

Table SI. K-means clustering groups (G1 and G2) of TCGA data.

Patient	Subgroup
TCGA-IC-A6RF-01	G1
TCGA-IG-A3I8-01	G1
TCGA-IG-A3QL-01	G1
TCGA-IG-A3Y9-01	G2
TCGA-IG-A3YA-01	G2
TCGA-IG-A3YB-01	G2
TCGA-IG-A3YC-01	G2
TCGA-IG-A4P3-01	G2
TCGA-IG-A4QT-01	G2
TCGA-IG-A50L-01	G1
TCGA-IG-A51D-01	G1
TCGA-IG-A5B8-01	G2
TCGA-IG-A5S3-01	G1
TCGA-IG-A625-01	G1
TCGA-IG-A6QS-01	G1
TCGA-IG-A8O2-01	G1
TCGA-IG-A97H-01	G2
TCGA-IG-A97I-01	G2
TCGA-JY-A6FA-01	G1
TCGA-JY-A6FD-01	G1
TCGA-JY-A6FE-01	G1
TCGA-JY-A6FG-01	G2
TCGA-JY-A93F-01	G2
TCGA-KH-A6WC-01	G2
TCGA-L5-A43H-01	G2
TCGA-L5-A43J-01	G2
TCGA-L5-A4OM-01	G1
TCGA-L5-A88S-01	G2
TCGA-L5-A88W-01	G2
TCGA-L5-A88Z-01	G1
TCGA-L5-A8NK-01	G2
TCGA-L5-A8NQ-01	G2
TCGA-L7-A56G-01	G1
TCGA-LN-A49K-01	G1
TCGA-LN-A49L-01	G2
TCGA-LN-A49M-01	G1
TCGA-LN-A49N-01	G1
TCGA-LN-A49O-01	G1
TCGA-LN-A49P-01	G1
TCGA-LN-A49R-01	G1
TCGA-LN-A49S-01	G2
TCGA-LN-A49U-01	G1
TCGA-LN-A49V-01	G1
TCGA-LN-A49W-01	G2
TCGA-LN-A49X-01	G1
TCGA-LN-A49Y-01	G1
TCGA-LN-A4A1-01	G1
TCGA-LN-A4A2-01	G1
TCGA-LN-A4A3-01	G1
TCGA-LN-A4A4-01	G1
TCGA-LN-A4A5-01	G1
TCGA-LN-A4A6-01	G1
TCGA-LN-A4A8-01	G1
TCGA-LN-A4A9-01	G2
TCGA-LN-A4MQ-01	G1

Table SI. Continued.

Patient	Subgroup
TCGA-LN-A4MR-01	G1
TCGA-LN-A5U5-01	G1
TCGA-LN-A5U6-01	G2
TCGA-LN-A5U7-01	G1
TCGA-LN-A7HV-01	G1
TCGA-LN-A7HW-01	G1
TCGA-LN-A7HX-01	G1
TCGA-LN-A7HY-01	G2
TCGA-LN-A7HZ-01	G1
TCGA-LN-A8HZ-01	G1
TCGA-LN-A8I0-01	G1
TCGA-LN-A8I1-01	G2
TCGA-LN-A9FO-01	G2
TCGA-LN-A9FP-01	G1
TCGA-LN-A9FQ-01	G1
TCGA-LN-A9FR-01	G1
TCGA-Q9-A6FU-01	G2
TCGA-S8-A6BW-01	G2
TCGA-V5-A7RC-01	G2
TCGA-V5-A7RC-06	G2
TCGA-V5-AASV-01	G2
TCGA-VR-A8EO-01	G1
TCGA-VR-A8EP-01	G2
TCGA-VR-A8ER-01	G1
TCGA-VR-A8ET-01	G2
TCGA-VR-A8EU-01	G2
TCGA-VR-A8EW-01	G2
TCGA-VR-A8EX-01	G2
TCGA-VR-A8EY-01	G1
TCGA-VR-A8EZ-01	G2
TCGA-VR-A8Q7-01	G1
TCGA-VR-AA4G-01	G2
TCGA-VR-AA7B-01	G1
TCGA-VR-AA7D-01	G2
TCGA-VR-AA7I-01	G2
TCGA-XP-A8T6-01	G1
TCGA-XP-A8T8-01	G1
TCGA-Z6-A8JD-01	G2
TCGA-Z6-A8JE-01	G2
TCGA-Z6-A9VB-01	G1
TCGA-Z6-AAPN-01	G2

Table SII. Top 75 RNAs analyzed by ANOVA F test.

Order	Gene	F	Pr
1	NAGK	30.944	2.488x10 ⁻⁷
2	NUP188	24.915	2.747x10 ⁻⁶
3	KIAA1958	24.477	3.288x10 ⁻⁶
4	SIX4	23.716	4.502x10 ⁻⁶
5	CCDC109B	23.627	4.673x10 ⁻⁶
6	CD47	22.809	6.570x10 ⁻⁶
7	IRF5	22.338	8.004x10 ⁻⁶
8	ANG	22.203	8.471x10 ⁻⁶
9	ODF2	22.132	8.731x10 ⁻⁶
10	ACP5	22.053	9.026x10 ⁻⁶
11	HERPUD1	21.010	1.404x10 ⁻⁵
12	HIBCH	20.812	1.528x10 ⁻⁵
13	GPR77	20.690	1.610x10 ⁻⁵
14	ARRDC5	20.258	1.937x10 ⁻⁵
15	A1BG	20.197	1.989x10 ⁻⁵
16	CDK5RAP2	19.728	2.434x10 ⁻⁵
17	NCRNA00094	19.675	2.491x10 ⁻⁵
18	LSP1	19.607	2.565x10 ⁻⁵
19	PLK3	19.590	2.584x10 ⁻⁵
20	QSOX2	19.351	2.867x10 ⁻⁵
21	GATA3	19.233	3.017x10 ⁻⁵
22	RFC5	19.073	3.234x10 ⁻⁵
23	FLJ42709	18.933	3.438x10 ⁻⁵
24	FAM64A	18.792	3.655x10 ⁻⁵
25	FAM193B	18.609	3.961x10 ⁻⁵
26	GM2A	18.529	4.101x10 ⁻⁵
27	VAMP8	18.423	4.296x10 ⁻⁵
28	TMED9	18.315	4.504x10 ⁻⁵
29	ZNF252	18.237	4.662x10 ⁻⁵
30	GRN	18.190	4.759x10 ⁻⁵
31	LIPC	18.127	4.893x10 ⁻⁵
32	PTGES2	18.067	5.024x10 ⁻⁵
33	SDCCAG3	18.054	5.052x10 ⁻⁵
34	CD244	18.019	5.131x10 ⁻⁵
35	FAM72A	17.931	5.335x10 ⁻⁵
36	SLC45A4	17.921	5.359x10 ⁻⁵
37	HSP90AB4P	17.853	5.520x10 ⁻⁵
38	CTSH	17.794	5.667x10 ⁻⁵
39	ASPM	17.781	5.699x10 ⁻⁵
40	TRIB2	17.562	6.280x10 ⁻⁵
41	GOLIM4	17.511	6.421x10 ⁻⁵
42	EXOSC2	17.456	6.581x10 ⁻⁵
43	PFAS	17.338	6.935x10 ⁻⁵
44	ABCB6	17.271	7.143x10 ⁻⁵
45	NRCAM	17.200	7.373x10 ⁻⁵
46	CCDC138	17.176	7.453x10 ⁻⁵
47	LOC388955	17.155	7.520x10 ⁻⁵
48	HIP1	16.966	8.184x10 ⁻⁵
49	DHX33	16.887	8.477x10 ⁻⁵
50	INTS2	16.782	8.882x10 ⁻⁵
51	WWC1	16.767	8.944x10 ⁻⁵
52	ANKRD37	16.760	8.971x10 ⁻⁵
53	BTBD1	16.730	9.093x10 ⁻⁵
54	C12orf48	16.720	9.133x10 ⁻⁵
55	CARHSP1	16.543	9.883x10 ⁻⁵
56	E2F7	16.516	1.001x10 ⁻⁴

Table SII. Continued.

Order	Gene	F	Pr
57	PDCL	16.406	1.051x10 ⁻⁴
58	SMYD4	16.330	1.088x10 ⁻⁴
59	LRP8	16.327	1.089x10 ⁻⁴
60	C3orf19	16.303	1.101x10 ⁻⁴
61	MGAT1	16.203	1.152x10 ⁻⁴
62	SLC6A12	16.181	1.163x10 ⁻⁴
63	MPHOSPH9	15.983	1.271x10 ⁻⁴
64	SIX1	15.975	1.276x10 ⁻⁴
65	FANCC	15.830	1.362x10 ⁻⁴
66	C5	15.737	1.421x10 ⁻⁴
67	WDR13	15.735	1.422x10 ⁻⁴
68	CABYR	15.722	1.430x10 ⁻⁴
69	PTPN22	15.636	1.488x10 ⁻⁴
70	PTPDC1	15.611	1.504x10 ⁻⁴
71	DDX41	15.606	1.508x10 ⁻⁴
72	DEPDC4	15.567	1.534x10 ⁻⁴
73	NDUFC1	15.527	1.563x10 ⁻⁴
74	GABARAPL2	15.470	1.603x10 ⁻⁴
75	DPEP2	15.454	1.615x10 ⁻⁴

Table SIII. Top 75 methylation genes analyzed by ANOVA F test.

Order	Gene	F	Pr
1	OR2M4_promoter	31.359	2.119x10 ⁻⁷
2	WRN_promoter	30.330	3.158x10 ⁻⁷
3	OR2L8_promoter	29.220	4.878x10 ⁻⁷
4	REG1P_promoter	24.530	3.217x10 ⁻⁶
5	ELSPBP1_promoter	24.263	3.591x10 ⁻⁶
6	PWRN1_promoter	24.093	3.852x10 ⁻⁶
7	REG3G_promoter	23.285	5.387x10 ⁻⁶
8	MIR1468_promoter	23.035	5.978x10 ⁻⁶
9	OR9I1_promoter	22.741	6.759x10 ⁻⁶
10	OR10W1_promoter	21.617	1.085x10 ⁻⁵
11	OR7D4_promoter	21.455	1.162x10 ⁻⁵
12	OR1A2_promoter	21.337	1.222x10 ⁻⁵
13	OR2W3_promoter	21.163	1.316x10 ⁻⁵
14	FKBP4_promoter	21.021	1.398x10 ⁻⁵
15	CASP14_promoter	20.711	1.596x10 ⁻⁵
16	SSTR3_promoter	20.574	1.692x10 ⁻⁵
17	C19orf30_promoter	20.502	1.745x10 ⁻⁵
18	MIR376B_promoter	20.373	1.844x10 ⁻⁵
19	OR2L2_promoter	20.365	1.851x10 ⁻⁵
20	REG1A_promoter	20.281	1.918x10 ⁻⁵
21	MIR523_promoter	20.115	2.060x10 ⁻⁵
22	OR9Q2_promoter	20.018	2.148x10 ⁻⁵
23	OR2M5_promoter	19.753	2.409x10 ⁻⁵
24	MGAM_promoter	19.663	2.504x10 ⁻⁵
25	MIR519E_promoter	19.545	2.636x10 ⁻⁵
26	FMO6P_promoter	19.528	2.654x10 ⁻⁵
27	OR5AN1_promoter	19.267	2.973x10 ⁻⁵
28	OR5E1P_promoter	19.055	3.260x10 ⁻⁵
29	SIRPD_promoter	18.815	3.620x10 ⁻⁵
30	ARMC1_promoter	18.632	3.920x10 ⁻⁵
31	PDIA5_promoter	18.593	3.989x10 ⁻⁵
32	SNORD115-40_promoter	18.560	4.046x10 ⁻⁵
33	SLC10A2_promoter	18.505	4.146x10 ⁻⁵
34	PTGS2_promoter	18.438	4.269x10 ⁻⁵
35	MIR516B1_promoter	18.306	4.523x10 ⁻⁵
36	TAS2R60_promoter	18.113	4.923x10 ⁻⁵
37	MIR548D2_promoter	17.983	5.214x10 ⁻⁵
38	GLT6D1_promoter	17.945	5.301x10 ⁻⁵
39	C3orf59_promoter	17.894	5.422x10 ⁻⁵
40	PSG8_promoter	17.852	5.522x10 ⁻⁵
41	MIR526A1_promoter	17.777	5.710x10 ⁻⁵
42	CSAG1_promoter	17.751	5.775x10 ⁻⁵
43	RAET1L_promoter	17.720	5.856x10 ⁻⁵
44	ADAM6_promoter	17.608	6.153x10 ⁻⁵
45	C13orf28_promoter	17.587	6.208x10 ⁻⁵
46	KCNA1_promoter	17.469	6.543x10 ⁻⁵
47	MIR516A2_promoter	17.378	6.814x10 ⁻⁵
48	TPRA1_promoter	17.295	7.069x10 ⁻⁵
49	OR2M3_promoter	17.245	7.227x10 ⁻⁵
50	MIR376A1_promoter	17.244	7.230x10 ⁻⁵
51	MIR519A2_promoter	17.178	7.446x10 ⁻⁵
52	FARP2_promoter	17.078	7.783x10 ⁻⁵
53	MIR1911_promoter	16.990	8.096x10 ⁻⁵
54	LUZP4_promoter	16.958	8.213x10 ⁻⁵
55	OR2M1P_promoter	16.905	8.407x10 ⁻⁵

Table SIII. Continued.

Order	Gene	F	Pr
56	LOC642006_promoter	16.889	8.467x10 ⁻⁵
57	CLEC2D_promoter	16.888	8.473x10 ⁻⁵
58	OR11L1_promoter	16.815	8.752x10 ⁻⁵
59	DARC_promoter	16.803	8.800x10 ⁻⁵
60	C21orf99_promoter	16.551	9.849x10 ⁻⁵
61	TNFSF4_promoter	16.529	9.945x10 ⁻⁵
62	MIR521-2_promoter	16.528	9.951x10 ⁻⁵
63	SLC8A1_promoter	16.485	1.014x10 ⁻⁴
64	KNDC1_promoter	16.457	1.027x10 ⁻⁴
65	RRAGC_promoter	16.447	1.032x10 ⁻⁴
66	TRA2B_promoter	16.375	1.066x10 ⁻⁴
67	MRPL41_promoter	16.318	1.094x10 ⁻⁴
68	OR2T3_promoter	16.239	1.133x10 ⁻⁴
69	MIR488_promoter	16.234	1.136x10 ⁻⁴
70	REG3A_promoter	16.207	1.149x10 ⁻⁴
71	LOC150622_promoter	16.162	1.173x10 ⁻⁴
72	TP53TG3B_promoter	16.129	1.190x10 ⁻⁴
73	CRLF1_promoter	16.109	1.201x10 ⁻⁴
74	CCT8_promoter	16.078	1.218x10 ⁻⁴
75	MYH8_promoter	16.076	1.219x10 ⁻⁴

Table SIV. The differentially expressed mRNAs.

Gene	Log ₂ FC	P-value	FDR
ANXA10	-4.235	1.068x10 ⁻¹⁷	1.792x10 ⁻¹³
MUC6	-3.631	8.040x10 ⁻¹⁴	6.742x10 ⁻¹⁰
GPR77	2.030	5.755x10 ⁻¹²	3.217x10 ⁻⁸
ABCC2	-2.329	1.702x10 ⁻¹¹	7.136x10 ⁻⁸
FIBCD1	-2.912	6.019x10 ⁻¹¹	1.352x10 ⁻⁷
PIWIL2	3.063	8.302x10 ⁻¹¹	1.352x10 ⁻⁷
MUC5B	3.308	8.270x10 ⁻¹¹	1.352x10 ⁻⁷
ZFP57	2.620	8.865x10 ⁻¹¹	1.352x10 ⁻⁷
DCC	-3.223	5.689x10 ⁻¹¹	1.352x10 ⁻⁷
ADAMTS18	-3.098	6.500x10 ⁻¹¹	1.352x10 ⁻⁷
UPK1A	2.888	6.655x10 ⁻¹¹	1.352x10 ⁻⁷
CPLX2	-3.456	2.067x10 ⁻¹⁰	2.889x10 ⁻⁷
APBB1IP	1.660	4.215x10 ⁻¹⁰	5.439x10 ⁻⁷
LIPC	2.035	6.346x10 ⁻¹⁰	7.603x10 ⁻⁷
CHIT1	2.773	9.138x10 ⁻¹⁰	9.579x10 ⁻⁷
SCGB3A1	2.951	8.570x10 ⁻¹⁰	9.579x10 ⁻⁷
LOC162632	2.163	1.041x10 ⁻⁹	1.027x10 ⁻⁶
NECAB2	-2.632	1.365x10 ⁻⁹	1.272x10 ⁻⁶
ANKRD37	1.628	2.564x10 ⁻⁹	2.245x10 ⁻⁶
LSP1	1.228	2.677x10 ⁻⁹	2.245x10 ⁻⁶
NAGK	0.744	4.610x10 ⁻⁹	3.659x10 ⁻⁶
EMR1	2.245	4.799x10 ⁻⁹	3.659x10 ⁻⁶
CCL20	2.202	6.316x10 ⁻⁹	4.605x10 ⁻⁶
TRIM58	2.238	9.117x10 ⁻⁹	6.255x10 ⁻⁶
CABYR	-2.065	9.324x10 ⁻⁹	6.255x10 ⁻⁶
GPR1	1.631	9.776x10 ⁻⁹	6.306x10 ⁻⁶
CD200R1	1.434	1.215x10 ⁻⁸	7.546x10 ⁻⁶
CD244	1.543	1.534x10 ⁻⁸	9.189x10 ⁻⁶
MARCO	2.380	1.667x10 ⁻⁸	9.322x10 ⁻⁶
TCN1	2.701	1.665x10 ⁻⁸	9.322x10 ⁻⁶
SLC14A1	-2.022	2.472x10 ⁻⁸	1.337x10 ⁻⁵
GPR171	1.641	3.394x10 ⁻⁸	1.779x10 ⁻⁵
CDK5RAP2	-0.883	3.561x10 ⁻⁸	1.810x10 ⁻⁵
TRIB2	-1.074	4.269x10 ⁻⁸	2.106x10 ⁻⁵
BLK	2.305	4.789x10 ⁻⁸	2.295x10 ⁻⁵
AZGP1	2.595	5.186x10 ⁻⁸	2.416x10 ⁻⁵
ZAP70	1.778	5.662x10 ⁻⁸	2.451x10 ⁻⁵
AGR3	2.074	5.680x10 ⁻⁸	2.451x10 ⁻⁵
HERPUD1	0.746	5.700x10 ⁻⁸	2.451x10 ⁻⁵
ADH1C	-2.911	5.980x10 ⁻⁸	2.470x10 ⁻⁵
CD7	1.659	6.037x10 ⁻⁸	2.470x10 ⁻⁵
LOC10-188949	1.565	7.345x10 ⁻⁸	2.933x10 ⁻⁵
SFTPA2	1.824	9.506x10 ⁻⁸	3.543x10 ⁻⁵
PTPRN2	1.456	9.435x10 ⁻⁸	3.543x10 ⁻⁵
SHISA9	-2.482	9.499x10 ⁻⁸	3.543x10 ⁻⁵
TNFSF14	1.501	1.258x10 ⁻⁷	4.489x10 ⁻⁵
KIAA0319	-2.376	1.256x10 ⁻⁷	4.489x10 ⁻⁵
CACNA1F	1.752	1.382x10 ⁻⁷	4.730x10 ⁻⁵
GJB1	1.814	1.376x10 ⁻⁷	4.730x10 ⁻⁵
EDAR	-2.186	1.895x10 ⁻⁷	5.792x10 ⁻⁵
SHISA2	-2.152	1.841x10 ⁻⁷	5.792x10 ⁻⁵
GATA3	1.610	1.852x10 ⁻⁷	5.792x10 ⁻⁵
NGFR	-1.916	1.900x10 ⁻⁷	5.792x10 ⁻⁵
CD3E	1.435	1.819x10 ⁻⁷	5.792x10 ⁻⁵
ZG16B	2.398	1.819x10 ⁻⁷	5.792x10 ⁻⁵
OR7E91P	1.680	2.493x10 ⁻⁷	7.465x10 ⁻⁵

Table SIV. Continued.

