

## **Supplementary Materials**

### **Experimental Procedures:**

**Animal Husbandry and Surgery:** Wild type male 2-month old C57BL/6J mice (Jackson Laboratory, Bar Harbor, ME) were maintained on 12 h dark-light cycles with *ad libitum* access to standard rodent chow and water. Partial hepatectomy (PH) was performed using methodology described here and previously (1-4). Briefly, mice were sedated with inhaled isoflurane (VEDCO, Inc., St. Joseph, MO) via an anesthesia vaporizer, then subjected to mid-ventral laparotomy with exposure, ligation and resection of the left and median hepatic lobes, followed by closure of the peritoneal and skin wounds. At serial times after surgery, animals were sacrificed by exsanguination under anesthesia and serum and liver tissue were harvested. Some mice were treated with 25 mg/kg of the zinc-dependent HDAC inhibitor suberoylanilide hydroxyamic acid (SAHA, Cayman Chemical, Ann Arbor, MI; 2.5 mg/mL in 0.5% methylcellulose and 0.1% Tween 80) or with vehicle (as control) administered twice daily by gavage beginning 24 hours before surgery and continued until the time of sacrifice, as we have previously described (5). At least three animals were examined for each surgical and treatment group. Post-operative hepatic tissue necrosis was observed in ~20% of the operated mice, with no difference in frequency between SAHA- and vehicle-treated mice. Therefore, this finding, which is within the range we have generally observed with this model, was considered a technical complication of the model and such animals were excluded from further analyses. All experiments were approved by the Animal Studies Committee of Washington University and conducted in accordance with institutional guidelines and the criteria outlined in the "Guide for Care and Use of Laboratory Animals" (NIH publication 86-23).

**Acetyl-Histone ChIP:** Ac-H3K9 ChIP of liver was performed as previously described (5). Briefly, frozen liver was minced, cross-linked in 1% formaldehyde, homogenized, and suspended in nuclear lysis buffer in the presence of protease inhibitors, then centrifuged to recover chromatin, which was sheared in a Bioruptor Sonicator (Diagenode) to generate uniform 100-500 base pair (bp) fragments. Equal quantities of chromatin (based on protein content) were immunoprecipitated using a ChIP-grade antibody against Ac-H3K9 or rabbit IgG as non-specific control (Abcam). The anti-Ac-H3K9 antibody was validated for specificity by dot blot against a panel of unmodified, acetylated, and methylated peptides and by immunoblot against liver tissue (as recommended by Egelhofer *et al.* (6)).

**Semiquantitative Real-Time Reverse-Transcription Polymerase-Chain-Reaction (qRT-PCR) Gene Expression Analysis:** Hepatic expression of specific genes was characterized using qRT-PCR as described previously (2;7-10). Briefly, total liver RNA purified using the TRIZOL method (Invitrogen, Carlsbad, CA) was reverse-transcribed to cDNA, an aliquot of which was added to a reaction mixture containing gene-specific forward and reverse primers, deoxynucleotides, Taq DNA polymerase, and SYBR (Bio-Rad, Hercules, CA). Quantification of cDNA was conducted by monitoring increased SYBR fluorescence during exponential phase amplification in a real-time PCR MxPro3005 machine (Stratagene, La Jolla, CA), using the comparative threshold (Ct) method (11). Data were standardized to the expression of β2-microglobulin (B2M), which has commonly been used as a reference gene in analyses of liver regeneration (12-14) and exhibits an expression pattern homologous to other genes used for this purpose (e.g. β-actin (15) and glyceraldehyde-3-phosphate dehydrogenase (16)), to calculate fold-differences in gene expression. Specificity was verified for each gene using melt-curves and by simultaneous analysis of a reaction mixture containing all components except reverse transcriptase. Gene-specific primers for these studies are listed below.

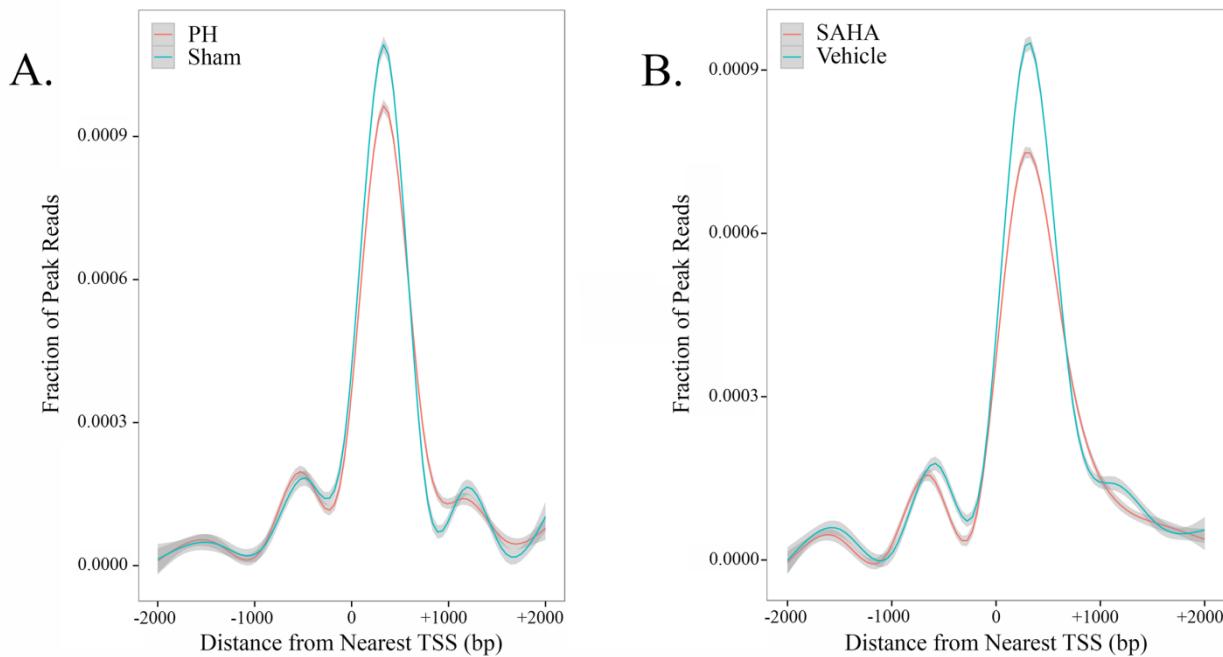
**Statistical Analysis:** ChIP-Seq data were analyzed as described in Experimental Procedures in the primary text. Data were analyzed using PASW Statistics version 18.0 (SPSS, Chicago, IL). Numerical data comparisons between groups were conducted using the unpaired Student's t-test for pair-wise comparisons and ANOVA for multiple groups with Tukey's test used for post-hoc comparisons. Rates and proportions were compared between groups using chi-square analysis. Significance (alpha) was set at 0.05. Data are reported as mean ± standard error.

## Gene-Specific Oligonucleotide Primers for qRT-PCR Analyses of mRNA expression

Gene	Forward Primer	Reverse Primer
B2M	CCAGAAAACCCCTCAAATTCAAG	AGTCAGTATGTCGGCTTCCC
Adipor2	GGAGATTTGGAGCCCAGCTT	CCATAGCATGATGGGCCTGT
Bcar1	GATGGGAGGGAACAAAGCCA	CGTACTCATCCTGCTCCGTC
Bik	CCTCATGGAGTGCCTGAAG	CTGTAGGTGACAGCGAGTCT
Bmf	CAGACCAGTCCATCGGCTT	TGTCAGGGCGAGGTTTGA
Csk	AGAAGCGTGAGGGTGTGAAG	TCTGGTGGTAAAGAACCG
Dap	CCACATACCGGAGATGGGAAG	GGGAAGTCTTGTACCCCG
Ddah1	CGTCGTGTGCGAGGAGAC	GCTGAAGTTTCCAAAGCCTCT
Dpm1	GATGATGGAAGCCCAGACGG	ATGTAGGCAGTCCGAGACC
Egfr	TCAGCAACAACCCCATCCTC	GCTTGGATCACATTGGGGC
Ern1	TGTCTCGACCCTGGATGGAA	ACCTGCAGGACTGGATCTTC
Foxo1	AGAGCGTGCCTACTTCAAG	AGTCATCGTTGCTGTGGGAC
Foxo3	AAACGGCTCACTTGTCCA	ATTCTGAACGCGCATGAAGC
Gadd45g	CTCTGGAAGAAGTCCGTGGC	TTCAGGACTTGGCGGACTC
Gclc	GATGTGGACACCCGATGCAG	CTCTCTCATCCACCTGGCAA
Igf1	TTTGCBBBBCTGAGCTGGT	GCCCTCCGAATGCTGGAGCC
Jmy	TTGCAGAGGCCACAAGTGA	TCAATTCTCGAGGGCCCAA
Lcn2	CAGAAGGCAGCTTACGATGT	GATCCAGTAGCGACAGCCC
Myc	AGTGCTGCATGAGGAGACAC	CAGGGGTTTGCCTCTTCTCC
Ndfip1	ATGCTCCTCCACCATACAGC	ACGATGGGGCTTGAAAT
Nlrp12	AGGACAGGGAGAAGACCTGG	GGGAGAGACATCCAAAGGGC
Nr3c1	TGGAATAGGTGCCAAGGGTC	CTGGTCTCATTCCAGGGCTT
Pik3r1	TGTGGCACAGACTTGGTGT	TTCAGCATCTGCAAGGACA
Prox1	CACCGCAGAAGGACTCTCTT	GGTGATAGCCCTCCTGCAT
Sesn2	CGAGTGCCATTCCGAGATCA	CACTGGAATGAAAGCGCTGG
Sik1	GGGAGGTCCAGCTCATGAAA	GTGCCCGTTGGAAGTCAGAT
Tcf7l2	AAACAGCTCCTCCGATTCCG	AAAGAGCCCTCCATCTGCC
Tmbim6	CAGGGGCCTATGTCCATGTG	CCCAGTCTTTGCTCGGT
Traf4	TGAGGACCAACTCCTCTGGA	TGTTCAAGTGGCCCTGTAGAT

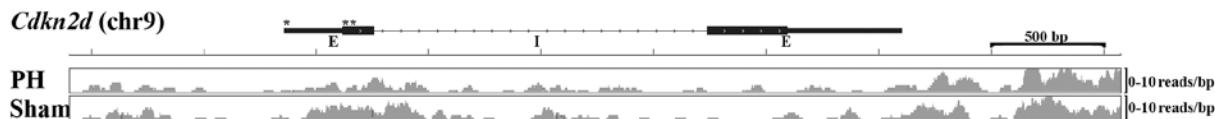
## Supplementary Figures:

### Supplementary Figure 1



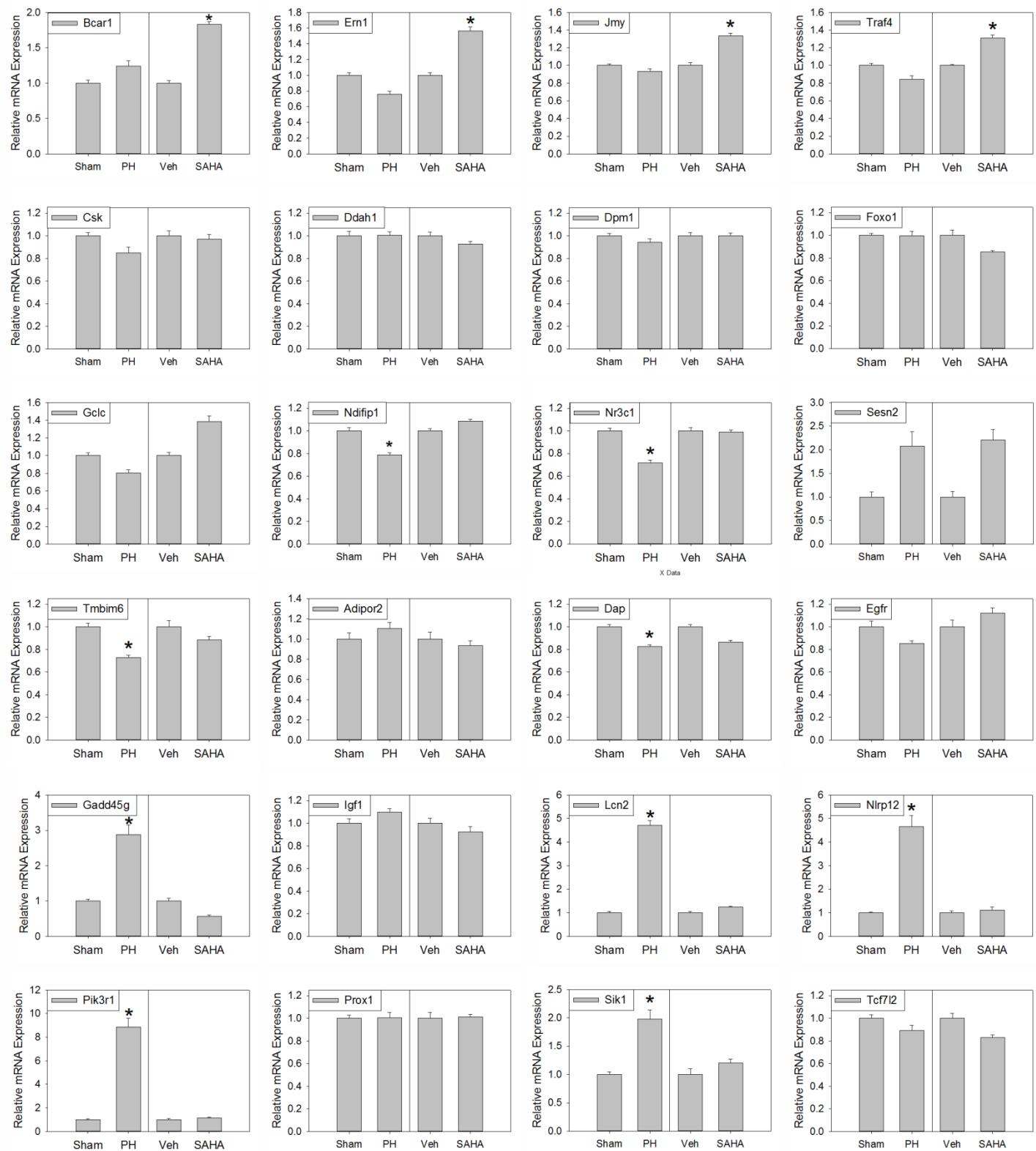
**Distribution of AcH3K9 ChIP-Seq Sequence Peaks versus Distance from Transcription Start Sites (TSS).** For sequence peaks identified by MACS (see Experimental Procedures in primary text and (17)), the software determines distance from the peak “summit” (i.e. the most abundantly represented nucleotide in sequences that make up the peak) to the nearest TSS. The graphs plot the fraction of sequences in peaks whose summits are the distance from a TSS specified along the x-axis in proportion to the total number of sequence reads assigned to peaks in the sample along the y-axis, for samples from regenerating (PH), sham-operated (Sham), and SAHA-treated- (SAHA) and vehicle-treated- (vehicle) regenerating livers.

### Supplementary Figure 2



***Cdkn2d* Histone H3K9 Acetylation in Regenerating versus Sham-Operated Liver.** 12 hours after PH. UCSC gene maps (transcription (\*) and translation (\*\*)) start sites, exons (E), and introns (I) as designated) are aligned with abundance of immunoprecipitated sequence (sequence reads per bp with scale indicated to the right) integrated from livers of 3 replicates each after PH or sham surgery. The sequence abundance images were generated using the Integrative Genomics Viewer (IGV) genome browser (18;19)). The bar below the sequence abundance data indicates the specific sequence identified as differentially acetylated.

### Supplementary Figure 3:



**Hepatic mRNA Expression of Differentially Acetylated Genes in Regenerating Liver.** Relative mRNA expression ( $\pm$  standard error) 12 hours after PH or sham surgery (indexed to sham; \* $p<0.05$  for PH versus sham; n=6 replicates per experimental group) or 12 hours after PH in vehicle- (Veh) or SAHA-treated mice (indexed to Veh; \* $p<0.05$  for SAHA versus vehicle; n=6 replicates per experimental group).

**Supplementary Table Legends:**

**Supplementary Table 1:** Summary of DNA sequences (and corresponding genes) identified as differentially acetylated in replicates (n=3 each) of regenerating versus sham-operated liver, as described in experimental methods, sorted by false discovery rate (FDR), for genes that are de- (left, shaded) or hyper- (right, not shaded) acetylated by PH. The FDR threshold for inclusion on this table was set to  $q<0.2$ , with  $q<0.1$  used for all analyses except where otherwise noted. Column headings refer to individual sequences: Chr/Start/End – chromosomal location of gene using mouse reference genome mm9; Fold – log 2 fold difference in abundance of acetylated sequences in regenerating versus sham-operated liver (i.e. fold<0 for genes deacetylated by PH versus sham, fold>0 for genes hyper-acetylated by PH versus sham); FDR – determined using Benjamini-Hochberg method (20;21); TSS – MACS defined distance of sequence peak summit from nearest transcription start site; Gene - Official gene symbol of gene whose TSS is closest to the differentially acetylated sequence.

**Supplementary Table 2:** Summary of DNA sequences (and corresponding genes) identified as differentially acetylated in replicates (n=4 each) of regenerating vehicle versus SAHA-treated liver, as described in experimental methods, sorted by false discovery rate (FDR), for genes that are de- (left, shaded) or hyper- (right, not shaded) acetylated by SAHA. The FDR threshold for inclusion on this table was set to  $q<0.2$ , with  $q<0.1$  used for all analyses except where otherwise noted. Column headings refer to individual sequences: Chr/Start/End – chromosomal location of gene using mouse reference genome mm10; Fold – log 2 fold difference in abundance of acetylated sequences in vehicle- versus SAHA-treated regenerating liver (i.e. fold<0 for genes deacetylated by SAHA versus vehicle, fold>0 for genes hyper-acetylated by SAHA versus vehicle); FDR – determined using Benjamini-Hochberg method (20;21); TSS – MACS defined distance of sequence peak summit from nearest transcription start site; Gene - Official gene symbol of gene whose TSS is closest to the differentially acetylated sequence.

**Supplementary Table 3:** All cell proliferation- and cell death-associated genes differentially acetylated 12 hours after PH by SAHA versus vehicle, identified using DAVID bioinformatics database as described in text (see references 11-12), and listed by “Official gene symbol.”

**Supplementary Table 4:** All genes whose differential acetylation by PH versus sham 12 hours after surgery is reversed by SAHA versus vehicle using (A)  $q<0.1$  or (B)  $q<0.2$ , identified using DAVID bioinformatics database as described in text (see references 11-12), and listed by “Official gene symbol.”

## Reference List

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Supplementary Table 1

Chr	Start	End	Fold	FDR	TSS	Gene	Chr	Start	End	Fold	FDR	TSS	Gene
chr2	58607366	58612416	-1.96	1.34E-19	2296	Upp2	chr19	17385719	17387313	2.09	1.29E-12	27542	Gcnt1
chr6	55121342	55125924	-1.47	6.95E-14	1351	Inmt	chr7	3247986	3249759	1.91	5.51E-12	869	Nlrp12
chr7	15028557	15030459	-2.85	1.70E-12	2428	2810007J24Rik	chr1	91450734	91455431	1.31	2.55E-11	101697	Agap1
chr3	98563060	98567674	-1.63	5.05E-11	966	Hsd3b3	chr9	74376672	74379484	1.71	1.59E-09	-318165	Gm16551
chr4	60677477	60679050	-2.33	5.07E-09	-2996	Mup11	chr15	59379495	59381824	1.61	4.42E-09	-99549	Trib1
chr7	15030513	15032037	-1.99	1.70E-07	661	2810007J24Rik	chr7	31734931	31736287	1.67	5.07E-09	6213	Usf2
chr2	118379483	118381169	-2.34	2.27E-07	-4912	Bmf	chrX	7316751	7318066	2.55	5.53E-09	1042	Ccdc120
chr4	60887107	60889351	-1.67	1.12E-06	1089	Mup13	chr9	74708833	74717047	1.02	2.23E-08	3213	Onecut1
chr11	117683034	117697683	-0.90	1.12E-06	-3030	Tk1	chr9	74374469	74376579	1.59	2.66E-08	-320719	Gm16551
chr11	5810778	5817687	-1.02	2.12E-06	-15447	Myl7	chr1	123226365	123229914	0.98	2.77E-08	1027	Insig2
chr12	111257072	111262676	-0.94	2.70E-06	136409	3110009F21Rik	chr5	91710806	91712402	1.60	3.72E-07	498	Gm19619
chr4	61336267	61339101	-1.31	2.83E-06	-2556	LOC100048884	chr15	74722767	74723619	2.32	2.83E-06	-11059	2010109I03Rik
chr2	118369551	118376360	-0.91	2.83E-06	2459	Bmf	chr2	172985585	172987922	1.19	5.47E-06	8180	Pck1
chr3	98447760	98450252	-1.53	3.04E-06	451	Hsd3b5	chr2	129058256	129060399	1.09	5.60E-06	14623	A730036I17Rik
chr5	151394456	151398527	-0.83	5.32E-06	609	N4bp2l1	chr2	32240499	32245207	0.82	7.25E-06	406	Lcn2
chr15	77559385	77562751	-1.25	7.22E-06	1518	Apol9b	chr9	31810637	31811892	1.87	8.63E-06	-90394	Barx2
chr13	60276201	60280066	-1.01	9.59E-06	763	Gas1	chr1	191872541	191873766	1.68	1.36E-05	121406	Prox1
chrX	147481465	147482864	-1.82	1.08E-05	389	Fgd1	chr9	95475204	95477507	1.16	1.53E-05	16120	Paqr9
chr17	80772267	80773056	-2.87	1.53E-05	221	Gm10190	chr13	52006659	52007986	1.57	1.53E-05	65279	Gadd45g
chr10	75356162	75357553	-1.56	1.60E-05	715	Derl3	chr19	4496435	4500292	0.79	2.33E-05	220	2010003K11Rik
chr10	70800150	70808833	-0.81	1.61E-05	3106	Cisd1	chr5	125556566	125557831	2.40	2.33E-05	73354	Fam101a
chr4	61103140	61104162	-2.17	3.99E-05	-2915	Mup15	chr7	31724563	31725397	2.18	3.89E-05	4056	Hamp
chr9	103011063	103011863	-1.66	4.08E-05	-2940	Rab6b	chr6	121286650	121287675	1.82	4.08E-05	-9552	Slc6a12
chr15	102013875	102020632	-0.88	4.08E-05	2221	Cсад	chr2	152560914	152565887	0.71	4.08E-05	1391	Id1
chr4	60432587	60435011	-1.43	4.31E-05	1025	Mup9	chr4	46883416	46884736	1.40	4.08E-05	120510	Gabbr2
chr16	23608868	23612566	-0.92	5.11E-05	713	Rtp4	chr17	32007451	32010787	0.98	5.06E-05	-16382	Sik1
chr19	8477489	8479673	-1.26	5.69E-05	1014	Slc22a30	chr13	51967346	51968740	1.39	5.95E-05	26000	Gadd45g
chr15	100133604	100139517	-0.74	5.69E-05	1313	Mettl7a1	chr9	64949393	64950765	1.68	6.79E-05	778	Igdc4
chr4	61179312	61184236	-0.96	5.99E-05	-1256	Mup16	chr8	108273176	108274709	1.36	7.01E-05	8565	Gfod2
chr4	60512684	60515003	-1.42	6.40E-05	989	Mup1	chr15	77159975	77162233	1.09	9.51E-05	-23621	Rbfox2
chr15	81633007	81636665	-0.93	7.12E-05	1734	Tef	chr9	108176516	108178103	1.38	0.0001192	-11020	Dag1
chr18	38577760	38580514	-0.90	8.84E-05	509	Ndfip1	chr14	55191216	55192678	1.52	0.0001192	4551	Ajuba
chr10	116847466	116852072	-0.83	9.40E-05	-35740	Cpsf6	chr17	29230374	29233269	0.83	0.0001411	1105	Cdkn1a
chr4	61258968	61260524	-1.94	9.51E-05	-2882	Mup17	chr7	87799999	87803063	0.92	0.000203	20629	Gm15880
chr12	104893260	104895434	-1.27	0.0001182	934	Serpina6	chr4	122630825	122639844	0.58	0.0002338	3097	Mfsd2a
chr1	93308135	93311722	-0.87	0.0001563	-129	Hes6	chr13	52116113	52117388	1.27	0.0002411	-75359	4921525009Rik
chr8	96885841	96889850	-1.12	0.0001564	-22554	Herpud1	chr7	31731611	31733438	1.19	0.0002881	-3488	Hamp
chr13	9010820	9011425	-1.36	0.0001671	-15864	Gtpbp4	chr1	157652470	157661328	0.51	0.0003396	3130	Qsox1
chr11	60018729	60025031	-0.78	0.000203	12226	Srebf1	chr7	31726464	31730663	0.73	0.0003458	473	Hamp
chr4	61099503	61100958	-1.50	0.000274	505	Mup2	chr4	150114250	150115659	1.43	0.0003458	-88671	Slc45a1
chr12	111516454	111517209	-2.62	0.0002856	-492	Mir1247	chr6	31058811	31060478	1.38	0.0003604	-46551	Mir29b-1
chr8	95801085	95803917	-0.88	0.0003164	1134	Ces1f	chr13	51960756	51961647	1.65	0.0004715	19158	Gadd45g
chr4	60517236	60518793	-1.56	0.0003777	-3182	Mup1	chr9	74370407	74371476	2.49	0.0005343	-325302	Gm16551
chr6	129482806	129487347	-0.69	0.0003927	-1774	170010111Rik	chr1	158586655	158588944	1.25	0.000538	16671	Tor3a
chr19	41903709	41906494	-0.87	0.0005121	642	Frat1	chr6	51631257	51633150	1.45	0.0005993	137682	Snx10
chr15	77239273	77241644	-1.21	0.0005208	1006	Apol9a	chr8	108532119	108536396	0.65	0.0006274	1129	Ddx28
chr17	35561016	35563961	-0.91	0.0005433	667	H2-Q6	chr15	6822490	6824967	0.87	0.0006645	585	Osmr
chr12	92933143	92934892	-1.19	0.0005629	90859	Ston2	chr8	10939104	10940061	1.85	0.0006645	-11125	3930402G23Rik
chr7	87600315												

