2K7	C1orf21	POLD4	HNRNPD	MLLT1	USP5				ARSD
320	NOD2	ANAPC5	GLDC	ZNF767		MUC20			SLC1A5	KLRG1	POLD1	C12orf11	SIRT7	LOC389906				POU6F1
321	GLT25D1	TPD52	SIGLEC14	HOOK3		WHSC1			HEATR7A	MEX3C	TELO2	GSPT1	ARID3A	ITM2A				TSPAN4
322	BST1	ULK3	SETD7	CUX1		PAR-SN			TPCN1	FAM172A	CHMP6	PPP2R5E	MTMR14	AMD1				RNF130
323	UNC93B1	EPRS	NT5DC2	ANKZF1		C18orf55			ATP11A	C11orf58	AIP	CHIC1	PJA2	FAF1				
324	PLCB2	TCF3	ATP6V1F	DENND1C		ZNF93			ANO8	CYB5B	RFNG	API5	TEX264	DNAJC24				
325	RALB	FBXO18	LILRB4	SYNGAP1		MAP9			ARHGEF11	BZW1	MFN2	PPP2R3C	ARHGAP1	ARV1				
326	ARHGAP26	FOXO1	DUSP3	VAMP2		GNAL			TRMT1	ABHD13	GPS1	GCLC	MKL1	RRP15				
327	C19orf38	IARS	TMX1	TNFRSF25					PHF19	ANKRD28	WWP2	ARF4	LRCH4	DCK				
328	BNIP3L	SNRPD2	SORT1	SPIN3					ESRRA	NDUFA5	CRTC1	USP48	ANO8	MARS				
329	ARHGEF11	DPP4	SNRPD2	TBC1D4					ST3GAL2	CLPX	ST3GAL2	ANKRD28	C1orf159	ZNF654				
330	NLRC4	ZNF83	HLA-DMA	SLC26A11					SLC25A29	TAF1D	NAGPA	IDI1	FAM129B	C1GALT1				
331	PLXDC2	TSPYL2	PI4K2B	DTX4					P2RX1	C10orf84	TEX264	CNOT8	RALGAPB	YPEL3				
332	APOBEC3A	CD3G	PRMT1	IFNGR1					ENTPD6	DNAJC8	PLD2	ABCB1	MAN1A1	ZNF335				
333	CLCN7	APBB1	SDC1	RRP12					ALDH3B1	SCYL2	OTUB1	ATP2C1	PHF19	PPP2R5C				
334	S100A12	KIF2A	VRK2	PLEKHA1					HPS6	CD300E	MTCH1	LYAR	HLA-G	CD69				
335	TNRC18	CDC14A	GGH	FAM110A					DNAJC4	TCEA1	CARM1	INTS6	KATNB1	LAMTOR2				
336	AP2A1	C2orf89	SNHG5	TTC3					IRF2BP1	CMC1	RPUSD1	PTGDR	ERF	PDE6D				
337	ELF4	UBASH3A	SEPHS1	PYGL					CBFA2T3	INTS6	ESRRA	GFPT1	PRKAA1	NDUFA12				
338	YWHAE	HIP1R	PDIA5	ADAP1					TEX264	RALA	MYO18A	PRKD3	MAP2K7	TPCN1				
339	BTK	SMC4	NOP58	POU6F1					E4F1	HMGCS1	ATP5H	KLRC1	ARRDC1	UFM1				
340	SIGLEC10	SLC35E2	FAM198B	ZCCHC11					FGFRL1	ZNF654	CCS	NDUFA5	KLHL17	CUTC				
341	SETD7	MAP4K2	CD63	RNF130					RABEP2	ACTR10	WHSC2	MDM2	OSBPL7	TPD52				
342	TLR7	CD38	SLC38A5	NFRKB					SHARPIN	DPH3	BANF1	POMP	NCAM1	RRAGC				
343	LFNG	LPIN1	APP	9-Mar					STK11IP	PTGDR	MCOLN1	RBM34	SLC25A29	KIAA1715				
344	SLC16A3	TNFRSF17	HLA-DRB6	CHST15					LRRC41	CCNC	YIPF3	ATF1	HDAC10	SETD3				
345	C9orf72	FAM190B	RAB7A	TSPYL2					RPS6KB2	HS2ST1	PHF19	ITM2A	PPP2R5E	PDIA3				
346	TM9SF4	CLPTM1L	ATP13A1	DPP4					CARM1	FKBP3	WIZ	TSNAX	ARFGAP1	ATP13A1				
347	PRCP	SLC44A1	SGMS2	LILRB3					ABCD1	RAB18	NDRG1	HSD17B12	LRWD1	MPHOSPH6				
348	SLC43A3	IKBKAP	RPL18	CACNA1I					ZNF687	TSNAX	CYC1	ZNF654	NAA50	SLC25A32				
349	SIGLEC9	IKZF3	DNAJC1	ZNF83					MICALL1	FCN1	TOR2A	MYNN	HOPX	CSNK1G3				
350	RP2	LRIG1	OXCT1	DCAF16					MAP3K10	ERO1L	SF3A2	PSMC2	DRAP1	VAV3				
351	SLC37A2	TIGIT	RPS18	RHPN1					HDAC6	RPS6KB1	MMP17	FAM172A	RAI1	C1orf9				
352	NLRP12	CPNE1	S100A4	WDR59					MAEA	PPP2R5E	ZNF598	HS2ST1	SPSB3	PM20D2				
353	ADAM15	LOC439949	PLEKHO1	BIN1					SLC19A1	TARP	HMGXB3	KPNA3	IER5L	PCGF5				
354	PLAGL2	LAX1	MAF	LYL1					GPR172A	RAD17	ZNF646	TAF1D	SLC4A2	ZNF189				
355	GSN	MPRIP	CTNNA1	STK35					COMT	ATP2C1	CHPF2	PPIG	ITCH	HMGCS1				

356	CD33	FKBP11	CAST	KIAA0889	
357	PLSCR1	LRRN3	LILRB1	C1orf228	
358	CD300LB	ERLEC1	RPL14	NCKAP1L	
359	CHP	PTPN4	GCN1L1	FAM113B	
360	LMO2	SIDT1	ARL8B	MANBA	
361	CD63	RPL36AL	PLEKHB2	CEP68	
362	ABI3	SKAP1	MAN2B1	LUC7L	
363	SQSTM1	ARID5B	IARS	P2RY10	
364	RHBDF2	DNMT3A	SLC43A3	KIAA0907	
365	RASGRP4	ENO2	C14orf145	ZNF248	
366	FGD4	VCP	FGD2	SPATA13	
367	COL4A3BP	ISG20	CAPG	FCGBP	
368	MYCL1	RPA1	ADPRH	TNFRSF13C	
369	KFZp761E11	WWP1	KDM1B	RPS7	
370	PYGL	KAT2A	SLC31A1	ST14	
371	TET2	MTERFD2	LPCAT2	BTK	
372	ZNF185	ZNF33B	DMXL2	OSBPL11	
373	ATG3	PPP1R3E	PRDX2	TMEM50B	
374	NFE2	MFHAS1	CFP	SIRPA	
375	RNF13	FAM100B	NAIP	CD36	
376	B4GALT5	DDHD2	POLR2D	SLC37A2	
377	ALDH3B1	CLDND1	SLC20A1	UNC93B1	
378	TMEM176A	H2AFV	TMEM176A	PLAGL2	
379	EPSTI1	ZMYND11	C2	ZNF721	
