Supplemental Figure 1. Whole mouse genome meDIP-on-chip and genome tilling array screen for DMRs using PG- and AG-derived stem cells and sperm.

A. Known imprinted DMRs in PG- and AG-derived cells were characterized by the COBRA method. The bisulphite-treated DNA amplified by PCR was digested with restriction enzymes (as representative results IG-DMR: *Taq*I and *Lit1*: *HpyCH4*IV) that cut only when the site in the genomic sample is methylated. The sizes of digested fragments are indicated on right (IG-DMR: 337 bp and *Lit1*: 185 bp). TS; DNA of TS cells, PG; DNA of PG-derived cells, AG; DNA of AG-derived cells, Sp; DNA of mature sperm.

B. Known imprinted DMRs and non-imprinted methylated regions estimated by meDIP quantitative real-time PCR method against DNA precipitated by the antibody against 5-methyl-cytosine. Black, gray and white bars represent cycle threshold (Ct) number subtracted Ct of meDIP DNA (meDIP) from that of whole genomic DNA (WG). Paternal DMRs: *H19*, IG-DMR and *Rasgrf1*. Maternal DMRs: *Nespas*, *Peg10*, *Peg3*, *Lit1*, *U2af1-rs1* and *Igf2r* (DMR2). Non-DMRs: *Nanog*, *Rest*, *Aicda*, *Tdrd12*, *Gdf3*, *Slc2a3*, *Aicda*, *Tdrd12* and *Utf1*.

Black, gray and white bars indicate data for sperm, AG- and PG-derived cells, respectively, which are different number of real-time PCR cycles of meDIP and amplified DNA, using Whole Genome Amplification kit.

Supplemental Figure 2. Three paternally methylated DMRs in the *Gpr1-Zdbf2* imprinted domain.

A. Bisulphite-PCR sequencing results for DMR1 (region 7) on genomic DNA prepared from E13.5 B6/JF1 fetus and placenta, and adult brain, liver, lung, heart and spleen. Each row represents a unique methylation profile within the pool of 20 clones sequenced. Closed and open circles represent methylated and unmethylated CpGs, respectively.

B. Bisulphite-PCR sequencing results for 16 regions on genomic DNA prepared fromB6 sperm and the kidney from B6/JF1 adult mouse.

Supplemental Figure 3. Tissue specific-imprinted expression of the mouse *Gpr1*.

A. Direction expression analysis of mouse *Gpr1* gene. The 1st cDNA strands syntheses were performed using either the sense (S) or the antisense (AS) primer of the mouse *Gpr1* gene. Arrow indicates the cDNA product of *Gpr1* gene amplified by RT-PCR on right.

B. Analysis of mouse *Gpr1* gene. cDNA and genomic PCR products were amplified and sequenced directly from E13.5 embryos, placenta and yolk sac and adult materials obtained from B6/JF1 and JF1/B6 mice. Expression was biallelic in all tissues examined.

Supplemental Figure 4. Dot-plot comparison of the mouse DMR1 and human DMRh1.

Dots were placed at locations with identical nucleotides when more than 28 of 70 nucleotides were identical.

Supplemental Table S1. Primer sequences and PCR conditions.

Supplemental Table S2. DNA polymorphisms between B6 and JF1 strain and position of GenBank accession number AL669947.