Supplementary Table 1

chr5	135581507	135589547	-0.64	0.0065146	2767	Mlxipl	chr9	48407452	48410484	0.79	0.0080787	4214	Nnmt
chr4	61333090	61335289	-1.10	0.006579	939	LOC100048884	chr18	65211581	65212679	0.97	0.0080787	28950	Nedd4l
chr11	86804823	86808724	-0.60	0.0068208	491	Ypel2	chr13	98623447	98624093	1.62	0.0081358	293816	Gm5086
chr5	136362976	136365241	-0.83	0.0069623	320	Hspb1	chr9	60880965	60881640	1.58	0.0084781	16427	Gm5122
chr8	95718226	95721783	-0.62	0.0071534	1699	Ces1d	chr10	127006602	127009154	0.79	0.008562	-36263	Nxph4
chr4	60151696	60152982	-1.34	0.0079741	390	Mup2	chr5	125027984	125030456	0.59	0.0087019	64	Gtf2h3
chr8	114260653	114261346	-1.93	0.0084079	-4963	Bcar1	chr17	57370436	57376380	0.46	0.0092171	-5849	C3
chr3	14861558	14865341	-0.72	0.0084744	-88	Car3	chr18	65376515	65385950	0.58	0.0092171	-27282	Mir122a
chr5	125805703	125807604	-0.95	0.0102596	14811	Scarb1	chr3	94587416	94589130	0.90	0.0092973	2164	Cgn
chr2	32836276	32838476	-0.81	0.0102596	200	Slc2a8	chr11	89862201	89864635	0.63	0.0096218	790	Pctp
chr4	61255568	61257100	-1.20	0.0103296	530	Mup17	chr10	82784232	82785782	0.79	0.0096218	15555	Slc41a2
chr3	121909817	121911016	-1.51	0.0103829	-38058	Gclm	chr9	74643506	74645069	1.25	0.0096218	-51956	Gm16551
chr7	104562071	104572399	-0.55	0.0103829	-1215	Thrsp	chr9	74176297	74177342	1.97	0.00967	218679	Wdr72
chr11	98697796	98699152	-1.20	0.0107291	376	Rapgef1	chr3	116669192	116672614	0.52	0.0097837	-281	4930455H04Rik
chr10	129849209	129849824	-1.70	0.0113953	17152	Vmn2r85	chr17	24664936	24667274	0.55	0.0103829	910	2610019E17Rik
chr3	89711086	89718121	-0.50	0.0116162	2481	Il6ra	chr14	121651992	121653857	0.85	0.0103829	125528	Stk24
chr7	74903782	74904675	-2.04	0.0117627	400	Synm	chr1	195136444	195138037	1.01	0.0107338	9053	Lamb3
chrX	30545260	30546573	-1.01	0.0121004	-52394	Gm2799	chr17	32637521	32639209	0.97	0.01109	-5041	Cyp4f17
chr11	57905672	57909162	-0.78	0.0128411	-10237	Cnot8	chr5	145983199	145984747	0.94	0.0113989	-8610	Zfp655
chr14	8868870	8870223	-1.18	0.0131501	34131	Abhd6	chr8	36753107	36753705	1.42	0.0117627	-101332	Gm16793
chr7	88356448	88360114	-0.66	0.0134033	-408	Pde8a	chr4	141497375	141499164	0.79	0.0117949	-40637	Gm13037
chr2	58612904	58615292	-1.07	0.0139533	6503	Upp2	chr14	8671218	8674633	0.72	0.0121004	22455	Flnb
chr4	132038855	132039945	-1.27	0.0140833	-19564	Med18	chr9	62008832	62009647	1.27	0.0122815	-38838	Mir5133
chr2	118686794	118688772	-0.77	0.0140896	48	Ivd	chr6	70796794	70797521	1.38	0.0127062	2637	Eif2ak3
chr9	42077823	42083119	-0.69	0.0140896	-8088	Sc5d	chr16	92397478	92401662	0.46	0.0128411	752	Rcan1
chr4	123088072	123090150	-0.85	0.0144294	43	D830031N03Rik	chr1	40230676	40231978	1.03	0.013304	-50597	Il1r1
chr13	63373179	63376806	-0.71	0.0144911	23463	Gm16907	chr14	70727603	70732447	0.57	0.0135165	18215	Slc39a14
chr11	102089308	102092159	-0.64	0.0145236	753	Hdac5	chr13	8883934	8886927	0.56	0.0135846	579	Idi1
chr2	152222033	152224764	-0.96	0.0149051	384	Sox12	chr1	174919298	174921034	0.84	0.0139735	33268	Olf16
chr11	72223865	72225224	-1.16	0.0153864	671	Smtnl2	chr16	20728774	20731014	0.56	0.0140911	777	Thpo
chr7	15024010	15025250	-0.99	0.015427	-730	2810007J24Rik	chr1	168183839	168185880	0.67	0.0142106	590	Il1r2
chr4	60735057	60736350	-1.31	0.0156224	450	Mup12	chr10	74513591	74515973	0.69	0.0142106	-8858	Bcr
chr12	45322495	45323487	-1.15	0.0157628	649	Gm2027	chr11	96637614	96639151	0.72	0.0144616	487	Snx11
chr4	60733931	60734956	-1.51	0.0157782	1710	Mup12	chr17	57359462	57367727	0.48	0.0144911	3965	C3
chr2	152897168	152898205	-1.96	0.0158449	5996	Ccm2l	chr11	120946860	120947870	1.20	0.0153864	-4912	Sectm1a
chrX	68617300	68618997	-0.87	0.0158449	214	Mtmr1	chr6	94113141	94113633	1.79	0.0157628	120511	Mag1
chr1	36424146	36426576	-0.75	0.0158449	665	Kansl3	chr4	140879054	140882456	0.73	0.0157808	23620	Epha2
chr7	71078366	71085295	-0.59	0.0158449	1971	Klf13	chr7	28473228	28475402	0.70	0.0158449	-43	C030039L03Rik
chr5	151385857	151387883	-0.99	0.0159082	10230	N4bp2l1	chr4	107895352	107896206	1.21	0.0158449	-5252	Zyg11a
chr7	19601935	19603348	-0.97	0.0159082	6247	Foxa3	chr4	46877082	46877559	1.71	0.0158449	127266	Gabbr2
chr4	60746028	60748028	-0.96	0.0159082	-10875	Mup12	chr14	41983274	41983942	2.04	0.0158449	14879	Sftp4
chr4	144480813	144488274	-0.47	0.0159082	1504	Dhrs3	chr10	59246633	59248202	1.03	0.0159082	82035	Micu1
chr4	115329402	115330580	-1.03	0.0160592	-9681	Cyp4b1	chr11	120691150	120695334	0.57	0.0163101	-7381	Fasn
chr9	61237201	61238033	-1.53	0.0165544	17445	Tle3	chr18	75603473	75608408	0.58	0.0163442	-68358	Gm10532
chr5	8622123	8623045	-1.38	0.0165544	368	Rundc3b	chr6	144658357	144660084	0.97	0.0163442	37833	4933425H06Rik
chr14	70603158	70612427	-0.49	0.0165544	-314	Sorbs3	chr15	81189094	81191896	0.53	0.0165544	700	Slc25a17
chr4	60524631	60526523	-1.01	0.0171708	-10745	Mup1	chr5	116895725	116897629	0.58	0.0165544	7947	2410137F16Rik
chr4	60675499	60677256	-0.98	0.0171708	-1110	Mup11	chr7	152123471	152128845	0.57	0.0174181	-328	Ccnd1
chr													

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chr6	29456771	29458291	-1.00	0.0284859	421	Kcp	chr8	88011039	88012359	0.81	0.025469	-4816	Gpt2
chr6	90455511	90460451	-0.67	0.0285455	-42860	Aldh1l1	chr19	4475839	4477828	0.58	0.0260919	310	Syt12
chr4	101091355	101094360	-0.72	0.0286154	550	Ak4	chr13	98010264	98013442	0.49	0.0261289	794	Enc1
chr4	61177966	61179283	-1.22	0.02877	1894	Mup16	chr11	93827929	93831199	0.49	0.0261289	271	Nme1
chr5	28362740	28365511	-0.80	0.0295735	-33826	Insig1	chr17	57348699	57352573	0.66	0.0261289	16923	C3
chr12	105005548	105012907	-0.45	0.0295735	2616	Serpina1d	chr13	74637332	74639165	0.58	0.0261338	-6850	Zfp825
chr9	43890631	43897629	-0.52	0.0296458	1128	Usp2	chr11	78661445	78663486	0.65	0.026256	22369	Lyrm9
chr8	122972503	122973901	-1.33	0.0296744	-39563	Gse1	chr13	102460483	102465919	0.44	0.0266556	-599	Pik3r1
chr10	127499269	127500413	-1.32	0.0296744	3804	Ptges3	chr13	52121152	52121617	1.72	0.0267161	-70725	4921525O09Rik
chr7	128849835	128851507	-1.06	0.0296744	96	Usp31	chr15	61815236	61820266	0.43	0.0272125	856	Myc
chr11	86626113	86629481	-0.70	0.0296744	-6635	Dhx40	chr12	83578011	83578695	1.58	0.0272125	-139671	Rgs6
chr4	61257762	61258850	-1.33	0.0301735	-1442	Mup17	chr2	130492797	130495039	0.55	0.0278462	342	Itpa
chr1	72257035	72259287	-0.77	0.0303863	720	Mreg	chr3	148750086	148751361	1.17	0.0281931	-133124	Lphn2
chr17	15159538	15162458	-0.58	0.0303863	-13850	Gm3417	chr19	47242632	47243793	1.08	0.0283467	-10097	Neurl1a
chr3	52070621	52075722	-0.50	0.0303863	913	Foxo1	chr4	57794888	57796834	0.64	0.0283917	-62258	Akap2
chr2	103809476	103811846	-0.70	0.03096	218	Lmo2	chr2	35902133	35905154	0.48	0.0284859	1169	Ndufa8
chr8	74152627	74153339	-1.55	0.0312434	18061	Glt25d1	chr9	77799823	77801536	0.81	0.0284859	35508	Elovl5
chr17	34134638	34138308	-0.64	0.031455	805	H2-K1	chr3	58176041	58177662	0.82	0.0284859	-42759	Tsc22d2
chr2	154905181	154910350	-0.58	0.0321393	-7532	Ahcy	chr5	53380429	53385144	0.48	0.0287533	745	5033403H07Rik
chr14	62298784	62303502	-0.51	0.0329846	67	Dleu2	chr7	19716864	19718049	0.82	0.0287533	12249	Fbxo46
chr12	85350018	85351519	-0.92	0.0329943	317	Acot1	chr15	66985396	66987499	0.75	0.0288024	21997	St3gal1
chr17	85295028	85297031	-0.82	0.0331049	-60051	Ppm1b	chr4	137349568	137352450	0.60	0.0290324	1283	Alpl
chr4	151381603	151388210	-0.53	0.0331101	1907	Klhl21	chr7	4080575	4081603	1.22	0.0294518	7439	D030047H15Rik
chr2	160189630	160194223	-0.48	0.0331101	875	Mafb	chr5	114595299	114598182	0.56	0.0296458	15576	Ung
chr16	33933976	33935782	-1.00	0.034205	32210	Umps	chr12	118826691	118827800	1.25	0.0296744	72294	Rapgef5
chr9	66454199	66455251	-1.09	0.0343498	-13938	Usp3	chr12	81955337	81955819	1.51	0.030263	64060	4933426M11Rik
chr9	122026155	122033591	-0.49	0.0350351	3490	Snrk	chr10	87378749	87379838	1.08	0.0303841	-50122	Tyms-ps
chr8	96877491	96880827	-0.68	0.0350776	26052	Slc12a3	chr1	75164384	75167388	0.51	0.0303863	578	Zfand2b
chr6	57482618	57485621	-0.55	0.0353957	1301	Ppm1k	chr15	10153574	10154785	1.03	0.0303863	519	Prlr
chr4	61098518	61099321	-1.62	0.0356672	1816	Mup2	chr9	77788847	77791381	0.65	0.0304499	24943	Elovl5
chr1	43502049	43503892	-0.88	0.0356672	375	Nck2	chr5	44625365	44626193	1.43	0.0309225	-7934	Tapt1
chr7	148236213	148239271	-0.70	0.0356672	-9430	B4galnt4	chr16	58677520	58678110	1.46	0.0312197	7495	Cpox
chr10	67592274	67600628	-0.48	0.0356672	145023	Arid5b	chr18	67923989	67925310	0.89	0.0312434	-9880	Seh1l
chr19	12771485	12772484	-1.38	0.0357995	1705	Keg1	chr11	97546068	97549083	0.55	0.0321197	310	Cisd3
chr8	124466602	124470257	-0.64	0.0359275	383	Car5a	chr8	126795743	126799747	0.54	0.0321393	42452	Galnt2
chr10	70809010	70813508	-0.51	0.0362041	719	Ipmk	chr7	25331160	2533324	0.59	0.0321393	74	Xrcc1
chr4	60974144	60975926	-0.86	0.0372065	-10005	Mup14	chr8	124851851	124855654	0.60	0.0329522	30894	Trhr2
chr18	21122034	21122503	-1.66	0.0373549	19143	Rnf125	chr10	53117072	53118818	0.65	0.0331101	-18288	Cep85l
chr15	79151147	79152207	-1.25	0.0379877	7124	Pla2g6	chr4	55543475	55544226	1.49	0.0331101	1497	Klf4
chr14	56109282	56111041	-1.07	0.0379877	232	Lrrc16b	chr9	20675138	20677366	0.76	0.0339518	3167	A230050P20Rik
chr11	57909200	57912436	-0.67	0.0380319	-6836	Cnot8	chr11	7050265	7052435	0.66	0.0347388	37222	Gm11985
chr6	116599623	116603647	-0.51	0.0381539	934	8430408G22Rik	chr11	75473973	75475719	0.96	0.0354372	5330	Myo1c
chr8	119779926	119786250	-0.46	0.0381539	2170	Cmip	chr11	30096972	30099113	0.54	0.0354907	215	Sptbn1
chr2	103307692	103308238	-1.50	0.0385742	17345	Cat	chr15	31182288	31190820	0.43	0.0356672	32415	Dap
chr6	37479964	37481881	-0.70	0.0394315	750	Akr1d1	chr11	20369280	20370741	0.67	0.0356672	-73245	Sertad2
chr19	36421782	36424556	-0.64	0.0394728	-30387	Pcgf5	chr7	51802840	51804358	0.72	0.0356672	586	Pold1
chr10	60600526	60601922	-1.13	0.0395214	9189	Sgpl1	chr17	47012882	47014386	0.95	0.0356672	-13935	Tbcc
chr15	83356385	83362608	-0.53	0.0399368	2205	Bik	chr2	91082955	91083656	1.25	0.0357995	6003	A330069E16Rik
chr14	66711302	66712442	-1.24	0.0405601</									

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chr4	63156124	63157099	-1.17	0.049616	374	Whrn	chr4	107801633	107803644	0.88	0.0436561	-11486	Scp2
chr9	70503737	70505090	-0.83	0.049616	568	Fam63b	chr9	44478457	44482262	0.52	0.043662	-961	Treh
chr13	81507139	81508021	-1.28	0.0498043	264563	Gpr98	chr8	10936852	10937824	0.96	0.043662	-8881	3930402G23Rik
chr15	96855242	96863040	-0.42	0.0498043	27246	Slc38a4	chr11	16678385	16679101	1.26	0.0438172	26538	Egfr
chr8	112391760	112393712	-0.67	0.0504807	234	Phlpp2	chr3	82827164	82827730	1.34	0.0441018	-2627	Fga
chr13	94266808	94270622	-0.48	0.0504807	1048	Jmy	chr17	63132453	63134763	0.58	0.0444918	97058	Efna5
chr1	129632075	129632774	-1.42	0.0506504	6435	Acmsd	chr4	40893572	40897043	0.39	0.0445102	20	Bag1
chr4	60966208	60967810	-0.90	0.0506772	-1979	Mup14	chr7	31097172	31099939	0.62	0.0445756	-1279	Syne4
chr17	29550730	29554150	-0.81	0.0506772	54582	Fgd2	chr7	4579570	4582432	0.60	0.0446621	1083	Tmem86b
chr6	21800042	21802730	-0.55	0.0510127	1129	Tspan12	chr5	3111860	31119577	1.18	0.0446621	2090	Mapre3
chr4	61354340	61356215	-0.88	0.0517245	-20149	LOC100048884	chr11	101788701	101789461	1.21	0.0446621	-24653	4930417O22Rik
chr18	45729555	45731303	-0.78	0.0518665	10622	Kcnn2	chr10	59752337	59753488	1.19	0.0449232	5704	Psap
chr10	19652582	19656266	-0.47	0.0520773	93	Map3k5	chr8	124833425	124837227	0.60	0.0455673	29286	Zfpm1
chr7	29237037	29237870	-1.14	0.0529256	197	Lrfn1	chr4	45510103	45514332	0.54	0.0463856	31483	Shb
chr19	44478359	44483680	-0.65	0.0529256	1180	Scd1	chr8	11173441	11174165	1.26	0.0467345	139023	Col4a1
chr9	51854991	51858893	-0.57	0.0529256	-132	Gm6981	chr11	102290040	102296604	0.36	0.0469266	1687	Grn
chr7	35901112	35911148	-0.39	0.0529256	1819	Cebpa	chr7	148723955	148726867	0.38	0.0469399	345	Chid1
chr4	60673113	60675471	-0.83	0.0542042	945	Gm2083	chr3	95557283	95559158	0.57	0.0469399	680	Tars2
chr11	49990103	49991236	-1.08	0.0543668	2317	3010026O09Rik	chr1	164801956	164802866	1.24	0.0469399	-5732	Fmo1
chr11	78001655	78003275	-0.74	0.0543668	216	Rab34	chr5	91465994	91466552	1.36	0.0469399	9731	Epgn
chr9	111376611	111377454	-1.08	0.0546603	35448	Dclk3	chr14	55271252	55273448	0.53	0.0471214	172	Acin1
chr15	36772388	36773254	-1.46	0.0547603	-46137	Ywhaz	chr8	72595846	72598201	0.52	0.0473576	193	Tm6sf2
chr16	57162019	57163962	-0.71	0.0547603	4455	Nit2	chr11	117136168	117142040	0.45	0.0476637	11545	Sept9
chr3	97846041	97849989	-0.62	0.0547603	30555	Notch2	chr7	31733733	31734825	0.86	0.0481832	-5243	Hamp
chr18	39644177	39651542	-0.46	0.0548665	-960	Nr3c1	chr10	87319772	87329137	0.37	0.0486707	599	Igf1
chr17	85079388	85085072	-0.46	0.0549018	33	Abcg5	chr11	78790805	78792319	0.83	0.0486707	6864	Lgals9
chr3	63099018	63100160	-1.12	0.0551974	-204	Mme	chr19	41548690	41549863	0.89	0.0486707	-74852	Lcor
chr4	60437055	60438060	-1.39	0.0557484	-2733	Mup9	chr19	55166835	55168101	0.98	0.0486707	6469	Gpam
chr8	36650281	36652916	-0.70	0.0560464	476	Gm16793	chr7	152226504	152227700	0.87	0.0492081	-101272	Ccnd1
chrX	9829309	9831087	-0.75	0.0560675	714	Otc	chr9	74717664	7471814	1.00	0.049616	8512	Onecut1
chr9	57528611	57532203	-0.68	0.0560675	1055	Cyp1a2	chr16	89774058	89774737	1.32	0.0498043	44200	Tiam1
chr14	73779994	73785631	-0.46	0.0560675	2266	Itm2b	chr15	57819683	57820453	1.00	0.0504807	2611	Fam83a
chr16	35768038	35771402	-0.62	0.0569504	-278	Dirc2	chr2	32262548	32265974	0.43	0.0513937	12852	Ptges2
chr2	77353492	77358128	-0.51	0.0572588	1913	Zfp385b	chr16	90736029	90740157	0.49	0.0515874	-475	Mrap
chr13	23779389	23779972	-1.54	0.0586614	3613	Hist1h2bc	chr15	85513231	85517316	0.56	0.0515874	-21759	Mirlet7c-2
chr7	88736187	88739256	-0.73	0.0588868	21544	Whamm	chr2	25461796	25462695	0.98	0.0521492	1721	Rabl6
chr6	58780861	58783029	-0.67	0.0588868	-1748	Herc3	chr16	46022153	46023373	0.96	0.0529256	-12237	Plcx2d
chr2	118303879	118306089	-0.60	0.0588868	448	Srp14	chr4	59335299	59336247	0.90	0.0530791	115732	Susd1
chrX	8849695	8850736	-0.97	0.0593237	306	Xk	chr11	113426224	113427394	0.65	0.0534988	320	Slc39a11
chr16	20732117	20734161	-0.63	0.0593237	-60	Chrd	chr14	55632878	55636000	0.42	0.0538013	149	Ngdn
chr14	63456303	63457813	-0.62	0.0603482	532	Wdfy2	chr12	81067478	81068133	1.68	0.0538013	146195	Zfp36l1
chr7	91834110	91839462	-0.51	0.0606565	-1363	2610206C17Rik	chr7	52069019	52077164	0.38	0.0543668	-1063	Atf5
chr2	164271470	164272433	-1.22	0.0606921	-3263	Sdc4	chr6	72163941	72168404	0.45	0.0543668	19399	Atoh8
chr12	4081809	4083142	-0.90	0.0607273	-98	Dnajc27	chr9	105297101	105298691	0.58	0.0543668	175	Aste1
chr13	36054523	36055571	-1.15	0.0607361	-4727	Ppp1r3g	chr10	127941122	127942598	0.90	0.0543668	-6119	Myl6b
chr4	61107945	61109109	-1.13	0.0607477	-7791	Mup15	chr14	75679049	75679689	1.55	0.0543668	-4810	Zc3h13
chr4	61101631	61102784	-1.09	0.0611048	-1471	Mup15	chr18	75547739	75550115	0.73	0.0557171	21909	Smad7
chr4	33070144	33071171	-1.38	0.0616313	685	Rragd	chr4	135517508	135521832	0.40	0.0560464	-1409	Gale
chr11	86809136	86810040	-1.14	0.0618516	-2324	Ypel2	chr4	11					

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chr6	117248524	117249625	-1.07	0.0728927	130522	Cxcl12	chr14	100599290	100600329	1.08	0.067504	-50794	Klf12
chr7	88004789	88006998	-0.59	0.0728927	-1100	Zscan2	chr7	56714027	56714852	1.47	0.0691217	177766	Dbx1
chr5	89102936	89106000	-0.51	0.0728927	137	Grsf1	chr4	45864833	45866677	0.72	0.0692748	3937	1300002K09Rik
chr17	35324671	35325778	-1.09	0.0735823	161	Lst1	chr9	77786709	77788111	0.82	0.0692965	22239	Elov15
chr12	82032454	82033825	-1.07	0.0736503	-7705	1700052I22Rik	chr7	31141897	31149043	0.46	0.0694203	2321	Lrfn3
chr8	69383893	69385428	-0.86	0.0742935	545	Naf1	chr7	31736290	31746370	0.34	0.069453	492	Usf2
chr11	117705588	117711253	-0.45	0.0742935	-2130	Birc5	chr2	38858335	38861605	0.39	0.0704552	681	Rpl35
chr4	128639041	128639874	-0.95	0.074566	204	Adc	chr15	103188119	103188765	1.36	0.0705508	8737	Itga5
chr19	46164285	46164847	-1.86	0.075501	14214	Nolc1	chr2	146268191	146268974	0.85	0.0707994	69158	Ralgapa2
chr9	58882798	58885471	-0.54	0.0757279	114	Neo1	chr7	20415581	20418675	0.52	0.0716547	-9024	Bcl3
chr1	183139548	183143834	-0.44	0.0757279	418	Wdr26	chr10	126786119	126792706	0.34	0.0717129	-584	Inhbe
chr12	32632602	32635347	-0.52	0.0758168	1426	Hbp1	chr10	128062011	128064067	0.40	0.0717129	523	Rps26
chr4	60444568	60446493	-1.08	0.0759333	-10706	Mup9	chr16	34089280	34090110	1.12	0.0718464	-122606	Umps
chr15	81523662	81525288	-0.95	0.076101	3242	Chadl	chr2	93275560	93276083	1.78	0.0718464	17008	Cd82
chr10	39088682	39090451	-0.87	0.0762552	-38	Fyn	chr16	95990692	95992032	0.78	0.0719591	67349	Ets2
chr10	77925226	77927964	-0.55	0.0769546	1098	Pdk	chr6	125298594	125307574	0.28	0.072054	3344	Tnfrsf1a
chr2	132095139	132095936	-1.16	0.0774942	6545	Cds2	chr11	69866512	69871863	0.32	0.072054	1317	Asgr1
chr6	39330830	39331843	-1.07	0.0774942	-90	Rab19	chr11	69506389	69507224	1.04	0.072054	2794	Tnfsf12
chr8	96881156	96883481	-0.71	0.0774942	-28081	Herpud1	chr1	157673425	157673888	1.64	0.0720693	-13627	Qsox1
chr17	5840523	5842756	-0.71	0.0777101	260	Snx9	chr7	91897785	91898928	0.83	0.0724779	60207	2610206C17Rik
chr17	88071202	88072952	-0.69	0.0786292	181	Msh2	chr4	53146574	53150218	0.54	0.0725738	24371	Abca1
chr7	106324702	106332864	-0.38	0.0788297	2440	Dgat2	chr7	75455608	75456313	1.09	0.0725738	-34480	Gm16157
chr9	77601580	77604911	-0.48	0.0792947	904	Gclc	chr4	149354517	149355234	1.02	0.0728927	-25760	Spsb1
chr12	77372503	77375983	-0.60	0.0803887	18025	Mthfd1	chr13	24538206	24539058	1.08	0.0728927	31641	Cmah
chr4	155150982	155151714	-1.36	0.0807426	-2678	Vwa1	chr17	83522055	83523050	1.00	0.0736503	-44987	Gm19689
chr4	128560532	128561560	-0.91	0.0808407	-337	Trim62	chr12	110130475	110133416	0.41	0.074566	439	Wars
chr2	69660274	69661824	-0.83	0.0808675	623	Klhl23	chr9	107204447	107206070	0.86	0.0750488	6239	Cish
chr8	123059435	123068302	-0.45	0.0808675	2560	Gse1	chr14	70705420	70706975	0.84	0.0751169	-16941	Ppp3cc
chr11	106345915	106350709	-0.47	0.0808845	798	Ern1	chr7	105496380	105497583	1.05	0.0752973	12817	Tsku
chr3	138736700	138739542	-0.54	0.0809974	42	Rap1gds1	chr4	137336771	137340555	0.52	0.0753686	13629	Alpl
chr14	57428943	57432621	-0.48	0.0809974	-229	Zmym5	chrX	148449504	148452733	0.48	0.0754358	148	Smc1a
chr8	87315416	87319245	-0.62	0.081136	6909	Nfix	chr7	149567175	149568666	0.92	0.0754358	5855	Ctsd
chr13	60708859	60710352	-0.82	0.0814604	6034	Dapk1	chr9	42264195	42265868	0.60	0.0757558	15278	Tbcel
chr6	22305165	22306765	-0.69	0.0814604	116	Fam3c	chr9	21807292	21808744	0.56	0.0759333	540	Prkcsb
chr10	62501569	62505728	-0.51	0.0814604	16389	Pbld2	chr14	8650117	8654750	0.39	0.076101	1963	Flnb
chr8	93431007	93433877	-0.52	0.0823972	79709	Chd9	chr11	59926408	59928836	0.47	0.0767022	9108	Rai1
chr4	60755400	60755898	-1.78	0.0828389	-19496	Mup12	chr4	149592807	149596319	0.48	0.0769546	-16742	Eno1
chr12	88235677	88236678	-0.91	0.0828389	-10413	Irf2bp1	chr16	72808229	72809091	0.98	0.0769546	145267	Robo1
chr9	103265292	103268237	-0.49	0.0828389	545	Cdv3	chr1	193779126	193781395	0.43	0.0774942	-20993	Rd3
chr10	128021961	128028599	-0.39	0.0828389	1277	Erbb3	chr7	88933155	88935339	0.45	0.0774942	92	3110040N11Rik
chr11	104301371	104305096	-0.48	0.0829197	372	Kans1	chr13	96650181	96651269	1.09	0.0774942	11152	Iqgap2
chr4	106971274	106980828	-0.49	0.0834112	3697	Dio1	chr13	74606701	74607553	1.09	0.0776339	24271	Zfp825
chr6	30162252	30163327	-1.29	0.0834782	31014	Ube2h	chr7	25314170	25317785	0.35	0.0781513	311	Irgq
chr4	141067944	141068996	-1.32	0.0848277	26042	Spen	chr11	101600895	101602038	0.86	0.0785253	7197	Dhx8
chr17	29625657	29631149	-0.53	0.0848277	414	Pim1	chr13	34736676	34737803	0.88	0.0786292	7311	Pxdc1
chr1	153188230	153194649	-0.48	0.0848996	-188	Ivns1abp	chr14	66704333	66705690	1.20	0.0788482	-8441	Adam2
chr5	50448459	50450856	-0.54	0.0849414	578	Gpr125	chr17	35809200	35811043	0.41	0.0801131	506	Gtf2h4
chr16	33184647	33186880	-0.61	0.0850406	607	Osbpl11	chr11	115322760	115326230	0.79	0.0801131	709	Slc16a5
chr4	155451267	155452305	-1.12	0.0857841									

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chr1	36568373	36570564	-0.69	0.1000513	748	Cnnm3	chr7	152100360	152102823	0.52	0.0908114	493	Oraov1
chr5	124681585	124686311	-0.48	0.1005223	4215	4930568K20Rik	chr11	109355504	109357250	0.68	0.0911455	-21467	Slc16a6
chr15	96853782	96855014	-1.02	0.1010228	31989	Slc38a4	chr15	102079594	102080565	0.96	0.0911675	-3296	Rarg
chr5	35315984	35316717	-1.29	0.1010907	24254	Rgs12	chr12	111828524	111831494	0.36	0.0913306	426	B930059L03Rik
chr15	77764159	77764985	-1.23	0.1017435	-5148	Txn2	chrX	136218600	136220615	0.55	0.0913306	73	Tbc1d8b
chr10	98375858	98379430	-0.50	0.1017779	-141	Atp2b1	chr12	33376717	33377563	0.98	0.0914419	-128059	Nampt
chr4	128735222	128737686	-0.48	0.1023814	940	Rnfl9b	chr12	83293674	83294391	1.26	0.0918693	23030	Sipa1l1
chr19	30297220	30297992	-1.18	0.1024527	-9840	Mbl2	chr6	125290511	125291329	1.03	0.0926854	-8820	Tnfrsf1a
chr4	155157147	155159282	-0.53	0.1027577	1769	Tmem88b	chr1	137155349	137155961	1.13	0.0926854	-606	Elf3
chr9	51768579	51771976	-0.47	0.1027577	1361	Fdx1	chrX	34649203	34650366	0.57	0.0937246	533	Upf3b
chr11	5629098	5630363	-0.96	0.102911	11449	Urgcp	chr4	116478865	116481022	0.45	0.0938589	221	Toe1
chr5	104188180	104190373	-0.64	0.102911	5685	Aff1	chr7	88486982	88490853	0.36	0.0939284	1203	Rps17
chr5	140588290	140595863	-0.52	0.1030169	205430	Mad1l1	chr8	124830906	124833423	0.50	0.0939284	26124	Zfpm1
chr15	98746340	98749551	-0.50	0.1037212	584	Lmbr1l	chr4	107836658	107842722	0.38	0.094504	1649	Echdc2
chr8	87233464	87234698	-1.38	0.1038578	8726	Lyl1	chr13	98213955	98215122	0.84	0.0954581	-115416	Gm5086
chr4	11179347	11181796	-0.48	0.1038578	835	Ints8	chr4	144587623	144588481	1.07	0.0960683	105013	Dhrs3
chr9	119061067	119066439	-0.46	0.1038578	2458	Acaa1b	chr11	62415347	62417895	0.41	0.0968769	34	Snord49b
chr19	53384604	53389507	-0.42	0.1038578	2060	Mxi1	chr9	54689252	54690134	0.88	0.0970378	-21868	Ireb2
chr17	73185835	73188394	-0.55	0.1049277	1071	Ypel5	chr17	36059065	36059772	1.05	0.0972029	4585	Mir1894
chr8	83401430	83405203	-0.46	0.1049277	1062	Gab1	chr19	40294634	40298220	0.66	0.0974804	-34651	Cyp2c70
chr7	91293398	91295166	-0.72	0.1052481	6121	Fam108c	chr12	18616934	18617632	1.06	0.0982103	95968	5730507C01Rik
chr14	52548044	52552252	-0.46	0.1067093	-7700	Rnase13	chr9	108991817	108994218	0.59	0.0991432	-4932	Plxbnb1
chr6	116213547	116215786	-0.53	0.1071206	414	Zfand4	chr9	83147088	83148234	0.60	0.0991811	-107447	Hmgm3
chr9	123836803	123837746	-1.03	0.1073475	415	Cdkn2d	chr15	10287225	10289662	0.41	0.0997903	110	Agxt2
chr17	6600830	6601834	-1.08	0.1077846	429	Dynlt1c	chr1	73972757	73978324	0.46	0.0997903	-64500	6030407003Rik
chr12	56527581	56528429	-1.27	0.1079128	28194	Psma6	chr10	21719675	21720552	1.00	0.0997903	5642	Sgk1
chr12	111457909	111458956	-1.00	0.1079128	57846	Dio3os	chr15	101832212	101835032	0.40	0.1006818	1151	Krt8
chr18	45717520	45722164	-0.43	0.1079504	35	Kcnn2	chr15	58972140	58974184	0.81	0.1016785	-59581	Mtss1
chr1	30928689	30932078	-0.56	0.1081174	-10282	Phf3	chr7	82643118	82643937	1.10	0.1017313	43108	Akap13
chr3	10439004	10440605	-0.73	0.1082341	320	Snx16	chr10	98921800	98925317	0.44	0.1017779	-148246	Gm20110
chr18	26162841	26165642	-0.63	0.1082341	-251757	Celf4	chr16	10648333	10649054	1.15	0.1020772	103262	Clec16a
chr11	72419980	72423141	-0.47	0.1083575	798	Ube2g1	chr19	46533912	46534784	1.13	0.1024487	-41789	Trim8
chr10	76864705	76865861	-1.11	0.1090471	15735	Adarb1	chr4	97575686	97576454	1.10	0.1024527	131754	Nfia
chr11	100678397	100684656	-0.58	0.1094868	2358	Stat5b	chr15	36350204	36351603	0.93	0.1025727	75643	Ankrd46
chr12	113333637	113334600	-1.18	0.1094897	-10775	Aspg	chr11	69826337	69829302	0.41	0.1026983	1111	Acadvl
chr13	99694755	99697395	-0.47	0.1094897	264	Tnpo1	chr1	137624968	137627341	0.52	0.1027577	381	Csrp1
chr11	61666774	61669688	-0.50	0.1095148	363	Ulk2	chr9	71536917	71537572	1.43	0.1027577	82165	Cgnl1
chr13	23901666	23902489	-1.19	0.1099264	3182	Slc17a2	chr9	43633426	43636433	0.63	0.102911	82271	Pvr1
chr6	94581458	94582344	-1.00	0.1103088	68238	Lrig1	chr4	135650281	135652318	0.64	0.1030169	-42013	Rpl11
chr19	32609499	32610362	-1.46	0.1104186	49672	Minpp1	chr7	148632558	148635751	0.38	0.1033225	-547	Snora52
chr4	60153723	60154478	-1.19	0.1104186	-1370	Mup15	chr14	29317594	29319986	0.68	0.1033225	132	Wnt5a
chr15	93166001	93168372	-0.65	0.1104186	180	Yaf2	chr2	146269456	146270134	1.07	0.1037789	67945	Ralgapa2
chr5	100808567	100809532	-0.93	0.1105735	36204	Sec31a	chr7	27813955	27817002	0.47	0.1038578	1370	Cyp2a12
chr14	76269698	76270845	-1.15	0.1106351	22542	Snora31	chr9	77768065	77770016	0.63	0.1038578	3869	Elovl5
chr1	186693442	186694464	-0.96	0.1109662	12962	C130074G19Rik	chr1	173377401	173378514	0.73	0.1038578	10266	F11r
chr5	112731559	112732826	-0.96	0.1112657	-23196	Tfp11	chr1	89797226	89798471	0.88	0.1038578	47987	Dgkd
chr15	81790348	81791287	-0.95	0.1119434	480	Pmm1	chr7	134358351	134359549	0.79	0.104865	3009	1-Sep
chr18	75818930	75820120	-0.88	0.1119434	37825	Ctif	chr1	132979345	132984342	0.40	0.1049277	12277	

