

Supplemental Materials

The long non-coding RNA Gm10768 activates hepatic gluconeogenesis by sequestering microRNA-214 in mice

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Supplemental Experimental Procedures

High-throughput RNA sequencing

Total RNA isolated from pooled liver samples dissected from three mice subjected to *ad libitum* feeding, 16-h fasting, or 16-h fasting followed by 8-h re-feeding, was used for the construction of RNA-seq libraries. Quality of RNA libraries was evaluated using the Agilent 2200 TapeStation (Agilent Technologies, USA). Library sequencing was performed on HiSeq 3000 sequencing platform (Illumina Company, USA) by Guangzhou RiboBio Co. (China). All sequenced reads were trimmed for adaptor sequence, were masked for low-complexity or low-quality sequence, and then were mapped to reference genome GRCm38 (mm10) using Tophat (Version 2.0.13), allowing only unique alignments (read-mismatches = 2, read-gap-length = 2). Fragments Per Kilobase of transcript per Million mapped reads (FPKM) were calculated for additional statistics. We defined transcripts as lncRNAs according to the following criteria: (1) length > 200 bp, (2) expression > 2 FPKM, (3) ORF < 300 bp, (4) no splicing or overlap with any coding gene present in RefSeq, UCSC, or Ensembl annotations, (5) low protein-coding potential (Pfam analysis: <http://xfam.org/>, and PhyloCSF analysis).

In vitro translation assay

In vitro translation assay was carried out using a prokaryotic expression system. Briefly, the full-length of Gm10768 was subcloned into a pET-28a vector using HindIII and BamHI enzymatic cutting sites. This recombinant plasmid (pET28a-Gm10768) and Nus-tag encoding control plasmid were transformed into competent BL21 (DE3) cells (Novagen, USA). The bacterial lysates were identified by SDS-PAGE and detected by coomassie brilliant blue R-250 staining.

FISH

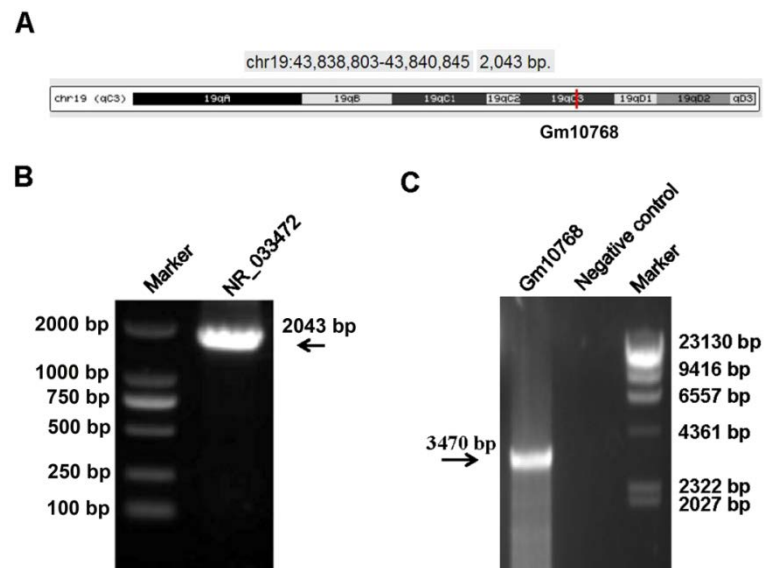
FISH analysis was performed to determine the expression and localization of Gm10768 in mouse primary hepatocytes. snRNA U6 was selected as a positive control for FISH. Probes were synthesized by RiboBio (Guangzhou, China) and a fluorescent *in situ* hybridization kit (RiboBio) was used following the manufacturer's instruction. In brief, cells treated with or without 10 μ M FSK for 6 h (Sigma, MO, USA) were rinsed in PBS and fixed in 4% formaldehyde for 10 min. Then the cells were permeabilized in PBS containing 0.5% Triton X-100, washed with PBS 3 times for 5 min, and then prehybridized at 37 °C for 30 min before hybridization. Hybridization was carried out using probes labeled with Cy3 (red) in a moist chamber at 4 °C overnight. Cells were counterstained with DAPI (blue) and imaged using a confocal laser-scanning microscope (Carl Zeiss, Heidelberg, Germany).

