a

Wild-type allele

A2 13 14 15 16 17 18 19 20 21 22 23 24 SDL1

Targeting vector

NotI 1bF→ F3N1 P7
P6 Neo N2F7 ←3aR ←4aR
2bR

Targeted allele Neo

Flanked allele

Disrupted allele

b

	CD4 SP		CD8 SP		B cell	
	$Jmjd3^{f/f}$ (WT)	$Jmjd3^{f/f}$ CD4-Cre (cKO)	$Jmjd3^{f/f}$ (WT)	$Jmjd3^{f/f}$ CD4-Cre (cKO)	$Jmjd3^{f/f}$ (WT)	$Jmjd3^{f/f}$ CD4-Cre (cKO)

$Jmjd^{flox}$ (550bp)
$Jmjd3^{del}$ (350bp)

CD4-Cre

c

	CD4 SP		CD8 SP		B cell		
	WT	cKO	WT	cKO	WT	cKO	Blank

Jmjd3

GAPDH

d

	B cell		CD4 SP		CD8 SP		Flag-Jmjd3
	WT	cKO	WT	cKO	WT	cKO	

Jmjd3

β-actin
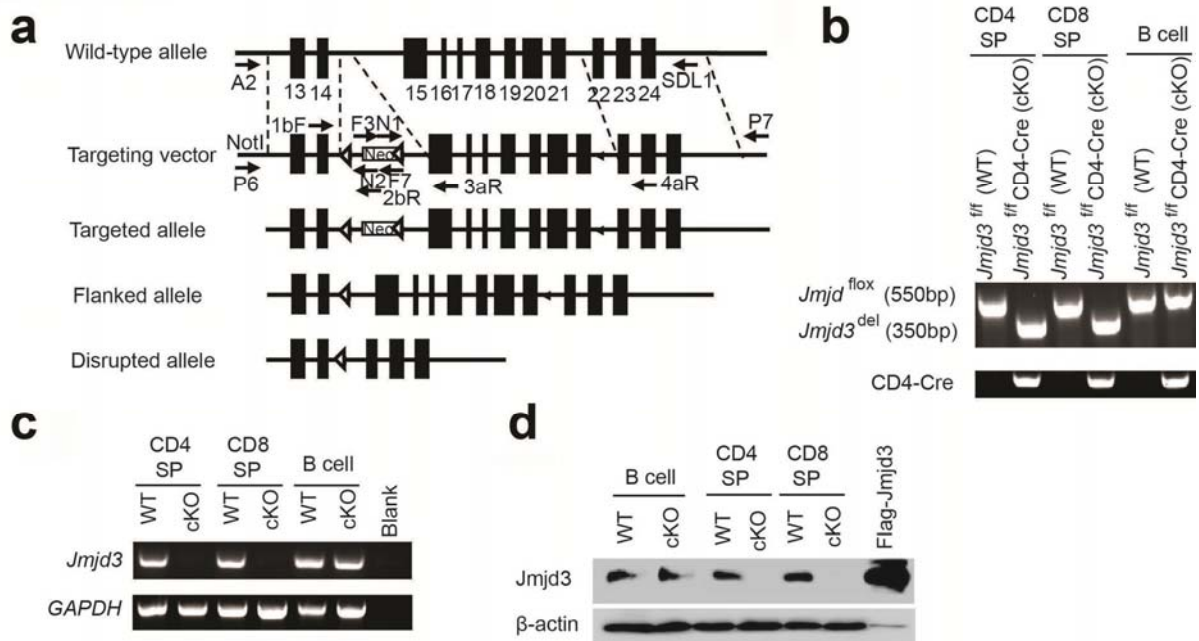
Supplementary Figure 1 | Generation of T cell-specific *Jmjd3*-deficient (*Jmjd3* cKO) mice.
(**a**) *Jmjd3^{flox/flox}* (*Jmjd3^{f/f}*) mice were generated by targeting exons 15-21 (encoding the JmjC-catalytic domain) using a Cre-LoxP system and then crossed with CD4-Cre mice. (**b**) *Jmjd3* cKO mice were identified by PCR genotyping. (**c**) RT-PCR and (**d**) western blot analyses were done to confirm the loss of Jmjd3 mRNA and protein in *Jmjd3*-deficient T cells, respectively.
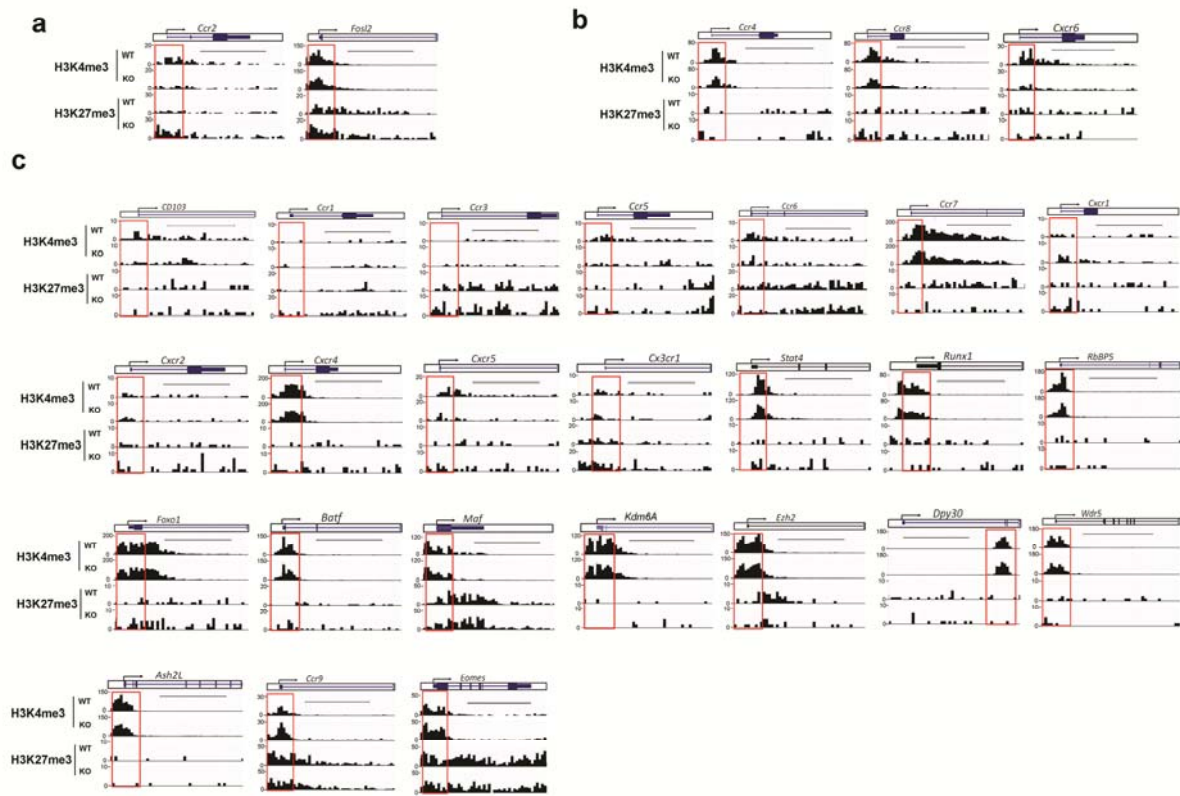
Sup. Fig. 2 . (Wang)
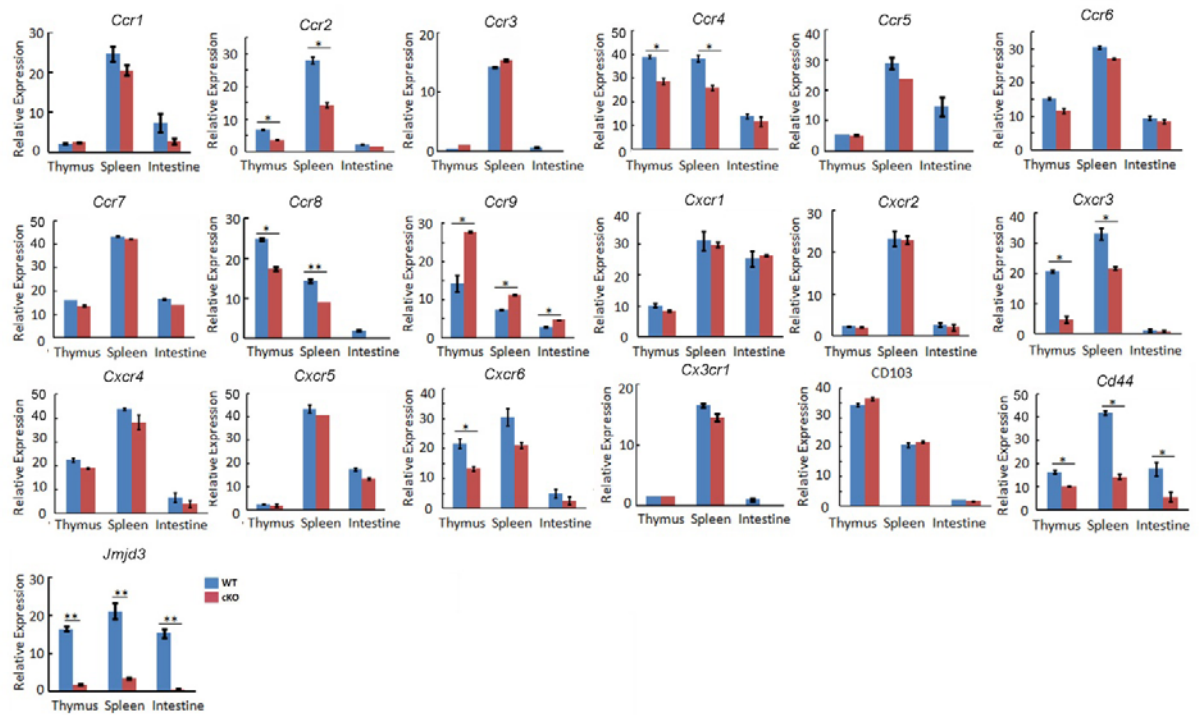
Supplementary Figure 2 | qPCR analysis of gene expression of chemokine receptors in CD4$^+$ T cells isolated from thymus, spleen, and intestine.
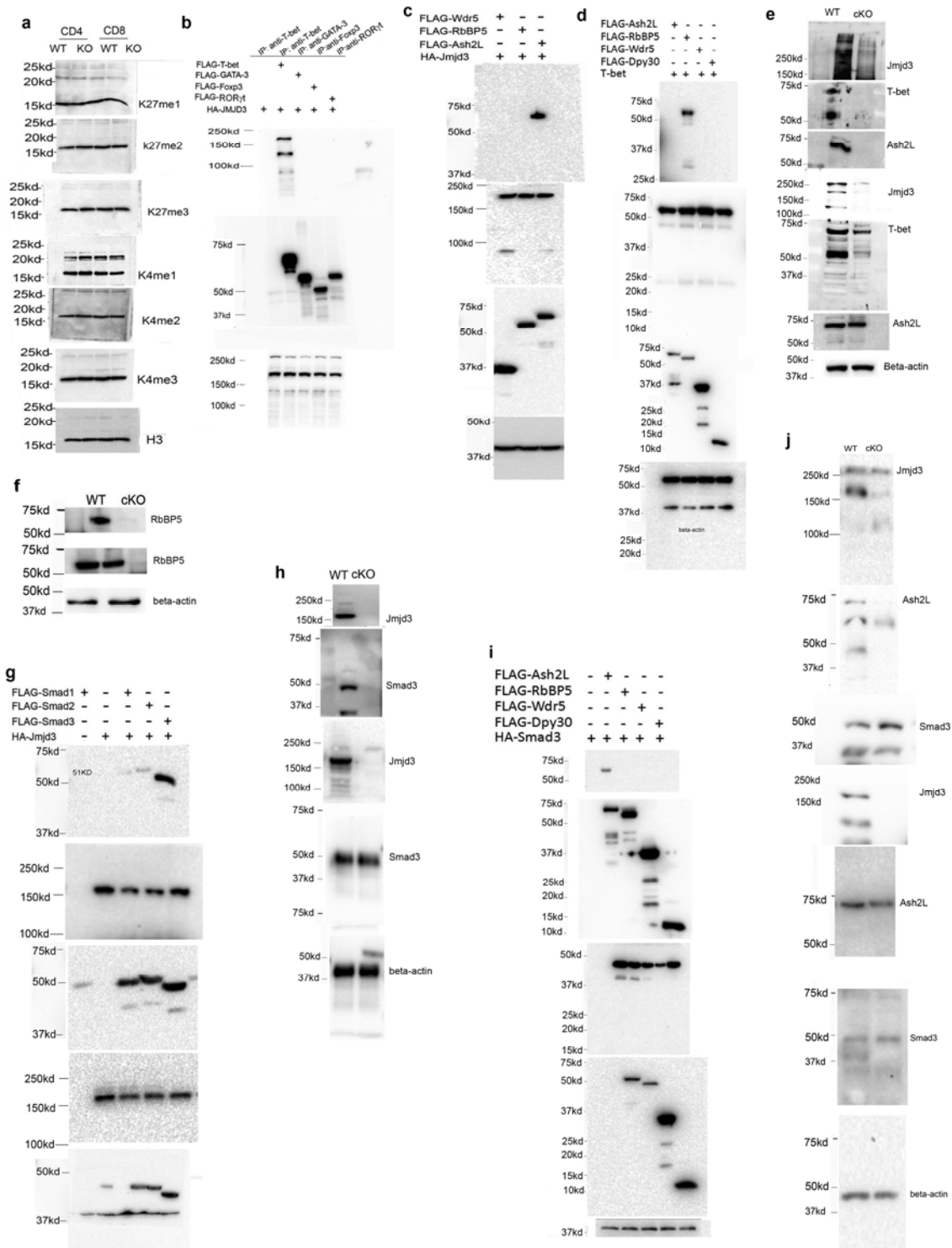
Supplementary Figure 3 | The full blots of western shown in Figure 6 and 7. The molecular weight markers are listed on the left. The lanes are labeled on the top .