Gene	Log ₂ FC	P-value	FDR
GPR132	1.180	2.574x10 ⁻⁷	7.575x10 ⁻⁵
ACP5	1.023	3.081x10 ⁻⁷	8.909x10 ⁻⁵
TRPA1	-1.681	3.155x10 ⁻⁷	8.967x10 ⁻⁵
GCLC	-1.215	3.382x10 ⁻⁷	9.453x10 ⁻⁵
FLJ42709	-0.931	3.460x10 ⁻⁷	9.513x10 ⁻⁵
PIGR	2.692	3.729x10 ⁻⁷	9.928x10 ⁻⁵
HMGCS2	2.318	3.715x10 ⁻⁷	9.928x10 ⁻⁵
HSPA7	1.712	4.470x10 ⁻⁷	1.172x10 ⁻⁴
NCRNA00094	-0.644	4.767x10 ⁻⁷	1.224x10 ⁻⁴
ZNF483	-1.362	4.817x10 ⁻⁷	1.224x10 ⁻⁴
MAP2	-1.662	5.102x10 ⁻⁷	1.272x10 ⁻⁴
TREML2	1.490	5.158x10 ⁻⁷	1.272x10 ⁻⁴
SYNPO2L	2.009	5.269x10 ⁻⁷	1.281x10 ⁻⁴
CD22	1.691	5.427x10 ⁻⁷	1.300x10 ⁻⁴
ANG	0.967	5.598x10 ⁻⁷	1.322x10 ⁻⁴
C17orf50	1.538	6.306x10 ⁻⁷	1.469x10 ⁻⁴
C10orf81	2.314	6.548x10 ⁻⁷	1.504x10 ⁻⁴
CITED4	1.101	6.928x10 ⁻⁷	1.570x10 ⁻⁴
COL2A1	-2.151	7.434x10 ⁻⁷	1.662x10 ⁻⁴
CRCT1	2.755	7.889x10 ⁻⁷	1.741x10 ⁻⁴
TREM1	1.604	8.102x10 ⁻⁷	1.765x10 ⁻⁴
FCRL1	1.961	8.462x10 ⁻⁷	1.820x10 ⁻⁴
TMEM116	-1.332	8.600x10 ⁻⁷	1.826x10 ⁻⁴
F2RL2	-1.571	9.586x10 ⁻⁷	1.961x10 ⁻⁴
CLDN20	-1.770	1.012x10 ⁻⁶	1.996x10 ⁻⁴
C12orf59	1.803	1.003x10 ⁻⁶	1.996x10 ⁻⁴
IL20	2.086	1.007x10 ⁻⁶	1.996x10 ⁻⁴
SCN9A	-2.126	1.064x10 ⁻⁶	2.048x10 ⁻⁴
TSPAN8	1.876	1.050x10 ⁻⁶	2.048x10 ⁻⁴
BCAN	-1.766	1.074x10 ⁻⁶	2.048x10 ⁻⁴
TARBP1	-0.672	1.204x10 ⁻⁶	2.269x10 ⁻⁴
GCLM	-1.437	1.236x10 ⁻⁶	2.303x10 ⁻⁴
MEGF9	-0.963	1.252x10 ⁻⁶	2.308x10 ⁻⁴
FAM72A	-0.828	1.302x10 ⁻⁶	2.347x10 ⁻⁴
ACTL8	2.338	1.301x10 ⁻⁶	2.347x10 ⁻⁴
BCL8	-2.166	1.337x10 ⁻⁶	2.386x10 ⁻⁴
A1BG	1.078	1.360x10 ⁻⁶	2.402x10 ⁻⁴
ALOX15B	2.125	1.496x10 ⁻⁶	2.614x10 ⁻⁴
PPP1R16B	1.279	1.626x10 ⁻⁶	2.812x10 ⁻⁴
ASPM	-0.720	1.691x10 ⁻⁶	2.894x10 ⁻⁴
FAIM3	0.916	1.723x10 ⁻⁶	2.918x10 ⁻⁴
ANGPTL4	1.434	1.754x10 ⁻⁶	2.942x10 ⁻⁴
PKN3	-0.792	1.818x10 ⁻⁶	2.989x10 ⁻⁴
CHAC1	1.323	1.806x10 ⁻⁶	2.989x10 ⁻⁴
SLC4A8	1.379	1.997x10 ⁻⁶	3.251x10 ⁻⁴
LOC10-289341	-0.892	2.017x10 ⁻⁶	3.252x10 ⁻⁴
SDCCAG3	-0.591	2.050x10 ⁻⁶	3.274x10 ⁻⁴
HSP90AB4P	0.902	2.138x10 ⁻⁶	3.383x10 ⁻⁴
CAP1	0.796	2.272x10 ⁻⁶	3.435x10 ⁻⁴
NCF1	1.143	2.244x10 ⁻⁶	3.435x10 ⁻⁴
FCAMR	1.984	2.274x10 ⁻⁶	3.435x10 ⁻⁴
BAG2	-0.971	2.294x10 ⁻⁶	3.435x10 ⁻⁴
ZMPSTE24	0.646	2.244x10 ⁻⁶	3.435x10 ⁻⁴
TRAT1	1.733	2.260x10 ⁻⁶	3.435x10 ⁻⁴
IL34	1.380	2.410x10 ⁻⁶	3.565x10 ⁻⁴
DEFB1	1.777	2.423x10 ⁻⁶	3.565x10 ⁻⁴

Table SIV. Continued.

Gene	Log ₂ FC	P-value	FDR
KLRB1	1.552	2.459x10 ⁻⁶	3.586x10 ⁻⁴
PTPN22	1.124	2.502x10 ⁻⁶	3.617x10 ⁻⁴
COL9A3	-1.795	2.580x10 ⁻⁶	3.699x10 ⁻⁴
FCRL6	1.312	2.737x10 ⁻⁶	3.891x10 ⁻⁴
CCR4	1.479	2.860x10 ⁻⁶	3.999x10 ⁻⁴
TSHR	1.219	2.885x10 ⁻⁶	3.999x10 ⁻⁴
GSR	-1.118	2.882x10 ⁻⁶	3.999x10 ⁻⁴
L1TD1	1.679	2.975x10 ⁻⁶	4.089x10 ⁻⁴
SPN	1.226	3.059x10 ⁻⁶	4.095x10 ⁻⁴
SYNGR3	1.258	3.130x10 ⁻⁶	4.095x10 ⁻⁴
TF	2.350	3.150x10 ⁻⁶	4.095x10 ⁻⁴
CLVS1	1.318	3.124x10 ⁻⁶	4.095x10 ⁻⁴
EFCAB1	-1.466	3.048x10 ⁻⁶	4.095x10 ⁻⁴
GLI2	-1.575	3.114x10 ⁻⁶	4.095x10 ⁻⁴
CTSH	0.870	3.283x10 ⁻⁶	4.112x10 ⁻⁴
MS4A1	2.285	3.215x10 ⁻⁶	4.112x10 ⁻⁴
WNT5A	-1.245	3.296x10 ⁻⁶	4.112x10 ⁻⁴
SLC6A12	1.179	3.281x10 ⁻⁶	4.112x10 ⁻⁴
QSOX2	-0.621	3.310x10 ⁻⁶	4.112x10 ⁻⁴
EDN2	1.861	3.267x10 ⁻⁶	4.112x10 ⁻⁴
SLC5A5	1.676	3.354x10 ⁻⁶	4.136x10 ⁻⁴
STXBP5L	-2.400	3.435x10 ⁻⁶	4.182x10 ⁻⁴
CCDC109B	0.642	3.441x10 ⁻⁶	4.182x10 ⁻⁴
CLCA3P	1.755	3.621x10 ⁻⁶	4.338x10 ⁻⁴
SLC45A4	-0.687	3.740x10 ⁻⁶	4.386x10 ⁻⁴
ZNF826	1.546	3.732x10 ⁻⁶	4.386x10 ⁻⁴
PFAS	-0.588	3.727x10 ⁻⁶	4.386x10 ⁻⁴
FCER2	1.938	3.789x10 ⁻⁶	4.413x10 ⁻⁴
FAM64A	-0.903	3.819x10 ⁻⁶	4.418x10 ⁻⁴
MME	1.578	4.012x10 ⁻⁶	4.608x10 ⁻⁴
CXCR2	1.797	4.128x10 ⁻⁶	4.710x10 ⁻⁴
EGFR	-1.201	4.190x10 ⁻⁶	4.748x10 ⁻⁴
NPB	-1.175	4.532x10 ⁻⁶	5.067x10 ⁻⁴
INPP5D	1.136	4.727x10 ⁻⁶	5.250x10 ⁻⁴
WAS	1.044	5.097x10 ⁻⁶	5.624x10 ⁻⁴
ARRDC5	1.131	5.300x10 ⁻⁶	5.810x10 ⁻⁴
ASPH	-0.712	5.395x10 ⁻⁶	5.875x10 ⁻⁴
HSD17B3	-1.930	5.468x10 ⁻⁶	5.879x10 ⁻⁴
AMICA1	1.179	5.436x10 ⁻⁶	5.879x10 ⁻⁴
C5orf20	1.469	5.658x10 ⁻⁶	6.006x10 ⁻⁴
FAM129C	1.719	5.624x10 ⁻⁶	6.006x10 ⁻⁴
RASAL3	1.080	5.765x10 ⁻⁶	6.044x10 ⁻⁴
GSTM3	-1.888	5.748x10 ⁻⁶	6.044x10 ⁻⁴
ANGPTL6	1.135	5.817x10 ⁻⁶	6.060x10 ⁻⁴
ETV4	-1.074	6.159x10 ⁻⁶	6.376x10 ⁻⁴
IL1RN	1.659	6.282x10 ⁻⁶	6.464x10 ⁻⁴
ARHGAP9	1.090	6.340x10 ⁻⁶	6.484x10 ⁻⁴
UNC5A	1.421	6.546x10 ⁻⁶	6.654x10 ⁻⁴
GNG4	-1.559	6.831x10 ⁻⁶	6.901x10 ⁻⁴
GRPEL2	0.818	7.132x10 ⁻⁶	7.083x10 ⁻⁴
IL1A	1.783	7.179x10 ⁻⁶	7.083x10 ⁻⁴
SPINK5	2.180	7.137x10 ⁻⁶	7.083x10 ⁻⁴
CCR6	0.940	7.062x10 ⁻⁶	7.083x10 ⁻⁴
CRABP2	1.574	7.223x10 ⁻⁶	7.084x10 ⁻⁴
DNM1	-0.968	7.416x10 ⁻⁶	7.231x10 ⁻⁴
SLC12A3	1.505	7.475x10 ⁻⁶	7.247x10 ⁻⁴

Table SIV. Continued.

Gene	Log ₂ FC	P-value	FDR
WWC1	0.709	7.678x10 ⁻⁶	7.401x10 ⁻⁴
FAM20A	1.154	7.974x10 ⁻⁶	7.643x10 ⁻⁴
PTGR1	-1.142	8.025x10 ⁻⁶	7.648x10 ⁻⁴
KMO	1.155	8.577x10 ⁻⁶	7.992x10 ⁻⁴
SLPI	1.537	8.465x10 ⁻⁶	7.992x10 ⁻⁴
LOC148696	1.147	8.507x10 ⁻⁶	7.992x10 ⁻⁴
CCDC138	-0.598	8.537x10 ⁻⁶	7.992x10 ⁻⁴
DDIT4	1.176	8.707x10 ⁻⁶	7.996x10 ⁻⁴
FAM132A	-1.608	8.772x10 ⁻⁶	7.996x10 ⁻⁴
AK7	-1.182	8.745x10 ⁻⁶	7.996x10 ⁻⁴
DEPDC4	-0.803	8.684x10 ⁻⁶	7.996x10 ⁻⁴
CNFN	2.016	9.061x10 ⁻⁶	8.214x10 ⁻⁴
PLK3	0.706	9.176x10 ⁻⁶	8.230x10 ⁻⁴
TMEM86A	1.013	9.433x10 ⁻⁶	8.416x10 ⁻⁴
GCGR	-1.551	9.646x10 ⁻⁶	8.470x10 ⁻⁴
MXD1	1.110	9.719x10 ⁻⁶	8.490x10 ⁻⁴
HIP1	-0.785	9.942x10 ⁻⁶	8.640x10 ⁻⁴
BIN2	1.080	1.033x10 ⁻⁵	8.927x10 ⁻⁴
NCAPD2	-0.598	1.041x10 ⁻⁵	8.950x10 ⁻⁴
GP6	1.188	1.067x10 ⁻⁵	9.133x10 ⁻⁴
FGFR1	-1.285	1.118x10 ⁻⁵	9.393x10 ⁻⁴
LGR6	-1.632	1.110x10 ⁻⁵	9.393x10 ⁻⁴
STAC	-1.443	1.120x10 ⁻⁵	9.393x10 ⁻⁴
WBSCR27	-1.290	1.111x10 ⁻⁵	9.393x10 ⁻⁴
RLF	0.775	1.128x10 ⁻⁵	9.409x10 ⁻⁴
TMEM90A	1.293	1.150x10 ⁻⁵	9.506x10 ⁻⁴
UBASH3A	1.388	1.151x10 ⁻⁵	9.506x10 ⁻⁴
LOC388955	0.678	1.204x10 ⁻⁵	9.805x10 ⁻⁴
TKT	-0.811	1.235x10 ⁻⁵	1.001x10 ⁻³
PALM2	-1.276	1.339x10 ⁻⁵	1.080x10 ⁻³
C16orf54	1.303	1.406x10 ⁻⁵	1.128x10 ⁻³
SASH3	1.102	1.462x10 ⁻⁵	1.158x10 ⁻³
TRIP10	0.669	1.464x10 ⁻⁵	1.158x10 ⁻³
S10-A8	1.689	1.457x10 ⁻⁵	1.158x10 ⁻³
SLC7A5P2	0.883	1.473x10 ⁻⁵	1.160x10 ⁻³
C15orf48	1.297	1.480x10 ⁻⁵	1.160x10 ⁻³
ABHD3	-0.678	1.497x10 ⁻⁵	1.167x10 ⁻³
TIAM2	-0.978	1.517x10 ⁻⁵	1.178x10 ⁻³
RGPD1	0.966	1.550x10 ⁻⁵	1.198x10 ⁻³
FECH	-0.766	1.567x10 ⁻⁵	1.205x10 ⁻³
NPAS4	1.368	1.593x10 ⁻⁵	1.215x10 ⁻³
LRP8	-0.739	1.607x10 ⁻⁵	1.220x10 ⁻³
SERPINB7	1.865	1.644x10 ⁻⁵	1.242x10 ⁻³
LYL1	0.867	1.725x10 ⁻⁵	1.291x10 ⁻³
NAPSB	1.337	1.719x10 ⁻⁵	1.291x10 ⁻³
TMEM156	1.380	1.834x10 ⁻⁵	1.363x10 ⁻³
ABCB6	-0.951	1.838x10 ⁻⁵	1.363x10 ⁻³
ZNF541	1.649	1.845x10 ⁻⁵	1.363x10 ⁻³
RAET1E	1.755	1.870x10 ⁻⁵	1.376x10 ⁻³
DGAT2	1.129	1.918x10 ⁻⁵	1.405x10 ⁻³
CTCFL	1.701	1.933x10 ⁻⁵	1.409x10 ⁻³
SLC7A11	-1.541	1.974x10 ⁻⁵	1.433x10 ⁻³
PTPRC	1.160	1.996x10 ⁻⁵	1.443x10 ⁻³
P2RY13	1.110	2.007x10 ⁻⁵	1.445x10 ⁻³
SOX13	-0.778	2.034x10 ⁻⁵	1.458x10 ⁻³
ITK	1.330	2.103x10 ⁻⁵	1.494x10 ⁻³

Table SIV. Continued.

Gene	Log ₂ FC	P-value	FDR
ITGAL	1.206	2.142x10 ⁻⁰⁵	1.506x10 ⁻⁰³
ADRA2A	1.532	2.146x10 ⁻⁰⁵	1.506x10 ⁻⁰³
DZIP1	-0.786	2.146x10 ⁻⁰⁵	1.506x10 ⁻⁰³
DPCR1	1.985	2.219x10 ⁻⁰⁵	1.544x10 ⁻⁰³
RSPH10B2	1.090	2.218x10 ⁻⁰⁵	1.544x10 ⁻⁰³
SLC46A2	1.012	2.277x10 ⁻⁰⁵	1.571x10 ⁻⁰³
VNN2	1.322	2.314x10 ⁻⁰⁵	1.581x10 ⁻⁰³
KIF14	-0.648	2.335x10 ⁻⁰⁵	1.586x10 ⁻⁰³
INPP1	0.727	2.457x10 ⁻⁰⁵	1.642x10 ⁻⁰³
TXNRD1	-1.148	2.449x10 ⁻⁰⁵	1.642x10 ⁻⁰³
CD47	0.628	2.518x10 ⁻⁰⁵	1.669x10 ⁻⁰³
CXCR5	1.291	2.514x10 ⁻⁰⁵	1.669x10 ⁻⁰³
PSTPIP1	0.857	2.545x10 ⁻⁰⁵	1.681x10 ⁻⁰³
LIN7A	-1.355	2.565x10 ⁻⁰⁵	1.687x10 ⁻⁰³
ITPKC	0.728	2.605x10 ⁻⁰⁵	1.707x10 ⁻⁰³
GZMK	1.522	2.688x10 ⁻⁰⁵	1.754x10 ⁻⁰³
HYAL4	1.648	2.781x10 ⁻⁰⁵	1.801x10 ⁻⁰³
RHCG	1.968	2.773x10 ⁻⁰⁵	1.801x10 ⁻⁰³
SMAGP	0.967	2.929x10 ⁻⁰⁵	1.890x10 ⁻⁰³
PRDM1	0.847	2.950x10 ⁻⁰⁵	1.896x10 ⁻⁰³
C5orf34	-0.751	3.024x10 ⁻⁰⁵	1.936x10 ⁻⁰³
CSTB	1.254	3.047x10 ⁻⁰⁵	1.943x10 ⁻⁰³
LOC154761	0.910	3.082x10 ⁻⁰⁵	1.958x10 ⁻⁰³
SERTAD1	0.647	3.159x10 ⁻⁰⁵	1.992x10 ⁻⁰³
LRRC26	1.704	3.187x10 ⁻⁰⁵	1.995x10 ⁻⁰³
MFSDF	0.827	3.220x10 ⁻⁰⁵	1.995x10 ⁻⁰³
C12orf48	-0.593	3.223x10 ⁻⁰⁵	1.995x10 ⁻⁰³
GK	0.697	3.221x10 ⁻⁰⁵	1.995x10 ⁻⁰³
ETV5	-1.102	3.272x10 ⁻⁰⁵	2.018x10 ⁻⁰³
CD40LG	1.201	3.300x10 ⁻⁰⁵	2.027x10 ⁻⁰³
ATP6V0D2	1.340	3.325x10 ⁻⁰⁵	2.034x10 ⁻⁰³
DNASE1L3	1.578	3.335x10 ⁻⁰⁵	2.034x10 ⁻⁰³
TMEM163	1.282	3.438x10 ⁻⁰⁵	2.073x10 ⁻⁰³
KLHL14	1.735	3.445x10 ⁻⁰⁵	2.073x10 ⁻⁰³
MSLN	2.175	3.461x10 ⁻⁰⁵	2.073x10 ⁻⁰³
CSTA	1.392	3.414x10 ⁻⁰⁵	2.073x10 ⁻⁰³
PTPN7	1.075	3.510x10 ⁻⁰⁵	2.078x10 ⁻⁰³
SCUBE3	-1.580	3.518x10 ⁻⁰⁵	2.078x10 ⁻⁰³
STAG3	1.149	3.496x10 ⁻⁰⁵	2.078x10 ⁻⁰³
C2orf54	1.779	3.493x10 ⁻⁰⁵	2.078x10 ⁻⁰³
CX3CR1	1.142	3.560x10 ⁻⁰⁵	2.087x10 ⁻⁰³
FAM159A	1.038	3.553x10 ⁻⁰⁵	2.087x10 ⁻⁰³
FKBP1AP1	0.849	3.575x10 ⁻⁰⁵	2.089x10 ⁻⁰³
DTX1	0.943	3.591x10 ⁻⁰⁵	2.091x10 ⁻⁰³
CITED2	0.776	3.653x10 ⁻⁰⁵	2.117x10 ⁻⁰³
LOC606724	0.878	3.661x10 ⁻⁰⁵	2.117x10 ⁻⁰³
PGLYRP4	1.524	3.740x10 ⁻⁰⁵	2.155x10 ⁻⁰³
GATSL3	0.837	3.774x10 ⁻⁰⁵	2.168x10 ⁻⁰³
PTDSS1	-0.594	3.793x10 ⁻⁰⁵	2.171x10 ⁻⁰³
HLA-DPB1	1.070	3.871x10 ⁻⁰⁵	2.207x10 ⁻⁰³
FXYD7	1.191	3.881x10 ⁻⁰⁵	2.207x10 ⁻⁰³
CDC14B	-0.657	3.955x10 ⁻⁰⁵	2.241x10 ⁻⁰³
DDC	-1.853	4.057x10 ⁻⁰⁵	2.283x10 ⁻⁰³
WNT3A	-1.216	4.127x10 ⁻⁰⁵	2.315x10 ⁻⁰³
S10-A9	1.560	4.177x10 ⁻⁰⁵	2.335x10 ⁻⁰³
LCK	1.093	4.200x10 ⁻⁰⁵	2.340x10 ⁻⁰³

Table SIV. Continued.