380	AGTRAP	RNF19A	KYNU	LILRA2	
381	LACTB	CD59	C8orf80	ELF4	
382	SLC20A1	PRKCQ	FAM49A	CBFA2T3	
383	WDFY1	ATP13A1	SMARCD1	CD79A	
384	VAMP3	ZNF831	CDK6	RASSF4	
385	PNPLA6	KIAA0907	TCN2	KIF13B	
386	EIF2C4	CCDC64	FAM69A	SLC9A3R1	
387	P2RX7	ANKRD28	ATP5O	CORO2A	
388	MIS18BP1	PDE4B	SIRPB1	CCDC64	
389	RILPL2	ADARB1	IDH1	C10orf105	
390	SGALNACT	MAGED1	DENND1A	KLHL3	
391	FAM105A	ZNF337	POLR2L	AEBP1	
392	HEXB	FMNL3	HAX1	TTYH3	
393	SSFA2	GALT	HIBCH	ZNF831	
394	BRI3	SSR4	DERL2	FBXO44	
395	OGFR	BACH2	ALG5	ULK3	
396	ARHGAP31	CAMK4	WFS1	PPP1R2	
397	ETV6	SIRPG	TXNL4A	C9orf72	
398	LGALS2	CUL9	MEFV	NHSL2	
399	ABR	CEP68	SLC7A5	WDR19	
400	ZNF710	CEP120	MCTP1	SLC2A6	
401	CLEC4E	PTPN7	C17orf28	TKT	
402	CFD	THEMIS	PRELID1	EPN1	
403	RPS6KA4	GZMK	SMC4	VAMP1	
404	CSTA	C12orf57	PAICS	KLF8	
405	MANBA	C15orf17	CD86	H2AFY	
406	OGFRL1	PPP3CC	NDST1	DUSP16	
407	DENND1A	NUCB2	FAR1	MTERFD2	
408	GLB1	AGAP2	ALDH1L2	NLRP12	
409	ICAM1	TMEM50B	FAM105A	SLC35E2	
410	CEBPA	SMARCD1	TICAM1	ARID5B	
411	MPP1	CD81	SRC	CENPK	
412	KIAA1598	LOC283663	RPA2	APAF1	
413	FOSL2	SESN1	GPBAR1	FGD4	
414	OSCAR	SND1	MCPH1	METTL3	
415	NLRP3	PPWD1	GSTP1	P2RX5	
416	DAPP1	GYPC	FLT3LG	TPP2	
417	LRRC33	FCGBP	NIPSNAP3A	C2orf29	
418	GPBAR1	OSBPL3	RPL13A	SLC36A1	
419	SRGAP2	MARS	NDUFB11	KIAA0748	
420	CLEC4A	TGFBR3	11-Sep	CMTM3	
421	MAPK14	SRSF8	BLVRA	TBC1D2	
422	BMF	THEM4	PFKP	ZNF84	
423	OSBPL11	ITM2A	GPX7	THBD	
424	TBC1D9	INPP4B	ADH5	ADAT2	
425	RAB24	NFRKB	UBAP2	GPRASP1	
426	FAM65A	CEP250	BCKDK	PKIG	
427	DOCK5	CPNE5	ANKRD28	ZNF671	
428	MARCO	USP36	VAMP3	PLEKHG1	
429	SUSD1	FAM55C	LSM6	FKBP15	
430	NAIP	GRAMD1A	FLVCR2	IKZF3	
431	TCF7L2	ZNF507	FBXO6	KCTD5	
432	HOOK3	RTKN2	C12orf23	LOC439949	
433	ARSD	SH2D1A	SBDS	APOBR	
434	CSDA	CD79B	TGFBI	OC100288069	
435	IMPDH1	FCHSD1	CNPY2	PFKFB4	
436	CARD16	NOP58	RPA1	BMF	
437	MS4A14	C19orf10	EBP	IPCEF1	
438	SGMS2	LTBP4	SPG21	TTLL4	
439	HNMT	RPN1	SDC3	MAFB	
440	LILRB4	GATAD2B	APOBEC3A	CD1D	
441	EMR1	METTL3	SPCS2	WWP1	
442	HHEX	KIAA1430	FOLR3	C2orf89	
443	BST2	FAM160B2	CORO1C	ZSWIM6	
444	TLR5	SNHG1	SLC1A5	SKAP1	
445	PDLIM5	UBE2D2	TTC7A	STRN4	
446	STX7	LOC253039	C19orf2	TCF7L2	
447	SLC2A6	HMGN1	FUCA2	CPNE1	
448	CYP27A1	BRPF3	CEP97	OGFRL1	
449	NPTN	DENND5B	ZNF639	SEMA7A	
450	MCTP1	WDR59	TECR	CD300LB	
451	RAB8A	ZNF664	C1orf43	RRM2B	
452	ADAP2	SEC24A	NUMB	CHD7	
453	ARHGEF10L	CHD7	NPTN	USP11	
454	FAM129B	FAM117A	C11orf75	USP36	
455	CMTM3	ABCD2	CREB3	KLF11	
456	SNX30	ZC3H12D	CUTA	PITPNC1	
457	LOC284837	TNIK	KDELC2	MAL	
458	MTMR14	USP11	PIP4K2C	FLJ90757	
459	SLC1A5	PCNXL2	IPO4	ZNF783	
460	GAPT	LANCL1	ST6GAL1	ZNF710	
461	PID1	B4GALT3	PHGDH	RUNX2	
462	PYCARD	OXCT1	LGALS3	PRDM8	
463	GLRX	CAD	PRKRA	EXOSC10	
464	IDH1	CDK10	MYD88	LAT	
465	RRP12	KIF22	FKBP2	VMAC	
466	TBC1D2	ALDH18A1	EZH2	SNAP23	
467	NAPA	DARS	CD3E	NUP210	
468	SBF2	PPAPDC1B	LIMA1	AKT3	
469	KYNU	SFXN1	SLFN5	LRRC37B	
470	MTMR11	EXOSC10	NDUFV2	KCTD7	
471	RAB32	C19orf2	ZAK	PLCD1	
472	NUP62	FCRL3	PTPLAD1	SNHG12	
473	C1orf43	TNPO2	MOXD1	CDC37L1	
474	SNTB1	TMEM214	SAE1	KIF3A	
475	PISD	PLEKHA1	RP2	INADL	
476	TMX1	LIG1	STS	PRKCH	

WIZ	ZMPSTE24	ARID3A	TSEN15	NCALD	CCDC112
DGAT1	CCL4	MED25	SF3A3	CDK16	G3BP2
D2HGDH	SYT11	AURKAIP1	KIF21B	ZNF703	COMT
C16orf53	TAB3	RBM42	MAP2K4	LOC202181	HIBCH
ADAMTSL4	SACS	ABCD1	MED4	AURKAIP1	SMAD2
SLC25A11	COX7B	IMP4	FXR1	BTBD1	MANF
ERF	DCK	HOMER3	NARG2	AMDHD2	MBLAC2
METRNL	C1orf9	SLC25A29	TIPRL	LPGAT1	FAM73A
ZBTB17	EFHA1	RGS12	DDX1	NDOR1	VARS
PIGQ	IDI1	RABEP2	GABPB1	BRF1	CYB5B
ZNF574	ERH	TSSC4	RBM8A	CHPF2	SEC61G
SEPN1	NCALD	BCL3	NAA30	HECTD3	SRP19
NT5C	ST13	CAST	ACTR10	YIPF3	ACTR10
RREB1	KIAA1715	S1PR4	PSMA2	ZBTB17	PSMC2
CDK16	MED4	SLC19A1	EFHA1	MICAL1	BCAP29
AURKAIP1	GCLC	OPLAH	TOMM20	LINGO3	SPPL2B
ARID3A	AIMP1	SLC35A2	LANCL1	RREB1	YAF2
