www.sciencetranslationalmedicine.org/cgi/content/full/3/82/82ra39/DC1

Supplementary Materials for

In Vivo Liver Regeneration Potential of Human Induced Pluripotent Stem Cells from Diverse Origins

Hua Liu, Yonghak Kim, Saul Sharkis, Luigi Marchionni, Yoon-Young Jang*

*To whom correspondence should be addressed. E-mail: yjang3@jhmi.edu

Published 11 May 2011, *Sci. Transl. Med.* **3**, 82ra39 (2011)
DOI: 10.1126/scitranslmed.3002376

The PDF file includes:

SUPPLEMENTAL MATERIALS

Supplemental methods

Retroviral production and reprogramming of keratinocytes.

Retroviruses for the four factors were independently produced after co-transfecting the 293T cell line with pMX retroviral vectors expressing Oct4, Sox2, Klf4 or c-Myc (Addgene) and helper plasmids as previously described (10, 23). A 1:1:1:1 mix of retroviruses containing Oct4, Sox2, Klf4 and c-Myc was added to keratinocytes (passages 1) in the presence of 8 ug/ml polybrene. After incubating for 3 days in the serum free gold media (Lonza), media was replaced with 0.5mM NaB containing hESC medium. After transformed colonies were observed in the reprogramming plates, a pluripotent stem cell marker, TRA-1-60 antibody (1:200 dilution, Millipore) and Alexa555 conjugated anti-mouse IgM antibody (1:500 dilution, Invitrogen) were added into live cell culture (without fixation) and incubated for 1 hour at 37°C, to distinguish the iPSC from non-iPSC colonies. TRA-1-60 positive colonies appeared in about 6 days after retroviral transduction, and individual TRA-1-60 positive colonies were picked onto MEF coated plates.

Embryoid body formation and spontaneous differentiation into three germ layer cells.

Human iPSCs (iK1, iK2, and iK3) were dissociated by collagenase IV digestion and plated in ultra low attachment plates (Corning) at the density of ~ $1x10^6$ cells/well in the presence of

differentiation medium (DMEM supplemented with 20% FBS, L-glutamine, β-mercaptoethanol, and Non-essential amino acids). 50% of the medium was replaced with fresh medium every 2 days. After 7 days the embryoid bodies were transferred to 0.1% gelatin-coated culture dishes and cultured for additional 3 days before fixation and staining. Antibodies against Tuj1 (Covance, 1:500), α-fetoprotein (Dako, 1:200), or SMA (DAKO, 1:100) were used to detect the spontaneously differentiated cells from EBs.

Teratoma formation.

Ten-week-old male NSG mice (Jackson Laboratories) were anesthetized and ~1 million iPSCs, resuspended in 20-40 μl of 50% matrigel, were injected subcutaneously. Mice were euthanized 8 to 12 weeks after cell injection and tumors were analyzed following H&E protocol. All animal experiments were conducted following experimental protocols previously approved by Johns Hopkins IACUC.

Immunofluorescence

Cells were fixed with 4% paraformaldehyde. The following antibodies were used: TRA-1-60 (Millipore, 1:100); SSEA-4 (Cell Signaling, 1:200); Tuj1 (Covance, 1:500), α-fetoprotein (Dako, 1:200), SMA (DAKO, 1:100), OCT-4 (Millipore, 1:100), NANOG (BD, 1:200). Secondary antibodies used were all of the Alexa Fluor Series from Invitrogen.

RNA isolation and Quantitative Real-Time Polymerase Chain Reaction

Total RNA was isolated from undifferentiated ESC/iPSCs cultured on matrigel and genomic DNA was removed using RNAqueous® -PCR kit (Applied Biosystems). 2 ug total RNA from each sample was subjected to cDNA using High Capacity RNA-to-cDNA kit (Applied Biosystems). cDNA products were diluted 1:100 for *Oct4* and 1:1000 for 18s rRNA in water, and 4 ul of each cDNA with TaqMan® Universal PCR Master Mix and TaqMan® Gene Expression Assays for each gene (Applied Biosystems) were used for real time PCR. Reactions were carried out in triplicate and analyzed on StepOnePlus Real-Time PCR System (Applied Biosystems).

Detection of Human DNA within Transplanted Mouse Livers

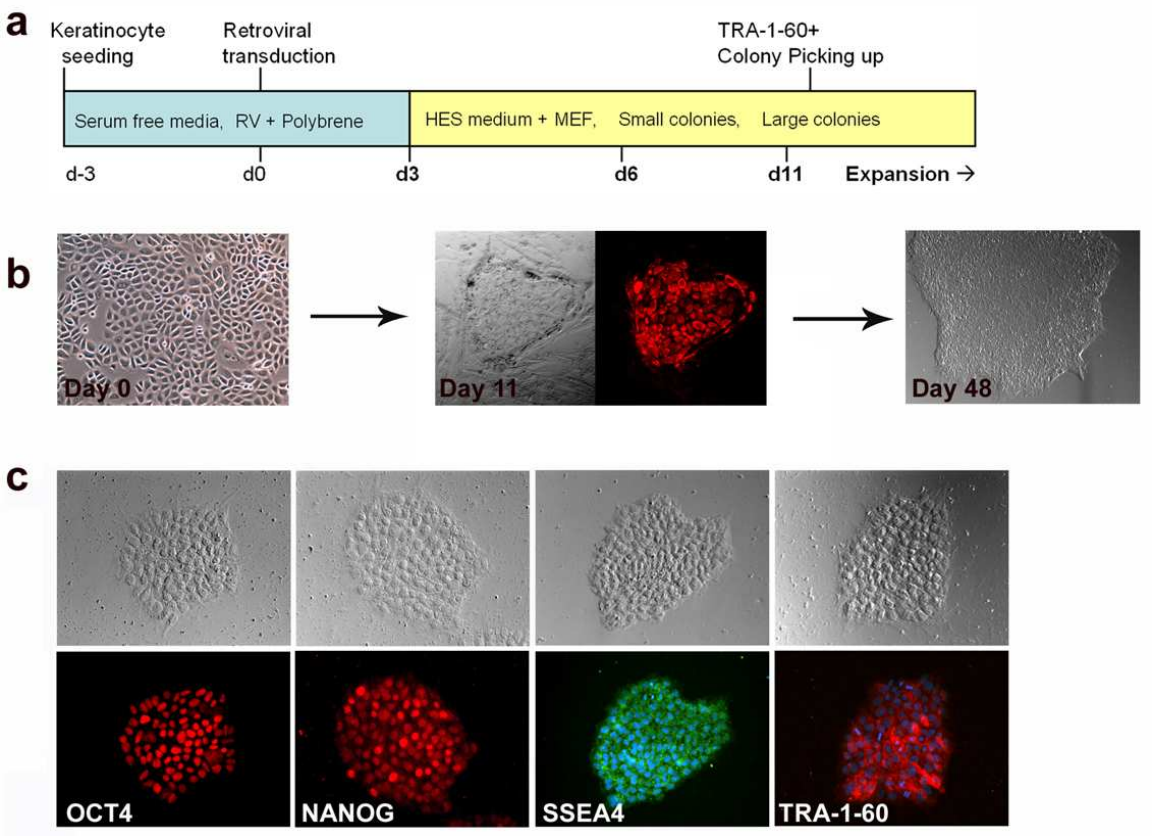
Human genomic DNA in the chimeric liver was detected by amplifying the human specific *Alu* gene (12). Genomic DNA samples were isolated from the liver using the DNeasy tissue kit, and used as templates to amplify the *Alu* repeats with human Alu specific primers (aatatggcccaactgcagaa; catcgcattttcacatccaa, product = 182bp) and the PCR Master Mix (Promega, Madison, WI). The liver tissues of control (nontransplanted) mice and human primary hepatocytes served as negative and positive controls.

Laser capture microdissection analysis

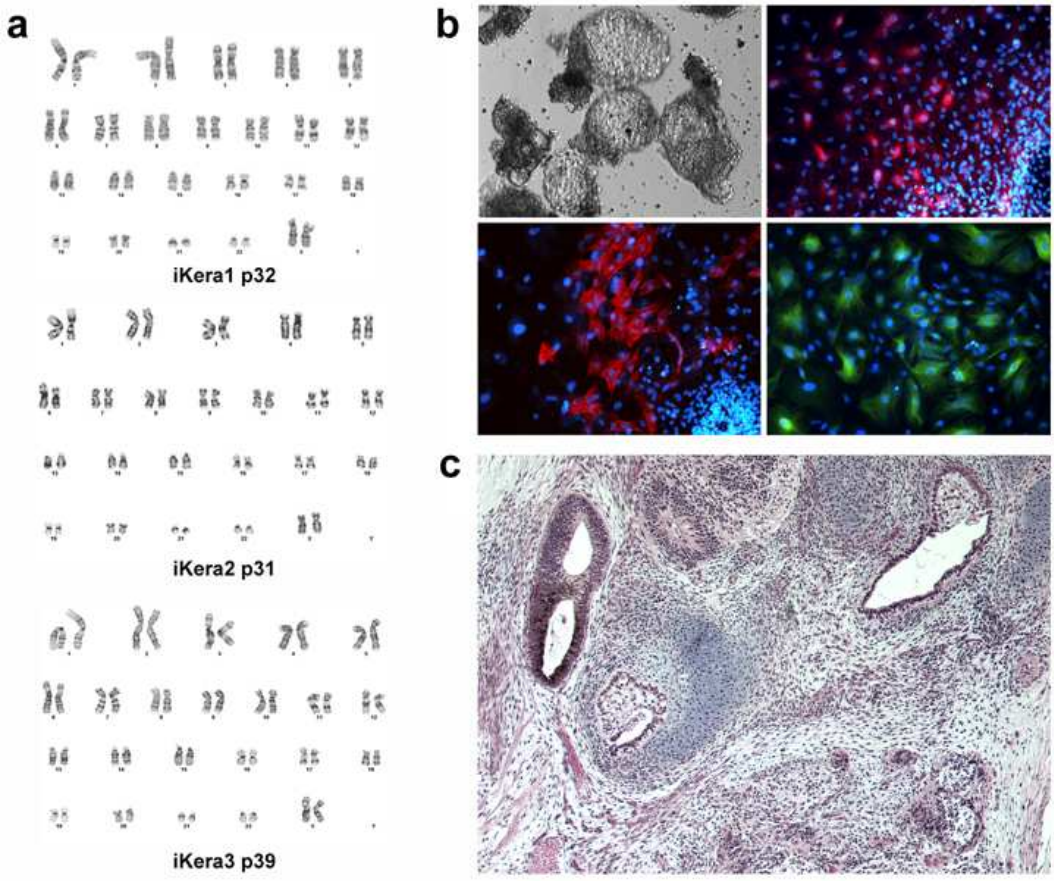
Approximately 500 human ALB positive cells from transplanted mouse liver sections were collected by laser pulse capture (Zeiss P.A.L.M MicroLaser systems). Genomic DNA was purified from the collected human ALB positive cells and amplified by PCR using oligonucleotides from

mouse hypoxanthine-guanine phosphoribosyltransferase (HPRT) (agcgcaagttgaatctgc, agcgacaatctaccagag, product = 219bp) sequences.

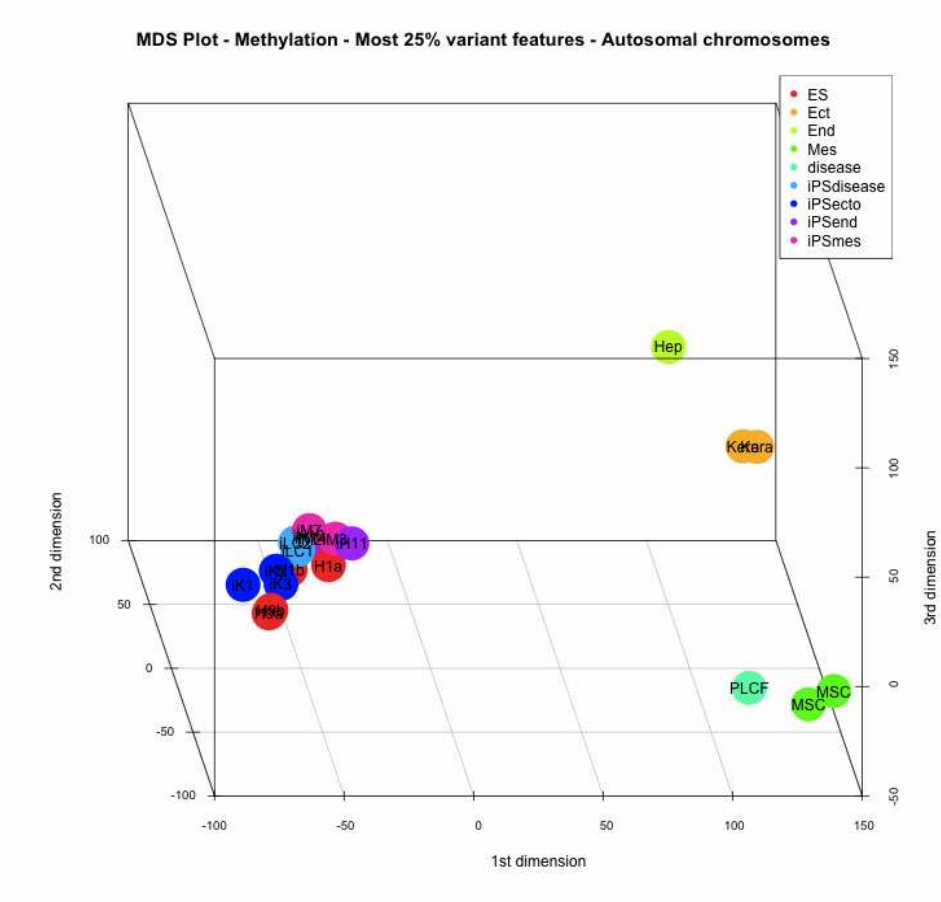
<u>Supplemental Figure 1</u>. Human keratinocyte-derived iPSC (iKera) colony formation and characterization. **(a)** A diagram of keratinocyte derived iPSC generation protocol. **(b)** A phase contrast image of primary human keratinocytes before and after iPSC reprogramming. **(c)** Representative immunofluorescence analysis of one iPSC line derived from keratinocytes (iKera1) growing on Matrigel. Clear expression of the ESC surface antigens SSEA4 and TRA-1-60, and the nuclear transcription factors OCT4 and NANOG are observed.



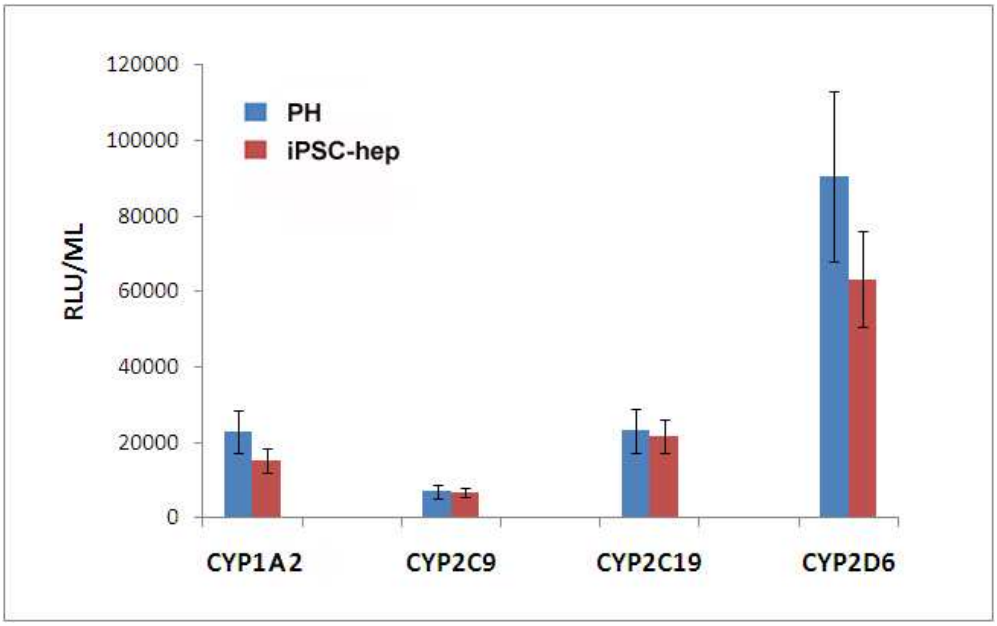
<u>Supplemental Figure 2</u>: iKera cells can differentiate into all three primary germ layers in vitro and in vivo. (a) Karyotyping of iKera cells. After 30 passages, these iPSCs (including iK1, iK2, and iK3 lines shown here) showed normal karyotypes. **(b)** Embryoid bodies derived from the iK1 line and in vitro differentiation into all three primary germ cell layers. After generation of embryoid bodies (left above) iK1 cells spontaneously differentiated into endoderm (AFP+, red, right above), mesoderm (SMA+, red, left below) and ectoderm (TuJ1+, green, right below). Blue nuclear staining is DAPI. **(c)** Spontaneous differentiation into all three germ layers including glandular epithelium, cartilages, pigmented epithelium is evident in teratomas.