Gene	Log ₂ FC	P-value	FDR
MGLL	1.097	4.236x10 ⁻⁰⁵	2.353x10 ⁻⁰³
COL6A4P2	1.356	4.279x10 ⁻⁰⁵	2.361x10 ⁻⁰³
BBOX1	1.421	4.308x10 ⁻⁰⁵	2.361x10 ⁻⁰³
IGFL1	1.935	4.295x10 ⁻⁰⁵	2.361x10 ⁻⁰³
C14orf72	0.994	4.306x10 ⁻⁰⁵	2.361x10 ⁻⁰³
TMPRSS3	1.589	4.328x10 ⁻⁰⁵	2.364x10 ⁻⁰³
VAV1	0.983	4.382x10 ⁻⁰⁵	2.386x10 ⁻⁰³
EPS8L1	1.416	4.486x10 ⁻⁰⁵	2.435x10 ⁻⁰³
TNFRSF18	-1.040	4.538x10 ⁻⁰⁵	2.442x10 ⁻⁰³
SFRP5	-1.430	4.528x10 ⁻⁰⁵	2.442x10 ⁻⁰³
RUFY4	1.355	4.543x10 ⁻⁰⁵	2.442x10 ⁻⁰³
C9orf140	-0.836	4.599x10 ⁻⁰⁵	2.462x10 ⁻⁰³
SRXN1	-1.087	4.677x10 ⁻⁰⁵	2.483x10 ⁻⁰³
GSG2	-0.607	4.676x10 ⁻⁰⁵	2.483x10 ⁻⁰³
HRH2	1.047	4.738x10 ⁻⁰⁵	2.499x10 ⁻⁰³
MAMLD1	-0.832	4.734x10 ⁻⁰⁵	2.499x10 ⁻⁰³
USP13	-0.694	4.780x10 ⁻⁰⁵	2.505x10 ⁻⁰³
HHIPL2	-1.611	4.797x10 ⁻⁰⁵	2.507x10 ⁻⁰³
CCL22	0.925	4.891x10 ⁻⁰⁵	2.540x10 ⁻⁰³
ARHGAP30	0.721	4.890x10 ⁻⁰⁵	2.540x10 ⁻⁰³
IL10RA	0.986	4.946x10 ⁻⁰⁵	2.558x10 ⁻⁰³
LGALS2	1.337	4.972x10 ⁻⁰⁵	2.558x10 ⁻⁰³
DENND2D	0.648	4.987x10 ⁻⁰⁵	2.558x10 ⁻⁰³
PARVG	0.979	4.966x10 ⁻⁰⁵	2.558x10 ⁻⁰³
LAT	0.819	5.018x10 ⁻⁰⁵	2.566x10 ⁻⁰³
KIAA1958	-0.650	5.054x10 ⁻⁰⁵	2.577x10 ⁻⁰³
UPB1	1.085	5.074x10 ⁻⁰⁵	2.579x10 ⁻⁰³
CST6	1.731	5.132x10 ⁻⁰⁵	2.600x10 ⁻⁰³
GRAP2	1.077	5.189x10 ⁻⁰⁵	2.614x10 ⁻⁰³
SPIN2B	-0.999	5.225x10 ⁻⁰⁵	2.619x10 ⁻⁰³
XBP1	0.632	5.250x10 ⁻⁰⁵	2.620x10 ⁻⁰³
CACNA1A	1.338	5.297x10 ⁻⁰⁵	2.636x10 ⁻⁰³
CRIP3	1.339	5.402x10 ⁻⁰⁵	2.681x10 ⁻⁰³
CAPN14	2.151	5.440x10 ⁻⁰⁵	2.691x10 ⁻⁰³
IL2RG	1.047	5.555x10 ⁻⁰⁵	2.740x10 ⁻⁰³
TREML3	-1.906	5.614x10 ⁻⁰⁵	2.753x10 ⁻⁰³
IL22RA2	1.377	5.630x10 ⁻⁰⁵	2.753x10 ⁻⁰³
CCDC88B	0.862	5.672x10 ⁻⁰⁵	2.766x10 ⁻⁰³
ABHD2	-0.753	5.744x10 ⁻⁰⁵	2.776x10 ⁻⁰³
ZNF467	0.827	5.729x10 ⁻⁰⁵	2.776x10 ⁻⁰³
TMEM158	-0.972	5.783x10 ⁻⁰⁵	2.787x10 ⁻⁰³
NCF1C	1.174	5.846x10 ⁻⁰⁵	2.802x10 ⁻⁰³
RPA4	0.883	5.904x10 ⁻⁰⁵	2.805x10 ⁻⁰³
HLA-L	0.746	5.886x10 ⁻⁰⁵	2.805x10 ⁻⁰³
HEY1	-1.182	5.889x10 ⁻⁰⁵	2.805x10 ⁻⁰³
SLC36A1	-0.591	6.088x10 ⁻⁰⁵	2.880x10 ⁻⁰³
FCRLA	1.511	6.096x10 ⁻⁰⁵	2.880x10 ⁻⁰³
C11orf92	-1.871	6.384x10 ⁻⁰⁵	2.983x10 ⁻⁰³
LRP1B	-1.832	6.364x10 ⁻⁰⁵	2.983x10 ⁻⁰³
TMEM20	-1.068	6.453x10 ⁻⁰⁵	2.998x10 ⁻⁰³
CYB5R1	0.707	6.441x10 ⁻⁰⁵	2.998x10 ⁻⁰³
P2RX1	1.294	6.517x10 ⁻⁰⁵	3.003x10 ⁻⁰³
PRDM12	-1.042	6.505x10 ⁻⁰⁵	3.003x10 ⁻⁰³
KIAA1324L	-0.788	6.674x10 ⁻⁵	3.034x10 ⁻⁰³
TXK	1.002	6.670x10 ⁻⁵	3.034x10 ⁻⁰³
CDA	1.548	6.676x10 ⁻⁵	3.034x10 ⁻⁰³

Table SIV. Continued.

Gene	Log ₂ FC	P-value	FDR
GM2A	0.627	6.701x10 ⁻⁵	3.038x10 ⁻³
S10-A12	1.787	6.896x10 ⁻⁵	3.117x10 ⁻³
RARRES1	1.290	7.043x10 ⁻⁵	3.165x10 ⁻³
SIRPB2	0.981	7.043x10 ⁻⁵	3.165x10 ⁻³
LTA	1.161	7.076x10 ⁻⁵	3.165x10 ⁻³
ARL14	1.704	7.244x10 ⁻⁵	3.230x10 ⁻³
PCDHGB8P	0.978	7.261x10 ⁻⁵	3.230x10 ⁻³
PSPH	-0.751	7.294x10 ⁻⁵	3.236x10 ⁻³
RHOBTB3	-0.852	7.388x10 ⁻⁵	3.261x10 ⁻³
CD3D	1.154	7.373x10 ⁻⁵	3.261x10 ⁻³
MUC1	1.128	7.409x10 ⁻⁵	3.261x10 ⁻³
OXT	1.079	7.545x10 ⁻⁵	3.313x10 ⁻³
CSF2RA	0.879	7.610x10 ⁻⁵	3.332x10 ⁻³
ABCC1	-0.871	7.665x10 ⁻⁵	3.348x10 ⁻³
SCN11A	1.240	7.792x10 ⁻⁵	3.368x10 ⁻³
SUMF2	-0.771	7.772x10 ⁻⁵	3.368x10 ⁻³
B3GNT8	1.038	7.859x10 ⁻⁵	3.380x10 ⁻³
S10-A7	1.919	7.883x10 ⁻⁵	3.380x10 ⁻³
ATF7IP2	0.872	7.888x10 ⁻⁵	3.380x10 ⁻³
KCNE3	-1.482	7.924x10 ⁻⁵	3.382x10 ⁻³
G6PD	-0.998	7.989x10 ⁻⁵	3.401x10 ⁻³
CLIC3	1.549	8.010x10 ⁻⁵	3.401x10 ⁻³
FCRL2	1.425	8.112x10 ⁻⁵	3.410x10 ⁻³
LOC653786	1.168	8.111x10 ⁻⁵	3.410x10 ⁻³
C14orf182	1.103	8.127x10 ⁻⁵	3.410x10 ⁻³
GPR174	1.233	8.133x10 ⁻⁵	3.410x10 ⁻³
APOBEC3A	1.580	8.124x10 ⁻⁵	3.410x10 ⁻³
CYP4F3	-1.927	8.317x10 ⁻⁵	3.470x10 ⁻³
TMIGD2	1.299	8.399x10 ⁻⁵	3.495x10 ⁻³
GJB2	1.313	8.423x10 ⁻⁵	3.497x10 ⁻³
TNF	1.399	8.483x10 ⁻⁵	3.504x10 ⁻³
SCML4	1.114	8.555x10 ⁻⁵	3.523x10 ⁻³
C11orf70	-1.238	8.571x10 ⁻⁵	3.523x10 ⁻³
CDX1	1.329	8.686x10 ⁻⁵	3.525x10 ⁻³
PLGLB2	0.841	8.700x10 ⁻⁵	3.525x10 ⁻³
GZMM	1.222	8.671x10 ⁻⁵	3.525x10 ⁻³
SNX20	0.939	8.691x10 ⁻⁵	3.525x10 ⁻³
C5	-0.869	8.604x10 ⁻⁵	3.525x10 ⁻³
ABCA4	-2.284	8.647x10 ⁻⁵	3.525x10 ⁻³
GRAMD3	0.704	8.919x10 ⁻⁵	3.594x10 ⁻³
GSTM4	-1.351	8.999x10 ⁻⁵	3.594x10 ⁻³
WDR34	-0.586	8.987x10 ⁻⁵	3.594x10 ⁻³
SOX10	-1.676	9.044x10 ⁻⁵	3.596x10 ⁻³
PLA2G10	-1.324	9.047x10 ⁻⁵	3.596x10 ⁻³
ALOX5AP	0.685	9.172x10 ⁻⁵	3.628x10 ⁻³
TSKU	-0.663	9.162x10 ⁻⁵	3.628x10 ⁻³
PRSS27	1.750	9.262x10 ⁻⁵	3.655x10 ⁻³
BATF	0.935	9.313x10 ⁻⁵	3.667x10 ⁻³
ARHGDI B	0.783	9.449x10 ⁻⁵	3.703x10 ⁻³
TMEM40	1.175	9.586x10 ⁻⁵	3.730x10 ⁻³
NCRNA00093	0.950	9.574x10 ⁻⁵	3.730x10 ⁻³
FAM150B	-1.474	9.546x10 ⁻⁵	3.730x10 ⁻³
EDN3	1.764	9.623x10 ⁻⁵	3.736x10 ⁻³
TRPC4	-0.905	9.671x10 ⁻⁵	3.737x10 ⁻³
CARHSP1	0.683	9.659x10 ⁻⁵	3.737x10 ⁻³
CA2	1.422	9.728x10 ⁻⁵	3.751x10 ⁻³

Table SIV. Continued.

Gene	Log ₂ FC	P-value	FDR
POMC	-1.631	9.758x10 ⁻⁵	3.751x10 ⁻³
GRB10	-0.625	9.773x10 ⁻⁵	3.751x10 ⁻³
NUPR1	0.766	9.835x10 ⁻⁵	3.766x10 ⁻³
CD24	1.115	1.024x10 ⁻⁴	3.880x10 ⁻³
DHRS1	0.759	1.025x10 ⁻⁴	3.880x10 ⁻³
CRISP3	2.556	1.037x10 ⁻⁴	3.916x10 ⁻³
P2RY10	1.218	1.040x10 ⁻⁴	3.920x10 ⁻³
CD247	1.103	1.045x10 ⁻⁴	3.920x10 ⁻³
TIFAB	1.172	1.051x10 ⁻⁴	3.934x10 ⁻³
ENDOU	1.974	1.057x10 ⁻⁴	3.950x10 ⁻³
NLRC3	0.883	1.098x10 ⁻⁴	4.075x10 ⁻³
CCT6A	-0.630	1.101x10 ⁻⁴	4.078x10 ⁻³
DCHS2	-1.490	1.104x10 ⁻⁴	4.078x10 ⁻³
NCCRP1	1.683	1.120x10 ⁻⁴	4.129x10 ⁻³
ARHGEF10L	0.664	1.132x10 ⁻⁴	4.137x10 ⁻³
DPT	1.226	1.131x10 ⁻⁴	4.137x10 ⁻³
E2F7	-0.749	1.129x10 ⁻⁴	4.137x10 ⁻³
FERMT3	0.853	1.126x10 ⁻⁴	4.137x10 ⁻³
GDPD3	1.265	1.138x10 ⁻⁴	4.146x10 ⁻³
SIX4	-0.952	1.164x10 ⁻⁴	4.225x10 ⁻³
CHAD	1.059	1.171x10 ⁻⁴	4.243x10 ⁻³
SPNS2	1.183	1.177x10 ⁻⁴	4.251x10 ⁻³
C1orf228	1.049	1.179x10 ⁻⁴	4.251x10 ⁻³
DLGAP2	1.069	1.188x10 ⁻⁴	4.277x10 ⁻³
MPP3	-0.692	1.199x10 ⁻⁴	4.307x10 ⁻³
SELPLG	0.831	1.211x10 ⁻⁴	4.332x10 ⁻³
GJA9	0.768	1.221x10 ⁻⁴	4.357x10 ⁻³
PPP1R3B	0.873	1.229x10 ⁻⁴	4.376x10 ⁻³
NRCAM	-1.493	1.244x10 ⁻⁴	4.410x10 ⁻³
GPR18	0.795	1.248x10 ⁻⁴	4.416x10 ⁻³
MYO1F	0.796	1.270x10 ⁻⁴	4.473x10 ⁻³
PIK3R5	0.906	1.289x10 ⁻⁴	4.532x10 ⁻³
TRIM16L	-1.253	1.296x10 ⁻⁴	4.546x10 ⁻³
PYHIN1	1.234	1.301x10 ⁻⁴	4.555x10 ⁻³
C6orf124	0.875	1.304x10 ⁻⁴	4.555x10 ⁻³
C8orf80	1.111	1.306x10 ⁻⁴	4.555x10 ⁻³
CCBL1	-0.630	1.314x10 ⁻⁴	4.567x10 ⁻³
SLC47A1	-1.196	1.316x10 ⁻⁴	4.567x10 ⁻³
PLA2G2F	1.692	1.335x10 ⁻⁴	4.618x10 ⁻³
PLA2G4A	-1.122	1.356x10 ⁻⁴	4.668x10 ⁻³
C15orf27	0.722	1.371x10 ⁻⁴	4.710x10 ⁻³
SCARA3	-0.840	1.407x10 ⁻⁴	4.819x10 ⁻³
SCLY	-0.612	1.423x10 ⁻⁴	4.852x10 ⁻³
CRTAM	1.203	1.447x10 ⁻⁴	4.918x10 ⁻³
C17orf97	-0.918	1.455x10 ⁻⁴	4.930x10 ⁻³
TAGAP	0.987	1.460x10 ⁻⁴	4.936x10 ⁻³
IRF5	0.704	1.490x10 ⁻⁴	5.028x10 ⁻³
SOX30	1.133	1.502x10 ⁻⁴	5.057x10 ⁻³
LRP12	-0.672	1.538x10 ⁻⁴	5.149x10 ⁻³
RGS14	0.585	1.538x10 ⁻⁴	5.149x10 ⁻³
DPEP2	0.864	1.543x10 ⁻⁴	5.155x10 ⁻³
GABRA2	-1.340	1.553x10 ⁻⁴	5.169x10 ⁻³
LOC145474	0.783	1.566x10 ⁻⁴	5.200x10 ⁻³
ESR1	1.217	1.573x10 ⁻⁴	5.213x10 ⁻³
SLC6A1	1.204	1.589x10 ⁻⁴	5.247x10 ⁻³
ATG9B	1.413	1.588x10 ⁻⁴	5.247x10 ⁻³

Table SIV. Continued.