PDLIM7	MDH1	LAMTOR2	FBXO33	RNH1	AAMP
AGAP3	ATP5H	MEN1	ACADM	STOM	BCL2A1
TSSC4	TSEN15	WDR18	TTC39C	COBRA1	STAT4
CLDN15	UCHL5	PIGQ	ABHD13	SLC1A5	SIPA1L3
NDUFS7	ACADSB	SPSB3	RRAGC	PDCD1	DNASE1L1
FBXL15	UBE2D2	GPAA1	SLMO2	ARL6IP4	DPY30
CES2	OAT	ATG2A	CCNC	IMP4	USP47
LRRC33	SLMO2	LTBP4	ISCA1	C10orf125	C2orf69
DNASE1L1	SH2D1A	GTPBP2	SRP19	SPATA2	CYC1
KLHL17	SRP19	DNM2	C2orf69	SH2D1A	DGAT1
MCOLN1	MAGT1	MOGS	USP38	GABPB1	LRRC41
MXD3	SF3A3	FGFRL1	NUS1	SIVA1	RPS6KB2
KDELR1	POMP	CYP2S1	PBRM1	DPP7	DPH3
TTC31	FGFBP2	BTBD2	PTPN11	DNAJC4	MEN1
WDR18	IGBP1	CCDC9	COPS2	ERCC1	CD47
WHSC2	UBE2G1	SIVA1	FANCI	NUCKS1	CARM1
LINGO3	CDK17	HECTD3	TBL1XR1	GCLC	CUL3
ROGDI	BCAP29	ZC3H3	ACADSB	TP53I13	GPR172A
ZNF444	CSNK1G3	PDLIM7	YAF2	PLAC8	IDI1
MTMR14	PSPC1	MID1IP1	TTC3	AP2A1	COMMD2
IL17RA	RBM34	C10orf125	CEP57	DNM2	CCDC47
ECH1	HSD17B12	KATNB1	EIF3M	ATP11B	LOC642852
SAMD1	ITM2A	DDR1	SLC4A10	E4F1	AIP
CCDC9	NUS1	GSK3A	CCT8	APPL1	MAGT1
HMGXB3	VBP1	G6PC3	ERH	PRPF19	C9orf46
RPUSD1	RNF219	CDK2AP2	SLC35D1	MMP17	ATG5
TOR2A	TRIM5	IER5L	VPS26A	PDLIM2	RRAS2
USP35	PTPN2	ERF	CUTC	CYP2S1	UCHL5
KLHL22	USP38	DPP4	IBTK	OAT	GFPT1
KATNB1	VEZT	GPR172A	ENPP5	CCDC9	ABCF3
NAGPA	RNF14	BANP	THOC7	ATP13A2	KLHL15
PLD2	TPD52	AMDHD2	TSN	PABPC1L	FAM69A
DHPS	PPP3CC	KLHL17	BCL2A1	SLC19A1	GNA13
RFNG	NCAM1	LOC202181	RALA	ZNF574	CCT6B
CHMP6	ELMOD2	SPATA2	LYPLA1	POLR2J	PNPLA2
ZDHHC24	SETD3	EHMT2	CA5B	C5orf22	CD2
ZNF703	SMU1	SAMD1	SERP1	TOM1	MICALL1
CCS	MSL2	IRF2BP1	ELMOD2	G2E3	RNF14
RNPEP	DDX1	KPTN	GPR160	WDR18	ROGDI
ARHGEF10L	PPP2R3C	TMEM129	SLMAP	MXD4	KIAA0232
ACP5	RRP15	ZNF688	RRAS2	PAOX	ANKMY2
MMP17	VAV3	NOTCH1	AIMP1	DDX39A	DNAJC19
PLBD2	FAM200B	ABCF3	ATP5J	POU2F2	TSPO
POLR2J	LSM3	USP35	FKBP3	PLEKHA1	KPNA3
SLC16A5	COMMD2	C1orf159	PCNA	DHPS	HDAC6
BANF1	PSMC2	LRWD1	PM20D2	UBA1	HIP1R
ACO2	SRSF8	L3MBTL1	FAM55C	C11orf2	MYNN
BANP	DDX60	ZDHHC24	PTPN2	CDK2AP2	BTBD2
LAMTOR2	KLHL15	FBXL15	PRPSAP2	SLC4A10	RAB18
CLN6	NCK1	OC100288733	ATG5	CCDC142	FAM172A
G6PC3	THOC7	EFNB1	ARPC3	FAM73B	FANCI
SIVA1	NARG2	LCAT	ARID5A	SLC35A2	ZNF286A
AMDHD2	LY75	ABTB1	MANF	ENTPD6	METTL18
NCDN	ATP5J	ROMO1	CDK6	PIGQ	RALY
LOC284837	NDUFA1	MICALL1	PITPNB	IRF2BP1	RNF219
EEPD1	C12orf11	MAEA	RNF14	OC100288733	ELMOD2
MLYCD	TTC39C	EEPD1	ERO1L	KPTN	RAD23A
ZNF688	LYAR	HPS6	LSM3	RGS12	SLC16A5
PCBP4	SCAMP1	PYCRL	ATP6AP2	CMC1	SF3A2
SPATA2	C2orf69	IGSF8	VEZT	ZNF688	GVINP1
CHPF	GABPB1	ZNF574	NDUFA1	SH3GLB1	COPE
IER5L	ARV1	CLDN15	RGS9	C9orf139	CLN6
EFNB1	MRPL42	ZNF703	COMMD2	KCNK6	CAPG
IMP4	MRPL3	MAP3K10	CSNK1G3	DVL1	OPLAH
KCNK6	GFPT1	RALY	LRRCC1	ALDH16A1	SAMD1
C1orf159	ZNF271	RPP25	KIAA0232	NDUFS7	C6orf35
SETDB1	SEC61G	FBXL8	PDE6D	KLRC1	RGS9
EPB42	C5orf22	CCDC142	C1orf9	RFNG	EPB42
LRWD1	MPHOSPH6	ATOH8	TCEB1	HDAC5	HOMER3
CCDC142	BLOC1S2	PDCD1	GABPA	FAM160B2	G6PC3
PAOX	RPL23A	POLR2J	C6orf35	SLAMF6	MAPK8IP3
ROMO1	TCEB1	SCO2	METTL18	C10orf84	SETDB2
ANPEP	KLRC1	KIAA0664	ARSK	ABCD1	NFKB2
HOMER3	PRPS1	NT5C	PRPS1	C7orf43	CASC4
PDCD1	DPP4	ZNF444	IGBP1	TRIM5	CCS
SCO2	G2E3	NUBPL	CLPX	SNX6	TTC32
C9orf139	TIPRL	LINGO3	AMMECR1	ATOH8	ZNF687
LOC202181	PM20D2	ZNF189	MAPK9	SCO2	RBM8A
PYCRL	ATF1	FBXO44	MRPL3	TUT1	NQO1
L3MBTL1	ATG5	GLUD1	GOT1	DDR1	C12orf11
FBXL8	CA5B	CHPF	G2E3	USP38	CLDN15
ADAT3	MYNN	BRF1	NDUFA12	ZMPSTE24	C8orf38
LCAT	FAM73A	TUT1	DPH3	EFNB1	GABPA
DDR1	CHIC1	C10orf84	CCDC47	LCAT	LYPLA1
IL2RG	CRTAM		MRPL42	SMU1	HGS
TNS3	SLC4A10		PSPC1	DDX54	PSPC1
KIAA1107	NDUFA12		SLC25A32	USP35	RTTN
LOC642852	LRRCC1		MPHOSPH6	CHIC1	POMP
LOC100288733	SKAP1		DPY30	ROMO1	LOC729852
RGS12	PRPSAP2		PIGK	FBXL15	ACAA1
RPP25	KDSR		MDH1	AGAP3	FAM110C
PLIN3	MRPL13		HIBCH	NAGPA	PYCRL
OPLAH	MAP2K4		MANEA	ZNF598	KLRB1
SLC35A2	FAF1		KDSR	WHSC2	MCOLN1
KPTN	SLC25A32		RAD17	SHARPIN	ALDH3B1
PABPC1L	AKAP5		OCIAD2	OGDH	CROCC