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chr19	45062545	45068351	-0.45	0.1205982	1615	Sema4g	chr4	141509869	141511518	0.71	0.1144213	-28213	Gm13037
chr4	116767892	116769802	-0.65	0.1206789	-113	Ptch2	chrX	45865742	45867630	0.51	0.1148955	-83	Aifm1
chr8	96531787	96537626	-0.38	0.1208438	1834	Amfr	chrX	160857613	160858951	0.55	0.116166	564	Piga
chr5	99770233	99770780	-1.28	0.1214887	-88560	Rasgef1b	chr6	72083375	72084740	0.82	0.1162018	-10866	4933431G14Rik
chr5	23893242	23894382	-1.10	0.1214887	4149	Atg9b	chr9	120479375	120482187	0.34	0.1168672	148	Rpl14
chr8	24308551	24309876	-0.90	0.1214887	9712	Agrp6	chr18	65390152	65391896	0.65	0.1168672	-17490	Mir122a
chr4	33275707	33276964	-0.85	0.1214887	377	Pm20d2	chr11	16850545	16852143	0.68	0.1168672	-68	Fbxo48
chr4	149404151	149405505	-0.80	0.1214887	-21696	H6pd	chr18	65375666	65376448	1.03	0.1168672	-32457	Mir122a
chr7	87566819	87568700	-0.78	0.1214887	-17442	Furin	chr2	30264176	30265171	0.98	0.1171423	6595	Crat
chr12	74968489	74969819	-0.76	0.1214887	-39699	Hif1a	chr6	115493394	115495764	0.47	0.1172987	-142	Tsen2
chr3	83644376	83645975	-0.65	0.1214887	355	Tlr2	chr1	132984492	132988632	0.44	0.1175589	7558	Mapkapk2
chr15	101075970	101078272	-0.62	0.1214887	-20155	Nr4a1	chr7	116742977	116744625	0.54	0.1175589	16281	St5
chr5	136100900	136103521	-0.60	0.1214887	-6313	Rhbdd2	chr13	52247479	52252023	0.41	0.1182317	57642	4921525009Rik
chr2	103308264	103312300	-0.48	0.1214887	15028	Cat	chr6	85812308	85813046	1.10	0.1182388	6454	Cml2
chr4	60244538	60246382	-0.76	0.121626	-9989	Mup8	chr14	48821214	48822038	1.11	0.1182388	3236	Gm6498
chr1	186645805	186653907	-0.43	0.121626	-3489	Mir1981	chr19	9121326	9122897	0.81	0.1182815	40335	Scgb1a1
chr8	87295847	87298753	-0.73	0.121892	968	Nfix	chr5	34070694	34071629	1.06	0.1182844	6207	Fgfr3
chr10	20191699	20193017	-0.68	0.122468	124734	Mtfr2	chr7	126759923	126763869	0.31	0.1186418	555	Acsm1
chr15	81639326	81645446	-0.38	0.1236328	543	Tef	chr11	94490347	94493076	0.37	0.1186418	574	Lrrc59
chr7	87336895	87338274	-0.72	0.1238081	5858	Sema4b	chr10	77757369	77758413	0.84	0.1186418	-50504	Trappc10
chr10	45297354	45298860	-0.66	0.1242748	473	Hace1	chr6	141803029	141803902	1.22	0.1186418	1227	Slco1a4
chr17	47641182	47646743	-0.47	0.1243206	1963	Ccnd3	chr3	97768484	97769118	1.37	0.1186418	34706	Gm5544
chr9	119214527	119215058	-1.78	0.1245318	16753	Oxsr1	chr6	51122256	51122908	1.10	0.1188193	97327	Mir148a
chr8	34924919	34926716	-0.76	0.1248934	-67575	Smim18	chr17	57354230	57357689	0.45	0.119616	11600	C3
chr16	20097274	20099247	-0.61	0.1251481	634	Klhl24	chr4	115166671	115168888	0.69	0.1200657	967	Cyp4a14
chr19	3637968	3638970	-0.92	0.1252731	48095	Lrp5	chr13	93423423	93424292	0.86	0.1202438	42765	Serinc5
chr7	148640813	148643484	-0.48	0.1254651	1062	Pnpla2	chr15	80778121	80780268	0.47	0.1204468	275	Adsl
chr12	104969943	104976663	-0.37	0.1255889	3096	Serpina1b	chr4	107807586	107810577	0.49	0.1204854	-17929	Scp2
chr11	83980439	83981092	-1.54	0.1259425	213	Gm11437	chrX	54644912	54646279	0.53	0.1204854	618	Rbmx
chr2	173484316	173486601	-0.53	0.1259425	113	Rab22a	chr10	39827932	39828610	0.91	0.1204854	33789	Slc16a10
chr6	59374812	59376941	-0.54	0.1274054	408	Gprin3	chr11	98768564	98769985	0.65	0.1204877	72	Cdc6
chr13	21879303	21880080	-1.09	0.1281369	335	Hist1h2bp	chr15	80067638	8006885	0.77	0.1212909	3752	Smcr7l
chr7	72514815	72516899	-0.51	0.1286303	273	Tjp1	chr18	74893352	74894629	0.74	0.1214588	44119	Scarna17
chr16	33828808	33831342	-0.49	0.1290476	325	Itgb5	chr4	63002230	63010228	0.30	0.1214887	630	Orm1
chr9	61169373	61170022	-1.00	0.1292606	-28081	B930092H01Rik	chr2	75614389	75616109	0.51	0.1214887	-54984	Agps
chr6	39506883	39508231	-0.85	0.1304784	276	Dennd2a	chr7	54001999	54003767	0.57	0.1214887	-4319	Saa2
chr2	70661754	70664714	-0.48	0.1304784	303	Tlk1	chr7	148594848	148597406	0.60	0.1214887	3897	Pddc1
chr3	51142899	51146432	-0.53	0.1314564	-14756	Elf2	chr5	113594208	113594993	0.90	0.1214887	-2267	2900026A02Rik
chr5	66465296	66474522	-0.39	0.1315998	19508	Rbm47	chr1	162963864	162967698	0.36	0.122468	485	Gas5
chr6	90410443	90427356	-0.40	0.1321887	6280	Klf15	chr4	150272259	150273906	0.76	0.122468	10948	Park7
chr4	117372808	117374118	-0.68	0.1327914	-18633	Dmap1	chr12	111210025	111210666	1.28	0.122468	185938	3110009F21Rik
chr16	42875895	42877327	-0.57	0.1328484	-736	4932412D23Rik	chr6	134070754	134072097	0.62	0.1231956	85701	Etv6
chr6	38203216	38204153	-0.78	0.1334706	325	D630045J12Rik	chr8	35101330	35104291	0.50	0.1242748	-62497	Rbpms
chr4	82149243	82156393	-0.39	0.1334995	-1606	Nfib	chr17	46418738	46420314	0.48	0.1245318	449	Tjap1
chr1	193734881	193735665	-0.95	0.1345541	-3867	1700034H15Rik	chr8	96690355	96692195	0.55	0.1252731	-5242	Mt2
chr15	76445804	76449132	-0.48	0.1345541	-186	Slc39a4	chr9	74503468	74505153	0.68	0.1252731	-191933	Gm16551
chr13	46056951	46062253	-0.41	0.134909	758	Atxn1	chr10	127739119	127742571	0.32	0.1254651	455	Pan2
chr18	24363253	24364430	-0.74	0.1350224	-3	Galnt1	chr1	73971008	73971656	1.30	0.1255743	-60292	6030407O03Rik
chr													

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chr6	122760970	122762478	-0.78	0.1493819	-8477	Foxj2	chr9	107207530	107211357	0.65	0.1371022	10424	Cish
chr12	106087603	106090269	-0.51	0.1498544	14350	Clmn	chr10	67553235	67554702	0.69	0.1372827	111623	Rtkn2
chr12	92825815	92828538	-0.42	0.1504724	913	Gtf2a1	chr11	97047395	97050750	0.33	0.1375117	134	Kpnbp1
chr7	59116403	59118312	-0.63	0.1504734	280	Fancf	chr9	77796838	77798929	0.52	0.1375117	32712	Elov15
chr15	96289468	96291367	-0.56	0.1504734	857	Scaf11	chr2	132421806	132423067	0.64	0.1375117	-1495	AU019990
chr6	32536594	32538373	-0.76	0.151606	709	Plxna4	chr13	120188608	120189281	1.49	0.1375117	8874	Nnt
chrX	137054980	137056972	-0.68	0.151606	21748	Tsc22d3	chr14	21910454	21911198	1.14	0.139108	15453	Adk
chr4	60234713	60235607	-0.95	0.1519875	311	Mup8	chr5	137520223	137522289	0.42	0.1398484	674	Ap1s1
chr3	97746145	97746831	-1.14	0.1521879	12393	Gm5544	chr3	115344792	115346361	0.59	0.1398484	72397	S1pr1
chr4	61518064	61519002	-1.03	0.1521879	-22319	Mup5	chr4	122655348	122656187	0.88	0.1398484	-17336	Mfsd2a
chr1	72329699	72331086	-0.56	0.1524486	496	Pecr	chr7	31076248	31077067	0.97	0.1408107	-114	Clip3
chr4	115687532	115691332	-0.45	0.1524673	1075	Faah	chr18	67925919	67927064	0.77	0.1408641	-8038	Seh1l
chr3	50988726	50989610	-0.86	0.1531456	-39200	Ccrn4l	chr13	37954165	37955185	1.09	0.1410021	-25627	Rreb1
chr7	142729336	142730317	-0.82	0.1533086	320	Ptpre	chr7	4816743	4819339	0.37	0.1417942	-260	Isoc2b
chr1	195067101	195068711	-0.66	0.1533301	648	Hsd11b1	chr16	35484287	35486874	0.54	0.1419064	5379	Pdia5
chr1	95029531	95030210	-1.12	0.1533866	-1982	Agxt	chr11	80623364	80624809	0.58	0.142275	170	Tmem98
chr19	7195918	7197517	-0.71	0.1533866	-16498	Flrt1	chr2	68698773	68701548	0.38	0.1430629	547	Cers6
chr6	89310659	89313524	-0.51	0.1533866	516	Plxna1	chr4	149355381	149356981	0.82	0.1430629	26951	H6pd
chr7	71068255	71072666	-0.45	0.1535533	8718	E030018B13Rik	chr6	48793454	48794411	0.95	0.1440609	2278	Tmem176a
chr9	20806599	20808658	-0.54	0.1543021	448	Mrpl4	chr11	117818693	117823452	0.38	0.1441828	9608	Socs3
chr5	87352606	87355670	-0.53	0.1543021	1390	Ugt2b1	chr4	117459685	117461976	0.46	0.1442366	-22559	Klf17
chr10	81032634	81035525	-0.50	0.1546533	-3952	Tle2	chr4	62999919	63000612	0.89	0.1442366	-5334	Orm1
chr4	149173371	149175427	-0.62	0.1546591	-26023	Slc25a33	chr1	173181272	173182613	0.64	0.1444076	1390	Adamts4
chr10	79819732	79821253	-0.85	0.1558658	1289	Plk5	chr11	93812870	93814537	0.68	0.1444076	3299	Nme2
chr4	106917699	106918921	-0.81	0.1558658	7828	Lrc42	chr11	16406649	16409160	0.32	0.1452377	583	Sec61g
chr1	33813740	33815168	-0.79	0.1558658	141	Bag2	chr6	113639234	113643686	0.41	0.1452377	-6032	Tatdn2
chrX	74755186	74758030	-0.53	0.1558658	43	Tbl1x	chr2	6116744	6118555	0.56	0.1452377	3353	A230108P19Rik
chr8	114262470	114270476	-0.38	0.1561604	1276	Bcar1	chr16	95896084	95896870	0.94	0.1452377	-27536	Ets2
chr11	75266566	75269440	-0.45	0.1563332	216	Wdr81	chr1	138822949	138824261	0.74	0.1462403	26602	Nr5a2
chr12	33986319	33988893	-0.53	0.1566564	227	Atxn7l1	chr2	4980221	4985394	0.33	0.1462907	2177	Optn
chr18	73912967	73914946	-0.58	0.1567356	177	Elac1	chr2	34919199	34920429	0.61	0.1472412	-2853	Hc
chr10	57250737	57252616	-0.48	0.1568098	659	Serinc1	chr8	108464329	108468326	0.35	0.1474235	975	Lcat
chr4	150417185	150419652	-0.48	0.1568913	313	Per3	chr17	25023553	25025385	0.46	0.1474235	44	Spsb3
chr17	84545301	84546518	-0.89	0.1569723	41378	Zfp36l2	chr9	57314429	57316131	0.50	0.1478372	551	Scamp5
chr17	31522500	31524287	-0.58	0.1576049	215	Pde9a	chr17	85136494	85139104	0.42	0.1479647	52327	Lrpprc
chr12	88227896	88235587	-0.34	0.1583292	-5977	Irf2bpl	chr6	29113238	29115079	0.42	0.1480744	566	Rbm28
chr10	79370756	79372020	-0.58	0.1583424	295	Med16	chr11	35786545	35787355	0.86	0.1483782	6641	Wwc1
chr5	64895961	64897815	-0.62	0.1585803	28642	C030018K13Rik	chr6	30307111	30308040	1.00	0.1496749	33435	Zc3hc1
chr19	46164958	46166287	-1.00	0.1587072	15270	Nolc1	chr4	40675417	40676307	0.83	0.1499897	5900	Dnaja1
chr11	101900704	101901626	-0.89	0.1587072	-1659	Cd300lg	chr9	61674230	61675027	0.97	0.1503646	87689	Rplp1
chr12	33454971	33455944	-1.03	0.1587107	-49742	Nampt	chr11	75059059	75060336	0.79	0.1508814	52203	Rtn4rl1
chr17	80403259	80404941	-0.63	0.1588061	57574	Hnrpll	chr11	106267371	106268207	0.94	0.1508814	-23834	Icam2
chr4	107744792	107746127	-0.84	0.1590297	-40764	Podn	chr13	16100487	16105029	0.37	0.1509975	-3549	Inhba
chr1	181889045	181892111	-0.50	0.1595194	-641	Cdc42bpa	chr17	12863213	12865922	0.54	0.1515828	4137	Slc22a1
chr17	67702196	67704487	-0.63	0.1596078	458	Ptprm	chr4	56956228	56957569	0.73	0.1519875	3403	Tmem245
chr2	167539556	167540840	-0.87	0.1598477	23491	A530013C23Rik	chr11	120010691	120013483	0.37	0.1520109	578	Slc38a10
chr4	120339075	120340477	-0.86	0.1599754	609	Cited4	chr7	112742813	112748903	0.34	0.1524486	2772	Hpx
chr5	108264500	108266573	-0.68	0.1599754	6265	Ube2d2b	chr11	115424801	115426741	0.41	0.1524486	14	Nup85
chr4	149146016	149148599	-0.54										

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chr6	86742426	86744257	-0.50	0.1688658	237	Anxa4	chr9	92144622	92146856	0.44	0.1590297	708	Plscr1
chr11	76658700	76661206	-0.49	0.1688658	557	Cpd	chr5	37131158	37132211	0.86	0.1596078	8234	Bloc1s4
chr1	184338098	184340780	-0.45	0.1688658	142	Trp53bp2	chr7	75428976	75432176	0.58	0.1598347	-9096	Gm16157
chr5	149861359	149864878	-0.42	0.1688658	1495	Hmgb1	chr15	101854568	101861194	0.33	0.1599754	-765	Krt18
chr2	84910733	84912232	-0.82	0.1689101	15136	4930443O20Rik	chr3	118210207	118211440	0.62	0.1599754	-54272	Dpyd
chr15	85563260	85565938	-0.45	0.169109	-1394	Ppara	chr4	103235940	103237060	0.78	0.1599754	181396	Gm12718
chr2	39079738	39082092	-0.50	0.1691424	943	Ppp6c	chr13	102617723	102619269	0.66	0.1599927	-80324	Pik3r1
chr12	105135383	105145214	-0.35	0.1691424	2862	Serpina1c	chr2	26351162	26352909	0.67	0.1605568	7307	Notch1
chr3	91884136	91886263	-0.59	0.1695243	1865	Lor	chr14	76202285	76204051	0.61	0.1606154	-16324	Slc25a30
chr6	97296379	97297119	-1.06	0.1695918	-93975	Lmod3	chr7	51500773	51503143	0.34	0.1607517	-133	2410002F23Rik
chr2	29593045	29594397	-0.82	0.1702454	-23326	Gm13547	chr7	109589761	109591430	0.47	0.1610361	387	Rrm1
chr10	68627922	68628745	-0.91	0.1704082	-42966	Rhobtb1	chr9	106692575	106694255	0.55	0.1610361	-1871	Rad54l2
chr8	37794382	37796133	-0.56	0.1704799	851	Dlc1	chr4	131993497	131994461	0.77	0.1610361	-15618	Phactr4
chr9	54407411	54408161	-0.97	0.1706567	100	Cib2	chr2	155643335	155646676	0.36	0.1614607	-66	BC029722
chr11	78958438	78960506	-0.57	0.1707263	384	Ksr1	chr6	71118337	71121034	0.51	0.1619983	-25315	Thnsl2
chr17	27957762	27958933	-0.64	0.1708262	-860	D17Wsu92e	chr11	78324532	78327703	0.33	0.1623173	320	Poldip2
chr19	30307155	30309929	-0.48	0.1708262	1096	Mbl2	chr9	121129258	121131415	0.55	0.1623173	55954	Ulk4
chr3	89078805	89086888	-0.32	0.1708262	721	Efna1	chr9	86357721	86358899	0.61	0.1623173	213	Ube2cbp
chr11	100216199	100218188	-0.60	0.1715161	262	Hap1	chr14	121651055	121651959	0.63	0.1623173	126945	Stk24
chr7	117265512	117269030	-0.48	0.1715161	1699	Wee1	chr8	129396599	129397407	1.00	0.1623173	72818	Tomm20
chr8	111226994	111233628	-0.48	0.1715161	-8232	Zfhx3	chrX	70703523	70704486	0.66	0.1623847	364	Haus7
chr14	63783010	63785386	-0.60	0.1720514	12432	Fdft1	chr4	150129892	150132005	0.52	0.1631645	98110	1700045H11Rik
chr12	3980976	3982510	-0.78	0.1721728	26793	Pomc	chr19	20801155	20802018	0.83	0.1633941	460	Aldh1a7
chr10	60907426	60915871	-0.40	0.1721947	3769	Eif4ebp2	chr9	70681772	70683960	0.47	0.1638233	99749	Lipc
chr15	102029395	102030493	-0.96	0.1728501	-8753	Zfp740	chr18	75652757	75655702	0.48	0.1638233	-20069	Gm10532
chr15	97614504	97616583	-0.52	0.1730157	748	Slc48a1	chr13	69716507	69717108	1.12	0.1638233	33534	Srd5a1
chr12	60230053	60235823	-0.38	0.1730157	499	Ctage5	chr8	120191085	120198797	0.33	0.1642813	474	Sdr4e1
chr4	40811559	40812252	-1.27	0.1732819	-10335	B4galt1	chr18	35910956	35912595	0.47	0.1646071	-11567	Tmem173
chr6	119401802	119402867	-0.92	0.1733324	-2930	Wnt5b	chr7	107684624	107686702	0.39	0.1647267	50	Coa4
chr11	119907939	119909386	-0.73	0.1734186	-203	Aatk	chr7	99970653	99972055	0.63	0.1647267	51388	4632434I11Rik
chr17	64965678	64967320	-0.68	0.1741315	15511	Man2a1	chr11	72286625	72289101	0.43	0.1650734	666	Spns2
chr9	78196234	78197313	-0.95	0.1741462	-1821	Gsta2	chr4	122657247	122659126	0.51	0.1656212	-15155	Mycl1
chr1	193216401	193222306	-0.37	0.1741865	1567	Ppp2r5a	chr11	51687921	51689268	0.61	0.1659231	-17611	Phf15
chr8	128433110	128436219	-0.49	0.1746843	315	BC021891	chr17	32556456	32558080	0.48	0.1659949	652	Pglyrp2
chr11	98449359	98450269	-0.97	0.1748929	-1255	Ormdl3	chr9	107985670	107987704	0.65	0.1667367	3921	Mst1
chr10	126495990	126497927	-0.70	0.1748929	282	9-Mar	chr3	137923802	137924861	0.65	0.1667367	-16277	Adh1
chr8	119863578	119864855	-0.85	0.1754151	-8853	Cmip	chr15	77660782	77661876	0.72	0.1670532	11216	Myh9
chr19	3766703	3770213	-0.42	0.1754151	1038	Suv420h1	chr4	106350431	106351825	0.54	0.1675927	163	Ttc4
chr12	17879601	17881393	-0.59	0.1754159	182878	Hpcal1	chr11	117742300	117743355	0.75	0.1675927	-7987	Tha1
chr8	74749822	74752467	-0.54	0.1754794	7516	Fam32a	chr9	45649646	45650750	0.77	0.1677094	3587	Bace1
chr6	66985368	66988129	-0.54	0.1754794	156	E230016M11Rik	chr7	119517687	119519060	0.65	0.1683357	6552	Mical1
chr4	106581403	106586762	-0.49	0.1754794	8	Ssbp3	chr11	95527511	95529535	0.36	0.1684094	253	Phb
chr9	77597135	77600097	-0.48	0.1754794	-3725	Gclc	chr11	109338172	109340883	0.44	0.1684094	-4617	Slc16a6
chr11	80290344	80291895	-0.73	0.1762324	572	Cdk5r1	chr18	65254564	65258021	0.44	0.1688658	73112	Nedd4l
chr12	33996068	33996888	-0.95	0.1764364	9099	Atxn7l1	chrX	57601088	57602036	0.66	0.1688658	46105	Mir505
chr19	54019097	54020730	-0.54	0.1771699	548	Shoc2	chr4	141177187	141180746	0.44	0.1689101	783	Slc25a34
chr17	87108464	87110231	-0.55	0.1774998	-43856	Epas1	chr12	76569734	76570725	0.94	0.1691424	-52461	Gphb5
chr5	141271464	141273499	-0.58	0.1781248	33904	Gna12	chr7	117790056	117792658	0.42	0.1691662	20175</	

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chr16	24198673	24200086	-0.73	0.1902694	-194056	Lpp	chr4	141172751	141175547	0.41	0.181391	399		Tmem82
chr4	131465658	131467331	-0.68	0.1902694	-11191	Tmem200b	chr1	57462488	57464708	0.35	0.1814687	-80		Tyw5
chr3	97418283	97420694	-0.67	0.1902694	-5375	Chd1l	chr3	121152480	121153355	0.75	0.1814687	23459		Cnn3
chr8	108327723	108328778	-0.95	0.1904282	23000	Ranbp10	chr4	46897935	46899728	0.52	0.1818865	105755		Gabbr2
chr2	90416528	90417334	-0.91	0.1904282	3873	Ptprj	chrX	110298306	110299288	0.53	0.182329	327		Chm
chr18	56714413	56717298	-0.52	0.1904282	6097	Aldh7a1	chr4	149521005	149522074	0.83	0.1825803	-1541		Slc2a7
chr2	177690534	177692332	-0.51	0.1904282	561	Gm14326	chr11	117823481	117832183	0.26	0.1826361	2848		Socs3
chr8	127470248	127474729	-0.39	0.1904282	666	Egln1	chr2	72017861	72025368	0.29	0.1826361	-102079		B230120H23Rik
chr10	126414802	126421744	-0.35	0.1906044	2501	Ctdsp2	chr13	67454418	67456335	0.54	0.1826361	6132		Zfp953
chr9	78195072	78196134	-1.32	0.1915882	-651	Gsta2	chr6	81999202	82004068	0.40	0.1830593	10014		Eva1a
chr11	59600133	59601452	-0.90	0.1915882	367	Pld6	chr1	135975860	135977273	0.55	0.183094	-834		Btg2
chr1	108068143	108071197	-0.45	0.1921151	1225	Phlpp1	chr6	87836814	87839435	0.34	0.1831543	159		Copg1
chr7	30016516	30018314	-0.56	0.1924978	126	Kcnk6	chr4	86257114	86258820	0.47	0.1831543	-41		Haus6
chr6	83050930	83053992	-0.46	0.1927127	952	Ccdc142	chr4	117563620	117564735	0.51	0.1831543	431		Dph2
chr2	3629700	3632389	-0.46	0.1927127	315	Fam107b	chr3	27044720	27045583	0.69	0.1831543	7625		Ect2
chr9	42751624	42752992	-0.70	0.1928197	146	Grik4	chr8	109972540	109973311	0.81	0.1831543	12628		Wwp2
chr17	32524776	32526673	-0.57	0.1928197	171	Wiz	chr9	20549913	20550832	0.89	0.1831543	-17714		Olfm2
chr13	35831924	35834944	-0.54	0.1928337	164	Cdyl	chr19	7368654	7370417	0.44	0.1835662	392		Mark2
chrX	10294426	10296677	-0.44	0.1935956	1061	Mid1ip1	chr9	48410592	48414550	0.31	0.1837961	611		Nnmt
chr8	122433865	122443074	-0.35	0.193811	3718	Usp10	chr17	71535482	71536716	0.61	0.1842936	2782		Lpin2
chr12	55829679	55831461	-0.51	0.1941309	-33718	Eapp	chr7	105497711	105499449	0.58	0.1853825	11218		Tsku
chr2	118725707	118729577	-0.46	0.194258	292	Bahd1	chr6	51562264	51563161	0.84	0.1853825	68191		Snx10
chr13	21901144	21902153	-0.71	0.1944831	420	Hist1h2bq	chr7	87798337	87799078	0.81	0.1853931	17805		Gm15880
chr9	121798404	121800724	-0.52	0.1949428	-8017	Ccbp2	chr11	88770531	88771390	0.87	0.1859682	3719		4930405P13Rik
chr5	20386420	20388088	-0.67	0.1962654	688	Phtf2	chr11	53701533	53702660	0.68	0.1864001	3109		Slc22a5
chr11	3021432	3025121	-0.54	0.1967959	-747	Pisd-ps1	chr5	9038595	9041616	0.38	0.1867574	-42959		Crot
chr5	112715478	112728745	-0.35	0.1969366	16385	Tpst2	chr11	69193120	69193907	0.87	0.1869326	-10585		Chd3
chr2	78708172	78711259	-0.49	0.1969502	512	Ube2e3	chr15	95682931	95683972	0.71	0.1872381	62178		Ano6
chr11	51780808	51782085	-0.51	0.1973487	314	Cdkn2aipnl	chr18	80457105	80459625	0.48	0.1874196	5321		Pqlc1
chr1	21246237	21246776	-1.21	0.198061	15837	Gsta3	chr5	136258391	136259133	0.97	0.1874541	4244		Mdh2
chr4	3604547	3606879	-0.45	0.198061	446	Lyn	chr8	87212826	87214599	0.43	0.1875229	567		Trmt1
chr6	121194689	121198446	-0.45	0.198061	644	Usp18	chr8	77632495	77634162	0.46	0.1875229	-98		Mcm5
chr5	114549832	114551427	-0.49	0.1980803	288	Usp30	chr16	3908082	3909851	0.48	0.1877364	-42		Cluap1
chr7	31277891	31280871	-0.38	0.1986247	705	Prodh2	chr16	17130235	1713322	0.35	0.1887957	698		Sdf2l1
chr12	30622579	30624247	-0.67	0.1989076	513	Pxdn	chr6	57652227	57654162	0.39	0.1887957	746		Lanc12
chr11	61675443	61677293	-0.65	0.1989076	-7774	Ulk2	chr7	116258698	116259540	0.50	0.1887957	-32281		Ric3
						chr12	36212049	36213382	0.67	0.1887957	6946		Ahr	
						chr12	29595586	29596057	0.93	0.1896359	159129		Tssc1	
						chr10	12716421	12717164	1.07	0.1896359	-11463		Sf3b5	
						chr16	22162045	22163322	0.62	0.1896842	689		Igf2bp2	
						chr12	86112535	86115247	0.34	0.1900568	171		Npc2	
						chr9	20808827	20809688	0.88	0.1900568	2077		Mrpl4	
						chr15	78904644	78907000	0.36	0.1901119	170		Eif3l	
						chr15	75954046	75955329	0.52	0.1902194	2299		BC024139	
						chr19	4492447	4493046	0.93	0.1902694	5837		2010003K11Rik	
						chr7	147220622	147223320	0.37	0.1903169	278		Tubgcp2	
						chr8	87642499	87644102	0.46	0.1904282	3694		Zfp791	
						chr17	7031557	7033168	0.57	0.1904282	-45233		Ezr	
						chr7	31771584	31772085	0.96	0.1912285	4895		Fam187b	
						chr9	23187922	23188359	1.12	0.1912989	160621		Bmper	
						chr4	139090085	139092994	0.45	0.1915882	5077		Iffo2	
						chr7	3226923	3230424	0.34	0.1920825	7900		Mir295	
						chr1	135033572	135034378	0.80	0.1920				