Sup. Fig. 4 (Wang)

Supplementary Figure 4 | Groups of H3K4me3 and H3K27me3 methylation on ChIP-seq analysis of chemokine receptors and transcription factors. Chemokine receptors were classified into three groups based on H3K4me3 and H3K27me3 modifications in WT and *Jmjd3* cKO CD4 SP thymocytes: group I, increased H3K27 and decreased H3K4; group II, unchanged H3K27 and decreased H3K4; and group III, unchanged H3K27 and H3K4. Red frames indicate the 2 kb region around the TSS. Scale bars represent 5kb region.
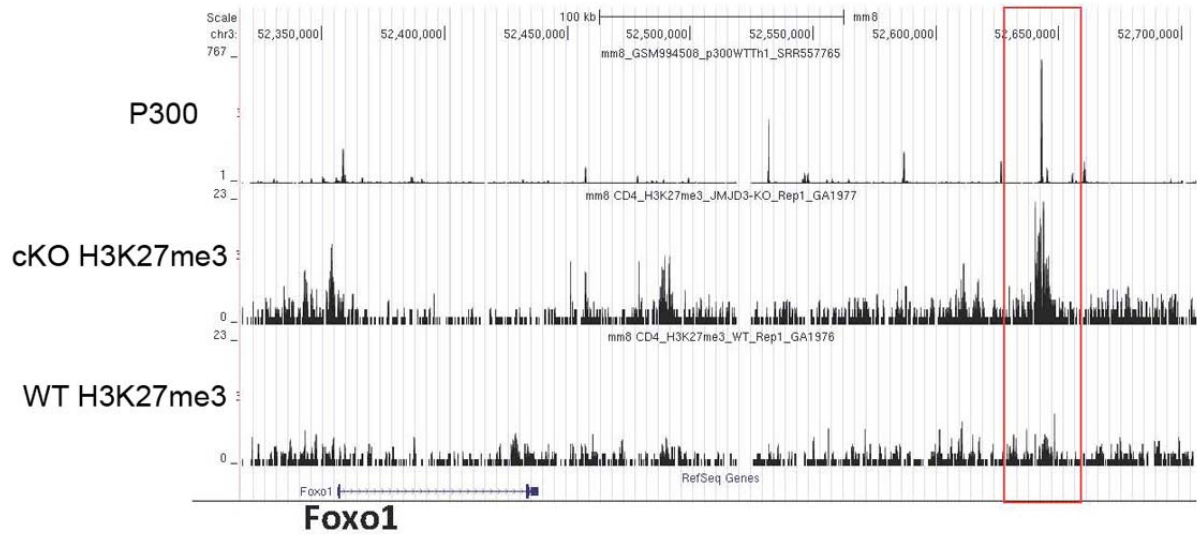
Supplementary Figure 5 | ChiP-seq analysis with sequencing reads counted at 4Kb windows centered at p300. H3K27me3 methylation analysis on enhancer region of Foxo1 in *Jmjd3*-deficient CD4^{+} T cells compared with WT cells.
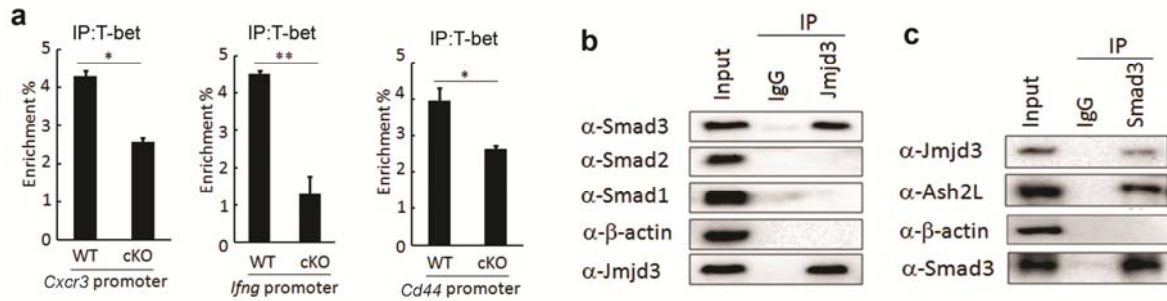
Supplementary Figure 6 | Jmjd3 regulates the interaction with T-bet and Smad3. (a) Jmjd3 regulates T-bet binding to target genes in CD4$^+$ thymocytes. (b) Endogenous Jmjd3 specifically interacts with Smad3 in Treg cells. (c) Endogenous Smad3 interacts with Jmjd3 and Ash2L in Treg cells.
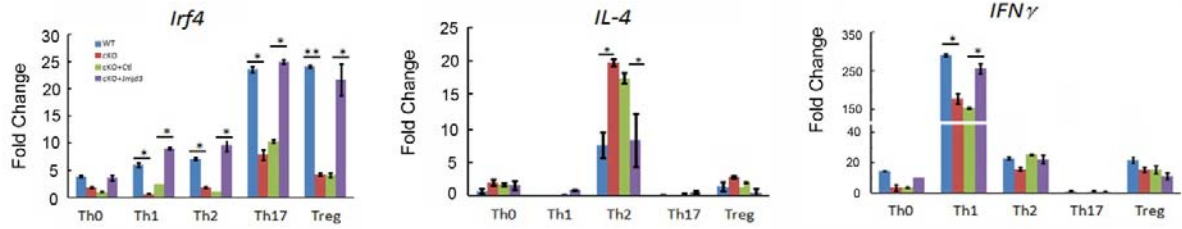
Supplementary Figure 7 | Ectopically expressed Jmjd3 rescued the gene expression in Jmjd3-deficient T cells.

Supplementary Table 1. ChIP-sequence analysis of H3K4 and H3K27 methylation +/- 2kb around TSS (p<0.0001)
Supplementary Table 1a. H3K27 methylation upregulation in *Jmjd3* cKO CD4 T cells

Gene.Symbol	Ensembl.ID	KO	WT	Adj.Pvalue	KO/WT
LOC100045969	ENSMUSG00000027639	389.79	83.46	1.73E-51	4.67
FAM102A	ENSMUSG00000039157	217.83	18.55	7.52E-44	11.74
IRF4	ENSMUSG00000021356	309.54	78.83	2.71E-35	3.93
Egr2	ENSMUSG00000037868	243.62	46.37	1.98E-34	5.25
CCND2	ENSMUSG00000000184	286.61	69.55	4.14E-34	4.12
LFNG	ENSMUSG00000029570	524.50	227.21	3.64E-32	2.31
CHL1	ENSMUSG00000030077	384.06	136.79	4.15E-31	2.81
LOC100046682	ENSMUSG00000028042	183.43	27.82	1.70E-29	6.59
Raph1	ENSMUSG00000026014	507.30	231.84	2.07E-28	2.19
SMAD7	ENSMUSG00000025880	449.98	197.07	5.02E-27	2.28
RTN4RL1	ENSMUSG00000045287	292.34	95.06	3.05E-26	3.08
UBASH3B	ENSMUSG00000032020	275.15	88.10	4.42E-25	3.12
D630039A03Rik	ENSMUSG00000052117	257.95	81.14	5.96E-24	3.18
EDARADD	ENSMUSG00000039309	306.68	118.24	3.51E-22	2.59
2610019F03Rik	ENSMUSG00000050052	263.68	92.74	1.82E-21	2.84
DUSP4	ENSMUSG00000031530	438.52	215.61	2.56E-21	2.03
MDFIC	ENSMUSG00000041390	200.63	55.64	4.45E-21	3.61
PMEPA1	ENSMUSG00000038400	212.09	62.60	5.40E-21	3.39
ANTXR2	ENSMUSG00000029338	117.51	13.91	6.12E-21	8.45
Il18r1	ENSMUSG00000026070	386.93	180.84	1.07E-20	2.14
ID2	ENSMUSG00000020644	424.19	208.66	1.21E-20	2.03
BCL11B	ENSMUSG00000048251	143.31	27.82	6.74E-20	5.15
6430527G18Rik	ENSMUSG00000034168	143.31	27.82	6.74E-20	5.15
ST3GAL1	ENSMUSG00000013846	111.78	13.91	1.57E-19	8.04
dusp5	ENSMUSG00000034765	85.98	4.64	8.04E-19	18.54
TNFRSF1B	ENSMUSG00000028599	128.98	23.18	9.24E-19	5.56
plk3	ENSMUSG00000028680	160.50	39.41	9.25E-19	4.07
A230083G16Rik	ENSMUSG00000055818	140.44	30.14	3.36E-18	4.66
Susd3	ENSMUSG00000021384	292.34	127.51	1.33E-17	2.29
foxp4	ENSMUSG00000023991	103.18	13.91	2.02E-17	7.42
plcb3	ENSMUSG00000024960	266.55	111.28	3.28E-17	2.40
rarA	ENSMUSG00000037992	206.36	71.87	4.61E-17	2.87
CD44	ENSMUSG00000005087	312.41	146.06	9.63E-17	2.14
ETS1	ENSMUSG00000032035	94.58	11.59	1.15E-16	8.16
ST6GALNAC1	ENSMUSG00000078586	189.16	62.60	1.25E-16	3.02
Gm9997	ENSMUSG00000056391	235.02	92.74	1.64E-16	2.53
Rnu6	ENSMUSG00000065683	143.31	37.09	4.42E-16	3.86

PTMS	ENSMUSG00000030122	143.31	37.09	4.42E-16	3.86
klf2	ENSMUSG00000055148	249.35	104.33	4.49E-16	2.39
FKBP5	ENSMUSG00000024222	123.24	27.82	1.85E-15	4.43
TEC	ENSMUSG00000029217	200.63	74.19	2.02E-15	2.70
dtx1	ENSMUSG00000029603	315.27	155.33	2.33E-15	2.03
Rem2	ENSMUSG00000022176	257.95	113.60	2.33E-15	2.27
UNC93B1	ENSMUSG00000036908	203.49	76.51	2.57E-15	2.66
nin	ENSMUSG00000021068	220.69	88.10	2.73E-15	2.51
Hectd2	ENSMUSG00000041180	223.56	90.42	3.26E-15	2.47
RNF122	ENSMUSG00000039328	117.51	25.50	3.28E-15	4.61
PARP8	ENSMUSG00000021725	154.77	46.37	3.33E-15	3.34
ifitm3	ENSMUSG00000025492	309.54	153.02	5.06E-15	2.02
FAM83G	ENSMUSG00000042377	212.09	83.46	5.07E-15	2.54
MBOAT1	ENSMUSG00000038732	137.57	37.09	5.82E-15	3.71
B230312A22Rik	ENSMUSG00000036002	229.29	97.37	1.72E-14	2.35
CISH	ENSMUSG00000032578	206.36	83.46	5.09E-14	2.47
FAM49A	ENSMUSG00000020589	111.78	25.50	6.09E-14	4.38
PHLDB3	ENSMUSG00000061511	120.38	30.14	6.16E-14	3.99
1700016A09Rik	ENSMUSG00000042840	120.38	30.14	6.16E-14	3.99
TMEM63A	ENSMUSG00000026519	163.37	55.64	6.19E-14	2.94
Dnajb2	ENSMUSG00000026203	60.19	2.32	7.49E-14	25.96
MYC	ENSMUSG00000022346	71.65	6.96	8.75E-14	10.30
Zfp710	ENSMUSG00000048897	126.11	34.78	2.03E-13	3.63
PPP3CC	ENSMUSG00000022092	192.03	76.51	2.33E-13	2.51
ELOVL6	ENSMUSG00000041220	80.25	11.59	3.33E-13	6.92
Gadd45g	ENSMUSG00000021453	255.08	122.88	5.19E-13	2.08
Cbfa2t3	ENSMUSG00000006362	186.30	74.19	5.54E-13	2.51
Pak6	ENSMUSG00000074923	206.36	88.10	5.92E-13	2.34
SIDT1	ENSMUSG00000022696	171.97	64.92	6.51E-13	2.65
RPL37	ENSMUSG00000041841	114.64	30.14	8.88E-13	3.80
Alad	ENSMUSG00000028393	214.96	95.06	9.05E-13	2.26
TUBA1C	ENSMUSG00000043091	126.11	37.09	1.17E-12	3.40
tiam1	ENSMUSG00000002489	180.57	71.87	1.26E-12	2.51
2700046G09Rik	ENSMUSG00000024893	257.95	127.51	1.48E-12	2.02
ccl1	ENSMUSG00000020702	226.42	104.33	1.48E-12	2.17
ANKRD13B	ENSMUSG00000037907	226.42	104.33	1.48E-12	2.17
Ankrd60	ENSMUSG00000027517	183.43	74.19	1.53E-12	2.47
ikzf2	ENSMUSG00000025997	171.97	67.23	2.44E-12	2.56
Soat2	ENSMUSG00000023045	123.24	37.09	4.29E-12	3.32
Qsox1	ENSMUSG00000033684	123.24	37.09	4.29E-12	3.32
Lypd4	ENSMUSG00000062732	166.24	64.92	6.00E-12	2.56
Spsb2	ENSMUSG00000038451	235.02	113.60	6.03E-12	2.07
TXNRD1	ENSMUSG00000020250	126.11	39.41	6.62E-12	3.20

Spin2	ENSMUSG00000046550	151.90	55.64	6.64E-12	2.73
MGAT4B	ENSMUSG00000036620	240.75	118.24	6.87E-12	2.04
IL18RAP	ENSMUSG00000026068	74.52	11.59	6.93E-12	6.43
CCR2	ENSMUSG00000049103	106.05	27.82	7.08E-12	3.81
JUP	ENSMUSG00000001552	217.83	102.01	9.22E-12	2.14
ICAM1	ENSMUSG00000037405	68.79	9.27	9.26E-12	7.42
2310014H01Rik	ENSMUSG00000034595	128.98	41.73	9.48E-12	3.09
PIK3R2	ENSMUSG00000031834	63.05	6.96	1.06E-11	9.07
lrig1	ENSMUSG00000030029	157.64	60.28	1.06E-11	2.62
CREG1	ENSMUSG00000040713	100.31	25.50	1.41E-11	3.93
RASL11B	ENSMUSG00000049907	237.89	118.24	1.64E-11	2.01
timp2	ENSMUSG00000017466	111.78	32.46	1.98E-11	3.44
8030423F21Rik	ENSMUSG00000052295	111.78	32.46	1.98E-11	3.44
Id3	ENSMUSG00000007872	214.96	102.01	2.31E-11	2.11
SOCS5	ENSMUSG00000037104	137.57	48.69	2.57E-11	2.83
Gm7586	ENSMUSG00000059333	140.44	51.01	3.48E-11	2.75
Zfp13	ENSMUSG00000062012	65.92	9.27	4.26E-11	7.11
CDC7	ENSMUSG00000029283	128.98	44.05	4.41E-11	2.93
EIF2B3	ENSMUSG00000028683	48.72	2.32	4.59E-11	21.02
ICK	ENSMUSG00000079454	54.46	4.64	5.14E-11	11.74
Rnu1a1	ENSMUSG00000065905	214.96	104.33	6.28E-11	2.06
Gm608	ENSMUSG00000004263	214.96	104.33	6.28E-11	2.06
nr4a3	ENSMUSG00000028341	220.69	108.97	7.38E-11	2.03
PPEF2	ENSMUSG00000029410	134.71	48.69	8.08E-11	2.77
Lcn4	ENSMUSG00000026919	45.86	0.00	9.39E-11	#DIV/0!
UNC13A	ENSMUSG00000034799	171.97	74.19	9.49E-11	2.32
crip1	ENSMUSG00000006360	171.97	74.19	9.49E-11	2.32
foxo1	ENSMUSG00000044167	123.24	41.73	9.78E-11	2.95
ALDH3A1	ENSMUSG00000019102	174.83	76.51	1.10E-10	2.29
Snx18	ENSMUSG00000042364	140.44	53.32	1.34E-10	2.63
PRKAR1A	ENSMUSG00000020612	140.44	53.32	1.34E-10	2.63
Csf2	ENSMUSG00000018916	126.11	44.05	1.36E-10	2.86
CSGALNACT1	ENSMUSG00000036356	180.57	81.14	1.45E-10	2.23
irf6	ENSMUSG00000026638	186.30	85.78	1.85E-10	2.17
RBM33	ENSMUSG00000048271	63.05	9.27	1.88E-10	6.80
LIMS1	ENSMUSG00000019920	63.05	9.27	1.88E-10	6.80
Hist1h2bl	ENSMUSG00000069268	94.58	25.50	1.91E-10	3.71
GPR97	ENSMUSG00000060470	94.58	25.50	1.91E-10	3.71
ttk	ENSMUSG00000038379	77.39	16.23	1.94E-10	4.77
LOC100047863	ENSMUSG00000042594	77.39	16.23	1.94E-10	4.77
ETV6	ENSMUSG00000030199	77.39	16.23	1.94E-10	4.77
DHDDS	ENSMUSG00000012117	77.39	16.23	1.94E-10	4.77
C130039O16Rik	ENSMUSG00000042507	131.84	48.69	2.34E-10	2.71