DLG4	CCDC112		SMAD2	TSNAX	POLD4
ATOH8	RTTN		ZNF286A	IGSF8	AMMECR1
	SLC35D1		LOC729852	ZNF444	MDM2
	YAF2		FAM73A	GPS1	NUS1
	ANKMY2		RNF219	KDELR1	CLINT1
	MANF		FAF1	ADAT3	TNKS2
	BCL2A1		ADAM10	RPP25	LY75
	ACADM		CRTAM	L3MBTL1	PPP4C

477	FBN2	FBXO44	KDSR	FLJ43663
478	ARL8B	CD22	C19orf38	KCNE3
479	DSE	ACSL6	ELOF1	S100A6
480	LY86	DLST	BST1	PYCARD
481	LILRA3	GATA3	IGF1	CDK10
482	SLC31A1	IFT80	MARCO	BCR
483	HIVEP3	SRPK1	NUP37	AMIGO1
484	CBFA2T3	ZNF101	PNPLA8	GCET2
485	C2	PDE4D	MSR1	CARHSP1
486	SLC25A24	METTL17	TLR8	JUP
487	ADAP1	ATP5O	GPANK1	VPREB3
488	STX12	KLHL14	S100A12	)C100233209
489	CXCL16	C12orf23	PPP3CC	1-Mar
490	FNIP2	RPA2	CD320	SESTD1
491	MTHFD2	RUNX2	RPS27L	LY9
492	C9orf167	ZNF767	SLC30A1	ZNF439
493	BLVRA	SF3A2	AGK	TBC1D17
494	PATL1	ODF2L	MFF	SLC2A1
495	NPL	ASNS	MBD2	EPHA1
496	CAMK1	PRDX2	ADAMTSL4	ZFP3
497	CD300C	INADL	TBXAS1	CAMKK2
498	RIN2	OSBPL7	UBE2D2	WDR24
499	PLIN3	FCRL5	SFXN1	RPL35A
500	RELT	EPHA4	GOT2	PRKACB
501	ARSB	SH3GLB2	ARHGAP5	CD5
502	CALHM2	SP140	KLRB1	KSR1
503	ZSWIM6	COL18A1	RPL10A	SRSF8
504	RTN1	USP53	ZCCHC17	TNIK
505	TCN2	CCNC	CREG1	SLC2A4RG
506	UHRF1BP1L	AP3M2	C12orf75	LAT2
507	FBP1	OBFC1	KLHL8	LOC93622
508	BLVRB	HAUS5	LACTB	ANKRD50
509	PNKD	TSEN54	LTBR	MCOLN1
510	HVCN1	PLXDC1	C15orf57	ZNF14
511	APOL1	SNHG6	CD33	ACSL6
512	FLVCR2	DERL3	TMEM167A	MKL2
513	LEPROT	ZNF107	CXorf21	RAB3D
514	ETS2	EIF2AK3	TMEM106C	NEK8
515	SMARCD3	CD8B	MRPL9	GZMK
516	KIF13A	EIF5B	UXT	PXK
517	FZD1	KIAA1310	NCEH1	TRIB2
518	TK2	PITPNC1	HNMT	METRNL
519	ATG7	SPCS1	TXNDC15	ATP6V0A1
520	ANKRD50	CXCR3	PIM1	RPS19
521	NHSL2	SLC26A11	SLC25A23	ZMYND11
522	GYG1	HMOX2	CRTAP	)C100216545
523	FAM110A	SP4	GALK2	MAP3K6
524	EPN1	C3orf37	VOPP1	RNASEH2C
525	C11orf75	ADH5	CSTA	FLJ10038
526	WDFY4	CUTA	LATS2	TBC1D9
527	C17orf87	P2RY10	PID1	SNX30
528	TNFSF13	SOCS2	GPRC5D	MFHAS1
529	ANXA4	KCTD7	QPCTL	DCTN4
530	PFKFB4	GSDMB	C19orf53	NAA40
531	KIF13B	ICOS	SLC2A5	THEM4
532	ITPRIPL2	LUC7L	RAB30	NBPF10
533	)C1001290(	PREB	CLCC1	CD28
534	CLEC4D	MYO1D	ARL4C	CEP250
535	HRH2	DNAJB11	BHLHA15	STX12
536	SLC46A2	POU6F1	CDR2	CDC42BPB
537	ACER3	VOPP1	ACP2	ATF7IP2
538	ADAM9	COBLL1	MAGEH1	;T6GALNAC6
539	SERPINB6	CENPK	MRPL1	PTPN4
540	STS	GFPT1	MRPL46	MS4A7
541	SIGLEC7	ARHGAP5	NIPA1	CTSF
542	SLC39A1	OCIAD2	CYFIP1	TTYH2
543	SESTD1	BLK	C16orf57	CLDND1
544	STRN4	DZIP3	CPM	SGK223
545	MAML3	C9orf95	ZNF614	LEPROT
546	PNPLA8	S100PBP	CCDC91	LPIN1
547	FOLR3	MORC2	RPL7	DNMBP
548	HSPA7	MANEA	CLEC4A	LDLRAP1
549	RHOU	TECR	DSE	DGKG
550	PRELID1	FBXW4	RPL7A	SYNJ2
551	TJP2	PLCH2	OXNAD1	ALDH3B1
552	ATP10D	SIT1	GBA	CXorf57
553	SERPINB8	DCAF16	SBF2	C11orf35
554	LAMTOR1	NIPA1	HMGN1	CALHM2
555	FUCA2	SLC2A4RG	ITM2A	PPARGC1B
556	MSR1	LAMC1	TPMT	LILRB2
557	GNA15	ZEB1	ATP10A	TNPO2
558	ATP6V0A1	PLEKHB1	FER1L4	EPPK1
559	ROGDI	LPCAT4	PGAP1	SP140
560	ACVR1B	HAX1	IQCG	CDKN1B
561	KLHL8	NAE1	PYCR1	MORC2
562	KLHL18	EPHX2	CXCR3	GLCE
563	SASH1	SAE1	C12orf11	PPWD1
564	HSBP1	BCL2L11	CNTLN	SSFA2
565	CTBP2	ZNF529	NTAN1	GTF2H4
566	ERLIN1	PRMT1	CCDC149	STX6
567	DRAM1	CA5B	CCND2	FBXO3
568	KLF11	LTK	THEMIS	)C100506548
569	ASGR2	PFKP	ANKRD36BP	SPINT1
570	CTSL1	TBC1D17	MED7	LRIG1
571	FRY	CBLB	CNKSR1	CD8B
572	CDKN1A	FAM84B	TCEAL8	SFXN5
573	CD101	SLAMF1	ZDHHC7	SCN3A
574	TTYH2	VSIG1	CCNB1	PWWP2B
575	TPMT	NT5E	HK2	COG1
576	CD151	DUT	SLC16A14	SLC43A2
577	C16orf57	ATP6V0E2	ERLIN1	ICRNA00188
578	DIAPH2	AXIN2	TMEM150B	TTC28-AS1
579	SCARF1	FCRL1	NOMO2	RHOH
580	ABCD1	ZNF274	NKIRAS2	CUEDC1
581	CXorf21	UXT	SNTB1	PRKACA
582	STX6	GNL3	FNIP2	FAM20C
583	JDP2	PAICS	FMNL2	CDA
584	LIMK1	EIF2D	PARP2	SNHG1
585	LATS2	SPIN3	LILRA1	ATP6V0C
586	FLJ90757	NR2C1	OSBPL3	ISYNA1
587	FCAR	AMIGO2	NLRC4	KCTD21
588	NEK6	GOLGA7B	RTP4	ZNF101
589	NKIRAS2	AMZ2	TGFBR3	KAT2A
590	ZAK	COG1	FKBP3	C9orf167