Supplementary Table 2

Chr	Start	End	Fold	FDR	TSS	Gene	Chr	Start	End	Fold	FDR	TSS	Gene
chr19	4495674	4500225	-0.75	2.60E-20	634	201003K11Rik	chr8	120486314	120492672	0.71	7.41E-17	628	Gse1
chr12	25092288	25101834	-0.33	4.52E-16	-969	Id2	chr16	10538972	10543387	0.73	3.83E-16	1875	Dexi
chr2	72178777	72192113	-0.40	6.11E-15	-100191	B230120H23Rik	chr8	121647237	121652392	0.79	4.52E-16	2119	Zcchc14
chr10	95679781	95683203	-0.64	2.52E-13	-117325	Nudt4	chr12	54200595	54203917	0.94	1.84E-14	1618	Egln3
chr2	75656979	75661987	-0.46	3.48E-13	194	Gm6793	chr13	73762676	73773566	0.49	3.86E-14	4425	Slc12a7
chr1	155805676	155814181	-0.43	8.40E-11	2971	Qsox1	chr15	89168269	89182197	0.47	8.41E-14	-1383	Plxbn2
chr2	167688907	167694863	-0.43	8.41E-11	678	A530013C23Rik	chr5	144255318	144262503	0.62	1.20E-12	3686	Bri3
chr7	28372948	28384318	-0.31	8.41E-11	595	Zfp36	chr1	180190115	180196648	0.71	2.42E-12	104	Adck3
chr13	23865524	23868948	-0.59	1.13E-10	-3036	Slc17a1	chr2	153442043	153444562	0.88	1.55E-11	1177	8430427H17Rik
chr5	137979277	137985780	-0.47	1.68E-10	1008	Azgp1	chr10	80575656	80577241	0.96	2.67E-11	848	Klf16
chr11	70052847	70058330	-0.44	1.87E-10	1220	Asgr1	chr3	88140634	88152746	0.48	8.41E-11	4296	Mef2d
chr17	56118524	56125265	-0.38	3.19E-10	52	Lrg1	chr7	80191489	80193416	1.05	1.10E-10	5612	Sema4b
chr9	46266723	46276253	-0.31	3.87E-10	-1575	Zfp259	chr9	57636070	57647833	0.49	2.26E-10	3229	Csk
chr2	173152908	173162367	-0.46	5.13E-10	4565	Pck1	chr19	3903501	3909254	0.67	2.82E-10	606	Tcigr1
chr3	95817151	95820740	-0.46	9.18E-10	8	Rprd2	chr16	4639658	4646343	0.56	3.34E-10	3056	Vasn
chr11	83745756	83750459	-0.44	1.75E-09	1168	1100001G20Rik	chr11	119081751	119088400	0.48	3.87E-10	1162	Cbx4
chr1	67122877	67128251	-0.50	1.97E-09	2499	Cps1	chr2	27737307	27741594	0.62	4.76E-10	62250	Rxra
chr3	138236070	138241636	-0.58	2.03E-09	810	0610031O16Rik	chr16	8668578	8674205	0.56	5.02E-10	762	Carhsp1
chr9	22224576	22227518	-0.56	2.25E-09	336	Zfp809	chr11	103100997	103107295	0.51	1.30E-09	2459	Acbd4
chr10	128253884	128257617	-0.52	2.30E-09	1620	Apon	chr14	25485729	25496293	0.79	1.36E-09	31827	Zmiz1
chr8	117667284	117674439	-0.35	1.27E-08	654	Sdr42e1	chr6	28416862	28422795	0.62	1.62E-09	1896	Gcc1
chr17	35914448	35922918	-0.40	1.28E-08	795	Mir1894	chr9	66833957	66835723	0.94	1.73E-09	-134	Aph1c
chr4	150851421	150865828	-0.45	1.97E-08	3534	Errf1	chr4	139572727	139584756	0.61	1.81E-09	4022	Iflo2
chr4	49502315	49508893	-0.49	4.53E-08	954	Baat	chr4	141130273	141140071	0.44	2.66E-09	4624	Szrd1
chr13	41235185	41239942	-0.40	5.29E-08	-12280	Smim13	chr4	126102593	126116503	0.56	2.66E-09	5592	Stk40
chr12	80108240	80117905	-0.30	5.29E-08	-59	Zfp361	chr8	120535368	120543345	0.70	2.72E-09	1948	Gse1
chr5	23430101	23438123	-0.29	5.29E-08	241	5031425E22Rik	chr7	38224991	38228926	0.69	2.78E-09	1036	Plekhf1
chr8	106133347	106140961	-0.26	6.65E-08	-180	Esrp2	chr11	95824409	95826294	0.83	2.78E-09	852	Phospho1
chr9	108337968	108342482	-0.31	1.05E-07	1146	Gpx1	chr8	111725879	111736164	0.63	2.90E-09	1115	Bcar1
chr5	137569055	137573005	-0.47	1.06E-07	1180	Tfr2	chr10	128090580	128099341	0.41	3.30E-09	2178	Baz2a
chr9	122862479	122866621	-0.46	1.06E-07	1456	Zfp445	chr2	25261934	25266742	0.58	5.60E-09	1741	Tprn
chr15	59648217	59656877	-0.27	1.30E-07	3894	Trib1	chr7	97734512	97739271	0.69	6.46E-09	1356	Aqp11
chr1	71886529	71890023	-0.58	1.32E-07	165	Gm8883	chr18	67287519	67290690	0.66	6.57E-09	-118	Impa2
chr10	81088677	81093318	-0.40	1.32E-07	7875	Creb3l3	chr5	125173209	125179124	0.67	7.35E-09	3048	Ncor2
chr14	73130002	73132397	-0.57	1.33E-07	-11310	Rcbtb2	chr13	69529563	69534237	0.54	8.67E-09	1964	Papd7
chr8	117700738	117706334	-0.38	1.47E-07	1591	Hsd17b2	chr7	143051906	143059517	0.47	9.13E-09	-2343	R74862
chr10	115382153	115388671	-0.32	1.53E-07	454	Zfc3h1	chr4	134851393	134852806	0.91	1.25E-08	1246	Tmem57
chr4	20006853	20013433	-0.49	1.83E-07	1716	Ttpa	chr4	155217474	155222677	0.45	1.48E-08	2460	Ski
chr8	111641737	111645592	-0.46	1.98E-07	222	Zfp1	chr10	81289050	81291930	0.72	2.01E-08	777	Tjp3
chr11	86754826	86759311	-0.32	2.02E-07	424	Cltc	chr15	27623307	27631615	0.40	2.10E-08	3232	Fam105b
chr8	105940078	105944620	-0.41	2.90E-07	1053	Lcat	chr1	120069085	120075809	0.58	2.10E-08	1333	Tmem37
chr16	18422845	18427881	-0.37	3.14E-07	-1053	Txnr2	chr14	76503227	76507100	0.67	4.54E-08	654	Tsc22d1
chr4	63340647	63351480	-0.44	3.23E-07	1498	Orm1	chr4	128992361	129004049	0.38	4.80E-08	4982	Ak2
chr4	62088171	62090901	-0.65	3.32E-07	-2224	Mup3	chr6	121210234	121212304	0.85	5.30E-08	500	Tuba8
chr18	65242261	65248793	-0.49	3.32E-07	-3333	Mir122a	chr15	83524738	83532073	0.69	6.14E-08	1544	Bik
chr7	16398509	16406803	-0.32	3.32E-07	1461	Zc3h4	chr3	104787586	104791572	0.60	6.18E-08	546	Rhoc
chr4	122953863	122962831	-0.51	3.49E-07	2841	Mfsd2a	chr11	87983324	87988427	0.52	6.80E-08	710	Dynll2
chr8	90886182	90889017	-0.49	3.72E-07	58765	Chd9	chr5	115512756	115516119	0.67	8.20E-08	7736	Pxn
chr14	8254481	8260410	-0.42	3.98E-07	1394	Acox2	chr2	118544547	118549773</td				

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chr9	64339743	64341850	-0.48	7.82E-06	-23	Dis3l	chr17	35977108	35982043	0.50	1.20E-06	-108	Prr3
chr3	138373912	138376229	-0.61	8.11E-06	950	Adh6-ps1	chr18	82910871	82914386	0.61	1.25E-06	1750	Zfp516
chr4	132308227	132310680	-0.43	8.63E-06	-11	Snora16a	chr16	32643937	32645936	0.68	1.38E-06	294	Tnk2
chr3	22072658	22076258	-0.52	8.81E-06	-2193	Tbl1xr1	chr4	134762141	134769108	0.49	1.43E-06	2380	Ldlrap1
chr5	142810964	142824525	-0.14	8.84E-06	-357	Tnrc18	chr13	113611334	113618697	0.40	1.56E-06	3549	Snx18
chr6	87041523	87044310	-0.32	8.89E-06	71	Gfpt1	chr2	26914053	26921986	0.34	1.68E-06	-1489	Surf1
chr9	7835225	7838775	-0.33	1.03E-05	-1745	Birc2	chr7	25391580	25396976	0.51	1.76E-06	-434	4732471J01Rik
chr13	51844636	51850313	-0.41	1.05E-05	800	Gadd45g	chr10	17721247	17727111	0.38	1.82E-06	952	Cited2
chr14	73141721	73145139	-0.37	1.12E-05	646	Rcbtb2	chr2	174436635	174439651	0.56	2.05E-06	849	Ctsz
chr7	73553652	73560339	-0.41	1.24E-05	1400	1810026B05Rik	chr12	75816963	75820068	0.60	2.19E-06	198	Syne2
chr5	114967347	114973314	-0.30	1.61E-05	732	Hnf1a	chr10	80662166	80676391	0.29	2.24E-06	2698	Mknk2
chr12	44207691	44210247	-0.37	1.77E-05	1099	Dnajb9	chr13	23554295	23557292	0.56	2.24E-06	762	Hist1h1d
chr1	40223557	40231364	-0.38	1.81E-05	2381	Il1r1	chr15	77829398	77842888	0.30	2.48E-06	5972	Myh9
chr5	151367155	151370210	-0.47	1.83E-05	8	1700028E10Rik	chr6	86394127	86398066	0.44	2.48E-06	1054	Pcyox1
chr5	64341988	64347089	-0.39	1.83E-05	123404	1700027F09Rik	chr11	106554795	106559791	0.56	2.48E-06	55637	Tex2
chr13	96982439	96986264	-0.37	1.83E-05	50011	1700029F12Rik	chr17	43666230	43669244	0.65	2.48E-06	313	Cyp39a1
chr11	86577271	86589501	-0.38	1.97E-05	772	Mir21	chr7	141466427	141470422	0.46	2.52E-06	-364	Cd151
chr7	68271706	68285798	-0.39	2.08E-05	-2158	Gm16157	chr15	31364342	31369025	0.51	2.56E-06	1076	Ankrd33b
chr11	4030768	4035732	-0.39	2.19E-05	1469	Sec14l4	chr9	25480832	25486097	0.54	3.06E-06	1868	Eepd1
chr17	46854054	46859486	-0.40	2.26E-05	-25357	Gltscr1l	chr2	32150426	32157458	0.44	3.61E-06	2795	Prrc2b
chr9	44602079	44609095	-0.27	2.30E-05	696	Ddx6	chr1	131242073	131246616	0.58	3.63E-06	834	Rassf5
chr7	89978486	89982384	-0.31	2.46E-05	541	Eed	chr13	58156784	58159005	0.57	4.07E-06	246	Idnk
chr1	30944421	30951807	-0.35	2.46E-05	1596	Gm13363	chr5	24600795	24604063	0.69	4.08E-06	-427	Smard3
chr1	130761782	130764324	-0.60	2.54E-05	31078	AA986860	chr19	41911888	41914902	0.54	4.10E-06	1525	Pgam1
chr17	59011470	59013633	-0.46	2.66E-05	771	Nudt12	chr19	6915120	6921859	0.45	4.62E-06	3319	Esrra
chr4	101348714	101358633	-0.30	2.80E-05	-109	0610043K17Rik	chr5	143402582	143412683	0.36	4.78E-06	3813	Kdelr2
chr3	142712686	142715542	-0.49	2.82E-05	13035	Ccb12	chr2	128125212	128127380	0.67	4.86E-06	259	Bcl2111
chr2	164877990	164881735	-0.28	3.00E-05	495	Pclf1	chr4	139380535	139385797	0.42	6.25E-06	2508	Ubr4
chr11	5484890	5488786	-0.39	3.12E-05	-33802	Xbp1	chr19	5871536	5875991	0.44	6.25E-06	1445	Frm8d8
chr11	16506416	16509696	-0.32	3.20E-05	428	Sec61g	chr17	24202692	24207700	0.55	6.25E-06	366	Tbc1d24
chr7	99694324	99696768	-0.42	3.23E-05	263	Sico2b1	chr11	106157928	106160149	0.78	6.75E-06	1104	Limd2
chr4	134396120	134398364	-0.45	3.24E-05	883	Pafah2	chr11	98935636	98946722	0.41	6.85E-06	1469	Rara
chr2	91192449	91195888	-0.30	3.32E-05	867	Nr1h3	chr4	150006117	150012799	0.51	7.02E-06	-435	H6pd
chr16	22920269	22922642	-0.52	3.47E-05	1234	Fetub	chr1	134232121	134236557	0.47	7.82E-06	1088	Adora1
chr12	100186219	100188772	-0.38	3.48E-05	-472	Gm10433	chr7	89402637	89407540	0.42	8.24E-06	723	Fzd4
chr6	7227156	72236195	-0.24	3.59E-05	3902	Atoh8	chr1	135145945	135149411	0.53	8.63E-06	845	Arl8a
chr14	20346150	20349520	-0.32	3.88E-05	286	Ecd	chr10	81540817	81545244	0.41	8.65E-06	2016	Gna11
chr11	109717246	109723368	-0.23	3.98E-05	1949	Fam20a	chr13	64161885	64164380	0.49	8.75E-06	1267	Habp4
chr2	163531909	163542885	-0.33	4.23E-05	4324	0610008F07Rik	chr1	184839381	184847369	0.45	9.07E-06	2472	2-Mar
chr12	108850439	108857831	-0.31	4.37E-05	3007	Slc25a47	chr2	160731723	160735067	0.50	9.07E-06	2086	Plcg1
chr7	30949764	30960624	-0.27	4.41E-05	1609	Usf2	chr6	114872431	114876879	0.54	9.07E-06	47097	Vgl4
chr7	3226395	3230497	-0.42	4.55E-05	7674	Mir295	chr7	35584763	35587874	0.56	9.82E-06	72	Ankrd27
chr11	102428438	102436277	-0.22	4.73E-05	2036	Grn	chr10	60276957	60285845	0.44	9.86E-06	-3059	Psap
chr7	126920436	126923312	-0.40	4.73E-05	-7004	Kctd13	chr5	122157428	122165935	0.40	9.88E-06	3403	Ppp1cc
chr3	118561884	118565830	-0.37	5.30E-05	1680	Dpyd	chr11	59662632	59664762	0.56	1.02E-05	1203	Mprip
chr2	68844847	68845482	-0.77	5.48E-05	-16392	Cers6	chr6	91156486	91159653	0.49	1.09E-05	1255	Hdac11
chr19	9953841	9956469	-0.43	5.50E-05	-25444	Fth1	chr17	33997916	34001049	0.49	1.12E-05	851	H2-K1
chr7	39516959	39518793	-0.47	5.55E-05	111	Zfp619	chr13	55511600	55514290	0.55	1.17E-05	494	Pdlim7
chr2	34769598	34778431	-0.32	5.63E-05	1925	Hspa5	chr7	127230485	127234821	0.48	1.17E-05	477</td	

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chr9	46256393	46261299	-0.37	0.0002265	-9761	Apoa5	chr2	92429015	92434190	0.40	5.86E-05	2467	Cry2
chr18	60210970	60217657	-0.37	0.0002291	2237	Gm4951	chr8	26975786	26980217	0.40	5.98E-05	666	Zfp703
chr19	36924680	36929368	-0.46	0.0002373	946	Btaf1	chr5	123343415	123347345	0.46	5.98E-05	933	Bcl7a
chr2	132574576	132578293	-0.33	0.0002381	1814	Gpcpd1	chr14	30825541	30827988	0.51	5.98E-05	1171	Tmem110
chr7	28048383	28050251	-0.35	0.0002396	775	Psmc4	chr11	119943011	119949635	0.34	6.54E-05	3232	Baiap2
chr11	106499718	106502665	-0.32	0.0002396	201	Snord104	chr4	44231228	44233755	0.50	6.54E-05	-11224	Mir5106
chr6	124492161	124495259	-0.39	0.0002406	598	C1rl	chr17	56715590	56716915	0.70	6.78E-05	669	Vmac
chr17	46771398	46775154	-0.29	0.000245	642	2310039H08Rik	chr16	18233323	18235077	0.59	7.08E-05	936	Zdhhc8
chr11	51875893	51878049	-0.42	0.0002546	-19490	Phf15	chr9	77916630	77923084	0.36	7.30E-05	2493	Elov5
chr18	6488710	6492344	-0.32	0.0002567	119	Mir1893	chr18	32376358	32379001	0.45	7.41E-05	463	Bin1
chr6	95716219	95719548	-0.45	0.0002628	954	Suclg2	chr17	25015942	25017812	0.64	7.64E-05	792	Ift140
chr10	99259902	99267582	-0.14	0.0002838	512	Dusp6	chr5	33720992	33725235	0.43	7.75E-05	808	Fgr3
chr11	76761988	76764187	-0.38	0.0002863	468	Gosr1	chr5	116019788	116025140	0.47	7.81E-05	1964	Prkab1
chrX	74296846	74298296	-0.55	0.0002929	475	Atp6ap1	chr1	171101890	171103782	0.65	8.11E-05	-18824	1700009P17Rik
chr6	149151724	149156128	-0.40	0.0002972	12414	Mettl20	chr7	38106410	38107460	0.81	8.31E-05	555	Ccne1
chr8	46686324	46687737	-0.49	0.0003081	52485	Gm16675	chr14	50928230	50930834	0.56	8.79E-05	1317	Tmem55b
chr2	35057779	35063525	-0.40	0.0003212	789	Hc	chr11	115161109	115173413	0.38	8.84E-05	3921	Slc9a3r1
chr1	58584711	58588002	-0.32	0.0003226	-23	Fam126b	chr10	80115653	80121134	0.36	8.85E-05	1858	Stk11
chr1	195130261	195132597	-0.38	0.0003264	141	Cr1l	chr4	151993666	151998679	0.41	8.85E-05	7	Phf13
chr7	119616319	119620356	-0.41	0.0003637	510	Acsm1	chr2	168081004	168083427	0.51	9.56E-05	1212	Pard6b
chr7	105598472	105601821	-0.43	0.0003641	-30	Hpx	chr11	100391772	100398021	0.41	9.98E-05	2894	Jup
chr17	84876993	84879521	-0.37	0.000376	-78483	Ppm1b	chr7	127205910	127208497	0.48	0.000103	1265	Tbc1d10b
chr10	111594459	111601538	-0.29	0.0003839	-3725	4933440J02Rik	chr12	102702419	102704968	0.50	0.0001061	1176	Itpk1
chr19	3766708	3770850	-0.28	0.0003843	1359	Suv420h1	chr3	61001955	61003995	0.56	0.0001061	181	P2ry1
chr3	104861688	104866808	-0.20	0.0003917	-257	St7l	chr11	97698152	97701134	0.50	0.0001067	5	Pcgf2
chr4	150700534	150710700	-0.24	0.0003984	-53443	Slc45a1	chr18	39484495	39491913	0.31	0.000107	-959	Nr3c1
chr5	89451059	89459648	-0.44	0.0004001	2545	Gc	chr5	115632160	115633968	0.56	0.0001075	1078	Rab35
chr14	29978121	29979855	-0.40	0.0004088	652	Actr8	chr1	74010891	74019262	0.29	0.0001107	109371	Tns1
chr2	23037814	23040470	-0.33	0.0004099	1098	Abi1	chr8	105263331	105265991	0.45	0.0001119	14	Fbxl8
chr11	98025397	98029041	-0.34	0.0004235	296	Rpl19	chr5	115506612	115511421	0.33	0.000122	2315	Pxn
chr14	64438898	64441670	-0.33	0.0004235	742	Msra	chr6	129532544	129536306	0.38	0.0001274	-1141	1700101I11Rik
chr12	104337235	104344687	-0.32	0.0004331	2476	Serpina3k	chr8	95135326	95144715	0.41	0.0001292	2520	Kifc3
chr7	45153114	45155626	-0.37	0.0004587	-27	Pih1d1	chr4	139190596	139200658	0.29	0.0001304	1517	Capzb
chr6	113044669	113048474	-0.32	0.0004612	245	Thumpd3	chr10	121364076	121368038	0.59	0.0001422	968	Gns
chr4	42997274	43000700	-0.31	0.000464	1520	Vcp	chr3	90078677	90086288	0.35	0.0001423	2962	Tpm3
chr6	38532300	38536273	-0.34	0.0004677	-574	1110001J03Rik	chr1	53783874	53785250	0.58	0.0001483	653	Stk17b
chr8	45626832	45631081	-0.33	0.0004756	121169	Sorbs2	chr8	11475043	11480527	0.40	0.0001567	714	Rab20
chr3	83007694	83014614	-0.38	0.0004762	3259	Fgg	chr1	93342313	93344923	0.47	0.0001589	-26	Ppp1r7
chr5	146831969	146835033	-0.29	0.0004795	612	Rpl21	chr3	145758712	145760447	0.59	0.0001621	888	Ddah1
chr12	51376804	51378892	-0.41	0.0004935	269	Scfd1	chr10	75858281	75861061	0.47	0.0001695	579	Mif
chr7	122969061	122972859	-0.27	0.0004935	397	Rbbp6	chr17	47593362	47600556	0.45	0.0001775	3493	Ccnd3
chr16	22950847	22955400	-0.41	0.000497	2052	Hrg	chr18	38992078	38995289	0.50	0.00019	539	Arhgap26
chr11	51915459	51917756	-0.40	0.0005175	-51023	Cdkn2aipnl	chr16	46494561	46497068	0.55	0.0001902	1153	Pvrl3
chr1	195016386	195020111	-0.34	0.000531	850	A330023F24Rik	chr12	17690190	17692894	0.42	0.0001927	729	Hpcal1
chr1	9544707	9551656	-0.27	0.0005491	136	Adhfe1	chr6	121244768	121249009	0.47	0.0001927	983	Usp18
chr15	80253152	80260330	-0.21	0.000575	1558	Atf4	chr19	4791323	4795992	0.49	0.0002052	220	Rbm4
chr8	41213137	41220826	-0.42	0.0005772	-1825	Fgl1	chr11	96821743	96831236	0.31	0.0002128	-2362	Nfe2l1
chr16	13671081	13673546	-0.34	0.0005841	294	3110001I22Rik	chr3	84040196	84040945	0.85	0.0002194	-409	D930015E06Rik
chr2	130663111	130664967	-0.44	0.0005853	606	Ddrkg1							

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chr13	93633501	93637818	-0.34	0.001369	2099	Bhmt	chr18	35552843	35554985	0.48	0.0004677	505	Snhg4
chr6	23129315	23134379	-0.31	0.0013902	1139	Aass	chr7	81571059	81574240	0.44	0.0004811	1358	Whamm
chr14	62759175	62763231	-0.21	0.0014153	-91	Ints6	chr11	82990127	82992354	0.47	0.0004824	590	Sifn9
chr13	31179014	31180384	-0.60	0.0014269	61387	4930401O12Rik	chr11	90385524	90390891	0.41	0.0004828	2710	Hlf
chr13	5860304	5864698	-0.38	0.0014269	1013	Klf6	chr8	70346937	70354283	0.35	0.0004888	2663	Upf1
chr4	80909804	80915349	-0.24	0.0014423	1891	Lurap1l	chr12	70224588	70229191	0.40	0.0004891	794	Pygl
chr8	25254109	25257463	-0.34	0.0014476	50484	5430421F17Rik	chr10	81407861	81428534	0.35	0.0004921	8976	Nfic
chr6	52011535	52012653	-0.40	0.0014547	455	Skap2	chr10	110918623	110923112	0.51	0.0004932	692	Csrp2
chr10	80292299	80294877	-0.30	0.0014915	1158	Rps15	chr11	95336804	95338296	0.60	0.000497	533	Fam117a
chr12	101080259	101086725	-0.26	0.0015059	210	Smek1	chr9	90267321	90271783	0.36	0.0005065	1217	Tbc1d2b
chr3	94442601	94445002	-0.29	0.0015191	466	Mrpl9	chr4	133630070	133633454	0.37	0.0005137	1667	Zdhhc18
chrX	13041891	13043111	-0.53	0.001549	487	5730405015Rik	chr8	33802388	33809399	0.44	0.0005151	-58123	Smim18
chrX	7789247	7791002	-0.46	0.0015637	130	Gripap1	chr7	16310315	16316009	0.33	0.0005175	3580	Bbc3
chr1	172081388	172084580	-0.34	0.0015637	-235	Ncstn	chr15	99028838	99034218	0.35	0.0005302	1638	Tuba1c
chr17	56215636	56220035	-0.35	0.0016275	1054	Dpp9	chr11	45851331	45856654	0.48	0.0005302	2029	Clint1
chr3	127005253	127007097	-0.35	0.0016305	-7723	Ank2	chr8	105604055	105608229	0.40	0.0005307	914	Fam65a
chr17	79891535	79896962	-0.26	0.0016305	1780	Atl2	chr15	77812964	77826717	0.35	0.0005356	22275	Myh9
chr11	102403029	102410574	-0.18	0.0016305	716	Slc25a39	chr17	66075168	66078601	0.49	0.0005478	162	Ankrd12
chr11	29525533	29527654	-0.35	0.0016585	137	Mtif2	chr11	44518996	44521998	0.58	0.0005853	1121	Rnf145
chr4	95048563	95054853	-0.26	0.0016585	514	Jun	chr12	111372474	111377688	0.32	0.00059	2637	Cdc42bpb
chr14	26636801	26641457	-0.25	0.0016585	933	Arf4	chr15	82897912	82899641	0.53	0.0005943	-303	Gm20324
chr11	78848150	78850077	-0.54	0.001677	22519	Lyrm9	chr8	88199613	88202986	0.47	0.0005961	2087	Papd5
chr12	84396875	84401564	-0.30	0.001677	9810	Entpd5	chr1	180568200	180570725	0.46	0.0006143	488	Parp1
chr11	26209235	26211431	-0.36	0.0017447	243	5730522E02Rik	chr9	119895131	119896608	0.55	0.000622	975	Wdr48
chr10	127367563	127372153	-0.42	0.0017616	686	Inhbc	chr1	36066581	36080621	0.26	0.0006306	5202	Hs6st1
chr19	43983452	43987555	-0.39	0.0017616	1017	Cpn1	chr15	81801129	81804518	0.62	0.0006341	151	Tef
chr7	140834811	140839503	-0.30	0.0017755	1662	1190003J15Rik	chr10	120200876	120202596	0.75	0.0006533	-199	Irak3
chr19	4065594	4071664	-0.27	0.001869	-9335	BC021614	chr3	36862226	36864668	0.47	0.00066	342	4932438A13Rik
chr17	64600711	64608457	-0.20	0.001869	2936	Man2a1	chr15	99714964	99727294	0.32	0.0006638	3537	Gpd1
chr7	141007716	141012306	-0.25	0.001875	733	Iftm3	chr13	54683952	54688884	0.33	0.0006721	1390	Rnf44
chr6	4085208	4087248	-0.40	0.0018867	699	Bet1	chr5	24450877	24455797	0.38	0.0006721	1161	Agap3
chr11	62878686	62880586	-0.39	0.0018885	147	Tvp23b	chr19	46303654	46306823	0.39	0.0006721	-456	Nfk2b
chr2	73909477	73912238	-0.26	0.0019329	437	Atp5g3	chr5	115325718	115329784	0.41	0.0006842	575	Srsf9
chr10	81267898	81270355	-0.36	0.0019623	955	Apba3	chr15	84985427	84989105	0.42	0.0006842	705	5031439G07Rik
chr10	20517401	20518427	-0.44	0.0019735	170096	Mtf2	chr9	77754522	77759096	0.35	0.0006928	2275	Gclc
chr13	39439977	39442072	-0.38	0.0019993	-480149	Slc35b3	chr10	4387082	4390642	0.39	0.0006982	-754	Zbtb2
chr12	30910239	30912989	-0.28	0.0020225	-2	Acp1	chr8	124659888	124664079	0.37	0.0007142	1386	2310022B05Rik
chr3	89408472	89413649	-0.21	0.0020237	803	Flad1	chr15	79111851	79111851	0.38	0.0007172	1058	Micall1
chr9	74952161	74956203	-0.32	0.0020606	1130	Fam214a	chr5	115298445	115302014	0.48	0.0007258	761	Dynll1
chr8	124276758	124281332	-0.36	0.0020619	47652	Galnt2	chr15	73183129	73184836	0.53	0.000754	965	Eif2c2
chr6	116070729	116073440	-0.32	0.0021143	-77079	Plxnd1	chr5	34948632	34949345	0.68	0.0007623	-459	Rgs12
chr6	141875901	141879142	-0.56	0.0021346	-21350	Slco1a4	chr18	35828426	35838315	0.26	0.0007686	3553	Cxxc5
chr7	16220726	16222717	-0.33	0.0021951	311	Dhx34	chr17	46890526	46893061	0.42	0.0007686	1173	Tbcc
chr7	3247876	3250512	-0.43	0.0022051	546	Nlrp12	chr4	119107918	119109164	0.58	0.0007743	-203	Slc2a1
chr2	167850153	167862910	-0.23	0.0022129	-75795	Ptpn1	chr16	18876655	18878819	0.44	0.0007744	988	Hira
chr17	12377462	12389067	-0.25	0.0022723	4656	Plg	chr10	71283517	71285785	0.51	0.0007829	611	Ube2d1
chr1	140178938	140183451	-0.42	0.0022764	2217	Cfh	chr18	54985130	54989302	0.37	0.0007887	2964	Zfp608
chr7	118531908	118534334	-0.35	0.0023054	192	Coq7	chr12	71309826	71311886	0.55	0.0008158	973	Dact1
chr11	106578650	106583345	-0.32	0.0023117	3								