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Supplementary Table S1. Primer sequences and PCR conditions.							
Locus	PCR		Primer sequnece (5'-3')	Annealing temp (Cycles Amp	olicon (bp)	
Methyalation ass	say						
Mouse			TTA A OOTA TTTTTTTTTTTTTTTTTTTTTTTTTTTT				
IG-DINR (Gti2)	1St	IG-DIMR CBSF1		55°C	30		
	2nd	IG-DIVIR COSK I	TTACCACTTAACCCAAAACAAACAAATACTAT				
	Znu	IG-DMR cBSR2	TATACACAAAAATATATCTATATAACACCATA(55°C	30	482	
H19 DMR		H19 BisOF1	TIGTGAGTGGAAAGATTAAATTGTTG				
		H19 BisOR2	ATCTTACCACCCCTATAAATCCCT	57°C	40	423	
Rasgrf1 DMR	1st	Rasgrf-1 BSF1	ATGTGGTTTTGTTAGTTGAA	rr°0	20		
		Rasgrf-1 BSR1	CAAAAACAACAATAATAACT	55 C	30		
	2nd	Rasgrf-1 BSF1	ATGTGGTTTTGTTAGTTGAA	55°C	30	467	
		Rasgrf-1 BSR2	CAATAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	000	00	407	
Nespas DMR		Nespas BSF	AGGGATGGTTTATGGGGGGTTTTTGATT	57°C	40	337	
		Nespas BSR					
GHASTA DIVIR		Gnas1A-C_F		60°C	40	519	
Pea10 DMR		Peg10-F F	GTATTTAATTTGGAAAGTTGTAGGAGAG				
r og ro Dinit		Peg10-E R	CTCCCAACCACCAAATCCCT	60°C	40	603	
Pea1 DMR	1st	Peg1/Mest BSF1	GATTTGGGATATAAAAGGTTAATGAG	55°0	00		
		Peg1/Mest BSR1	TCATTAAAAACACAAAACCTCCTTTAC	55 0	30		
	2nd	Peg1/Mest BSF2	TTTTAGATTTTGAGGGTTTTAGGTTG	55°C	20	562	
		Peg1/Mest BSR2	AATCCCTTAAAAATCATCTTTCACAC	33.0	30	505	
Peg3 DMR	1st	KH63 Peg3 F1	TTTTTAGATTTTGTTTGGGGGGTTTTTAATA	57°C	30		
		KH64 Peg3 R1	AATCCCTATCACCTAAATAACATCCCTACA	0.0	00		
	2nd	KH65 Peg3 F2		57°C	30	451	
Somo DMD	1.01	KH66 Peg3 R2					
Shiph Divik	151	KH100 Sprpp P1		57°C	30		
	2nd	KH101 Snrpn F2	ΔΑΤΤΑΤΑΤΤΤΑΤΤΑΤΤΑΤΤΤΑGATTGATAGTGAT				
	2110	KH102 Snrpn R2	TTTACAAATCACTCCTCAAAACCAA	57°C	30	294	
Lit1 DMR	1st	Lit-BS4	TAAGGTGAGTGGTTTAGGAT	67°0	00		
		Lit-BS2	AATCCCCCACACCTAAATTC	570	30		
	2nd	Lit-BS4	TAAGGTGAGTGGTTTAGGAT	57°C	30	336	
		Lit-BS21	CCACTATAAACCCACACATA	57 0	30	330	
Zac1 DMR	1st	Zac1 BSF1	GGGTAGGTAAGTAGTGATAA	54°C	30		
		Zac1 BSR1	CCTAAAACACCAAAATAACA				
	2nd	Zac1 BSF2		54°C	30	383	
1/2of1 ro1 DMP	1 ct	LI2of1 ro1 BSE1					
Ozarr-131 Divit	131	1/2af1-rs1 BSR1	TACATAAACCTACCCATACA	55°C	30		
	2nd	U2af1-rs1 BSF3	ATTGTAGATATTTGGATGAT	==0=			
		U2af1-rs1 BSR1	TACATAAACCTACCCATACA	55 0	30	502	
lgf2r DMR2	1st	lgf2r 13B-4	TAGAGGATTTTAGTATAATTTTAA	55°C	20		
		lgf2r 13B-2	CACTTTTAAACTTACCTCTCTTAC	55 0	50		
	2nd	lgf2r 13B-5	GAGGTTAAGGGTGAAAAGTTGTAT	57°C	30	490	
		Igf2r 13B-2	CACTITIAAACTTACCTCTCTTAC				
Impact DIVIR		Impact-C F		60°C	40	405	
DMP region 1		Impact-C R					
Divit Tegion		R0-6467 BSR1		55°C	40	291	
DMR region 2		R1-0208 BSF1	GTTTTAGTGTAGTTTTTGGGTTTTTTT	50%0	40	505	
0		R1-0208 BSR1	CCAAACAAAACAACAAACCACAACT	58.0	40	505	
DMR region 3		1700039I01Rik BSF	TTTGTTTGGTATGTGTAGAAGATTT	55°C	40	451	
		1700039I01Rik BSF	ACAAATCATACTATCTACAAAAAAAC	33 0	40	401	
DMR region 4		R1-2831 BSF1	GGAGTAGTATATTTAGTTTTTGTTTTAT	57°C	40	241	
DMD		R1-2831 BSR1	AAAAAATAAAAAAAAAAACACTAATAAT				
DIMR region 5		R1-3235 BSF1		57°C	40	380	
DMR region 6		R1-3233 DSR1	TGTGTATAGGTTTGTATGGTTTGTT				
Diving region o		R1-3948 BSR1	ΑΤΑΑΤCΑΑCTACYAAAAAAAACCCTAA	55°C	40	365	
DMR region 7 DMR region 8		1P1 BSF2	GATTTAGATTTAGTTGGTTAGTTTTATAT	67°0	40	0.40	
		1P1b BSR1	CAAACTTAACTACAAATACCTTTATTACC	570	40	840	
		R2-1331 BSF1	TTATATTATGGTTTGGGGAAGAGTT	55°C	40	406	
		R2-1331 BSR1	AAAACTAAAACTAAAAAAAATTCTTAAC	33 0	40	400	
DMR region 9		R2-3337 BSF1	AAAGGGATATATGATTTTTATGTAAA	55°C	40	414	
DMD series (C		K2-3337 BSR1					
UNIK region 10		RZ-3042 BSF1		55°C	40	503	
DMR region 11		1P1down RSF1	TAAATAAATATAAAGGGGTTGGTTAGTT				
Divit Tegion 11		1P1down BSR1	AAATCAAACTACAAACTCCAAACTA	55°C	40	334	
DMR region 12		R3-0105 BSF1	GGTAGGAAGAGTAAATAAGGTTTTT	57%0	40	007	
		R3-0105 BSR1	СТССААААТААСААААТАСТАСААТАА	57°C	40	381	
DMR region 13		R3-0619 BSF1	TTATTGAGATGGAGTTATAGTGAAT	55°C	40	386	
		R3-0619 BSR1	TACTTAAACAATTCTAAAATCAATATAA	000	40	000	