Gene	Log ₂ FC	P-value	FDR
PCDHGA1	1.016	1.618x10 ⁻⁴	5.279x10 ⁻³
SLA	0.823	1.615x10 ⁻⁴	5.279x10 ⁻³
NCR1	1.176	1.609x10 ⁻⁴	5.279x10 ⁻³
CD2	1.033	1.627x10 ⁻⁴	5.298x10 ⁻³
TRIM69	0.789	1.648x10 ⁻⁴	5.358x10 ⁻³
FADS2	-0.988	1.665x10 ⁻⁴	5.400x10 ⁻³
FAM3D	1.849	1.671x10 ⁻⁴	5.411x10 ⁻³
GHLR	1.088	1.678x10 ⁻⁴	5.421x10 ⁻³
KLRK1	1.151	1.694x10 ⁻⁴	5.464x10 ⁻³
HJURP	-0.597	1.704x10 ⁻⁴	5.484x10 ⁻³
SFTPB	1.327	1.715x10 ⁻⁴	5.501x10 ⁻³
HLA-DPA1	0.995	1.726x10 ⁻⁴	5.515x10 ⁻³
SAA2	1.509	1.773x10 ⁻⁴	5.634x10 ⁻³
ZNF671	0.814	1.774x10 ⁻⁴	5.634x10 ⁻³
BLNK	1.082	1.768x10 ⁻⁴	5.634x10 ⁻³
RET	1.164	1.796x10 ⁻⁴	5.679x10 ⁻³
MMP9	1.254	1.796x10 ⁻⁴	5.679x10 ⁻³
CST3	0.605	1.798x10 ⁻⁴	5.679x10 ⁻³
FAM65B	0.930	1.813x10 ⁻⁴	5.715x10 ⁻³
MSTN	1.063	1.860x10 ⁻⁴	5.849x10 ⁻³
PADI4	1.124	1.869x10 ⁻⁴	5.849x10 ⁻³
MPDZ	-0.830	1.863x10 ⁻⁴	5.849x10 ⁻³
GNAO1	1.026	1.877x10 ⁻⁴	5.855x10 ⁻³
DNAH5	1.390	1.883x10 ⁻⁴	5.855x10 ⁻³
NAV3	-1.244	1.903x10 ⁻⁴	5.884x10 ⁻³
LOXL4	-1.510	1.905x10 ⁻⁴	5.884x10 ⁻³
FGD3	0.761	1.901x10 ⁻⁴	5.884x10 ⁻³
HSF5	1.200	1.909x10 ⁻⁴	5.886x10 ⁻³
PDZK1IP1	1.277	1.974x10 ⁻⁴	6.074x10 ⁻³
CBFA2T3	1.024	2.003x10 ⁻⁴	6.154x10 ⁻³
FGD2	0.833	2.063x10 ⁻⁴	6.290x10 ⁻³
ATAD3C	1.005	2.060x10 ⁻⁴	6.290x10 ⁻³
LRR1Q1	-1.399	2.085x10 ⁻⁴	6.348x10 ⁻³
AGAP2	0.771	2.097x10 ⁻⁴	6.372x10 ⁻³
FREM2	-2.012	2.121x10 ⁻⁴	6.422x10 ⁻³
EPHA7	-1.744	2.155x10 ⁻⁴	6.458x10 ⁻³
SLFNL1	0.806	2.154x10 ⁻⁴	6.458x10 ⁻³
SDCBP2	1.127	2.156x10 ⁻⁴	6.458x10 ⁻³
OSBP2	1.029	2.187x10 ⁻⁴	6.527x10 ⁻³
IPCEF1	0.890	2.204x10 ⁻⁴	6.566x10 ⁻³
THEMIS	1.110	2.222x10 ⁻⁴	6.608x10 ⁻³
AKR1B10	-1.566	2.231x10 ⁻⁴	6.622x10 ⁻³
CDC42EP5	0.748	2.332x10 ⁻⁴	6.887x10 ⁻³
NFKBIA	0.690	2.371x10 ⁻⁴	6.987x10 ⁻³
ANKRD58	0.820	2.375x10 ⁻⁴	6.987x10 ⁻³
FDPSL2A	0.749	2.380x10 ⁻⁴	6.992x10 ⁻³
SESN2	0.650	2.389x10 ⁻⁴	7.004x10 ⁻³
FGF9	-1.357	2.397x10 ⁻⁴	7.015x10 ⁻³
CD74	0.904	2.403x10 ⁻⁴	7.017x10 ⁻³
LYZ	1.090	2.411x10 ⁻⁴	7.021x10 ⁻³
TGM1	1.559	2.448x10 ⁻⁴	7.102x10 ⁻³
SLC22A1	1.281	2.522x10 ⁻⁴	7.263x10 ⁻³
MCOLN2	0.924	2.525x10 ⁻⁴	7.263x10 ⁻³
IL1RL1	1.344	2.556x10 ⁻⁴	7.319x10 ⁻³
NR2F1	-0.808	2.557x10 ⁻⁴	7.319x10 ⁻³
CD6	0.947	2.576x10 ⁻⁴	7.359x10 ⁻³

Table SIV. Continued.

Gene	Log ₂ FC	P-value	FDR
RBBP8	-0.595	2.644x10 ⁻⁴	7.478x10 ⁻³
PEG10	-1.602	2.682x10 ⁻⁴	7.572x10 ⁻³
TSLP	0.990	2.706x10 ⁻⁴	7.629x10 ⁻³
LOC10-233209	0.855	2.715x10 ⁻⁴	7.641x10 ⁻³
MAT1A	1.328	2.734x10 ⁻⁴	7.667x10 ⁻³
PLA2G2D	1.540	2.748x10 ⁻⁴	7.694x10 ⁻³
CR2	1.902	2.756x10 ⁻⁴	7.694x10 ⁻³
WNT8B	-1.170	2.778x10 ⁻⁴	7.739x10 ⁻³
BCL2L15	1.137	2.816x10 ⁻⁴	7.832x10 ⁻³
HKDC1	-1.720	2.842x10 ⁻⁴	7.893x10 ⁻³
AIM1L	1.019	2.889x10 ⁻⁴	7.997x10 ⁻³
HSD11B1L	0.721	2.962x10 ⁻⁴	8.158x10 ⁻³
RNF39	0.976	2.991x10 ⁻⁴	8.211x10 ⁻³
PPL	1.115	3.004x10 ⁻⁴	8.232x10 ⁻³
BRIP1	-0.599	3.034x10 ⁻⁴	8.250x10 ⁻³
MFNG	0.845	3.029x10 ⁻⁴	8.250x10 ⁻³
MRS2P2	0.715	3.040x10 ⁻⁴	8.250x10 ⁻³
FANCD2	-0.585	3.029x10 ⁻⁴	8.250x10 ⁻³
ACSL5	1.041	3.030x10 ⁻⁴	8.250x10 ⁻³
NCF4	0.742	3.057x10 ⁻⁴	8.271x10 ⁻³
GUCA1B	0.732	3.076x10 ⁻⁴	8.288x10 ⁻³
C19orf59	1.297	3.076x10 ⁻⁴	8.288x10 ⁻³
CEP290	-0.624	3.079x10 ⁻⁴	8.288x10 ⁻³
IL23A	0.890	3.133x10 ⁻⁴	8.366x10 ⁻³
VNN3	1.559	3.115x10 ⁻⁴	8.366x10 ⁻³
RIMS3	0.958	3.132x10 ⁻⁴	8.366x10 ⁻³
C15orf5	0.704	3.167x10 ⁻⁴	8.431x10 ⁻³
CYFIP2	1.073	3.225x10 ⁻⁴	8.519x10 ⁻³
PABPC4	0.615	3.225x10 ⁻⁴	8.519x10 ⁻³
C11orf93	-1.229	3.263x10 ⁻⁴	8.591x10 ⁻³
DSG1	1.883	3.273x10 ⁻⁴	8.603x10 ⁻³
RAET1G	1.244	3.316x10 ⁻⁴	8.624x10 ⁻³
SULT2B1	1.416	3.314x10 ⁻⁴	8.624x10 ⁻³
FUT3	1.377	3.308x10 ⁻⁴	8.624x10 ⁻³
MYCN	-1.576	3.302x10 ⁻⁴	8.624x10 ⁻³
SCN2A	1.647	3.297x10 ⁻⁴	8.624x10 ⁻³
DOPEY2	0.697	3.290x10 ⁻⁴	8.624x10 ⁻³
PPIEL	0.885	3.312x10 ⁻⁴	8.624x10 ⁻³
LOC402377	-0.632	3.335x10 ⁻⁴	8.633x10 ⁻³
FAM125B	-0.796	3.330x10 ⁻⁴	8.633x10 ⁻³
RNF217	-0.690	3.365x10 ⁻⁴	8.682x10 ⁻³
IGSF22	1.030	3.423x10 ⁻⁴	8.807x10 ⁻³
FGD5	-0.945	3.421x10 ⁻⁴	8.807x10 ⁻³
FGR	0.770	3.471x10 ⁻⁴	8.902x10 ⁻³
PLBD1	0.841	3.467x10 ⁻⁴	8.902x10 ⁻³
MAF	0.734	3.504x10 ⁻⁴	8.958x10 ⁻³
NQO1	-1.044	3.526x10 ⁻⁴	8.988x10 ⁻³
SH2D1A	1.124	3.559x10 ⁻⁴	9.030x10 ⁻³
GGTA1	0.942	3.556x10 ⁻⁴	9.030x10 ⁻³
RAB33A	0.739	3.572x10 ⁻⁴	9.044x10 ⁻³
SIRPG	1.064	3.575x10 ⁻⁴	9.044x10 ⁻³
COL24A1	-0.937	3.630x10 ⁻⁴	9.160x10 ⁻³
CC2D2A	-0.618	3.651x10 ⁻⁴	9.193x10 ⁻³
LOC10-131726	1.322	3.670x10 ⁻⁴	9.214x10 ⁻³
ATP6V1C2	0.805	3.665x10 ⁻⁴	9.214x10 ⁻³
NDC80	-0.702	3.677x10 ⁻⁴	9.219x10 ⁻³

Table SIV. Continued.

Gene	Log ₂ FC	P-value	FDR
PRR15L	1.280	3.692x10 ⁻⁴	9.229x10 ⁻³
LCP1	0.861	3.715x10 ⁻⁴	9.271x10 ⁻³
ZNF439	0.892	3.736x10 ⁻⁴	9.311x10 ⁻³
HABP2	1.107	3.794x10 ⁻⁴	9.402x10 ⁻³
VOPP1	-0.638	3.795x10 ⁻⁴	9.402x10 ⁻³
AADAC	-1.712	3.824x10 ⁻⁴	9.423x10 ⁻³
ITGB7	0.808	3.826x10 ⁻⁴	9.423x10 ⁻³
HSH2D	0.946	3.823x10 ⁻⁴	9.423x10 ⁻³
FABP6	1.351	3.860x10 ⁻⁴	9.478x10 ⁻³
GOLIM4	-0.612	3.890x10 ⁻⁴	9.538x10 ⁻³
MOSC1	-0.903	3.918x10 ⁻⁴	9.593x10 ⁻³
CA3	1.090	3.925x10 ⁻⁴	9.597x10 ⁻³
LOC400931	0.755	3.949x10 ⁻⁴	9.640x10 ⁻³
ACSM3	1.187	3.963x10 ⁻⁴	9.640x10 ⁻³
RASAL1	1.152	3.966x10 ⁻⁴	9.640x10 ⁻³
KCNQ3	-1.142	3.959x10 ⁻⁴	9.640x10 ⁻³
ZNF185	0.988	4.018x10 ⁻⁴	9.752x10 ⁻³
PRSS8	0.861	4.028x10 ⁻⁴	9.763x10 ⁻³
GPA33	1.009	4.058x10 ⁻⁴	9.821x10 ⁻³
C19orf35	0.598	4.066x10 ⁻⁴	9.822x10 ⁻³
SLC2A5	0.704	4.070x10 ⁻⁴	9.822x10 ⁻³
NCRNA00173	-0.950	4.112x10 ⁻⁴	9.866x10 ⁻³
CTXN1	-0.953	4.106x10 ⁻⁴	9.866x10 ⁻³
LOC442454	0.620	4.144x10 ⁻⁴	9.930x10 ⁻³
LOC388242	0.777	4.227x10 ⁻⁴	1.011x10 ⁻²
THSD7B	-1.508	4.254x10 ⁻⁴	1.016x10 ⁻²
LILRA2	0.840	4.258x10 ⁻⁴	1.016x10 ⁻²
SIDT1	1.053	4.286x10 ⁻⁴	1.020x10 ⁻²
TTLL7	-1.038	4.303x10 ⁻⁴	1.022x10 ⁻²
TMEM45A	1.115	4.354x10 ⁻⁴	1.031x10 ⁻²
KRT10	1.271	4.361x10 ⁻⁴	1.032x10 ⁻²
KLHDC7A	1.390	4.372x10 ⁻⁴	1.033x10 ⁻²
GIMAP2	0.800	4.380x10 ⁻⁴	1.033x10 ⁻²
PLCB2	0.739	4.447x10 ⁻⁴	1.046x10 ⁻²
GBX2	-1.146	4.488x10 ⁻⁴	1.053x10 ⁻²
NGF	-1.135	4.501x10 ⁻⁴	1.054x10 ⁻²
SCNN1B	1.427	4.522x10 ⁻⁴	1.058x10 ⁻²
TNFRSF13B	1.235	4.530x10 ⁻⁴	1.058x10 ⁻²
RAC3	-0.786	4.603x10 ⁻⁴	1.071x10 ⁻²
ESCO2	-0.608	4.627x10 ⁻⁴	1.073x10 ⁻²
RAD51AP1	-0.661	4.626x10 ⁻⁴	1.073x10 ⁻²
PDE4C	1.177	4.642x10 ⁻⁴	1.075x10 ⁻²
C1orf38	0.681	4.737x10 ⁻⁴	1.094x10 ⁻²
HES2	0.979	4.746x10 ⁻⁴	1.095x10 ⁻²
DMKN	1.202	4.769x10 ⁻⁴	1.098x10 ⁻²
ZNF165	0.701	4.805x10 ⁻⁴	1.100x10 ⁻²
GUCY2C	0.942	4.877x10 ⁻⁴	1.111x10 ⁻²
C11orf82	-0.612	4.929x10 ⁻⁴	1.117x10 ⁻²
FAM46B	1.149	4.919x10 ⁻⁴	1.117x10 ⁻²
NFIB	-0.828	4.926x10 ⁻⁴	1.117x10 ⁻²
C1orf110	-1.732	4.952x10 ⁻⁴	1.121x10 ⁻²
ILDR2	-1.084	4.979x10 ⁻⁴	1.124x10 ⁻²
GATS	-0.752	5.002x10 ⁻⁴	1.128x10 ⁻²
IL1B	1.157	5.022x10 ⁻⁴	1.129x10 ⁻²
BEST3	1.341	5.114x10 ⁻⁴	1.144x10 ⁻²
KCP	1.099	5.144x10 ⁻⁴	1.146x10 ⁻²

Table SIV. Continued.

Gene	Log ₂ FC	P-value	FDR
PAK1	-0.653	5.145x10 ⁻⁴	1.146x10 ⁻²
PLAC4	0.948	5.140x10 ⁻⁴	1.146x10 ⁻²
CTSS	0.774	5.180x10 ⁻⁴	1.152x10 ⁻²
ADD3	-0.586	5.207x10 ⁻⁴	1.157x10 ⁻²
NAMPT	-0.824	5.358x10 ⁻⁴	1.179x10 ⁻²
NPTXR	-1.102	5.339x10 ⁻⁴	1.179x10 ⁻²
VGLL1	1.381	5.332x10 ⁻⁴	1.179x10 ⁻²
KAT2B	0.738	5.385x10 ⁻⁴	1.180x10 ⁻²
ANKRD13B	-0.592	5.388x10 ⁻⁴	1.180x10 ⁻²
TCTEX1D2	-0.664	5.464x10 ⁻⁴	1.193x10 ⁻²
NCRNA00181	0.814	5.458x10 ⁻⁴	1.193x10 ⁻²
LGALS7	1.311	5.481x10 ⁻⁴	1.195x10 ⁻²
PLD4	1.126	5.490x10 ⁻⁴	1.196x10 ⁻²
ZBP1	1.134	5.559x10 ⁻⁴	1.209x10 ⁻²
ZNF229	-1.279	5.585x10 ⁻⁴	1.213x10 ⁻²
FAM196B	-1.081	5.682x10 ⁻⁴	1.225x10 ⁻²
CYP4F11	-1.647	5.660x10 ⁻⁴	1.225x10 ⁻²
HLA-DRA	0.849	5.683x10 ⁻⁴	1.225x10 ⁻²
BRD7P3	1.001	5.682x10 ⁻⁴	1.225x10 ⁻²
APOB48R	0.689	5.742x10 ⁻⁴	1.235x10 ⁻²
CD96	0.854	5.830x10 ⁻⁴	1.250x10 ⁻²
MGST2	0.629	5.846x10 ⁻⁴	1.252x10 ⁻²
MYO1G	0.827	5.924x10 ⁻⁴	1.261x10 ⁻²
PCDHGB3	0.852	5.956x10 ⁻⁴	1.266x10 ⁻²
IL23R	0.952	6.031x10 ⁻⁴	1.276x10 ⁻²
LTF	1.938	6.071x10 ⁻⁴	1.282x10 ⁻²
AKR1C1	-1.554	6.111x10 ⁻⁴	1.288x10 ⁻²
DCLK1	-1.110	6.175x10 ⁻⁴	1.298x10 ⁻²
WNT9A	-0.830	6.189x10 ⁻⁴	1.299x10 ⁻²
RGS6	-1.296	6.220x10 ⁻⁴	1.301x10 ⁻²
NFE2	0.857	6.214x10 ⁻⁴	1.301x10 ⁻²
RNF222	1.412	6.323x10 ⁻⁴	1.319x10 ⁻²
PACSIN1	1.121	6.367x10 ⁻⁴	1.325x10 ⁻²
FAM63A	0.637	6.377x10 ⁻⁴	1.325x10 ⁻²
MEX3A	-1.121	6.396x10 ⁻⁴	1.326x10 ⁻²
AMDHD1	1.383	6.392x10 ⁻⁴	1.326x10 ⁻²
DIO3	1.111	6.448x10 ⁻⁴	1.333x10 ⁻²
LRTOMT	-0.708	6.510x10 ⁻⁴	1.341x10 ⁻²
ABCG2	-0.843	6.568x10 ⁻⁴	1.342x10 ⁻²
GPR65	0.761	6.553x10 ⁻⁴	1.342x10 ⁻²
DCBLD2	-0.716	6.560x10 ⁻⁴	1.342x10 ⁻²
BEND4	1.475	6.540x10 ⁻⁴	1.342x10 ⁻²
ME1	-0.889	6.599x10 ⁻⁴	1.346x10 ⁻²
C5orf39	0.666	6.634x10 ⁻⁴	1.352x10 ⁻²
STAT4	0.797	6.667x10 ⁻⁴	1.357x10 ⁻²
CHST4	1.318	6.834x10 ⁻⁴	1.383x10 ⁻²
WNT6	-1.157	6.865x10 ⁻⁴	1.387x10 ⁻²
ADAM28	0.950	6.948x10 ⁻⁴	1.396x10 ⁻²
EDIL3	-1.044	7.056x10 ⁻⁴	1.412x10 ⁻²
SBSN	1.485	7.072x10 ⁻⁴	1.412x10 ⁻²
TARP	1.026	7.120x10 ⁻⁴	1.415x10 ⁻²
NEAT1	0.615	7.119x10 ⁻⁴	1.415x10 ⁻²
SIGLEC10	0.827	7.110x10 ⁻⁴	1.415x10 ⁻²
C10orf99	1.563	7.165x10 ⁻⁴	1.422x10 ⁻²
PCDH18	-0.846	7.274x10 ⁻⁴	1.440x10 ⁻²
TMIE	0.963	7.327x10 ⁻⁴	1.444x10 ⁻²

Table SIV. Continued.