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chr2	126930711	126935004	-0.29	0.0034126	378	Spp12a	chr13	54690012	54694011	0.35	0.0014665	1949	Rnf44
chr2	106973221	106974982	-0.35	0.0035182	296	Arl14ep	chr11	35975456	35980426	0.34	0.0014677	2148	Wwc1
chr6	138138693	138148132	-0.25	0.0036082	2876	Mgst1	chr7	142095185	142096644	0.59	0.0015541	-630	Dusp8
chr4	141544305	141547895	-0.25	0.0036192	-61	B330016D10Rik	chr10	79762713	79768563	0.42	0.0015543	1314	Rnf126
chr9	21922988	21928301	-0.22	0.0036192	1644	Tmem205	chr8	70802758	70805799	0.42	0.0015991	-4170	Il12rb1
chr6	108657300	108666689	-0.15	0.0037196	-1060	0610040F04Rik	chr9	63753665	63761159	0.31	0.0016207	582	Smad3
chr19	3707232	3712532	-0.17	0.0037606	1550	1810055G02Rik	chr11	115512216	115515070	0.48	0.0016366	727	Hn1
chr7	31108120	31116967	-0.12	0.0037856	-1546	Hpn	chr6	34862319	34868081	0.34	0.0016406	2055	Tmem140
chr19	10633666	10636428	-0.30	0.0038358	815	Vwce	chr19	10238368	10240944	0.43	0.0016406	1092	Myrf
chr18	40217736	40220044	-0.30	0.0038844	509	Yipf5	chr10	80622659	80627116	0.34	0.0016447	2108	Csnk1g2
chr18	34758250	34761063	-0.22	0.0039664	751	Fam53c	chr19	43672698	43677054	0.36	0.0016585	5	Slc25a28
chr17	35088684	35090895	-0.31	0.003997	499	Abhd16a	chr4	129376424	129377565	0.58	0.0016585	1034	Zbtb8a
chr8	89037383	89045319	-0.15	0.0039983	2811	Sall1	chr6	28260178	28261146	0.62	0.0016585	939	Zfp800
chr4	97777480	97781509	-0.25	0.0040086	1869	Nfia	chr4	129187213	129192146	0.34	0.0016687	-115	Yars
chr12	30583616	30586389	-0.30	0.0040922	560	Tmem18	chr11	101069194	101071588	0.46	0.001677	298	Naglu
chr1	135429212	135431378	-0.30	0.0041488	196	Ipo9	chr15	100465916	100470351	0.38	0.0016825	-900	Letmd1
chr7	13277712	13279831	-0.27	0.0041488	-50	6330408A02Rik	chr7	128737302	128740723	0.37	0.0017396	1417	Mcmbp
chr17	70999159	71003706	-0.26	0.0041565	1101	Myl12a	chr8	124946660	124948804	0.49	0.0017886	1522	Egln1
chr5	31191201	31194764	-0.24	0.0041565	157	Eif2b4	chr9	70654666	70657201	0.50	0.0017963	1241	Fam63b
chr11	107478898	107482206	-0.24	0.0041956	1025	Psmid12	chr17	25863892	25869516	0.29	0.0018156	2034	Fam195a
chrX	102187960	102189433	-0.41	0.004211	-325	Rps4x	chr16	4885241	4888943	0.44	0.0018578	993	Mgrn1
chr11	70517173	70522516	-0.23	0.004211	636	Gltpd2	chr15	100302930	100308938	0.30	0.0018703	1118	Mettl7a1
chr7	30727798	30730919	-0.31	0.0042308	176	Tmem147	chr7	143829003	143833878	0.33	0.0018885	8274	Dhcr7
chr1	172147003	172150546	-0.23	0.0042308	760	Dcaf8	chr17	88596974	88599864	0.40	0.0018885	-28135	Ston1
chr5	108432820	108435069	-0.24	0.004233	434	Atp5k	chr5	112341706	112344604	0.43	0.0018885	61	Hps4
chr7	101968246	101972946	-0.24	0.0042834	754	Numa1	chr19	46761470	46763001	0.53	0.0018885	627	Cnnm2
chr11	78496661	78503018	-0.31	0.0043613	720	Vtn	chr7	19745567	19751402	0.28	0.0019146	1089	Pvrl2
chr15	100226483	100229944	-0.24	0.0043895	355	Atf1	chr8	122282384	122287036	0.37	0.0019146	2570	Zfpm1
chr12	111535845	111539945	-0.28	0.0044833	-205	Eif5	chr17	66517104	66520427	0.39	0.0019146	905	Rab12
chr2	158027195	158030721	-0.20	0.0045085	165	Rprd1b	chr11	3288600	3292134	0.36	0.0019426	-89	Patz1
chr13	31557084	31560799	-0.28	0.0045297	772	Foxq1	chr5	139379160	139392415	0.36	0.0019529	-4116	Gpr146
chr11	107011644	107012949	-0.39	0.0045472	-12771	Kpna2	chr9	119337969	119345365	0.38	0.0019623	374	Acaa1a
chr7	31053000	31058857	-0.22	0.0045969	-272	Fxyd1	chr11	57961652	57963879	0.48	0.0019623	-46298	Larp1
chr7	90059594	90062413	-0.30	0.0047165	31845	E230029C05Rik	chr3	104637079	104641796	0.30	0.0019702	770	Slc16a1
chr18	82690779	82693796	-0.28	0.0047283	447	Zfp236	chr13	111686607	111688141	0.48	0.001979	1197	Mier3
chr1	171212038	171228484	-0.28	0.0047476	2253	Tomm40l	chr10	77580773	77585376	0.32	0.0019993	1308	Pttg1ip
chr16	90734954	90742004	-0.44	0.0047487	156	Mrap	chr7	125704012	125708995	0.30	0.0020298	1185	Gtf3c1
chr1	171149094	171151643	-0.26	0.0047518	235	Sdhc	chr5	35104126	35106396	0.50	0.0020335	436	Lrpap1
chr15	102469874	102472835	-0.29	0.0049171	723	Pcbp2	chr9	108853442	108855493	0.54	0.0020619	425	Slc26a6
chr7	73618525	73620052	-0.35	0.0049184	-60893	1810026B05Rik	chr1	133245036	133248511	0.37	0.0020691	677	Plekha6
chr3	132682295	132685316	-0.24	0.0049184	74	Aimp1	chr8	71487489	71490695	0.41	0.0021035	990	Gtbp3
chr3	5217727	5221342	-0.24	0.005041	981	Zfhx4	chr4	149518224	149519436	0.55	0.0021035	590	Ctnnbip1
chr6	29347118	29349586	-0.28	0.0050978	234	Calu	chr4	141275914	141279502	0.42	0.0021346	-23512	Epha2
chr11	70697964	70704348	-0.16	0.0051248	609	Kif1c	chr15	79669777	79673456	0.43	0.0021346	749	Tomm22
chr1	54438136	54439340	-0.37	0.0051291	233	Gtf3c3	chr4	120813377	120818523	0.46	0.0021346	9765	Nfyc
chr3	96485198	96489556	-0.27	0.0051444	-35071	BC107364	chr7	31146808	31152596	0.35	0.0021471	1348	Gramd1a
chr2	180966007	180969447	-0.21	0.0051444	428	Arfgap1	chr11	106996832	106999616	0.38	0.0021568	1301	Kpna2
chr18	12859221	12865615	-0.25	0.0051855	295	Osbp1a	chr10	80094313	80104173	0.29	0.0021828	3459	Sbno2
chr4	108066707	108072160	-0.29										

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chr19	53943030	53944570	-0.33	0.0078952	-505	Shoc2	chr3	52101183	52105896	0.32	0.003125	1467	Maml3
chr4	96660760	96664451	-0.36	0.0079475	1514	Cyp2j5	chr4	15265002	15269264	0.34	0.003149	1314	Tmem64
chr15	102325724	102327776	-0.31	0.0079475	635	Pfdn5	chr1	42850724	42852516	0.48	0.0031761	388	Mrps9
chr3	55111389	55114761	-0.28	0.0079475	910	Spg20	chr1	85893704	85896582	0.39	0.0031768	634	Itm2c
chr18	3335303	3339252	-0.20	0.0079475	312	Crem	chr14	55899241	55900648	0.51	0.0032036	288	Sdr39u1
chr15	67170514	67178818	-0.12	0.0080908	2216	St3gal1	chr11	74637364	74639480	0.53	0.0032428	-11072	Cluh
chr1	166377937	166381262	-0.25	0.0080991	433	Tada1	chr19	43517915	43526000	0.41	0.0033048	2648	Got1
chr3	102678675	102679816	-0.64	0.0081043	-55524	Tspan2	chr9	123020078	123022182	0.43	0.0033789	-195	Tmem42
chr16	94311332	94314355	-0.34	0.008115	-15578	Ripply3	chr1	33668964	33671010	0.44	0.0033893	164	1700001G17Rik
chr6	141629425	141633371	-0.41	0.0082461	1881	Slco1b2	chr1	182408079	182411227	0.37	0.0034018	487	Trp53bp2
chr18	74267464	74270545	-0.26	0.008358	717	Mbd1	chr9	121994886	121996039	0.60	0.0034211	564	Gtdc2
chr11	77685001	77689076	-0.20	0.0083946	900	Nufip2	chr8	71535025	71538985	0.47	0.0034383	432	Bst2
chr2	50293953	50297459	-0.23	0.0084121	971	Mmadhc	chr9	106445532	106455332	0.33	0.003501	1946	Abhd14b
chr18	50127553	50131217	-0.25	0.0084377	1185	Hsd17b4	chr2	27472041	27475717	0.33	0.003513	1519	Brd3
chr4	108109635	108119351	-0.25	0.0084642	4054	Scp2	chr4	141534893	141538556	0.33	0.0035182	1873	Spen
chr2	144163513	144166955	-0.33	0.008472	24056	Gm5535	chr15	102097944	102107295	0.27	0.0035939	-368	Tenc1
chr10	50591341	50594089	-0.23	0.008472	47	Ascc3	chr1	172309360	172313955	0.42	0.0036192	-749	Igsf8
chr8	72722944	72724690	-0.27	0.008518	530	Sin3b	chr9	61370759	61375128	0.41	0.0036557	578	Tle3
chr1	43097677	43100004	-0.25	0.0086584	131	Al597479	chr8	122676236	122678156	0.56	0.0037061	979	Cbfa2t3
chr2	35098073	35102314	-0.32	0.0086727	492	Al182371	chr7	19358123	19362752	0.32	0.0037155	-778	Ppp1r13l
chr10	128694851	128696441	-0.26	0.0086727	622	Rab5b	chr11	119389595	119395542	0.26	0.0037512	2097	Mir1932
chr2	90902864	90905655	-0.27	0.0086879	462	Ndufs3	chr6	39115154	39119200	0.38	0.0037594	1172	Parp12
chr16	94567765	94569257	-0.38	0.0086888	-1694	Dyrk1a	chr17	33927724	33931737	0.28	0.0039492	-163	Rgl2
chr9	70011319	70015939	-0.23	0.0086888	1080	Gtf2a2	chr12	77238824	77240176	0.49	0.0040014	762	Fut8
chr3	83050870	83056808	-0.29	0.0087603	-1698	Plrg1	chr6	83120018	83122771	0.36	0.0040836	67	Wbp1
chr9	48602459	48606372	-0.26	0.0088162	662	Nnmt	chr13	110394088	110397419	0.37	0.0040836	710	Plk2
chr16	87609625	87612558	-0.34	0.0089463	57762	ORF63	chr5	113150720	113153359	0.44	0.0040927	11274	2900026A02Rik
chr2	173142342	173149520	-0.27	0.0089653	-7141	Pck1	chr19	9134251	9136313	0.40	0.004104	284	Asrg1
chrX	155215125	155216497	-0.35	0.0090271	598	Sat1	chr5	137745191	137748729	0.32	0.0041326	992	Tsc22d4
chr18	7867081	7871273	-0.22	0.0090414	-19	Wac	chr5	73490823	73493237	0.37	0.0041488	1005	Dcun1d4
chr4	101291276	101294500	-0.24	0.0090691	-27606	Jak1	chr5	74065387	74069775	0.37	0.0041548	830	Usp46
chr5	65388497	65392506	-0.18	0.0090966	930	Rpl9	chr2	137113316	137118370	0.37	0.0042072	677	Jag1
chr19	9963118	9965032	-0.34	0.0091111	-16524	Fth1	chr15	98107956	98109277	0.51	0.0042179	146	Pfkm
chr8	41130446	41135673	-0.31	0.0091111	667	Mtus1	chr9	114730190	114733645	0.33	0.0042308	715	Cmtm6
chr14	20392816	20394520	-0.33	0.0091161	-113	Mrps16	chr8	84964586	84967197	0.42	0.0042308	120	Rnaseh2a
chr2	154598710	154604684	-0.23	0.0091161	1976	Pxmp4	chr11	51648469	51650944	0.42	0.0042308	-1247	D930048N14Rik
chr1	171112559	171114814	-0.37	0.0091478	-7974	1700009P17Rik	chr15	102376070	102378004	0.43	0.0042308	-10766	Sp7
chr10	87857104	87866150	-0.26	0.0094404	517	Igf1	chr19	55097400	55107120	0.39	0.0043315	-2813	Gpam
chr6	31213635	31222915	-0.13	0.0096007	-2075	2210408F21Rik	chr8	117800504	117803019	0.38	0.0043382	168	Mphosph6
chr2	27675301	27677144	-0.25	0.0096114	-978	Rxra	chr4	88787520	88788679	0.58	0.0044339	123	Gm13277
chr1	64616226	64618712	-0.23	0.0096197	-301	Mettl21a	chr2	26498352	26505568	0.26	0.0044689	1862	Notch1
chr11	67051354	67053771	-0.25	0.0096291	56	Adprm	chr4	140702772	140704354	0.44	0.0044689	2091	Rcc2
chr11	5096386	5101249	-0.15	0.009638	260	Ewsr1	chr3	30967742	30970262	0.37	0.0044762	413	Phc3
chr11	87442171	87443533	-0.38	0.009722	15262	Tex14	chr7	141192329	141194954	0.34	0.0044888	363	Hras1
chr11	106214457	106219282	-0.18	0.0099029	-56	Ddx42	chr16	8734189	8738519	0.31	0.0045269	1988	Usp7
chr2	167841378	167845643	-0.24	0.0099275	-88816	Ptpn1	chr3	69003752	69007563	0.34	0.0045309	686	Smc4
chr9	48727724	48741693	-0.24	0.0099275	101237	Zbtb16	chr8	116991052	116994460	0.35	0.0045472	693	Gcsh
chr9	13748072	13750636	-0.25	0.0099701	174	Mtmm2	chr2	52072153	52074510	0.43	0.0045472	495	Rif1
chr7	141537748	141541031	-0.22	0.0101675	468	Chid1	chr14	54463405					

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chr1	162864225	162866800	-0.32	0.0130447	1036	Fmo1	chr9	106367894	106368735	0.54	0.0066591	-317	Dusp7
chrX	103979744	103981418	-0.35	0.0136751	703	Rlim	chr13	42051913	42054488	0.39	0.0067681	1180	Hivep1
chr11	23664454	23667398	-0.20	0.0137505	9	Pex13	chr9	106437164	106439954	0.38	0.0069322	-323	Acy1
chr16	18497543	18500496	-0.23	0.0137613	149	Gnb1l	chr17	34834651	34839183	0.29	0.0070344	-14	Stk19
chr11	5954614	5957041	-0.23	0.0137613	70	Ykt6	chr15	82013116	82016321	0.37	0.0070913	1422	Des1
chr9	64960072	64962126	-0.27	0.0138144	163	Vwa9	chr9	44878365	44881351	0.32	0.0071447	1416	Mll1
chr15	102397627	102401128	-0.20	0.0138144	-6938	Sp1	chr17	27905352	27911458	0.33	0.0071459	-681	Taf11
chr3	138142206	138145069	-0.22	0.0138749	100	Trmt10a	chr12	21415464	21418948	0.33	0.0072159	230	Ywhaq
chr11	121351440	121355532	-0.20	0.0140611	961	Wdr45b	chr5	129005751	129008747	0.41	0.0072217	1315	Stx2
chr6	137734313	137736693	-0.25	0.0141304	422	Strap	chr5	105698069	105702147	0.33	0.0073005	140	Lrrc8d
chr1	64530641	64533335	-0.23	0.0141576	-815	Creb1	chr19	5687118	5693364	0.21	0.0073244	1111	Map3k11
chrX	104412600	104414166	-0.35	0.0141616	463	Abcb7	chr13	29982636	29986137	0.36	0.0073747	1677	E2f3
chr6	134792186	134792858	-0.46	0.0141776	106	Dusp16	chr11	69836733	69839857	0.35	0.0073811	-229	Tmem256
chr9	64172229	64175801	-0.24	0.0142345	629	Rpl4	chr2	92455831	92460908	0.28	0.0074508	1425	Slc35c1
chr17	34979227	34983469	-0.21	0.0142345	-505	Lsm2	chr1	92933539	92937797	0.30	0.0074555	1261	Capn10
chr5	135688905	135695357	-0.18	0.0142923	2918	Por	chr13	55599364	55601731	0.37	0.0075766	437	B4galt7
chr11	103130375	103134067	-0.20	0.0143513	-1117	Hexim2	chr3	144717296	144720032	0.36	0.0076539	1659	Sh3glb1
chr11	72471536	72475750	-0.26	0.01436	1384	Spns2	chr11	70561574	70565854	0.26	0.0077209	834	Mink1
chr11	32266599	32268272	-0.27	0.0143613	179	Nprl3	chr11	94597131	94603454	0.30	0.0078107	1494	Acsf2
chr11	121515465	121519976	-0.24	0.0143613	1622	Zfp750	chr5	9099730	9104483	0.35	0.0078107	1370	Tmem243
chr11	80140790	80143594	-0.22	0.0143613	-39	Tefm	chr5	124024227	124032512	0.30	0.0078532	3891	Vps37b
chr18	46722904	46730594	-0.19	0.0144047	1593	Cdo1	chr8	86744414	86745643	0.45	0.0078532	-670	Gm10638
chr19	5794466	5805523	-0.14	0.0144353	2677	Malat1	chr2	158138594	158146675	0.28	0.0078577	3758	Tgm2
chr14	59438297	59442391	-0.17	0.0145196	533	Setdb2	chr17	24139432	24142493	0.34	0.0079102	627	Pdpk1
chr12	8207348	8209590	-0.26	0.0146478	343	1110057K04Rik	chr8	70717854	70725645	0.24	0.0079131	-2314	Pde4c
chr17	84681549	84685438	-0.20	0.0146514	363	Abcg8	chr8	83652613	83654369	0.42	0.0079475	814	Gipc1
chr1	151130343	151133801	-0.43	0.0146787	-5961	C730036E19Rik	chr19	46640378	46648854	0.32	0.007954	21216	Wbp1l
chr8	61487405	61488880	-0.32	0.0147936	409	Cbr4	chr7	128744336	128748973	0.31	0.00801	1785	Sec23ip
chr6	128523174	128527765	-0.27	0.0148454	1251	Pzp	chr18	60500049	60502139	0.39	0.00801	889	Smim3
chr9	102624741	102628579	-0.23	0.0150182	365	Anapc13	chr7	45463198	45467501	0.32	0.0080339	1549	Bax
chr11	97764887	97767495	-0.21	0.0150845	422	Cwc25	chr13	34643124	34654212	0.23	0.008115	4013	Pxdc1
chr4	136050003	136053972	-0.17	0.0150845	1384	Rpl11	chr17	25842797	25845245	0.35	0.0083946	830	Rhot2
chr5	127630945	127634439	-0.23	0.0153932	431	Glt1d1	chr2	94153545	94158049	0.30	0.0084325	2112	Hsd17b12
chr4	40756752	40758561	-0.27	0.0154399	229	Smu1	chr4	136205804	136208098	0.37	0.0085383	587	Asap3
chr18	46594635	46600390	-0.17	0.0154942	23	Tmed7	chr13	23620456	23623175	0.33	0.0086888	-691	Hist1h2be
chr9	63123231	63124513	-0.35	0.0156756	23108	Skor1	chr5	66616694	66619546	0.42	0.0090414	551	Apbb2
chr7	127903747	127905620	-0.36	0.0156839	611	Bckdk	chr5	117283897	117288150	0.33	0.0090419	1541	Pebp1
chrX	73963943	73968436	-0.25	0.0157078	126	Hcfc1	chr12	111814051	111818231	0.39	0.0090822	1972	Zfyve21
chr1	175630626	175635796	-0.20	0.0157711	1019	Kmo	chr5	53997886	54001933	0.35	0.0091478	1387	Stim2
chr9	121856187	121859047	-0.20	0.0157711	383	Higd1a	chr11	116011151	116013401	0.40	0.0091478	443	Galk1
chr7	44847331	44851978	-0.14	0.0157946	-44	Mir707	chr1	119502752	119505541	0.32	0.0091773	636	Ralb
chr4	132258628	132261339	-0.21	0.0159213	1566	Gmeb1	chr17	57245768	57251339	0.27	0.0091807	-897	Trip10
chr15	61983490	61989498	-0.15	0.0159213	1154	Myc	chr11	78161961	78166960	0.28	0.0092445	1090	Traf4
chr17	57031939	57032947	-0.55	0.0161082	-936	Khsrp	chr16	50429184	50433060	0.36	0.0093151	1267	Bbx
chr4	3573559	3576211	-0.25	0.0161308	7	Tgs1	chr1	156040628	156046531	0.32	0.0094192	2719	Tor1aip2
chr4	124714101	124716462	-0.23	0.0163806	421	Sf3a3	chr2	32533654	32539946	0.31	0.0094404	1442	Fam102a
chr1	118387721	118390725	-0.20	0.0164351	166	Clasp1	chr16	91009469	91012448	0.32	0.0094404	137	Synj1
chr7	29952882	29954991	-0.30	0.0164597	-2043	Zfp74	chr14	20177005	20182002	0.33	0.0094404	2279	Kcn5
chr19	29249704	29251612	-0.27	0.0164597	-1169	Jak2	chr15	77921156	77922937	0.42	0.00944		

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chr17	46722372	46730086	-0.17	0.0200174	2936	Gnmt	chr3	145648068	145651599	0.35	0.0117051	152	Cyr61
chr8	127438565	127441998	-0.30	0.020066	140630	Pard3	chr4	88799201	88800183	0.51	0.011759	118	Gm13275
chr1	151342396	151347657	-0.13	0.0200833	529	lvns1abp	chr6	122308708	122311365	0.30	0.0118643	1027	M6pr
chr18	38247408	38251628	-0.22	0.0201074	680	1700086O06Rik	chr5	122284181	122287887	0.33	0.0120185	1637	Pptc7
chr10	81265550	81267213	-0.30	0.0202557	545	Mrpl54	chr14	54574509	54579595	0.37	0.0120323	609	Ajuba
chr2	121472996	121474838	-0.23	0.0202778	106	Mfap1b	chr10	78007139	78011102	0.33	0.0120619	676	Pfkl
chr17	20944298	20947513	-0.25	0.0203436	452	Ppp2r1a	chr11	95713069	95715766	0.33	0.0120619	-1663	1110035M17Rik
chr1	181255596	181259837	-0.18	0.0203539	-45738	Wdr26	chr9	75406481	75411414	0.26	0.0120979	412	Mapk6
chr18	32239060	32241882	-0.20	0.0204401	141	Ercc3	chr10	77087875	77091728	0.35	0.0120979	23904	Col18a1
chr9	101072596	101078922	-0.14	0.0206855	-24810	Msl2	chr5	34182794	34187843	0.32	0.0122255	2392	Mxd4
chr4	9775025	97754725	-0.18	0.0207607	-25000	Nfia	chr4	101259657	101265888	0.25	0.0122561	2510	Jak1
chr7	79840662	79845359	-0.19	0.0209148	-658	Anpep	chr12	59217166	59220072	0.37	0.0122561	864	Fbxo33
chr2	165396809	165398537	-0.31	0.0210136	2721	Ocstamp	chr11	100574453	100576318	0.47	0.0123267	447	Cnp
chr11	51687383	51689833	-0.23	0.0210775	26	0610009B22Rik	chr13	32800943	32805100	0.39	0.0124702	992	Wrnip1
chr14	75242098	75245207	-0.32	0.0210904	1366	Cpb2	chr14	121035773	121037169	0.41	0.0125442	898	Farp1
chr5	64881149	64882407	-0.33	0.0212653	50921	Tlr1	chr9	65675366	65680811	0.33	0.0126013	1541	Oaz2
chr9	78175459	78177379	-0.25	0.0213352	506	C920006O11Rik	chr15	79690775	79693519	0.37	0.0128912	1252	Gtpbp1
chr12	87146208	87149221	-0.23	0.0213557	8	Gstz1	chr14	11551788	11557346	0.23	0.0129245	1015	Ptprg
chr13	38036070	38038774	-0.21	0.0213557	434	Riok1	chr7	43310689	43314043	0.34	0.0131168	895	Zfp715
chr9	61912191	61915579	-0.19	0.0213903	625	Rplp1	chr9	35421496	35422535	0.48	0.0132154	-30060	Cdon
chr12	87441290	87444866	-0.20	0.0215038	761	Alkbh1	chr11	68690765	68693616	0.34	0.0132851	276	Myh10
chr7	126975295	126978014	-0.22	0.0216567	741	Cdip1	chr9	114400497	114402749	0.33	0.0133975	505	Glb1
chr7	126473112	126476803	-0.19	0.0220334	173	Sh2b1	chr7	127769028	127773041	0.27	0.0134079	1220	Orai3
chr3	94371853	94376328	-0.17	0.0220608	1265	Rorc	chr6	124754438	124759760	0.30	0.0134079	-612	Atn1
chr7	24111654	24113613	-0.26	0.0222168	314	Zfp112	chr18	56431445	56433815	0.36	0.013852	499	Gramd3
chr3	115886795	115889382	-0.22	0.0224449	-29	A930005H10Rik	chr10	966616866	966622402	0.32	0.0140274	2634	Btg1
chr3	103807960	103810729	-0.19	0.0224449	43	Dclre1b	chr16	23223862	23227504	0.32	0.0140559	-337	St6gal1
chr19	46598799	46605273	-0.16	0.0225047	2931	Wbp1l	chr18	46522079	46525997	0.27	0.0141304	1933	Fem1c
chr4	117680978	117683040	-0.27	0.0225548	216	Dmap1	chr2	156989873	156992315	0.38	0.014134	1017	Ndrg3
chr13	119461598	119464449	-0.21	0.0226408	265	4833420G17Rik	chr8	25752573	25755887	0.29	0.0142345	50	Ddh2d
chr1	58391016	58395397	-0.22	0.0226643	71	Bzw1	chr15	55111738	55115514	0.36	0.0142345	-44	Gm9920
chr12	10390329	10392051	-0.27	0.0229055	411	Rdh14	chr2	129065072	129067297	0.40	0.0143222	238	Ttl
chr4	145191976	145196072	-0.20	0.0229055	981	Vps13d	chr4	156195620	156197534	0.40	0.0143513	911	Agrn
chr8	66485086	66487174	-0.28	0.023144	377	Tma16	chr12	108833559	108838793	0.27	0.0143613	-300	Slc25a29
chr6	99519428	99524307	-0.16	0.0232138	-86522	Foxp1	chr15	55089461	55091286	0.40	0.0143613	105	Dsccl1
chr4	150797196	150801693	-0.22	0.0232843	55505	1700045H11Rik	chr4	139308743	139312970	0.25	0.0144353	113	Akr7a5
chr8	40861177	40867127	-0.19	0.0234384	1760	Slc7a2	chr11	109609858	109611403	0.41	0.0145093	759	Wipi1
chr17	40933562	40936321	-0.22	0.023443	257	Mut	chr4	108458074	108461974	0.34	0.0146514	599	Zcchc11
chr1	171245488	171248426	-0.20	0.0235729	155	Ndufs2	chr11	115823810	115826826	0.37	0.0146514	1261	Ligl2
chr12	98736053	98738326	-0.24	0.023595	216	Ptpn21	chr1	82289017	82292811	0.30	0.0148194	525	Irs1
chr7	127799990	127804091	-0.20	0.0236235	1432	Hsd3b7	chr4	107176803	107181622	0.24	0.0148215	583	Tmem59
chr19	47088126	47092132	-0.17	0.0236418	496	Usmg5	chr1	165762905	165770315	0.22	0.0148454	2831	Creg1
chr2	174330062	174333427	-0.23	0.0237375	1656	Gnas	chr2	32380270	32382817	0.34	0.0151749	372	1110008P14Rik
chr11	116272326	116275185	-0.19	0.0237888	462	Srp68	chr11	60774847	60783280	0.20	0.0151832	1539	Smcr8
chr19	6977607	6982102	-0.14	0.0239659	586	Fkbp2	chr8	57485383	57488823	0.34	0.0151832	757	Sap30
chr9	109831503	109834365	-0.22	0.0242722	141	Nme6	chr2	79634614	79637366	0.34	0.0151889	566	Ssfa2
chr3	89265939	89267890	-0.23	0.0244143	363	Dpm3	chr9	58247073	58250883	0.33	0.0153241	808	Pml
chrX	20616247	20619339	-0.22	0.0244782	35	Rbm10	chr1	136343682	136346820	0.33	0.0153854	853	Camsap2
chr2	127207386	127210009	-0.24	0.0244789	294								