591	ACPP	SLC35D1	ADAM15	IQSEC2
592	LYL1	11-Sep	ZNF525	SRPK1
593	KSR1	QSOX2	RUVBL1	INO80E
594	CPM	ZNF84	PCID2	SP4
595	ARRDC4	KLHL3	PHF10	GSDMB
596	NLN	SYNJ2	TMEM205	PRKD2
597	CPNE8	SLC25A42	LILRA6	ABCD2

ENPP5	MRPS33	ATRX	BANF1
HIBCH	RRP15	KIAA1107	TSEN15
FAM69A	SETDB2	ISCA1	CRTC1
DNAJC19	ZNF271	HPCAL1	HEATR7A
ABCB1	VBP1	TOR2A	TMEM129
MANEA	ANKMY2	ACP5	
LOC729852	BNIP2	ARPP19	
NAA30	FAM200B	FBXL8	
AMMECR1	RTTN	C16orf53	
ZNF189	FAM69A	NCK1	
DNAJC15	FAM110C	CES2	
GLCCI1	SCAMP1	FAM200B	
CAPG	C8orf38	LRRCC1	
FAM129B	GZMM	CCL4	
MSH2	MLYCD	MANEA	
TTC32	DNAJC19	VEZT	
MRPS33	C5orf22	LANCL3	
PDE6D	PSD4	CHPF	
RRAS2	MBLAC2	IBTK	
NUBPL	MRPL13	TMEM8A	
PCNA	NRIP1	TIPRL	
NQO1	KLHL15	TBC1D10C	
DNAJC24	TAB3	HSD17B12	
C6orf35	BCAP29	RAVER1	
GPR160	DRAP1	VPS26A	
DPY30	EPB42	EEPD1	
ISCA1	METRNL	PLBD2	
FBXO33	COX7B	RPUSD1	
ARSK	LANCL3	PCBP4	
C9orf46	KIAA1107	POLD1	
RGS9	SCFD1	PARP10	
FAM110C	BCLAF1	TRAF7	
RBM8A	MXD4	TCEB1	
MBLAC2	AGFG1	EFHA1	
METTL18	NARS	PPDPF	
OCIAD2	ASB3	ASB3	
ZNF286A	C9orf46	ARSK	
CUTC	BLOC1S2	CPSF3L	
C8orf38	PJA2		
CCT6B	ARV1		
LANCL3	TP53I13		
GOT1	ST13		
LOC389906	DNAJC24		
ASB3	LOC389906		
C10orf125	MXD3		
CYP2S1	OSBPL7		
RRAGC	ADAT3		
ERCC1	CCT6B		
FANCI	NQO1		
	DNAJC15		
	PCBP4		
	TTC32		
	EIF2S1		
	FZR1		
	MAN2B2		
	YPEL3		
	KLHL22		
	DDX39A		
	ELL		
	CCDC112		
	PAOX		
	HMGCS1		
	TRPV2		

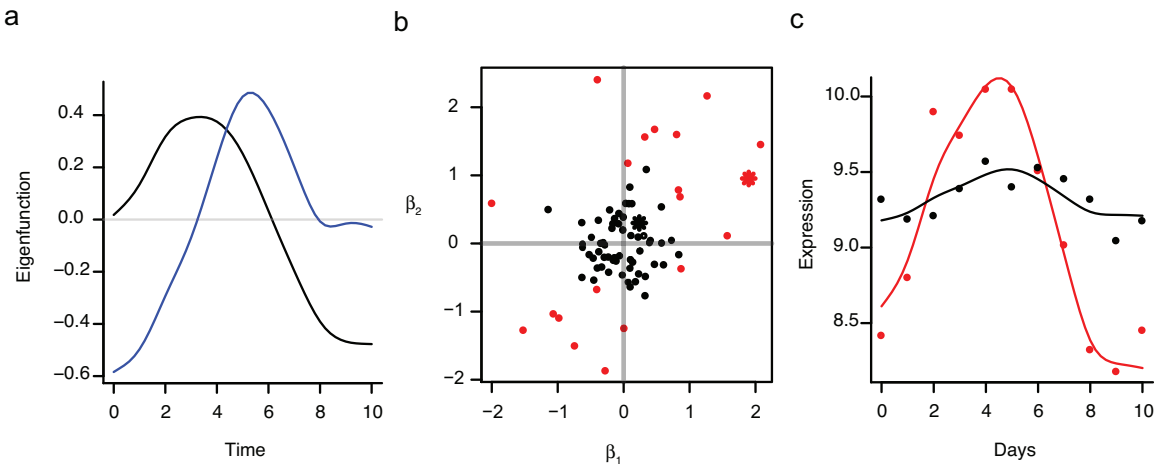
598	PLBD2	PCID2	ACRNA0015	CLIP2	
599	AGAP3	ATP10A	REXO2	WDR73	
600	RNF135	PLCD1	GLA	PTGIR	
601	NCKAP5L	FAN1	C11orf48	NR1D1	
602	VRK2	ZNF737	CHST12	LMO7	
603	ADPRH	SRPRB	RFC3	ZNF507	
604	VAV2	CCDC66	MAGOHB	DAPK1	
605	INSR	LSR	BTN2A2	CNKSR2	
606	MLX	FCHO1	PKHD1L1	LILRA5	
607	DOK1	MYBBP1A	MEI1	FAN1	
608	TICAM1	FAM134B	HMOX2	ZNF251	
609	LPPR2	GORASP2	C19orf12	ANKS6	
610	MOSC1	SPATS2	OC100188	D4S234E	
611	NBPF10	PRPS1	SMARCD3	ERMAP	
612	RELB	LRRC8A	TLR4	OGFR	
613	ARL8A	NR3C2	ZFAND5	AKTIP	
614	SCLT1	SNRPA	CDC42EP1	UBE2W	
615	CDC42BPB	TTC9	SRGAP2	IKBKAP	
616	ATP6V1F	SDF4	PILRA	HOOK2	
617	ITSN1	D4S234E	TYROBP	GGT7	
618	ZNF516	GGT7	SUSD1	KFZp761E198	
619	FAM102B	ZNF721	SLA2	MYBBP1A	
620	SDC3	DPH5	TM9SF4	FAM134B	
621	ST14	SLC25A23	RILP	DHRS3	
622	FIG4	TXNDC5	BLMH	C7orf58	
623	THBD	GCNT4	SKAP2	MERTK	
624	UBE2W	AGFG2	LOC254128	TTC16	
625	FGD6	GNB5	RPS25	KCNH8	
626	UNC119	FLJ10038	RASGRP3	GOLGA7B	
627	C2orf18	NT5DC1	SERPINB6	PLXNA1	
628	SLC22A15	TRMT2B	RAPGEF5	PLCH2	
629	ACP2	TAF1D	SLC39A8	FES	
630	SLC30A1	AGK	DRAM1	PRKCA	
631	IQSEC2	GOT2	ELAC1	NRF1	
632	BCAT1	HAPLN3	CLEC12A	ARL8A	
633	PPARGC1B	BTLA	ITGA3	PRKCQ	
634	GALNT2	C12orf75	CUTC	KLF12	
635	DCTN4	MFGE8	RASGRP1	SNX2	
636	GADD45B	SLC39A8	SNRPA	TMEM127	
637	STAC3	UAP1	LANCL1	LOC220729	
638	BCKDK	C2orf29	LPCAT4	DGCR6L	
639	EVI5	RHPN1	PPP1R16B	ABCB4	
640	ARL11	SFMBT1	SSPN	METTL17	
641	CLIP2	SEPW1	RTN1	NFIC	
642	CCDC149	CRELD2	EML6	EBF1	
643	HLA-DQB2	NAA40	PARVB	LAMTOR1	
644	SPINT1	C13orf15	USP30	NVL	
645	ZNF703	SLC41A1	ZNF324	VSIG1	
646	CMKLR1	NR1D1	NID1	DAGLA	
647	PTGIR	AEN	LIPA	ENO2	
648	RAB20	SLA2	ASGR2	EMR1	
649	VPS37C	SLC38A5	MSRB2	SCARF1	
650	MCOLN1	RNASEH2C	LRRC8A	TCF3	
651	TTLL4	ASF1A	SLC41A1	CD96	
652	PVR	AMIGO1	CADM1	BCL2L2	
653	NCEH1	AKTIP	LIME1	SLC30A4	
654	NIPSNAP3A	SEC61G	AMIGO2	ZNF138	
655	FBXO6	INO80E	TNS3	APBB1	
656	MYO1E	STK35	SLC25A4	GPR137B	
657	METRNL	GPD1L	ICAM1	C14orf132	
658	PDE4A	SLC2A1	DGUOK	PIK3AP1	
659	ARHGAP21	FCRL2	C6orf129	CBLB	
660	C7orf58	ANAPC1	CD81	ZNF331	
661	RRM2B	HPCAL4	TCF19	RPS6KA2	
662	SLC36A1	TNFRSF13E	GATA3	GPR35	
663	SULT1A1	DUSP5	KCNN3	KLHDC4	
664	CDA	OSBPL10	TK2	CCDC57	
665	RENBP	EPHA1	MYCL1	SLC15A3	
666	OSBPL1A	WBSCR22	HHEX	TPM2	
667	EIF4EBP1	WDR85	KLHL18	GAA	
668	NOTCH1	ILF2	C3orf26	CCDC66	
669	FAM20C	GCET2	SNHG6	AK1	
670	HEBP1	PHF10	SLC25A24	CYP27A1	