Gene	Log ₂ FC	P-value	FDR
MMP28	1.172	7.324x10 ⁻⁴	1.444x10 ⁻²
TBX21	1.018	7.501x10 ⁻⁴	1.475x10 ⁻²
MPP4	-1.169	7.577x10 ⁻⁴	1.485x10 ⁻²
ANXA1	1.017	7.578x10 ⁻⁴	1.485x10 ⁻²
ABP1	1.407	7.592x10 ⁻⁴	1.486x10 ⁻²
SMOC2	-1.051	7.607x10 ⁻⁴	1.487x10 ⁻²
ALS2CR11	1.072	7.705x10 ⁻⁴	1.501x10 ⁻²
PRO0628	0.627	7.816x10 ⁻⁴	1.516x10 ⁻²
LPXN	0.779	7.850x10 ⁻⁴	1.519x10 ⁻²
STEAP2	-0.661	7.887x10 ⁻⁴	1.522x10 ⁻²
SKAP1	1.055	7.899x10 ⁻⁴	1.522x10 ⁻²
CLCA4	1.892	7.925x10 ⁻⁴	1.524x10 ⁻²
RASSF5	0.652	7.939x10 ⁻⁴	1.525x10 ⁻²
ALDH3A1	-1.644	8.049x10 ⁻⁴	1.532x10 ⁻²
CHI3L2	1.333	8.088x10 ⁻⁴	1.536x10 ⁻²
RDH12	1.488	8.184x10 ⁻⁴	1.549x10 ⁻²
RND1	0.961	8.199x10 ⁻⁴	1.550x10 ⁻²
C7orf68	0.823	8.267x10 ⁻⁴	1.560x10 ⁻²
PDZD3	0.947	8.277x10 ⁻⁴	1.560x10 ⁻²
ITGAX	0.756	8.293x10 ⁻⁴	1.560x10 ⁻²
FMO3	0.924	8.299x10 ⁻⁴	1.560x10 ⁻²
FADS1	-0.854	8.314x10 ⁻⁴	1.561x10 ⁻²
CCDC122	-0.589	8.332x10 ⁻⁴	1.562x10 ⁻²
FRMPD1	0.996	8.471x10 ⁻⁴	1.583x10 ⁻²
KBTBD8	0.726	8.499x10 ⁻⁴	1.586x10 ⁻²
AKR1B1	-0.735	8.526x10 ⁻⁴	1.587x10 ⁻²
GPR81	1.261	8.557x10 ⁻⁴	1.589x10 ⁻²
F2RL3	0.664	8.589x10 ⁻⁴	1.592x10 ⁻²
AVPI1	0.752	8.695x10 ⁻⁴	1.606x10 ⁻²
PIK3CG	0.841	8.737x10 ⁻⁴	1.611x10 ⁻²
ZNF493	0.930	8.748x10 ⁻⁴	1.611x10 ⁻²
SIRPB1	0.712	8.750x10 ⁻⁴	1.611x10 ⁻²
SEMA5B	1.019	8.803x10 ⁻⁴	1.619x10 ⁻²
GOLGA6L6	1.159	8.942x10 ⁻⁴	1.635x10 ⁻²
SH3RF3	-0.719	9.024x10 ⁻⁴	1.645x10 ⁻²
FAM115C	0.676	9.034x10 ⁻⁴	1.645x10 ⁻²
FBP1	1.062	9.153x10 ⁻⁴	1.660x10 ⁻²
LY6D	1.166	9.153x10 ⁻⁴	1.660x10 ⁻²
ANXA13	1.018	9.187x10 ⁻⁴	1.664x10 ⁻²
HLA-DQB1	0.947	9.245x10 ⁻⁴	1.671x10 ⁻²
LOH12CR2	-0.598	9.413x10 ⁻⁴	1.692x10 ⁻²
RGL4	0.740	9.424x10 ⁻⁴	1.692x10 ⁻²
ATP2A3	0.783	9.465x10 ⁻⁴	1.695x10 ⁻²
MAB21L1	-1.209	9.453x10 ⁻⁴	1.695x10 ⁻²
HDC	0.813	9.497x10 ⁻⁴	1.698x10 ⁻²
ALDH1A3	0.856	9.557x10 ⁻⁴	1.705x10 ⁻²
HLA-G	1.084	9.611x10 ⁻⁴	1.711x10 ⁻²
TMEM79	0.826	9.608x10 ⁻⁴	1.711x10 ⁻²
AMPH	1.059	9.697x10 ⁻⁴	1.723x10 ⁻²
C8orf4	1.135	9.959x10 ⁻⁴	1.766x10 ⁻²
MGC45800	-1.152	9.981x10 ⁻⁴	1.768x10 ⁻²
ZDHHC11	-1.046	1.009x10 ⁻³	1.780x10 ⁻²
CKM	-1.034	1.010x10 ⁻³	1.780x10 ⁻²
TUBB2A	0.860	1.009x10 ⁻³	1.780x10 ⁻²
RXFP1	-1.210	1.021x10 ⁻³	1.797x10 ⁻²
CBR1	-0.858	1.033x10 ⁻³	1.817x10 ⁻²

Table SIV. Continued.

Gene	Log ₂ FC	P-value	FDR
S10-A14	0.960	1.035x10 ⁻³	1.817x10 ⁻²
CD1D	0.877	1.038x10 ⁻³	1.819x10 ⁻²
WASF1	-0.695	1.038x10 ⁻³	1.819x10 ⁻²
HLA-DMA	0.791	1.040x10 ⁻³	1.821x10 ⁻²
SCEL	1.526	1.048x10 ⁻³	1.827x10 ⁻²
CLECL1	0.917	1.050x10 ⁻³	1.827x10 ⁻²
GLT1D1	-1.039	1.049x10 ⁻³	1.827x10 ⁻²
SCN4A	1.178	1.053x10 ⁻³	1.827x10 ⁻²
DAPK2	0.717	1.046x10 ⁻³	1.827x10 ⁻²
CSMD1	-1.521	1.064x10 ⁻³	1.838x10 ⁻²
FHDC1	0.825	1.072x10 ⁻³	1.846x10 ⁻²
BCAS1	1.335	1.074x10 ⁻³	1.847x10 ⁻²
C21orf82	0.667	1.079x10 ⁻³	1.854x10 ⁻²
PCSK9	-1.022	1.082x10 ⁻³	1.856x10 ⁻²
C11orf87	-1.540	1.084x10 ⁻³	1.857x10 ⁻²
KRT78	1.739	1.087x10 ⁻³	1.859x10 ⁻²
NCKAP1L	0.789	1.089x10 ⁻³	1.861x10 ⁻²
POU3F1	1.249	1.090x10 ⁻³	1.862x10 ⁻²
RASGRF1	1.102	1.094x10 ⁻³	1.863x10 ⁻²
GPR109B	0.918	1.095x10 ⁻³	1.863x10 ⁻²
LOC388692	0.594	1.101x10 ⁻³	1.869x10 ⁻²
BARX2	1.155	1.107x10 ⁻³	1.874x10 ⁻²
RPH3A	0.842	1.106x10 ⁻³	1.874x10 ⁻²
ERO1L	0.753	1.110x10 ⁻³	1.876x10 ⁻²
PTGFR	0.790	1.127x10 ⁻³	1.902x10 ⁻²
MYCL1	0.939	1.134x10 ⁻³	1.912x10 ⁻²
HCST	0.830	1.145x10 ⁻³	1.923x10 ⁻²
SAMD3	1.022	1.143x10 ⁻³	1.923x10 ⁻²
SLC16A11	-0.826	1.153x10 ⁻³	1.933x10 ⁻²
VWA3B	0.997	1.156x10 ⁻³	1.937x10 ⁻²
CHGA	-1.437	1.157x10 ⁻³	1.937x10 ⁻²
CLTB	0.661	1.170x10 ⁻³	1.955x10 ⁻²
EPS8	-0.819	1.175x10 ⁻³	1.959x10 ⁻²
KIAA1614	-0.626	1.177x10 ⁻³	1.961x10 ⁻²
ZFP37	-0.632	1.178x10 ⁻³	1.961x10 ⁻²
PAK3	-1.247	1.192x10 ⁻³	1.972x10 ⁻²
TEC	0.737	1.191x10 ⁻³	1.972x10 ⁻²
PKD1L3	0.923	1.202x10 ⁻³	1.985x10 ⁻²
ZNF683	1.151	1.204x10 ⁻³	1.985x10 ⁻²
TMEM84	-1.007	1.215x10 ⁻³	1.997x10 ⁻²
CAPS2	-0.705	1.222x10 ⁻³	2.007x10 ⁻²
ABI3	0.622	1.228x10 ⁻³	2.009x10 ⁻²
CEACAM21	0.789	1.227x10 ⁻³	2.009x10 ⁻²
PCDHA4	1.384	1.225x10 ⁻³	2.009x10 ⁻²
PDE6A	1.078	1.234x10 ⁻³	2.017x10 ⁻²
ALOX12P2	-0.701	1.245x10 ⁻³	2.027x10 ⁻²
GAPT	0.816	1.247x10 ⁻³	2.029x10 ⁻²
TYMP	0.716	1.262x10 ⁻³	2.045x10 ⁻²
HLA-DRB6	1.223	1.267x10 ⁻³	2.051x10 ⁻²
TMC5	1.280	1.274x10 ⁻³	2.058x10 ⁻²
NOD2	0.835	1.286x10 ⁻³	2.069x10 ⁻²
KIRREL2	1.384	1.288x10 ⁻³	2.069x10 ⁻²
ZNF540	0.847	1.299x10 ⁻³	2.078x10 ⁻²
RNASE2	0.698	1.295x10 ⁻³	2.078x10 ⁻²
ITGB2	0.759	1.298x10 ⁻³	2.078x10 ⁻²
CELF4	0.980	1.311x10 ⁻³	2.094x10 ⁻²

Table SIV. Continued.

Gene	Log ₂ FC	P-value	FDR
IGSF10	-1.145	1.315x10 ⁻³	2.099x10 ⁻²
CXCR7	-0.983	1.324x10 ⁻³	2.111x10 ⁻²
FUT6	1.544	1.338x10 ⁻³	2.125x10 ⁻²
GNB3	-0.773	1.342x10 ⁻³	2.129x10 ⁻²
KLF12	-0.652	1.347x10 ⁻³	2.134x10 ⁻²
GREB1L	-1.405	1.346x10 ⁻³	2.134x10 ⁻²
UNC93A	1.375	1.350x10 ⁻³	2.135x10 ⁻²
SLAMF7	0.935	1.359x10 ⁻³	2.140x10 ⁻²
TRIM15	1.226	1.364x10 ⁻³	2.140x10 ⁻²
GRHL1	0.871	1.364x10 ⁻³	2.140x10 ⁻²
CCL28	0.836	1.368x10 ⁻³	2.144x10 ⁻²
CASS4	0.722	1.372x10 ⁻³	2.148x10 ⁻²
CXorf21	0.699	1.376x10 ⁻³	2.153x10 ⁻²
TRIM6	0.735	1.384x10 ⁻³	2.161x10 ⁻²
SMOC1	-1.470	1.396x10 ⁻³	2.172x10 ⁻²
ACCN2	-0.618	1.401x10 ⁻³	2.177x10 ⁻²
FBXL13	-1.073	1.408x10 ⁻³	2.183x10 ⁻²
DACH1	-1.056	1.410x10 ⁻³	2.183x10 ⁻²
CLUU1	0.925	1.408x10 ⁻³	2.183x10 ⁻²
PRAM1	0.738	1.419x10 ⁻³	2.187x10 ⁻²
BIRC3	0.987	1.420x10 ⁻³	2.187x10 ⁻²
CD19	1.295	1.418x10 ⁻³	2.187x10 ⁻²
CTNNA1	-0.666	1.421x10 ⁻³	2.187x10 ⁻²
C1orf162	0.683	1.430x10 ⁻³	2.194x10 ⁻²
LOC10-131551	0.979	1.429x10 ⁻³	2.194x10 ⁻²
LIPT2	-0.723	1.445x10 ⁻³	2.209x10 ⁻²
MS4A14	0.738	1.448x10 ⁻³	2.212x10 ⁻²
C9orf169	1.396	1.465x10 ⁻³	2.226x10 ⁻²
EMR4P	0.958	1.462x10 ⁻³	2.226x10 ⁻²
PCDHGA8	0.751	1.463x10 ⁻³	2.226x10 ⁻²
MYO3A	-1.449	1.476x10 ⁻³	2.240x10 ⁻²
ODZ3	-0.946	1.498x10 ⁻³	2.268x10 ⁻²
LIX1	0.903	1.502x10 ⁻³	2.272x10 ⁻²
PPP1R15A	0.674	1.515x10 ⁻³	2.287x10 ⁻²
GAS2L2	1.156	1.527x10 ⁻³	2.299x10 ⁻²
FCGR2B	0.890	1.533x10 ⁻³	2.302x10 ⁻²
GPRC5B	-0.701	1.538x10 ⁻³	2.307x10 ⁻²
NCR3	0.860	1.539x10 ⁻³	2.307x10 ⁻²
EMB	0.924	1.545x10 ⁻³	2.311x10 ⁻²
N4BP3	0.649	1.550x10 ⁻³	2.315x10 ⁻²
CTSE	1.415	1.550x10 ⁻³	2.315x10 ⁻²
IL15	0.675	1.561x10 ⁻³	2.327x10 ⁻²
IL18RAP	0.870	1.592x10 ⁻³	2.363x10 ⁻²
SIX1	-0.805	1.624x10 ⁻³	2.392x10 ⁻²
KIAA0748	0.753	1.625x10 ⁻³	2.392x10 ⁻²
S10-A16	0.662	1.626x10 ⁻³	2.392x10 ⁻²
TDRD10	1.126	1.647x10 ⁻³	2.416x10 ⁻²
TTC39A	0.892	1.648x10 ⁻³	2.416x10 ⁻²
LANCL2	-0.595	1.652x10 ⁻³	2.420x10 ⁻²
PDE10A	-0.865	1.663x10 ⁻³	2.430x10 ⁻²
KCNJ1	0.773	1.676x10 ⁻³	2.442x10 ⁻²
CEACAM4	0.715	1.676x10 ⁻³	2.442x10 ⁻²
TNFSF10	0.692	1.680x10 ⁻³	2.446x10 ⁻²
DNER	-1.343	1.682x10 ⁻³	2.447x10 ⁻²
PADI1	1.638	1.696x10 ⁻³	2.464x10 ⁻²
ZNF429	0.900	1.701x10 ⁻³	2.467x10 ⁻²

Table SIV. Continued.

Gene	Log ₂ FC	P-value	FDR
LRRC8A	-0.621	1.716x10 ⁻³	2.484x10 ⁻²
CD37	0.641	1.746x10 ⁻³	2.513x10 ⁻²
STX11	0.703	1.747x10 ⁻³	2.513x10 ⁻²
C6orf132	0.757	1.754x10 ⁻³	2.518x10 ⁻²
KIAA1377	-0.803	1.758x10 ⁻³	2.520x10 ⁻²
FAM13AOS	0.662	1.757x10 ⁻³	2.520x10 ⁻²
ASAP1IT1	0.758	1.768x10 ⁻³	2.530x10 ⁻²
C2orf39	-1.064	1.778x10 ⁻³	2.538x10 ⁻²
SLA2	0.907	1.780x10 ⁻³	2.539x10 ⁻²
COL4A2	-0.613	1.783x10 ⁻³	2.541x10 ⁻²
CXCL17	1.329	1.793x10 ⁻³	2.551x10 ⁻²
C11orf90	-0.968	1.795x10 ⁻³	2.552x10 ⁻²
HLA-DRB1	0.853	1.803x10 ⁻³	2.556x10 ⁻²
CSRNP3	-0.851	1.803x10 ⁻³	2.556x10 ⁻²
EID3	-0.819	1.816x10 ⁻³	2.567x10 ⁻²
GCOM1	1.186	1.817x10 ⁻³	2.567x10 ⁻²
DDX11L2	1.020	1.826x10 ⁻³	2.574x10 ⁻²
NRK	-1.277	1.847x10 ⁻³	2.594x10 ⁻²
NCF1B	0.773	1.849x10 ⁻³	2.595x10 ⁻²
TMEM108	-1.059	1.854x10 ⁻³	2.598x10 ⁻²
OSGIN1	-1.119	1.859x10 ⁻³	2.602x10 ⁻²
CLDN18	1.112	1.863x10 ⁻³	2.602x10 ⁻²
SLC12A2	-0.611	1.885x10 ⁻³	2.628x10 ⁻²
TTC9	0.936	1.887x10 ⁻³	2.629x10 ⁻²
BMP5	-1.290	1.889x10 ⁻³	2.629x10 ⁻²
NDRG2	0.712	1.892x10 ⁻³	2.629x10 ⁻²
CD52	0.721	1.903x10 ⁻³	2.636x10 ⁻²
SYT15	0.888	1.914x10 ⁻³	2.647x10 ⁻²
IKZF3	1.083	1.925x10 ⁻³	2.657x10 ⁻²
XKR5	-1.119	1.931x10 ⁻³	2.661x10 ⁻²
ATF5	0.667	1.944x10 ⁻³	2.674x10 ⁻²
TBC1D3C	0.753	1.955x10 ⁻³	2.685x10 ⁻²
ZNF83	0.785	1.982x10 ⁻³	2.712x10 ⁻²
TMEM200C	-1.056	1.987x10 ⁻³	2.716x10 ⁻²
C11orf41	-0.974	1.990x10 ⁻³	2.716x10 ⁻²
WNK4	1.249	1.989x10 ⁻³	2.716x10 ⁻²
PTPRD	-1.272	1.996x10 ⁻³	2.718x10 ⁻²
ALS2CL	0.763	1.996x10 ⁻³	2.718x10 ⁻²
PKD2L1	0.856	2.001x10 ⁻³	2.721x10 ⁻²
MGAM	0.983	2.002x10 ⁻³	2.721x10 ⁻²
HPGD	1.096	2.005x10 ⁻³	2.723x10 ⁻²
S1PR4	0.917	2.007x10 ⁻³	2.723x10 ⁻²
EBI3	0.878	2.013x10 ⁻³	2.728x10 ⁻²
SLC13A4	0.923	2.014x10 ⁻³	2.728x10 ⁻²
KRT16	1.222	2.018x10 ⁻³	2.732x10 ⁻²
TBC1D10C	0.678	2.024x10 ⁻³	2.738x10 ⁻²
TEX14	0.752	2.035x10 ⁻³	2.748x10 ⁻²
TMEM14E	0.682	2.038x10 ⁻³	2.748x10 ⁻²
SLC5A9	0.904	2.038x10 ⁻³	2.748x10 ⁻²
LOC285740	0.694	2.038x10 ⁻³	2.748x10 ⁻²
SNAP25	-0.945	2.045x10 ⁻³	2.754x10 ⁻²
NLRP3	0.662	2.052x10 ⁻³	2.760x10 ⁻²
LGALS4	1.090	2.057x10 ⁻³	2.765x10 ⁻²
DUSP5	0.745	2.067x10 ⁻³	2.773x10 ⁻²
SLC5A1	1.233	2.070x10 ⁻³	2.775x10 ⁻²
GSTM2	-1.299	2.091x10 ⁻³	2.792x10 ⁻²

Table SIV. Continued.