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chr10	61645807	61651609	-0.15	0.0294407	88	Ppa1	chr8	71611106	71613625	0.31	0.0190455	1342	Glt25d1
chr19	12004578	12007050	-0.22	0.029487	30926	Olfr1423	chr1	58503598	58505126	0.37	0.019056	747	Orc2
chr9	106232003	106248797	-0.13	0.0297248	7554	Alas1	chr11	93993783	93999920	0.28	0.0191486	761	Spag9
chr9	40798519	40801032	-0.24	0.0297764	-1497	Hspa8	chr8	105964612	105967287	0.33	0.0193648	166	Slc12a4
chr1	58651898	58653893	-0.31	0.0298243	255	Gm20257	chr17	35834652	35838927	0.27	0.0194229	1512	Tubb5
chr7	90128537	90136401	-0.20	0.0298243	2238	Picalm	chr7	99137756	99141420	0.26	0.0194954	1556	Uvrag
chrX	36795364	36798129	-0.23	0.0299768	1095	Slc25a5	chr8	85118897	85120134	0.45	0.0195338	3580	Zfp791
chr18	6764517	6767082	-0.27	0.0300026	595	Rab18	chr11	4185924	4189958	0.27	0.0195818	1109	Tbc1d10a
chr18	11047681	11054752	-0.14	0.0301708	-1293	Gata6	chr10	125965458	125969620	0.27	0.019906	1321	Lrig3
chr1	127728528	127733221	-0.27	0.030277	1462	Acmsd	chr7	45099562	45104812	0.28	0.0199229	1635	Fcgtr
chr5	150663626	150665770	-0.22	0.0303831	914	N4bp2l2	chr14	67068747	67073091	0.28	0.0199232	1552	Ppp2r2a
chr9	45039688	45043870	-0.21	0.0305301	-564	Mpzl2	chr15	53341838	53346242	0.29	0.0199232	2143	Ext1
chr4	43655134	43657015	-0.27	0.0306575	371	Hint2	chr11	78464981	78466679	0.36	0.0199232	130	Slc46a1
chr4	148623449	148627730	-0.22	0.0312366	1407	Tardbp	chr4	53440439	53442688	0.37	0.0199232	1151	Slc44a1
chr13	38204691	38205811	-0.31	0.0313497	313	Snrnp48	chr16	14704596	14708367	0.34	0.0200168	623	Sna12
chr2	153740468	153744073	-0.21	0.0313627	984	Mapre1	chr5	121847665	121848869	0.38	0.02002	-760	Fam109a
chr2	164454091	164460268	-0.23	0.0314694	-3791	Sys1	chr18	70567963	70571216	0.32	0.020066	1298	Mbd2
chr7	140136960	140138792	-0.23	0.031747	313	Mtg1	chr4	41567756	41569668	0.44	0.0200662	815	Fam219a
chr6	72114387	72120961	-0.21	0.031747	5266	4933431G14Rik	chr12	36155270	36158783	0.29	0.0202389	-97	Ankmy2
chrX	17571463	17572422	-0.34	0.0321414	355	Fundc1	chr17	31629559	31633214	0.44	0.0202557	5819	Cbs
chr11	98201471	98206436	-0.16	0.0322698	649	Cdk12	chr3	88500918	88503636	0.27	0.0202778	1055	Lmna
chr17	29006061	29008907	-0.19	0.0324035	453	Stk38	chr4	88796398	88797375	0.49	0.0205221	145	Gm13278
chr4	46538181	46540992	-0.24	0.0324093	-3442	Trim14	chr12	111676880	111680200	0.35	0.0206003	436	Trmt61a
chr8	3462932	3468779	-0.14	0.0325664	1793	Pex11c	chr11	97362391	97366200	0.30	0.0209148	1745	Socs7
chr9	20887486	20889879	-0.21	0.03258	508	Ppan	chr2	27423290	27428283	0.32	0.0210919	1039	Vav2
chr5	25222472	25224005	-0.35	0.0328785	346	Galnt11	chr8	70742610	70745535	0.40	0.0211268	-10606	Rab3a
chr9	48832736	48837397	-0.23	0.0329594	879	Zbtb16	chr10	81133850	81142400	0.20	0.0212634	1855	Zbtb7a
chr2	121505606	121508291	-0.20	0.0329959	226	Wdr76	chr4	129057997	129061120	0.34	0.021367	1288	Rnf19b
chr4	132272555	132276169	-0.20	0.0330379	-12	Taf12	chr7	126271142	126277446	0.29	0.0216567	1676	Sbk1
chr6	30508902	30510134	-0.31	0.0330848	188	Tmem209	chr15	76575264	76580143	0.30	0.021781	1345	Adck5
chr3	97627607	97631918	-0.24	0.0331383	925	Fmo5	chr11	50174149	50176489	0.39	0.0218023	469	3010026009Rik
chr5	140417653	140421871	-0.16	0.0331383	458	Eif3b	chrX	7841807	7843622	0.38	0.0218354	884	Otud5
chr9	35209241	35213715	-0.16	0.0331753	276	Srpr	chr1	193152471	193160372	0.35	0.0220334	3310	Irf6
chr4	116554968	116559403	-0.15	0.0331955	-541	Gpbp1l1	chr10	40138007	40142341	0.32	0.0220682	2080	Slc16a10
chr3	88774670	88776686	-0.24	0.0333287	-1378	583041710Rik	chr13	63561556	63569109	0.23	0.0220981	188	Ptch1
chr6	128842106	128844319	-0.19	0.0335336	-16897	Klrb1b	chr19	29804405	29806153	0.41	0.0220981	730	9930021J03Rik
chr16	35487234	35491427	-0.21	0.0336382	1543	Pdia5	chr6	120819042	120823567	0.24	0.0224449	1381	Atp6v1e1
chr2	131261569	131264640	-0.18	0.0338231	605	Pank2	chr7	28594732	28598968	0.30	0.0226408	1334	Pak4
chr9	79791799	79794899	-0.19	0.033897	81	Tmem30a	chr10	81383694	81386022	0.34	0.0227786	431	Dohh
chr5	124481795	124484843	-0.21	0.0339359	165	Snrnp35	chr14	16363504	16367490	0.28	0.0228097	292	Top2b
chr16	93926789	93930570	-0.19	0.0340951	888	Cldn14	chr18	84085710	84093076	0.24	0.0228242	1236	Zadhd2
chr11	75435138	75440574	-0.18	0.0342043	1645	Serpinf2	chr17	31519143	31521910	0.35	0.0229055	412	Ndufv3
chr2	85036329	85038594	-0.20	0.0342219	11	Ssrrp1	chr4	45017816	45020274	0.33	0.0229345	421	Poir1e
chr6	149098340	149101582	-0.20	0.0342543	1719	Dennd5b	chr3	95879333	95882362	0.30	0.0229752	1381	Gm129
chr15	77968676	77972021	-0.22	0.0344113	476	Eif3d	chr8	120664668	120670190	0.28	0.0232138	683	Emc8
chr12	112692135	112694424	-0.21	0.0345983	1440	Zbtb42	chr7	16308877	16310296	0.39	0.0232138	4	Bbc3
chr6	85847756	85851202	-0.26	0.03486	-17589	Nat8	chr7	83882657	83885704	0.40	0.0234829	161	Mesdc1
chr16	20546772	20550542	-0.15	0.0348955	55	Abcf3	chr19	41931721	41934909	0.30	0.0237375	-1	Exosc1
chr13	73330530	73332073	-0.28	0.0353964	293	Mrpl36	chr15	73644437	73645666</				

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chr11	21237989	21241269	-0.20	0.0407909	741	Vps54	chr12	102876012	102877959	0.33	0.0300125	1421	Btbd7
chr8	94432971	94435860	-0.27	0.0410239	688	9330175E14Rik	chr2	152669272	152673691	0.28	0.0302585	2021	H13
chr16	87493896	87496995	-0.20	0.0410307	424	Cct8	chr15	99650926	99652213	0.47	0.030277	87	Racgap1
chrX	52162878	52165403	-0.22	0.0412726	783	Gpc4	chr11	55469581	55472083	0.31	0.0303371	1081	G3bp1
chr6	72162412	72165692	-0.27	0.0412806	-40855	4933431G14Rik	chr1	175691786	175692618	0.48	0.0303371	388	Opn3
chr3	5573986	5577018	-0.22	0.0412831	746	Pex2	chr8	4319950	4326865	0.22	0.0303925	1693	Elavl1
chr11	101626242	101627681	-0.28	0.0413576	-987	Rdm1	chr8	72419507	72422546	0.29	0.0304395	448	Eps15l1
chr9	58582266	58584015	-0.19	0.0414798	901	Nptn	chr2	164822743	164824825	0.37	0.0304395	1099	Zswim1
chr10	81494091	81497610	-0.16	0.0414798	513	Ncln	chr17	83212049	83215295	0.30	0.0304424	-1610	Pkdcc
chr10	62649521	62652456	-0.17	0.0417224	210	Ddx50	chr12	85471541	85476916	0.23	0.0304823	328	Fos
chr1	131273631	131281375	-0.15	0.0417271	2060	Ikbke	chr14	46880980	46886004	0.30	0.0305301	528	Samd4
chr14	66008224	66009564	-0.34	0.0417532	316	Gulo	chr6	146499871	146503103	0.28	0.0305741	736	Itpr2
chr5	107900463	107903278	-0.20	0.0417699	1343	Rpl5	chr15	99874210	99876736	0.36	0.030732	-17	Lima1
chr1	121566707	121568184	-0.25	0.0418622	535	Ddx18	chr10	63339139	63340321	0.43	0.0309126	-695	Sirt1
chr8	84146938	84148478	-0.28	0.0418651	45	Cc2d1a	chr13	64310047	64313610	0.27	0.0309562	882	Aaed1
chr1	130656854	130662505	-0.26	0.0419696	1939	C4bp	chr11	4873503	4876026	0.33	0.0312366	762	Nipsnap1
chr18	65022767	65030304	-0.20	0.0421388	3009	Nedd4l	chr9	57068008	57075990	0.22	0.031273	-33	Gm10658
chr8	123101413	123104762	-0.19	0.0421388	30	Snord68	chr7	56018800	56020292	0.39	0.0312772	27	Nipa1
chr6	71199610	71204596	-0.26	0.0421557	2216	Fabp1	chr11	78037326	78039684	0.32	0.0313497	565	Flot2
chr10	80795572	80800844	-0.12	0.0421557	418	Plekhj1	chr13	98812330	98814868	0.33	0.0314523	1850	Fcho2
chr14	11160912	11162813	-0.25	0.0422423	170	Fhit	chr2	164832171	164835332	0.25	0.0314694	-21	Ctsa
chr1	21240401	21246170	-0.30	0.0424384	2697	Gsta3	chr16	33965491	33967624	0.30	0.0315494	446	Umps
chr11	69995044	69998510	-0.28	0.0424384	1007	Phf23	chr7	116503594	116505447	0.38	0.0315494	152	Nucb2
chr6	39591831	39593949	-0.24	0.0424581	308	Ndufb2	chr14	54875669	54876634	0.44	0.0315494	1387	Ppp1r3e
chr15	85668329	85670838	-0.22	0.0424855	-37019	Mirlet7c-2	chr19	4807894	4812855	0.22	0.031747	1260	Rbm14
chr5	34168257	34170647	-0.25	0.0425311	-4	Poln	chr8	122473389	122475993	0.30	0.031747	1373	Rnf166
chr8	25596163	25598640	-0.23	0.0425451	86	Letm2	chr12	84113798	84115051	0.41	0.0317739	97	Dnalc1
chr15	102669074	102672910	-0.18	0.0427565	55	Atp5g2	chr13	109440548	109442164	0.39	0.0318175	116613	Mir582
chr1	72710690	72713622	-0.19	0.0429437	897	Rpl37a	chr4	116684211	116692434	0.22	0.0321793	-2300	AV051173
chr13	43365001	43366641	-0.24	0.0429855	-4894	Sirt5	chr3	101597931	101605467	0.20	0.0325488	3008	Atp1a1
chr8	70171726	70173689	-0.23	0.0432126	297	Tmem161a	chr4	63543769	63548902	0.27	0.0326085	1571	Atp6v1g1
chr5	77093861	77095915	-0.29	0.0433067	379	Hopx	chr4	108831354	108836946	0.24	0.0326936	-527	Txndc12
chrX	8190807	8193856	-0.22	0.04367	1181	Ebp	chr8	106149789	106151410	0.33	0.0330756	201	Pla2g15
chr9	107561908	107572840	-0.10	0.0440818	-1788	Hyal2	chr1	171110431	171112421	0.37	0.0331049	-10234	1700009P17Rik
chr7	116332439	116335364	-0.19	0.0441003	289	Rps13	chr7	24970565	24973273	0.29	0.0331753	809	Rabac1
chr14	57088748	57090401	-0.30	0.0444436	15128	Gjb2	chr5	76948960	76955785	0.32	0.0331753	-794	Ppat
chr19	5104707	5107857	-0.15	0.0445	714	Rab1b	chr8	85082539	85086012	0.33	0.0331955	1007	Man2b1
chr13	104816161	104818809	-0.22	0.0445171	247	Srek1ip1	chr11	23007062	23009475	0.33	0.0331955	-5118	Fam161a
chr10	19932766	19936468	-0.17	0.0445171	92	Map3k5	chr11	80778741	80780042	0.38	0.0333628	634	Myo1d
chr6	29271005	29275364	-0.25	0.0445798	559	Hilpda	chr9	109080070	109083992	0.23	0.0333695	350	Tma7
chr13	91806366	91808876	-0.22	0.0447786	75	Zcchc9	chr4	116992636	116997556	0.28	0.0333695	-251	Hectd3
chr4	108164299	108167609	-0.21	0.0448614	518	Echdc2	chr7	105631795	105634441	0.32	0.0334369	381	Trim3
chr10	7791846	7794702	-0.17	0.0448614	381	Ppil4	chr2	148873094	148876045	0.30	0.0335336	899	Cst3
chr5	91960217	91964398	-0.15	0.0449581	249	Rchy1	chr2	30980350	30983468	0.32	0.0335844	32	BC005624
chr9	108515927	108519193	-0.19	0.0449593	474	Qrich1	chr11	120711544	120715274	0.28	0.0336222	358	Stra13
chr2	172369863	172372380	-0.19	0.0450284	119	Cstf1	chr2	134785556	134788082	0.32	0.0336222	656	Plcb1
chr4	126676666	126680091	-0.20	0.0450332	736	Psmb2	chr8	109867792	109869888	0.35	0.0338482	238	Phlpp2
chr13	55592495	55595120	-0.19	0.0450866	673	Tmed9	chr17	35879106	35881228	0.32	0.0340187	390	Dhx16
chr4	63149582	63155088	-0.15	0.0450866	1807	Ampb	chr4	137354530	137357916	0.30	0.0341634		

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chr5	7959796	7963151	-0.27	0.0496993	1002	Stear4	chr17	14991413	14994165	0.30	0.0402534	13926	9030025P20Rik
chr14	21050873	21056413	-0.20	0.0505449	1070	Adk	chr4	155867198	155871455	0.22	0.0403709	114	Gltpd1
chr3	117867728	117869817	-0.20	0.0506756	164	Snx7	chr8	47675311	47677310	0.31	0.040801	-1151	Ing2
chr15	96709865	96711173	-0.24	0.0513399	-10821	Slc38a2	chr9	43223540	43227827	0.25	0.0408778	14133	Oaf
chr11	80079402	80081901	-0.18	0.0515148	304	Crlf3	chr17	5941227	5942606	0.40	0.0410529	637	Synj2
chr15	102404382	102405789	-0.24	0.0515694	-1230	Sp1	chr11	100617453	100620606	0.25	0.0410993	1139	Dnajc7
chr1	171279454	171282767	-0.18	0.0516284	76	Ppox	chr9	44082573	44089727	0.27	0.0411787	1231	Usp2
chr3	108908881	108912677	-0.13	0.0517279	925	Prpf38b	chr11	116136375	116139717	0.27	0.0412806	822	Mrpl38
chr16	56074839	56077104	-0.23	0.0519817	563	Senp7	chr6	120035451	120040451	0.23	0.0412831	704	Wnk1
chr14	30999742	31002752	-0.16	0.0519817	-145	Glt8d1	chr5	104018687	104023102	0.29	0.0412831	902	Hsd17b11
chr11	86542423	86546425	-0.14	0.0522306	383	Rps6kb1	chr16	92464621	92466329	0.37	0.0413138	671	Rcan1
chr2	154890845	154893467	-0.18	0.052295	750	Eif2s2	chr8	36609717	36614904	0.25	0.0414556	1633	Dlc1
chr4	44980108	44987347	-0.20	0.0523294	2317	Grhpr	chr14	73324398	73325596	0.40	0.0414556	794	Rb1
chr1	45794598	45797022	-0.24	0.0524112	310	Wdr75	chr12	24649799	24653369	0.28	0.0415591	214	Klf11
chr3	113628883	113631535	-0.20	0.0526184	-60	Rnpc3	chr5	30916905	30925441	0.20	0.0416317	-721	Khk
chr16	18810662	18814654	-0.17	0.0527721	365	Ufd1l	chr7	81826915	81829450	0.32	0.0416607	1249	Btbd1
chr11	104547987	104551106	-0.17	0.0529036	1074	Cdc27	chr18	32836897	32838583	0.33	0.0418622	-453	4930455D15Rik
chr12	59065936	59068674	-0.19	0.0529277	387	Pnn	chr5	30948588	30952765	0.26	0.0418921	571	Abhd1
chr15	44619082	44621364	-0.21	0.0531357	583	Ebag9	chr10	79959913	79962302	0.28	0.0421388	956	Wdr18
chr9	107871260	107873845	-0.19	0.053497	267	Rbm6	chr13	38151195	38153733	0.29	0.0421388	1171	Dsp
chr15	98531286	98535055	-0.18	0.0535512	1051	Kansl2	chr8	105169801	105172594	0.30	0.0421557	524	Cfbf
chr19	8740329	8744276	-0.13	0.0536758	500	Stx5a	chr5	135106710	135110737	0.29	0.0421573	1833	Mlxip1
chr14	54684336	54689416	-0.13	0.053713	55	Acin1	chr5	73254460	73256815	0.33	0.0423452	981	Fryl
chr3	95132823	95136586	-0.17	0.0539636	617	Lysmd1	chr3	9251086	9252714	0.32	0.0424384	1334	Zbtb10
chr16	56027712	56030913	-0.18	0.0542733	405	Pcnp	chr12	80258294	80261643	0.28	0.0425819	403	Actn1
chr16	91483783	91485049	-0.33	0.0544871	-798	Ifnar1	chr8	70207418	70212587	0.39	0.0425904	2279	Slc25a42
chr13	63430506	63432525	-0.22	0.0546921	230	Fancc	chr13	67723098	67724834	0.33	0.042906	5207	Zfp71-rs1
chr16	22876951	22883069	-0.18	0.0548009	-12004	Ahsg	chr10	80264963	80275263	0.23	0.0429317	5123	Dazap1
chr2	136889838	136892992	-0.20	0.0549441	-9	Mkks	chr16	28927139	28930714	0.29	0.0429317	772	Mb21d2
chr10	128057828	128061923	-0.11	0.0549719	894	Ptges3	chr7	28310758	28312144	0.35	0.0429317	595	Timm50
chr5	140201920	140206896	-0.34	0.0550142	117144	Mad1l1	chr11	70685685	70689558	0.22	0.0432049	484	Camta2
chr11	101656453	101658544	-0.28	0.0551471	-8042	Arl4d	chr2	32447388	32453110	0.27	0.0437009	-207	Naif1
chr7	116092248	116094771	-0.19	0.0555357	130	111004F10Rik	chr1	166000087	166002679	0.29	0.0437696	1251	Pou2f1
chr16	36069332	36073193	-0.16	0.0556424	253	Fam162a	chr12	84191349	84194466	0.27	0.0438009	1108	Elmsan1
chr1	133129570	133137890	-0.11	0.0557811	2565	Ppp1r15b	chr3	88716577	88719496	0.27	0.0439175	1183	Rit1
chr4	116824113	116826034	-0.22	0.0564532	-3565	Hpd1	chr14	55634004	55636565	0.35	0.0439481	394	Ipo4
chr4	40969365	40972418	-0.18	0.0564532	-51	Nfx1	chr5	20880671	20881766	0.44	0.0444685	906	Phtf2
chr16	45742040	45743606	-0.24	0.0570631	132	Abhd10	chr9	65628547	65632807	0.31	0.0446951	96	Rbpms2
chr15	74967413	74968857	-0.23	0.0570631	13030	Ly6e	chr16	90285738	90285738	0.23	0.0448614	1496	Scaf4
chr11	6526403	6529558	-0.18	0.0572323	780	Gm11974	chr18	61724564	61727226	0.27	0.0449306	436	Grpel2
chr19	34743592	34748464	-0.20	0.0573813	1083	Slc16a12	chr4	83524708	83527201	0.32	0.0449306	410	Ccdc171
chr11	117961160	117970900	-0.16	0.0573822	3336	Socs3	chr2	33428624	33432422	0.27	0.0455021	801	Zbtb34
chr10	117708444	117711936	-0.20	0.0574568	526	Mdm2	chr1	24097354	24101171	0.28	0.0455021	1079	Fam135a
chr8	79710298	79712887	-0.16	0.0575847	148	Abce1	chr12	28674750	28676866	0.29	0.0455021	602	Adi1
chr18	62547183	62549851	-0.18	0.0580201	226	Fbxo38	chr1	89069386	89070069	0.45	0.0455021	-734	Sh3bp4
chr6	85135918	85138622	-0.19	0.0584386	494	Spr	chr18	75367307	75377556	0.19	0.0455363	5067	Smad7
chr5	135369027	135371380	-0.22	0.0586986	251	Nsun5	chr15	99295079	99296340	0.41	0.0457361	301	Prpf40b
chr3	98279616	98289120	-0.14	0.0586986	3938	Hmgcs2	chr4	147933904	147938031	0.27	0.0457816	809	Plod1
chr2	155955701	155957546	-0.26	0.0590775	66	Cep250	chr15	83120800	83				

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chr3	35930704	35932746	-0.17	0.0650072	609	Dcun1d1	chr10	80917172	80918740	0.35	0.0521685	289	Lmn2
chr16	37537892	37541333	-0.18	0.0653165	157	Gtf2e1	chr9	48984164	48986897	0.29	0.0523294	146	Usp28
chr7	12920374	12924394	-0.13	0.0653683	74	Rps5	chr2	180723392	180726853	0.24	0.0524185	-216	Slc17a9
chr18	36668283	36671962	-0.17	0.0653988	189	Sra1	chr7	30089082	30091951	0.32	0.0525728	-6	Zfp566
chr4	150743242	150750511	-0.22	0.0654035	-94702	Slc45a1	chr2	165285744	165288679	0.29	0.0526184	576	Slc35c2
chr2	18056785	18058612	-0.25	0.065523	2462	Mlt10	chr9	72530291	72533582	0.23	0.0529036	-78	4930509E16Rik
chr19	8770602	8776210	-0.14	0.0657887	1061	Tmem179b	chr2	5940326	5943690	0.28	0.0532517	784	Dhtkd1
chr2	144549873	144551170	-0.25	0.0658629	338	Rbbp9	chr8	13198853	13203469	0.28	0.0537266	-537	Grtp1
chr2	136678132	136680187	-0.21	0.0658629	-34290	Snap25	chr10	80586728	80590526	0.30	0.0537391	1714	Fam108a
chr19	9981503	9986233	-0.10	0.0660157	1223	Fth1	chr8	85551690	85557932	0.22	0.0538894	460	Dnaja2
chr5	34369835	34371637	-0.22	0.0660985	804	Fam193a	chr19	6234322	6237049	0.27	0.0544737	155	Ppp2r5b
chr11	60104889	60107647	-0.29	0.0661185	1256	Rai1	chr7	118699871	118706468	0.24	0.0545012	2569	Gde1
chr3	105956637	105960838	-0.16	0.0666993	-760	Wdr77	chr14	64948165	64951474	0.28	0.0548009	28	Hmbox1
chr4	152324758	152328386	-0.15	0.0667098	695	Rpl22	chr2	180024925	180026524	0.30	0.0548009	738	Lsm14b
chr11	106920824	106921665	-0.31	0.066749	-529	Smurf2	chr15	39943921	39945064	0.36	0.0548009	-735	Lrp12
chr16	45157209	45160584	-0.14	0.0668218	68	Atg3	chr14	26968619	26971619	0.27	0.054923	432	Appl1
chr11	110250159	110252440	-0.21	0.0670073	477	Abca6	chr11	60112831	60116439	0.23	0.0549441	9623	Rai1
chr3	40845100	40847873	-0.20	0.0670073	368	Mfsd8	chr6	72378706	72381580	0.28	0.0549441	325	Vamp5
chr1	118309748	118311988	-0.19	0.0670073	264	Tsn	chr19	5489633	5493635	0.22	0.0550142	1180	Cfl1
chr17	35672382	35674347	-0.23	0.0670743	318	Gtf2h4	chr7	35053119	35057624	0.23	0.0551405	1195	Cebpg
chr15	102623533	102626425	-0.18	0.0674585	442	Atf7	chr1	106757877	106760565	0.30	0.0553808	521	Kdsr
chr14	30653667	30655516	-0.25	0.0675879	217	Rft1	chr5	124476314	124478673	0.31	0.0554159	742	Rilp12
chr17	12673176	12675951	-0.18	0.0675879	1275	Slc22a1	chr2	77168755	77171348	0.32	0.0557893	584	Ccdc141
chr11	94629173	94632676	-0.15	0.0675879	1101	Lrrc59	chr16	26580895	26583802	0.25	0.0560795	644	Il1rap
chr7	67647169	67648864	-0.22	0.068338	607	Ttc23	chr10	80140346	80159890	0.17	0.0570631	1829	Midn
chr12	103733045	103738415	-0.17	0.0683708	2459	Serpina1b	chr5	115266077	115273625	0.24	0.0572648	3044	Rnf10
chr6	39809978	39811053	-0.25	0.0687024	421	Mrps33	chr4	107302927	107308175	0.42	0.0573822	1592	Dio1
chr11	95384361	95388027	-0.19	0.0687024	1273	Slc35b1	chr5	100497372	100500310	0.32	0.0574046	-268	Lin54
chr8	109989734	109997543	-0.13	0.0687024	3203	Tat	chr12	103823524	103828875	0.21	0.0576944	37420	Serpina1a
chr1	170586925	170590572	-0.23	0.0687656	1101	Nos1ap	chr15	102201767	102206830	0.27	0.0579454	-3968	Zfp740
chr19	38817230	38820064	-0.22	0.0687788	590	Noc3l	chr6	55202731	55204438	0.37	0.0579538	202	Fam188b
chr12	17265718	17269335	-0.14	0.0695087	932	Pdia6	chr6	122819394	122822514	0.28	0.0580546	771	Foxj2
chr16	43362742	43365646	-0.18	0.0696244	56002	Gm15713	chr11	60698292	60701459	0.25	0.0584195	186	Llg1
chr15	80132820	80135517	-0.16	0.0697687	1015	Tab1	chr2	167346350	167349252	0.32	0.0584386	1377	B4galts
chr14	20673293	20677404	-0.14	0.069964	1028	Sec24c	chr11	88067117	88068221	0.38	0.0586986	-609	Vezf1
chr7	126790783	126793918	-0.18	0.0704834	121	Ppp4c	chr2	62643270	62647320	0.27	0.0587818	960	Ifih1
chr10	82628861	82631254	-0.22	0.0705113	216	Gm9855	chr13	43558013	43561849	0.28	0.0589605	260	Ccdc90a
chr15	99971635	99975073	-0.16	0.0705278	-67	2310068J16Rik	chr7	30229698	30235890	0.22	0.0590775	721	Polr2i
chr11	102314499	102321562	-0.14	0.0705278	-743	Ubtf	chr8	22859815	22861914	0.29	0.0590775	1326	Kat6a
chr10	81104654	81108482	-0.17	0.0705792	622	Map2k2	chr16	78574099	78576598	0.31	0.0590775	1340	D16Ertd472e
chr19	60578370	60582496	-0.16	0.0705931	590	Cacul1	chr10	78244605	78245770	0.40	0.0590775	-545	Trappc10
chr16	37578485	37586142	-0.17	0.0706296	2161	Hgd	chr9	121703756	121706612	0.27	0.0590815	-155	Sec22c
chr16	13108840	13111264	-0.19	0.0709524	317	Ercc4	chr3	95013033	95017182	0.24	0.0590989	131	Zfp687
chr14	34309082	34310589	-0.24	0.0709884	668	Fam35a	chr12	113073437	113075792	0.28	0.0590989	113	Tex22
chr1	172697587	172700874	-0.22	0.0710556	1175	Crp	chr13	36730952	36736204	0.25	0.0591764	876	Nrn1
chr5	110268282	110270464	-0.18	0.0710556	526	Pgam5	chr9	57466311	57468722	0.32	0.0591982	508	Scamp5
chr11	118416289	118420011	-0.17	0.0712018	968	Cant1	chr2	167058573	167066186	0.19	0.0592526	-554	1500012F01Rik
chr11	103114723	103118969	-0.12	0.0712565	522	Hexim1	chr4	124750144	124754924	0.24	0.0593538	8754	Mir698
chr4	132973467	132975100	-0.24	0.0713624	189	Fgr	chr14	522					