DMR region 14	R3-2035 BSF1	TATTTTTGTTGTGGTTTTGAGGATT	58°C	40	492
DMR region 15	R3-2035 BSR1 CpG3com BSF1	ACATACTTACTAATAAATCCCATAAATATA AATTAAGATATTTAGATTATGGATAGAATTTT	57°C	40	339
DMR region 16	R3-7276 BSF1	TATAAACTCTCCAAAACCAAAAAAAAA TATAATGTGAGTGGATTGTTAATTT AATACCAAAATAAAAAAAAAA	52°C	40	333
DMR region 17	R3-7980 BSF1 R3-7980 BSR1	TGAGTITITGTGTGTGTATATTA	55°C	40	185
DMR region 18	R4-0106 BSF1 R4-0106 BSR1	TGTGATITATGTTTTGAGTTAGTTG	55°C	40	383
DMR region 19	R4-0712 BSF1 R4-0712 BSR1	TATGGTATTTGTTTAGTGGGGTTT CAACTATTTAAAAACTATTCTTACTTCAAAC	55°C	40	411
DMR region 20	R4-1319 BSF1 R4-1319 BSR1	GTGTTTTAGTTGAAATATAGTTATGTTAG CCCTCCTAAATACTTAAAATACAAA	55°C	40	301
Human					
H19 DMR	H19 F2 H19 R1	TATATGGGTATTTTGGAGGTTTTT	57°C	40	220
DMRh1	h2Pc4 BSF1 h2Pc4 BSR1	GTTTTGTTAGTTAGATTGGAAAATA AAAATAATAATTACCTAAAAAATA	55°C	40	210
DMRh2	h2Pc1 BSF1 h2Pc1 BSR1	TTTTATTTTTTGGTTGTTGGAATA ACCTCCTAAAATAACTAAAACTATAATCATA	55°C	40	394
SNP analysis	121 01 20111				
Human					
CDD1	CDP1 c2E2	ATCTTCACGTTCCTTATCATTCACTC			
GPRI	GPK1 \$3F2		60°C	35	324
. .	GPR1 s3R0	GGTGACTGTCTTCTTCCACTTGAAC			
Gene expression					
Mouse					
Gpr1	Gpr1 exF	CGGGGTGTCATTTCAAAAGT	= 0.0 =		
-1-	Gor1 exR	AGGGCATATAAGAACAGGGAGA	59°C	35	321
Gandh	Gandh evE	GTCGTCGAGTCTACTCGTGTGTC			
Gapun	Candh avP		60°C	30	241
11	Gapunexk	GAGUUUTTUUAUAATGUUAAA			
Human					
GPR1	GPR1 exF2	GAAGGTACACCCAGGCATGACA	57°C	40	236
	GPR1 exR	TCCCAGAACAAAAGCCAAACAA	0. 0		200
GAPDH	GAPDH exF	GTCGTGGAGTCCACTGGCGTC	60°C	30	244
	GAPDH exR	GAGTCCTTCCACAATACCAAA	000	30	244
In situ hybridization pr	obe				
Mouse					
Zdhf2	Zdbf2 H-F	CCCCACCACCACCACATCCT			
21002					
Zubiz	Zdbf2 H-R		60°C	40	593
Cort	Zdbf2 H-R	AAAAGACGCACCCTTAGCCCTAA	60°C	40	593
Gpr1	Zdbf2 H-R Gpr1 exF2	AAAAGACGCACCCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG	60°C 60°C	40 35	593 453
Gpr1	Zdbf2 H-R Gpr1 exF2 Gpr1 exR2	AAAAGACGCACCCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC	°00 0°00	40 35	593 453
Gpr1 Methylated-DNA immu	Zdbf2 H-R Gpr1 exF2 Gpr1 exR2 noprecipitation	AAAAGACGCACCCTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC	60°С 60°С	40 35	593 453
Gpr1 Methylated-DNA immu Mouse	Zdbf2 H-R Gpr1 exF2 Gpr1 exR2 noprecipitation	CAAAGACGCACCCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC	°0°C 60℃	40 35	593 453
Gpr1 Methylated-DNA immu Mouse H19 DMR	Zdbf2 H-R Gpr1 exF2 Gpr1 exR2 noprecipitation ChIP-H19m3F1	AAAGACGCCACCCTAACCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG	60°C 60°C	40 35 40	593 453 159
Gpr1 Methylated-DNA immu Mouse H19 DMR	Zdbf2 H-R Gpr1 exF2 Gpr1 exR2 noprecipitation ChIP-H19m3F1 ChIP-H19m3R1	AAAGACGCCACCCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGGCCACGATATATAGGAGTATGCT	60°C 60°C 65°C	40 35 40	593 453 159
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2)	Cdbf2 H-R Gpr1 exF2 Gpr1 exR2 noprecipitation ChIP-H19m3F1 ChIP-H19m3R1 MeDIP IG-DMR F1	AAAGACGCCACCCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG	60°C 60°C 65°C	40 35 40	593 453 159
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2)	Zdbf2 H-R Gpr1 exF2 Gpr1 exR2 noprecipitation ChIP-H19m3F1 ChIP-H19m3R1 MeDIP IG-DMR F1 MeDIP IG-DMR F1	AAAGACGCCACCCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTACCACCGCCAACCTCC	60°C 60°C 65°C 65°C	40 35 40 40	593 453 159 136
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR	Zdbf2 H-R Gpr1 exF2 Gpr1 exR2 noprecipitation ChIP-H19m3F1 ChIP-H19m3R1 MeDIP IG-DMR F1 MeDIP IG-DMR R1 MeDIP Rasqrf1 F1	AAAGACGCCACCCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTAACGCCGGAACCTCC CAGAGAGTATGTAAAGCCAGAGC	60°C 60°C 65°C 65°C	40 35 40 40	593 453 159 136
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR	Zdbf2 H-R Gpr1 exF2 Gpr1 exR2 noprecipitation ChIP-H19m3F1 ChIP-H19m3F1 MeDIP IG-DMR F1 MeDIP IG-DMR R1 MeDIP Rasgrf1 R1 MeDIP Rasgrf1 R1	AGGTTGGAACACTTGGCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGCCATTAGTACACGGCGAACCTCC CAGAGAGTATGTAAAGCCGAGACC CAGCAATAGCGGTAGCCACGGATG	60°C 60°C 65°C 65°C 65°C	40 35 40 40 40	593 453 159 136 188
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR	Zdbf2 H-R Gpr1 exF2 Gpr1 exF2 noprecipitation ChIP-H19m3F1 ChIP-H19m3F1 MeDIP IG-DMR F1 MeDIP Rasgr11 F1 MeDIP Rasgr11 F1 MeDIP Rasgr11 R1 MeDIP Respas F	AAAGACGCCACCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGGCCACGATATATAGGAGTATGCT CGCCTATGAACTACCGCTACG CGGCATTAGTACACGGCGAACCTCC CAGAGAGTATGTAAAGCCAGAGC CAGCAATAGCGGTAGCCAGAGC CAGCAATAGCGGTAGCCAGAGC	60°C 60°C 65°C 65°C 65°C	40 35 40 40 40	593 453 159 136 188