<u>Supplemental Figure 3</u>. Multidimensional scaling plot based on genome-scale DNA methylation analysis of human iPSCs and their parental cells, and hESCs. Euclidian distance and 25% most varying autosomal loci across all samples analyzed were used. Color code for each group of cell lines analyzed is shown in the figure. iM2, iM3 and iM7 are derived from bone marrow mesenchymal stem cells (MSC). iH11, iH14 and iH10 are from primary hepatocytes (Hep). iK1, iK2, and iK3 are from keratinocytes (Kera). iLC1 and iLC2 are from fibroblasts (PLCF). Both H1 and H9 are hESC lines.

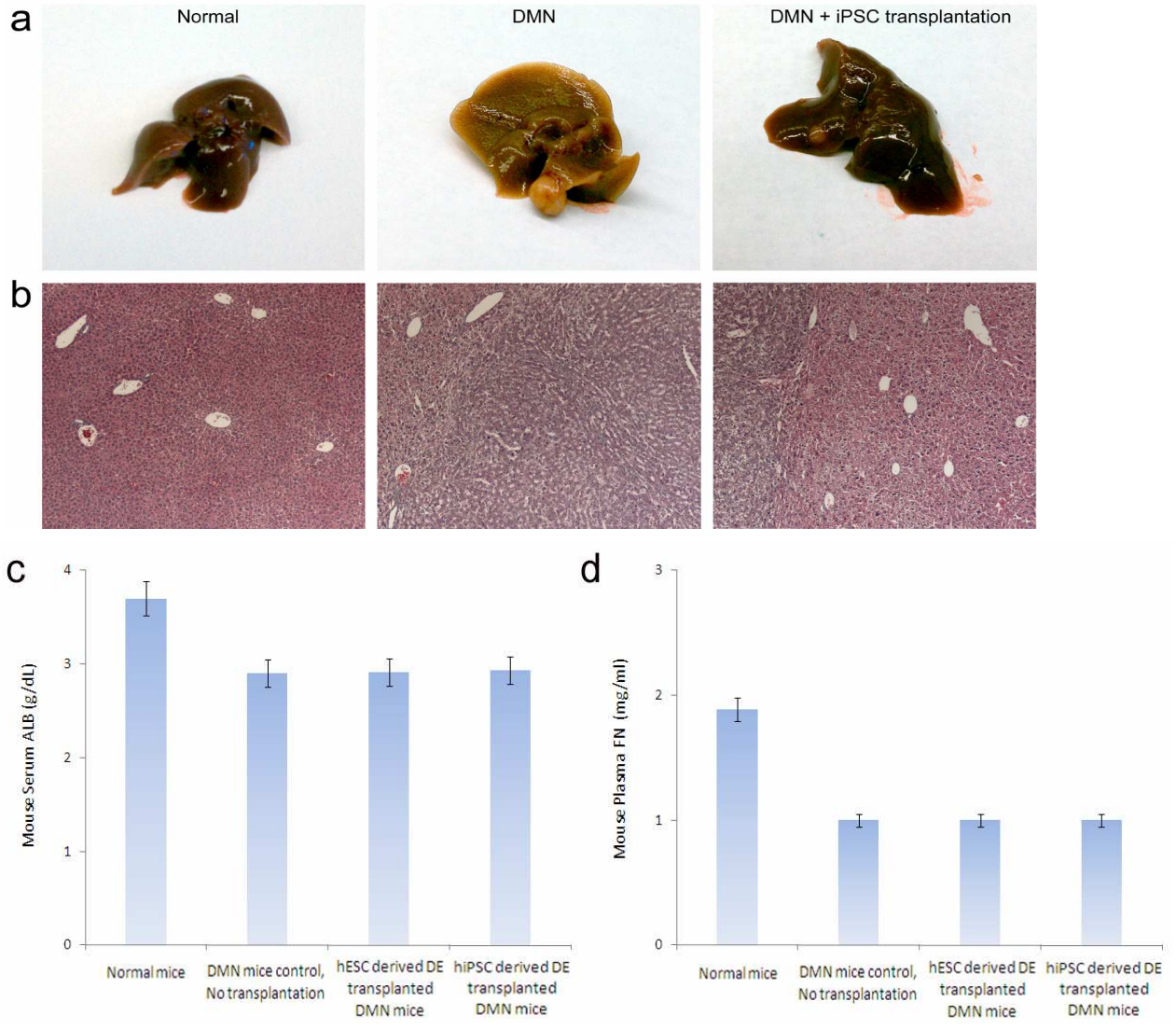


<u>Supplemental Figure 4</u>. Multiple CYP450 enzyme activity analyses for human iPSC-derived hepatocytes. CYP1A2, CYP2C9, CYP2C19, and CYP2D6 were further tested in iPSC derived hepatocytes (iPSC-hep). Levels of all of these key CYP enzyme activities of iPSC derived hepatocytes were comparable to human primary hepatocytes (PH), (n=3, Mean± SEM).



<u>Supplemental Figure 5</u>. DMN mouse liver histology and function before and after the transplantation of human iPSC-derived hepatic cells

(a) Representative pictures from each group (normal NSG mouse liver before transplantation, DMN 4 week treated NSG mouse liver, and a DMN treated NSG mouse liver transplanted with human iPSC derived hepatic cells) are shown. **(b)** Histological analyses of each liver shown in (a) (hematoxylin and eosin staining, magnification x400). (**c, d**) Levels of mouse serum albumin (ALB) and fibrinogen (FN) in the DMN treated mice with and without transplantation of human stem cell derived hepatic cells. Mouse serum albumin and plasma fibrinogen levels were measured using the ELISA kits (Bethyl lab E99-134, GenWay 40-374-130050). The bars indicate the means ± SD (n=3).



<u>Supplemental Figure 6</u>. **Detection of human DNA within transplanted mouse livers**.

PCR analyses using primers that specifically recognize human *Alu* sequences on genomic DNA isolated from mouse livers injected with human iPSC derived definitive endoderm cells. Human *Alu* DNA bands were detected in at least one or two tissue pieces (among multiple different portions measured) of recipient mouse livers which had shown 10 to 15% of human engraftment by human ALB staining. A typical result is shown here with iK1 transplanted mouse (1-7, seven different portions of the recipient liver tissue). The liver tissues of control (non-transplanted) mice served as a negative control and human cells (primary hepatocytes, PH) were used as a positive control.

Supplemental Figure 7. **Mouse gene analysis in engrafted human albumin-positive cells**

PCR analyses for detecting mouse genes (HPRT) from the engrafted human ALB+ cells in mouse liver tissue. Human ALB+ cells were precisely collected from transplanted mouse liver tissues by laser capture microdissection and genomic DNA was purified for PCR. There was no mouse gene detected in the human ALB+ cells isolated from either human ESC-DE transplanted mice (hES) or human iPSC-DE transplanted mice (iH12, iM9, iK1). The mouse liver tissue control (mliver) contained the only cells expressing the mouse gene. This result indicates that the engrafted human hepatic cells did not undergo fusion with mouse liver cells.

<u>Supplemental Figure 8</u>. Effect of passaging on pluripotency gene *OCT4* expression.

Quantification of the expression level of *OCT4* in multiple origin human iPSC lines harvested at early (p7-12) and later passages (p34-40) by quantitative PCR. H1 and H9 ESCs were used as controls as shown in the figure. No significant differences were observed between early and later passage iPSCs of different origin and the values were similar to hESCs. The values were normalized by 18S expression and expressed as relative quantitation (RQ), the error bars depict the SD (n=3).

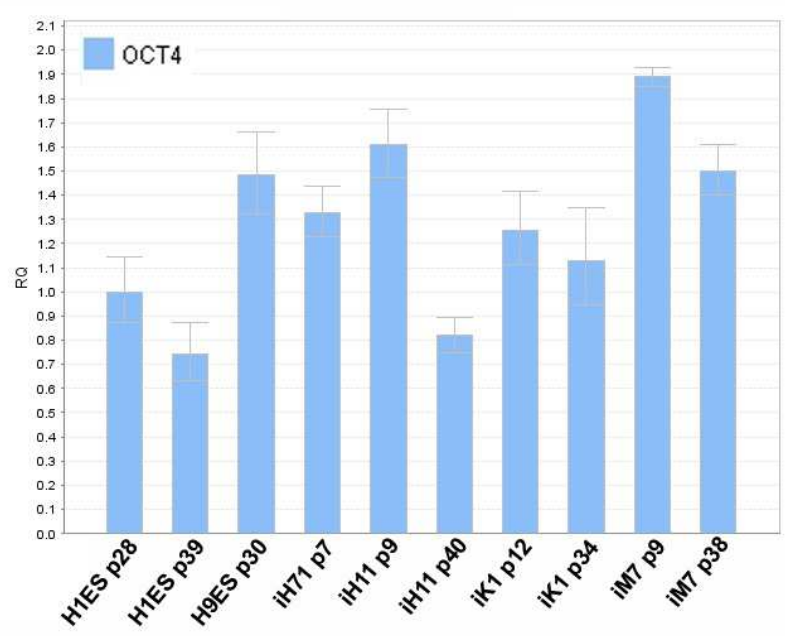


Table S1. Human iPSCs and ESCs used for this study and their pluripotency

Cell lines	Cell sources	Germ layer of original cells	Pluripotency marker expression	EB formation /3 germ layer differentiation in vitro	Teratoma formation /In vivo pluripotency
iH6, 10, 11, 12, 14, 71	Hepatocytes	Endoderm	Y	Y	Y
iM2, 3, 7, 9	BM MSCs	Mesoderm	Y	Y	Y
iLC1, 2	Liver fibroblasts	Mesoderm	Y	Y	Y
iK1, 2, 3	Keratinocytes	Ectoderm	Y	Y	Y
H1 ES	Inner Cell Mass	Blastocyst	Y	Y	Y
H9 ES	Inner Cell Mass	Blastocyst	Y	Y	Y

Table S2. Genes differentially methylated between endoderm cells (iPSCend and their parental cells) versus all other cell lines (all other iPSCs, other parental cells, and ESCs), q-value < 0.001

Table S3. Genes differentially methylated between mesoderm cells (all iPSCmes and their parental cells) versus all other cell lines (all other iPSCs, other parental cells, and ESCs), q-value < 0.001

Table S4. Genes differentially methylated between ectoderm cells (iPSCect and their parental cells) versus all other cell lines (all other iPSCs, other parental cells, and ESCs), q-value < 0.001

Table S2-S4; These analyses were carried on using the log2 ratio between un-methylated and methylated probes, as well as the beta statistics with overlapping results.

SYMBOL: Gene symbol of the neighboring gene; **t**: moderated t-statistics;

Tables S2-S4 are separately uploaded as supporting online material-2.

Table S2. END vs REST

NCBI Entrez Gene identifiers	SYMBOL	t
9121	SLC16A5	22.2
57124	CD248	21.3
84225	ZMYND15	20.9
23098	SARM1	20.7
57678	GPAM	20
400931	FLJ27365	18.3
9555	H2AFY	17.8
22906	TRAK1	16.5
55267	FLJ10945	16.5
114904	C1QTNF6	16.3
54905	CYP2W1	16
4056	LTC4S	15.9
23543	RBM9	15.6
4237	MFAP2	15.6
83871	RAB34	15.1
79652	C16orf30	14.9
81621	KAZALD1	14.8
27019	DNAI1	14.8
5799	PTPRN2	14.7
221091	LOC221091	14.3
90226	UCN2	14.2
1307	COL16A1	14.1
401459	FLJ46365	14
632	BGLAP	12.9
284358	FLJ36070	12.8
9196	KCNAB3	12.7
7465	WEE1	12.7
10962	MLLT11	12.5
64129	TINAGL1	12.5
1003	CDH5	12.5
23371	TENC1	12.3
116983	CENTB5	12.1
54471	FLJ20232	12.1
27350	APOBEC3C	12
9289	GPR56	11.7
10578	GNLY	11.7
57111	RAB25	11.6
115761	ARL11	11.6

Table S3 MES vs REST

NCBI Entrez Gene identifiers	SYMBOL	t
2875	GPT	27.2
2886	GRB7	22.5
2099	ESR1	17.7
60529	ALX4	17.3
57402	S100A14	16.6
2202	EFEMP1	16.3
5524	PPP2R4	16.1
57167	SALL4	15.7
200634	KRTCAP3	15.6
3918	LAMC2	15.5
284723	SLC25A34	15.4
29775	CARD10	15.4
3233	HOXD4	15.3
64220	STRA6	15.2
5308	PITX2	14.7
80004	RBM35B	14.7
116983	CENTB5	14.2
3199	HOXA2	14.1
23367	LARP1	14
4803	NGFB	13.7
2812	GP1BB	13.6
3083	HGFAC	13.5
9208	LRRFIP1	13.5
150135	C21orf129	13.2
6242	RTKN	13
164284	FLJ90166	12.8
1018	CDK3	12.4
23616	SH3BP1	12.3
1907	EDN2	12.1
6935	TCF8	11.9
51171	DHRS10	11.8
84951	TNS4	11.8
388428	FLJ44861	11.7
104	ADARB1	11.5
6910	TBX5	11.5
90050	C14orf152	11.4
3159	HMGA1	11.4
11259	DOC1	11.3

Table S4 ECT vs REST

NCBI Entrez Gene identifiers	SYMBOL	t
3633	INPP5B	22.5
25900	103	20.9
9891	NUAK1	19.1
64405	CDH22	17.8
374872	C19orf35	17.7
84617	TUBB6	17.2
5083	PAX9	17
57125	PLXDC1	16.9
80341	BPIL1	16.6
8309	ACOX2	16.5
399717	FLJ45983	16.3
30845	EHD3	16.2
53947	A4GALT	16.2
221421	C6orf206	15.8
84618	NT5C1A	15.5
83594	NUDT12	15.4
54790	FLJ20032	15.3
114757	CYGB	14.9
353131	LCE1A	14.6
91373	UAP1L1	14.5
83595	SOX7	14.3
257236	FLJ90575	14.2
9450	LY86	14.2
10747	MASP2	13.9
114902	C1QTNF5	13.7
51042	ZNF593	13.7
84647	PLA2G12B	13.7
7380	UPK3A	13.7
171019	ADAMTS19	13.3
11189	TNRC4	13.2
3131	HLF	13.2
3699	ITIH3	13.2
115701	HAK	13.1
9021	SOCS3	13.1
10485	C1orf61	13.1
50507	NOX4	13.1
148738	HFE2	13.1
1903	EDG3	13

90678	LRSAM1	11.5
3171	FOXA3	11.4
284837	LOC284837	11.3
10801	9-Sep	11.3
128876	C20orf128	11.2
1128	CHRM1	11.2
23413	FREQ	11.1
53822	FXYD7	11.1
9051	PSTPIP1	11
91663	MYADM	11
54106	TLR9	11
343035	C1orf36	11
27134	TJP3	11
6614	SN	10.9
65094	JMJD4	10.9
339665	SLC35E4	10.9
4793	NFKBIB	10.8
83742	MARVELD1	10.8
6776	STAT5A	10.7
1638	DCT	10.7
3866	KRT15	10.6
90199	WFDC8	10.6
6385	SDC4	10.5
56302	TRPV5	10.4
81875	ISG20L2	10.4
23061	KIAA0676	10.4
7462	LAT2	10.3
338773	TMEM119	10.3
6398	SECTM1	10.3
80781	COL18A1	10.2
84948	TIGD5	10.2
390212	GPR152	10.1
26	ABP1	10.1
2626	GATA4	10.1
162514	TRPV3	10
22924	MAPRE3	9.98
284114	TMEM102	9.97
9002	F2RL3	9.95
1454	CSNK1E	9.81
4261	CIITA	9.81
1760	DMPK	9.81
2246	FGF1	9.77
11322	TMC6	9.74
146802	FLJ31196	9.74