LOC100047868	ENSMUSG00000051510	194.90	92.74	2.43E-10	2.10
Lars2	ENSMUSG00000035202	134.71	51.01	3.04E-10	2.64
Hist1h2an	ENSMUSG00000071478	97.45	27.82	3.16E-10	3.50
IGSF8	ENSMUSG00000038034	71.65	13.91	3.38E-10	5.15
A330017A19Rik	ENSMUSG00000073388	88.85	23.18	3.93E-10	3.83
INSL6	ENSMUSG00000050957	111.78	37.09	5.05E-10	3.01
Angel1	ENSMUSG00000021257	100.31	30.14	5.11E-10	3.33
hbs1l	ENSMUSG00000019977	65.92	11.59	5.60E-10	5.69
NEIL2	ENSMUSG00000035121	166.24	74.19	6.80E-10	2.24
GGTA1	ENSMUSG00000035778	91.72	25.50	6.92E-10	3.60
ST3GAL2	ENSMUSG00000031749	197.76	97.37	7.28E-10	2.03
2900041M22Rik	ENSMUSG00000054418	197.76	97.37	7.28E-10	2.03
Atp5d	ENSMUSG00000003072	103.18	32.46	7.84E-10	3.18
KCNA10	ENSMUSG00000042861	151.90	64.92	1.03E-09	2.34
CLNS1A	ENSMUSG00000025439	54.46	6.96	1.11E-09	7.83
Pim1	ENSMUSG00000024014	134.71	53.32	1.15E-09	2.53
F730048M01Rik	ENSMUSG00000073546	134.71	53.32	1.15E-09	2.53
Dmrtc2	ENSMUSG00000011349	154.77	67.23	1.20E-09	2.30
IMMT	ENSMUSG00000052337	48.72	4.64	1.20E-09	10.51
ELMO2	ENSMUSG00000017670	48.72	4.64	1.20E-09	10.51
Zfp467	ENSMUSG00000068551	183.43	88.10	1.28E-09	2.08
Adat3	ENSMUSG00000035370	40.13	0.00	1.39E-09	#DIV/0!
LOC100044760	ENSMUSG00000030201	137.57	55.64	1.39E-09	2.47
dock10	ENSMUSG00000038608	68.79	13.91	1.41E-09	4.94
NBEAL2	ENSMUSG00000056724	85.98	23.18	1.44E-09	3.71
Kbtbd11	ENSMUSG00000055675	97.45	30.14	1.74E-09	3.23
D18Ertd653e	ENSMUSG00000024544	97.45	30.14	1.74E-09	3.23
ANGPT2	ENSMUSG00000031465	126.11	48.69	2.13E-09	2.59
Ccdc116	ENSMUSG00000022768	111.78	39.41	2.23E-09	2.84
Gm6091	ENSMUSG00000025574	169.10	78.83	2.24E-09	2.15
AFMID	ENSMUSG00000017718	169.10	78.83	2.24E-09	2.15
Olfr1287	ENSMUSG00000063377	63.05	11.59	2.41E-09	5.44
RALGAPA2	ENSMUSG00000037110	100.31	32.46	2.60E-09	3.09
Card6	ENSMUSG00000041849	100.31	32.46	2.60E-09	3.09
LOC674944	ENSMUSG00000053716	80.25	20.87	3.05E-09	3.85
LOC100045522	ENSMUSG00000018363	80.25	20.87	3.05E-09	3.85
Rabgap1l	ENSMUSG00000026721	180.57	88.10	3.24E-09	2.05
ORC6L	ENSMUSG00000031697	57.32	9.27	3.78E-09	6.18
Mbnl1	ENSMUSG00000027763	57.32	9.27	3.78E-09	6.18
HYAL3	ENSMUSG00000036091	51.59	6.96	5.19E-09	7.42
TTR	ENSMUSG00000061808	40.13	2.32	5.30E-09	17.31
Hexim1	ENSMUSG00000048878	83.12	23.18	5.30E-09	3.59
LOC671929	ENSMUSG00000074034	65.92	13.91	5.84E-09	4.74

Gm14217	ENSMUSG00000058558	65.92	13.91	5.84E-09	4.74
SLC12A7	ENSMUSG00000017756	143.31	62.60	6.45E-09	2.29
mpzl3	ENSMUSG00000070305	143.31	62.60	6.45E-09	2.29
Tgfbr3	ENSMUSG00000029287	149.04	67.23	8.48E-09	2.22
neurl3	ENSMUSG00000047180	111.78	41.73	9.08E-09	2.68
SPATC1	ENSMUSG00000049653	128.98	53.32	9.22E-09	2.42
Klre1	ENSMUSG00000050241	151.90	69.55	9.53E-09	2.18
SESN2	ENSMUSG00000028893	154.77	71.87	1.07E-08	2.15
SUN2	ENSMUSG00000042524	77.39	20.87	1.13E-08	3.71
Gm13981	ENSMUSG00000061488	114.64	44.05	1.18E-08	2.60
PTPN12	ENSMUSG00000028771	100.31	34.78	1.20E-08	2.88
PCBP4	ENSMUSG00000023495	160.50	76.51	1.33E-08	2.10
tollip	ENSMUSG00000025139	137.57	60.28	1.55E-08	2.28
Rassf3	ENSMUSG00000025795	137.57	60.28	1.55E-08	2.28
usp25	ENSMUSG00000022867	54.46	9.27	1.70E-08	5.87
Gm12416	ENSMUSG00000057666	54.46	9.27	1.70E-08	5.87
SPATA2L	ENSMUSG00000033594	80.25	23.18	1.94E-08	3.46
SETBP1	ENSMUSG00000024548	91.72	30.14	2.01E-08	3.04
4930546C10Rik	ENSMUSG00000024546	91.72	30.14	2.01E-08	3.04
OSGIN1	ENSMUSG00000074063	143.31	64.92	2.03E-08	2.21
LOC100048122	ENSMUSG00000020029	123.24	51.01	2.24E-08	2.42
slmo2	ENSMUSG00000016257	34.39	0.00	2.34E-08	#DIV/0!
1700102P08Rik	ENSMUSG00000032611	34.39	0.00	2.34E-08	#DIV/0!
pgm1	ENSMUSG00000029171	71.65	18.55	2.39E-08	3.86
Hspbap1	ENSMUSG00000022849	71.65	18.55	2.39E-08	3.86
Rab43	ENSMUSG00000030055	63.05	13.91	2.41E-08	4.53
LOC100045239	ENSMUSG00000028098	48.72	6.96	2.43E-08	7.01
KDM3A	ENSMUSG00000053470	149.04	69.55	2.53E-08	2.14
OSBPL11	ENSMUSG00000022807	37.26	2.32	2.69E-08	16.07
srebf2	ENSMUSG00000022463	108.91	41.73	2.79E-08	2.61
GNG2	ENSMUSG00000043004	151.90	71.87	2.79E-08	2.11
RABL3	ENSMUSG00000022827	42.99	4.64	2.88E-08	9.27
Gm7586	ENSMUSG00000061983	42.99	4.64	2.88E-08	9.27
TNIP2	ENSMUSG00000059866	83.12	25.50	2.98E-08	3.26
Galnt6	ENSMUSG00000037280	83.12	25.50	2.98E-08	3.26
CRYBA4	ENSMUSG00000066975	83.12	25.50	2.98E-08	3.26
SLC24A6	ENSMUSG00000032754	128.98	55.64	3.06E-08	2.32
4933429F08Rik	ENSMUSG00000045094	128.98	55.64	3.06E-08	2.32
Vps35	ENSMUSG00000031696	57.32	11.59	4.36E-08	4.94
PLEKHA3	ENSMUSG00000002733	57.32	11.59	4.36E-08	4.94
PABPC1L	ENSMUSG00000054582	57.32	11.59	4.36E-08	4.94
ZSCAN10	ENSMUSG00000023902	65.92	16.23	4.81E-08	4.06
Klra15	ENSMUSG00000079853	65.92	16.23	4.81E-08	4.06

6330416G13Rik	ENSMUSG00000045917	65.92	16.23	4.81E-08	4.06
S100A5	ENSMUSG00000001023	117.51	48.69	5.17E-08	2.41
CDYL2	ENSMUSG00000031758	117.51	48.69	5.17E-08	2.41
Fcna	ENSMUSG00000026938	143.31	67.23	5.79E-08	2.13
ANKMY1	ENSMUSG00000034212	120.38	51.01	6.14E-08	2.36
AI661453	ENSMUSG00000034382	120.38	51.01	6.14E-08	2.36
RASA4	ENSMUSG00000004952	146.17	69.55	6.35E-08	2.10
4930544L04Rik	ENSMUSG00000073803	146.17	69.55	6.35E-08	2.10
XCL1	ENSMUSG00000026573	88.85	30.14	6.35E-08	2.95
snap23	ENSMUSG00000027287	88.85	30.14	6.35E-08	2.95
CACNB1	ENSMUSG00000020882	88.85	30.14	6.35E-08	2.95
HMGA1	ENSMUSG00000046711	103.18	39.41	6.41E-08	2.62
ZSCAN12	ENSMUSG00000036721	77.39	23.18	6.55E-08	3.34
Slc4a7	ENSMUSG00000021733	149.04	71.87	6.88E-08	2.07
VDAC1	ENSMUSG00000020402	51.59	9.27	7.21E-08	5.56
LOC100047639	ENSMUSG00000044581	51.59	9.27	7.21E-08	5.56
etfB	ENSMUSG00000004610	51.59	9.27	7.21E-08	5.56
4930455C21Rik	ENSMUSG00000002846	51.59	9.27	7.21E-08	5.56
SAMD3	ENSMUSG00000051354	106.05	41.73	8.05E-08	2.54
CRYBB1	ENSMUSG00000029343	106.05	41.73	8.05E-08	2.54
TAGLN2	ENSMUSG00000026547	154.77	76.51	8.07E-08	2.02
tmem87b	ENSMUSG00000014353	68.79	18.55	8.58E-08	3.71
bcor	ENSMUSG00000040363	91.72	32.46	8.64E-08	2.83
NAP1L5	ENSMUSG00000055430	60.19	13.91	9.30E-08	4.33
Mapk7	ENSMUSG00000001034	60.19	13.91	9.30E-08	4.33
Gm5648	ENSMUSG00000001228	60.19	13.91	9.30E-08	4.33
FOXN1	ENSMUSG00000002057	60.19	13.91	9.30E-08	4.33
Apol9b	ENSMUSG00000057346	128.98	57.96	9.32E-08	2.23
ATP2B1	ENSMUSG00000019943	108.91	44.05	9.82E-08	2.47
5730590G19Rik	ENSMUSG00000046591	131.84	60.28	1.06E-07	2.19
Rnu6	ENSMUSG00000065765	45.86	6.96	1.08E-07	6.59
POLR3C	ENSMUSG00000028099	45.86	6.96	1.08E-07	6.59
LOC100045924	ENSMUSG00000029910	45.86	6.96	1.08E-07	6.59
Gm13892	ENSMUSG00000076863	45.86	6.96	1.08E-07	6.59
ARID5B	ENSMUSG00000019947	45.86	6.96	1.08E-07	6.59
AP2S1	ENSMUSG00000008036	45.86	6.96	1.08E-07	6.59
0610007P14Rik	ENSMUSG00000021252	45.86	6.96	1.08E-07	6.59
S1PR2	ENSMUSG00000043895	94.58	34.78	1.15E-07	2.72
Fasl	ENSMUSG00000000817	94.58	34.78	1.15E-07	2.72
A430105I19Rik	ENSMUSG00000045838	134.71	62.60	1.18E-07	2.15
GPN2	ENSMUSG00000028848	34.39	2.32	1.31E-07	14.83
TRUB1	ENSMUSG00000025086	40.13	4.64	1.36E-07	8.65
CREB1	ENSMUSG00000025958	40.13	4.64	1.36E-07	8.65

DIRC2	ENSMUSG00000022848	83.12	27.82	1.44E-07	2.99
Prr7	ENSMUSG00000034686	97.45	37.09	1.48E-07	2.63
KLF3	ENSMUSG00000029178	97.45	37.09	1.48E-07	2.63
CD22	ENSMUSG00000030577	97.45	37.09	1.48E-07	2.63
Trim65	ENSMUSG00000054517	54.46	11.59	1.76E-07	4.70
MALT1	ENSMUSG00000032688	54.46	11.59	1.76E-07	4.70
EXOSC1	ENSMUSG00000034321	54.46	11.59	1.76E-07	4.70
cutC	ENSMUSG00000025193	54.46	11.59	1.76E-07	4.70
COX15	ENSMUSG00000040018	54.46	11.59	1.76E-07	4.70
mfsd5	ENSMUSG00000045665	63.05	16.23	1.79E-07	3.89
P4HA1	ENSMUSG00000019916	149.04	74.19	1.82E-07	2.01
SFXN1	ENSMUSG00000021474	100.31	39.41	1.87E-07	2.55
Rnu6	ENSMUSG00000065664	100.31	39.41	1.87E-07	2.55
CTSB	ENSMUSG00000021939	100.31	39.41	1.87E-07	2.55
XIRP1	ENSMUSG00000079243	123.24	55.64	2.15E-07	2.21
RIPK2	ENSMUSG00000041135	74.52	23.18	2.21E-07	3.21
Anln	ENSMUSG00000036777	74.52	23.18	2.21E-07	3.21
MKL2	ENSMUSG00000079844	88.85	32.46	2.67E-07	2.74
Gpr114	ENSMUSG00000061577	128.98	60.28	2.72E-07	2.14
TPD52	ENSMUSG00000027506	106.05	44.05	2.76E-07	2.41
MAMSTR	ENSMUSG00000042918	106.05	44.05	2.76E-07	2.41
NOXO1	ENSMUSG00000019320	48.72	9.27	3.05E-07	5.25
Igh-2	ENSMUSG00000076734	48.72	9.27	3.05E-07	5.25
ACP2	ENSMUSG00000002103	48.72	9.27	3.05E-07	5.25
1810062G17Rik	ENSMUSG00000027713	48.72	9.27	3.05E-07	5.25
PARP10	ENSMUSG00000063268	65.92	18.55	3.08E-07	3.55
RASA2	ENSMUSG00000032413	77.39	25.50	3.23E-07	3.03
MRS2	ENSMUSG00000021339	77.39	25.50	3.23E-07	3.03
LOC100044121	ENSMUSG00000060261	77.39	25.50	3.23E-07	3.03
Gm4705	ENSMUSG00000062006	77.39	25.50	3.23E-07	3.03
ATP10A	ENSMUSG00000025324	77.39	25.50	3.23E-07	3.03
DIP2B	ENSMUSG00000023026	134.71	64.92	3.23E-07	2.08
WLS	ENSMUSG00000028173	108.91	46.37	3.23E-07	2.35
POMGNT1	ENSMUSG00000028700	57.32	13.91	3.55E-07	4.12
Pldi	ENSMUSG00000037247	57.32	13.91	3.55E-07	4.12
A030009H04Rik	ENSMUSG00000043419	111.78	48.69	3.79E-07	2.30
rspry1	ENSMUSG00000050079	28.66	0.00	3.90E-07	#DIV/0!
fundc1	ENSMUSG00000025040	28.66	0.00	3.90E-07	#DIV/0!
fam192a	ENSMUSG00000031774	28.66	0.00	3.90E-07	#DIV/0!
PRSS33	ENSMUSG00000049620	94.58	37.09	4.35E-07	2.55
CUX1	ENSMUSG00000029705	114.64	51.01	4.40E-07	2.25
oaz1	ENSMUSG00000035242	42.99	6.96	4.79E-07	6.18
Map2k5	ENSMUSG00000058444	42.99	6.96	4.79E-07	6.18