Bioinformatics analyses

Two widely used online tools, Coding Potential Calculator (CPC) (http://cpc.cbi.pku.edu.cn/programs/run_cpc.jsp) and Coding Potential Assessment Tool (CPAT) (<http://lilab.research.bcm.edu/cpat/index.php>), were used to assess the protein coding potential of Gm10768 (1,2). For CPC, transcripts with scores more than 1 are classified as "coding", less than -1 as "non-coding", and scores between -1 and 1 are marked as "weak non-coding" ([-1, 0]) or "weak coding" ([0, 1]), respectively (3). The coding potential score of

Gm10768 calculated by CPC was 0.17, which was classified as weak coding. For CPAT, the cutoff of coding probability in mouse is 0.44, so transcripts with scores higher than 0.44 are classified as "coding" and less than 0.44 defined as "non-coding" (4). The coding potential score of Gm10768 calculated by CPAT was 0.014, also indicating that it is a non-coding transcript.

Supplemental Figure 1



Supplemental Figure 1. The full-length of Gm10768 analyzed by RACE. (A) Chromosome location of Gm10768 cDNA clone (NR_033472) in the mouse genome. (B) PCR amplification of the predicted fragment cDNA clone of Gm10768. (C) PCR amplification of the full-length Gm10768 by using RACE method.

Supplemental Figure 2

Gm10768

5' RACE (1009 bp)

TGGGGAGATA GCTCGGTTGT TAGGGTGGCTT GCCTTGAAAG CGTGAGGGTC CGATTTGATC
 CCTAGAAACC CCTATTACG ATTTTTTTTA AAGTACGGGC ATAGTTGTCC ATGATAACAG
 TTTGAGTGTT GGACAGCCAG AGGTAGTCAG GTCTGGGGC TCACGTAGCCA GGCAGCAAG
 CTAGCCTGCT TGGAAAATCC CAGATCAGGA AGAGACCGTG TCTCAAAAA ACAAAAAAAC
 AACAGCAAAA CCCCTAGGTG GACAGAGCGA AAGGCTCAAC ACCGACAAC ATCTGCTATC
 ACACCTCAAA ATGGAAAGCCT CGTTGGCTTG CCTTGATCAT AAGTTCTTGC TACCCCAACA
 TTCCGAGAAA TAACCGCTAT TCTTAAGTTT CACAGTTCTT TTGCGTGTG TTTTAGTSTT
 TACTGCTCTT GTATGCTCAG GCCATATATG CTGTTTTATC TGATGTAAAT GGACTCAJAC
 AGCTTGCGTC CTGTGGTAC ACCTTTGTTA AGAATACATT TGCAGTTTTG CTACACTGAT
 GCGCGTGGCA GGGTTCATCT TCTCTCTCTC TCTCTCTCTC TCTCTCTCTC TCTCTCTCTC
 TCTCTCTCTC TCTCTCTCTC TCTCTCTCTC AGTAGCACAG CACTGTGCAA ACAGATCATA
 CTTTCGCTAC TGACAGAGGT GACTGAGCAC TGGGCTCTTC CTCTATACC AACTTCAJTG
 CTATGAAACAT CCTGGGATAC TGGCTTGTG TCTATAGTTT GGAATGGGG GGTGTCAAAT
 CTTTACATGT ATATCCTGAG CAGCTCCAGT TTAACAGTG AGTATACTA AGATCTTATP
 TTGGGTTCAC TGTGGACATC CTCAGTTTCT TAGGAGGGTC AGTATCTATT TGTGAGTTC
 TGGTACATTT GAGTGTATTA CAGTTTTAAA AATGTTTTAT ATCTCACAGT TFGAGCATCT
 GGAATTTTTT TCTCATCCAT TGGCTTTTTA ATGTTAATTT TTACTCATT

3' RACE (418 bp)