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR	Zdbf2 H-R Gpr1 exF2 Gpr1 exR2 noprecipitation ChIP-H19m3F1 ChIP-H19m3R1 MeDIP IG-DMR F1 MeDIP G-DMR R1 MeDIP Rasgrf1 R1 MeDIP Rasgrf1 R1 MeDIP Nespas F MeDIP Nespas F	AAAGACGCCACCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTACACGGCGAACCTCC CAGAGAGTATGTAACGCCGGAAC CAGCAATAGCGGTAGCCACGGATG GCCTGACCCCACGCACATA	60°C 60°C 65°C 65°C 65°C 65°C	40 35 40 40 40 40	593 453 159 136 188 149
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR	Zdbf2 H-R Gpr1 exF2 Gpr1 exR2 noprecipitation ChIP-H19m3F1 ChIP-H19m3F1 MeDIP IG-DMR F1 MeDIP Rasgrf1 F1 MeDIP Rasgrf1 F1 MeDIP Nespas F MeDIP Nespas R MeDIP Nespas R	AGGTTGGAACACTTGGAGTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGCCATTAGTACACGGCGAACCTCC CAGAGAGTATGTAAAGCCAGAGC CAGCAATAGCGGTAGCCACGAGC GCCAACTACCCCAGCCCAATAGC GCCAACTACCCCTCCCCCACATA GCGCCCCCACACACGC	60°C 60°C 65°C 65°C 65°C 65°C	40 35 40 40 40 40	593 453 159 136 188 149
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR	Zdbf2 H-R Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Moprecipitation ChIP-H19m3F1 ChIP-H19m3F1 MeDIP IG-DMR F1 MeDIP Rasgr11 F1 MeDIP Rasgr11 R1 MeDIP Nespas F MeDIP Nespas R MeDIP Nespas R MeDIP Peg10 F2 MeDIP Peg10 F2	AAAGACGCCACCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGCCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTACACGGCGAACCTCC CAGAGAGTATGTAAAGCCAGAGC CAGCAATAGCGGTAGCCAGAGC GCCAATACCCCCCCCCACATAGC GCCACTACCCCCCCCCACATA TGAGCTCCCCCAAATACGC GCCAGTCACCCCCCACATA	60°C 60°C 65°C 65°C 65°C 65°C 65°C	40 35 40 40 40 40 40	593 453 159 136 188 149 74
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR	Zdbf2 H-R Gpr1 exF2 Gpr1 exR2 noprecipitation ChIP-H19m3F1 MeDIP IG-DMR F1 MeDIP IG-DMR F1 MeDIP Rasgrf1 F1 MeDIP Rasgrf1 R1 MeDIP Nespas F MeDIP Nespas F MeDIP Peg10 F2 MeDIP Peg10 R2 ChIP Peg10 R2	AAAGACCCACCCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTACACGGCGAAACCTCC CAGAGAGTATGTAAGCCAGAGC CAGCAATAGCGGTAGCCACGGATG GCCTGACCCCAGCCAATAGC GCCAACTACCCTCCCCACATA TGAGCTCCCCAATACGC GCAGTGCAATCCGTTCGTA ATGGGGCCCTGGACTCGTTAGG	60°C 60°C 65°C 65°C 65°C 65°C 65°C	40 35 40 40 40 40 40	 593 453 159 136 188 149 74
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR	Zdbf2 H-R Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Moprecipitation ChIP-H19m3F1 ChIP-H19m3F1 MeDIP IG-DMR F1 MeDIP Rasgr17 F1 MeDIP Rasgr17 F1 MeDIP Respas R MeDIP Nespas R MeDIP Nespas R MeDIP Peg10 F2 MeDIP Peg10 R2 ChIP Peg3 F1 ChIP Peg3 F1	AAAGACGCCACCCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTACACGGCGAACCTCC CAGAAGTATGTAAAGCCAGAGC CAGCAATAGCGGTAGCCACGAGC GCGTGACCCCAGCCCAATAGC GCCAACTACCCCTCCCCCACATA GGCGTGCCCCCAATACGC GCAGTGCAATCCGTTCGTA ATGGGGTCTTGGATTGGTTAG TCTCCCCTTCTCCCCCGATGCT	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C	40 35 40 40 40 40 40 40 40	 593 453 159 136 188 149 74 136
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Litt DMR	Zdbf2 H-R Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Moprecipitation ChIP-H19m3F1 ChIP-H19m3F1 MeDIP IG-DMR F1 MeDIP IG-DMR F1 MeDIP Rasgrf1 F1 MeDIP Rasgrf1 R1 MeDIP Nespas F MeDIP Nespas F MeDIP Peg10 F2 MeDIP Peg10 F2 ChIP Peg3 F1 ChIP Peg3 F1	AAAGACCCACCCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTACACGGCGAACCTCC CAGAGAGTATGTAAAGCCAGAGC GCGTGACCCCAGCCAATAGC GCCAACTACCCTCCCCACATA TGAGCTCCCCAAATACGC GCAGTGCAATCCGTTCGTA ATGGGGTCTGGATTGGTTAG TCCCCCTTCTCCCCGATGCT	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C	40 35 40 40 40 40 40 40 40	593 453 159 136 188 149 74 136
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR	Zdbf2 H-R Gpr1 exF2 Gpr1 exR2 noprecipitation ChIP-H19m3F1 ChIP-H19m3F1 MeDIP IG-DMR F1 MeDIP IG-DMR R1 MeDIP Rasgrf1 R1 MeDIP Nespas F MeDIP Nespas R MeDIP Peg10 F2 MeDIP Peg3 F1 ChIP Peg3 R1 ChIP Peg3 R1	AAAGACGCCACCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTACACGGCGAACCTCC CAGAGATATGTAAAGCCAGAGC CAGCAATAGCGGTGACCCACAGGATG GCCATGCCCCAGCCAATAGC GCCAACTACCCGTCCCACATA TGAGCTCCCCAAATACGC GCAGTGCAATCCGTTCGTA ATGGGGTCTTGGATTGGTTAG TCTCCGCTCCCCCAGGTGAGT CCGTCGACCCCCAGGTGAGT	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C	40 35 40 40 40 40 40 40 40 40	 593 453 159 136 188 149 74 136 184