ABCF2	ENSMUSG00000028953	42.99	6.96	4.79E-07	6.18
chaf1b	ENSMUSG00000022945	68.79	20.87	4.92E-07	3.30
AMBN	ENSMUSG00000029288	120.38	55.64	5.63E-07	2.16
Rnu6	ENSMUSG00000065121	83.12	30.14	6.18E-07	2.76
ppp1r11	ENSMUSG00000036398	83.12	30.14	6.18E-07	2.76
Man1a	ENSMUSG00000003746	83.12	30.14	6.18E-07	2.76
Itgav	ENSMUSG00000027087	83.12	30.14	6.18E-07	2.76
2610039C10Rik	ENSMUSG00000022978	83.12	30.14	6.18E-07	2.76
Rnu6	ENSMUSG00000065391	100.31	41.73	6.33E-07	2.40
RNF123	ENSMUSG00000041528	37.26	4.64	6.34E-07	8.04
Mad2l1bp	ENSMUSG00000034509	37.26	4.64	6.34E-07	8.04
GPSM3	ENSMUSG00000034786	37.26	4.64	6.34E-07	8.04
Ccdc157	ENSMUSG00000051427	37.26	4.64	6.34E-07	8.04
TTC9C	ENSMUSG00000071660	31.53	2.32	6.35E-07	13.60
TPST2	ENSMUSG00000029344	31.53	2.32	6.35E-07	13.60
SFRS11	ENSMUSG00000055436	31.53	2.32	6.35E-07	13.60
LRRC40	ENSMUSG00000063052	31.53	2.32	6.35E-07	13.60
lat	ENSMUSG00000030742	31.53	2.32	6.35E-07	13.60
HNRNPUL2	ENSMUSG00000071659	31.53	2.32	6.35E-07	13.60
Gbas	ENSMUSG00000029432	31.53	2.32	6.35E-07	13.60
2510012J08Rik	ENSMUSG00000034889	31.53	2.32	6.35E-07	13.60
1700011J10Rik	ENSMUSG00000063714	31.53	2.32	6.35E-07	13.60
Olfr314	ENSMUSG00000059504	60.19	16.23	6.39E-07	3.71
5730455P16Rik	ENSMUSG00000057181	60.19	16.23	6.39E-07	3.71
HDHD3	ENSMUSG00000038422	126.11	60.28	6.71E-07	2.09
Ifrd2	ENSMUSG00000010048	51.59	11.59	6.78E-07	4.45
MYLK3	ENSMUSG00000031698	71.65	23.18	7.22E-07	3.09
Gzmc	ENSMUSG00000079186	128.98	62.60	7.30E-07	2.06
DPH1	ENSMUSG00000078789	128.98	62.60	7.30E-07	2.06
Rasa3	ENSMUSG00000031453	103.18	44.05	7.45E-07	2.34
Oas1h	ENSMUSG00000001168	103.18	44.05	7.45E-07	2.34
Axin2	ENSMUSG00000000142	103.18	44.05	7.45E-07	2.34
VAV3	ENSMUSG00000033721	85.98	32.46	7.84E-07	2.65
Batf	ENSMUSG00000034266	85.98	32.46	7.84E-07	2.65
Zfp185	ENSMUSG00000031351	134.71	67.23	8.50E-07	2.00
BAIAP2	ENSMUSG00000025372	88.85	34.78	1.00E-06	2.55
Zbtb41	ENSMUSG00000033964	74.52	25.50	1.03E-06	2.92
RAB18	ENSMUSG00000073639	74.52	25.50	1.03E-06	2.92
Pglyrp1	ENSMUSG00000030413	63.05	18.55	1.07E-06	3.40
C330018D20Rik	ENSMUSG00000024592	63.05	18.55	1.07E-06	3.40
1700041B01Rik	ENSMUSG00000018006	63.05	18.55	1.07E-06	3.40
Frat2	ENSMUSG00000047604	111.78	51.01	1.13E-06	2.19
XPNPEP1	ENSMUSG00000025027	91.72	37.09	1.24E-06	2.47

TUSC3	ENSMUSG00000039530	45.86	9.27	1.25E-06	4.94
Oas1c	ENSMUSG00000001166	45.86	9.27	1.25E-06	4.94
Gngt2	ENSMUSG00000038811	45.86	9.27	1.25E-06	4.94
Gm3227	ENSMUSG00000084512	45.86	9.27	1.25E-06	4.94
eif3a	ENSMUSG00000024991	45.86	9.27	1.25E-06	4.94
SNAI3	ENSMUSG00000006587	114.64	53.32	1.27E-06	2.15
STAT4	ENSMUSG00000062939	54.46	13.91	1.33E-06	3.91
LOC100046934	ENSMUSG00000036940	54.46	13.91	1.33E-06	3.91
INPP4B	ENSMUSG00000037940	54.46	13.91	1.33E-06	3.91
Gm14457	ENSMUSG00000049672	54.46	13.91	1.33E-06	3.91
G3BP2	ENSMUSG00000029405	54.46	13.91	1.33E-06	3.91
Fcer2a	ENSMUSG00000005540	54.46	13.91	1.33E-06	3.91
FAM124B	ENSMUSG00000043230	54.46	13.91	1.33E-06	3.91
Ehd4	ENSMUSG00000027293	117.51	55.64	1.39E-06	2.11
Olfr750	ENSMUSG00000035932	77.39	27.82	1.39E-06	2.78
Nomo1	ENSMUSG00000030835	77.39	27.82	1.39E-06	2.78
Med7	ENSMUSG00000020397	77.39	27.82	1.39E-06	2.78
CCDC109A	ENSMUSG00000009647	77.39	27.82	1.39E-06	2.78
Klhl22	ENSMUSG00000022750	94.58	39.41	1.47E-06	2.40
Slc46a1	ENSMUSG00000020829	120.38	57.96	1.53E-06	2.08
UBE2E1	ENSMUSG00000021774	65.92	20.87	1.62E-06	3.16
rph3al	ENSMUSG00000020847	65.92	20.87	1.62E-06	3.16
MYST3	ENSMUSG00000031540	65.92	20.87	1.62E-06	3.16
LOC100043992	ENSMUSG00000034647	25.80	0.00	1.64E-06	#DIV/0!
5430411C19Rik	ENSMUSG00000047169	25.80	0.00	1.64E-06	#DIV/0!
RPS6KA1	ENSMUSG00000003644	123.24	60.28	1.66E-06	2.04
KLHL2	ENSMUSG00000031605	123.24	60.28	1.66E-06	2.04
INPP5F	ENSMUSG00000042105	126.11	62.60	1.78E-06	2.01
BATF2	ENSMUSG00000039699	126.11	62.60	1.78E-06	2.01
Cxcr1	ENSMUSG00000048480	80.25	30.14	1.81E-06	2.66
bola1	ENSMUSG00000015943	80.25	30.14	1.81E-06	2.66
Tgoln1	ENSMUSG00000056429	40.13	6.96	2.04E-06	5.77
Tcl1	ENSMUSG00000041359	40.13	6.96	2.04E-06	5.77
SPG11	ENSMUSG00000033396	40.13	6.96	2.04E-06	5.77
Rnu6	ENSMUSG00000064446	40.13	6.96	2.04E-06	5.77
PFDN5	ENSMUSG00000001289	40.13	6.96	2.04E-06	5.77
MST1	ENSMUSG00000032591	40.13	6.96	2.04E-06	5.77
ITGB2	ENSMUSG00000000290	40.13	6.96	2.04E-06	5.77
Inpp5d	ENSMUSG00000026288	40.13	6.96	2.04E-06	5.77
CELA1	ENSMUSG00000023031	40.13	6.96	2.04E-06	5.77
Bin2	ENSMUSG00000075411	40.13	6.96	2.04E-06	5.77
Aldh1a7	ENSMUSG00000024747	40.13	6.96	2.04E-06	5.77
4930422I07Rik	ENSMUSG00000032425	40.13	6.96	2.04E-06	5.77

NAT6	ENSMUSG00000079334	57.32	16.23	2.28E-06	3.53
Mphosph8	ENSMUSG00000079184	57.32	16.23	2.28E-06	3.53
MMP20	ENSMUSG00000018620	57.32	16.23	2.28E-06	3.53
Mettl7a2	ENSMUSG00000056487	57.32	16.23	2.28E-06	3.53
fucA1	ENSMUSG00000028673	57.32	16.23	2.28E-06	3.53
FANCA	ENSMUSG00000032815	83.12	32.46	2.29E-06	2.56
SCRN2	ENSMUSG00000020877	68.79	23.18	2.32E-06	2.97
Tmem194	ENSMUSG00000040195	48.72	11.59	2.61E-06	4.20
Skil	ENSMUSG00000027660	48.72	11.59	2.61E-06	4.20
PLCB2	ENSMUSG00000040061	48.72	11.59	2.61E-06	4.20
NAB2	ENSMUSG00000025402	48.72	11.59	2.61E-06	4.20
LOC100048120	ENSMUSG00000028998	48.72	11.59	2.61E-06	4.20
KLF16	ENSMUSG00000035397	48.72	11.59	2.61E-06	4.20
GABRR2	ENSMUSG00000023267	48.72	11.59	2.61E-06	4.20
AKAP11	ENSMUSG00000075507	48.72	11.59	2.61E-06	4.20
A630089N07Rik	ENSMUSG00000074887	48.72	11.59	2.61E-06	4.20
PPIL5	ENSMUSG00000034883	85.98	34.78	2.80E-06	2.47
map2k6	ENSMUSG00000020623	85.98	34.78	2.80E-06	2.47
ttll1	ENSMUSG00000022442	108.91	51.01	2.82E-06	2.14
Olfr160	ENSMUSG00000078078	108.91	51.01	2.82E-06	2.14
abhd11	ENSMUSG00000040532	108.91	51.01	2.82E-06	2.14
uckl1	ENSMUSG00000010492	34.39	4.64	2.83E-06	7.42
PRR11	ENSMUSG00000020493	34.39	4.64	2.83E-06	7.42
lrrc58	ENSMUSG00000034158	34.39	4.64	2.83E-06	7.42
hdgf	ENSMUSG00000004897	34.39	4.64	2.83E-06	7.42
Gm10250	ENSMUSG00000068706	34.39	4.64	2.83E-06	7.42
ATG16L2	ENSMUSG00000047767	34.39	4.64	2.83E-06	7.42
Adam39	ENSMUSG00000054033	34.39	4.64	2.83E-06	7.42
NKTR	ENSMUSG00000032525	28.66	2.32	3.00E-06	12.36
LOC434624	ENSMUSG00000050708	28.66	2.32	3.00E-06	12.36
Gm9845	ENSMUSG00000026031	28.66	2.32	3.00E-06	12.36
Gm6722	ENSMUSG00000037894	28.66	2.32	3.00E-06	12.36
GIT2	ENSMUSG00000041890	28.66	2.32	3.00E-06	12.36
CHD4	ENSMUSG00000063870	28.66	2.32	3.00E-06	12.36
MYO9A	ENSMUSG00000074258	111.78	53.32	3.09E-06	2.10
LRFN4	ENSMUSG00000045045	111.78	53.32	3.09E-06	2.10
HIST1H3F	ENSMUSG00000069267	111.78	53.32	3.09E-06	2.10
Fbxo46	ENSMUSG00000050428	111.78	53.32	3.09E-06	2.10
Psd4	ENSMUSG00000026979	71.65	25.50	3.09E-06	2.81
MAP3K8	ENSMUSG00000024235	71.65	25.50	3.09E-06	2.81
entpd4	ENSMUSG00000022066	71.65	25.50	3.09E-06	2.81
ANGPTL4	ENSMUSG00000002289	71.65	25.50	3.09E-06	2.81
Slc26a6	ENSMUSG00000023259	60.19	18.55	3.48E-06	3.25

Olfr169	ENSMUSG00000068535	60.19	18.55	3.48E-06	3.25
LOC100044444	ENSMUSG00000054618	60.19	18.55	3.48E-06	3.25
Gm9231	ENSMUSG00000004455	60.19	18.55	3.48E-06	3.25
Blm	ENSMUSG00000030528	60.19	18.55	3.48E-06	3.25
GPNMB	ENSMUSG00000029816	117.51	57.96	3.63E-06	2.03
PAFAH1B3	ENSMUSG00000005447	91.72	39.41	3.90E-06	2.33
Slc25a45	ENSMUSG00000024818	51.59	13.91	4.73E-06	3.71
PRMT6	ENSMUSG00000049300	51.59	13.91	4.73E-06	3.71
ermp1	ENSMUSG00000046324	51.59	13.91	4.73E-06	3.71
cubn	ENSMUSG00000026726	51.59	13.91	4.73E-06	3.71
A230072I06Rik	ENSMUSG00000074473	51.59	13.91	4.73E-06	3.71
1110002L01Rik	ENSMUSG00000071456	51.59	13.91	4.73E-06	3.71
Vmn2r86	ENSMUSG00000070601	42.99	9.27	4.84E-06	4.64
TTLL5	ENSMUSG00000012609	42.99	9.27	4.84E-06	4.64
SNORD22	ENSMUSG00000065087	42.99	9.27	4.84E-06	4.64
Oas1b	ENSMUSG00000029605	42.99	9.27	4.84E-06	4.64
KIF2A	ENSMUSG00000021693	42.99	9.27	4.84E-06	4.64
ERP27	ENSMUSG00000030219	42.99	9.27	4.84E-06	4.64
CSF3	ENSMUSG00000038067	42.99	9.27	4.84E-06	4.64
arsA	ENSMUSG00000022620	42.99	9.27	4.84E-06	4.64
ANXA5	ENSMUSG00000027712	42.99	9.27	4.84E-06	4.64
Amz2	ENSMUSG00000020610	42.99	9.27	4.84E-06	4.64
RAB3IL1	ENSMUSG00000024663	63.05	20.87	5.15E-06	3.02
LOC100046789	ENSMUSG00000037418	63.05	20.87	5.15E-06	3.02
Rnu6	ENSMUSG00000084456	97.45	44.05	5.15E-06	2.21
CCDC38	ENSMUSG00000036168	97.45	44.05	5.15E-06	2.21
tes	ENSMUSG00000029552	77.39	30.14	5.19E-06	2.57
LOC100044874	ENSMUSG00000061232	77.39	30.14	5.19E-06	2.57
4930538K18Rik	ENSMUSG00000028642	77.39	30.14	5.19E-06	2.57
PAPSS2	ENSMUSG00000024899	103.18	48.69	6.41E-06	2.12
Tubb2a	ENSMUSG00000058672	80.25	32.46	6.42E-06	2.47
E130308A19Rik	ENSMUSG00000045071	80.25	32.46	6.42E-06	2.47
Atp6v0c-ps2	ENSMUSG00000024121	80.25	32.46	6.42E-06	2.47
arhgap17	ENSMUSG00000030766	80.25	32.46	6.42E-06	2.47
RMND5B	ENSMUSG00000001054	22.93	0.00	6.95E-06	#DIV/0!
Olfr1288	ENSMUSG00000044039	22.93	0.00	6.95E-06	#DIV/0!
mecp2	ENSMUSG00000031393	22.93	0.00	6.95E-06	#DIV/0!
Cd48	ENSMUSG00000015355	22.93	0.00	6.95E-06	#DIV/0!
ZC3H7B	ENSMUSG00000022390	106.05	51.01	7.04E-06	2.08
Tbcc	ENSMUSG00000036430	65.92	23.18	7.15E-06	2.84
Gse1	ENSMUSG00000031822	65.92	23.18	7.15E-06	2.84
fam107b	ENSMUSG00000026655	65.92	23.18	7.15E-06	2.84
0610009O20Rik	ENSMUSG00000024442	65.92	23.18	7.15E-06	2.84