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chr5	116443010	116447688	-0.14	0.0801499	6628	2410137F16Rik	chr7	4739929	4742041	0.29	0.0670217	859	Suv420h2
chr11	87589125	87597211	-0.13	0.0801499	952	Mtmmr4	chr6	72787115	72790197	0.32	0.0670227	300	Tcf7l1
chr2	105015994	105017729	-0.19	0.0801749	166	Eif3m	chr17	56079445	56082531	0.24	0.0675879	1332	Hdgfrp2
chr6	87886814	87889781	-0.17	0.0801749	326	Copg1	chr12	105032522	105037834	0.23	0.0677957	2490	Glrx5
chr13	12459236	12462291	-0.15	0.0805007	975	Lgals8	chr11	70644178	70657750	0.16	0.0678472	3376	Rnf167
chr2	27539854	27542047	-0.19	0.080827	25804	Wdr5	chr2	130837774	130840983	0.24	0.0680579	732	4930402H24Rik
chr19	41344559	41349364	-0.16	0.0808488	38109	Pik3ap1	chr4	135945698	135950799	0.25	0.0681653	1796	Hmgcl
chr8	84659150	84666685	-0.08	0.0808488	-65	Ier2	chr17	79018304	79020716	0.29	0.0683143	1306	Prkd3
chr2	120561599	120564459	-0.18	0.0811458	802	Zfp106	chr3	145937463	145940370	0.27	0.0683708	885	2410004B18Rik
chr8	3492606	3494621	-0.23	0.0812621	476	Zfp358	chr17	29345113	29347839	0.28	0.0683708	1428	Mtch1
chr4	49540780	49550647	-0.16	0.0817725	3770	Aldob	chr12	112587682	112599046	0.28	0.0684387	4581	Inf2
chr2	155049928	155053559	-0.15	0.0822537	22754	Ahcy	chr10	71347704	71351262	0.21	0.0684784	1691	Ipmk
chr3	88834721	88836706	-0.22	0.0823331	483	Gon4l	chr2	77516816	77519956	0.27	0.0687339	1280	Zfp385b
chr3	116660039	116663402	-0.17	0.0823331	957	Hiat1	chr9	54585901	54587727	0.28	0.0687339	304	Idh3a
chr3	30792412	30794718	-0.16	0.0823751	690	Sec62	chr1	105661534	105665770	0.21	0.0693386	24	Pign
chr14	24490629	24492118	-0.22	0.0824461	693	Rps24	chr8	120099610	120103494	0.23	0.0694628	-80	Zdhhc7
chr17	46780703	46783661	-0.18	0.0827194	474	Rpl71	chr9	94534830	94538025	0.23	0.0695087	1654	1190002N15Rik
chr8	95883920	95889105	-0.13	0.0827194	1853	Got2	chr3	116005894	116009267	0.21	0.0696089	132	Extl2
chr7	100705986	100708042	-0.21	0.0827363	313	Fam168a	chrX	142681741	142683051	0.38	0.0696089	671	Tmem164
chr13	97136932	97139212	-0.18	0.0829315	136	Gfm2	chr9	53536948	53538394	0.32	0.0696244	625	Npat
chr7	130590966	130598883	-0.23	0.0832184	17441	Tacc2	chr8	112009814	112013738	0.25	0.0697687	418	Terf2ip
chr11	94653388	94655585	-0.18	0.0832533	696	Mrpl27	chr16	17529343	17532802	0.24	0.0700669	-20	Thap7
chr15	76947809	76949578	-0.20	0.0835488	150	1110038F14Rik	chr4	134285251	134289763	0.23	0.0702634	-254	Pdik1l
chr15	57975024	57977603	-0.18	0.0835879	-9589	Fam83a	chr3	98381411	98384040	0.27	0.0703873	245	Zfp697
chr17	84957681	84960843	-0.18	0.0835879	1262	Ppm1b	chr7	19268007	19273205	0.22	0.0705278	1248	Vasp
chr14	51905087	51915579	-0.11	0.0836835	3155	Ndrg2	chr4	155846352	155851916	0.24	0.0706296	1723	Dvl1
chr18	3382399	3384674	-0.17	0.0838085	312	Cul2	chr11	54786018	54787746	0.29	0.0706296	821	Cdc42se2
chr10	63021042	63025604	-0.10	0.0838085	526	Hnrnph3	chr15	75677095	75679613	0.25	0.0710556	436	Top1mt
chr4	86663568	86672486	-0.13	0.0839162	2032	Plin2	chr11	105589855	105591059	0.34	0.0711745	472	Tanc2
chr2	6127663	6130259	-0.15	0.0840917	1224	Proser2	chr16	91728766	91732580	0.25	0.0721189	1303	Itsn1
chr14	21074142	21082739	-0.15	0.0842715	2289	Adk	chr6	124666822	124666822	0.28	0.072179	1724	Lpcat3
chr15	102349673	102351675	-0.18	0.0845181	85	Aaas	chr11	58198830	58201425	0.28	0.0722532	572	Igtp
chr10	128321440	128324779	-0.19	0.0845302	651	Cnpy2	chr14	118137061	118138615	0.33	0.0722532	712	Gpr180
chr14	55478159	55480822	-0.18	0.0845302	733	Dhrs4	chr4	115838292	115840843	0.29	0.0729204	322	Mknk1
chr15	102001775	102006072	-0.14	0.0845302	419	Krt8	chr17	24959235	24960832	0.30	0.0730754	590	Hn1l
chr19	32754729	32761648	-0.11	0.0845822	612	Pten	chr11	119226819	119229082	0.28	0.0738413	549	Tbc1d16
chr6	50565081	50567766	-0.17	0.0846075	51	Cycs	chr4	118620525	118622207	0.28	0.0741052	568	Ebna1bp2
chr12	4232515	4235262	-0.18	0.085047	-138	Ptrhd1	chr13	67358996	67360884	0.30	0.0741052	632	Zfp953
chr13	34873622	34877572	-0.12	0.0851806	104	Prpf4b	chr12	84407517	84409914	0.27	0.0741338	314	Entpd5
chr9	110655380	110658560	-0.16	0.0853232	468	Ccdc12	chr2	121270382	121272159	0.31	0.0741338	116	Trp53bp1
chr3	89246087	89248960	-0.16	0.0856933	1086	Krtcap2	chr7	19712923	19715774	0.30	0.0741411	1081	Tomm40
chr8	22392546	22400582	-0.14	0.0858622	2057	Slc25a15	chr9	108577615	108579787	0.31	0.0750909	-31	Wdr6
chr16	4718291	4720126	-0.20	0.0861079	-149	Nmrl1	chr8	69808604	69809657	0.39	0.0751581	444	Gmip
chr15	79021634	79032823	-0.10	0.0862082	-983	H1f0	chr15	83348536	83350863	0.26	0.0752682	548	Arfgap3
chr2	30123120	30125304	-0.16	0.0864657	242	Zer1	chr2	26926100	26934448	0.18	0.0757795	3237	Surf4
chr7	127476345	127482307	-0.10	0.0864657	-5894	Fbrs	chr5	114126841	114128366	0.28	0.0763815	573	Alkbh2
chr5	31696747	31699607	-0.17	0.0868061	128	Bre	chr13	64151364	64153137	0.31	0.0766608	949	Zfp367
chr5	30956226	30961048	-0.13	0.0868966	1724	Preb	chr11	120783043	120786424	0.36	0.0772886	219	Gps1
chr6	144779397	144783716	-0.20	0.0871627	10869	4933425H06Rik</td							

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chr14	34500784	34502483	-0.20	0.0969424	913	Bmpr1a	chr9	43742131	43748483	0.21	0.0854963	732	Pvrl1
chr4	138971642	138974408	-0.19	0.0969424	121	Tmco4	chr4	83322403	83324983	0.26	0.0854963	496	Ttc39b
chr4	49476150	49482034	-0.18	0.0969424	27466	Baat	chr7	75608639	75615162	0.20	0.0855988	156367	Akap13
chr14	73236926	73240865	-0.13	0.0970262	1005	Lpar6	chr19	46043280	46046295	0.24	0.0856393	424	Ldb1
chr10	33950035	33951639	-0.22	0.0971036	375	Zufsp	chr3	108081561	108087844	0.23	0.0856494	1925	Ampd2
chr10	43900769	43903087	-0.20	0.0971036	122	Rtn4ip1	chr17	33842814	33845291	0.28	0.0861079	962	Cd320
chr11	70523855	70527145	-0.19	0.0973094	144	Psmb6	chr9	44360461	44361945	0.27	0.0865808	467	Vps11
chr6	85912558	85917785	-0.14	0.0975053	506	Cml1	chr10	115246947	115252857	0.24	0.0867073	1591	Tbc1d15
chr14	70326561	70353640	-0.15	0.0986131	8333	Slc39a14	chr8	105699438	105702290	0.26	0.0869159	231	Acd
chr4	133553125	133557518	-0.29	0.0988471	1932	Nrb2	chr10	95939320	95940609	0.31	0.0870484	-698	Eea1
chr9	108303819	108306200	-0.15	0.0988471	942	Tcta	chr8	111939346	111942546	0.25	0.0873241	244	Gabarapl2
chr7	126395723	126396972	-0.22	0.0989414	390	Nfats2ip	chr15	76330225	76332970	0.26	0.0877133	304	Gpaa1
chr9	123716777	123717736	-0.26	0.0997631	301	Lztf1l	chr12	4843137	4844859	0.27	0.0877809	696	BC068281
chr11	69990044	69993851	-0.17	0.0997631	578	Gabarap	chr4	116625876	116628261	0.27	0.0877809	429	Nasp
chr9	36794496	36797534	-0.15	0.0997799	1053	Ei24	chr11	75650226	75654857	0.21	0.0882372	392	Myo1c
chr2	163574046	163577319	-0.16	0.0998094	-26631	Ttpal	chr2	162929712	162933716	0.23	0.0885736	207	Srsf6
chr12	110737148	110740137	-0.14	0.100469	694	Wdr20a	chr4	141792831	141794721	0.29	0.0885736	165	Casp9
chr12	73964049	73965956	-0.19	0.1005497	473	Snapc1	chr15	76816478	76818717	0.34	0.0888151	573	Arhgap39
chr3	98265923	98268928	-0.18	0.1008967	-13005	Hmgcs2	chr5	124540837	124543774	0.26	0.0889154	1515	Tmed2
chrX	49287093	49288430	-0.23	0.1012705	481	Enox2	chr10	77621210	77628887	0.20	0.0889803	2728	Ube2g2
chr8	85491642	85499675	-0.11	0.1012705	3042	Gpt2	chrX	103818964	103822802	0.29	0.0889848	1105	Slc16a2
chr9	90053910	90056629	-0.18	0.1015364	1003	Ctsh	chr3	9002040	9005249	0.24	0.0890462	871	Tpd52
chr5	53266211	53268965	-0.22	0.1020719	483	1810013D10Rik	chr12	113014535	113018023	0.25	0.0890462	1772	Pacs2
chr19	44553902	44556058	-0.18	0.1020719	435	Ndufb8	chr2	172345384	172347831	0.25	0.0899944	1031	Fam210b
chr12	112718644	112722202	-0.14	0.1023836	-1750	Cep170b	chr9	108049143	108053841	0.24	0.0900167	-1666	Amigo3
chr4	106677535	106679204	-0.19	0.1034378	317	Ttc4	chr11	120489511	120496018	0.21	0.0902517	928	Slc25a10
chr6	48675117	48677804	-0.16	0.1040653	326	Gimap9	chr14	18236910	18238457	0.31	0.0905446	1423	Nr1d2
chr2	51143804	51149377	-0.09	0.1041721	2521	Rnd3	chr11	54437235	54440492	0.26	0.0905544	685	Fnip1
chr10	76575134	76577395	-0.17	0.1047752	617	Ftcd	chr16	4725210	4728585	0.24	0.0907823	537	Hmox2
chr8	61587467	61591528	-0.17	0.1047752	101764	Cbr4	chr5	33271887	33274921	0.25	0.0907823	1600	Ctbp1
chr12	35528761	35535670	-0.22	0.1050742	2774	Ahr	chr14	69282494	69285734	0.25	0.0911535	989	Slc25a37
chr7	67643175	67647111	-0.12	0.1054119	93	Lrrc28	chr18	61396876	61401574	0.19	0.0911754	1206	Ppargc1b
chr5	134637430	134640158	-0.16	0.1056839	534	Eif4h	chr19	4200082	4203294	0.23	0.0911754	-85	Rad9a
chr5	22549106	22551103	-0.18	0.1067897	227	Orc5	chr3	96059262	96059262	0.26	0.0911754	323	Vps45
chr6	17693358	17695238	-0.19	0.1076602	-54917	St7	chr12	87384763	87389360	0.22	0.0912389	1169	Sptlc2
chr18	56572178	56574396	-0.17	0.1076602	-348	Aldh7a1	chr11	117808703	11781853	0.24	0.0914287	612	Syngr2
chr13	49681178	49683817	-0.18	0.108335	368	Iars	chr7	125550039	125559231	0.18	0.0915332	2354	Il4ra
chr4	138325001	138326363	-0.24	0.1084434	614	Pink1	chr1	180814013	180814930	0.37	0.0916093	-868	H3f3a
chr4	75277345	75278809	-0.22	0.1084434	209	3110001D03Rik	chr15	89209905	89213352	0.26	0.0926906	70	Ppp6r2
chr15	55904024	55907654	-0.11	0.1084434	1110	Sntb1	chr5	125475683	125479995	0.23	0.0927342	1967	Aacs
chr3	101506255	101508285	-0.20	0.1086131	97437	Atp1a1	chr5	108460326	108464660	0.22	0.0928148	1162	Pcfg3
chr2	126671849	126678647	-0.13	0.1086131	344	Gabpb1	chr14	103344737	103346837	0.27	0.0928148	1013	Mycbp2
chr4	33244049	33250089	-0.12	0.1086131	1718	Pnrc1	chr2	181600240	181604160	0.22	0.0928411	882	Prpf6
chr9	101032840	101036411	-0.15	0.1089495	250	Pccb	chr9	42470562	42472443	0.31	0.0930545	724	Tbcel
chr3	89386107	89398295	-0.06	0.1089515	338	Gm15417	chr2	154790863	154794950	0.23	0.0932387	1797	Raly
chr16	85799043	85804727	-0.10	0.1091218	1230	Adamts1	chr11	100524030	100529095	0.21	0.0934671	1438	Acly
chr7	129591272	129593082	-0.18	0.1092474	315	Wdr11	chr8	119575224	119575907	0.41	0.0934671	331	Dnaaf1
chr6	113074405	113080702	-0.10	0.1094305	-85	Setd5	chr11	57799818	57801677	0.26	0.093959	-889	Sap30l
chr19	8755354	8759221	-0.15	0.1095476	185	Nxf1	chr2	166905307	166908004				

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chr6	113306668	113309920	-0.11	0.1199922	1098	Bgrp1	chr7	29982010	29988077	0.18	0.1053877	1089	Zfp568
chr5	90362847	90368195	-0.09	0.1199922	664	Ankrd17	chr14	30547853	30551924	0.22	0.1053877	740	Tkt
chr4	132209710	132212205	-0.19	0.1202288	1299	Ythdf2	chr18	36759239	36761761	0.27	0.1055547	262	Wdr55
chr15	3994452	3996850	-0.19	0.1202823	101	AW549877	chr2	24961828	24963811	0.29	0.1061308	398	Wdr85
chr19	37375096	37377464	-0.22	0.1204775	-122	Kif11	chr1	52118449	52121049	0.24	0.1065128	128	Stat1
chr4	43029148	43032130	-0.13	0.1207292	745	Stoml2	chr5	140387979	140389900	0.28	0.1065747	308	Snx8
chr19	40183499	40187052	-0.20	0.1207711	2011	Cyp2c70	chr8	78507349	78511404	0.19	0.1067435	42	Slc10a7
chr3	81036090	81038311	-0.20	0.1210892	785	Pdgfc	chr8	122307030	122313367	0.25	0.1069146	28058	Zfpm1
chr2	18063024	18066991	-0.13	0.12145	423	Mllt10	chr11	86662086	8665170	0.24	0.1071183	907	Tns3
chr5	145876044	145881351	-0.30	0.1216488	1157	Cyp3a11	chr3	1084462538	108446016	0.22	0.1076451	982	Sars
chr3	34079671	34081920	-0.17	0.122683	531	Dnajc19	chr7	35553163	35556975	0.30	0.1079022	859	Nudt19
chr17	56989257	56991675	-0.15	0.1227209	203	Clpp	chr13	64362763	64371503	0.21	0.1081012	3173	Ctsl
chr13	85287076	85290404	-0.13	0.122897	746	Rasa1	chr3	32735596	32738509	0.22	0.1081012	-10	Ndufb5
chr6	86683228	86685231	-0.20	0.1229756	262	Snrnp27	chr5	148993596	148996678	0.26	0.1081012	-11824	Gm15408
chr6	148210350	148215591	-0.13	0.1238401	-596	Ergic2	chr4	105106807	105110893	0.21	0.1081393	1048	Prkaa2
chr9	104060895	104066178	-0.10	0.1238401	-166	Acad11	chr15	75927436	75930428	0.23	0.108335	798	Tsta3
chr1	136945226	136950443	-0.12	0.1240485	5796	Nr5a2	chr12	99560259	99564826	0.24	0.1084434	65432	1700064M15Rik
chr6	21984971	21988805	-0.13	0.1244847	979	Cped1	chr3	144200880	144206415	0.22	0.1085692	-1251	Lmo4
chr4	42949661	42950840	-0.24	0.124561	-2843	Dnajb5	chr3	87617499	87621618	0.19	0.1090186	808	Arhgef11
chr1	191989339	191990731	-0.21	0.124561	8599	Mir3473c	chr5	73256835	73257719	0.36	0.1091218	-659	Fryl
chr19	46055542	46058693	-0.14	0.124621	579	Pprc1	chr13	51643932	51649942	0.17	0.109188	1706	Cks2
chr11	51853721	51859935	-0.15	0.1246387	653	Phf15	chr15	89354230	89357677	0.21	0.1094305	235	Ncaph2
chr19	21271021	21276329	-0.09	0.1246714	1398	Zfand5	chr1	127204231	127207703	0.23	0.1094305	982	Mgat5
chr15	99125409	99128259	-0.13	0.12507	-10	Spats2	chr4	21765926	21767517	0.32	0.1097823	490	Tstd3
chr9	50657979	50660854	-0.12	0.12507	364	Dlat	chr19	23139147	23154167	0.17	0.1099209	-2773	Mir1192
chr17	4993307	4994767	-0.22	0.1252639	-1036	Arid1b	chr15	89427591	89432085	0.21	0.1101939	89	Chkb
chr5	146962338	146964362	-0.15	0.1252639	447	Mtif3	chr17	32786271	32788909	0.24	0.1103747	697	Zfp871
chr2	32570229	32572758	-0.16	0.1260764	636	Dpm2	chr13	23436948	23438733	0.28	0.1103747	-6823	C230035I16Rik
chr13	760097652	76100593	-0.13	0.1262063	389	Ttc37	chr4	149988061	150005068	0.18	0.1104179	12459	H6pd
chr2	177464158	177467725	-0.16	0.1270979	1200	Gm14420	chr14	56808822	56811844	0.25	0.1107982	1131	Zmym5
chr2	129197398	129202211	-0.15	0.1271885	1032	Sic20a1	chr4	8237413	8239661	0.27	0.1114108	504	Car8
chr8	31148561	31153232	-0.12	0.1272601	581	Tti2	chr4	3677330	3680557	0.24	0.1114821	823	Lyn
chr13	24325168	24334599	-0.31	0.1284413	2464	Cmah	chr8	122374817	122378951	0.24	0.1119002	269	Zc3h18
chr13	55425405	55427768	-0.16	0.1288074	216	F12	chr5	100844892	100848708	0.23	0.1124763	572	Agpat9
chr7	126500336	126504356	-0.13	0.129059	956	Atxn2l	chr18	38337416	38339680	0.24	0.1129567	445	Gnpd1
chr16	38561999	38564660	-0.17	0.1299369	516	Tmem39a	chr11	94675711	94678184	0.22	0.1131113	546	Xylt2
chr2	172439195	172442417	-0.13	0.1299498	229	Rtfdc1	chr7	120676382	120679476	0.24	0.1131113	310	BC030336
chr10	127265849	127269323	-0.15	0.1300199	1325	Dctn2	chr9	13246887	13247773	0.30	0.113516	352	Ccdc82
chr9	108077451	108082992	-0.10	0.1304254	-214	Mst1	chr9	21129826	21132084	0.28	0.1137236	320	Tyk2
chr7	70354407	70362592	-0.09	0.1306388	2094	Nr2f2	chr15	31452003	31454443	0.28	0.1141959	466	Ropn1l
chr11	51753262	51757837	-0.12	0.1306404	1285	Sec24a	chr12	108179525	108181398	0.26	0.1147351	724	Ccnk
chr3	66985500	66987052	-0.23	0.1309347	605	Rsrc1	chr19	47579487	47581852	0.27	0.1147351	651	Slk
chr5	31289937	31292336	-0.17	0.1309347	-22	Ift172	chr4	98921746	98923233	0.29	0.1147351	-1320	Usp1
chr1	58029056	58032911	-0.22	0.1312693	1015	Aox1	chr5	110778806	110781610	0.24	0.115547	388	Pus1
chr2	144458867	144459590	-0.30	0.1322059	-51	Zfp133-ps	chr11	77783321	77787676	0.26	0.1155626	8234	Myo18a
chr3	108653086	108655586	-0.17	0.1322059	347	Clcc1	chr13	94283612	94286518	0.26	0.11567	216	Scamp1
chr6	129232344	129239046	-0.18	0.1322663	2350	2310001H17Rik	chr4	72201147	72202426	0.30	0.11569	543	C630043F03Rik
chr2	160645779	160648567	-0.18	0.1322663	1277	Top1	chr9	55149479	55151452	0.33	0.1160434	1097	Ube2q2
chr17	56763955	56766169	-0.16	0.1327843	312	Dus3l	chr13	93496798	93499804	0.26</			

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chr19	41381559	41386253	-0.10	0.1493138	1164	Pik3ap1	chr7	141337393	141343373	0.24	0.1244847	1382	Eps8l2
chr18	10617558	10619252	-0.19	0.1493206	610	Snrpd1	chr5	138622344	138624298	0.24	0.1244847	463	A430033K04Rik
chr7	27804225	27805706	-0.19	0.1493592	-33618	Zfp59	chr14	40964792	40966927	0.24	0.1244847	948	Tspan14
chr9	44377717	44379310	-0.20	0.1496464	-976	Hyou1	chr2	120153469	120154700	0.30	0.1244847	491	Ehd4
chr5	28315968	28319183	-0.15	0.1496464	387	Rbm33	chr10	12866372	12870224	0.20	0.124561	-6563	Utrn
chr8	90875926	90879208	-0.12	0.1496742	48733	Chd9	chr11	118399395	118403188	0.22	0.1246387	640	Lgals3bp
chr7	12817936	12819209	-0.18	0.149794	288	Zfp329	chr18	64486712	64489886	0.26	0.1246387	767	Fech
chr4	135960930	135965476	-0.13	0.1499617	-1961	Gale	chr2	6322694	6324533	0.26	0.1248942	857	Usp6nl
chr7	67659986	67663398	-0.18	0.1501321	14283	Ttc23	chr4	123016129	123019549	0.23	0.1249876	1243	Trit1
chr16	91485122	91486576	-0.18	0.1501321	635	Ifnar1	chr8	105756664	105759471	0.24	0.1250288	540	Gfod2
chr17	31511091	31512985	-0.16	0.1501321	449	Wdr4	chr11	71002104	71005188	0.21	0.1253204	786	Dhx33
chr2	170510932	170512722	-0.16	0.151506	100	Gm16796	chr2	25981545	25983307	0.28	0.1256015	856	Camsap1
chr3	103913463	103916218	-0.12	0.1520937	721	Rbsn1	chr1	180254602	180257767	0.24	0.126018	116	Psen2
chr16	30586071	30588778	-0.12	0.1526726	165	Lsg1	chr7	141446674	141450542	0.20	0.1266758	-194	Snora52
chr6	30692885	30694522	-0.20	0.1527386	-21	Tsga14	chr4	11190844	11193334	0.25	0.126845	381	Ccne2
chr4	137765773	137770833	-0.29	0.1528646	28074	Alpl	chr9	44334583	44338193	0.22	0.1268816	1674	H2afx
chr2	60280157	60285642	-0.21	0.1528646	1519	Cd302	chr3	122617389	122621572	0.21	0.1269756	187	Fnbp11
chr5	150436242	150437434	-0.24	0.1531562	65381	Gm5	chr5	77264584	77267721	0.23	0.1280981	659	Rest
chr1	53312922	53314554	-0.16	0.153776	76	Osgep1	chr3	129531436	129536485	0.20	0.1281966	1575	Elov6
chr6	117840339	117842519	-0.14	0.153776	188	Zfp637	chr11	55457487	55462102	0.20	0.1284582	1344	Atox1
chr3	97608520	97612598	-0.14	0.1540697	-369	Chd1l	chr11	50137041	50140693	0.29	0.128662	7508	Tbc1d9b
chr2	27592419	27602751	-0.12	0.1543219	-79615	Rxra	chr5	123973993	123974833	0.33	0.128662	786	Hip1r
chr3	97900408	97903096	-0.13	0.1543782	526	Sec22b	chr6	83794037	83796178	0.25	0.1292828	-50	Nagk
chr5	32851901	32854579	-0.13	0.1548384	990	Prr14l	chr5	124628038	124631080	0.20	0.1299498	30811	Tctn2
chr2	27571405	27576634	-0.13	0.1548615	58873	Wdr5	chr18	35702056	35703798	0.27	0.1300735	217	Dnajc18
chr7	140878764	140884535	-0.09	0.1551911	220	Sirt3	chr3	84257935	84260608	0.27	0.1305135	508	Trim2
chr17	12914696	12918241	-0.11	0.1562237	4	Tcp1	chr7	123377687	123379255	0.26	0.1307863	490	Lcmt1
chr2	157278778	157280744	-0.25	0.1562468	-212	Mroh8	chr12	100518968	100520848	0.30	0.1307901	914	Ttc7b
chrX	75381857	75383021	-0.25	0.1563665	41	Fundc2	chr1	192135666	192138121	0.22	0.1309347	-4	Gm10516
chr9	77909674	77912687	-0.13	0.1564246	-6184	Elov5	chr5	90639715	90640712	0.32	0.131078	274	Rassf6
chr11	61264301	61267995	-0.16	0.1565927	979	Aldh3a2	chr1	178186877	178191802	0.24	0.1312693	1923	Desi2
chr12	54738263	54739487	-0.23	0.1578399	-43010	Eapp	chr3	103170955	103173186	0.24	0.1312693	360	Bcas2
chr2	26350074	26353198	-0.14	0.1578399	474	Dnlz	chr10	80387736	80388758	0.30	0.1315386	-596	Mex3d
chr9	45983578	45985615	-0.15	0.1581391	275	Pafah1b2	chr6	120463082	120465339	0.24	0.1322663	1014	Il17ra
chr2	177896992	177900620	-0.14	0.1583561	1644	Gm14327	chr11	98147163	98150630	0.22	0.1324366	720	Fbxl20
chr18	33794096	33797047	-0.14	0.1584387	680	241004N09Rik	chr10	84439196	84442248	0.26	0.1327593	-251	Nuak1
chr1	57405506	57408062	-0.15	0.1585986	-110	Tyw5	chr10	79995988	79997569	0.27	0.1329069	-836	Abca7
chr11	68900706	68904142	-0.11	0.1585986	836	Gm15772	chr15	52711869	52713439	0.32	0.1329492	210	Med30
chr19	8886990	8890381	-0.12	0.1586075	85	5730408K05Rik	chr15	8108281	8110689	0.23	0.1333899	173	Nup155
chr17	24525859	24531314	-0.09	0.1586987	336	2610019E17Rik	chr5	115564683	115566822	0.24	0.1347083	490	Gcn1l1
chr7	44464689	44470143	-0.12	0.1590253	-563	Josd2	chr4	47351570	47353117	0.29	0.1354396	-961	Tgfb1r1
chr12	108791101	108792701	-0.19	0.1590629	-1409	Yy1	chr4	40721032	40729943	0.25	0.1354897	2558	Dnaja1
chr7	119893055	119897043	-0.11	0.1590629	409	Dcun1d3	chr4	141789402	141790845	0.27	0.1354897	521	Dnajc16
chr3	95313888	95322072	-0.08	0.1593574	2729	Cers2	chr13	49340947	49343158	0.23	0.1355781	504	Bicd2
chr9	83253087	83254810	-0.18	0.1595153	-107341	Hmgn3	chr19	3985804	3988174	0.26	0.1355781	329	Acy3
chr17	46110441	46111772	-0.18	0.1595153	103	Mrps18a	chr3	41080547	41083256	0.29	0.1355781	1145	Pgrmc2
chr17	14959570	14961347	-0.17	0.1602781	802	Phf10	chr10	84575566	84579167	0.26	0.1360044	420	Tcp11l2
chr5	123906966	123909833	-0.13	0.1602781	1125	Denr	chr7	142384566	142388161	0.19	0.1360249	1507	Ctsd
chr13	34990961	34995309	-0.16	0.1602859	1009	Eci2	chr17	24847635	24857521</td				