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR	Zdbf2 H-R Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Moprecipitation ChIP-H19m3F1 ChIP-H19m3F1 MeDIP IG-DMR F1 MeDIP Rasgr11 F1 MeDIP Rasgr11 F1 MeDIP Respas F MeDIP Respas R MeDIP Peg10 F2 ChIP Peg3 F1 ChIP Peg3 R1 ChIP Peg3 R1 ChIP Lit1 F2 ChIP Lit1 F2	AAAGACGCACCCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGCCACCATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTACACGGCGAACCTCC CAGAGAGTATGTAAAGCCACGAGC GCCATCACCCCCACCCCA	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C	40 35 40 40 40 40 40 40 40 40	593 453 159 136 188 149 74 136 184
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR U2af1-rs1 DMR	Zdbf2 H-R Gpr1 exF2 Gpr1 exR2 noprecipitation ChIP-H19m3F1 ChIP-H19m3R1 MeDIP IG-DMR F1 MeDIP Rasgrf1 F1 MeDIP Rasgrf1 R1 MeDIP Nespas F MeDIP Nespas F MeDIP Peg10 F2 MeDIP Peg10 F2 MeDIP Peg3 F1 ChIP Peg3 F1 ChIP Peg3 R1 ChIP Lit1 F2 ChIP Lit1 R2 MeDIP U2nf1-rs1 F:	AGGATGCACACTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTAACGCGGAACCTCC CAGAAGTATGTAAAGCCAGAAC CAGCAATAGCGGTAGCCACGGATG GCCTGACCCCAGCCAATAGC GCCAACTACCCTCCCCACATA TGAGCTCCCCAAATACGC GCAGTGCAATCCGTTCGAT ATGGGGTCTTGGATTGGTTA TCCGCCTTCTCCCCCGATGCT TCCGCTTCCCCCACATACG CAGTCACCACATAACAACACG AGGCTCACACACTACCACGACGACT CCCGCTTCCCCCACATACG CAGTCACACCACTACCCACGATGC TCCGCTTCCCCCCCCACATCA CCCGCTTCCCCCCCCACATCA CCCGCTTCCCCCCCCCC	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C 65	40 35 40 40 40 40 40 40 40 40 40	 593 453 159 136 188 149 74 136 184 151
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR U2af1-rs1 DMR	Zdbf2 H-R Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Moprecipitation ChIP-H19m3F1 ChIP-H19m3F1 MeDIP G-DMR F1 MeDIP Rasgr17 F1 MeDIP Rasgr17 F1 MeDIP Respas R MeDIP Respas R MeDIP Peg10 F2 MeDIP Peg10 F2 ChIP Peg3 F1 ChIP Peg3 F1 ChIP Peg3 R1 ChIP Lit1 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP Lit1 F2	AAAGACGCACCCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGCCAATGAAGGAATTAAC AGGTTGGAACACCTTGTGTTTCTGGAG TGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTACACGGCGAACCTCC CAGAGAGTATGTAAAGCCAGAGC CAGCAATAGCCGTACCACGGATG GCCTAACCCCCAGCCCAATAGC GCCAACTACCCCCCCACATAGC GCCAACTACCCCCCACATAGC GCCAACTACCCCCCCACATAGC GCCAACTACCCCCCCACATAGC GCCAGTGCAATCCGTTCGTA ATGGGGTCTTGGATTGGTTAG TCCCGCTTCCCCCCAGGTGAGT ACCGCAGCACTACCCCCCACGAGC ACGCGCAGCATACCACCG AGGCTGGAGTCCCCAGGTGAGT ACCGCACCACCACTACCACG AGGCCTGGCATTCGTACG ACCGCAGTATGTTAGTTACG	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C 65	40 35 40 40 40 40 40 40 40 40 40	593 453 159 136 188 149 74 136 184 151
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgnf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR U2af1-rs1 DMR Igf2r DMR2	Zdbf2 H-R Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Moprecipitation ChIP-H19m3F1 ChIP-H19m3F1 MeDIP G-DMR F1 MeDIP Rasgr11 F1 MeDIP Rasgr11 R1 MeDIP Nespas F MeDIP Nespas R MeDIP Peg10 F2 MeDIP Peg3 F1 ChIP Lit1 F2 ChIP Lit1 F2 MeDIP U2af1-rs1 F1 MeDIP U2af1-rs1 F1 MeDIP U2af1-rs1 F1 MeDIP U2af1-rs1 F1 MeDIP U2af1-rs1 F1	AGGAGCACACCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACCTTGTGTTTCTGGAG TGGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTAAACCGCAGACCTCC CAGAGAGTATGTAAAGCCAGAGC CAGCAATAGCGGTAGCCAGAGC GCCAACTACCCCCCCACATAGC GCCAACTACCCTCCCCCACATAG GCCAGTGCAATCCGTCGTA ATGGGGTCTGGATTGGTTAG TCTCCGCTTCTCCTCGATGCT CGGCTGAGTCCCAAGCGTGAGT ACAGCTACCCACTAACAACAC AGGGCTAGCATTCTTACTG ATCCGCAGTACCACTGATCG	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C 65	40 35 40 40 40 40 40 40 40 40 40 40	593 453 159 136 188 149 74 136 184 151 127
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR U2af1-rs1 DMR Igf2r DMR2	Zdbf2 H-R Gpr1 exF2 Gpr1 exR2 noprecipitation ChIP-H19m3F1 ChIP-H19m3F1 MeDIP IG-DMR F1 MeDIP IG-DMR R1 MeDIP Nasgrf1 R1 MeDIP Nasgrf1 R1 MeDIP Nespas F MeDIP Peg10 F2 MeDIP Peg10 F2 MeDIP Peg3 R1 ChIP Peg3 R1 ChIP Peg3 R1 ChIP Peg3 R1 ChIP Lit1 F2 ChIP Peg3 R1 ChIP Lit1 R2 MeDIP U2af1-rs1 F MeDIP U2af1-rs1 F ChIP-Iqf2r DMR2F	AGGAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCA	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C 65	40 35 40 40 40 40 40 40 40 40 40 40	593 453 159 136 188 149 74 136 184 151 127