FNDC3A	ENSMUSG00000033487	108.91	53.32	7.67E-06	2.04
senp8	ENSMUSG00000051705	83.12	34.78	7.68E-06	2.39
lass2	ENSMUSG00000015714	83.12	34.78	7.68E-06	2.39
SDF4	ENSMUSG00000029076	54.46	16.23	7.70E-06	3.36
Rnu6	ENSMUSG00000064632	54.46	16.23	7.70E-06	3.36
Rnu6	ENSMUSG00000064443	54.46	16.23	7.70E-06	3.36
rad51	ENSMUSG00000027323	54.46	16.23	7.70E-06	3.36
Hhat	ENSMUSG00000037375	54.46	16.23	7.70E-06	3.36
fkbp4	ENSMUSG00000030357	54.46	16.23	7.70E-06	3.36
dazl	ENSMUSG00000010592	54.46	16.23	7.70E-06	3.36
1810012P15Rik	ENSMUSG00000072640	54.46	16.23	7.70E-06	3.36
LOC100047722	ENSMUSG00000061259	37.26	6.96	8.38E-06	5.36
JMJD1C	ENSMUSG00000037876	37.26	6.96	8.38E-06	5.36
ISG20	ENSMUSG00000039236	37.26	6.96	8.38E-06	5.36
GTF2E1	ENSMUSG00000022828	37.26	6.96	8.38E-06	5.36
ftcD	ENSMUSG00000001155	37.26	6.96	8.38E-06	5.36
Fam119a	ENSMUSG00000025956	37.26	6.96	8.38E-06	5.36
DCAF4	ENSMUSG00000021222	37.26	6.96	8.38E-06	5.36
2310035K24Rik	ENSMUSG00000068264	37.26	6.96	8.38E-06	5.36
Zfp94	ENSMUSG00000074282	68.79	25.50	9.45E-06	2.70
ZDHHC16	ENSMUSG00000025157	45.86	11.59	9.61E-06	3.96
UBQLN4	ENSMUSG00000008604	45.86	11.59	9.61E-06	3.96
KLF10	ENSMUSG00000037465	45.86	11.59	9.61E-06	3.96
Gm10268	ENSMUSG00000069392	45.86	11.59	9.61E-06	3.96
CSAD	ENSMUSG00000023044	45.86	11.59	9.61E-06	3.96
Cpsf6	ENSMUSG00000055531	45.86	11.59	9.61E-06	3.96
CHST12	ENSMUSG00000036599	45.86	11.59	9.61E-06	3.96
ANKRD26	ENSMUSG00000007827	45.86	11.59	9.61E-06	3.96
Rnu6	ENSMUSG00000077511	88.85	39.41	1.04E-05	2.25
KSR1	ENSMUSG00000018334	88.85	39.41	1.04E-05	2.25
ECSCR	ENSMUSG00000073599	88.85	39.41	1.04E-05	2.25
UAP1	ENSMUSG00000026670	57.32	18.55	1.16E-05	3.09
S1PR4	ENSMUSG00000044199	57.32	18.55	1.16E-05	3.09
IL2	ENSMUSG00000027720	57.32	18.55	1.16E-05	3.09
HYAL2	ENSMUSG00000010047	57.32	18.55	1.16E-05	3.09
A630055G03Rik	ENSMUSG00000037991	57.32	18.55	1.16E-05	3.09
5930416I19Rik	ENSMUSG00000048668	57.32	18.55	1.16E-05	3.09
CLYBL	ENSMUSG00000025545	91.72	41.73	1.18E-05	2.20
ACVR1B	ENSMUSG00000000532	91.72	41.73	1.18E-05	2.20
rrp1	ENSMUSG00000061032	71.65	27.82	1.20E-05	2.58
NDST1	ENSMUSG00000054008	71.65	27.82	1.20E-05	2.58
mthfd1	ENSMUSG00000021048	71.65	27.82	1.20E-05	2.58
Vmn1r71	ENSMUSG00000059206	31.53	4.64	1.25E-05	6.80

Tob2	ENSMUSG00000048546	31.53	4.64	1.25E-05	6.80
Sf3a1	ENSMUSG00000002129	31.53	4.64	1.25E-05	6.80
scyl1	ENSMUSG00000024941	31.53	4.64	1.25E-05	6.80
phf20	ENSMUSG00000038116	31.53	4.64	1.25E-05	6.80
PHC3	ENSMUSG00000037652	31.53	4.64	1.25E-05	6.80
PDDC1	ENSMUSG00000051007	31.53	4.64	1.25E-05	6.80
Olfr125	ENSMUSG00000050613	31.53	4.64	1.25E-05	6.80
Mdk-ps1	ENSMUSG00000081677	31.53	4.64	1.25E-05	6.80
LOC100046877	ENSMUSG00000042369	31.53	4.64	1.25E-05	6.80
junb	ENSMUSG00000052837	31.53	4.64	1.25E-05	6.80
IRF3	ENSMUSG00000003184	31.53	4.64	1.25E-05	6.80
HIST2H2AB	ENSMUSG00000063689	31.53	4.64	1.25E-05	6.80
COMTD1	ENSMUSG00000021773	31.53	4.64	1.25E-05	6.80
CNP	ENSMUSG00000006782	31.53	4.64	1.25E-05	6.80
CDC14A	ENSMUSG00000033502	31.53	4.64	1.25E-05	6.80
Bnip2	ENSMUSG00000011958	31.53	4.64	1.25E-05	6.80
ATP1A1	ENSMUSG00000033161	94.58	44.05	1.30E-05	2.15
4930520O04Rik	ENSMUSG00000074039	94.58	44.05	1.30E-05	2.15
tspO	ENSMUSG00000041736	25.80	2.32	1.43E-05	11.13
RNY3	ENSMUSG00000084644	25.80	2.32	1.43E-05	11.13
Rnu6	ENSMUSG00000065306	25.80	2.32	1.43E-05	11.13
Ogt	ENSMUSG00000034160	25.80	2.32	1.43E-05	11.13
Gm3227	ENSMUSG00000065343	25.80	2.32	1.43E-05	11.13
Gm1420	ENSMUSG00000076560	25.80	2.32	1.43E-05	11.13
FBXL14	ENSMUSG00000030019	25.80	2.32	1.43E-05	11.13
CSPP1	ENSMUSG00000056763	25.80	2.32	1.43E-05	11.13
TTC28	ENSMUSG00000033209	97.45	46.37	1.43E-05	2.10
RPL36AL	ENSMUSG00000078175	74.52	30.14	1.45E-05	2.47
CSF2RA	ENSMUSG00000059326	74.52	30.14	1.45E-05	2.47
A130022J15Rik	ENSMUSG00000035245	74.52	30.14	1.45E-05	2.47
Trim14	ENSMUSG00000039853	100.31	48.69	1.56E-05	2.06
SLC25A35	ENSMUSG00000018740	60.19	20.87	1.60E-05	2.88
Gm3227	ENSMUSG00000084674	60.19	20.87	1.60E-05	2.88
Gm13641	ENSMUSG00000058640	60.19	20.87	1.60E-05	2.88
Cblb	ENSMUSG00000022637	60.19	20.87	1.60E-05	2.88
adk	ENSMUSG00000039197	60.19	20.87	1.60E-05	2.88
usp33	ENSMUSG00000025437	48.72	13.91	1.62E-05	3.50
Tmem115	ENSMUSG00000010045	48.72	13.91	1.62E-05	3.50
sp2	ENSMUSG00000018678	48.72	13.91	1.62E-05	3.50
SLURP1	ENSMUSG00000022596	48.72	13.91	1.62E-05	3.50
RPAP2	ENSMUSG00000033773	48.72	13.91	1.62E-05	3.50
Rnu2	ENSMUSG00000075806	48.72	13.91	1.62E-05	3.50
rabac1	ENSMUSG00000003380	48.72	13.91	1.62E-05	3.50

OPA3	ENSMUSG00000052214	48.72	13.91	1.62E-05	3.50
Gm8494	ENSMUSG00000037935	48.72	13.91	1.62E-05	3.50
Gm3227	ENSMUSG00000064694	48.72	13.91	1.62E-05	3.50
Gm15501	ENSMUSG00000047675	48.72	13.91	1.62E-05	3.50
C230081A13Rik	ENSMUSG00000074305	48.72	13.91	1.62E-05	3.50
BC043934	ENSMUSG00000056418	48.72	13.91	1.62E-05	3.50
B3galt6	ENSMUSG00000050796	48.72	13.91	1.62E-05	3.50
ASXL2	ENSMUSG00000037486	48.72	13.91	1.62E-05	3.50
AFP	ENSMUSG00000054932	48.72	13.91	1.62E-05	3.50
5730601F06Rik	ENSMUSG00000060510	48.72	13.91	1.62E-05	3.50
2310003H01Rik	ENSMUSG00000025384	48.72	13.91	1.62E-05	3.50
SLC23A2	ENSMUSG00000027340	103.18	51.01	1.67E-05	2.02
Tcam1	ENSMUSG00000020712	77.39	32.46	1.74E-05	2.38
Olfr765	ENSMUSG00000056853	77.39	32.46	1.74E-05	2.38
CXCR4	ENSMUSG00000045382	77.39	32.46	1.74E-05	2.38
TFAM	ENSMUSG00000003923	40.13	9.27	1.84E-05	4.33
TBCB	ENSMUSG00000006095	40.13	9.27	1.84E-05	4.33
Sgta	ENSMUSG00000004937	40.13	9.27	1.84E-05	4.33
rnf166	ENSMUSG00000014470	40.13	9.27	1.84E-05	4.33
PNKD	ENSMUSG00000026179	40.13	9.27	1.84E-05	4.33
PHF20L1	ENSMUSG00000072501	40.13	9.27	1.84E-05	4.33
Olfr1120	ENSMUSG00000070853	40.13	9.27	1.84E-05	4.33
MLLT11	ENSMUSG00000053192	40.13	9.27	1.84E-05	4.33
LOC100048301	ENSMUSG00000019738	40.13	9.27	1.84E-05	4.33
l7Rn6	ENSMUSG00000062797	40.13	9.27	1.84E-05	4.33
itgb1bp1	ENSMUSG00000062352	40.13	9.27	1.84E-05	4.33
CTU2	ENSMUSG00000049482	40.13	9.27	1.84E-05	4.33
Cstad	ENSMUSG00000047363	40.13	9.27	1.84E-05	4.33
CABP4	ENSMUSG00000024842	40.13	9.27	1.84E-05	4.33
RNMTL1	ENSMUSG00000038046	63.05	23.18	2.11E-05	2.72
GNB1	ENSMUSG00000029064	63.05	23.18	2.11E-05	2.72
Gm13641	ENSMUSG00000061115	63.05	23.18	2.11E-05	2.72
Enc1	ENSMUSG00000041773	63.05	23.18	2.11E-05	2.72
BTBD10	ENSMUSG00000038187	63.05	23.18	2.11E-05	2.72
4930486L24Rik	ENSMUSG00000050345	63.05	23.18	2.11E-05	2.72
1110028C15Rik	ENSMUSG00000026004	63.05	23.18	2.11E-05	2.72
Txn1	ENSMUSG00000028367	83.12	37.09	2.34E-05	2.24
TMCO3	ENSMUSG00000038497	83.12	37.09	2.34E-05	2.24
FBLIM1	ENSMUSG00000006219	83.12	37.09	2.34E-05	2.24
calhm2	ENSMUSG00000033033	83.12	37.09	2.34E-05	2.24
4930555I21Rik	ENSMUSG00000028801	83.12	37.09	2.34E-05	2.24
PTGIR	ENSMUSG00000043017	51.59	16.23	2.49E-05	3.18
meig1	ENSMUSG00000026650	51.59	16.23	2.49E-05	3.18