671	PXK	MAGT1	GOLIM4	DOCK9	
672	CECR6	AK1	IFI27L1	OSGEPL1	
673	GBA	PKIA	SALL2	ZNF815	
674	KIAA0889	LOC339290	RAB20	USP53	
675	C8orf83	BLMH	HLA-DPB1	ZNF91	
676	RIN1	MEI1	MTMR14	RPS6	
677	FMNL2	ACVR2B	CD300C	SIGLEC7	
678	DOPEY2	ZNF783	PAK1	GPR133	
679	TMEM205	DAD1	SGALNACT	MRAS	
680	PCTP	OC100506	ANAPC7	PCNXL2	
681	TAGLN	ZNF91	WASH1	GPX1	
682	DLG4	DDB2	ABCD1	TIMP2	
683	ENC1	ANAPC7	SCLT1	PVR	
684	LOC121456	MTMR1	CMKLR1	ABCB1	
685	P2RY2	MLLT3	ATP10D	MMP17	
686	NUDT16P1	KLF8	MREG	IRF5	
687	C10orf105	NSUN5P2	RBMX2	GNB5	
688	TMEM150B	KDSR	CMAH	PEMT	
689	HCCS	SEC24D	LSM5	C13orf15	
690	RBP7	CCDC57	CD247	OSBPL7	
691	FXYD6	IGHD	SH3PXD2B	FLJ39582	
692	TMEM144	CARHSP1	WDR85	BLVRB	
693	FRMD4B	C5orf39	H2AFV	LOC202781	
694	PVRL1	NOC3L	SLAMF1	ABI3	
695	FEZ2	DTX3	ZNF616	CD151	
696	NCF1B	SLC17A9	FOLR2	ACVR2B	
697	GPR124	CHPF	RBBP8	SLC25A42	
698	ERMAP	RINT1	SIRPB2	GOLGA2B	
699	KCTD21	TCF19	DOK1	ORMDL3	
700	ZBTB47	SRM	SASH1	RBP7	
701	C6orf211	TXNDC15	ACAD11	MIER2	
702	PLAGL1	ACBD4	PPAT	FBXO46	
703	NUBP1	LIMA1	PLBD2	ZNF181	
704	FNDC3B	EZH2	PTPN7	PLEKHB1	
705	CDK2AP1	C6orf105	KIAA1274	AGAP3	
706	PARVB	FAM69A	LMO2	PNKD	
707	KCTD5	NOMO1	FLJ35776	ATP6V0E2	
708	MERTK	UBAP2	ZNF420	CACNA1F	
709	MRAS	CAV1	SLC22A15	GAS5	
710	CDC42EP4	GRPEL2	TSEN2	ACPP	
711	GOLIM4	AK5	ARHGEF11	DPH5	
712	BTN2A2	GNG7	NAE1	HAUS5	
713	ASAP2	ABCB1	AMZ2	CCDC65	
714	COQ2	C19orf12	HRASLS2	TRMT2B	
715	NACC2	GAL3ST4	NOC3L	CXCL16	
716	DAGLA	PRDX4	SH3GLB2	KCTD12	
717	DCLRE1B	KLHDC4	C7orf55	MPP1	
718	PPM1D	TMEM156	CLEC4D	ZNF540	

719	CDC42EP1	MFF	ITSN1	LOC339290	
720	C3orf21	P2RX5	NLN	MLX	
721	OC1001309	FKBP3	SNORA70	RNF135	
722	C13orf31	ADAT2	TSHZ3	CD101	
723	VEGFA	NSUN6	C8orf83	FAM190B	
724	WWC2	SLC25A38	ASAP2	ZNF75A	
725	TSHZ3	SGK223	RPS14	SCML4	
726	RTP4	C11orf10	DAPP1	LCK	
727	PRUNE2	ISYNA1	OPTN	RPS12	
728	FOLR2	PITPNB	C3orf18	HLA-DQB2	
729	TNS1	TPM2	FBXW4	LDOC1	
730	C15orf38	ATF7IP2	ANAPC1	NAAA	
731	RBBP8	KANK1	DACT1	ZNF43	
732	NFIC	TAF9B	FBP1	HPCAL4	
733	FZD2	SEPHS1	ANXA4	GRPEL2	
734	NRM	RUVBL1	TNFSF13	HIVEP3	
735	PLD1	C12orf11	SMCR7	EPHA4	
736	GPR141	MRPL9	LAMA5	GNRH1	
737	DGKG	CREB3L2	LILRA3	ATP6V0D1	
738	FAR2	SLC7A5	COQ2	ADAM22	
739	BCL2L2	BEX4	CST3	NOD2	
740	CNTLN	RASGRP3	SULT1A1	DBN1	
741	COL8A2	LOC93622	RASSF6	CSDA	
742	PWWP2B	C17orf28	IL4I1	FAM102B	
743	GLA	MRPS31	ZNF202	UHRF1BP1L	
744	LRP3	FBXO3	POLR3D	ATP8B2	
745	SH3PXD2B	PM20D2	CCR1	SLFN12	
746	GLCE	TMED9	GNA15	PLXDC1	
747	RILP	KIAA1712	C11orf80	NACC2	
748	C4orf32	GLDC	MTMR11	DPY19L2P2	
749	GPR137B	KDELC2	PRLR	ACRC	
750	GALK1	ZNF639	ASCL2	DTX3	
751	MMP14	9-Mar	DBH	DIAPH2	
752	SLC29A3	USP46	SEPW1	ADAP2	
753	MMP17	NVL	MECR	CDKN2B	
754	DNM3	ZFAND2B	BUB3	BNIP3L	
755	ASCL2	TRAF3IP2	ZNF185	C5orf39	
756	KLHDC8B	C14orf145	MAML3	PHLDA1	
757	TBC1D12	GPX7	TPP1	MYO1E	
758	SFXN5	CNPY2	MMP14	RNF19A	
759	MSRB2	NRF1	NUBP1	KIAA1430	
760	LPAR1	NDUFV2	VEGFA	DLEC1	
761	LIPN	NDUFB11	ADAM9	FGD6	
762	VASH1	LOC728392	TNS1	OC100130950	
763	PRLR	CLCC1	C6orf105	CA5B	
764	ADORA3	PARP16	KIAA1370	ODF2L	
765	LOC730102	KIF3A	FARSB	CTU1	
766	WLS	LMO7	POLR1E	HSBP1	
767	CLIC2	PRDM8	TLR5	FLJ13197	
768	SLFN12	TMEM106C	CHP	C3orf37	
769	NHS	ZNF75A	BRI3	EIF4EBP1	
770	MGC16275	C3orf18	CLYBL	KIAA1712	
771	CUEDC1	PTPRM	RPS29	KIF22	
772	IL4I1	THOP1	EVI5	FBXL5	
773	GPR133	PLAG1	PARP16	UBASH3A	
774	CPEB3	WDR73	SLC17A9	LRP3	
775	SWAP70	PTCH1	STAT4	ZNF827	
776	MIER2	GALM	THOP1	ZNF208	
777	ARHGAP29	CEP97	KCNA3	ASF1A	
778	MAP3K8	FCER2	ASAH1	ZNF274	
779	CDKN2B	GOLGA2B	FZD2	CD3G	
780	CTTNBP2NL	HDDC2	ITPRIPL2	CAMK1	
781	UNC5B	PRKRA	TAF9B	VPS37C	
782	DNMBP	CTSF	AGAP1	OSBPL10	
783	GPR35	AEBP1	HCCS	KIAA1324L	
784	ATOH8	ZNF251	RIN1	HSPA7	
785	FSCN1	TCEAL8	PDE4B	WNT7A	
786	MICALCL	TTC16	MIS18BP1	C2orf18	
787	C9orf47	FAM129C	MOSC1	ATG9B	