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR U2af1-rs1 DMR Igf2r DMR2 Nanog	Zdbf2 H-R Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr	AAAGACGCACCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGCCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGCCACCATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTACACGCGGAACCTCC CAGAGAGTATGTAAAGCCAGAGC CCGCACTCCCCACCACATAGC GCCAATCACCCCCACCACATAGC GCCAATCACCCCCACCACATAGC GCCACTACCCCCCCCCC	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C 65	40 35 40 40 40 40 40 40 40 40 40 40	593 453 159 136 188 149 74 136 184 151 127 147
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR U2af1-rs1 DMR Igf2r DMR2 Nanog	Zdbf2 H-R Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Moprecipitation ChIP-H19m3F1 ChIP-H19m3F1 MeDIP IG-DMR F1 MeDIP IG-DMR F1 MeDIP Rasgr17 F1 MeDIP Rasgr17 R1 MeDIP Nespas F MeDIP Nespas F MeDIP Nespas F MeDIP Peg10 F2 MeDIP Peg10 F2 MeDIP Peg3 F1 ChIP Peg3 F1 ChIP Peg3 F1 ChIP Lit1 F2 ChIP Lit1 R2 MeDIP U2af1-rs1 F MeDIP U2af1-rs1 F ChIP-lqf2r DMR2F ChIP-lqf2r DMR2F Nanog-F5	AGGATGCAACACGACCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTACACGGCGAACCTCC CAGAGAGTATGTAAAGCCAGAGC CAGCAATAGCGTAGCCACGGATG GCGTGCACCCCAGCCAATAGC GCCAACTACCCTCCCCCACATA TGAGCTCCCCAAATACGC GCAGTGCAATCCGTTCGAT ATGGGGTCTTGGATTGGTTAA TCGGGTCTGGATTCGTCA CAGCTACCCACCAACACG AGGGCTGCAACCCACGACG AGGCCGAGCATTCTTACTG ATCCGCATTACTACACACACG AGGCTGCAACTGCTAACCACG AGGCGCAGCAATTCTTACTG ATCCGCAGTATGTCTGATCG ATCCGCAGTATGTCTGATCG ACCCCAGGGGAGGGTCCACTGAT TCAGGCAACAGAGAAAACCT GGGAAACCTGGGGAAATCT	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C 65	40 35 40 40 40 40 40 40 40 40 40 40 40	593 453 159 136 188 149 74 136 184 151 127 147
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR U2af1-rs1 DMR Igf2r DMR2 Nanog Rest	Zdbf2 H-R Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Moprecipitation ChIP-H19m3F1 ChIP-H19m3R1 MeDIP IG-DMR F1 MeDIP Rasgr17 F1 MeDIP Rasgr17 F1 MeDIP Respas F MeDIP Respas R MeDIP Peg10 F2 ChIP Peg10 F2 ChIP Peg3 F1 ChIP Peg3 F1 ChIP Peg3 R1 ChIP Lit1 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP-Igf2r DMR2F ChIP-Igf2r DMR2F ChIP-Igf2r DMR2F Nanog-F5 Nanog-R5 REST-F	AGGATIGACACACTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTACACGGCGAACCTCC CAGAGAGTATGTAAGCCAGAGC CAGCAATAGCGGTAGCCACGGATG GCGTGACCCCAGCCAATAGC GCCAACTACCTCCCCCACATA TGAGCTCCCCAATACGC GCCAGTGCAATCCGTTCGTA TCCGCGTCTGCGTCGGTTGGTTAG TCCCGCTGCCCCAGTGCT TCCGCTGACCCCAGGTGGCT TCCGCGCGACCATAACAACACG AGGGCTACCCACAGACAACACG AGGGCTACCACATAACAACACG AGGGCTAGCACTAGCCAGAAATCTTCA TACGCGAGTGAGGGTTCCACTGAT TCAGGCAACAGGGAAAACCT GGGAACCTGGGAAATCT GCCGTGCTTTATTGTGC	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C 65	40 35 40 40 40 40 40 40 40 40 40 40 40	593 453 159 136 188 149 74 136 184 151 127 147 91
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR U2af1-rs1 DMR Igf2r DMR2 Nanog Rest	Zdbf2 H-R Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Moprecipitation ChIP-H19m3F1 ChIP-H19m3F1 MeDIP IG-DMR F1 MeDIP Rasgr11 F1 MeDIP Rasgr11 F1 MeDIP Nespas R MeDIP Peg10 F2 MeDIP Peg10 F2 ChIP Peg3 F1 ChIP Peg3 R1 ChIP Peg3 R1 ChIP Peg3 R1 ChIP Lit1 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP-Ig12r DMR2F ChIP-Ig12r DMR2F Nanog-F5 Nanog-F5 REST-F	AAAGACGCACCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTACACGGCGAACCTCC CAGAGAGTATGTAAAGCCAGAGC CAGCACTACCCCCCCCCAATAGC GCCAACTACCCCCCCCCC	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C 65	40 35 40 40 40 40 40 40 40 40 40 40 40 40	 593 453 159 136 188 149 74 136 184 151 127 147 91
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR U2af1-rs1 DMR Igf2r DMR2 Nanog Rest Aicda	Zdbf2 H-R Gpr1 exF2 Gpr1 exR2 noprecipitation ChIP-H19m3F1 ChIP-H19m3F1 ChIP-H19m3R1 MeDIP IG-DMR F1 MeDIP Rasgrf1 F1 MeDIP Rasgrf1 R1 MeDIP Nespas F MeDIP Nespas F MeDIP Nespas F MeDIP Peg10 F2 MeDIP Peg10 F2 MeDIP Peg10 R2 ChIP Peg3 F1 ChIP Peg3 R1 ChIP Pig12 rDM2F ChIP-Ig12r DMR2F ChIP-Ig12r DMR2F ChIP-Ig12r DMR2F ChIP-Ig12r DMR2F Ranog-F5 REST-F REST-F REST-F REST-F	AGGAGACACACTTACCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCACTAGTACACGGCAGACCTCC CAGAGAGTATGTAAAGCCAGAACC CAGCAATACCGGTAGCCACGGATG GCCTGACCCCAGCCAATAGC GCCAACTACCCCCCCCCACATAGC GCCAGTGCACTCCGTCGATA TGAGCTCCCCAAATACGC GCCAGTGCACTCCGTCGATA ATGGGGTCGCCCCGGAGACTG TCCGCTTCGCTT	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C 65	40 35 40 40 40 40 40 40 40 40 40 40 40 40	 593 453 159 136 188 149 74 136 184 151 127 147 91 422