GNA11	ENSMUSG00000034781	51.59	16.23	2.49E-05	3.18
GEMIN4	ENSMUSG00000049396	51.59	16.23	2.49E-05	3.18
Dbil5	ENSMUSG00000038057	51.59	16.23	2.49E-05	3.18
clp1	ENSMUSG00000027079	51.59	16.23	2.49E-05	3.18
CEP135	ENSMUSG00000036403	51.59	16.23	2.49E-05	3.18
Als2cr4	ENSMUSG00000038079	51.59	16.23	2.49E-05	3.18
ZNRF3	ENSMUSG00000041961	85.98	39.41	2.62E-05	2.18
Bach2	ENSMUSG00000040270	85.98	39.41	2.62E-05	2.18
appl1	ENSMUSG00000040760	85.98	39.41	2.62E-05	2.18
SLC35B4	ENSMUSG00000018999	65.92	25.50	2.69E-05	2.58
Gm7842	ENSMUSG00000020988	65.92	25.50	2.69E-05	2.58
atp5s	ENSMUSG00000054894	65.92	25.50	2.69E-05	2.58
PDK2	ENSMUSG00000038967	88.85	41.73	2.94E-05	2.13
INPP5A	ENSMUSG00000025477	88.85	41.73	2.94E-05	2.13
Gm12579	ENSMUSG00000083012	88.85	41.73	2.94E-05	2.13
Gm12579	ENSMUSG00000048910	88.85	41.73	2.94E-05	2.13
INTS8	ENSMUSG00000040738	91.72	44.05	3.25E-05	2.08
TCF12	ENSMUSG00000032228	68.79	27.82	3.38E-05	2.47
LOC100046895	ENSMUSG00000062078	68.79	27.82	3.38E-05	2.47
COL6A1	ENSMUSG00000001119	68.79	27.82	3.38E-05	2.47
AGPAT2	ENSMUSG00000026922	68.79	27.82	3.38E-05	2.47
tapt1	ENSMUSG00000046985	34.39	6.96	3.38E-05	4.94
Rnu1a1	ENSMUSG00000075829	34.39	6.96	3.38E-05	4.94
Rnf38	ENSMUSG00000035696	34.39	6.96	3.38E-05	4.94
PRG2	ENSMUSG00000027073	34.39	6.96	3.38E-05	4.94
Podn	ENSMUSG00000028600	34.39	6.96	3.38E-05	4.94
Olfr549	ENSMUSG00000073977	34.39	6.96	3.38E-05	4.94
Olfr1103-ps1	ENSMUSG00000083147	34.39	6.96	3.38E-05	4.94
NUDCD2	ENSMUSG00000020328	34.39	6.96	3.38E-05	4.94
JMJD5	ENSMUSG00000030752	34.39	6.96	3.38E-05	4.94
Hist2h2ac	ENSMUSG00000068855	34.39	6.96	3.38E-05	4.94
Crocc	ENSMUSG00000040860	34.39	6.96	3.38E-05	4.94
CCNB2	ENSMUSG00000032218	34.39	6.96	3.38E-05	4.94
Vmn1r218	ENSMUSG00000060490	42.99	11.59	3.39E-05	3.71
Txlnb	ENSMUSG00000039891	42.99	11.59	3.39E-05	3.71
TRIM27	ENSMUSG00000021326	42.99	11.59	3.39E-05	3.71
SLC13A1	ENSMUSG00000029700	42.99	11.59	3.39E-05	3.71
ROBLD3	ENSMUSG00000028062	42.99	11.59	3.39E-05	3.71
rheb	ENSMUSG00000028945	42.99	11.59	3.39E-05	3.71
PUSL1	ENSMUSG00000051557	42.99	11.59	3.39E-05	3.71
Ppp1ca	ENSMUSG00000040385	42.99	11.59	3.39E-05	3.71
nagK	ENSMUSG00000034744	42.99	11.59	3.39E-05	3.71
Mrpl3	ENSMUSG00000032563	42.99	11.59	3.39E-05	3.71

Gene	Ensembl ID				
IRAK2	ENSMUSG00000060477	42.99	11.59	3.39E-05	3.71
Gm10072	ENSMUSG00000066389	42.99	11.59	3.39E-05	3.71
COPS7A	ENSMUSG00000030127	42.99	11.59	3.39E-05	3.71
Cntn1	ENSMUSG00000055022	42.99	11.59	3.39E-05	3.71
CDC42SE1	ENSMUSG00000046722	42.99	11.59	3.39E-05	3.71
ccdc12	ENSMUSG00000019659	42.99	11.59	3.39E-05	3.71
Utp14b	ENSMUSG00000079470	94.58	46.37	3.45E-05	2.04
DGAT1	ENSMUSG00000022555	94.58	46.37	3.45E-05	2.04
ACSL3	ENSMUSG00000032883	94.58	46.37	3.45E-05	2.04
Zfp422	ENSMUSG00000059878	54.46	18.55	3.56E-05	2.94
ZCCHC6	ENSMUSG00000035248	54.46	18.55	3.56E-05	2.94
PPA2	ENSMUSG00000028013	54.46	18.55	3.56E-05	2.94
NENF	ENSMUSG00000037499	54.46	18.55	3.56E-05	2.94
nelf	ENSMUSG00000006476	54.46	18.55	3.56E-05	2.94
myo1f	ENSMUSG00000024300	54.46	18.55	3.56E-05	2.94
mettl5	ENSMUSG00000051730	54.46	18.55	3.56E-05	2.94
H2-D1	ENSMUSG00000073411	54.46	18.55	3.56E-05	2.94
GLMN	ENSMUSG00000029276	54.46	18.55	3.56E-05	2.94
FYTTD1	ENSMUSG00000022800	54.46	18.55	3.56E-05	2.94
1700021K19Rik	ENSMUSG00000035629	54.46	18.55	3.56E-05	2.94
N4BP2L1	ENSMUSG00000041132	71.65	30.14	3.97E-05	2.38
Hivep1	ENSMUSG00000021366	71.65	30.14	3.97E-05	2.38
GSTA4	ENSMUSG00000032348	71.65	30.14	3.97E-05	2.38
AP1M2	ENSMUSG00000003309	71.65	30.14	3.97E-05	2.38
SH2D7	ENSMUSG00000046460	74.52	32.46	4.68E-05	2.30
Rgs10	ENSMUSG00000030844	74.52	32.46	4.68E-05	2.30
psmb2	ENSMUSG00000028837	74.52	32.46	4.68E-05	2.30
CCDC86	ENSMUSG00000024732	74.52	32.46	4.68E-05	2.30
ADRB2	ENSMUSG00000045730	74.52	32.46	4.68E-05	2.30
ULK1	ENSMUSG00000029512	57.32	20.87	4.85E-05	2.75
TMEM222	ENSMUSG00000028857	57.32	20.87	4.85E-05	2.75
Gm7993	ENSMUSG00000011179	57.32	20.87	4.85E-05	2.75
CDKN2C	ENSMUSG00000028551	57.32	20.87	4.85E-05	2.75
4933413G19Rik	ENSMUSG00000001517	57.32	20.87	4.85E-05	2.75
Rsph1	ENSMUSG00000024033	77.39	34.78	5.35E-05	2.23
ptch1	ENSMUSG00000021466	77.39	34.78	5.35E-05	2.23
Gm3227	ENSMUSG00000084683	77.39	34.78	5.35E-05	2.23
Tmem214	ENSMUSG00000038828	28.66	4.64	5.38E-05	6.18
TMEM14C	ENSMUSG00000021361	28.66	4.64	5.38E-05	6.18
SVIL	ENSMUSG00000024236	28.66	4.64	5.38E-05	6.18
Sf1	ENSMUSG00000024949	28.66	4.64	5.38E-05	6.18
Olfr1203	ENSMUSG00000057447	28.66	4.64	5.38E-05	6.18
KPNB1	ENSMUSG00000001440	28.66	4.64	5.38E-05	6.18

Ifit2	ENSMUSG00000045932	28.66	4.64	5.38E-05	6.18
hsf1	ENSMUSG00000022556	28.66	4.64	5.38E-05	6.18
Gm9171	ENSMUSG00000046057	28.66	4.64	5.38E-05	6.18
Gm2587	ENSMUSG00000042688	28.66	4.64	5.38E-05	6.18
Gm13216	ENSMUSG00000082013	28.66	4.64	5.38E-05	6.18
Ept1	ENSMUSG00000075703	28.66	4.64	5.38E-05	6.18
Bcl2l12	ENSMUSG00000003190	28.66	4.64	5.38E-05	6.18
BC067068	ENSMUSG00000036009	28.66	4.64	5.38E-05	6.18
AARS	ENSMUSG00000031960	28.66	4.64	5.38E-05	6.18
9430023L20Rik	ENSMUSG00000037204	28.66	4.64	5.38E-05	6.18
4930590J08Rik	ENSMUSG00000034063	28.66	4.64	5.38E-05	6.18
1500002O20Rik	ENSMUSG00000002210	28.66	4.64	5.38E-05	6.18
1110008F13Rik	ENSMUSG00000027637	28.66	4.64	5.38E-05	6.18
zswim4	ENSMUSG00000035671	45.86	13.91	5.43E-05	3.30
Tmem156	ENSMUSG00000037913	45.86	13.91	5.43E-05	3.30
THYN1	ENSMUSG00000035443	45.86	13.91	5.43E-05	3.30
SLTM	ENSMUSG00000032212	45.86	13.91	5.43E-05	3.30
Rpusd3	ENSMUSG00000051169	45.86	13.91	5.43E-05	3.30
Plod3	ENSMUSG00000004846	45.86	13.91	5.43E-05	3.30
Mtap7d1	ENSMUSG00000028849	45.86	13.91	5.43E-05	3.30
Gm8300	ENSMUSG00000079029	45.86	13.91	5.43E-05	3.30
ACAP3	ENSMUSG00000029033	45.86	13.91	5.43E-05	3.30
1700021P04Rik	ENSMUSG00000024819	45.86	13.91	5.43E-05	3.30
LRCH3	ENSMUSG00000022801	80.25	37.09	5.93E-05	2.16
Dtnbp1	ENSMUSG00000057531	80.25	37.09	5.93E-05	2.16
DCUN1D2	ENSMUSG00000038506	80.25	37.09	5.93E-05	2.16
ABCA2	ENSMUSG00000026944	80.25	37.09	5.93E-05	2.16
Prl7b1	ENSMUSG00000021347	60.19	23.18	6.17E-05	2.60
pgpep1	ENSMUSG00000056204	60.19	23.18	6.17E-05	2.60
Gm8849	ENSMUSG00000024217	60.19	23.18	6.17E-05	2.60
Gm5800	ENSMUSG00000068506	60.19	23.18	6.17E-05	2.60
GLOD4	ENSMUSG00000017286	60.19	23.18	6.17E-05	2.60
daglb	ENSMUSG00000039206	60.19	23.18	6.17E-05	2.60
Rreb1	ENSMUSG00000039087	83.12	39.41	6.60E-05	2.11
Ptpn9	ENSMUSG00000032290	83.12	39.41	6.60E-05	2.11
Gm7075	ENSMUSG00000048185	83.12	39.41	6.60E-05	2.11
1700101E01Rik	ENSMUSG00000079502	83.12	39.41	6.60E-05	2.11
Zfp563	ENSMUSG00000067424	22.93	2.32	6.66E-05	9.89
Ugt2b38	ENSMUSG00000061906	22.93	2.32	6.66E-05	9.89
ubfd1	ENSMUSG00000030870	22.93	2.32	6.66E-05	9.89
SNX12	ENSMUSG00000046032	22.93	2.32	6.66E-05	9.89
Rnu1a1	ENSMUSG00000064580	22.93	2.32	6.66E-05	9.89
PLP1	ENSMUSG00000031425	22.93	2.32	6.66E-05	9.89

PARP2	ENSMUSG00000036023	22.93	2.32	6.66E-05	9.89
nudt19	ENSMUSG00000034875	22.93	2.32	6.66E-05	9.89
NMT1	ENSMUSG00000020936	22.93	2.32	6.66E-05	9.89
NADSYN1	ENSMUSG00000031090	22.93	2.32	6.66E-05	9.89
HDAC4	ENSMUSG00000073617	22.93	2.32	6.66E-05	9.89
Gsbs	ENSMUSG00000002930	22.93	2.32	6.66E-05	9.89
Gm12230	ENSMUSG00000082180	22.93	2.32	6.66E-05	9.89
Ears2	ENSMUSG00000030871	22.93	2.32	6.66E-05	9.89
Cyp2c29	ENSMUSG00000003053	22.93	2.32	6.66E-05	9.89
Cops5	ENSMUSG00000025917	22.93	2.32	6.66E-05	9.89
Clec2d	ENSMUSG00000030157	22.93	2.32	6.66E-05	9.89
Atp11b	ENSMUSG00000037400	22.93	2.32	6.66E-05	9.89
9430008C03Rik	ENSMUSG00000065362	22.93	2.32	6.66E-05	9.89
4930595D18Rik	ENSMUSG00000083193	22.93	2.32	6.66E-05	9.89
Zfp566	ENSMUSG00000078768	37.26	9.27	6.79E-05	4.02
Trpv6	ENSMUSG00000029868	37.26	9.27	6.79E-05	4.02
TMPRSS7	ENSMUSG00000033177	37.26	9.27	6.79E-05	4.02
QARS	ENSMUSG00000032604	37.26	9.27	6.79E-05	4.02
Pdcd1	ENSMUSG00000026285	37.26	9.27	6.79E-05	4.02
Olfr1375-ps1	ENSMUSG00000057890	37.26	9.27	6.79E-05	4.02
LOC640204	ENSMUSG00000029430	37.26	9.27	6.79E-05	4.02
LOC100041496	ENSMUSG00000068940	37.26	9.27	6.79E-05	4.02
hltf	ENSMUSG00000002428	37.26	9.27	6.79E-05	4.02
Gm5109	ENSMUSG00000000708	37.26	9.27	6.79E-05	4.02
Gm13666	ENSMUSG00000083569	37.26	9.27	6.79E-05	4.02
FAM189B	ENSMUSG00000032657	37.26	9.27	6.79E-05	4.02
EIF4E2	ENSMUSG00000026254	37.26	9.27	6.79E-05	4.02
CPSF3	ENSMUSG00000054309	37.26	9.27	6.79E-05	4.02
Clca3	ENSMUSG00000028255	37.26	9.27	6.79E-05	4.02
AAMP	ENSMUSG00000006299	37.26	9.27	6.79E-05	4.02
2310067B10Rik	ENSMUSG00000020747	37.26	9.27	6.79E-05	4.02
IL1RL1	ENSMUSG00000026069	85.98	41.73	7.08E-05	2.06
Gm4949	ENSMUSG00000026473	85.98	41.73	7.08E-05	2.06
atad2b	ENSMUSG00000052812	85.98	41.73	7.08E-05	2.06
TRABD	ENSMUSG00000015363	63.05	25.50	7.49E-05	2.47
TMEM5	ENSMUSG00000034620	63.05	25.50	7.49E-05	2.47
rel	ENSMUSG00000020275	63.05	25.50	7.49E-05	2.47
RAB3IP	ENSMUSG00000064181	63.05	25.50	7.49E-05	2.47
PCGF6	ENSMUSG00000025050	63.05	25.50	7.49E-05	2.47
FBXO4	ENSMUSG00000022184	88.85	44.05	7.59E-05	2.02
DEPDC1B	ENSMUSG00000021697	88.85	44.05	7.59E-05	2.02
4921528I07Rik	ENSMUSG00000064299	88.85	44.05	7.59E-05	2.02
Zfp850	ENSMUSG00000074608	48.72	16.23	7.84E-05	3.00