55103	RALGPS2	11.2
83597	RTP3	11.2
4773	NFATC2	11.2
26007	DAK	11
3914	LAMB3	11
4487	MSX1	10.9
3856	KRT8	10.9
2706	GJB2	10.9
5777	PTPN6	10.8
1	A1BG	10.8
221833	SP8	10.8
203100	HTRA4	10.8
128602	C20orf85	10.7
1776	DNASE1L3	10.7
122416	ANKRD9	10.6
2041	EPHA1	10.6
55615	PRR5	10.5
3898	LAD1	10.5
9750	C6orf32	10.5
151011	10-Sep	10.4
9249	DHRS3	10.4
4320	MMP11	10.3
780	DDR1	10.3
5265	SERPINA1	10.3
9289	GPR56	10.1
5083	PAX9	10
8424	BBOX1	10
8710	SERPINB7	10
55620	STAP2	10
85004	RERG	9.91
345	APOC3	9.88
338442	GPR109A	9.71
1030	CDKN2B	9.59
10672	GNA13	9.46
9028	RHBDL1	9.4
54970	TTC12	9.37
7253	TSHR	9.32
5306	PITPNA	9.26
81029	WNT5B	9.25
1044	CDX1	9.22
8673	VAMP8	9.21
843	CASP10	9.18
9048	ARTN	9.17
2155	F7	9.14

221	ALDH3B1	13
63924	CIDEC	12.7
5867	RAB4A	12.6
1280	COL2A1	12.6
113220	KIF12	12.6
90050	C14orf152	12.5
6770	STAR	12.4
4313	MMP2	12.4
283600	C14orf68	12.2
3386	ICAM4	12.1
11117	EMILIN1	12
22981	KIAA0980	12
10864	SLC22A7	12
3855	KRT7	11.9
55237	C14orf115	11.9
6236	RRAD	11.9
1	A1BG	11.6
2030	SLC29A1	11.6
5575	PRKAR1B	11.6
6927	TCF1	11.6
25999	CLIPR-59	11.5
60436	TGIF2	11.5
3083	HGFAC	11.4
219928	MRGPRF	11.4
4762	NEUROG1	11.3
718	C3	11.1
3697	ITIH1	11
23231	KIAA0746	10.9
335	APOA1	10.9
4625	MYH7	10.8
9253	NUMBL	10.7
81493	SYNC1	10.7
866	SERPINA6	10.7
80723	TMEM22	10.7
222487	GPR97	10.6
2662	GDF10	10.6
3929	LBP	10.5
761	CA3	10.5
29993	PACSIN1	10.5
23037	PDZK3	10.5
29881	NPC1L1	10.4
51156	SERPINA10	10.4
7490	WT1	10.4
1749	DLX5	10.4

10614	HEXIM1	9.71
8435	SOAT2	9.7
79748	LMAN1L	9.69
340205	TREML1	9.66
55205	ZNF532	9.64
55287	TMEM40	9.64
84985	FAM83A	9.63
2694	GIF	9.58
9362	CPNE6	9.49
79690	GAL3ST4	9.37
340061	LOC340061	9.33
148423	C1orf52	9.31
359710	C20orf185	9.3
2950	GSTP1	9.26
6275	S100A4	9.24
83401	ELOVL3	9.23
2709	GJB5	9.22
2214	FCGR3A	9.22
2125	EVPL	9.2
116840	CNTROB	9.2
6273	S100A2	9.09
5159	PDGFRB	9.08
3036	HAS1	9.04
80097	FLJ14346	9
54578	UGT1A6	9
6696	SPP1	8.99
6358	CCL14	8.97
5753	PTK6	8.95
81607	PVRL4	8.91
388533	UNQ467	8.9
80736	SLC44A4	8.86
6348	CCL3	8.82
137797	LYPD2	8.79
56833	SLAMF8	8.77
10544	PROCR	8.76
11117	EMILIN1	8.65
136371	ASB10	8.64
85456	TNKS1BP1	8.63
23500	DAAM2	8.63
126353	C19orf21	8.62
3590	IL11RA	8.59
79413	ZBED2	8.57
147495	APCDD1	8.56
23650	TRIM29	8.55

64866	CDCP1	9.11
146456	TMED6	9.06
1305	COL13A1	9.05
115572	FAM46B	8.96
7022	TFAP2C	8.95
10110	SGK2	8.92
5443	POMC	8.92
65012	SLC26A10	8.91
8614	STC2	8.87
131669	UROC1	8.86
114038	C21orf84	8.84
57533	TBC1D14	8.82
421	ARVCF	8.8
9020	MAP3K14	8.8
4081	MAB21L1	8.78
6615	SNAI1	8.74
222894	FERD3L	8.71
5493	PPL	8.7
2300	FOXL1	8.68
54436	SH3TC1	8.68
90990	KIFC2	8.6
8416	ANXA9	8.6
83541	C20orf55	8.58
54682	MANSC1	8.57
151278	FLJ32447	8.54
5077	PAX3	8.53
27111	SDCBP2	8.39
79574	EPS8L3	8.38
2027	ENO3	8.28
58473	PLEKHB1	8.23
1775	DNASE1L2	8.2
3909	LAMA3	8.2
1244	ABCC2	8.19
3294	HSD17B2	8.19
400830	DEFB32	8.12
9022	CLIC3	8.12
2672	GFI1	8.07
2147	F2	8.02
2877	GPX2	8.02
8431	NR0B2	7.98
26232	FBXO2	7.97
3960	LGALS4	7.97
7850	IL1R2	7.96
50619	DEF6	7.93

54810	GIPC2	10.3
6484	ST3GAL4	10.3
5648	MASP1	10.3
4490	MT1B	10.3
57168	ASPHD2	10.3
54751	FBLIM1	10.2
7416	VDAC1	10.2
79574	EPS8L3	10.1
64757	MOSC1	10.1
6506	SLC1A2	10
43847	KLK14	10
7802	DNALI1	9.96
108	ADCY2	9.95
9970	NR1I3	9.94
3857	KRT9	9.92
23526	HMHA1	9.91
8525	DGKZ	9.85
1812	DRD1	9.84
25956	SEC31L2	9.84
9099	USP2	9.78
11317	RBPSUHL	9.74
27198	GPR81	9.65
10335	MRVI1	9.61
7015	TERT	9.61
353134	LCE1D	9.6
353144	LCE3C	9.57
53841	MUCDHL	9.56
3889	KRTHB3	9.55
57538	ALPK3	9.5
9543	PUNC	9.48
5118	PCOLCE	9.45
9811	KIAA0427	9.41
81621	KAZALD1	9.41
4239	MFAP4	9.38
325	APCS	9.36
2147	F2	9.32
10873	ME3	9.32
124404	FLJ25410	9.32
2028	ENPEP	9.26
8431	NR0B2	9.21
23542	MAPK8IP2	9.19
2260	FGFR1	9.18
8382	NME5	9.17
8692	HYAL2	9.16

9450	LY86	8.52
348174	LOC348174	8.5
374739	TEPP	8.5
253935	ANGPTL5	8.48
8436	SDPR	8.48
3689	ITGB2	8.47
80380	PDCD1LG2	8.42
8572	PDLIM4	8.38
26191	PTPN22	8.32
148170	CDC42EP5	8.29
201294	UNC13D	8.22
2170	FABP3	8.2
22874	PLEKHA6	8.18
2012	EMP1	8.18
8857	FCGBP	8.17
22941	SHANK2	8.15
4245	MGAT1	8.13
84766	MGC4266	8.12
23263	MCF2L	8.08
4720	NDUFS2	8.07
55898	UNC45A	8.07
6820	SULT2B1	8
2215	FCGR3B	7.99
84033	OBSCN	7.93
55643	BTBD2	7.88
1606	DGKA	7.87
1101	CHAD	7.86
1535	CYBA	7.85
23429	RYBP	7.83
2810	SFN	7.77
51161	C3orf18	7.76
83638	Bles03	7.76
2022	ENG	7.75
246176	GAS2L2	7.74
56944	OLFML3	7.73
221472	FGD2	7.7
4222	MEOX1	7.7
93643	TJAP1	7.69
1742	DLG4	7.69
1728	NQO1	7.59
51629	CGI-69	7.59
11078	HRIHFB2122	7.54
3846	KRTAP5-9	7.54
90019	SYT8	7.54

2741	GLRA1	7.81
3866	KRT15	7.77
4232	MEST	7.76
5345	SERPINF2	7.75
10410	IFITM3	7.73
3200	HOXA3	7.71
108	ADCY2	7.7
5697	PYY	7.68
10848	PPP1R13L	7.66
55287	TMEM40	7.65
130367	SGPP2	7.6
5753	PTK6	7.59
3299	HSF4	7.59
858	CAV2	7.58
3699	ITIH3	7.54
149708	WFDC5	7.51
3232	HOXD3	7.49
79152	FA2H	7.49
5970	RELA	7.47
335	APOA1	7.43
272	AMPD3	7.39
5763	PTMS	7.37
144568	A2ML1	7.37
64921	NBLA04196	7.37
80818	ZNF436	7.36
201780	SLC10A4	7.35
5364	PLXNB1	7.34
2769	GNA15	7.34
6899	TBX1	7.34
283078	IRXL1	7.31
89796	NAV1	7.28
9333	TGM5	7.28
4485	MST1	7.26
646	BNC1	7.26
2308	FOXO1A	7.25
389434	C6orf71	7.22
1748	DLX4	7.19
9235	IL32	7.13
8692	HYAL2	7.06
4199	ME1	7.06
116844	LRG1	7.06
712	C1QA	7.01
169166	MGC39715	7
635	BHMT	7

8993	PGLYRP1	9.1
90332	XTP7	9.08
60312	AFAP	9.08
763	CA5A	9.06
5348	FXYD1	9.06
30008	EFEMP2	9
116835	HSPA12B	9
133121	ENPP6	9
5624	PROC	8.97
4489	MT1A	8.97
85480	TSLP	8.94
51160	VPS28	8.93
1293	COL6A3	8.91
3172	HNF4A	8.86
7849	PAX8	8.83
60385	TSKS	8.78
716	C1S	8.74
10110	SGK2	8.74
147746	HIPK4	8.72
119587	CPXM2	8.71
338321	NALP9	8.68
7804	LRP8	8.59
131669	UROC1	8.59
349136	LOC349136	8.57
54544	C1orf42	8.56
10449	ACAA2	8.56
3483	IGFALS	8.51
388218	UNQ5810	8.51
84101	USP44	8.5
51733	UPB1	8.49
4776	NFATC4	8.47
8614	STC2	8.46
4922	NTS	8.46
2822	GPLD1	8.43
161247	LOC161247	8.42
5368	PNOC	8.41
344838	PAQR9	8.32
5345	SERPINF2	8.31
3707	ITPKB	8.3
5173	PDYN	8.3
9590	AKAP12	8.29
255043	TMEM86B	8.26
6707	SPRR3	8.23
5376	PMP22	8.22

1212	CLTB	7.53
25959	ANKRD25	7.52
118738	ZNF488	7.52
113622	ADPRHL1	7.52
8476	CDC42BPA	7.5
7113	TMPRSS2	7.49
3914	LAMB3	7.48
126308	MOBKL2A	7.45
3888	KRTHB2	7.45
64333	ARHGAP9	7.45
55273	TMEM100	7.43
220388	FLJ38159	7.4
414062	CCL3L3	7.37
9253	NUMBL	7.36
374875	SCDR10	7.34
286256	LCN12	7.32
6538	SLC6A11	7.31
3265	HRAS	7.3
1639	DCTN1	7.28
170575	GIMAP1	7.28
1066	CES1	7.26
79228	WDR58	7.25
944	TNFSF8	7.23
83933	HDAC10	7.2
114131	UCN3	7.17
3770	KCNJ14	7.15
84734	C1orf90	7.12
2134	EXTL1	7.09
8915	BCL10	7.08
5623	PSPN	7.07
55567	DNAH3	7.07
5438	POLR2I	7.07
57010	CABP4	7.05
790	CAD	7.05
84283	TMEM79	7.05
53828	FXYD4	7.03
84292	MORG1	7.02
6678	SPARC	7.02
124975	GGT6	7
23351	KIAA0323	6.98
84286	MGC4618	6.98
29951	PDZRN4	6.97
283897	C16orf54	6.96
257203	DSCR9	6.96

53832	IL20RA	6.98
3990	LIPC	6.96
6717	SRI	6.95
347733	TUBB2B	6.95
23562	CLDN14	6.95
4009	LMX1A	6.93
26281	FGF20	6.92
90019	SYT8	6.91
4250	SCGB2A2	6.86
822	CAPG	6.85
79755	FLJ13841	6.84
202915	MGC9712	6.84
3651	IPF1	6.8
2625	GATA3	6.76
10747	MASP2	6.75
64218	SEMA4A	6.74
404217	CTXN1	6.73
57104	PNPLA2	6.71
977	CD151	6.71
9154	SLC28A1	6.69
51296	SLC15A3	6.68
57580	PREX1	6.66
54923	LIME1	6.65
2114	ETS2	6.64
7498	XDH	6.62
10406	WFDC2	6.59
84985	FAM83A	6.58
10529	NEBL	6.56
1271	CNTFR	6.56
57016	AKR1B10	6.55
152189	CMTM8	6.54
7036	TFR2	6.5
151473	SLC16A14	6.49
344838	PAQR9	6.49
55867	SLC22A11	6.49
143662	MUC15	6.46
55651	NOLA2	6.45
118856	MMP21	6.45
25816	TNFAIP8	6.38
54101	RIPK4	6.37
2070	EYA4	6.34
387990	UNQ9438	6.34
57190	SEPN1	6.32
4155	MBP	6.32

2527	FUT5	8.22
284340	UNQ473	8.22
283375	SLC39A5	8.22
3242	HPD	8.14
29953	TRHDE	8.14
9576	SPAG6	8.13
345	APOC3	8.13
401040	FLJ45964	8.12
1160	CKMT2	8.12
2161	F12	8.11
4188	MDFI	8.11
60681	FKBP10	8.08
183	AGT	8.07
1582	CYP8B1	8.07
1564	CYP2D7P1	8.05
2949	GSTM5	8.04
79170	ATAD4	8.03
5104	SERPINA5	8.01
116987	CENTG2	7.98
10255	HCG9	7.98
7123	CLEC3B	7.98
2569	GABRR1	7.94
246	ALOX15	7.93
1565	CYP2D6	7.92
54674	LRRN3	7.9
10750	GRAP	7.9
142683	ITLN2	7.89
65012	SLC26A10	7.88
710	SERPING1	7.83
9496	TBX4	7.83
7169	TPM2	7.83
2746	GLUD1	7.83
10623	POLR3C	7.81
3485	IGFBP2	7.8
64240	ABCG5	7.8
51267	CLEC1A	7.79
8630	HSD17B6	7.79
10395	DLC1	7.79
388591	FLJ46380	7.76
487	ATP2A1	7.74
50486	G0S2	7.7
26508	HEYL	7.69
23589	CARHSP1	7.66
344	APOC2	7.65