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR U2af1-rs1 DMR Igf2r DMR2 Nanog Rest Aicda	Zdbf2 H-R Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr	AAAGACGCACCCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACCTTGTGTTTCTGGAG TGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTACACGGCGAACCTCC CAGAGAGTATGTAAAGCCAGAGC CAGCAATAGCCGTACCACGGATC GCCGTCACCCCAGCCCAATAGC GCCAACTACCCCTCCCCCACATA TGAGCTCCCCAAATAGCG GCCAACTACCCTTCCTA ATGGGGCTCTGCAATCGCT TCGGCTGCAATCGTTCGTA ATGGGGTCTTGGATTGGTTAG TCCCCCAGTCCCCACGATG GCAGTGCAATCCGTTCGTA ACGCGAGCAGCAGGGTCACCCGAGGT ACCGCAGTATCCTTCATA ACGGGGCTGAGCCCCAGAGT ACCGCAGGTGAGGCACCAGGT ACCGCAGGTGAGGCACCAGTC GGCAAGCACGAGGAAAACCT GGCAAGCAGCAGCGAGGAAATC	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C 65	40 35 40 40 40 40 40 40 40 40 40 40 40 40 40	 593 453 159 136 188 149 74 136 184 151 127 147 91 133
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgnf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR U2af1-rs1 DMR Igf2r DMR2 Nanog Rest Aicda Tdrd12	Zdbf2 H-R Gpr1 exF2 Gpr1 exF2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr	AAAGACCCACCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTAACGCGGAACCTCC CAGAGAGTATGTAAAGCCAGAGC CAGCAATAGCGTAGCCACGGATG GCCAACTACCCCCCCCACATAGC GCCAACTACCCCCCCCCACATAGC GCCACTACCCTCCCCCACATAGC GCCAGTGCAATCGTTCGTA ATGGGGTCTGGATTGGTTAG TCTCCGCTTCTCCTCCGATGCT CGGCTGAGCCATCGTTAG TCGGCGAGGCCACAGGTGAGCT ACAGCTACCCCCAGCCCAG	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C 65	40 35 40 40 40 40 40 40 40 40 40 40 40 40 40	 593 453 159 136 188 149 74 136 184 151 127 147 91 133 149
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR U2af1-rs1 DMR Igf2r DMR2 Nanog Rest Aicda Tdrd12	Zdbf2 H-R Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Moprecipitation ChIP-H19m3F1 ChIP-H19m3F1 MeDIP G-DMR F1 MeDIP Nespas F MeDIP Nespas R MeDIP Nespas R MeDIP Nespas R MeDIP Nespas R MeDIP Peg10 F2 ChIP Peg10 F2 ChIP Peg10 F2 ChIP Peg10 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP Lig2r DMR2F ChIP-Ig2r DMR2F Nanog-F5 Nanog-F5 REST-F REST-F Aicda-F Aicda-R ECAT8-F	AGGAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCA	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C 65	40 35 40 40 40 40 40 40 40 40 40 40 40 40 40	 593 453 159 136 188 149 74 136 184 151 127 147 91 133 109
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR U2af1-rs1 DMR Igf2r DMR2 Nanog Rest Aicda Tdrd12 Gdf3	Zdbf2 H-R Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr	AAAGACGCACCCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGCCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGCCACCATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTACACGGCGAACCTCC CAGAGAGTATGTAAAGCCAGAGC CCGCCACCCCAGCCACAGCG CGCCACCCCAGCCCACATAGC GCCAATCACCCCCCCCCC	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C 65	40 35 40 40 40 40 40 40 40 40 40 40 40 40 40	 593 453 159 136 188 149 74 136 184 151 127 147 91 133 109
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR U2af1-rs1 DMR Igf2r DMR2 Nanog Rest Aicda Tdrd12 Gdf3	Zdbf2 H-R Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 MeDIP Homesp3 MeDIP G-DMR F1 MeDIP Rasgr11 R1 MeDIP Rasgr11 R1 MeDIP Nespas F MeDIP Nespas F MeDIP Nesp3 R1 ChIP Peg3 R1 ChIP Peg3 R1 ChIP Peg3 R1 ChIP Lit1 R2 MeDIP U2af1-rs1 F MeDIP U2af1-rs1 F MeDIP U2af1-rs1 F MeDIP U2af1-rs1 F Nanog-F5 Nanog-F5 REST-F REST-F Aicda-F Aicda-F Aicda-F Aicda-F Aicda-F CAT8-F ECAT8-R Gdf3-F Gdf3-F	AGGAGACACACTACCCAAAACGACCAAACGAACCAAACGACCAAACGACCAAACGACCAAACCACGACCAAAACGACCAAACCACC	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C 65	40 35 40 40 40 40 40 40 40 40 40 40 40 40 40	 593 453 159 136 188 149 74 136 184 151 127 147 91 133 109 91