Tssc4	ENSMUSG00000045752	48.72	16.23	7.84E-05	3.00
Tmem11	ENSMUSG00000043284	48.72	16.23	7.84E-05	3.00
taf15	ENSMUSG00000020680	48.72	16.23	7.84E-05	3.00
RPL37A	ENSMUSG00000046330	48.72	16.23	7.84E-05	3.00
Rnu6	ENSMUSG00000077582	48.72	16.23	7.84E-05	3.00
PRPSAP2	ENSMUSG00000020528	48.72	16.23	7.84E-05	3.00
Phf1	ENSMUSG00000024193	48.72	16.23	7.84E-05	3.00
Ogfr	ENSMUSG00000049401	48.72	16.23	7.84E-05	3.00
Nat10	ENSMUSG00000027185	48.72	16.23	7.84E-05	3.00
LRRC56	ENSMUSG00000038637	48.72	16.23	7.84E-05	3.00
GRPEL1	ENSMUSG00000029198	48.72	16.23	7.84E-05	3.00
Gm6272	ENSMUSG00000058737	48.72	16.23	7.84E-05	3.00
Gm6272	ENSMUSG00000082524	48.72	16.23	7.84E-05	3.00
EXOC7	ENSMUSG00000020792	48.72	16.23	7.84E-05	3.00
E130303B06Rik	ENSMUSG00000013155	48.72	16.23	7.84E-05	3.00
CCDC74A	ENSMUSG00000041617	48.72	16.23	7.84E-05	3.00
CCDC111	ENSMUSG00000038225	48.72	16.23	7.84E-05	3.00
Casp3	ENSMUSG00000031628	48.72	16.23	7.84E-05	3.00
BC032203	ENSMUSG00000036568	48.72	16.23	7.84E-05	3.00
ARF4	ENSMUSG00000021877	48.72	16.23	7.84E-05	3.00
4933405L10Rik	ENSMUSG00000013158	48.72	16.23	7.84E-05	3.00
1700019L03Rik	ENSMUSG00000038987	48.72	16.23	7.84E-05	3.00
secisbp2l	ENSMUSG00000035093	65.92	27.82	8.89E-05	2.37
OLFML1	ENSMUSG00000051041	65.92	27.82	8.89E-05	2.37
ITPR2	ENSMUSG00000030287	65.92	27.82	8.89E-05	2.37
ECE2	ENSMUSG00000022842	65.92	27.82	8.89E-05	2.37
D930049A15Rik	ENSMUSG00000007817	65.92	27.82	8.89E-05	2.37

Supplementary Table 1b. H3K27 methylation downregulation in *Jmjd3* cKO CD4 T cells

Gene.Symbol	Ensembl.ID	KO	WT	Adj.Pvalue	KO/WT
Arhgef7	ENSMUSG00000031511	249.35	554.10	5.67E-18	0.45
B830017H08Rik	ENSMUSG00000053571	246.49	549.47	5.74E-18	0.45
irx2	ENSMUSG00000001504	180.57	435.86	4.64E-17	0.41
EMB	ENSMUSG00000021728	17.20	125.19	9.78E-17	0.14
KLHL29	ENSMUSG00000020627	140.44	359.36	8.04E-16	0.39
PLEKHG1	ENSMUSG00000040624	229.29	496.14	3.68E-15	0.46
htr2c	ENSMUSG00000041380	37.26	153.02	3.41E-13	0.24
PDPN	ENSMUSG00000028583	186.30	410.36	4.12E-13	0.45
ASB4	ENSMUSG00000042607	192.03	417.32	6.53E-13	0.46
Sox19	ENSMUSG00000076431	11.46	90.42	1.00E-12	0.13
SHISA6	ENSMUSG00000053930	120.38	296.76	3.10E-12	0.41

klf15	ENSMUSG00000030087	203.49	417.32	3.68E-11	0.49
Aard	ENSMUSG00000068522	209.23	421.95	8.56E-11	0.50
FAM84A	ENSMUSG00000020607	140.44	312.99	1.90E-10	0.45
BC067074	ENSMUSG00000021763	2.87	51.01	9.12E-10	0.06
D3Bwg0562e	ENSMUSG00000044667	22.93	102.01	1.00E-09	0.22
Akp3	ENSMUSG00000036500	57.32	166.93	1.80E-09	0.34
Eid2	ENSMUSG00000046058	171.97	347.76	4.31E-09	0.49
Rnu1a1	ENSMUSG00000065017	11.46	69.55	1.33E-08	0.16
Gm9504	ENSMUSG00000035171	28.66	106.65	1.64E-08	0.27
KLHDC9	ENSMUSG00000045259	37.26	122.88	1.96E-08	0.30
2310021H06Rik	ENSMUSG00000027484	14.33	74.19	3.39E-08	0.19
NEGR1	ENSMUSG00000040037	106.05	236.48	4.48E-08	0.45
Gk2	ENSMUSG00000050553	2.87	41.73	9.31E-08	0.07
Rnu1a1	ENSMUSG00000064447	17.20	76.51	1.79E-07	0.22
Agrp	ENSMUSG00000005705	5.73	48.69	1.97E-07	0.12
FGFBP1	ENSMUSG00000048373	5.73	48.69	1.97E-07	0.12
IFNGR2	ENSMUSG00000022965	22.93	88.10	2.08E-07	0.26
Rnu1a1	ENSMUSG00000064817	45.86	129.83	3.17E-07	0.35
6720489N17Rik	ENSMUSG00000072066	0.00	32.46	3.22E-07	0.00
Ndor1	ENSMUSG00000006471	5.73	46.37	5.87E-07	0.12
TMEM203	ENSMUSG00000078201	5.73	46.37	5.87E-07	0.12
Gm3227	ENSMUSG00000084640	34.39	106.65	6.96E-07	0.32
PAPPA	ENSMUSG00000028370	126.11	255.03	7.14E-07	0.49
Clec2j	ENSMUSG00000030363	0.00	30.14	9.20E-07	0.00
PKIA	ENSMUSG00000027499	100.31	213.29	1.27E-06	0.47
Gpr143	ENSMUSG00000025333	45.86	125.19	1.27E-06	0.37
Gm16517	ENSMUSG00000020308	5.73	44.05	1.67E-06	0.13
obscn	ENSMUSG00000036935	5.73	44.05	1.67E-06	0.13
Serpina5	ENSMUSG00000041550	11.46	57.96	1.82E-06	0.20
BC015286	ENSMUSG00000050097	8.60	51.01	1.98E-06	0.17
Clec9a	ENSMUSG00000046080	34.39	102.01	3.01E-06	0.34
E130309F12Rik	ENSMUSG00000063446	74.52	169.24	3.01E-06	0.44
CTNNAL1	ENSMUSG00000038816	103.18	213.29	3.25E-06	0.48
ndp	ENSMUSG00000040138	37.26	106.65	3.47E-06	0.35
Nup214	ENSMUSG00000001855	8.60	48.69	5.19E-06	0.18
Olfr640	ENSMUSG00000066262	8.60	48.69	5.19E-06	0.18
TEKT2	ENSMUSG00000028845	71.65	162.29	5.40E-06	0.44
PCDHB15	ENSMUSG00000047033	0.00	25.50	7.64E-06	0.00
sp1	ENSMUSG00000001280	0.00	25.50	7.64E-06	0.00
LY6G6F	ENSMUSG00000034923	40.13	108.97	7.77E-06	0.37
CYP19A1	ENSMUSG00000032274	2.87	32.46	8.35E-06	0.09
FITM1	ENSMUSG00000022215	2.87	32.46	8.35E-06	0.09
Tex13	ENSMUSG00000042386	2.87	32.46	8.35E-06	0.09

PLCB1	ENSMUSG00000051177	68.79	155.33	9.73E-06	0.44
LAMA1	ENSMUSG00000032796	91.72	190.11	1.16E-05	0.48
Gm8532	ENSMUSG00000054702	22.93	76.51	1.20E-05	0.30
MPHOSPH9	ENSMUSG00000038126	5.73	39.41	1.31E-05	0.15
NFKBIB	ENSMUSG00000030595	5.73	39.41	1.31E-05	0.15
Sirt2	ENSMUSG00000015149	5.73	39.41	1.31E-05	0.15
USP32	ENSMUSG00000000804	8.60	46.37	1.36E-05	0.19
Gm3080	ENSMUSG00000029123	60.19	139.11	1.79E-05	0.43
Gm11565	ENSMUSG00000078256	20.06	69.55	1.93E-05	0.29
Serpinb1b	ENSMUSG00000051029	20.06	69.55	1.93E-05	0.29
Akr1c12	ENSMUSG00000021211	0.00	23.18	2.18E-05	0.00
FASTK	ENSMUSG00000028959	0.00	23.18	2.18E-05	0.00
6330409D20Rik	ENSMUSG00000009551	2.87	30.14	2.47E-05	0.10
CLDN2	ENSMUSG00000047230	2.87	30.14	2.47E-05	0.10
DPH2	ENSMUSG00000028540	2.87	30.14	2.47E-05	0.10
LOC100044295	ENSMUSG00000069867	2.87	30.14	2.47E-05	0.10
Gm3227	ENSMUSG00000084582	5.73	37.09	3.59E-05	0.15
KBTBD10	ENSMUSG00000075307	5.73	37.09	3.59E-05	0.15
LOC100046250	ENSMUSG00000076935	5.73	37.09	3.59E-05	0.15
Rnu1a1	ENSMUSG00000065889	5.73	37.09	3.59E-05	0.15
LOC639211	ENSMUSG00000062252	71.65	153.02	4.73E-05	0.47
MPP7	ENSMUSG00000057440	65.92	143.74	5.18E-05	0.46
Mybpc2	ENSMUSG00000038670	60.19	134.47	5.45E-05	0.45
PLRG1	ENSMUSG00000027998	60.19	134.47	5.45E-05	0.45
Gm6206	ENSMUSG00000048949	45.86	111.28	5.72E-05	0.41
FAR2	ENSMUSG00000030303	54.46	125.19	5.72E-05	0.43
Nrxn3	ENSMUSG00000066392	0.00	20.87	6.44E-05	0.00
Pdzk1	ENSMUSG00000038298	0.00	20.87	6.44E-05	0.00
ZCCHC12	ENSMUSG00000036699	0.00	20.87	6.44E-05	0.00
BC014805	ENSMUSG00000053303	11.46	48.69	6.79E-05	0.24
KIF3C	ENSMUSG00000020668	11.46	48.69	6.79E-05	0.24
PRG4	ENSMUSG00000006014	11.46	48.69	6.79E-05	0.24
Gm13011	ENSMUSG00000023433	17.20	60.28	6.80E-05	0.29
Tmem39a	ENSMUSG00000002845	17.20	60.28	6.80E-05	0.29
FANK1	ENSMUSG00000053111	77.39	159.97	6.89E-05	0.48
CHRNA6	ENSMUSG00000031491	2.87	27.82	7.27E-05	0.10
Gm5613	ENSMUSG00000012405	2.87	27.82	7.27E-05	0.10
HSD11B1	ENSMUSG00000016194	2.87	27.82	7.27E-05	0.10
mvk	ENSMUSG00000041939	2.87	27.82	7.27E-05	0.10
NKIRAS1	ENSMUSG00000021772	2.87	27.82	7.27E-05	0.10
Olfr799	ENSMUSG00000057002	2.87	27.82	7.27E-05	0.10
Rnu1a1	ENSMUSG00000065945	2.87	27.82	7.27E-05	0.10
RPPH1	ENSMUSG00000084699	2.87	27.82	7.27E-05	0.10

uqcrfs1	ENSMUSG00000038462	2.87	27.82	7.27E-05	0.10
PROK1	ENSMUSG00000070368	31.53	85.78	8.25E-05	0.37
0910001L09Rik	ENSMUSG00000050552	5.73	34.78	9.66E-05	0.16
1700061G19Rik	ENSMUSG00000024209	5.73	34.78	9.66E-05	0.16
C4bp	ENSMUSG00000026405	5.73	34.78	9.66E-05	0.16
CEP76	ENSMUSG00000073542	5.73	34.78	9.66E-05	0.16
EPSTI1	ENSMUSG00000022014	5.73	34.78	9.66E-05	0.16
RAD23A	ENSMUSG00000003813	5.73	34.78	9.66E-05	0.16

Supplementary Table 1c. H3K4 methylation upregulation in *Jmjd3* cKO CD4 T cells

Gene.Symbol	Ensembl.ID	KO	WT	Adj.Pvalue	KO/WT
igf2bp3	ENSMUSG00000029814	761.41	319.16	7.31E-47	2.39
LOC545383	ENSMUSG00000073491	520.58	173.94	8.64E-44	2.99
ENG	ENSMUSG00000026814	501.12	204.26	6.19E-32	2.45
cnr1	ENSMUSG00000044288	479.23	191.50	1.65E-31	2.50
OSR2	ENSMUSG00000022330	594.78	285.65	1.37E-28	2.08
Sp9	ENSMUSG00000068859	540.04	258.52	4.80E-26	2.09
Trp73	ENSMUSG00000029026	555.85	277.67	1.45E-24	2.00
pou3f2	ENSMUSG00000052621	272.45	89.37	4.74E-23	3.05
tal1	ENSMUSG00000028717	402.60	177.14	1.44E-22	2.27
fabp3	ENSMUSG00000028773	302.86	111.71	3.49E-22	2.71
NTN5	ENSMUSG00000070564	195.83	51.07	5.81E-21	3.83
Hdac7	ENSMUSG00000022475	389.22	191.50	1.20E-17	2.03
SRGAP1	ENSMUSG00000020121	364.89	175.54	2.70E-17	2.08
PANX2	ENSMUSG00000058441	254.21	100.54	8.56E-17	2.53
DOCK1	ENSMUSG00000058325	122.85	30.32	9.57E-14	4.05
Tmem136	ENSMUSG00000048503	271.24	126.07	9.67E-14	2.15
sfrp2	ENSMUSG00000027996	240.83	108.52	6.49E-13	2.22
Lhx9	ENSMUSG00000019230	162.99	57.45	1.22E-12	2.84
Fndc4	ENSMUSG00000038552	167.85	60.64	1.30E-12	2.77
KHDRBS3	ENSMUSG00000022332	189.74	75.00	1.38E-12	2.53
NFATC4	ENSMUSG00000023411	173.93	67.02	5.82E-12	2.60
Slc5a5	ENSMUSG00000000792	141.09	46.28	6.12E-12	3.05
EFNA5	ENSMUSG00000048915	265.16	132.45	1.07E-11	2.00
ZIC2	ENSMUSG00000061524	238.40	113.30	1.29E-11	2.10
ADAMTSL2	ENSMUSG00000036040	144.74	51.07	3.16E-11	2.83
GUCY1A3	ENSMUSG00000033910	195.83	86.17	5.57E-11	2.27
CD248	ENSMUSG00000056481	130.15	44.68	1.83E-10	2.91
LOC100046128	ENSMUSG00000020805	152.04	59.05	2.21E-10	2.57
FAM163B	ENSMUSG00000009216	170.28	73.41	6.51E-10	2.32
5730409E04Rik	ENSMUSG00000073755	173.93	78.19	1.97E-09	2.22