55630	SLC39A4	6.94
7046	TGFBR1	6.93
51475	CABP2	6.92
9290	GPR55	6.92
6362	CCL18	6.92
22796	COG2	6.89
1325	CORT	6.86
10850	CCL27	6.86
126432	FLJ45909	6.84
9536	PTGES	6.83
347853	TBX10	6.83
9358	ITGBL1	6.82
71	ACTG1	6.81
79932	KIAA0319L	6.8
122622	ADSSL1	6.8
1145	CHRNE	6.8
5119	PCOLN3	6.78
57165	GJA12	6.78
4636	MYL5	6.75
26526	TSPAN16	6.75
7043	TGFB3	6.75
1823	DSC1	6.74
85007	MGC15875	6.74
8839	WISP2	6.73
8808	IL1RL2	6.72
84951	TNS4	6.72
6274	S100A3	6.72
26476	OR10J1	6.71
55850	MDS032	6.71
124222	PAQR4	6.71
400696	LOC400696	6.67
338785	KRT6L	6.66
91156	DKFZp434B1231	6.65
9047	SH2D2A	6.65
56257	BCDIN3	6.64
7124	TNF	6.64
147949	ZNF583	6.63
10636	RGS14	6.6
973	CD79A	6.59
4939	OAS2	6.59
84467	FBN3	6.58
79713	U2AF1L4	6.57
23616	SH3BP1	6.56

54546	RNF186	6.32
5029	P2RY2	6.32
10417	SPON2	6.32
2295	FOXF2	6.31
25953	PNKD	6.29
4258	MGST2	6.28
5213	PFKM	6.27
3026	HABP2	6.23
5947	RBP1	6.22
2063	NR2F6	6.22
26257	NKX2-8	6.21
348094	ANKDD1A	6.18
135932	FLJ90586	6.16
84931	FLJ14816	6.15
83758	RBP5	6.08
317749	DHRS4L2	6.07
2065	ERBB3	6.07
124152	MGC35048	6.06
4926	NUMA1	6.06
56241	SUSD2	6.04
3872	KRT17	6.04
2624	GATA2	6.03
23191	CYFIP1	6.03
6097	RORC	6.02
64240	ABCG5	6.01
26270	FBXO6	5.96
83999	KREMEN1	5.96
9032	TM4SF5	5.95
56925	LXN	5.92
341883	FLJ46156	5.92
1718	DHCR24	5.91
3700	ITIH4	5.91
54799	MBTD1	5.9
3772	KCNJ15	5.9
51066	C3orf32	5.89
274	BIN1	5.88
94241	TP53INP1	5.87
7448	VTN	5.86
3398	ID2	5.86
94234	FOXQ1	5.85
374969	CCDC23	5.85
10659	CUGBP2	5.84
5075	PAX1	5.83

925	CD8A	7.61
9376	SLC22A8	7.61
1179	CLCA1	7.56
971	CD72	7.55
83959	SLC4A11	7.53
7054	TH	7.52
8858	PROZ	7.52
4921	DDR2	7.49
752	FMNL1	7.47
4485	MST1	7.47
5174	PDZK1	7.46
434	ASIP	7.46
5444	PON1	7.45
160622	GRASP	7.44
4815	NINJ2	7.44
10783	NEK6	7.4
113730	KLHDC7B	7.37
57716	PRX	7.36
64403	CDH24	7.33
56944	OLFML3	7.33
203074	UNQ9391	7.32
5730	PTGDS	7.32
131377	KBTBD5	7.31
51268	PIPOX	7.3
64763	ZNF574	7.3
27233	SULT1C2	7.29
92591	ASB16	7.28
2944	GSTM1	7.27
29956	LASS2	7.27
6582	SLC22A2	7.27
51066	C3orf32	7.26
92162	TMEM88	7.26
8528	DDO	7.24
9027	NAT8	7.24
389084	UNQ830	7.23
23550	PSD4	7.23
22901	ARSG	7.22
3004	GZMM	7.22
25792	CIZ1	7.21
84303	CHCHD6	7.2
92305	TMEM129	7.17
10344	CCL26	7.15
146456	TMED6	7.14

324	APC	6.55
29947	DNMT3L	6.54
57037	ANKMY2	6.53
81553	FAM49A	6.52
5202	PFDN2	6.52
23704	KCNE4	6.51
140446	KRT6C	6.5
29937	NENF	6.5
29933	GPR132	6.49
2865	FFAR3	6.48
9028	RHBDL1	6.48
1553	CYP2A13	6.48
1468	SLC25A10	6.47
6663	SOX10	6.47
116092	DNTTIP1	6.4
3681	ITGAD	6.4
7044	LEFTY2	6.4
728	C5AR1	6.38
5539	PPY	6.38
6764	ST5	6.37
3852	KRT5	6.37
407977	TNFSF12-TNFSF13	6.36
9080	CLDN9	6.34
9973	CCS	6.34
9119	K6HF	6.33
3671	ISLR	6.33
89910	UBE3B	6.33
6504	SLAMF1	6.32
54739	BIRC4BP	6.29
8668	EIF3S2	6.28
375061	FAM89A	6.28
517	ATP5G2	6.26
4653	MYOC	6.26
126375	FLJ38451	6.26
5133	PDCD1	6.25
64089	SNX16	6.24
7054	TH	6.23
2867	FFAR2	6.23
3164	NR4A1	6.22
1137	CHRNA4	6.21
166336	PRICKLE2	6.2
132014	IL17RE	6.15
11170	FAM107A	6.14

8111	GPR68	5.83
4880	NPPC	5.83
50604	IL20	5.83
9963	SLC23A1	5.83
25791	NGEF	5.82
115584	SLC5A11	5.82
9170	EDG4	5.82
84733	CBX2	5.82
64288	ZNF323	5.81
92369	SPSB4	5.8
3158	HMGCS2	5.8
1116	CHI3L1	5.8
149461	CLDN19	5.8
81552	ECOP	5.79
3880	KRT19	5.79
1525	CXADR	5.78
3239	HOXD13	5.78
1124	CHN2	5.78
3053	SERPIND1	5.78
112817	C10orf65	5.76
200150	PLD5	5.75
10160	FARP1	5.75
201799	FLJ32028	5.73
23555	TSPAN15	5.73
338	APOB	5.71
64902	AGXT2	5.71
283375	SLC39A5	5.7
64816	CYP3A43	5.7
1001	CDH3	5.7
79170	ATAD4	5.69
1952	CELSR2	5.69
7851	MALL	5.67
6943	TCF21	5.65
115290	FBXO17	5.64
79852	ABHD9	5.63
6692	SPINT1	5.62
79413	ZBED2	5.62
5045	FURIN	5.62
10040	TOM1L1	5.61
338785	KRT6L	5.6
83547	RILP	5.58
58985	IL22RA1	5.58
25891	2123	5.58

27439	CECR6	7.12
22918	C1QR1	7.12
401508	FLJ45202	7.08
79981	FRMD1	7.08
3717	JAK2	7.08
6036	RNASE2	7.08
337960	KRTAP13-3	7.07
79812	MMRN2	7.07
140691	RNF36	7.07
283298	OLFML1	7.04
6356	CCL11	7.04
43849	KLK12	7.04
5602	MAPK10	7.03
2209	FCGR1A	7.03
5959	RDH5	7.03
7471	WNT1	7.02
252995	FNDC5	7.01
10279	PRSS16	7
51296	SLC15A3	6.99
6688	SPI1	6.95
112755	STX1B2	6.93
127534	GJB4	6.9
283807	FBXL22	6.9
23187	PHLDB1	6.89
6703	SPRR2D	6.88
5066	PAM	6.88
467	ATF3	6.87
5972	REN	6.86
11095	ADAMTS8	6.86
7704	ZBTB16	6.85
23436	ELA3B	6.84
55891	LENEP	6.84
284359	IZUMO1	6.84
115584	SLC5A11	6.83
8482	SEMA7A	6.82
400841	FLJ45832	6.82
2038	EPB42	6.82
3956	LGALS1	6.8
4063	LY9	6.78
51435	SCARA3	6.75
254910	LCE5A	6.72
83992	CTTNBP2	6.7
51663	ZFR	6.69

6693	SPN	6.12
114898	C1QTNF2	6.12
338323	NALP14	6.11
956	ENTPD3	6.1
10964	IFI44L	6.09
57876	MUC3B	6.08
23166	STAB1	6.08
116447	TOP1MT	6.06
5510	PPP1R7	6.05
57449	PLEKHG5	6.05
64423	C14orf173	6.02
1621	DBH	6.02
4351	MPI	6.02
1943	EFNA2	6.02
623	BDKRB1	6.02
3663	IRF5	6.01
10335	MRVI1	6.01
339403	RLN3R2	6
1847	DUSP5	5.96
1805	DPT	5.96
128272	ARHGEF19	5.96
128178	EDARADD	5.95
5652	PRSS8	5.94
51744	CD244	5.92
5552	PRG1	5.92
126259	MGC23244	5.91
2192	FBLN1	5.9
153090	DAB2IP	5.89
9796	PHYHIP	5.87
3910	LAMA4	5.86
283487	LOC283487	5.86
7106	TSPAN4	5.84
51110	LACTB2	5.84
342666	FLJ43826	5.83
6941	TCF19	5.83
1991	ELA2	5.83
4284	MIP	5.82
29800	ZDHHC1	5.8
8567	MADD	5.8
10158	PDZK1IP1	5.8
79188	TMEM43	5.79
113828	FAM83F	5.78
828	CAPS	5.77
8581	LY6D	5.76

170692	ADAMTS18	5.54
4688	NCF2	5.54
2593	GAMT	5.53
8764	TNFRSF14	5.51
1825	DSC3	5.51
1364	CLDN4	5.5
5744	PTHLH	5.5
83850	FAM62C	5.48
9052	GPRC5A	5.48
3425	IDUA	5.46
81889	FAHD1	5.46
80145	NIF3L1BP1	5.46
148398	SAMD11	5.45
130497	OSR1	5.44
3761	KCNJ4	5.43
63970	P53AIP1	5.43
23213	SULF1	5.43
23231	KIAA0746	5.41
163702	IL28RA	5.4
10874	NMU	5.4
55937	APOM	5.37
94235	GNG8	5.36
7108	TM7SF2	5.36
776	CACNA1D	5.34
166012	CHST13	5.32
7049	TGFBR3	5.32
3852	KRT5	5.31
3694	ITGB6	5.3
93611	FBXO44	5.3
6492	SIM1	5.28
1041	CDSN	5.28
259	AMBP	5.28
116496	C1orf24	5.27
30812	SOX8	5.27
27022	FOXD3	5.27
3822	KLRC2	5.26
8973	CHRNA6	5.26
25946	ZNF385	5.23
57111	RAB25	5.19
163183	FLJ36445	5.19
25780	RASGRP3	5.18
6493	SIM2	5.17
23362	PSD3	5.16
23516	SLC39A14	5.14

92749	MGC16372	6.69
5820	PVT1	6.68
57139	RGL3	6.68
4332	MNDA	6.68
4130	MAP1A	6.68
50649	ARHGEF4	6.67
84561	SLC12A8	6.66
5081	PAX7	6.66
3211	HOXB1	6.65
430	ASCL2	6.65
2547	XRCC6	6.64
149345	TMEM58	6.63
7287	TULP1	6.63
283422	C12orf36	6.63
4725	NDUFS5	6.61
347741	OTOP3	6.6
55024	BANK1	6.59
285	ANGPT2	6.57
1138	CHRNA5	6.57
94274	PPP1R14A	6.56
85481	PSKH2	6.55
114990	SLITL2	6.55
255352	C10orf93	6.54
1586	CYP17A1	6.53
275	AMT	6.53
57699	CPNE5	6.51
25791	NGEF	6.51
84275	MGC4399	6.5
11167	FSTL1	6.5
3213	HOXB3	6.49
64843	ISL2	6.47
8483	CILP	6.47
3892	KRTHB6	6.47
7480	WNT10B	6.45
144423	GLT1D1	6.42
343035	C1orf36	6.41
197407	ZNF553	6.41
1805	DPT	6.4
1025	CDK9	6.39
8718	TNFRSF25	6.37
146722	CD300LF	6.36
6278	S100A7	6.34
9965	FGF19	6.33
359	AQP2	6.32

5368	PNOC	5.75
5745	PTHR1	5.75
84690	SPATA22	5.73
150248	C22orf15	5.71
3868	KRT16	5.7
22921	MSRB2	5.7
9123	SLC16A3	5.69
5913	RAPSN	5.69
54020	SLC37A1	5.68
149699	FAM112A	5.67
8789	FBP2	5.67
11269	DDX19B	5.67
2980	GUCA2A	5.65
57333	RCN3	5.65
10669	CGREF1	5.64
6788	STK3	5.64
6610	SMPD2	5.64
1549	CYP2A7	5.62
2779	GNAT1	5.62
5738	PTGFRN	5.61
2525	FUT3	5.6
5871	MAP4K2	5.6
122060	FLJ30046	5.59
64174	DPEP2	5.59
9404	LPXN	5.57
4486	MST1R	5.57
26232	FBXO2	5.56
79086	MGC2747	5.56
79758	FLJ13639	5.55
50626	CYHR1	5.54
1357	CPA1	5.53
54	ACP5	5.5
83552	MFRP	5.5
8906	AP1G2	5.5
170589	GPHA2	5.5
339789	LOC339789	5.49
1056	CEL	5.49
4878	NPPA	5.48
55340	GIMAP5	5.47
5304	PIP	5.47
921	CD5	5.47
27004	TCL6	5.46
8930	MBD4	5.44
3460	IFNGR2	5.44

9743	RICS	5.14
189	AGXT	5.13
79962	FLJ13236	5.12
8840	WISP1	5.12
136541	TRY1	-5.1
91746	YTHDC1	-5.1
7106	TSPAN4	-5.1
26160	IFT172	-5.1
6484	ST3GAL4	-5.1
81696	OR5V1	-5.1
83992	CTTNBP2	-5.1
5136	PDE1A	-5.1
11086	ADAM29	-5.1
3575	IL7R	-5.1
6361	CCL17	-5.1
4166	CHST6	-5.1
2848	GPR25	-5.1
3305	HSPA1L	-5.1
317716	RP11-	-5.1
9987	HNRPDL	-5.2
5452	POU2F2	-5.2
10648	SCGB1D1	-5.2
5156	PDGFRA	-5.2
6327	SCN2B	-5.2
153579	BTNL9	-5.2
7594	ZNF43	-5.2
130560	SPATA3	-5.2
1186	CLCN7	-5.2
8832	CD84	-5.2
3674	ITGA2B	-5.2
64284	RAB17	-5.2
7015	TERT	-5.2
284618	C1orf104	-5.2
10887	PROKR1	-5.2
128859	BPIL3	-5.2
2003		-5.2
146433	MGC34647	-5.2
1188	CLCNKB	-5.2
3982	LIM2	-5.2
80739	C6orf25	-5.2
145946	SPATA8	-5.2
10603	APS	-5.2
57381	RHOJ	-5.2
80347	COASY	-5.2

84929	FIBCD1	6.31
51274	KLF3	6.31
9942	XYLB	6.3
2745	GLRX	6.3
83596	BCL2L12	6.29
290	ANPEP	6.29
3270	HRC	6.29
962	CD48	6.29
6663	SOX10	6.29
2837	UTS2R	6.29
9020	MAP3K14	6.28
83597	RTP3	6.27
7448	VTN	6.27
7486	WRN	6.26
56981	PRDM11	6.26
400165	FLJ26443	6.26
2620	GAS2	6.25
10990	LILRB5	6.25
128414	C20orf58	6.23
496	ATP4B	6.22
1442	CSH1	6.21
162333	RNF190	6.21
55228	FLJ10781	6.21
2898	GRIK2	6.21
57447	NDRG2	6.18
1135	CHRNA2	6.16
84258	SYT3	6.16
6037	RNASE3	6.15
65108	MARCKSL1	6.15
55908	LOC55908	6.14
13	AADAC	6.13
433	ASGR2	6.12
204219	LASS3	6.1
6480	ST6GAL1	6.1
221188	GPR114	6.1
23500	DAAM2	6.1
3050	HBZ	6.09
56923	NMUR2	6.08
84310	MGC11257	6.08
5005	ORM2	6.08
23321	TRIM2	6.08
112817	C10orf65	6.08
219539	YPEL4	6.08
5122	PCSK1	6.07