Gene	Log ₂ FC	P-value	FDR
RASSF8	-0.696	2.113x10 ⁻³	2.817x10 ⁻²
DMBT1	1.540	2.116x10 ⁻³	2.817x10 ⁻²
KCNS1	1.141	2.123x10 ⁻³	2.824x10 ⁻²
RUNDC3A	0.906	2.137x10 ⁻³	2.836x10 ⁻²
SPI1	0.647	2.142x10 ⁻³	2.837x10 ⁻²
CCRL2	0.629	2.144x10 ⁻³	2.837x10 ⁻²
LOC10-190938	1.043	2.153x10 ⁻³	2.843x10 ⁻²
CD8B	1.044	2.158x10 ⁻³	2.845x10 ⁻²
ZBTB32	0.713	2.159x10 ⁻³	2.845x10 ⁻²
FMNL1	0.605	2.192x10 ⁻³	2.885x10 ⁻²
INSL3	0.749	2.197x10 ⁻³	2.888x10 ⁻²
CCDC24	-0.607	2.200x10 ⁻³	2.890x10 ⁻²
RHBG	1.052	2.208x10 ⁻³	2.891x10 ⁻²
HNF1B	1.088	2.208x10 ⁻³	2.891x10 ⁻²
C1orf127	0.867	2.209x10 ⁻³	2.891x10 ⁻²
RNASE4	0.630	2.207x10 ⁻³	2.891x10 ⁻²
HOPX	0.989	2.220x10 ⁻³	2.902x10 ⁻²
CYSLTR2	0.714	2.230x10 ⁻³	2.910x10 ⁻²
CXCR6	0.778	2.229x10 ⁻³	2.910x10 ⁻²
MDH1B	-0.853	2.234x10 ⁻³	2.911x10 ⁻²
HLA-DOB	0.786	2.242x10 ⁻³	2.918x10 ⁻²
TRPM8	-0.999	2.244x10 ⁻³	2.918x10 ⁻²
SLC12A7	-0.633	2.258x10 ⁻³	2.928x10 ⁻²
PNMA3	1.039	2.255x10 ⁻³	2.928x10 ⁻²
ZDHHC2	-0.904	2.276x10 ⁻³	2.940x10 ⁻²
HLA-DPB2	0.788	2.283x10 ⁻³	2.946x10 ⁻²
ABRA	0.870	2.324x10 ⁻³	2.992x10 ⁻²
PRSS48	0.792	2.323x10 ⁻³	2.992x10 ⁻²
TFF1	1.314	2.334x10 ⁻³	2.999x10 ⁻²
TCF4	-0.601	2.349x10 ⁻³	3.017x10 ⁻²
TSC22D3	0.628	2.365x10 ⁻³	3.028x10 ⁻²
FCN1	1.026	2.375x10 ⁻³	3.032x10 ⁻²
GIMAP4	0.663	2.375x10 ⁻³	3.032x10 ⁻²
SPTLC3	0.944	2.370x10 ⁻³	3.032x10 ⁻²
CCDC141	1.004	2.378x10 ⁻³	3.033x10 ⁻²
PLCXD1	0.659	2.395x10 ⁻³	3.048x10 ⁻²
VEGFA	0.611	2.394x10 ⁻³	3.048x10 ⁻²
LOC10-131496	0.594	2.421x10 ⁻³	3.076x10 ⁻²
FCAR	0.790	2.421x10 ⁻³	3.076x10 ⁻²
SLC2A9	0.684	2.429x10 ⁻³	3.079x10 ⁻²
WNT10B	-1.004	2.453x10 ⁻³	3.104x10 ⁻²
ITPKA	-0.727	2.472x10 ⁻³	3.119x10 ⁻²
TNFAIP8L2	0.684	2.471x10 ⁻³	3.119x10 ⁻²
CAPNS2	1.024	2.524x10 ⁻³	3.172x10 ⁻²
GPR3	-0.753	2.527x10 ⁻³	3.172x10 ⁻²
DYNC2H1	-0.674	2.540x10 ⁻³	3.177x10 ⁻²
LOC10-133985	-0.815	2.535x10 ⁻³	3.177x10 ⁻²
MIR155HG	0.726	2.539x10 ⁻³	3.177x10 ⁻²
HR	-0.707	2.534x10 ⁻³	3.177x10 ⁻²
SLC16A6	0.883	2.563x10 ⁻³	3.195x10 ⁻²
SYT9	0.955	2.588x10 ⁻³	3.211x10 ⁻²
LAMA1	-1.246	2.584x10 ⁻³	3.211x10 ⁻²
RORC	1.194	2.589x10 ⁻³	3.211x10 ⁻²
DUOX1	0.755	2.580x10 ⁻³	3.211x10 ⁻²
ARC	1.048	2.613x10 ⁻³	3.230x10 ⁻²
IFITM2	0.619	2.672x10 ⁻³	3.274x10 ⁻²

Table SIV. Continued.

Gene	Log ₂ FC	P-value	FDR
KCNK12	0.892	2.672x10 ⁻³	3.274x10 ⁻²
SERPINB3	1.350	2.731x10 ⁻³	3.333x10 ⁻²
STEAP1	-0.658	2.730x10 ⁻³	3.333x10 ⁻²
GPR82	0.661	2.737x10 ⁻³	3.334x10 ⁻²
SYN3	0.955	2.768x10 ⁻³	3.361x10 ⁻²
MT1X	0.700	2.766x10 ⁻³	3.361x10 ⁻²
KNDC1	1.144	2.794x10 ⁻³	3.383x10 ⁻²
SLAMF6	0.787	2.807x10 ⁻³	3.387x10 ⁻²
TDRD1	1.028	2.806x10 ⁻³	3.387x10 ⁻²
RNASE7	1.345	2.802x10 ⁻³	3.387x10 ⁻²
CLEC10A	0.993	2.805x10 ⁻³	3.387x10 ⁻²
SGCE	-0.802	2.841x10 ⁻³	3.416x10 ⁻²
LPAR1	-0.688	2.893x10 ⁻³	3.466x10 ⁻²
ITGA9	-1.059	2.949x10 ⁻³	3.513x10 ⁻²
NMUR1	0.863	2.963x10 ⁻³	3.521x10 ⁻²
DOK6	-0.817	2.977x10 ⁻³	3.526x10 ⁻²
FBXW10	-0.889	2.989x10 ⁻³	3.532x10 ⁻²
IL33	1.147	2.991x10 ⁻³	3.532x10 ⁻²
ABCG5	0.815	3.005x10 ⁻³	3.547x10 ⁻²
NR2E1	1.296	3.013x10 ⁻³	3.554x10 ⁻²
FLJ26850	0.807	3.030x10 ⁻³	3.567x10 ⁻²
DHDH	0.934	3.042x10 ⁻³	3.578x10 ⁻²
FFAR2	0.890	3.046x10 ⁻³	3.579x10 ⁻²
MURC	-0.637	3.050x10 ⁻³	3.579x10 ⁻²
HOXA11	-0.944	3.082x10 ⁻³	3.599x10 ⁻²
FCRL4	0.955	3.110x10 ⁻³	3.630x10 ⁻²
TNFSF18	-1.188	3.119x10 ⁻³	3.638x10 ⁻²
TIGD4	-0.732	3.179x10 ⁻³	3.686x10 ⁻²
VAV3	0.709	3.180x10 ⁻³	3.686x10 ⁻²
CCDC64B	0.856	3.191x10 ⁻³	3.693x10 ⁻²
PLIN2	0.717	3.209x10 ⁻³	3.709x10 ⁻²
MEFV	1.066	3.236x10 ⁻³	3.731x10 ⁻²
GNGT2	0.602	3.237x10 ⁻³	3.731x10 ⁻²
CNR2	1.000	3.259x10 ⁻³	3.752x10 ⁻²
MOXD1	-0.957	3.289x10 ⁻³	3.783x10 ⁻²
TMEM178	0.893	3.302x10 ⁻³	3.789x10 ⁻²
HES6	-0.664	3.302x10 ⁻³	3.789x10 ⁻²
SLC28A3	0.978	3.307x10 ⁻³	3.791x10 ⁻²
ACPP	0.944	3.321x10 ⁻³	3.802x10 ⁻²
IVL	1.353	3.345x10 ⁻³	3.822x10 ⁻²
GPR115	0.840	3.363x10 ⁻³	3.832x10 ⁻²
ETV1	-0.726	3.380x10 ⁻³	3.849x10 ⁻²
IHH	0.867	3.412x10 ⁻³	3.868x10 ⁻²
LSAMP	-0.941	3.406x10 ⁻³	3.868x10 ⁻²
TCHH	1.324	3.410x10 ⁻³	3.868x10 ⁻²
ZNF703	-0.660	3.440x10 ⁻³	3.888x10 ⁻²
UGDH	-0.604	3.448x10 ⁻³	3.889x10 ⁻²
AQP3	1.031	3.458x10 ⁻³	3.896x10 ⁻²
LRP2	0.924	3.463x10 ⁻³	3.898x10 ⁻²
TMEM125	0.825	3.487x10 ⁻³	3.919x10 ⁻²
C1orf31	-0.620	3.500x10 ⁻³	3.924x10 ⁻²
ZNF835	0.759	3.497x10 ⁻³	3.924x10 ⁻²
LRRC36	0.778	3.495x10 ⁻³	3.924x10 ⁻²
GJB6	1.062	3.500x10 ⁻³	3.924x10 ⁻²
XCL2	0.835	3.504x10 ⁻³	3.926x10 ⁻²
GPC1	-0.625	3.512x10 ⁻³	3.929x10 ⁻²

Table SIV. Continued.

Gene	Log ₂ FC	P-value	FDR
FMO2	1.234	3.560x10 ⁻³	3.978x10 ⁻²
TDRD6	0.753	3.563x10 ⁻³	3.979x10 ⁻²
ANKRD55	0.794	3.576x10 ⁻³	3.986x10 ⁻²
C1orf170	0.757	3.587x10 ⁻³	3.992x10 ⁻²
TM7SF4	1.069	3.592x10 ⁻³	3.992x10 ⁻²
IL13RA2	1.179	3.615x10 ⁻³	4.008x10 ⁻²
EVPL	0.771	3.613x10 ⁻³	4.008x10 ⁻²
PCDHGA7	0.627	3.633x10 ⁻³	4.020x10 ⁻²
PPBP	1.076	3.634x10 ⁻³	4.020x10 ⁻²
RIPK3	0.683	3.640x10 ⁻³	4.024x10 ⁻²
ATP2B2	1.014	3.649x10 ⁻³	4.031x10 ⁻²
SERPINB4	1.286	3.656x10 ⁻³	4.034x10 ⁻²
CCDC144A	0.952	3.669x10 ⁻³	4.046x10 ⁻²
ZNF117	0.878	3.693x10 ⁻³	4.064x10 ⁻²
C6orf52	-0.900	3.695x10 ⁻³	4.064x10 ⁻²
GPX2	-1.186	3.707x10 ⁻³	4.074x10 ⁻²
RARB	-0.824	3.727x10 ⁻³	4.089x10 ⁻²
NBLA00301	-1.283	3.737x10 ⁻³	4.091x10 ⁻²
RAPGEF3	0.683	3.736x10 ⁻³	4.091x10 ⁻²
METRNL	0.667	3.752x10 ⁻³	4.105x10 ⁻²
ZNF486	1.059	3.769x10 ⁻³	4.116x10 ⁻²
ADAM22	-1.093	3.811x10 ⁻³	4.150x10 ⁻²
HLA-DMB	0.726	3.821x10 ⁻³	4.156x10 ⁻²
TGM5	1.125	3.850x10 ⁻³	4.172x10 ⁻²
KEL	1.037	3.855x10 ⁻³	4.175x10 ⁻²
AIM1	0.612	3.868x10 ⁻³	4.186x10 ⁻²
SLC3A1	0.689	3.875x10 ⁻³	4.189x10 ⁻²
PIP5K1P1	0.619	3.880x10 ⁻³	4.190x10 ⁻²
CRYM	1.031	3.912x10 ⁻³	4.214x10 ⁻²
HECW1	-0.832	3.950x10 ⁻³	4.231x10 ⁻²
CPNE4	1.114	3.960x10 ⁻³	4.232x10 ⁻²
SLC26A4	0.702	3.971x10 ⁻³	4.234x10 ⁻²
KLK14	1.318	3.977x10 ⁻³	4.237x10 ⁻²
SLC6A10P	1.501	4.073x10 ⁻³	4.326x10 ⁻²
NPAS1	-0.716	4.085x10 ⁻³	4.328x10 ⁻²
LY96	0.629	4.087x10 ⁻³	4.328x10 ⁻²
MAPK8IP2	-0.860	4.081x10 ⁻³	4.328x10 ⁻²
SLC26A9	1.269	4.077x10 ⁻³	4.328x10 ⁻²
LOC10-130933	0.793	4.112x10 ⁻³	4.348x10 ⁻²
BNIPL	1.010	4.131x10 ⁻³	4.365x10 ⁻²
NCRNA00235	-0.614	4.152x10 ⁻³	4.374x10 ⁻²
C20orf197	1.152	4.150x10 ⁻³	4.374x10 ⁻²
SLC16A14	-0.704	4.157x10 ⁻³	4.377x10 ⁻²
TMEM233	0.593	4.182x10 ⁻³	4.390x10 ⁻²
CPA4	1.126	4.183x10 ⁻³	4.390x10 ⁻²
CECR1	0.755	4.226x10 ⁻³	4.423x10 ⁻²
GPR85	-0.829	4.234x10 ⁻³	4.427x10 ⁻²
GIMAP1	0.667	4.237x10 ⁻³	4.428x10 ⁻²
TSPAN7	-1.059	4.248x10 ⁻³	4.436x10 ⁻²
ZNF626	1.020	4.268x10 ⁻³	4.449x10 ⁻²
SAA1	1.127	4.278x10 ⁻³	4.457x10 ⁻²
CD4	0.646	4.293x10 ⁻³	4.469x10 ⁻²
CNGB1	1.340	4.297x10 ⁻³	4.471x10 ⁻²
AKR1C3	-1.304	4.316x10 ⁻³	4.485x10 ⁻²
LPAR6	0.598	4.323x10 ⁻³	4.489x10 ⁻²
TMPRSS13	0.713	4.333x10 ⁻³	4.491x10 ⁻²

Table SIV. Continued.

Gene	Log ₂ FC	P-value	FDR
PALM3	0.968	4.354x10 ⁻³	4.505x10 ⁻²
SOX2OT	1.192	4.368x10 ⁻³	4.506x10 ⁻²
ANKS4B	0.868	4.391x10 ⁻³	4.520x10 ⁻²
FAM106C	0.841	4.472x10 ⁻³	4.588x10 ⁻²
FUT7	0.651	4.470x10 ⁻³	4.588x10 ⁻²
NR1I2	0.892	4.494x10 ⁻³	4.599x10 ⁻²
SLC6A14	1.311	4.501x10 ⁻³	4.603x10 ⁻²
KLRG2	-0.809	4.511x10 ⁻³	4.610x10 ⁻²
PNOC	0.774	4.516x10 ⁻³	4.610x10 ⁻²
CHDH	-0.852	4.514x10 ⁻³	4.610x10 ⁻²
?1388795	0.758	4.528x10 ⁻³	4.614x10 ⁻²
TMEM155	-1.178	4.527x10 ⁻³	4.614x10 ⁻²
GPR25	0.911	4.551x10 ⁻³	4.630x10 ⁻²
GALNT6	0.846	4.555x10 ⁻³	4.630x10 ⁻²
CD36	0.965	4.563x10 ⁻³	4.635x10 ⁻²
MDGA1	-0.957	4.586x10 ⁻³	4.653x10 ⁻²
FLG	1.151	4.584x10 ⁻³	4.653x10 ⁻²
SLC24A3	0.740	4.614x10 ⁻³	4.676x10 ⁻²
SLC6A7	0.733	4.621x10 ⁻³	4.677x10 ⁻²
C8ORFK29	0.786	4.634x10 ⁻³	4.688x10 ⁻²
ADAM23	-1.115	4.688x10 ⁻³	4.731x10 ⁻²
MYOZ1	0.861	4.700x10 ⁻³	4.741x10 ⁻²
PTK6	0.829	4.705x10 ⁻³	4.742x10 ⁻²
MRAP2	-1.012	4.725x10 ⁻³	4.745x10 ⁻²
DERL3	0.734	4.734x10 ⁻³	4.751x10 ⁻²
IRF4	0.761	4.743x10 ⁻³	4.758x10 ⁻²
HSPA6	0.958	4.753x10 ⁻³	4.762x10 ⁻²
LOC400043	0.639	4.762x10 ⁻³	4.766x10 ⁻²
MYLK3	0.654	4.775x10 ⁻³	4.775x10 ⁻²
NCRNA00092	-0.940	4.788x10 ⁻³	4.785x10 ⁻²
POU5F2	0.759	4.825x10 ⁻³	4.814x10 ⁻²
GRAMD2	-0.707	4.820x10 ⁻³	4.814x10 ⁻²
ABLIM3	0.840	4.831x10 ⁻³	4.817x10 ⁻²
LOC728875	0.748	4.838x10 ⁻³	4.822x10 ⁻²
MAPK4	-1.121	4.866x10 ⁻³	4.835x10 ⁻²
CYorf15B	1.126	4.872x10 ⁻³	4.838x10 ⁻²
LOC728643	0.802	4.910x10 ⁻³	4.871x10 ⁻²
N4BP2L1	0.692	4.955x10 ⁻³	4.909x10 ⁻²
C1orf74	0.665	4.965x10 ⁻³	4.916x10 ⁻²
GGT8P	1.007	5.004x10 ⁻³	4.945x10 ⁻²
LRP4	-0.650	5.012x10 ⁻³	4.948x10 ⁻²
MPZL2	0.641	5.063x10 ⁻³	4.980x10 ⁻²
HRCT1	-0.991	5.074x10 ⁻³	4.985x10 ⁻²

Table SV. The differential methylation genes.