ARHGAP29	ENSMUSG00000039831	206.77	102.13	2.18E-09	2.02
Gckr	ENSMUSG00000059434	136.23	52.66	2.22E-09	2.59
SIM2	ENSMUSG00000062713	138.66	55.85	5.10E-09	2.48
SLC18A2	ENSMUSG00000025094	125.28	47.87	8.12E-09	2.62
rgma	ENSMUSG00000070509	193.39	95.75	8.60E-09	2.02
Gm14085	ENSMUSG00000079071	99.74	31.92	8.71E-09	3.12
tbx15	ENSMUSG00000027868	145.96	62.24	1.02E-08	2.35
ANKRD58	ENSMUSG00000044400	141.09	59.05	1.09E-08	2.39
LOC100047391	ENSMUSG00000042246	138.66	57.45	1.12E-08	2.41
FGF8	ENSMUSG00000025219	159.34	71.81	1.14E-08	2.22
POU3F3	ENSMUSG00000045515	121.63	46.28	1.24E-08	2.63
ZBTB8B	ENSMUSG00000048485	66.90	15.96	7.67E-08	4.19
Kremen2	ENSMUSG00000040680	127.71	54.26	1.06E-07	2.35
Prr19	ENSMUSG00000058741	49.87	7.98	1.18E-07	6.25
lhx6	ENSMUSG00000026890	149.61	70.22	1.34E-07	2.13
mos	ENSMUSG00000078365	108.25	43.09	2.94E-07	2.51
1810019J16Rik	ENSMUSG00000037600	94.87	35.11	4.60E-07	2.70
9930021D14Rik	ENSMUSG00000045744	94.87	35.11	4.60E-07	2.70
PRICKLE4	ENSMUSG00000079444	133.79	62.24	6.03E-07	2.15
CDHR5	ENSMUSG00000025497	38.92	4.79	8.10E-07	8.13
Plekhg4	ENSMUSG00000014782	41.35	6.38	1.56E-06	6.48
DOC2A	ENSMUSG00000052301	119.20	54.26	1.83E-06	2.20
GRHL3	ENSMUSG00000037188	133.79	65.43	2.40E-06	2.04
Wnt1	ENSMUSG00000022997	133.79	65.43	2.40E-06	2.04
3830431G21Rik	ENSMUSG00000066438	80.28	28.72	2.72E-06	2.79
HTRA1	ENSMUSG00000006205	137.44	68.62	2.91E-06	2.00
Olfr750	ENSMUSG00000035932	40.14	6.38	2.91E-06	6.29
Syt2	ENSMUSG00000026452	103.39	44.68	3.69E-06	2.31
FAM83A	ENSMUSG00000051225	27.98	1.60	3.78E-06	17.53
MESP1	ENSMUSG00000030544	127.71	62.24	4.00E-06	2.05
5430405G05Rik	ENSMUSG00000044364	107.04	47.87	4.97E-06	2.24
Rag2	ENSMUSG00000032864	117.98	55.85	5.35E-06	2.11
NFATC2	ENSMUSG00000027544	92.44	38.30	6.39E-06	2.41
TMEM141	ENSMUSG00000026939	100.95	44.68	8.26E-06	2.26
IGSF10	ENSMUSG00000072290	107.04	49.47	1.04E-05	2.16
Apof	ENSMUSG00000047631	76.63	28.72	1.07E-05	2.67
nkain4	ENSMUSG00000027574	105.82	49.47	1.52E-05	2.14
0610009B14Rik	ENSMUSG00000044062	75.41	28.72	1.67E-05	2.63
Nrl	ENSMUSG00000040632	42.57	9.57	2.20E-05	4.45
DLG5	ENSMUSG00000021782	86.36	36.70	2.35E-05	2.35
ASB4	ENSMUSG00000042607	79.06	31.92	2.56E-05	2.48
Rbp1	ENSMUSG00000046402	90.01	39.90	3.23E-05	2.26
LY6G6E	ENSMUSG00000013766	58.38	19.15	3.47E-05	3.05

hspb7	ENSMUSG00000006221	27.98	3.19	3.57E-05	8.77
prpH	ENSMUSG00000023484	109.47	54.26	3.73E-05	2.02
Slc16a11	ENSMUSG00000040938	98.52	46.28	3.74E-05	2.13
smagp	ENSMUSG00000070314	65.68	23.94	3.97E-05	2.74
MFAP2	ENSMUSG00000060572	75.41	30.32	3.99E-05	2.49
KRT18	ENSMUSG00000023043	79.06	33.51	5.80E-05	2.36
CHRNE	ENSMUSG00000014609	34.06	6.38	6.14E-05	5.34
L3MBTL	ENSMUSG00000035576	98.52	47.87	7.36E-05	2.06
FBXL16	ENSMUSG00000025738	42.57	11.17	8.52E-05	3.81

Supplementary Table 1d. H3K4 methylation downregulation in *Jmjd3* cKO CD4 T cells

Gene.Symbol	Ensembl.ID	KO	WT	Adj.Pvalue	KO/WT
Nkg7	ENSMUSG00000004612	47.44	311.18	1.40E-40	0.15
ZBTB16	ENSMUSG00000066687	90.01	378.21	1.30E-34	0.24
LOC100048689	ENSMUSG00000030325	19.46	183.52	1.39E-28	0.11
Tcrg-C	ENSMUSG00000076757	43.79	201.07	8.78E-20	0.22
Fasl	ENSMUSG00000000817	147.17	392.57	1.21E-19	0.37
CXCR3	ENSMUSG00000050232	107.04	317.57	7.39E-19	0.34
ITGA1	ENSMUSG00000042284	51.09	202.67	2.69E-17	0.25
XCL1	ENSMUSG00000026573	53.52	207.46	2.77E-17	0.26
SAMD3	ENSMUSG00000051354	29.19	143.62	5.93E-15	0.20
LOC100048754	ENSMUSG00000033024	6.08	81.39	3.09E-14	0.07
CXCR6	ENSMUSG00000048521	110.68	269.69	2.06E-11	0.41
CD7	ENSMUSG00000025163	145.96	322.35	4.83E-11	0.45
IL4	ENSMUSG00000000869	27.98	114.90	3.07E-10	0.24
FGL2	ENSMUSG00000039899	80.28	202.67	3.02E-09	0.40
S100A6	ENSMUSG00000001025	79.06	196.28	1.01E-08	0.40
KLRK1	ENSMUSG00000030149	18.24	81.39	6.27E-08	0.22
IFNG	ENSMUSG00000055170	59.60	154.79	1.58E-07	0.39
GZMB	ENSMUSG00000015437	10.95	60.64	4.12E-07	0.18
Ctla2b	ENSMUSG00000074874	3.65	41.49	4.53E-07	0.09
PLS3	ENSMUSG00000016382	38.92	110.11	2.89E-06	0.35
Tcrg-V2	ENSMUSG00000076752	25.54	84.58	4.63E-06	0.30
dmrta1	ENSMUSG00000043753	42.57	113.30	7.34E-06	0.38
S100a4	ENSMUSG00000001020	30.41	90.96	1.09E-05	0.33
Tcrg-C	ENSMUSG00000076755	24.33	79.79	1.12E-05	0.30
PLA2G4F	ENSMUSG00000046971	19.46	70.22	1.24E-05	0.28
KLRD1	ENSMUSG00000030165	38.92	105.32	1.26E-05	0.37
PTPN5	ENSMUSG00000030854	29.19	87.77	1.51E-05	0.33

Supplementary Table 2 | List of primers.

Genotyping Primers

Jmjd3-1bF	5'-TGGACATTCTCTCCTCCCAG-3'
Jmjd3-3aR	5'-GCGTATTTAGCGATGGTGGT-3'
Jmjd3-4aR	5'-AGGGTGGGTGTTGAGACAAG-3'
CD4-Cre-F	5'-GCGGTCTGGCAGTAAAAACTATC-3'
CD4-Cre-R	5'-GTGAAACAGCATTGCTGTCACTT-3'

Real-time Primers

Foxo1-1F	5'-CTTCAAGGATAAGGGCGACA-3'
Foxo1-1R	5'-GACAGATTGTGGCGAATTGA-3'
Stat3-1F	5'-GGAAATAACGGTGAAGGTGCT-3'
Stat3-1R	5'-CATGTCAAACGTGAGCGACT-3'
Irf4-1F	5'-ACAGCACCTTATGGCTCTCTG-3'
Irf4-1R	5'-ATGGGGTGGCATCATGTAGT-3'
Maf-1R	5'-TTCCTCTCCCGAATTTTTCA-3'
Maf-1F	5'-CCACGGAGCATTTAACAAGG-3'
Runx1-1F	5'-CTCCGTGCTACCCACTCACT-3'
Runx1-1R	5'-ATGACGGTGACCAGAGTGC-3'
Rorc-1F	5'-ACCTCTTTTCACGGGAGGA-3'
Rorc-1R	5'-TCCCACATCTCCCACATTG-3'
Batf-1F	5'-AGAAAGCCGACACCCTTCA-3'
Batf-1R	5'-CGGAGAGCTGCGTTCTGT-3'
Foxp3-1F	5'-TCAGGAGCCCACCAGTACA-3'
Foxp3-1R	5'-TCTGAAGGCAGAGTCAGGAGA-3'
Tbx21-1F	5'-TCAACCAGCACCAGACAGAG-3'
Tbx21-1R	5'-AAACATCCTGTAATGGCTTGTG-3'
Gata3-1F	5'-TTATCAAGCCCAAGCGAAG-3'
Gata3-1R	5'-TGGTGGTGGTCTGACAGTTC-3'
Fosl2-1F	5'-CACGCCGAGTCCTACTCCA-3'
Fosl2-1R	5'-GTGGGCTGTACCATCCACTG-3'
Eomes-1F	5'-GCCTACCAAAACACGGATA-3'
Eomes-1R	5'-TCTGTTGGGGTGAGAGGAG-3'
ACT-1F	5'-CCTCTGGTCGTACCACAG-3'
ACT-1R	5'-GCCACAGGATTCCATACCC-3'
CD44-1F	5'-AGCAGCGGCTCCACCATCGAGA-3'
CD44-1R	5'-TCGGATCCATGAGTCACAGTG-3'
CD103-1F	5'-CCTGTGCAGCATGTAAAAGAATG-3'
CD103-1R	5'-CAAGGATCGGCAGTTCAGATAC-3'
Cxcr1-1F	5'- TGGGGGTGATCTTTGCTGTT-3'
Cxcr1-1R	5'-TTTGGCCAACGAAGGCATAG-3'
Cxcr2-1F	5'-ACCCTCTTTAAGGCCCACATG-3'
Cxcr2-1R	5'-CAAGGACGACAGCGAAGATG-3'

Cxcr3-2F	5'-CAGCCTGAACTTTGACAGAACCT-3'
Cxcr3-2R	5'-GCAGCCCCAGCAAGAAGA-3'
Cxcr4-1F	5'-TCAGCCTGGACCGGTACCT-3'
Cxcr4-1R	5'-GCAGTTTCCTTGGCCTTTGA-3'
Cxcr5-1F	5'-ACTACCCACTAACCCTGGACA-3'
Cxcr5-1R	5'-GTAGGGGAATCTCCGTGCTG-3'
Cxcr6-1F	5'-CTTTCGGGCTTGCCTTAACC-3'
Cxcr6-1R	5'-CATTGTGGGAGGCAGAACAA-3'
CX3CR1-F	5'-TCAGCATCGACCGGTACCTT-3'
CX3CR1-R	5'-CTGCACTGTCCGGTTGTTCA-3'
Ifng-2F	5'-ATGAACGCTACACACTGCATC-3'
Ifng-2R	5'-CCATCCTTTTGCCAGTTCCTC-3'
Jmjd3-F	5'-CCCATCACCGTCATCAGG-3'
Jmjd3-R	5'-TTGGTGGAGAAAAGGCCTAA-3'
UTX-F	5'-TTGGTGGAGAAAAGGCCTAA-3'
UTX-R	5'-GGAGGAAAGAAAGCATCACG-3'
IL-4-F	5'-ACAGGAGAAGGGACGCCAT-3'
IL-4-R	5'-GAAGCCCTACAGACGAGCTCA-3'
CCR1-F	5'- AGGCCCAGTGGGAGTTCAC-3'
CCR1-R	5'-TCCACTGCTTCAGGCTCTTGT-3'
CCR2-F	5'-TCATCCACGGCATACTATCAACA-3'
CCR2-R	5'-GTGGCCCCTTCATCAAGCT-3'
CCR3-F	5'-GCTTTGAGACCACACCCTATGAA-3'
CCR3-R	5'-GACCCCAGCTCTTTGATTCTGA-3'
CCR4-F	5'-AGAAAATTCATGCGAGGGAGAA-3
CCR4-R	5'-TGTCACTCAAGGGTCGTGTCA-3'
CCR5-F	5'-AGGCCATGCAGGCAACAG-3'
CCR5-R	5'-TCTCTCCAACAAAGGCATAGATGA-3'
CCR6-F	5'-GAACTGCCCACTTCCCTTTCT-3'
CCR6-R	5'-CAGGCTGGCGTGGTTCTCT-3'
CCR7-F	5'-GCTCCAGGCACGCAACTTT-3'
CCR7-R	5'-GACTACCACCACGGCAATGA-3'
CCR8-F	5'-TGACCGACTACTACCCTGATTTCTT-3'
CCR8-F	5'-GCTGCCCCTGAGGAGGAA-3'
CCR9-F	5'-TCTCAGTTCCCCTACAACTCCATT-3'
CCR9-R	5'-CAGTTGGAGATGAACATGGCATA-3'

ChIP-PCR Primers

Cxcr3-3F	5'-TTCCTGCCTGCTCCTAGACT-3'
Cxcr3-3R	5'-CGCCTGTGGTCAGGTGAATA-3'
Ifng-3F	5'-GAGCCCAAGGAGTCGAAAGG-3'
Ifng-3R	5'-ATCGAAGGCTCCTCGGGAT-3'
CD44-2F	5'-CACCGATCTGCTGATGTGGA-3'
CD44-2R	5'-GCACGCCATGGACAAGTTTT-3'
Ccnd2-1F	5'-TCGGATAGGGGAACCCACAA-3'

Ccnd2-1R	5'-CACACCCTTTATGCCCCCAT-3'
Ifng-4F	5'-TCTCATCGTCAGAGAGCCCA-3'
Ifng-4R	5'-GAAGGCTCCTCGGGATTACG-3'
Irf4-2F	5'-CCTGTGCACTTCGGGTTTTG-3'
Irf4-2R	5'-GGTCCTTTAGGAACCAGGGC-3'
Tbx21-2F	5'-TCCTGTATGCCCAGGCTTTG-3'
Tbx21-2R	5'-CGTGAACGAGCTTTTGTGGG-3'
Gata3-2F	5'-GAGACGGTTGCTCTTCCGAT-3'
Gata3-2F	5'-AGCTTGCGAAGACCTAGTGC-3'
Foxp3-2F	5'-CAGAGCCTTGTGCGTGTTAAA-3'
Foxp3-2R	5'-CATGTTTGTGCTGAGTGCCC-3'
Stat3-2F	5'-GCCGCTTCTGTCAGTTCTGT-3'
Stat3-2R	5'-GGACACTTACATGGGGCAGG-3'
TGFβ1-F	5'-GCCCGAAGCGGACTACTATG-3'
TGFβ1-R	5'-GGGTAATTTCCTCCCGGTGAC-3'
Cxcr3-4F	5'-ACACACACCGTACATGCCTC-3'
Cxcr3-4R	5'-ACCAATTAGGGCTTGGGTGG-3'
Runx1-2F	5'-TTTACTGTAAGCCCGACCCG-3'
Runx1-2R	5'-CCAGGCTGATACCGGAAAGG-3'
Smad3-F	5'-GAAAGGGACACACGCCACC-3'
Smad3-R	5'-GCTTCTAGACCTCAAGGGTCG-3'
Rorc-2F	5'-GGTGAGGTAGGACCGAGTCT-3'
Rorc-2R	5'-CCCATCCTCTCGATCAAGCC-3'