10462	CLEC10A	5.43
6444	SGCD	5.43
65095	FLJ12949	5.42
4689	NCF4	5.41
706	BZRP	5.39
150244	FLJ31568	5.39
55231	FLJ10786	5.39
917	CD3G	5.39
6355	CCL8	5.39
2217	FCGRT	5.37
91227	GGTL4	5.36
59	ACTA2	5.36
2036	EPB41L1	5.34
56920	SEMA3G	5.33
54715	A2BP1	5.32
50507	NOX4	5.32
79414	LRFN3	5.32
54777	C10orf92	5.31
1811	SLC26A3	5.3
7809	BSND	5.3
7169	TPM2	5.3
6284	S100A13	5.28
161247	LOC161247	-5.3
2488	FSHB	-5.3
27283	TINAG	-5.3
7869	SEMA3B	-5.3
6909	TBX2	-5.3
64577	ALDH8A1	-5.3
307	ANXA4	-5.3
6528	SLC5A5	-5.3
132720	FLJ39370	-5.3
8346	HIST1H2BI	-5.3
8785	MATN4	-5.3
63934	ZNF667	-5.3
6942	TCF20	-5.4
3061	HCRTR1	-5.4
53841	MUCDHL	-5.4
142680	SLC34A3	-5.4
91662	NALP12	-5.4
25799	ZNF324	-5.4
283310	FLJ90579	-5.4
229	ALDOB	-5.4
9543	PUNC	-5.4
3203	HOXA6	-5.4

491	ATP2B2	-5.2
358	AQP1	-5.2
5341	PLEK	-5.2
5731	PTGER1	-5.2
10544	PROCR	-5.3
6696	SPP1	-5.3
23385	NCSTN	-5.3
623	BDKRB1	-5.3
4359	MPZ	-5.3
338872	MGC48915	-5.3
5122	PCSK1	-5.3
29127	RACGAP1	-5.3
914	CD2	-5.3
1991	ELA2	-5.3
57715	SEMA4G	-5.3
1014	CDH16	-5.3
126248	LOC126248	-5.3
2191	FAP	-5.3
5920	RARRES3	-5.3
64761	PARP12	-5.3
4477	MSMB	-5.3
79758	FLJ13639	-5.3
115560	ZNF501	-5.3
2918	GRM8	-5.3
374403	TBC1D10C	-5.3
283849	LOC283849	-5.3
10423	CDIPT	-5.3
126792	B3GALT6	-5.3
84218	TBC1D3	-5.3
27233	SULT1C2	-5.3
79605	PGBD5	-5.3
2837	UTS2R	-5.3
89858	SIGLEC12	-5.3
9706	ULK2	-5.3
6876	TAGLN	-5.3
6710	SPTB	-5.3
6538	SLC6A11	-5.3
89857	KLHL6	-5.3
3663	IRF5	-5.3
4316	MMP7	-5.3
5730	PTGDS	-5.3
4350	MPG	-5.3
5575	PRKAR1B	-5.4
200523	FLJ25369	-5.4

93377	TMEM10	6.07
3002	GZMB	6.07
6320	CLEC11A	6.06
283234	FLJ37970	6.06
80342	TRAF3IP3	6.03
115362	GBP5	6.03
4586	MUC5AC	6.03
150209	AIFL	6.03
336	APOA2	6.02
266629	SEC14L3	6
51208	CLDN18	6
3912	LAMB1	5.99
6699	SPRR1B	5.98
2862	MLNR	5.94
337880	KRTAP11-1	5.93
3902	LAG3	5.92
9002	F2RL3	5.91
10044	SH2D3C	5.91
5140	PDE3B	5.9
9783	RIMS3	5.89
128864	C20orf144	5.89
114899	C1QTNF3	5.88
4340	MOG	5.88
26469	PTPN18	5.87
30814	PLA2G2E	5.86
5778	PTPN7	5.86
9060	PAPSS2	5.85
3000	GUCY2D	5.85
388341	C17orf76	5.84
5995	RGR	5.83
283171	C11orf44	5.83
5795	PTPRJ	5.83
10538	BATF	5.82
4166	CHST6	5.82
284756	FLJ33860	5.82
8875	VNN2	5.82
5313	PKLR	5.82
57473	GM632	5.81
121391	K6IRS4	5.8
3034	HAL	5.8
25814	ATXN10	5.79
189	AGXT	5.79
85291	KRTAP4-2	5.79
9358	ITGBL1	5.79

259232	VGCNL1	-5.4
57473	GM632	-5.4
9557	CHD1L	-5.4
9496	TBX4	-5.4
84733	CBX2	-5.4
79152	FA2H	-5.4
6514	SLC2A2	-5.4
285367	RPUSD3	-5.4
3643	INSR	-5.4
54915	YTHDF1	-5.5
3855	KRT7	-5.5
85329	LGALS12	-5.5
122970	ACOT4	-5.5
26112	CCDC69	-5.5
55350	VNN3	-5.5
6943	TCF21	-5.5
716	C1S	-5.5
252995	FNDC5	-5.5
158056	MAMDC4	-5.5
1589	CYP21A2	-5.5
6425	SFRP5	-5.5
164091	PAQR7	-5.5
51513	ETV7	-5.6
84856	MGC16291	-5.6
339488	TFAP2E	-5.6
3822	KLRC2	-5.6
1271	CNTFR	-5.6
10290	APEG1	-5.6
27232	GNMT	-5.6
5493	PPL	-5.6
399717	FLJ45983	-5.6
727	C5	-5.6
3131	HLF	-5.6
1406	CRX	-5.6
399980	C11orf39	-5.6
202151	FLJ25422	-5.6
3752	KCND3	-5.6
490	ATP2B1	-5.6
1788	DNMT3A	-5.6
64405	CDH22	-5.6
10406	WFDC2	-5.6
2326	FMO1	-5.6
23471	TRAM1	-5.6
353500	BMP8A	-5.6
151278	FLJ32447	-5.7

4340	MOG	-5.4
22954	TRIM32	-5.4
342510	CD300E	-5.4
84645	C22orf23	-5.4
83902	KRTAP17-1	-5.4
89795	NAV3	-5.4
390212	GPR152	-5.4
341567	H1T2	-5.4
27180	SIGLEC9	-5.4
4991	OR1D2	-5.4
3373	HYAL1	-5.4
90102	PHLDB2	-5.4
9918	CNAP1	-5.4
9153	SLC28A2	-5.4
6037	RNASE3	-5.4
83742	MARVELD1	-5.4
81569	ACTL8	-5.4
3265	HRAS	-5.4
6749	SSRP1	-5.4
54866	PPP1R14D	-5.5
53831	GPR84	-5.5
84701	COX4I2	-5.5
9811	KIAA0427	-5.5
5545	PRB4	-5.5
2784	GNB3	-5.5
83443	SF3B5	-5.5
90480	GADD45GI	-5.5
339669	MGC35206	-5.5
11250	GPR45	-5.5
6366	CCL21	-5.5
6017	RLBP1	-5.5
10507	SEMA4D	-5.5
4607	MYBPC3	-5.5
245909	DEFB106A	-5.5
375686	SPATC1	-5.5
10538	BATF	-5.5
126353	C19orf21	-5.5
3452	IFNA21	-5.5
11105	PRDM7	-5.5
5146	PDE6C	-5.5
151254	ALS2CR11	-5.5
140883	SUHW2	-5.6
5967	REG1A	-5.6
389458	LOC389458	-5.6
51350	KRT2B	-5.6

57381	RHOJ	5.77
9961	MVP	5.77
80740	LY6G6C	5.76
56270	WDR45L	5.76
7033	TFF3	5.75
83888	KSP37	5.75
1510	CTSE	5.74
128488	WFDC12	5.74
134285	PRP2	5.73
90102	PHLDB2	5.73
54861	SNRK	5.73
55679	LIMS2	5.73
5970	RELA	5.72
57804	POLD4	5.72
6360	CCL16	5.71
6253	RTN2	5.69
63827	BCAN	5.68
283849	LOC283849	5.67
2784	GNB3	5.67
161198	CLEC14A	5.65
4043	LRPAP1	5.65
54345	SOX18	5.64
1088	CEACAM8	5.64
1788	DNMT3A	5.64
147429	C18orf16	5.63
51341	ZBTB7A	5.62
144193	AMDHD1	5.62
117194	MRGPRX2	5.62
387332	TBPL2	5.62
83482	SCRT1	5.61
10933	MORF4L1	5.61
7052	TGM2	5.6
56301	SLC7A10	5.59
84465	MEGF11	5.59
9701	SAPS2	5.58
55640	C14orf58	5.58
23569	PADI4	5.58
2335	FN1	5.58
27180	SIGLEC9	5.57
11185	INMT	5.56
3273	HRG	5.55
1589	CYP21A2	5.55
84767	TRIM51	5.54
54596	ECAT11	5.54
150350	FLJ25421	5.54

51659	Pfs2	-5.7
2905	GRIN2C	-5.7
2444	FRK	-5.7
5476	PPGB	-5.7
1401	CRP	-5.7
11337	GABARAP	-5.7
130497	OSR1	-5.7
8736	MYOM1	-5.7
3241	HPCAL1	-5.7
6045	RNF2	-5.7
6694	SPP2	-5.8
27439	CECR6	-5.8
9214	FAIM3	-5.8
6035	RNASE1	-5.8
2686	GGTL3	-5.8
3902	LAG3	-5.8
2981	GUCA2B	-5.8
388759	FLJ45717	-5.8
1441	CSF3R	-5.8
4055	LTBR	-5.8
8871	SYNJ2	-5.8
5137	PDE1C	-5.8
118471	PRAP1	-5.8
1442	CSH1	-5.8
1118	CHIT1	-5.8
54546	RNF186	-5.9
8764	TNFRSF14	-5.9
164284	FLJ90166	-5.9
80350	LPAL2	-5.9
220001	VWCE	-5.9
6523	SLC5A1	-5.9
57580	PREX1	-5.9
3426	CFI	-5.9
5909	RAP1GA1	-5.9
5711	PSMD5	-5.9
5947	RBP1	-6
3755	KCNG1	-6
5346	PLIN	-6
28965	SLC27A6	-6
7179	TPTE	-6
5313	PKLR	-6
6539	SLC6A12	-6
6690	SPINK1	-6
6392	SDHD	-6

353140	LCE2C	-5.6
5968	REG1B	-5.6
23351	KIAA0323	-5.6
759	CA1	-5.6
4261	CIITA	-5.6
828	CAPS	-5.6
10225	CD96	-5.6
4133	MAP2	-5.6
85480	TSLP	-5.6
128861	C20orf71	-5.6
364	AQP7	-5.6
148479	PHF13	-5.6
9582	APOBEC3B	-5.6
6203	RPS9	-5.6
2866	GPR42	-5.6
3535		-5.6
3437	IFIT3	-5.6
10803	CCR9	-5.7
10277	UBE4B	-5.7
284369	FLJ40235	-5.7
57573	ZNF471	-5.7
132141	IQCF1	-5.7
199786	BCNP1	-5.7
4687	NCF1	-5.7
6699	SPRR1B	-5.7
1943	EFNA2	-5.7
10738	RFPL3	-5.7
8352	HIST1H3C	-5.7
23542	MAPK8IP2	-5.7
284415	UNQ3033	-5.7
113802	C1orf59	-5.7
9021	SOCS3	-5.7
64066	MMP27	-5.7
3434	IFIT1	-5.7
90423	ATP6V1E2	-5.7
5988	RFPL1	-5.7
79854	FLJ22639	-5.7
4807	NHLH1	-5.7
266553	OFCC1	-5.7
6404	SELPLG	-5.7
284680	C1orf111	-5.7
124961	ZFP3	-5.8
9172	MYOM2	-5.8
6367	CCL22	-5.8

81492	RSHL1	5.53
629	CFB	5.53
57088	PLSCR4	5.53
23649	POLA2	5.53
3249	HPN	5.52
84648	LCE3D	5.52
18	ABAT	5.52
84931	FLJ14816	5.51
9744	CENTB1	5.51
622	BDH	5.49
586	BCAT1	5.48
90853	SPOCD1	5.48
2694	GIF	5.48
7036	TFR2	5.48
1339	COX6A2	5.47
766	CA7	5.47
37	ACADVL	5.47
118425	GDEP	5.46
187	AGTRL1	5.46
2900	GRIK4	5.45
1773	DNASE1	5.45
134	ADORA1	5.44
8572	PDLIM4	5.44
5452	POU2F2	5.44
90070	LACRT	5.43
29949	IL19	5.43
8841	HDAC3	5.42
80201	HKDC1	5.4
3851	KRT4	5.39
121512	FGD4	5.39
5968	REG1B	5.38
140856	C20orf79	5.37
4638	MYLK	5.37
117156	SCGB3A2	5.37
5311	PKD2	5.36
4855	NOTCH4	5.36
23562	CLDN14	5.36
4133	MAP2	5.36
59341	TRPV4	5.35
164781	WDR69	5.35
92579	G6PC3	5.35
2178	FANCE	5.35
6531	SLC6A3	5.34
157769	FAM91A1	5.34

283383	GPR133	-6
5140	PDE3B	-6.1
2099	ESR1	-6.1
7137	TNNI3	-6.1
350	APOH	-6.1
2027	ENO3	-6.1
401105	FLJ42393	-6.1
79870	BAALC	-6.1
25900	HOM-TES-103	-6.1
5077	PAX3	-6.1
83595	SOX7	-6.1
3299	HSF4	-6.1
162333	RNF190	-6.1
83999	KREMEN1	-6.2
129807	NEU4	-6.2
64757	MOSC1	-6.2
200634	KRTCAP3	-6.2
3200	HOXA3	-6.2
29993	PACSIN1	-6.2
11346	SYNPO	-6.2
3354	HTR1E	-6.2
197257	LDHD	-6.2
91703	ACY3	-6.2
130013	ACMSD	-6.2
3889	KRTHB3	-6.3
6935	TCF8	-6.3
6799	SULT1A2	-6.3
7498	XDH	-6.3
135932	FLJ90586	-6.3
80833	APOL3	-6.3
84267	C9orf64	-6.3
4357	MPST	-6.3
25780	RASGRP3	-6.3
56241	SUSD2	-6.4
2153	F5	-6.4
3987	LIMS1	-6.4
84699	CREB3L3	-6.4
3669	ISG20	-6.4
4185	ADAM11	-6.4
3386	ICAM4	-6.4
8614	STC2	-6.4
55620	STAP2	-6.4
8942	KYNU	-6.5

126123	SCRL	-5.8
220074	LRRC51	-5.8
57094	CPA6	-5.8
254950	KRTAP15-1	-5.8
9592	IER2	-5.8
7681	MKRN3	-5.8
5959	RDH5	-5.8
5510	PPP1R7	-5.8
168391	GALNTL5	-5.8
22874	PLEKHA6	-5.8
841	CASP8	-5.8
60676	PAPPA2	-5.8
8309	ACOX2	-5.8
7136	TNNI2	-5.8
55423	SIRPB2	-5.8
55898	UNC45A	-5.8
165100	MGC35154	-5.8
8482	SEMA7A	-5.8
339403	RLN3R2	-5.8
374977	C1orf175	-5.8
3108	HLA-DMA	-5.8
55303	GIMAP4	-5.8
3744	KCNA10	-5.9
6275	S100A4	-5.9
116985	CENTD2	-5.9
55329	MNS1	-5.9
126402	FLJ40365	-5.9
54453	RIN2	-5.9
1535	CYBA	-5.9
5337	PLD1	-5.9
337879	KRTAP8-1	-5.9
121214	SDR-O	-5.9
5232	PGK2	-5.9
282991	BLOC1S2	-5.9
5149	PDE6H	-5.9
23769	FLRT1	-5.9
1544	CYP1A2	-5.9
1259	CNGA1	-5.9
353131	LCE1A	-5.9
79541	OR2A4	-5.9
23434	C3orf27	-5.9
79086	MGC2747	-5.9
339779	MGC44505	-5.9