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chr8	107585928	107588805	-0.11	0.1743066	1116	Psmd7	chr13	17991678	17993985	0.22	0.1517363	520	Yae1d1
chr5	34368733	34369778	-0.21	0.1744187	-677	Fam193a	chr15	58213544	58216204	0.24	0.1526349	18	Fbxo32
chr2	167930716	167934717	-0.11	0.1744187	390	Ptpn1	chr2	85047190	85051921	0.19	0.1529983	-904	Tnks1bp1
chr5	149049207	149053139	-0.11	0.175106	1864	Hmgb1	chr8	69899281	69902550	0.25	0.1531534	-1299	Tssk6
chr5	24443460	24446643	-0.11	0.175798	184	Fastk	chr1	93511211	93514128	0.24	0.1531562	566	Farp2
chr12	76253833	76257899	-0.09	0.175798	635	Mthfd1	chr15	79439985	79442959	0.24	0.1532808	585	Csnk1e
chr18	44553908	44556100	-0.18	0.176036	-106660	A930012L18Rik	chr17	46643060	46648172	0.18	0.1533395	-472	Klc4
chr9	44325446	44329626	-0.13	0.1760441	692	Dpagt1	chr2	122146448	122152809	0.22	0.1536312	1942	B2m
chr11	53350741	53353542	-0.13	0.176193	1375	Aff4	chr14	57998404	57999254	0.36	0.153835	433	Efha1
chr2	36046962	36049703	-0.11	0.176193	960	Ndufa8	chr2	148036693	148041255	0.19	0.1538568	7995	Foxa2
chr14	16242574	16245011	-0.13	0.1764912	-5521	Ngly1	chr10	80826550	80831180	0.19	0.1539111	69	Mir1982
chr8	31166760	31169893	-0.15	0.176676	398	Mak16	chr4	116596260	116598888	0.19	0.1539776	56	C530005A16Rik
chr1	9700472	9701633	-0.23	0.1768181	-843	Mybl1	chr6	28478712	28484673	0.19	0.1541954	1345	Snd1
chr6	34708455	34714629	-0.14	0.1768181	2099	Cald1	chr10	85102687	85104213	0.26	0.1542381	824	Al597468
chr6	146576498	146579726	-0.10	0.1768181	202	Fgfr1op2	chr15	58872139	58874036	0.24	0.1543219	439	Trmt12
chr19	32525770	32527476	-0.14	0.1768213	40855	Minpp1	chr9	42260762	42265316	0.20	0.1544274	1261	Sc5d
chr2	12923382	12925807	-0.14	0.1768213	554	Pter	chr5	146790734	146794788	0.18	0.1545023	2195	Usp12
chr3	27708228	27711665	-0.12	0.1768213	493	Fndc3b	chr18	80467964	80470058	0.24	0.1545579	656	Ctdp1
chr10	75935024	75939569	-0.13	0.1777395	1724	Chchd10	chr2	38924197	38927971	0.21	0.1546785	377	Nr6a1
chr3	57650645	57652135	-0.18	0.1779231	294	Commd2	chr16	17925793	17929355	0.20	0.1548384	645	Slc25a1
chr17	23562497	23565511	-0.16	0.1779293	222	Zfp213	chr4	97774420	97777399	0.28	0.1548384	-1716	Nfia
chr2	178022720	178026391	-0.12	0.1784209	1272	Etohi1	chr17	45587022	45600867	0.19	0.1554157	-304	Slc29a1
chr11	72794686	72797845	-0.11	0.1784607	40	Zzef1	chr11	120547198	120550540	0.22	0.1558649	858	Fam195b
chr3	16182587	16184975	-0.18	0.1785934	599	Ythdf3	chr19	45004716	45009090	0.17	0.1560368	346	Peo1
chr14	60249696	60253035	-0.10	0.1785934	13	Nupl1	chr16	32098336	32100553	0.25	0.1560368	283	Pigx
chr16	15861895	15864154	-0.13	0.1788544	298	Mzt2	chr7	45537693	45539157	0.28	0.1560686	12096	Plekha4
chr17	94864066	94865497	-0.18	0.1796679	-136	Gm20939	chr16	4961975	4965607	0.21	0.1564246	446	Anks3
chr17	15496120	15499109	-0.11	0.1796679	662	Psmb1	chr14	57797401	57800695	0.21	0.1564748	625	Mir3077
chr3	95433445	95437345	-0.10	0.1798368	1006	Arnt	chr9	56937462	56940857	0.19	0.1569276	1660	Imp3
chr5	31053849	31056058	-0.14	0.180099	143	Cad	chr15	89475188	89477663	0.26	0.1569276	999	Arsa
chr9	110987872	110991349	-0.14	0.1801313	103	Rtp3	chr5	45519613	45522341	0.23	0.1569656	749	Med28
chr1	170172556	170175929	-0.10	0.1807408	704	Uap1	chr4	108578129	108580189	0.26	0.1571245	177	Prpf38a
chr8	47712073	47714057	-0.15	0.181174	866	Cdkn2aip	chr7	101835461	101838984	0.21	0.1574155	602	Inpp1
chr1	37995776	38000623	-0.09	0.181908	190	Eif5b	chr17	26560669	26563582	0.22	0.1575086	614	Ergic1
chr13	23913918	23915187	-0.38	0.1820859	455	Slc17a4	chr19	5365175	5368611	0.19	0.1581391	81	Eif1ad
chr5	144767625	144770240	-0.13	0.1820859	141	Trrap	chr8	76898206	76903487	0.21	0.1584844	-673	Gm10649
chr2	122764648	122767476	-0.12	0.1821463	704	Sqrld	chr14	26667712	26671282	0.20	0.1584936	349	Pde12
chr11	34832942	34834911	-0.15	0.1822148	-285	Spd1	chr11	58009344	58012571	0.18	0.1585986	1894	Larp1
chr1	86702930	86705138	-0.16	0.1823342	231	Dis3l2	chr7	97578062	97581881	0.22	0.1585986	76	Rsf1
chr3	95870088	95872959	-0.12	0.1823342	2	C920021L13Rik	chr10	128377090	128379477	0.24	0.1585986	1160	Ankrd52
chr12	104405404	104412894	-0.15	0.1827284	2442	Serpina3n	chr19	34524386	34528071	0.19	0.1586075	1246	Lipa
chr5	129020087	129022135	-0.14	0.1829326	956	Ran	chr5	123394665	123398968	0.22	0.158998	1998	Mlxip
chr8	91069246	91071720	-0.15	0.1831146	390	Rbl2	chr17	34896808	34901530	0.17	0.1590253	196	Ehmt2
chr6	40324765	40326308	-0.17	0.1832832	59	Agk	chr4	141300913	141316871	0.13	0.1590629	7672	Epha2
chr4	148601460	148607273	-0.14	0.1833415	1823	Masp2	chr17	56030911	56037463	0.19	0.1590629	2450	Sh3gl1
chr3	108144652	108146982	-0.12	0.1837992	297	Gnai3	chr8	83566342	83569460	0.20	0.1590629	1144	Ndufb7
chr10	59948904	59951959	-0.10	0.1838177	1339	Ddit4	chr9	45827286	45829380	0.24	0.1593249	305	Cep164
chr10	128545673	128549305	-0.13	0.1840959	255	Zc3h10	chr7	126759117	126762031	0.26	0.1593249	949	Mapk3
chr6	108064459	108065987	-0.17	0.1843567	179	Setmar	chr13	99343346	99345944	0.23	0.1602588		

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chr6	113738562	113741245	-0.13	0.1963841	778	Sec13	chr19	26603525	26609367	0.19	0.1720342	1287	Smarca2
chr12	55078817	55082230	-0.12	0.1963841	28	Srp54a	chr11	6470954	6477384	0.20	0.1728735	1907	Purb
chr7	127243294	127246843	-0.11	0.1963841	543	Zfp771	chr11	60725400	60732161	0.18	0.1739343	118	Mir5100
chr5	138116050	138118866	-0.10	0.1963841	554	Zscan21	chr13	100550549	100553908	0.21	0.1742181	270	Ocln
chr7	99855695	99859667	-0.15	0.1970297	1202	Spcs2	chr11	97798613	97804084	0.18	0.1746412	1677	Lasp1
chr10	77109104	77119651	-0.11	0.19717	-672	Col18a1	chr17	24935294	24937528	0.20	0.1746412	566	Mapk8ip3
chr15	36789734	36795362	-0.10	0.19717	-1616	Ywhaz	chr13	64247455	64249777	0.23	0.1746412	-78	Cdc14b
chr7	92560495	92562592	-0.14	0.1976178	395	Ccdc90b	chr12	102282060	102286195	0.20	0.1748493	487	Rin3
chr7	111080179	111084174	-0.10	0.1976178	854	Eif4g2	chr6	90713848	90717219	0.19	0.1756869	996	Iqsec1
chr10	63386246	63387365	-0.19	0.1984368	243	Dnajc12	chr5	121543855	121546883	0.20	0.176452	523	Mapkapk5
chr7	25717327	25720403	-0.10	0.1984368	188	Ccdc97	chr16	93711937	93713436	0.26	0.1768181	780	Dopey2
chr16	18407398	18417517	-0.09	0.1987154	1037	Comt	chr8	4252184	4254785	0.20	0.1769022	383	Snapc2
chr2	91629725	91638010	-0.19	0.1990036	2547	F2	chr10	95555168	95564172	0.15	0.1771015	-349	Mir3058
chr6	83123545	83125762	-0.15	0.1990036	376	Ino80b	chr17	73107224	73109153	0.22	0.1771015	204	Lclat1
chr7	73532651	73542091	-0.09	0.1990562	4375	Chd2	chr11	50025381	50027639	0.23	0.1773083	1180	Rnf130
chr11	58328465	58332715	-0.09	0.1993054	-127	Sh3bp5l	chr17	34647089	34648783	0.22	0.1775838	791	Atf6b
chr5	38037936	38040720	-0.10	0.1994107	94	Stx18	chr2	26019511	26022439	0.23	0.1779293	785	Ubac1
chr5	77310110	77312184	-0.16	0.1994369	664	Polr2b	chr12	32378544	32380553	0.27	0.1779293	760	Ccdc71l
chr10	81182850	81185322	-0.13	0.1994375	169	Dapk3	chr15	98726415	98728515	0.23	0.1784209	733	Fkbp11
chr7	140940319	140944833	-0.14	0.1997343	996	Athl1	chr17	33288957	33290709	0.26	0.1784209	290	Zfp955b
chr2	181286437	181289376	-0.13	0.1997343	60	Gmeb2	chr2	30263691	30270392	0.16	0.1785203	223	Phyhd1
chr3	90291292	90293053	-0.21	0.1997424	25639	Dennd4b	chr1	43932890	43936451	0.19	0.1788138	664	Tpp2
chr19	24960447	24961806	-0.17	0.1997616	490	Cbwd1	chr5	30814143	30817814	0.23	0.1793634	1223	Mapre3
chr1	151426333	151430565	-0.10	0.1999186	-14	Swt1	chr14	60784521	60785611	0.27	0.1793825	501	Mipep
							chr9	65460411	65462190	0.23	0.1795432	364	Spg21
							chr15	100493964	100495955	0.24	0.180099	280	Csrnp2
							chr13	98924691	98927469	0.21	0.1803552	304	Tnpo1
							chr11	107129460	107131827	0.27	0.1804278	1279	Bptf
							chr17	33253926	33255488	0.27	0.1813728	438	Zfp955a
							chr9	106169786	106174635	0.19	0.1815731	1282	Wdr82
							chr9	108569434	108571291	0.26	0.1820859	471	Dalrd3
							chr3	100489343	100490459	0.28	0.1821387	-709	Fam46c
							chr13	84221494	84223768	0.23	0.1821463	336	Tmem161b
							chr5	65333753	65336510	0.25	0.1822294	508	Rfc1
							chr7	105734924	105740257	0.15	0.1823342	-205	Rrp8
							chr15	98829486	98832992	0.20	0.1828881	269	Prkag1
							chr19	6241452	6243988	0.23	0.1833415	1053	Atg2a
							chr7	101298556	101303406	0.25	0.1833415	1107	Atg16l2
							chr8	95080940	95082291	0.26	0.1833415	415	Katnb1
							chr13	74521281	74523899	0.21	0.1845483	-28640	Zfp825
							chr3	137917667	137920088	0.24	0.1849813	323	Lamtor3
							chr11	60218805	60224087	0.21	0.1850334	-842	Srebf1
							chr5	125336485	125342138	0.18	0.1851647	1783	Scarb1
							chr14	55589113	55594760	0.16	0.1852453	147	Rnf31
							chr17	74716670	74718551	0.23	0.1853287	-139	Ttc27
							chr10	128703439	128705953	0.20	0.1854228	355	Cdk2
							chr2	75832136	75833706	0.25	0.1857681	745	Agps
							chr17	12317426	12319464	0.22	0.1867629	215	Map3k4
							chr4	125065637	125068659	0.19	0.186815	456	Snip1
							chr8	111990631	111992777	0.27	0.1870538	598	Adat1
							chr13	111801667	111810440	0.20	0.1873407	2930	Map3k1
							chr1	165192175	165194608	0.23	0.1875607	1042	Sft2d2
							chr17	33907875	33911613	0.17	0.1892262	144	Daxx
							chr3	79287212	7928886	0.25	0.1893195	-57326	Gm17359
							chr5	111416203	111418624	0.24	0.1896521	-752	Mn1
							chr12	98733358	98735998	0.20	0.1902279	-33	Ptpn21
							chr18	62977152	62979662	0.20	0.1902279	492	Napg
							chr4	121014171	121017548	0.23	0.1906217	1388	Smap2
							chr17	32319016	32323848	0.15	0.190885	-279	Akap8
							chr15	85652221	85655369	0.21	0.1910821	-52807	Mirlet7c-2
							chr5	3801222	3804553	0.20	0.1913214	222	Ankib1</td

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						chr19	57357346	57360842	0.19	0.1988741	1805	B230217O12Rik
						chr19	6082831	6086158	0.21	0.1989348	397	Zfpl1
						chr11	22855608	22861137	0.16	0.1993416	1363	B3gnt2
						chr1	194619277	194621639	0.22	0.1997424	630	Plxna2

Supplementary Table 3

Hyper-acetylated by SAHA		DAVID Cell Proliferation Term Categories										Cell Proliferation Term Linked Genes*										
FDR<0.1	Pathways in cancer	2900026A02Rik	Cbf <sub>b</sub>	Dhcr7	Foxo4	Kat2b	Nat6	Ppp1r7	Sbds	Tgm2	Zfp369											
	BP00207:Cell cycle control	Acvrl1b	Ccdc6	Dlc1	Frs2	Kazald1	Ncor2	Ppp3ca	Sertad3	Tmem57	Zrn1z											
	Colorectal cancer	Acvr2a	Ccdn3	Dll1	Fzd4	Kdm1a	Ndfip1	Prkaca	Sesn2	Tns1												
	Non-smal cell lung cancer	Adora1	Ccne1	Dph1	Fzd7	Lgr4	Ndrg3	Prkd3	Sesn3	Top1mt												
	BP00281:Oncogenesis	Agpat6	Ccnf	Dsccl	Fzd8	Lifr	Nedd9	Prpf19	Shb	Top2b												
	BP00203:Cell cycle	Agnr	Cd9	Dusp7	Gadd45b	Ligl2	Neuril4	Psap	Sik2	Tpm3												
	BP00224:Cell proliferation and differentiation	Akap13	Cdc37	Dvl1	Gamt	Lmnl	Nfk2b	Ptch1	Sipa1	Traf3												
	Acute myeloid leukemia	Akt1	Cdc42	E2f3	Gipc1	Lrp4	Ninj1	Pwp2	Ski	Traf4												
	Renal cell carcinoma	Apbb2	Cdk18	E2f4	Gmi13277	Lzts2	Notch1	Racgap1	Slc2a1	Traf6												
	Thyroid cancer	Appl1	Cfl1	Egln3	Gna12	Mafcf	Notch2	Rai1	Sifn9	Trim27												
	Pancreatic cancer	Arhgef18	Cited2	Eif4ebp1	Gpam	Mafk	Npaf	Ralb	Smad3	Tripl0												
	cell proliferation	Arl8a	Col18a1	Eif4ebp2	Hdac11	Mapk6	Oaz2	Rap1b	Smad5	Trp53bp2												
	Endometrial cancer	Armc10	Creb3l	Elavl1	Hectd3	Mapk9	Otud5	Rapgef1	Smad7	Tspy1l												
	regulation of growth	Atxn2	Creg1	Epha2	Hira	Mbd2	Pak4	Rara	Smc4	Ttl												
	Prostate cancer	B4galnt	Csda	Erb4b4	Hras1	Me2zd	Papd5	Rassf1	Socs7	Tuba1c												
	cell cycle	Banp	Cse1l	Etv5	Ing1	Mif	Papd7	Rassf5	Sos1	Tuba4a												
	developmental growth	Bax	Csk	Fadd	Ing2	Mll1	Pard6b	Rb1	Sp7	Tuba8												
	cell division	Bbc3	Csnk1d	Fam179b	Irf1	Mllt6	Parp1	Rbms1	St5	Tubb5												
	regulation of epithelial cell proliferation	Bcar1	Csnk1g2	Fert2	Irf6	Mphosph6	Pdk1	Rbpj	Stard13	Ube2g2												
	regulation of cell proliferation	Bcl2l11	Ctbp1	Fgr3	Irsl	Mxd4	Pgap2	Rcc2	Stat5b	Upf1												
	BP00206:Chromosome segregation	Bin3	Ctnnb1	Flo12	Jag1	Mycbp2	Plic1	Rhot2	Stk11	Vav2												
	regulation of cell cycle	Brd1	Ctsb	Fos	Jak1	Myh10	Plk2	Rif1	Stk30	Vhl												
	cell cycle arrest	Btg1	Cyr61	Foxj2	Jak2	Myh9	Pml	Rock2	Stradb	Wdr5												
	BP00264:Tumor suppressor	Casp3	Dbp	Foxn2	Jarid2	Nacc1	Ppp1cc	Rpa1	Stx2	Ywhaq												
	negative regulation of cell proliferation	Casp9	Ddah1	Foxo3	Jup	Nasp	Ppp1r13l	Rxra	Tcf7l1	Zfp318												
DAVID Cell Death Term Categories		Cell Death Term Linked Genes*										Cell Death Term Linked Genes*										
FDR<0.1	programmed cell death	Adora1	Dnase2	Me2zd	Shb																	
	regulation of apoptosis	Akap13	Dpm1	Mtch2	Shf																	
	apoptosis	Akt1	Ece2	Nailf	Sirt1																	
	regulation of programmed cell death	Apbb2	Egln1	Nfk2b	Sna1																	
	regulation of cell death	Api5	Egln3	Notch1	Sqstm1																	
	cell death	Arhgef18	Erb4b4	Notch2	Stat5b																	
	death	Bax	Fadd	Nr3c1	Stk17b																	
	positive regulation of apoptosis	Bbc3	Fgfr3	Nr4a1	Stradb																	
	BP00179:Apoptosis	Bcl2l11	Foxo3	Nuak2	Tex261																	
	positive regulation of programmed cell death	Bik	Gadd45b	Oaz2	Tgmn2																	
	positive regulation of cell death	Bmf	Gata2a	Pacs2	Timm50																	
	apoptotic mitochondrial changes	Btg1	Gdc	Pcgf2	Tmbim6																	
	induction of programmed cell death	Calpain 10	Gm13277	Pdcd6	Tns1																	
	induction of apoptosis	Casp3	Hdac11	Pgap2	Traf3																	
	negative regulation of apoptosis	Casp9	Hras1	Plekhf1	Traf4																	
	negative regulation of programmed cell death	Cbx4	Ifih1	Pml	Traf6																	
	negative regulation of cell death	Cebpg	Ing1	Ppp1cc	Triap1																	
	release of cytochrome c from mitochondria	Chd8	Ing2	Prr13l	Trilb3																	
	death	Cib1	Irak3	Prkd3	Trmt61a																	
	apoptosis	Cited2	Itsn1	Rassf1	Trp53bp2																	
	death	Col18a1	Jak1	Rassf3	Tsyp1l																	
	programmed cell death	Csda	Jak2	Rassf5	Wwox																	
	cell death	Csrn1p	Kdm1a	Rhot2	Ype13																	
	DAVID Cell Death Term Categories	Ctnnb1	Klf11	Sgms1	Zc3h12a																	
	apoptosis	Dedd2	Mapk9	Sh3gb1																		
Deacetylated by SAHA		DAVID Cell Proliferation Term Categories										Cell Proliferation Term Linked Genes*										
FDR<0.1	regulation of cell cycle	Ahsg	Nfkbl1																			
	regulation of growth	Azgp1	Ppan																			
		B230120H23Rik	Prox1																			
		Bre	Pten																			
		Cdk4	Rai1		</td																	

Supplementary Table 4

<b>Deacetylated in Regenerating Liver (<math>q&lt;0.1</math>) and Hyper-acetylated by SAHA (<math>q&lt;0.1</math>)</b>		
Abhd6	Gramd3	Tmem57
Adck3	Gse1	Traf4
Akap13	Gtl3	Ube2h
Atxn2	H2-K1	Usp2
B4galt5	Herc3	Whamm
Bcar1	Ipmk	Zfp385b
Bik	Klh121	Zscan2
Bmf	Larp1	
Cat	Larp1b	
Cdc42bpb	Lpcat3	
Col27a1	Map1lc3a	
Csk	Mettl7a1	
Dbp	Mlxipl	
Ddah1	Ndfip1	
Dexi	Notch2	
Dgat2	Nr1d1	
Dio1	Nr3c1	
Dirc2	Phlpp2	
Dpm1	Samd8	
Dtnbp1	Sesn2	
Fam63b	Spen	
Foxo3	Srebf1	
Gclc	Tef	
Glt25d1	Tle3	
Gpr125	Tmbim6	

Supplementary Table 4

<b>Hyper-acetylated in Regenerating Liver (<math>q&lt;0.1</math>) and Deacetylated by SAHA (<math>q&lt;0.1</math>)</b>			
AA986860	Igf1	Ptges2	Ttpal
Acin1	Il1r1	Qsox1	Usf2
Atoh8	Inhbe	Rbpms	Xbp1
Barx2	Insig2	Rpl21	Zfp36l1
C3	Irgq	Rpl4	Zyg11a
Cbr4	Itih2	Rplp1	
Chid1	Lcn2	Rps26	
Cldn14	Mettl20	Scp2	
Cml2	Mfsd2a	Sik1	
Crem	Mgst1	Slc17a1	
Ctnnd1	Mir122a	Slc39a14	
Dap	Mir1894	Slc41a2	
Ddx28	Mir21	Slc45a1	
Echdc2	Mir295	Slco1a4	
Fam83a	Mirlet7c-2	Snx10	
Fgg	Mllt4	St3gal1	
Fmo1	Mrap	Stk24	
Gadd45g	Myc	Stt3a	
Galnt2	Nfx1	Tbl1xr1	
Gm16157	Nlrp12	Tcf7l2	
Grn	Nnmt	Thpo	
Gtf2h4	Nos1ap	Tm6sf2	
Hpx	Pck1	Trappc6b	
Id3	Pisd	Treh	
Idi1	Prox1	Trib1	

Supplementary Table 4

<b>Deacetylated in Regenerating Liver (<math>q&lt;0.2</math>) and Hyper-acetylated by SAHA (<math>q&lt;0.2</math>)</b>				
Abhd6	Dio1	H2-T23	Phtf2	Tnpo1
Adck3	Dirc2	Herc3	Plk2	Tns3
Agpat6	Dlc1	Hpcal1	Ppp3ca	Tpst2
Arhgap29	Dpm1	Il12rb1	Qdpr	Traf4
Atxn2	Dtnbp1	Ipmk	Rassf3	Trp53bp2
B4galt5	Egln1	Irs1	Rgs12	Ube2h
Bahd1	Eif4ebp2	Itgb5	Rnf19b	Usp10
Bcar1	Ern1	Jmy	Samd8	Usp18
Bik	Fam108c	Klhl21	Sc5d	Usp2
Bmf	Fam49b	Larp1	Sema4b	Whamm
Cat	Fam63b	Larp1b	Serpina1a	Zbtb2
Ccdc171	Fbxl20	Lpcat3	Sesn2	Zfp385b
Ccnd3	Fbxo32	Lyn	Slc25a33	Zfp740
Cdc42	Fcho2	Map1lc3a	Smim18	Zfyve1
Cdc42bpb	Fdx1	Mettl7a1	Spen	Zmym5
Cdyl	Foxj2	Mir30d	Srebf1	Zscan2
Col27a1	Foxo1	Mlxipl	Ssbp3	
Cpne3	Foxo3	Mxi1	Stat5b	
Csk	Gclc	N4bp2	Stim2	
Ctdsp2	Glt25d1	Ncor2	Tcp11l2	
Cyth1	Gpr125	Ndfip1	Tef	
Dbp	Gramd3	Nr1d1	Tle2	
Ddah1	Gse1	Nr3c1	Tle3	
Dexi	Gtl3	Nr4a1	Tmbim6	
Dgat2	H2-K1	Phlpp2	Tmem57	

Supplementary Table 4

<b>Hyper-acetylated in Regenerating Liver (q&lt;0.2) and Deacetylated by SAHA (q&lt;0.2)</b>						
Acin1	Cyp2c70	Id3	Mllt4	Prox1	Slc6a13	Usf2
Acsm1	Cyp3a11	Idi1	Mrap	Ptges2	Slco1a4	Wdr45b
Adipor2	Dap	Igf1	Msl2	Qsox1	Snord104	Xbp1
Adk	Ddx28	Il1r1	Mst1	Rbpms	Snx10	Xrn1
Ahr	Dpyd	Inhbe	Myc	Ric3	Socs3	Zbtb45
Alpl	Dscr3	Insig2	Nat8	Rpl11	Spns2	Zfp36l1
Ambp	Echdc2	Irgq	Ndufa8	Rpl21	St3gal1	Zyg11a
Anapc15	Eef1a1	Isoc2b	Nfkbil1	Rpl4	Stk24	
Atoh8	Eef1g	Itih2	Nfx1	Rpl8	Stt3a	
Atp5k	Efna5	Krt18	Nlrp12	Rplp1	Suclg2	
Atxn7l3b	Egfr	Krt8	Nnmt	Rps26	Susd1	
Barx2	F2	Lcat	Nos1ap	Rps4x	Taf6	
C3	Fam83a	Lcn2	Nr2f2	Rpsa	Tatdn2	
Cald1	Fgg	Lrig2	Nr5a2	Rreb1	Tbl1xr1	
Cbr4	Fmo1	Lrrc59	Orm1	Sdr42e1	Tcf7l2	
Ccdc25	Gadd45g	Mbd1	Pan2	Sec61g	Thpo	
Chid1	Gale	Mbl1	Pck1	Serpina3m	Tlr1	
Cldn14	Galnt2	Mettl20	Pdia5	Shroom3	Tm6sf2	
Cmah	Gpt2	Mfsd2a	Pemt	Sik1	Trappc6b	
Cml2	Gtf2h4	Mgst1	Phf15	Slc17a1	Treh	
Copg1	Haus6	Mir122a	Piga	Slc22a1	Trf	
Creb3l3	Hc	Mir148a	Pik3r1	Slc25a22	Trib1	
Crem	Hmgm3	Mir1894	Pisd	Slc39a14	Ttc4	
Ctnnd1	Hnrnpa0	Mir21	Ppp1r15b	Slc41a2	Ttpal	
Cyp2a12	Hpx	Mir295	Pprc1	Slc45a1	Tyw5	