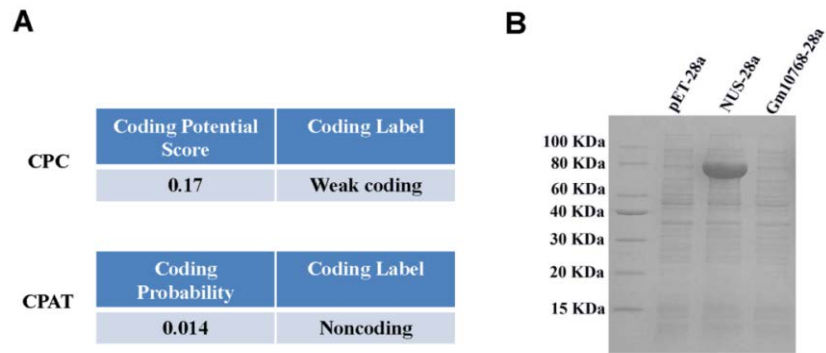
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 TGCCAGATA GAGTCTAGCG TTAGCAGAAC TAGCTTCACT GATTTAGAAA AATAGAGGTG
 CACAGTGTCT TGGCCACTCC TTGAACCTGT GTGTCTGCCA ATGTTGGGAC CTGGTGTGTG
 CTCTTGCTG CACCTTCATT AGACTCTTTC CTTGTACACC TCCCTACCC ATTTCTTGAG
 AATAGACATT GTTAGATCT GGAATCCCC TAATCTCCCC CTTCCTCTTT CCCCCCTGAG
 GGCCTATAA AACTGGGAC TCTTTCCOCT GAGGTCGAC TCCTCTAACC CTGGSTGGGA
 TATGAGTCTGT CCCCAGAGCT CTGGCTTTCC CGAATAAAG CCTCATGTGG TTTGCAAC

NR_033472 (2043 bp)

GATTTATTTT ATAATTTTTA ATTTTAATAA TTGAGTTAAT TTTAATTTTT AAGAAGATTT
 ATTTTATTTCT ATGAAATGTT TACCTGCACG CACATATGTC TATCATATGC TCAGAAATCA
 GAAGAGGGCT TTAGATCCCC CTGAACTGG AGTTACAGGC AGTTGTGAGC CACCTTGTGG
 GTCTGGAAAT TGAACCTGAG CCTCTGCAA GAACAAGTGC TCTTAACCTT GGTGGCAATTT
 CTCAGCCCCC CTCATGTATT ATTGTGATGT CATATTTCTT TGTATGATAT CTCAGCTTTT
 ACTGTGAGCT TTTTACTTCC CTTACAACTC GATCTGAGAC TGTCTCTTGA GGTGGAGAT
 AAACCCAAAT TGCTCTAAG AGAAATGTG AAGGCTTCTG CCAACAACCT GGTATATCAC
 CCAGGCGCTCT TGGGACTAAA CTCCTCACTA AGAGTCCAAA GCAGGCGGTT CAGGCAGCTT
 CAGGGCACAA TCATAAAGA CCTGTGTTG GACTTACAAG TCTCAGGGAG AGTCCCACT
 TAAATAGGTA GCATGGACA TGGTTTTTG TGGCTGTGGT TAACATCTGA ATCTATGTT
 CCTCATTAC CTGGCCATTT CAAAAGTAGC CTTTCAAGAC TCAGGGTTAT CAAAGAGGTC
 TGTAAGAGTT TGTATTCTTT GGCCTTCTCC TACTGTGCTT CTTATATAT TACAGAGGTT
 AGATTTTTAA GCTCTCAGGG TTTGGAAACC TGCCTGCTTT TGCCTCAACC TCACAGCTCC
 TCTTTTGGAT TGTCTGAGG GGTCACTGCA GTCTTCLATT TGAGGCTGTA ATCTATGAGA
 CTTGAATCTA TCCAGCATT CGTATTTAGT GAGGTTCTCA GAGGAGAGA GTATAGCTAA
 GTIAGGCTAC CCTCTCTCC TTGCGCTGGC GGTGACCAAT TGCATTTGTT ATCCAAATCG
 TAACTCCCC CCCCCACCC ACCCCCAAAA GTTGTCCGAA TTAGATAACA GTGTTCCAT
 TTCCAGCTCC GGAACGTTGG CCAACAGAG TATATAGGTA TTAACCTGTT GCCTTAAGSA
 AGACCTTCCC TTCCCTGACT CTGAGATGG GATACATPTE AATATGTTCA CAATAGTGG
 CCAATTTTCA AAGCTAGCTT TTGAAATGCT ACCAAGGTAT AATTCGAAAT TACGAGATAT
 GAATCTAACA CTCTATAGTT TGAATAAAG CCCATTGTCC TACATCTGG GAAGAACA
 TTAACATGG CATCTCTTC ATGAGGTACC TCCCATTTTT TGTAGCAGGG GAGGACATTT
 GAAGATTGAT TCAACAGATC CTGTACTTCC AACGCTCTGT CAGAATATG TTTGTGGTTT
 AACTGTGCTA CTGAGGTTTG CTCTTTTTCT TGTCCCCCT CCTCGCCAA TCTTGGTTG
 TCCCCTTCTC TGCCATCAGC ATGCTTTTACC CCTCTTCTC AGCCCAATTT CTCTTTGACT
 TCTGATATAT CAGTTAAGTA ATAGATTTT CTTGTTCTAT ACTTTAAAAA AAGAAGAAA
 CAAAAACCAC CTTATTTTCT TCTCAAGTAC ATTTCAAATC CTTACATCC TCTAGTTTGC
 TTCTTAAAC GGTTTTCTAG ATACACAACA TTTGAGAAC CAGAAGAAC TTTGAAACC
 AGAGGAGCAG TTTACATCTA CTGAGCCCTC ACTGCCAAC CAGAGCTGTG CACTGGAATA
 AAGCATCAAG GAGGAAGGAG GAGGCCCTAC CCACCTCCCA TTTACATCCC AACTAATCA
 GCCCAGGCTG GTCTTTGTAT TATATCACT AGAGAACTTA GATTTACAGC CAGTTCTATT
 TATCTATTTA TCTATTAAT GTCTAACCC TAAAAAAGTCA TTTAATGTAA ATAAAACTAT
 TTATTTAAAT AAACATCCAA TTCCGTTGGG TTGTGAGTTA ATCTCCOCT CAGGAAGTTC
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 TAT