Gene	Diff beta	P-value	FDR
OR2M4_promoter	0.245	1.865x10 ⁻⁷	2.844x10 ⁻³
OR2L8_promoter	0.197	4.327x10 ⁻⁷	2.901x10 ⁻³
ELSPBP1_promoter	0.151	3.244x10 ⁻⁶	1.167x10 ⁻²
PWRN1_promoter	0.147	3.482x10 ⁻⁶	1.167x10 ⁻²
REG1P_promoter	0.129	2.904x10 ⁻⁶	1.167x10 ⁻²
MIR1468_promoter	0.158	5.423x10 ⁻⁶	1.363x10 ⁻²
REG3G_promoter	0.142	4.883x10 ⁻⁶	1.363x10 ⁻²
OR9I1_promoter	0.215	6.134x10 ⁻⁶	1.371x10 ⁻²
OR2L2_promoter	0.192	1.695x10 ⁻⁵	1.767x10 ⁻²
OR10W1_promoter	0.181	9.892x10 ⁻⁶	1.767x10 ⁻²
OR2W3_promoter	0.161	1.202x10 ⁻⁵	1.767x10 ⁻²
REG1A_promoter	0.160	1.758x10 ⁻⁵	1.767x10 ⁻²
OR7D4_promoter	0.148	1.060x10 ⁻⁵	1.767x10 ⁻²
CASP14_promoter	0.143	1.460x10 ⁻⁵	1.767x10 ⁻²
OR1A2_promoter	0.140	1.116x10 ⁻⁵	1.767x10 ⁻²
MIR376B_promoter	0.133	1.690x10 ⁻⁵	1.767x10 ⁻²
C19orf30_promoter	0.117	1.599x10 ⁻⁵	1.767x10 ⁻²
MIR523_promoter	0.181	1.889x10 ⁻⁵	1.802x10 ⁻²
OR9Q2_promoter	0.137	1.971x10 ⁻⁵	1.802x10 ⁻²
OR2M5_promoter	0.158	2.211x10 ⁻⁵	1.887x10 ⁻²
MGAM_promoter	0.137	2.301x10 ⁻⁵	1.887x10 ⁻²
FMO6P_promoter	0.130	2.440x10 ⁻⁵	1.887x10 ⁻²
MIR519E_promoter	0.116	2.423x10 ⁻⁵	1.887x10 ⁻²
OR5AN1_promoter	0.178	2.734x10 ⁻⁵	2.037x10 ⁻²
OR5E1P_promoter	0.119	3.002x10 ⁻⁵	2.156x10 ⁻²
SIRPD_promoter	0.136	3.336x10 ⁻⁵	2.314x10 ⁻²
SLC10A2_promoter	0.152	3.824x10 ⁻⁵	2.481x10 ⁻²
SNORD115-40_promoter	0.107	3.735x10 ⁻⁵	2.481x10 ⁻²
MIR516B1_promoter	0.146	4.175x10 ⁻⁵	2.624x10 ⁻²
TAS2R60_promoter	0.150	4.548x10 ⁻⁵	2.690x10 ⁻²
MIR548D2_promoter	0.148	4.819x10 ⁻⁵	2.740x10 ⁻²
GLT6D1_promoter	0.102	4.905x10 ⁻⁵	2.740x10 ⁻²
CSAG1_promoter	0.118	5.345x10 ⁻⁵	2.757x10 ⁻²
MIR526A1_promoter	0.113	5.285x10 ⁻⁵	2.757x10 ⁻²
PSG8_promoter	0.107	5.111x10 ⁻⁵	2.757x10 ⁻²
C13orf28_promoter	0.131	5.748x10 ⁻⁵	2.820x10 ⁻²
ADAM6_promoter	0.102	5.701x10 ⁻⁵	2.820x10 ⁻²
OR2M3_promoter	0.159	6.698x10 ⁻⁵	2.934x10 ⁻²
OR2M1P_promoter	0.148	7.802x10 ⁻⁵	2.934x10 ⁻²
MIR1911_promoter	0.130	7.513x10 ⁻⁵	2.934x10 ⁻²
MIR519A2_promoter	0.115	6.907x10 ⁻⁵	2.934x10 ⁻²
MIR516A2_promoter	0.106	6.317x10 ⁻⁵	2.934x10 ⁻²
OR11L1_promoter	0.144	8.126x10 ⁻⁵	2.937x10 ⁻²
MIR521-2_promoter	0.138	9.250x10 ⁻⁵	3.153x10 ⁻²
C21orf99_promoter	0.104	9.160x10 ⁻⁵	3.153x10 ⁻²
TNFSF4_promoter	-0.150	9.243x10 ⁻⁵	3.153x10 ⁻²
SLC8A1_promoter	0.125	9.433x10 ⁻⁵	3.162x10 ⁻²
CXADRP3_promoter	0.165	1.199x10 ⁻⁴	3.229x10 ⁻²
MYH8_promoter	0.161	1.135x10 ⁻⁴	3.229x10 ⁻²
OR8H3_promoter	0.151	1.333x10 ⁻⁴	3.229x10 ⁻²
HMGB4_promoter	0.148	1.299x10 ⁻⁴	3.229x10 ⁻²
MIR520A_promoter	0.139	1.782x10 ⁻⁴	3.229x10 ⁻²
OR11A1_promoter	0.136	1.351x10 ⁻⁴	3.229x10 ⁻²
LOC149620_promoter	0.135	1.518x10 ⁻⁴	3.229x10 ⁻²
PYHIN1_promoter	0.134	1.817x10 ⁻⁴	3.229x10 ⁻²
MPEG1_promoter	0.131	1.497x10 ⁻⁴	3.229x10 ⁻²

Table SV. Continued.

Gene	Diff beta	P-value	FDR
SNORD115-31_promoter	0.131	1.456x10 ⁻⁴	3.229x10 ⁻²
OR1G1_promoter	0.129	1.812x10 ⁻⁴	3.229x10 ⁻²
MIR519A1_promoter	0.128	1.828x10 ⁻⁴	3.229x10 ⁻²
OR10J1_promoter	0.128	1.882x10 ⁻⁴	3.229x10 ⁻²
ZC3H12B_promoter	0.125	1.444x10 ⁻⁴	3.229x10 ⁻²
MIR518A2_promoter	0.124	1.910x10 ⁻⁴	3.229x10 ⁻²
REG3A_promoter	0.123	1.070x10 ⁻⁴	3.229x10 ⁻²
OR2T3_promoter	0.122	1.054x10 ⁻⁴	3.229x10 ⁻²
MIR1283-1_promoter	0.121	1.255x10 ⁻⁴	3.229x10 ⁻²
MIR329-2_promoter	0.120	1.917x10 ⁻⁴	3.229x10 ⁻²
MIR654_promoter	0.116	1.304x10 ⁻⁴	3.229x10 ⁻²
MIR488_promoter	0.114	1.057x10 ⁻⁴	3.229x10 ⁻²
OR4D1_promoter	0.112	1.262x10 ⁻⁴	3.229x10 ⁻²
LOC150622_promoter	0.112	1.092x10 ⁻⁴	3.229x10 ⁻²
C16orf78_promoter	0.111	1.927x10 ⁻⁴	3.229x10 ⁻²
MIR515-1_promoter	0.110	1.647x10 ⁻⁴	3.229x10 ⁻²
MIR515-2_promoter	0.110	1.647x10 ⁻⁴	3.229x10 ⁻²
MC2R_promoter	0.108	1.373x10 ⁻⁴	3.229x10 ⁻²
TP53TG3B_promoter	0.108	1.109x10 ⁻⁴	3.229x10 ⁻²
LILRB1_promoter	0.108	1.686x10 ⁻⁴	3.229x10 ⁻²
CD1B_promoter	0.106	1.445x10 ⁻⁴	3.229x10 ⁻²
VWA5B1_promoter	0.105	1.407x10 ⁻⁴	3.229x10 ⁻²
CCT8L2_promoter	0.105	1.335x10 ⁻⁴	3.229x10 ⁻²
ACTL9_promoter	0.102	1.890x10 ⁻⁴	3.229x10 ⁻²
ZDHHC15_promoter	0.10-	1.523x10 ⁻⁴	3.229x10 ⁻²
MIR320C1_promoter	-0.172	1.919x10 ⁻⁴	3.229x10 ⁻²
PNLIPRP3_promoter	0.141	2.029x10 ⁻⁴	3.280x10 ⁻²
SNORD115-8_promoter	0.106	2.039x10 ⁻⁴	3.280x10 ⁻²
LOC340094_promoter	0.137	2.171x10 ⁻⁴	3.319x10 ⁻²
OR5B21_promoter	0.115	2.172x10 ⁻⁴	3.319x10 ⁻²
MIR1182_promoter	-0.126	2.133x10 ⁻⁴	3.319x10 ⁻²
ZNF716_promoter	0.124	2.239x10 ⁻⁴	3.321x10 ⁻²
LOC10-133161_promoter	0.119	2.262x10 ⁻⁴	3.321x10 ⁻²
OR10C1_promoter	0.144	2.352x10 ⁻⁴	3.354x10 ⁻²
HFE2_promoter	0.101	2.396x10 ⁻⁴	3.369x10 ⁻²
TECTB_promoter	0.114	2.460x10 ⁻⁴	3.389x10 ⁻²
FCN1_promoter	0.110	2.444x10 ⁻⁴	3.389x10 ⁻²
MIR890_promoter	0.112	2.480x10 ⁻⁴	3.392x10 ⁻²
MIR520B_promoter	0.130	2.563x10 ⁻⁴	3.436x10 ⁻²
OR6A2_promoter	0.129	2.627x10 ⁻⁴	3.445x10 ⁻²
APCS_promoter	0.114	2.612x10 ⁻⁴	3.445x10 ⁻²
LOC154822_promoter	0.111	2.596x10 ⁻⁴	3.445x10 ⁻²
FLJ42709_promoter	-0.103	2.651x10 ⁻⁴	3.445x10 ⁻²
CCL7_promoter	0.157	2.694x10 ⁻⁴	3.450x10 ⁻²
SFTA1P_promoter	0.153	2.684x10 ⁻⁴	3.450x10 ⁻²
OR52H1_promoter	0.133	2.728x10 ⁻⁴	3.450x10 ⁻²
OR2L3_promoter	0.132	2.752x10 ⁻⁴	3.452x10 ⁻²
MYH4_promoter	0.103	2.903x10 ⁻⁴	3.581x10 ⁻²
NCRNA00159_promoter	0.144	3.081x10 ⁻⁴	3.624x10 ⁻²
ZNF735_promoter	0.127	3.070x10 ⁻⁴	3.624x10 ⁻²
OR2T34_promoter	0.122	3.062x10 ⁻⁴	3.624x10 ⁻²
SNORD115-13_promoter	0.111	3.049x10 ⁻⁴	3.624x10 ⁻²
SPANXN1_promoter	0.104	3.192x10 ⁻⁴	3.732x10 ⁻²
OR5P2_promoter	0.143	3.252x10 ⁻⁴	3.738x10 ⁻²
PRAMEF4_promoter	0.129	3.263x10 ⁻⁴	3.738x10 ⁻²
GLRA4_promoter	0.114	3.311x10 ⁻⁴	3.738x10 ⁻²

Table SV. Continued.

Gene	Diff beta	P-value	FDR
LOC10-287704_promoter	0.110	3.315x10 ⁻⁴	3.738x10 ⁻²
OR5M8_promoter	0.101	3.338x10 ⁻⁴	3.738x10 ⁻²
NXF5_promoter	0.147	3.592x10 ⁻⁴	3.744x10 ⁻²
SNORD114-6_promoter	0.138	3.556x10 ⁻⁴	3.744x10 ⁻²
OR2T29_promoter	0.127	3.576x10 ⁻⁴	3.744x10 ⁻²
OR5V1_promoter	0.124	3.615x10 ⁻⁴	3.744x10 ⁻²
MIR371_promoter	0.111	3.597x10 ⁻⁴	3.744x10 ⁻²
HBII-52-27_promoter	0.106	3.456x10 ⁻⁴	3.744x10 ⁻²
CD300C_promoter	0.105	3.500x10 ⁻⁴	3.744x10 ⁻²
MIR376A2_promoter	0.102	3.614x10 ⁻⁴	3.744x10 ⁻²
OR51I1_promoter	0.141	3.650x10 ⁻⁴	3.746x10 ⁻²
SNORD109A_promoter	0.135	3.796x10 ⁻⁴	3.759x10 ⁻²
SNORD109B_promoter	0.135	3.796x10 ⁻⁴	3.759x10 ⁻²
SNORD113-1_promoter	0.129	3.744x10 ⁻⁴	3.759x10 ⁻²
SNORD115-39_promoter	0.106	3.813x10 ⁻⁴	3.759x10 ⁻²
OR4D10_promoter	0.117	3.865x10 ⁻⁴	3.775x10 ⁻²
MS4A13_promoter	0.112	3.907x10 ⁻⁴	3.778x10 ⁻²
UBQLNL_promoter	0.131	3.940x10 ⁻⁴	3.791x10 ⁻²
OR2T33_promoter	0.109	4.133x10 ⁻⁴	3.884x10 ⁻²
MIR300_promoter	0.107	4.123x10 ⁻⁴	3.884x10 ⁻²
EDA2R_promoter	0.159	4.215x10 ⁻⁴	3.938x10 ⁻²
MIR512-1_promoter	0.147	4.281x10 ⁻⁴	3.938x10 ⁻²
MIR512-2_promoter	0.147	4.281x10 ⁻⁴	3.938x10 ⁻²
OR2B11_promoter	0.122	4.350x10 ⁻⁴	3.938x10 ⁻²
MIR412_promoter	0.114	4.383x10 ⁻⁴	3.938x10 ⁻²
DEFB129_promoter	0.103	4.382x10 ⁻⁴	3.938x10 ⁻²
FFAR1_promoter	0.102	4.405x10 ⁻⁴	3.938x10 ⁻²
LPAR4_promoter	0.109	4.440x10 ⁻⁴	3.951x10 ⁻²
MIR548F3_promoter	0.119	4.511x10 ⁻⁴	3.975x10 ⁻²
SNORD115-3_promoter	0.10-	4.526x10 ⁻⁴	3.975x10 ⁻²
SNORD115-17_promoter	0.106	4.590x10 ⁻⁴	3.979x10 ⁻²
SNORD115-18_promoter	0.106	4.590x10 ⁻⁴	3.979x10 ⁻²
SNORD115-19_promoter	0.106	4.590x10 ⁻⁴	3.979x10 ⁻²
CD33_promoter	0.156	4.988x10 ⁻⁴	4.034x10 ⁻²
AWAT1_promoter	0.126	4.980x10 ⁻⁴	4.034x10 ⁻²
MIR517B_promoter	0.117	4.835x10 ⁻⁴	4.034x10 ⁻²
MIR520D_promoter	0.117	4.835x10 ⁻⁴	4.034x10 ⁻²
OR2T1_promoter	0.110	4.940x10 ⁻⁴	4.034x10 ⁻²
PEG3AS_promoter	0.139	5.063x10 ⁻⁴	4.041x10 ⁻²
VSIG4_promoter	0.156	5.111x10 ⁻⁴	4.045x10 ⁻²
OR6K6_promoter	0.141	5.249x10 ⁻⁴	4.045x10 ⁻²
MIR518F_promoter	0.136	5.180x10 ⁻⁴	4.045x10 ⁻²
MIR526B_promoter	0.126	5.192x10 ⁻⁴	4.045x10 ⁻²
T-SP1_promoter	0.104	5.266x10 ⁻⁴	4.045x10 ⁻²
FAM107B_promoter	0.134	5.346x10 ⁻⁴	4.058x10 ⁻²
OR1N1_promoter	0.147	5.785x10 ⁻⁴	4.234x10 ⁻²
LOC730811_promoter	0.143	5.693x10 ⁻⁴	4.234x10 ⁻²
ALAS2_promoter	0.139	5.761x10 ⁻⁴	4.234x10 ⁻²
OR5P3_promoter	0.134	5.722x10 ⁻⁴	4.234x10 ⁻²
DPPA4_promoter	0.103	5.745x10 ⁻⁴	4.234x10 ⁻²
LOC10-133308_promoter	0.124	6.007x10 ⁻⁴	4.300x10 ⁻²
COX7B2_promoter	0.155	6.126x10 ⁻⁴	4.320x10 ⁻²
FAM170B_promoter	0.114	6.126x10 ⁻⁴	4.320x10 ⁻²
OR1L3_promoter	0.102	6.165x10 ⁻⁴	4.320x10 ⁻²
SNORD115-35_promoter	0.102	6.158x10 ⁻⁴	4.320x10 ⁻²
MIR369_promoter	0.102	6.146x10 ⁻⁴	4.320x10 ⁻²

Table SV. Continued.

Gene	Diff beta	P-value	FDR
OR2AG2_promoter	0.127	6.212x10 ⁻⁴	4.338x10 ⁻²
ST18_promoter	0.139	6.485x10 ⁻⁴	4.344x10 ⁻²
AGBL1_promoter	0.136	6.586x10 ⁻⁴	4.344x10 ⁻²
MIR511-1_promoter	0.132	6.506x10 ⁻⁴	4.344x10 ⁻²
MIR511-2_promoter	0.132	6.506x10 ⁻⁴	4.344x10 ⁻²
MIR519C_promoter	0.130	6.308x10 ⁻⁴	4.344x10 ⁻²
MIR498_promoter	0.130	6.267x10 ⁻⁴	4.344x10 ⁻²
UGT3A1_promoter	0.123	6.500x10 ⁻⁴	4.344x10 ⁻²
UBQLN3_promoter	0.119	6.369x10 ⁻⁴	4.344x10 ⁻²
GPX6_promoter	0.111	6.315x10 ⁻⁴	4.344x10 ⁻²
LOC441897_promoter	0.104	6.429x10 ⁻⁴	4.344x10 ⁻²
OR10J5_promoter	0.108	6.686x10 ⁻⁴	4.380x10 ⁻²
OR3A1_promoter	0.106	6.952x10 ⁻⁴	4.520x10 ⁻²
MIR410_promoter	0.106	7.001x10 ⁻⁴	4.528x10 ⁻²
FFAR3_promoter	0.109	7.120x10 ⁻⁴	4.560x10 ⁻²
PGA5_promoter	0.119	7.230x10 ⁻⁴	4.616x10 ⁻²
LOC284441_promoter	0.116	7.271x10 ⁻⁴	4.627x10 ⁻²
HRH2_promoter	0.107	7.428x10 ⁻⁴	4.683x10 ⁻²
SNORD115-22_promoter	0.106	7.505x10 ⁻⁴	4.717x10 ⁻²
OR4C45_promoter	0.117	7.592x10 ⁻⁴	4.727x10 ⁻²
DEFB122_promoter	0.106	7.720x10 ⁻⁴	4.763x10 ⁻²
RNASE3_promoter	0.135	7.776x10 ⁻⁴	4.782x10 ⁻²
SIRPG_promoter	0.126	7.967x10 ⁻⁴	4.820x10 ⁻²
OR2J2_promoter	0.118	7.948x10 ⁻⁴	4.820x10 ⁻²
MIR1283-2_promoter	0.114	8.075x10 ⁻⁴	4.862x10 ⁻²
OR2G2_promoter	0.134	8.253x10 ⁻⁴	4.926x10 ⁻²
REG1B_promoter	0.142	8.374x10 ⁻⁴	4.930x10 ⁻²
OR51M1_promoter	0.138	8.357x10 ⁻⁴	4.930x10 ⁻²
CD300LB_promoter	0.118	8.438x10 ⁻⁴	4.932x10 ⁻²
LOC440563_promoter	0.130	8.572x10 ⁻⁴	4.958x10 ⁻²
DCAF4L2_promoter	0.102	8.727x10 ⁻⁴	4.972x10 ⁻²

Table SVI. The enrichment pathways for up-regulated genes.