788	SLC1A3	C11orf80	SNAP47	CPEB3	
789	OC1002880	EAF2	LRRN3	SCRN2	
790	CD209	FAM98A	C15orf38	ACTR5	
791	MAP3K6	RALGAPA1	ATG7	RPS6KA4	
792	UBTD1	PLXNA1	TMSB15B	CTBP2	
793	HDX	LOC220729	PDE4A	LIPE	
794	NANP	RAB30	NCKAP5L	MTMR1	
795	CTU1	PIP4K2C	RBM11	FSCN1	
796	RPP25	SCRN2	SIRPG	ANKRD23	
797	CLEC1A	POLR1E	TRAF3IP2	CDHR3	
798	HNRNPH2	FLJ43663	DLG3	JDP2	
799	MMP19	PHGDH	GYPC	EPHX2	
800	NRP2	LAMA5	NCF1B	RELB	
801	P2RY1	ZNF671	PPM1D	PM20D2	
802	SEL1L	CCDC91	HDDC2	PCTP	
803	IMPAD1	MKL2	NTN4	MFGE8	
804	PEMT	LIN54	CDC42EP4	C6orf211	
805	DTX4	COX7A2	HERC2	KIAA0125	
806	LSM6	PI4K2B	FEZ2	RHBDF2	
807	RPS6KA2	CHST12	LPAR1	ESYT2	
808	SCN3A	DHRS3	TMIGD2	PLXDC2	
809	WDR24	MORC4	HLF	ABO	
810	ABCB4	DLEC1	OCIAD2	ARRDC4	
811		GTF2H4	COL6A1	KIF13A	
812		LSM5	PRUNE2	RAB39B	
813		AKT3	ICOS	C17orf87	
814		SEMA4F	GPR141	FAM100B	
815		TCEA3	RILPL1	PDLIM5	
816		SNX22	MTRF1	P2RY1	
817		C10orf2	LGALS1	FBLN2	
818		CD320	BCAT1	FAR2	
819		PPP1R13B	HAPLN3	PGD	
820		ZNF815	ADORA3	C9orf172	
821		ZNF14	OSBPL1A	ARHGEF10L	
822		REXO2	PLD1	RHOU	
823		HIBCH	RIN2	SF3A2	
824		EBP	RPGRIP1L	NR3C2	
825		MTHFD1	OTUD7B	S100PBP	
826		PCYT2	MORC4	SUPV3L1	
827		C21orf91	DPYSL4	OSCAR	
828		PTPLAD1	SIDT1	FAM129B	
829		SNAP47	ZSWIM5	ARL11	
830		MID2	ZNF256	BEX4	
831		C11orf48	CD300LF	TBC1D12	
832		ZNF827	PGAP2	PTCH1	
833		ZNF204P	KRT1	CAD	
834		UQCRH	FRMD4B	BRPF3	
835		WDR19	NFAM1	TJP2	
836		NTAN1	ANXA6	PRKCD	
837		CUTC	KLHDC8B	IFNGR2	
838		GFOD2	CAMK4	SLC35D1	
839		GALNT12	CELSR3	LIN54	

840	FARSB	NANP	COL8A2
841	TTC28-AS1	CCDC85C	GPR124
842	VMAC	ASNS	PLAG1
843	FBXO46	ATOH8	DOCK3
844	CCBL1	STAC3	PAIP2B
845	ZNF248	TIGD1	DLG4
846	SNHG12	ROGDI	CTTNBP2NL
847	CRYZL1	FBN2	RAB32
848	GGH	P2RX7	NSUN6
849	PLEKHG1	HRH2	LRRC33
850	ZNF331	FZD1	TMEM156
851	ZFP3	NRM	DLST
852	RABAC1	GCNT4	CRYZL1
853	MTRF1	DDB2	ZNF204P
854	ACTR5	ACER3	CRIP2
855	C8orf80	C13orf31	MGC16275
856	DGUOK	DCLRE1B	COL4A3BP
857	DERL2	IFT80	TBC1D8
858	LOC202781	TCEA3	GNG7
859	SDC1	HNRNPH2	GAL3ST4
860	CRIP2	PXMP2	AGTRAP
861	LRRC37B		DZIP3
862	ZNF525		ARHGAP21
863	CMAH		CEP120
864	NT5DC2		PDE4D
865	LSM2		NBPF3
866	NCRNA00287		C3orf21
867	QPCTL		UBTD1
868	PHC1		LOC284837
869	ANKS6		CLEC1A
870	SUPV3L1		ACBD4
871	SDF2L1		WLS
872	KIAA1324L		FCAR
873	TCL1A		GALNT12
874	IPO4		C9orf95
875	RBMX2		SLC25A38
876	PAIP2B		LIG1
877	FLJ13197		LRRC16A
878	SELS		ZNF551
879	C19orf53		ZNF107
880	ZNF43		LY86
881	SBDS		GSN
882	PGAP2		LOC646214
883	C6orf129		NPAS2
884	EDAR		P2RY2
885	ZNF708		GPD1L
886	APOBEC3G		WWC2
887	RAB39B		RENBP
888	MCPH1		SLC39A1
889	MAGOHB		CDC14A
890	WFS1		SLC46A2
891	LRRC16A		AEN
892	CXorf57		CPNE8
893	KDELR2		CECR6
894	ADAM22		MCOLN3
895	ZNF551		MICALCL
896	TMIGD2		IL13RA1
897	OTUD7B		DUT
898	DBN1		PHC1
899	PARP2		SOCS2
900	HOOK2		SFMBT1
901	OSGEPL1		GALM
902	DACT1		CEBPA
903	DLG3		CENPV
904	CCDC65		LAMP2
905	DGCR6L		HEBP1
906	TMEM25		MTUS1
907	POLR3D		TMEM144
908	USP30		SEMA4F
909	ZNF138		PBX4
910	FCRLA		PCYT2
911	ZNF202		AXIN2
912	ZNF439		MRPS33
913	ZNF287		SELM
914	SPCS2		SNORD22
915	C15orf57		TAF1D
916	MOXD1		SPEG
917	ANKRD36BP2		CLIC2
918	PBX4		RINT1
919	FKBP2		GADD45B
920	CREB3		RPL34
921	ZNF540		ZNF708
922	ZNF420		NRP2
923	MTUS1		PKIA
924	RPL7		FAM84B
925	PDIA5		FXYD6
926	ANKRD23		UNC5B
927	WASH1		FAM171A1
928	RPS27L		MS4A14
929	NOMO2		LSM2
930	LOC100216545		ATP1A3
931	SPEG		PVRL1
932	CCDC85C		ARSD
933	MAGEH1		LOC100128288
934	TSEN2		SLC29A3
935	ITGA3		ARHGAP29
936	LOC100188949		CDK2AP1
937	PGAP1		GALT
938	ABO		LRRC8C
939	FAM171A1		C10orf2
940	CLYBL		RPS21
941	ALDH1L2		SERPINB8
942	LIPE		TSEN54
943	PPAT		RAB24
944	CDC37L1		NHLRC4
945	SLC25A4		KIAA1598
946	C14orf132		S100B
947	MRPS33		DNM3
948	LDOC1		SIGLEC9
949	GPANK1		CSGALNACT1
950	SSPN		NHS