85397	RGS8	5.33
163933	FAM43B	5.32
79058	ASPSCR1	5.32
2068	ERCC2	5.32
10882	C1QL1	5.32
7425	VGF	5.31
60489	APOBEC3G	5.3
55303	GIMAP4	5.3
127845	GOLT1A	5.29
79672	FN3KRP	5.29
51706	CYB5R1	5.29
7305	TYROBP	5.29
341116	MS4A10	5.29
8871	SYNJ2	5.28
80774	LIMD2	5.27
266553	OFCC1	5.27
80228	C7orf19	5.26
2912	GRM2	5.26
23558	WBP2	5.26
140876	C20orf175	5.25
23601	CLEC5A	5.25
84695	LOXL3	5.25
527	ATP6V0C	5.24
10326	SIRPB1	5.24
3949	LDLR	5.24
10637	LEFTY1	5.24
10382	TUBB4	5.23
170850	KCNG3	5.22
389114	ZNF662	5.22
4295	MLN	5.21
126393	HSPB6	5.21
10093	ARPC4	5.2
11094	C9orf7	5.2
26580	BSCL2	5.2
90861	C16orf34	5.2
11093	ADAMTS13	5.19
1757	SARDH	5.18
341	APOC1	5.18
353142	LCE3A	5.18
10136	ELA3A	5.18
121599	SPIC	-5.2
10529	NEBL	-5.2
117155	CATSPER2	-5.2

54799	MBTD1	-6.5
863	CBFA2T3	-6.5
284186	TMEM105	-6.5
60436	TGIF2	-6.5
9099	USP2	-6.5
54436	SH3TC1	-6.5
388428	FLJ44861	-6.5
84931	FLJ14816	-6.5
115701	HAK	-6.5
9675	KIAA0406	-6.6
259	AMBP	-6.6
7139	TNNT2	-6.6
5630	PRPH	-6.6
9971	NR1H4	-6.6
171019	ADAMTS19	-6.6
83850	FAM62C	-6.7
2706	GJB2	-6.7
81552	ECOP	-6.7
5959	RDH5	-6.7
13	AADAC	-6.7
339327	ZNF546	-6.7
115290	FBXO17	-6.7
1891	ECH1	-6.8
29	ABR	-6.8
5744	PTHLH	-6.8
29775	CARD10	-6.8
4829	NMBR	-6.8
24146	CLDN15	-6.8
6822	SULT2A1	-6.8
421	ARVCF	-6.8
8630	HSD17B6	-6.8
84310	MGC11257	-6.9
25864	ABHD14A	-6.9
8673	VAMP8	-6.9
9826	ARHGEF11	-6.9
635	BHMT	-6.9
4320	MMP11	-6.9
5555	PRH2	-6.9
8876	VNN1	-7
51171	DHRS10	-7
127845	GOLT1A	-7
54810	GIPC2	-7
4069	LYZ	-7
11136	SLC7A9	-7

56547	MMP26	-5.9
169270	ZNF596	-5.9
3630	INS	-5.9
64897	C12orf43	-5.9
3821	KLRC1	-5.9
160897	ITR	-5.9
85413	SLC22A16	-5.9
467	ATF3	-6
84648	LCE3D	-6
23601	CLEC5A	-6
5596	MAPK4	-6
345275	HSD17B13	-6
388289	C16orf47	-6
93643	TJAP1	-6
1138	CHRNA5	-6
79690	GAL3ST4	-6
43847	KLK14	-6
79825	CCDC48	-6
375061	FAM89A	-6
2220	FCN2	-6
140689	CBLN4	-6
1066	CES1	-6
3080	CFHR2	-6
51161	C3orf18	-6
270	AMPD1	-6
161497	STRC	-6
3903	LAIR1	-6
10255	HCG9	-6
53632	PRKAG3	-6
7419	VDAC3	-6
779	CACNA1S	-6
2999	GZMH	-6
57605	PITPNM2	-6
23209	MLC1	-6
399717	FLJ45983	-6
2679	GGT2	-6
417	ART1	-6.1
4351	MPI	-6.1
10750	GRAP	-6.1
54658	UGT1A1	-6.1
921	CD5	-6.1
57611	ISLR2	-6.1
9965	FGF19	-6.1
149345	TMEM58	-6.1

8470	SORBS2	-5.2
57003	CCDC47	-5.2
79849	PDZD3	-5.2
8741	TNFSF13	-5.2
9049	AIP	-5.2
6242	RTKN	-5.2
55630	SLC39A4	-5.2
5510	PPP1R7	-5.2
5213	PFKM	-5.2
64777	FLJ22318	-5.2
55314	FLJ11155	-5.2
1133	CHRM5	-5.2
1212	CLTB	-5.2
93650	ACPT	-5.2
2013	EMP2	-5.2
64866	CDCP1	-5.2
56832	IFNK	-5.2
127833	SYT2	-5.2
375061	FAM89A	-5.2
64063	PRSS22	-5.3
5260	PHKG1	-5.3
11035	RIPK3	-5.3
3856	KRT8	-5.3
5325	PLAGL1	-5.3
1917	EEF1A2	-5.3
7881	KCNAB1	-5.3
2863	GPR39	-5.3
89790	SIGLEC10	-5.4
1305	COL13A1	-5.4
22921	MSRB2	-5.4
2872	MKNK2	-5.4
4879	NPPB	-5.4
347733	TUBB2B	-5.4
93611	FBXO44	-5.4
4258	MGST2	-5.4
152816	FLJ23657	-5.4
140	ADORA3	-5.4
64073	C19orf33	-5.4
7253	TSHR	-5.4
268	AMH	-5.4
6910	TBX5	-5.4
25823	TPSG1	-5.5
1672	DEFB1	-5.5
145264	SERPINA12	-5.5

83482	SCRT1	-7
149461	CLDN19	-7
5554	PRH1	-7
7104	TM4SF4	-7
92840	REEP6	-7
255352	C10orf93	-7
2063	NR2F6	-7
2646	GCKR	-7.1
8718	TNFRSF25	-7.1
79187	FSD1	-7.1
6242	RTKN	-7.1
79814	AGMAT	-7.1
29948	OKL38	-7.1
51268	PIPOX	-7.2
6770	STAR	-7.2
29881	NPC1L1	-7.2
4224	MEP1A	-7.2
148252	DIRAS1	-7.3
7490	WT1	-7.3
113675	SDSL	-7.3
2065	ERBB3	-7.3
283078	IRXL1	-7.3
5104	SERPINA5	-7.4
5720	PSME1	-7.4
55615	PRR5	-7.4
4804	NGFR	-7.4
116085	SLC22A12	-7.4
8424	BBOX1	-7.4
1368	CPM	-7.5
321	APBA2	-7.5
5648	MASP1	-7.5
3700	ITIH4	-7.5
284340	UNQ473	-7.5
6714	SRC	-7.5
3250	HPR	-7.6
5306	PITPNA	-7.6
166012	CHST13	-7.6
51435	SCARA3	-7.6
3931	LCAT	-7.6
57125	PLXDC1	-7.7
6554	SLC10A1	-7.7
3918	LAMC2	-7.7
389434	C6orf71	-7.7
79935	FLJ13265	-7.7
6506	SLC1A2	-7.7

343	AQP8	-6.1
8048	CSRP3	-6.1
124404	FLJ25410	-6.1
79679	VTCN1	-6.1
1668	DEFA3	-6.1
114771	PGLYRP3	-6.1
2980	GUCA2A	-6.1
80740	LY6G6C	-6.1
283297	OR10A4	-6.1
144423	GLT1D1	-6.1
147409	DSG4	-6.1
23495	TNFRSF13B	-6.1
4159	MC3R	-6.1
3036	HAS1	-6.1
84814	PPAPDC3	-6.1
5408	PNLIPRP2	-6.1
80117	ARL14	-6.1
337977	KRTAP21-1	-6.1
165186	LOC165186	-6.2
4313	MMP2	-6.2
284525	SLC9A11	-6.2
9783	RIMS3	-6.2
8789	FBP2	-6.2
1258	CNGB1	-6.2
338567	KCNK18	-6.2
29953	TRHDE	-6.2
820	CAMP	-6.2
84227	RGSL2	-6.2
126014	OSCAR	-6.2
1198	CLK3	-6.2
131377	KBTBD5	-6.2
3952	LEP	-6.2
4239	MFAP4	-6.2
7465	WEE1	-6.2
389012	FLJ42986	-6.3
5602	MAPK10	-6.3
283422	C12orf36	-6.3
7226	TRPM2	-6.3
53947	A4GALT	-6.3
8620	NPFF	-6.3
220070	LOC220070	-6.3
5032	P2RY11	-6.3
220004	FLJ32771	-6.3
8896	G10	-6.3
85360	SYDE1	-6.3

66005	CHID1	-5.5
7293	TNFRSF4	-5.5
10551	AGR2	-5.5
623	BDKRB1	-5.5
6521	SLC4A1	-5.5
55529	TMEM55A	-5.5
3898	LAD1	-5.5
57817	HAMP	-5.5
170691	ADAMTS17	-5.5
26353	HSPB8	-5.5
22937	SCAP	-5.5
1999	ELF3	-5.5
55738	ARFGAP1	-5.5
29766	TMOD3	-5.6
51127	TRIM17	-5.6
124975	GGT6	-5.6
6123	RPL3L	-5.6
9788	MTSS1	-5.6
126868	C1orf161	-5.6
55702	FLJ10374	-5.6
11014	KDELR2	-5.6
397	ARHGDIB	-5.6
728	C5AR1	-5.6
5003	SLC22A18A	-5.6
147495	APCDD1	-5.6
7517	XRCC3	-5.6
1525	CXADR	-5.6
26281	FGF20	-5.6
1387	CREBBP	-5.7
57165	GJA12	-5.7
10801	9-Sep	-5.7
166	AES	-5.7
7022	TFAP2C	-5.7
2950	GSTP1	-5.7
1524	CX3CR1	-5.7
345275	HSD17B13	-5.7
51304	ZDHHC3	-5.7
50964	SOST	-5.7
7874	USP7	-5.7
64077	LHPP	-5.7
11100	HNRPUL1	-5.7
1952	CELSR2	-5.8
83715	ESPN	-5.8
254528	MGC35212	-5.8
8638	OASL	-5.8

496	ATP4B	-7.7
5004	ORM1	-7.7
5174	PDZK1	-7.8
58985	IL22RA1	-7.8
4490	MT1B	-7.8
80004	RBM35B	-7.9
80168	MOGAT2	-7.9
122416	ANKRD9	-7.9
7052	TGM2	-7.9
10921	RNPS1	-8
1820	ARID3A	-8
1565	CYP2D6	-8
128602	C20orf85	-8
4773	NFATC2	-8.1
85006	C21orf124	-8.1
54979	HRASLS2	-8.1
325	APCS	-8.1
26230	TIAM2	-8.1
622	BDH	-8.1
10659	CUGBP2	-8.1
2242	FES	-8.2
114990	SLITL2	-8.2
11251	GPR44	-8.2
1749	DLX5	-8.2
283171	C11orf44	-8.2
433	ASGR2	-8.2
1244	ABCC2	-8.3
8528	DDO	-8.3
3856	KRT8	-8.4
57168	ASPHD2	-8.5
3176	HNMT	-8.6
201780	SLC10A4	-8.6
114770	PGLYRP2	-8.6
116496	C1orf24	-8.6
1179	CLCA1	-8.7
64902	AGXT2	-8.7
2155	F7	-8.7
338094	C1orf179	-8.7
3158	HMGCS2	-8.7
9032	TM4SF5	-8.8
1903	EDG3	-8.8
91373	UAP1L1	-8.8
114571	SLC22A9	-8.8

495	ATP4A	-6.3
4846	NOS3	-6.3
4256	MGP	-6.3
2206	MS4A2	-6.3
91663	MYADM	-6.3
3451	IFNA17	-6.3
5118	PCOLCE	-6.3
1215	CMA1	-6.3
55273	TMEM100	-6.3
374739	TEPP	-6.3
84690	SPATA22	-6.3
9612	NCOR2	-6.4
164656	TMPRSS6	-6.4
25770	HS747E2A	-6.4
79906	MORN1	-6.4
4725	NDUFS5	-6.4
11318	ADMR	-6.4
389197	FLJ46481	-6.4
1669	DEFA4	-6.4
4656	MYOG	-6.4
242	ALOX12B	-6.4
81027	TUBB1	-6.4
885	CCK	-6.4
551	AVP	-6.4
5322	PLA2G5	-6.4
219928	MRGPRF	-6.4
22982	DIP2C	-6.4
971	CD72	-6.4
43849	KLK12	-6.4
920	CD4	-6.4
3479	IGF1	-6.4
5858	PZP	-6.4
930	CD19	-6.4
8838	WISP3	-6.4
23643	LY96	-6.4
4161	MC5R	-6.4
37	ACADVL	-6.5
54544	C1orf42	-6.5
3001	GZMA	-6.5
2213	FCGR2B	-6.5
9376	SLC22A8	-6.5
91156	DKFZp434B1231	-6.5
57102	C12orf4	-6.5

4051	CYP4F3	-5.8
2192	FBLN1	-5.8
10573	MRPL28	-5.8
345274	SLC10A6	-5.8
81553	FAM49A	-5.8
10103	TSPAN1	-5.8
4199	ME1	-5.8
6749	SSRP1	-5.8
148022	TICAM1	-5.8
50619	DEF6	-5.8
7991	TUSC3	-5.8
26290	GALNT8	-5.9
9123	SLC16A3	-5.9
2844	GPR21	-5.9
340061	LOC340061	-5.9
23166	STAB1	-5.9
11184	MAP4K1	-5.9
140689	CBLN4	-5.9
9476	NAPSA	-5.9
8514	KCNAB2	-5.9
79581	GPR172A	-5.9
6935	TCF8	-5.9
3695	ITGB7	-5.9
131408	C3orf40	-6
2916	GRM6	-6
254295	PHYHD1	-6
90990	KIFC2	-6
115572	FAM46B	-6.1
29079	MED4	-6.1
3984	LIMK1	-6.1
64101	LRRC4	-6.1
51214	IGF2AS	-6.1
118472	ZNF511	-6.1
114038	C21orf84	-6.1
2877	GPX2	-6.1
22924	MAPRE3	-6.2
10256	CNKSR1	-6.2
124857	WFIKKN2	-6.2
8436	SDPR	-6.2
6005	RHAG	-6.2
9625	AATK	-6.2
54680	C1orf181	-6.2
4071	TM4SF1	-6.3

5342	PLGLB2	-8.9
2741	GLRA1	-8.9
1018	CDK3	-9
8858	PROZ	-9
712	C1QA	-9
3263	HPX	-9.1
8416	ANXA9	-9.1
83729	INHBE	-9.1
55103	RALGPS2	-9.1
7066	THPO	-9.1
197	AHSG	-9.1
55937	APOM	-9.1
83547	RILP	-9.1
114038	C21orf84	-9.2
3340	NDST1	-9.2
150135	C21orf129	-9.2
54923	LIME1	-9.2
400830	DEFB32	-9.2
1733	DIO1	-9.2
64816	CYP3A43	-9.2
2812	GP1BB	-9.3
1369	CPN1	-9.3
55811	SAC	-9.3
3626	INHBC	-9.3
84275	MGC4399	-9.3
2052	EPHX1	-9.3
80201	HKDC1	-9.4
3199	HOXA2	-9.5
4762	NEUROG1	-9.5
717	C2	-9.5
133121	ENPP6	-9.5
374969	CCDC23	-9.6
79981	FRMD1	-9.8
8537	BCAS1	-9.8
152189	CMTM8	-9.8
85004	RERG	-9.9
8692	HYAL2	-10
83541	C20orf55	-10
51042	ZNF593	-10
5267	SERPINA4	-10
130	ADH6	-10
51733	UPB1	-10
2527	FUT5	-10
317749	DHRS4L2	-10