Pathway	Pathway ID	Gene number	P-value	FDR	Genes
Inflammatory bowel disease (IBD)	hsa05321	21	5.133x10 ⁻¹⁵	3.208x10 ⁻¹³	RORCHLA-DMAINOD2IIL2RGGATA3IHLA-DOBIHLA-DMBIIL1AHLA-DPB1IIL18RAPIL23RIMAFIIL23AIHLA-DQB1IIL1BIHLA-DRAITNFIHLA-DRB1IISTAT4HLA-DPA1ITBX21
Hematopoietic cell lineage	hsa04640	21	8.714x10 ⁻¹³	4.390x10 ⁻¹¹	MS4A1ICD3EICD37ICD8BIIL1AIFCER2ICD3DIIL1BICD19IMMEICD4ICD2ICR2ICD7HLA-DRAICD22HLA-DRB1ICD36ITNFICD1DI CD24
Rheumatoid arthritis	hsa05323	20	6.565x10 ⁻¹²	3.154x10 ⁻¹⁰	ITGALIHLA-DMAIHLA-DQB1ITGB2IHLA-DOBIIIL15IHLA-DMBIIL1AHLA-DPB1ICCL20IATP6V0D2IVEGFAIACP5IIL1BIHLA-DRAITNFIHLA-DRB1IHLA-DPA1IATP6V1C2IIL23A
Type I diabetes mellitus	hsa04940	14	1.837x10 ⁻¹⁰	7.076x10 ⁻⁹	HLA-DMAIHLA-DOBIHLA-DMBIIL1AHLA-DPB1IPTPRN2ILTAIHLA-DQB1IHLA-DRAIIL1BIHLA-GITNFIHLA-DRB1IHLA-DPA1
Staphylococcus aureus infection	hsa05150	15	2.240x10 ⁻¹⁰	8.604x10 ⁻⁹	ITGALIFCARIHLA-DQB1IHLA-DMAITGB2HLA-DOBIHLA-DMBIHLA-DPB1IKRT10FCGR2BIDSG1IHLA-DRAISELPLGIHLA-DPA1IHLA-DRB1
Intestinal immune network for IgA production	hsa04672	14	4.971x10 ⁻¹⁰	1.800x10 ⁻⁸	HLA-DMAITNFRSF13BIHLA-DOBIICCL28IHLA-DMBIHLA-DPB1IHLA-DQB1IIL15ICD40LGIHLA-DRAIHLA-DRB1PIGRIHLA-DPA1ITGB7
Cell adhesion molecules (CAMs)	hsa04514	22	6.826x10 ⁻¹⁰	2.442x10 ⁻⁸	HLA-DMBIHLA-DPB1ICD6HLA-DRAITGB2ICD8BIHLA-DPA1ICD4ICD22ISELPLGITGB7IHLA-DOBIICLDN18IHLA-DQB1IHLA-DMAICD2ICD40LGIPTPRCIHLA-DRB1
Natural killer cell mediated cytotoxicity	hsa04650	21	7.596x10 ⁻¹⁰	2.665x10 ⁻⁸	ITGALITNFSF10PIPK3CGITGB2IRAET1EILATIRAET1GICD2471NCR3PIPK3R5IZAP70IHCSTIVAV3INCR1IKLRK1ILCKIHLA-GITNFI CD244IVAV1ISH2D1A
T cell receptor signaling pathway	hsa04660	19	1.216x10 ⁻⁹	4.175x10 ⁻⁸	NFKBIAPIPK3CGICD247ICD8BILATIGRAP2ICD3EIZAP70PIPK3R5I CD40LGIICD3DICD4ITECILCKIITKIPTRCITNFVAV1IVAV3
Cytokine 10cytokine receptor interaction	hsa04060	29	2.028x10 ⁻⁹	6.758x10 ⁻⁸	CCL28ICXCR2IPBPITNFISLPIIL22RA2IVEGFIL10RAILTAI CXCR6CCCL22ITNFSF10ITNFRSF13BIIL23AICCL20IIL1AICXCR5I CD40LGIICX3CR1IIL1BIIL2RGIICCR6IIL15IIL23R1ICCR4IIL18RAPITNFSF14IXCL2IIL20
Primary immunodeficiency	hsa05340	12	2.845x10 ⁻⁹	9.165x10 ⁻⁸	CD3EITNFRSF13BICD8BICD4IZAP70ICD19ICD3DILCKICD40LGIPTPRCIIL2RGIILNK
Graft-versus-host disease	hsa05332	12	6.141x10 ⁻⁹	1.919x10 ⁻⁷	HLA-DMAIHLA-DOBIHLA-DMBIIL1AHLA-DPB1IHLA-DQB1IHLA-DRAIIL1BIHLA-GITNFIHLA-DRB1IHLA-DPA1
Leishmaniasis	hsa05140	15	7.446x10 ⁻⁹	2.302x10 ⁻⁷	HLA-DMAINFKBIITGB2IHLA-DOBIHLA-DMBIIL1AHLA-DPB1INCF4INCF1IHLA-DQB1IIL1BIHLA-DRAITNFIHLA-DRB1IHLA-DPA1

Table SVI. Continued.

Pathway	Pathway ID	Gene number	P-value	FDR	Genes
Antigen processing and presentation	hsa04612	15	8.798x10 ⁻⁹	2.691x10 ⁻⁷	HLA-DMA1CD74HLA-DOB1HLA-DMB1HLA-DPB1IHSPA6ICD8B1CD4ICTSS1HLA-DQB1HLA-DRA1HLA-G1TNF1HLA-DRB1HLA-
-DPA1					
Phagosome	hsa04145	21	9.227x10 ⁻⁹	2.799x10 ⁻⁷	HLA-DMA1FCAR1TUBB2AISFTPA2ITGB2HLA-DOB1HLA-DMB1HLA-DPB1INCF4ATP6V0D2HLA-DQB1ICTSSINCF1IFCGR2B1
Tuberculosis	hsa05152	22	1.759x10 ⁻⁸	5.133x10 ⁻⁷	HLA-DRA1HLA-GIMARCO1HLA-DRB1ICD36HLA-DPA1A1ATP6V1C2HLA-DMB1HLA-DPB1A1ATP6V0D2LSP1HLA-DRA1TNF1ITGB2HLA-DPA1IL10RA1FCGR2B1IL1A1IL23A1HLA-DOBINOD2PLK3HLA-DQB1IL1B1ICD74HLA-DMAICTSS1HLA-DRB1ITGAX
Toxoplasmosis	hsa05145	18	3.053x10 ⁻⁸	8.580x10 ⁻⁷	BIRC3HLA-DMA1NFKB1A1HLA-DRB1PIK3CGIGNAO1HLA-DOB1HLA-DMB1HLA-DPB1PIK3R5IL10RA1LY96HLA-DQB1ICD40LGIHLA-DRA1TNF1HLA-DPA1IHSPA6
Allograft rejection	hsa05330	11	3.517x10 ⁻⁸	9.791x10 ⁻⁷	HLA-DMA1HLA-DOB1HLA-DMB1HLA-DPB1HLA-DQB1HLA-DRA1CD40LGIHLA-G1TNF1HLA-DRB1HLA-DPA1
Asthma	hsa05310	10	4.404x10 ⁻⁸	1.207x10 ⁻⁶	HLA-DMA1HLA-DOB1HLA-DMB1HLA-DPB1HLA-DQB1ICD40LGIHLA-DRA1TNF1HLA-DRB1HLA-DPA1
Chemokine signaling pathway	hsa04062	22	6.691x10 ⁻⁸	1.787x10 ⁻⁶	CCL28WASIGNGT2PPBPICX3CR1PIK3R5ICXCR6ICCL22INFKB1A1CCL20ICXCR5ITTKICCR6VAV1VAV3IFGRPIK3CGICCR4INCF1XCL2PLCB2CXCR2
Viral myocarditis	hsa05416	12	2.797x10 ⁻⁷	6.721x10 ⁻⁶	ITGAL1HLA-DMA1ITGB2HLA-DOB1HLA-DMB1HLA-DPB1HLA-DQB1HLA-DRA1CD40LGIHLA-G1HLA-DRB1HLA-DPA1
Osteoclast differentiation	hsa04380	17	6.358x10 ⁻⁷	1.415x10 ⁻⁵	NFKB1A1PIK3CGIFCCGR2B1SIRPB1SIRPGISPI1IL1AINCF4PIK3R51TECINCF1IL1LRA2ILCK1IL1B1TNFB1BLNK1ACP5
Autoimmune thyroid disease	hsa05320	11	7.119x10 ⁻⁷	1.575x10 ⁻⁵	HLA-DMA1HLA-DOB1HLA-DMB1HLA-DPB1ITSHR1HLA-DQB1HLA-DRA1CD40LGIHLA-G1HLA-DRB1HLA-DPA1
HTLV-1 infection	hsa05166	24	8.156x10 ⁻⁷	1.786x10 ⁻⁵	HLA-DMB1HLA-DPB1HLA-DRA1TNF1ITGB2HLA-DPA1PIK3R51CD3DILTALCK1XBP1INFKB1A1HLA-DOBISPI1HLA-DQB1HLA-G1ITGALICD3E1IL2RGIPIK3CGIIL15HLA-DMAIKAT2BIHLA-DRB1
Influenza A	hsa05164	19	1.356x10 ⁻⁶	2.849x10 ⁻⁵	HLA-DMA1NFKB1A1TNFSF10PIK3CGIHLA-DOB1HLA-DMB1IL1A1HLA-DPB1PIK3R5IL33INLRP3HLA-DQB1HLA-DRB1IL1B1HLA-DRA1TNF1HLA-DPA1IHSPA6ITMPRSS13
Leukocyte transendothelial migration	hsa04670	14	1.575x10 ⁻⁵	2.638x10 ⁻⁴	ITGAL1PIK3CGIITGB2IRASSF5INCF4PIK3R5ITXKIITKICLDN181NCF1IMMP9IRAPGEF3IVAV1IVAV3
B cell receptor signaling pathway	hsa04662	11	1.709x10 ⁻⁵	2.824x10 ⁻⁴	NFKB1A1PIK3CGIPIK3R5IVAV3ICD191INPP5DFCGR2B1ICD22IBLNK1VAV1ICR2
NF-kappa B signaling pathway	hsa04064	12	2.569x10 ⁻⁵	4.057x10 ⁻⁴	BIRC3INFKB1A1L1ATZAP70ILY96IL1B1TNFSF14ILTAILCKICD40LGI TNF1BLNK

Table SVI. Continued.

Pathway	Pathway ID	Gene number	P-value	FDR	Genes
Epstein-Barr virus infection	hsa05169	18	3.451x10 ⁻⁵	5.267x10 ⁻⁴	ITGAL NFKB1A PIK3CG SPI1 SPN IHLA-DPA1 FCER2 HLA-DPB1 FGR PIK3R5 CD19 IL10RA HLA-DQB1 HLA-DRA HLA-G HLA-DRB1 HSPA6 ICR2
Herpes simplex infection	hsa05168	16	1.149x10 ⁻⁴	1.496x10 ⁻³	HLA-DMA NFKB1A ICD74 HLA-DOB IL15 HLA-DMB HLA-DPB1 TNFSF14 IL1TA HLA-DQB1 HLA-DRA IL1B HLA-G ITNFI HLA-DRB1 HLA-DPA1
Malaria	hsa05144	8	1.187x10 ⁻⁴	1.528x10 ⁻³	ITGAL ITGB2 IL1B KLRK1 ICD40L G TNFC CD36 KLRB1
TNF signaling pathway	hsa04668	12	1.426x10 ⁻⁴	1.793x10 ⁻³	BIRC3 NFKB1A IRPK3 PIK3CG IL15 CCL20 NOD2 PIK3R5 IL1TA IL1B IMMP9 TNF
Fc gamma R-mediated phagocytosis	hsa04666	11	1.457x10 ⁻⁴	1.827x10 ⁻³	PIK3CG AMPH IL1A WAS PIK3R5 NCF1 FCGR2B PTPRC VAV1 VAV3 INPP5D
NOD-like receptor signaling pathway	hsa04621	8	3.794x10 ⁻⁴	4.154x10 ⁻³	BIRC3 NFKB1A NOD2 PSTPIP1 IL1B INLRP3 ITNFI MEFV
Measles	hsa05162	12	7.616x10 ⁻⁴	7.567x10 ⁻³	NFKB1A TNFSF10 PIK3CG IL1A ICD3E PIK3R5 ICD3 DFCGR2B IL1B IL2RG HSPA6 SH2D1A
Chagas disease (American trypanosomiasis)	hsa05142	10	1.164x10 ⁻³	1.075x10 ⁻²	NFKB1A PIK3CG IGNAO1 ICD247 CD3E PIK3R5 ICD3D IL1B ITNFI PLCB2
Pertussis	hsa05133	8	1.750x10 ⁻³	1.496x10 ⁻²	IL23A ITGB2 IL1A ILY96 NLRP3 SFTPA2 IL1B ITNF
Jak-STAT signaling pathway	hsa04630	12	2.457x10 ⁻³	1.965x10 ⁻²	TSLP PIK3CG IL23A IL22RA2 IL15 IL13RA2 IL23R PIK3R5 IL10RA IL20 STAT4 IL2RG
Amoebiasis	hsa05146	9	2.719x10 ⁻³	2.088x10 ⁻²	PIK3CG ITGB2 SERPINB4 PIK3R5 PLCB2 SERPINB3 IL1B ITNFI CD1D
Carbohydrate digestion and absorption	hsa04973	6	3.180x10 ⁻³	2.385x10 ⁻²	MGAM PIK3CG PIK3R5 SLC5A1 SLC2A5 PLCB2
Rap1 signaling pathway	hsa04015	14	3.925x10 ⁻³	2.821x10 ⁻²	ITGAL APBB1 PIVEGFA PIK3CG IGNAO1 ITGB2 IRGS14 LAT1 RASSF5 SKAP1 PIK3R5 F2RL3 RAPGEF3 PLCB2
Fc epsilon RI signaling pathway	hsa04664	7	4.640x10 ⁻³	3.215x10 ⁻²	PIK3CG LAT PIK3R5 INPP5D TNF VAV1 VAV3
Systemic lupus erythematosus	hsa05322	10	5.116x10 ⁻³	3.481x10 ⁻²	HLA-DMA HLA-DOB HLA-DMB HLA-DPB1 HLA-DQB1 CD40L G HLA-DRA ITNFI HLA-DRB1 HLA-DPA1
cAMP signaling pathway	hsa04024	13	5.427x10 ⁻³	3.657x10 ⁻²	NFKB1A PIK3CG IFFAR2 PIK3R5 PDE4C TSHR VAV3 CNGB1 GHR CACNA1F RAPGEF3 VAV1 ATP2B2
PPAR signaling pathway	hsa03320	7	5.723x10 ⁻³	3.789x10 ⁻²	ACSL5 HMGCS2 FABP6 ANGPTL4 GK PLIN2 ICD36
Fat digestion and absorption	hsa04975	5	7.622x10 ⁻³	4.817x10 ⁻²	PLA2G2 FCD36 DGTAT2 ABCG5 PLA2G2D

Table SVII. The enrichment pathways for down-regulated genes.

Pathway	Pathway ID	Gene number	P-value	FDR	Genes
Glutathione metabolism Pathways in cancer	hsa00480	8	5.261x10 ⁻⁷	3.342x10 ⁻⁵	GPX2 IGSTM4 IGSTM2 G6PD IGCLC GSR IGSTM3 IGCLM
	hsa05200	18	3.605x10 ⁻⁶	1.740x10 ⁻⁴	RAC3 WNT9 AIL PAR1 L AMA1 COL4A2 EGFR WNT5A WNT3A IDCC GLI2 GNG4 FGFR1 FGF9 RARB G GNB3 WNT10 BIWNT8 BIWNT6
Basal cell carcinoma	hsa05217	7	9.579x10 ⁻⁶	3.651x10 ⁻⁴	WNT9A IGL12 WNT10 BIWNT5A WNT3A WNT8 BIWNT6
Ras signaling pathway	hsa04014	12	4.261x10 ⁻⁵	1.211x10 ⁻³	RAC3 EGFR NGFR FGFR1 PLA2G4A GNG4 IPAK1 FGF9 NGF GNB3 PLA2G10 PAK3
Metabolism of xenobiotics by cytochrome P450	hsa00980	7	4.742x10 ⁻⁵	1.324x10 ⁻³	AKR1C1 IGSTM4 ALDH3A1 IGSTM2 ADH1C IGSTM3 ICBR1
Chemical carcinogenesis	hsa05204	7	1.018x10 ⁻⁴	2.556x10 ⁻³	GSTM4 ALDH3A1 IGSTM2 ADH1C CCBL1 IGSTM3 ICBR1
PI3K-Akt signaling pathway	hsa04151	14	1.215x10 ⁻⁴	2.920x10 ⁻³	COL9A3 ILPAR1 NGFR LAMA1 COL4A2 EGFR FGFR1 ITGA9 GNG4 COL2A1 FGF9 NGF GNB3 IPKN3
@@Arachidonic acid metabolism	hsa00590	6	1.996x10 ⁻⁴	4.309x10 ⁻³	CYP4F3 GPX2 PLA2G4A AKR1C3 PLA2G10 ICBR1
ABC transporters	hsa02010	5	3.032x10 ⁻⁴	5.942x10 ⁻³	ABCC2 ABCC1 ABCA4 ABCG2 ABCB6
Melanogenesis	hsa04916	7	3.204x10 ⁻⁴	6.202x10 ⁻³	WNT9A WNT10 BIWNT5A WNT3A POMC WNT8 BIWNT6
Proteoglycans in cancer	hsa05205	10	3.328x10 ⁻⁴	6.387x10 ⁻³	EGFR WNT10 BIWNT9A WNT5A WNT3A IPAK1 FGFR1 WNT8 IGPC1 WNT6
Metabolic pathways	hsa0110-	30	3.586x10 ⁻⁴	6.766x10 ⁻³	ADH1C IAK7 L PT2 CHDH CYP4F3 HKDC1 FECH G6PD PSPH AKR1C3 PTDSS1 UGDHS SCLY ICBR1 ME1 AKR1B1 ALDH3A1 PLA2G4A CKM PLA2G10 AKR1B10 DDCI HSD17B3 PFAS ITPKA TKT GCLC INAMPT CCBL1 IGCLM NGFR MYCN TSPAN7 SIX4 ETV5 HOXA11 ETV4 SIX1 ETV1
Transcriptional misregulation in cancer	hsa05202	9	4.820x10 ⁻⁴	8.750x10 ⁻³	RAC3 WNT9A WNT10 BIWNT5A WNT3A WNT8 BIWNT8 BIWNT6
@@Wnt signaling pathway	hsa04310	8	4.853x10 ⁻⁴	8.793x10 ⁻³	RAC3 WNT9A WNT10 BIWNT5A WNT3A WNT8 BIWNT8 BIWNT6
Hippo signaling pathway	hsa04390	8	7.733x10 ⁻⁴	1.218x10 ⁻²	WNT9A IGL12 WNT10 BIWNT5A WNT3A WNT8 BIWNT8 BIWNT6
Protein digestion and absorption	hsa04974	6	1.088x10 ⁻³	1.557x10 ⁻²	COL9A3 COL24A1 COL4A2 SLC36A1 COL2A1 KCNE3
Focal adhesion	hsa04510	9	1.249x10 ⁻³	1.696x10 ⁻²	RAC3 EGFR ITGA9 LAMA1 COL4A2 COL9A3 COL2A1 PAK1 IPAK3
Selenocompound metabolism	hsa00450	3	1.695x10 ⁻³	2.121x10 ⁻²	TXNRD1 CCBL1 ISCLY
Drug metabolism-cytochrome P450	hsa00982	5	1.889x10 ⁻³	2.279x10 ⁻²	ALDH3A1 IGSTM3 IGSTM2 ADH1C IGSTM4
@@Axon guidance	hsa04360	8	1.944x10 ⁻³	2.312x10 ⁻²	RAC3 F2RL2 WNT5A IDCC IPAK1 EPHA7 TRPC4 IPAK3
Signaling pathways regulating pluripotency of stem cells	hsa04550	7	2.423x10 ⁻³	2.705x10 ⁻²	WNT9A WNT10 BIWNT5A WNT3A WNT8 BIWNT8 BIWNT6
mTOR signaling pathway	hsa04150	7	3.581x10 ⁻³	3.497x10 ⁻²	WNT9A WNT10 BIWNT5A WNT3A IGRB10 WNT8 BIWNT6
ECM-receptor interaction	hsa04512	5	4.257x10 ⁻³	3.893x10 ⁻²	COL9A3 ITGA9 LAMA1 COL4A2 COL2A1
alpha-Linolenic acid metabolism	hsa00592	3	5.014x10 ⁻³	4.317x10 ⁻²	PLA2G10 PLA2G4A FADS2