951	COL19A1		AP3M2
952	MREG		CTSL1
953	ATG9B		1-Sep
954	DOCK3		PLIN3
955	ACRC		MMP19
956	TIGD1		CDKN1A
957	MRPL1		ETV6
958	RAD51C		RILPL2
959	CORO2A		RNF13
960	ZNF324		C9orf47

961	ZNF181	PFN2
962	ALG5	HAGHL
963	ZNF614	EIF2D
964	TNFRSF13C	ACVR1B
965	SALL2	LIPN
966	CENPV	TRAT1
967	ELAC1	ZBTB47
968	CNKSR1	BCAR3
969	IGF1	RALGAPA1
970	EML6	NUDT16P1
971	C7orf55	ZFAND2B
972	ATP1A3	RNH1
973	KLRAP1	NT5DC1
974	NBPF3	GFOD2
975	DNAJC1	RPL38
976	ZNF208	RAD51C
977	CELSR3	TMEM25
978	COL6A1	PPP1R13B
979	C3orf26	RPP25
980	SNORD22	ZNF287
981	SNORA70	CD209
982	IDE	EDAR
983	SELM	MLLT3
984	MRPL46	RALB
985	CACNA1F	OBFC1
986	RFC3	DNMT3A
987	MCOLN3	ZNF703
988	GPRC5D	MID2
989	MED7	RPL27A
990	MECR	ZNF385A
991	GNRH1	C17orf61-PLSCR3
992	CCNB1	PLAGL1
993	PFN2	FIG4
994	IQCG	PRPS1
995	CNKSR2	AK5
996	PSMD8	INSR
997	ZNF256	AGFG2
998	ZNF616	GALK1
999	KCNH8	USP46
1000	KRT1	B4GALT5
1001	HAGHL	SLC1A3
1002	NUP37	LSR
1003	FBLN2	LOC121456
1004	C11orf35	CCBL1
1005	AGAP1	LOC730102
1006	C1orf228	HDX
1007	PKHD1L1	C12orf57
1008	SLC30A4	PTPRM
1009	DPY19L2P2	KLRAP1
1010	PHLDA1	KANK1
1011	CDHR3	MRPS31
1012	C15orf24	ENC1
1013	DBH	CD2
1014	KIAA1274	NSUN5P2
1015	SMCR7	SIT1
1016	PYCR1	LTK
1017	DPYSL4	
1018	CADM1	
1019	BHLHA15	
1020	SLC2A5	
1021	ELOF1	
1022	ZSWIM5	
1023	SLC16A14	
1024	LOC100128288	
1025	HLF	
1026	RILPL1	
1027	RPGRIP1L	
1028	FER1L4	
1029	PXMP2	
1030	NTN4	
1031	EPPK1	
1032	NUS1	
1033	EBF1	
1034	ACAD11	
1035	NPAS2	
1036	LOC254128	
1037	IFI27L1	
1038	TMSB15B	
1039	NCRNA00152	
1040	NHLRC4	
1041	BCAR3	
1042	HRASLS2	
1043	ZCCHC17	
1044	S100B	
1045	RAPGEF5	
1046	FLJ35776	
1047	SEMA7A	
1048	LOC646214	
1049	C17orf61-PLSCR3	
1050	GALK2	
1051	TXNL4A	
1052	KCNN3	
1053	RBM11	
1054	POLR2L	
1055	NEK8	
1056	RASSF6	
1057	PKIG	
1058	WNT7A	
1059	C9orf172	
1060	PAX5	
1061	FLJ39582	
1062	LRRC59	
1063	ZNF117	
1064	VPREB3	
1065	KDELR1	
1066	POLR2D	

Supplementary Method– Functional Principal Component Analysis



Using functional principal component analysis (FPCA), the expression curve of a gene can be approximated by the equation $x(t) = \mu + \beta_1\phi_1(t) + \beta_2\phi_2(t) + \epsilon(t)$, where μ is the mean expression level of the gene over time, $\phi_1(t)$ and $\phi_2(t)$ are orthonormal eigenfunctions, the coefficients β_1 and β_2 are the loadings on corresponding eigenfunctions, and $\epsilon(t)$ represents the unexplained temporal variation. (a) An example of two eigenfunctions (black and blue solid lines). (b) The corresponding loadings for 80 genes are plotted showing temporally differentially expressed genes (red circles), and non-differentially expressed genes (black). When the loadings (β_1, β_2) are located far away from the origin (0, 0), the corresponding gene expression curve has a large deviation from a flat line, i.e., a large signal. In contrast, when (β_1, β_2) are close to (0, 0), the gene expression curve tends to be flatter, i.e., a small signal. Whether a gene is differentially expressed is determined by its signal-to- noise ratio. So genes with large loadings (β_1, β_2) are not necessarily identified as differentially expressed, but they are more likely to be differentially expressed than those with small loadings. (c) Temporal expression data for the two genes labeled as an asterisk "*" in (B) overlaid with the expression curves estimated using FPCA. Note that the gene represented by the black line, which is not differentially expressed, has a very small variation from baseline, and thus a low signal-to-noise ratio. In contrast, the gene represented by the red line has a large variation from baseline, larger loadings (β_1, β_2) corresponding to the red star in (B) and a higher signal-to-noise ratio.