10326	SIRPB1	-6.5
8747	ADAM21	-6.5
353144	LCE3C	-6.5
7043	TGFB3	-6.5
1417	CRYBB3	-6.5
84203	TXNDC2	-6.5
2022	ENG	-6.5
158062	LCN6	-6.5
63968	PWCR1	-6.5
255027	FLJ39599	-6.5
2949	GSTM5	-6.6
10050	SLC17A4	-6.6
50615	IL21R	-6.6
7267	TTC3	-6.6
1667	DEFA1	-6.6
113730	KLHDC7B	-6.6
10382	TUBB4	-6.6
84514	LGP1	-6.6
54965	PIGX	-6.6
909	CD1A	-6.6
219793	C10orf27	-6.6
23533	PIK3R5	-6.6
5184	PEPD	-6.6
83874	TBC1D10A	-6.6
9033	PKD2L1	-6.6
112476	PRRT2	-6.6
23371	TENC1	-6.6
26279	PLA2G2D	-6.7
6280	S100A9	-6.7
1811	SLC26A3	-6.7
6009	RHEB	-6.7
23761	PISD	-6.7
10536	LEPREL2	-6.7
10136	ELA3A	-6.7
286077	FLJ46072	-6.7
117532	TMC2	-6.7
1908	EDN3	-6.7
90011	FLJ00060	-6.7
83959	SLC4A11	-6.7
85453	TSPYL5	-6.7
128821	CST9L	-6.7
79005	SCNM1	-6.7
83693	HSDL1	-6.7
26291	FGF21	-6.8

8844	KSR1	-6.3
9743	RICS	-6.3
2701	GJA4	-6.3
632	BGLAP	-6.3
3384	ICAM2	-6.3
192666	KRT24	-6.3
6279	S100A8	-6.3
55567	DNAH3	-6.4
400830	DEFB32	-6.4
54210	TREM1	-6.4
164091	PAQR7	-6.4
83742	MARVELD1	-6.4
5148	PDE6G	-6.4
147700	KLC3	-6.4
28951	TRIB2	-6.4
151011	10-Sep	-6.5
161725	OTUD7	-6.5
284739	LOC284739	-6.5
3159	HMGA1	-6.5
199699	DAND5	-6.5
57152	SLURP1	-6.5
10501	SEMA6B	-6.5
23263	MCF2L	-6.5
150244	FLJ31568	-6.5
79228	WDR58	-6.5
3779	KCNMB1	-6.5
29941	PKN3	-6.6
513	ATP5D	-6.6
686	BTD	-6.6
9056	SLC7A7	-6.6
4147	MATN2	-6.7
6355	CCL8	-6.7
79885	HDAC11	-6.7
58985	IL22RA1	-6.7
23620	NTSR2	-6.7
55612	C20orf42	-6.7
10089	KCNK7	-6.8
83650	AMAC1L2	-6.8
116285	ACSM1	-6.8
23413	FREQ	-6.8
390212	GPR152	-6.8
83541	C20orf55	-6.8
780	DDR1	-6.8
54777	C10orf92	-6.8

23231	KIAA0746	-10
1582	CYP8B1	-10
388007	SERPINA13	-10
5444	PON1	-10
10637	LEFTY1	-10
6097	RORC	-10
5265	SERPINA1	-10
3960	LGALS4	-10
116844	LRG1	-10
57402	S100A14	-10
2328	FMO3	-10
57104	PNPLA2	-10
5867	RAB4A	-10
462	SERPINC1	-10
84258	SYT3	-10
6339	SCNN1D	-10
51296	SLC15A3	-10
5308	PITX2	-11
4803	NGFB	-11
1579	CYP4A11	-11
6717	SRI	-11
5364	PLXNB1	-11
9208	LRRFIP1	-11
5105	PCK1	-11
57167	SALL4	-11
9963	SLC23A1	-11
2822	GPLD1	-11
3034	HAL	-11
55651	NOLA2	-11
725	C4BPB	-11
432	ASGR1	-11
113220	KIF12	-11
65012	SLC26A10	-11
83758	RBP5	-11
5176	SERPINF1	-12
843	CASP10	-12
4153	MBL2	-12
1564	CYP2D7P1	-12
3026	HABP2	-12
3240	HP	-12
221	ALDH3B1	-12
629	CFB	-12
336	APOA2	-12
57533	TBC1D14	-12

973	CD79A	-6.8
2880	GPX5	-6.8
282617	IL28B	-6.8
60385	TSKS	-6.8
8435	SOAT2	-6.8
153201	SLC36A2	-6.8
112755	STX1B2	-6.8
2882	GPX7	-6.8
2515	ADAM2	-6.8
93190	C1orf158	-6.8
6947	TCN1	-6.8
10753	CAPN9	-6.8
5008	OSM	-6.8
115861	TXNL6	-6.8
92747	C20orf114	-6.8
22902	RUFY3	-6.8
54900	LAX1	-6.8
2208	FCER2	-6.8
201305	MGC29671	-6.9
26998	FETUB	-6.9
378708	APITD1	-6.9
1159	CKMT1B	-6.9
8021	NUP214	-6.9
7730	ZNF177	-6.9
1208	CLPS	-6.9
27178	IL1F7	-6.9
79054	TRPM8	-6.9
10666	CD226	-6.9
10964	IFI44L	-6.9
125206	SLC5A10	-6.9
200909	HTR3D	-6.9
7133	TNFRSF1B	-6.9
147741	ZNF560	-6.9
59351	PBOV1	-6.9
3577	IL8RA	-6.9
4337	MOCS1	-6.9
5553	PRG2	-6.9
11170	FAM107A	-6.9
29949	IL19	-6.9
57010	CABP4	-6.9
1325	CORT	-7
23615	PYY2	-7
124989	C17orf57	-7
400359	FLJ35695	-7

6614	SN	-6.8
1577	CYP3A5	-6.8
6387	CXCL12	-6.8
56971	CEACAM19	-6.8
85378	TUBGCP6	-6.9
5777	PTPN6	-6.9
83871	RAB34	-6.9
146802	FLJ31196	-6.9
84821	MGC13168	-6.9
8808	IL1RL2	-6.9
2853	GPR31	-6.9
2041	EPHA1	-7
1847	DUSP5	-7
51759	C9orf78	-7
8764	TNFRSF14	-7
11025	LILRB3	-7
4081	MAB21L1	-7
286257	C9orf142	-7
2581	GALC	-7
27071	DAPP1	-7.1
4487	MSX1	-7.1
81889	FAHD1	-7.1
80004	RBM35B	-7.1
116123	LOC116123	-7.1
9796	PHYHIP	-7.1
132014	IL17RE	-7.2
29108	PYCARD	-7.2
122622	ADSSL1	-7.2
5275	SERPINB13	-7.2
1307	COL16A1	-7.2
360132	FKBP9L	-7.2
9324	HMGN3	-7.2
50509	COL5A3	-7.2
7051	TGM1	-7.2
85395	C21orf70	-7.3
57678	GPAM	-7.3
55620	STAP2	-7.3
6540	SLC6A13	-7.3
164284	FLJ90166	-7.3
26012	NELF	-7.3
283860	FLJ36701	-7.3
89941	RHOT2	-7.3
9073	CLDN8	-7.3
3881	KRTHA1	-7.3

3697	ITIH1	-12
9235	IL32	-13
94086	HSPB9	-13
51208	CLDN18	-13
866	SERPINA6	-13
6360	CCL16	-13
344	APOC2	-13
9154	SLC28A1	-13
108	ADCY2	-13
3990	LIPC	-13
9970	NR1I3	-13
144193	AMDHD1	-13
5005	ORM2	-13
55908	LOC55908	-13
3233	HOXD4	-13
266629	SEC14L3	-13
1757	SARDH	-13
60529	ALX4	-13
23589	CARHSP1	-13
3929	LBP	-13
3294	HSD17B2	-13
255043	TMEM86B	-14
8309	ACOX2	-14
290	ANPEP	-14
80341	BPIL1	-14
3053	SERPIND1	-14
55867	SLC22A11	-14
112817	C10orf65	-14
3483	IGFALS	-14
3242	HPD	-14
183	AGT	-14
23562	CLDN14	-15
115584	SLC5A11	-15
2886	GRB7	-15
3172	HNF4A	-15
5348	FXYD1	-15
26007	DAK	-15
148738	HFE2	-15
79170	ATAD4	-15
51066	C3orf32	-15
25791	NGEF	-16
5624	PROC	-16
189	AGXT	-16
5524	PPP2R4	-16

8483	CILP	-7
80342	TRAF3IP3	-7
140446	KRT6C	-7
7429	VIL1	-7
401508	FLJ45202	-7
338339	CLEC4D	-7
132112	RTP1	-7
27237	ARHGEF16	-7
761	CA3	-7
64579	NDST4	-7
134	ADORA1	-7
4640	MYO1A	-7
6480	ST6GAL1	-7.1
10517	FBXW10	-7.1
83698	CALN1	-7.1
348932	SLC6A18	-7.1
10320	ZNFN1A1	-7.1
1473	CST5	-7.1
83871	RAB34	-7.1
6677	SPAM1	-7.1
942	CD86	-7.1
5831	PYCR1	-7.1
5539	PPY	-7.1
92591	ASB16	-7.1
5741	PTH	-7.1
126410	FLJ39501	-7.1
283487	LOC283487	-7.1
4342	MOS	-7.1
79183	C20orf121	-7.1
6368	CCL23	-7.1
324	APC	-7.1
27290	SPINK4	-7.1
3717	JAK2	-7.2
389558	UNQ1940	-7.2
8749	ADAM18	-7.2
51378	ANGPT4	-7.2
84767	TRIM51	-7.2
127534	GJB4	-7.2
29800	ZDHHC1	-7.2
57459	GATAD2B	-7.2
79883	FLJ23447	-7.2
337960	KRTAP13-3	-7.2
2134	EXTL1	-7.2
347688	TUBB8	-7.2

284252	KCTD1	-7.4
23418	CRB1	-7.4
84708	LNX1	-7.4
5443	POMC	-7.4
64220	STRA6	-7.4
1437	CSF2	-7.5
8915	BCL10	-7.5
3163	HMOX2	-7.5
6398	SECTM1	-7.5
26298	EHF	-7.5
53822	FXYD7	-7.6
8424	BBOX1	-7.6
10672	GNA13	-7.6
126353	C19orf21	-7.6
11187	PKP3	-7.6
4814	NINJ1	-7.6
202915	MGC9712	-7.7
10045	SH2D3A	-7.7
6692	SPINT1	-7.7
5652	PRSS8	-7.7
2314	FLII	-7.7
246176	GAS2L2	-7.7
6549	SLC9A2	-7.7
56925	LXN	-7.7
2875	GPT	-7.8
84141	FLJ13391	-7.8
9144	SYNGR2	-7.8
53832	IL20RA	-7.8
149428	BNIPL	-7.8
83549	UCK1	-7.8
222389	C10orf30	-7.8
3854	KRT6B	-7.8
353174	LGICZ1	-7.8
1308	COL17A1	-7.8
23429	RYBP	-7.9
1145	CHRNE	-7.9
26504	CNNM4	-7.9
3140	MR1	-7.9
257000	PLAC2	-7.9
7481	WNT11	-7.9
56654	NPDC1	-8
401459	FLJ46365	-8
79098	C1orf116	-8
1364	CLDN4	-8

2161	F12	-16
344838	PAQR9	-16
51156	SERPINA10	-16
5970	RELA	-16
7448	VTN	-16
63924	CIDEC	-17
6927	TCF1	-17
64240	ABCG5	-17
7036	TFR2	-17
5083	PAX9	-17
9020	MAP3K14	-17
335	APOA1	-17
283375	SLC39A5	-17
718	C3	-17
763	CA5A	-18
4485	MST1	-18
283600	C14orf68	-18
222487	GPR97	-18
84647	PLA2G12B	-19
146456	TMED6	-19
90050	C14orf152	-19
5345	SERPINF2	-20
2147	F2	-20
10110	SGK2	-21
83597	RTP3	-21
10864	SLC22A7	-21
284723	SLC25A34	-21
131669	UROC1	-22
345	APOC3	-22
79574	EPS8L3	-22
8431	NR0B2	-23
3699	ITIH3	-23
10747	MASP2	-24
1	A1BG	-28
3083	HGFAC	-30
2875	GPT	-31

3270	HRC	-7.2
3164	NR4A1	-7.2
80039	FAM106A	-7.2
6703	SPRR2D	-7.2
3910	LAMA4	-7.2
3002	GZMB	-7.3
4160	MC4R	-7.3
10462	CLEC10A	-7.3
944	TNFSF8	-7.3
114131	UCN3	-7.3
389114	ZNF662	-7.3
1160	CKMT2	-7.3
128488	WFDC12	-7.3
54	ACP5	-7.3
407977	TNFSF12-TNFSF13	-7.3
486	FXYD2	-7.3
123970	MGC33367	-7.3
79932	KIAA0319L	-7.3
55231	FLJ10786	-7.3
1280	COL2A1	-7.3
10279	PRSS16	-7.4
4696	NDUFA3	-7.4
10234	LRRC17	-7.4
8685	MARCO	-7.4
6698	SPRR1A	-7.4
54751	FBLIM1	-7.4
254173	TTLL10	-7.4
55586	MIOX	-7.4
221421	C6orf206	-7.4
51050	PI15	-7.4
3991	LIPE	-7.4
389123	IQCF2	-7.4
79713	U2AF1L4	-7.4
54838	C10orf26	-7.4
89910	UBE3B	-7.5
284451	C19orf19	-7.5
84292	MORG1	-7.5
1644	DDC	-7.5
25803	SPDEF	-7.5
137835	TMEM71	-7.5
4154	MBNL1	-7.5
6397	SEC14L1	-7.5

4055	LTBR	-8
79626	TNFAIP8L2	-8
116092	DNTTIP1	-8
5265	SERPINA1	-8.1
64132	XYLT2	-8.1
57121	GPR92	-8.1
285097	FLJ38379	-8.1
2651	GCNT2	-8.2
10410	IFITM3	-8.2
54436	SH3TC1	-8.2
50636	TMEM16G	-8.2
5881	RAC3	-8.2
9547	CXCL14	-8.2
4261	CIITA	-8.2
9048	ARTN	-8.3
55808	ST6GALNAC1	-8.3
6363	CCL19	-8.3
7851	MALL	-8.3
55691	FRMD4A	-8.3
54546	RNF186	-8.3
27350	APOBEC3C	-8.3
115761	ARL11	-8.3
2593	GAMT	-8.3
55	ACPP	-8.3
10636	RGS14	-8.4
9537	TP53I11	-8.4
255027	FLJ39599	-8.4
8218	CLTCL1	-8.4
4720	NDUFS2	-8.4
166929	MGC26963	-8.4
2155	F7	-8.4
84688	C9orf24	-8.5
5738	PTGFRN	-8.5
29933	GPR132	-8.5
57149	LOC57149	-8.5
51110	LACTB2	-8.5
2765	GML	-8.5
9982	FGFBP1	-8.6
83886	PRSS27	-8.6
113828	FAM83F	-8.6
27141	CIDEB	-8.7
2525	FUT3	-8.7

3460	IFNGR2	-7.5
116337	PANX3	-7.5
8602	C4orf9	-7.5
147746	HIPK4	-7.5
9962	SLC23A2	-7.5
26103	LRRC21	-7.6
4049	LTA	-7.6
92305	TMEM129	-7.6
338321	NALP9	-7.6
56257	BCDIN3	-7.6
90678	LRSAM1	-7.6
11185	INMT	-7.6
337880	KRTAP11-1	-7.6
5745	PTHR1	-7.6
414062	CCL3L3	-7.6
9027	NAT8	-7.6
9145	SYNGR1	-7.6
2516	NR5A1	-7.6
150248	C22orf15	-7.6
27033	ZBTB32	-7.6
400696	LOC400696	-7.6
9098	USP6	-7.7
5802	PTPRS	-7.7
2151	F2RL2	-7.7
64403	CDH24	-7.7
283298	OLFML1	-7.7
1553	CYP2A13	-7.7
59	ACTA2	-7.7
3097	HIVEP2	-7.7
54536	EXOC6	-7.7
115908	CTHRC1	-7.7
64231	MS4A6A	-7.7
60681	FKBP10	-7.7
3689	ITGB2	-7.8
84676	TRIM63	-7.8
1101	CHAD	-7.8
136371	ASB10	-7.8
2260	FGFR1	-7.8
6403	SELP	-7.8
7809	BSND	-7.8
50486	G0S2	-7.8
389084	UNQ830	-7.8
11093	ADAMTS13	-7.8