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR U2af1-rs1 DMR Igf2r DMR2 Nanog Rest Aicda Tdrd12 Gdf3 Sic2a3	Zdbf2 H-R Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Moprecipitation ChIP-H19m3F1 ChIP-H19m3F1 MeDIP IG-DMR F1 MeDIP Resgn1 MeDIP Resgn3 MeDIP Resgn3 MeDIP Resgn3 MeDIP Peg10 F2 MeDIP Peg10 F2 MeDIP Peg10 F2 ChIP Peg3 F1 ChIP Peg3 F1 ChIP Peg3 R1 ChIP Lit1 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP-Iqf2r DMR2F ChIP-Iqf2r DMR2F REST-F REST-F REST-F REST-F Aicda-F Aicda-F Aicda-F Aicda-F Gdf3-F Gdf3-F Gdf3-F Gdf3-R	AAAGACGCACCCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGCCAATGAAGGAATTAAC AGGTTGGAACACCTTGTGTTTCTGGAG TGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTACACGGCGAACCTCC CAGAGAGTATGTAAAGCCAGAGC CAGCAATAGCCGTACCACGGCACCTCC CAGAGAGTATGTAAAGCCAGAGC GCCAACTACCCCCACCAATAGC GCCGTGACCCCAGCCCAATAGC GCCAGTGCAATCGC CAGGCCCCAGCCCACATAG GCCGTGACCCCAGCCTCC CAGGGCTTGGATTGGTTAG TCGCCCCACATACGC GCCAACTACCCTCCCCACATA TGAGCTCCCCAATACGC GCCAGTGCAATCCGT TCGCTCGCTCCCCCAGTGAGT ACCGCAGTCCCAAGGTGAGT ACCGCAGGTCGAGCTCCAAGGTGAGT ACCGCAGTCCCAAGGTGAGT ACCGCAGGTGAGGCTCCACTGAT TCAGGCAGCAGCAGCCAGAGTCACCT GGCAAGCAGCAGGGAAAACCT GGCAAGCAGCAGGGAAATCT GCCGTGCTTTTATTGTGC ACGAAGCAGCAGGGAAATC GGCAAGCAGCGAGGGAAAT GGTGCCGAACCAGGGAAAT GGCCAGCAGCGAGGGAAAT GGCAGCAGCAGGGAAGCCAGTC AGGCACGCACGGGAAGCCTAC CGAGGCACAGGTGGGAAGCCTAC CGAGGCACCGAGCTGGAA GCCAGCACCGAGCTAGCTA	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C 65	40 35 40 40 40 40 40 40 40 40 40 40 40 40 40	 593 453 159 136 188 149 74 136 184 151 127 147 91 133 109 91
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR U2af1-rs1 DMR Igf2r DMR2 Nanog Rest Aicda Tdrd12 Gdf3 Slc2a3	Zdbf2 H-R Gpr1 exF2 Gpr1 G-DMR F1 MeDIP G-DMR F1 MeDIP Rasgr11 F1 MeDIP Rasgr11 F1 MeDIP Respas R MeDIP Peg10 F2 GhIP Peg10 F2 GhIP Peg10 F2 ChIP Peg10 F2 ChIP Peg10 F2 ChIP Peg10 F2 ChIP Peg10 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP-Igf2r DMR2F ChIP-Igf2r DMR2F ChIP-Igf2r DMR2F SNanog-F5 Nanog-F5 Nanog-F5 Nanog-F5 Sacda-R ECAT8-R Gdf3-F Gdf3-F Gdf3-R Slc2a3-F	AGGINGCACONGCAGONGCAGU AAAAGACGCACCCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACCTTGGTTTCTGGAAG TGGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTAAACCGCGAACCTCC CAGAGAGTATGTAAAGCCAGAGC CAGCCAATAGCGTAGCCACGGATG GCCAACTACCCCCCCCCACATAGC GCCACTACCCCCCCCCC	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C 65	40 35 40 40 40 40 40 40 40 40 40 40 40 40 40	 593 453 159 136 188 149 74 136 184 151 127 147 91 133 109 91 142
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR U2af1-rs1 DMR Igf2r DMR2 Nanog Rest Aicda Tdrd12 Gdf3 SIc2a3	Zdbf2 H-R Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr1 exF2 Gpr2 Gpr1 exF2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr2 Gpr	AGGAGACACACTTACCCTAA CATTTCAGTCTGGAGTTGGAAG TGGGCAATGAAGGAATTAAC AGGTTGGAACACTTGTGTTTCTGGAG TGGGCCACGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTACACGGCGAACCTCC CAGAGAGTATGTAAAGCCAGAGC CAGCAATACCGGTAGCCACGGATG GCGTGCACCCCAGCCAATAGC GCCAACTACCCCCCCCCC	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C 65	40 35 40 40 40 40 40 40 40 40 40 40 40 40 40	 593 453 159 136 188 149 74 136 184 151 127 147 91 133 109 91 142
Gpr1 Methylated-DNA immu Mouse H19 DMR IG-DMR (Gtl2) Rasgrf1 DMR Nespas DMR Peg10 DMR Peg3 DMR Lit1 DMR U2af1-rs1 DMR Igf2r DMR2 Nanog Rest Aicda Tdrd12 Gdf3 SIc2a3 Utf1	Zdbf2 H-R Gpr1 exF2 Gpr1 G-DMR F1 MeDIP G-DMR F1 MeDIP Rasgr11 F1 MeDIP Rasgr11 F1 MeDIP Nespas R MeDIP Peg10 F2 MeDIP Peg10 F2 MeDIP Peg10 F2 GhIP Peg10 F2 ChIP Peg10 F2 ChIP Peg10 F2 ChIP Peg10 F2 ChIP Peg10 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP Lit1 F2 ChIP-Ig12r DMR2F ChIP-Ig12r DMR2F ChIP-Ig12r DMR2F ChIP-Ig12r DMR2F ChIP-Ig12r DMR2R Nanog-F5 Nanog-F5 Nanog-F5 Nanog-F5 REST-F REST-F REST-R Aicda-F Gdf3-F Gdf3-R Sic2a3-F Sic2a3-R UTF1-F1	AGGINGCACONGCAGONGCAGONGCAGA AAAAGACGCACCCTTAGCCCTAA CATTTCAGTCTGGAGTTGGAAG TGGCCAATGAAGGAATTAAC AGGTTGGAACAACTTGTGTTTCTGGAAG TGGCCACCGATATATAGGAGTATGCT CGCTATGAACTACCGCTACG CGGCATTAGTACACGCGGAACCTCC CAGAGAGTATGTAAAGCCAGAGC CCGCACTCCCCACGCCAATAGC GCGATGCCCCAGCCCAATAGC GCCAATCACCCCCCCCCC	60°C 60°C 65°C 65°C 65°C 65°C 65°C 65°C 65°C 65	40 35 40 40 40 40 40 40 40 40 40 40 40 40 40	 593 453 159 136 188 149 74 136 184 151 127 147 91 133 109 91 142 127

Supplymental Table S2. DNA polymorphisms between B6 and JF1 strain and position of GenBank accesion number AL669947. Nucleotide No

	nucleotide no.		
Region	(AL669947)	C57BL/6	JF1
1	13907	G	Α
2	14425	Α	G
	14688-14689	-	TAATGTGTA
	14821	G	Т
6	18187-18188	-	CGG
	18310-18346	GTTTGATCCAAACGGAAGATTTCAGGGTCCTTCCCTTG	37 bp deletion
7	19155	G	A
	19243	G	С
8	19943	G	A
9	20780	G	A
11	23192	С	A
	23217-23218	GC	
	23239-23240	-	TGTGTGTGTGTGTGTGTGTGTGTGTG
12	24484	А	G
	24540	А	G
14	25259	А	G
15	26681	C	Т
	26819	С	Т
17	29060	G	А