3429	IFI27	-8.7
22906	TRAK1	-8.7
2274	FHL2	-8.7
56169	MLZE	-8.8
93100	NAPRT1	-8.8
25953	PNKD	-8.8
143662	MUC15	-8.8
54742	LY6K	-8.9
169611	OLFML2A	-8.9
6865	TACR2	-8.9
3579	IL8RB	-8.9
140700	SAMD10	-8.9
50626	CYHR1	-8.9
116211	TM4SF19	-9
148930	FLJ32011	-9.1
25818	KLK5	-9.1
5306	PITPNA	-9.1
57449	PLEKHG5	-9.1
149483	CCDC17	-9.2
57124	CD248	-9.2
84225	ZMYND15	-9.2
1454	CSNK1E	-9.2
93643	TJAP1	-9.3
3918	LAMC2	-9.3
5268	SERPINB5	-9.3
124565	MGC15523	-9.3
55615	PRR5	-9.3
128272	ARHGEF19	-9.3
100	ADA	-9.5
203100	HTRA4	-9.5
4056	LTC4S	-9.5
8973	CHRNA6	-9.5
1991	ELA2	-9.5
8000	PSCA	-9.6
128308	MRPL55	-9.6
64129	TINAGL1	-9.7
151473	SLC16A14	-9.7
5524	PPP2R4	-9.8
858	CAV2	-9.8
5133	PDCD1	-9.8
3772	KCNJ15	-9.8
9121	SLC16A5	-9.8
11082	ESM1	-9.8

81472	OR2C3	-7.8
4332	MNDA	-7.8
10537	UBD	-7.8
23704	KCNE4	-7.8
57876	MUC3B	-7.8
283897	C16orf54	-7.8
51744	CD244	-7.9
115362	GBP5	-7.9
152065	C3orf22	-7.9
1513	CTSK	-7.9
6707	SPRR3	-7.9
286256	LCN12	-7.9
3846	KRTAP5-9	-7.9
339883	C3orf35	-7.9
6439	SFTPB	-7.9
566	AZU1	-7.9
4855	NOTCH4	-7.9
126259	MGC23244	-7.9
9891	NUAK1	-7.9
10578	GNLY	-7.9
5644	PRSS1	-8
6847	SYCP1	-8
112802	KRT6IRS	-8
4653	MYOC	-8
10661	KLF1	-8
6573	SLC19A1	-8
8436	SDPR	-8
114902	C1QTNF5	-8
6036	RNASE2	-8
5068	REG3A	-8
55888	ZNF167	-8.1
4295	MLN	-8.1
338398	TAS2R60	-8.1
26476	OR10J1	-8.1
1297	COL9A1	-8.1
80834	TAS1R2	-8.1
51314	TXNDC3	-8.1
79843	FLJ22746	-8.1
64405	CDH22	-8.1
929	CD14	-8.1
3543	IGLL1	-8.1
53828	FXYD4	-8.1
7380	UPK3A	-8.2
353134	LCE1D	-8.2

768	CA9	-9.9
1116	CHI3L1	-9.9
7075	TIE1	-10
10755	GIPC1	-10
8906	AP1G2	-10
284114	TMEM102	-10
83716	CRISPLD2	-10
5623	PSPN	-10
339789	LOC339789	-10
27019	DNAI1	-10
5349	FXYD3	-10
200634	KRTCAP3	-10
1365	CLDN3	-10
201799	FLJ32028	-10
64288	ZNF323	-10
169166	MGC39715	-10
84948	TIGD5	-11
4237	MFAP2	-11
9749	PHACTR2	-11
10614	HEXIM1	-11
6834	SURF1	-11
834	CASP1	-11
4246	SCGB2A1	-11
128876	C20orf128	-11
4926	NUMA1	-11
150135	C21orf129	-11
2057	EPOR	-11
1638	DCT	-11
1018	CDK3	-11
9507	ADAMTS4	-11
201252	FLJ23754	-11
56834	GPR137	-11
51043	ZBTB7B	-11
5957	RCV1	-11
10039	PARP3	-11
23367	LARP1	-11
244	ANXA8	-11
164153	UBL4B	-11
4250	SCGB2A2	-11
51475	CABP2	-11
2099	ESR1	-11
9022	CLIC3	-11
2678	GGT1	-11
8843	GPR109B	-11

255022	FAM26C	-8.2
5521	PPP2R2B	-8.2
84618	NT5C1A	-8.2
1621	DBH	-8.2
285780	FLJ33708	-8.2
84283	TMEM79	-8.2
1261	CNGA3	-8.2
23476	BRD4	-8.2
487	ATP2A1	-8.2
149699	FAM112A	-8.2
1791	DNTT	-8.2
9546	APBA3	-8.2
84225	ZMYND15	-8.3
3681	ITGAD	-8.3
140876	C20orf175	-8.3
10962	MLLT11	-8.3
7169	TPM2	-8.3
9961	MVP	-8.3
8930	MBD4	-8.3
1742	DLG4	-8.3
10044	SH2D3C	-8.3
5320	PLA2G2A	-8.3
23547	LILRA4	-8.3
147949	ZNF583	-8.3
2205	FCER1A	-8.3
64174	DPEP2	-8.4
3050	HBZ	-8.4
53919	SLCO1C1	-8.4
2178	FANCE	-8.4
2864	FFAR1	-8.4
2687	GGTLA1	-8.4
5552	PRG1	-8.4
79748	LMAN1L	-8.5
2251	FGF6	-8.5
1003	CDH5	-8.5
6014	RIT2	-8.5
286887	KRT6E	-8.5
8200	GDF5	-8.5
10407	SPAG11	-8.5
517	ATP5G2	-8.5
55658	RNF126	-8.6
8993	PGLYRP1	-8.6
6274	S100A3	-8.6
4689	NCF4	-8.6

125981	ASAH3	-11
6755	SSTR5	-12
84033	OBSCN	-12
11322	TMC6	-12
27134	TJP3	-12
4688	NCF2	-12
1056	CEL	-12
57111	RAB25	-12
114898	C1QTNF2	-12
1003	CDH5	-12
84286	MGC4618	-12
56300	IL1F9	-12
57402	S100A14	-12
221091	LOC221091	-12
349236	LOC349236	-12
10850	CCL27	-12
1776	DNASE1L3	-12
1823	DSC1	-12
3872	KRT17	-12
259	AMBP	-12
29984	RHOD	-12
404217	CTXN1	-12
1041	CDSN	-12
3557	IL1RN	-12
80097	FLJ14346	-12
4784	NFIX	-13
124152	MGC35048	-13
8839	WISP2	-13
79188	TMEM43	-13
9973	CCS	-13
5119	PCOLN3	-13
150696	PROM2	-13
3036	HAS1	-13
2036	EPB41L1	-13
2202	EFEMP1	-13
26232	FBXO2	-13
55267	FLJ10945	-13
148741	ANKRD35	-13
80736	SLC44A4	-13
54106	TLR9	-13
81607	PVRL4	-13
9290	GPR55	-13
2769	GNA15	-13
5045	FURIN	-13

144347	FAM101A	-8.6
142683	ITLN2	-8.6
4130	MAP1A	-8.6
23187	PHLDB1	-8.7
137797	LYPD2	-8.7
2533	FYB	-8.7
6444	SGCD	-8.7
3078	CFHR1	-8.7
2745	GLRX	-8.7
6504	SLAMF1	-8.7
56920	SEMA3G	-8.7
2028	ENPEP	-8.7
124912	SPACA3	-8.7
6385	SDC4	-8.8
126432	FLJ45909	-8.8
11189	TNRC4	-8.8
83795	KCNK16	-8.8
80341	BPIL1	-8.8
6688	SPI1	-8.8
79132	LGP2	-8.8
2978	GUCA1A	-8.8
221188	GPR114	-8.8
3834	KIF25	-8.9
25959	ANKRD25	-8.9
348174	LOC348174	-8.9
8859	STK19	-8.9
6236	RRAD	-8.9
3770	KCNJ14	-9
84617	TUBB6	-9
168537	GIMAP7	-9
285	ANGPT2	-9
115352	FCRL3	-9
11156	PTP4A3	-9
7318	UBE1L	-9.1
8857	FCGBP	-9.1
93377	TMEM10	-9.1
6273	S100A2	-9.2
55340	GIMAP5	-9.2
2811	GP1BA	-9.2
30835	CD209	-9.2
56923	NMUR2	-9.2
6569	SLC34A1	-9.2
284756	FLJ33860	-9.2

4486	MST1R	-13
822	CAPG	-13
23353	UNC84A	-13
4245	MGAT1	-13
977	CD151	-13
1572	CYP2F1	-13
2886	GRB7	-14
388428	FLJ44861	-14
144501	LOC144501	-14
2246	FGF1	-14
23553	HYAL4	-14
9333	TGM5	-14
1606	DGKA	-14
50604	IL20	-14
85456	TNKS1BP1	-14
8581	LY6D	-14
9362	CPNE6	-14
90199	WFDC8	-14
195814	RDHE2	-14
81875	ISG20L2	-14
29775	CARD10	-14
3963	LGALS7	-14
7462	LAT2	-15
8710	SERPINB7	-15
83706	URP2	-15
9047	SH2D2A	-15
79755	FLJ13841	-15
7124	TNF	-15
128178	EDARADD	-15
63970	P53AIP1	-16
104	ADARB1	-16
201294	UNC13D	-16
9051	PSTPIP1	-16
10158	PDZK1IP1	-16
124222	PAQR4	-16
348094	ANKDD1A	-17
353135	LCE1E	-17
338785	KRT6L	-17
2709	GJB5	-17
114904	C1QTNF6	-17
81029	WNT5B	-18
118856	MMP21	-18
64218	SEMA4A	-18

1675	CFD	-9.2
359	AQP2	-9.3
347853	TBX10	-9.3
7305	TYROBP	-9.3
54674	LRRN3	-9.3
254778	C8orf46	-9.3
340061	LOC340061	-9.4
342666	FLJ43826	-9.4
84467	FBN3	-9.4
1638	DCT	-9.4
9536	PTGES	-9.4
83638	Bles03	-9.5
3171	FOXA3	-9.5
63934	ZNF667	-9.5
6362	CCL18	-9.5
7044	LEFTY2	-9.5
55891	LENEP	-9.5
54581	SCAND2	-9.5
23208	SYT11	-9.6
9196	KCNAB3	-9.6
27004	TCL6	-9.6
57678	GPAM	-9.6
338323	NALP14	-9.7
8572	PDLIM4	-9.7
6614	SN	-9.7
146722	CD300LF	-9.7
10020	GNE	-9.7
1880	EBI2	-9.7
10332	CLEC4M	-9.7
10077	TSPAN32	-9.7
632	BGLAP	-9.7
1135	CHRNA2	-9.7
257236	FLJ90575	-9.7
203074	UNQ9391	-9.8
5972	REN	-9.8
2252	FGF7	-9.9
4353	MPO	-9.9
5969	REGL	-9.9
962	CD48	-9.9
23263	MCF2L	-10
57804	POLD4	-10
64600	PLA2G2F	-10
9121	SLC16A5	-10
1586	CYP17A1	-10

400931	FLJ27365	-18
5202	PFDN2	-18
144568	A2ML1	-18
3852	KRT5	-18
338442	GPR109A	-18
3425	IDUA	-18
27111	SDCBP2	-18
55643	BTBD2	-18
124220	LOC124220	-18
339665	SLC35E4	-18
2867	FFAR2	-18
4793	NFKBIB	-19
340205	TREML1	-19
6820	SULT2B1	-19
80781	COL18A1	-19
2810	SFN	-19
1775	DNASE1L2	-19
149708	WFDC5	-19
54471	FLJ20232	-19
7850	IL1R2	-19
80818	ZNF436	-19
23650	TRIM29	-20
57016	AKR1B10	-20
162514	TRPV3	-20
1128	CHRM1	-21
54578	UGT1A6	-21
54905	CYP2W1	-22
11259	DOC1	-22
2125	EVPL	-23
1907	EDN2	-23
9028	RHBDL1	-23
90019	SYT8	-23
79413	ZBED2	-24
55287	TMEM40	-24
284837	LOC284837	-24
84985	FAM83A	-25
5753	PTK6	-25
84951	TNS4	-25
65094	JMJD4	-25
3914	LAMB3	-26
23616	SH3BP1	-28
3866	KRT15	-28
9289	GPR56	-30
116983	CENTB5	-40

4837	NNMT	-10
676	BRDT	-10
26191	PTPN22	-10
23550	PSD4	-10
10068	IL18BP	-10
117156	SCGB3A2	-10
144124	OR10A5	-10
4063	LY9	-10
10344	CCL26	-10
11269	DDX19B	-10
117159	DCD	-10
9404	LPXN	-10
157769	FAM91A1	-10
26236	C6orf54	-10
5995	RGR	-10
54020	SLC37A1	-10
4237	MFAP2	-10
30008	EFEMP2	-10
7123	CLEC3B	-10
4815	NINJ2	-10
2038	EPB42	-10
283807	FBXL22	-10
5799	PTPRN2	-10
114757	CYGB	-10
91937	TIMD4	-10
131375	LYZL4	-10
286128	ZFP41	-10
6445	SGCG	-10
25900	HOM-TES-103	-11
116835	HSPA12B	-11
3857	KRT9	-11
253935	ANGPTL5	-11
147429	C18orf16	-11
401040	FLJ45964	-11
148170	CDC42EP5	-11
1549	CYP2A7	-11
434	ASIP	-11
10801	9-Sep	-11
6582	SLC22A2	-11
1436	CSF1R	-11
57088	PLSCR4	-11
79949	C10orf81	-11
220388	FLJ38159	-11

10395	DLC1	-11
83552	MFRP	-11
83888	KSP37	-11
283598	FLJ25773	-11
90070	LACRT	-11
64806	IL17E	-11
5304	PIP	-11
23543	RBM9	-11
2532	DARC	-11
3888	KRTHB2	-11
5159	PDGFRB	-11
9555	H2AFY	-11
4284	MIP	-11
4625	MYH7	-11
221472	FGD2	-11
115701	HAK	-11
2215	FCGR3B	-11
359710	C20orf185	-11
4878	NPPA	-11
140691	RNF36	-11
23061	KIAA0676	-11
80380	PDCD1LG2	-11
84734	C1orf90	-11
2012	EMP1	-11
374872	C19orf35	-11
114899	C1QTNF3	-11
3671	ISLR	-11
23436	ELA3B	-11
26	ABP1	-12
3590	IL11RA	-12
400931	FLJ27365	-12
126375	FLJ38451	-12
4056	LTC4S	-12
56833	SLAMF8	-12
126308	MOBKL2A	-12
4921	DDR2	-12
54739	BIRC4BP	-12
6278	S100A7	-12
285676	ZNF454	-12
6776	STAT5A	-12
2865	FFAR3	-12
284013	VMO1	-12
10783	NEK6	-12
6358	CCL14	-12

5173	PDYN	-12
27198	GPR81	-12
1293	COL6A3	-12
6356	CCL11	-12
5376	PMP22	-12
3633	INPP5B	-12
83401	ELOVL3	-12
26526	TSPAN16	-12
113622	ADPRHL1	-13
64333	ARHGAP9	-13
6348	CCL3	-13
148423	C1orf52	-13
221091	LOC221091	-13
388533	UNQ467	-13
1307	COL16A1	-13
10669	CGREF1	-13
50507	NOX4	-13
23098	SARM1	-13
257203	DSCR9	-13
388218	UNQ5810	-13
81621	KAZALD1	-13
84766	MGC4266	-14
1805	DPT	-14
284358	FLJ36070	-14
4222	MEOX1	-14
9253	NUMBL	-14
56302	TRPV5	-15
338773	TMEM119	-15
7054	TH	-15
2214	FCGR3A	-15
1760	DMPK	-15
4939	OAS2	-15
29951	PDZRN4	-15
5368	PNOC	-15
401459	FLJ46365	-15
81493	SYNC1	-15
170575	GIMAP1	-15
10335	MRVI1	-16
90226	UCN2	-16
3956	LGALS1	-16
56944	OLFML3	-16
9358	ITGBL1	-16
2569	GABRR1	-17
57124	CD248	-17

9002	F2RL3	-17
79652	C16orf30	-17
2694	GIF	-18
23500	DAAM2	-19
55267	FLJ10945	-19
343035	C1orf36	-19
11117	EMILIN1	-20
9450	LY86	-24