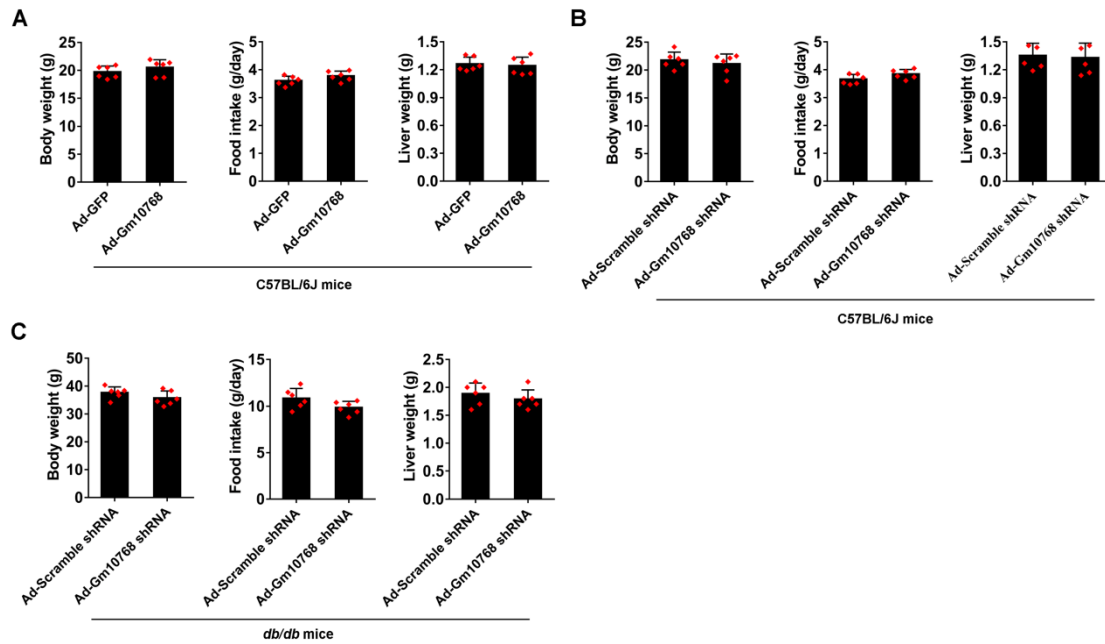
Supplemental Figure 2. Nucleotide sequences of full-length Gm10768.

Supplemental Figure 3



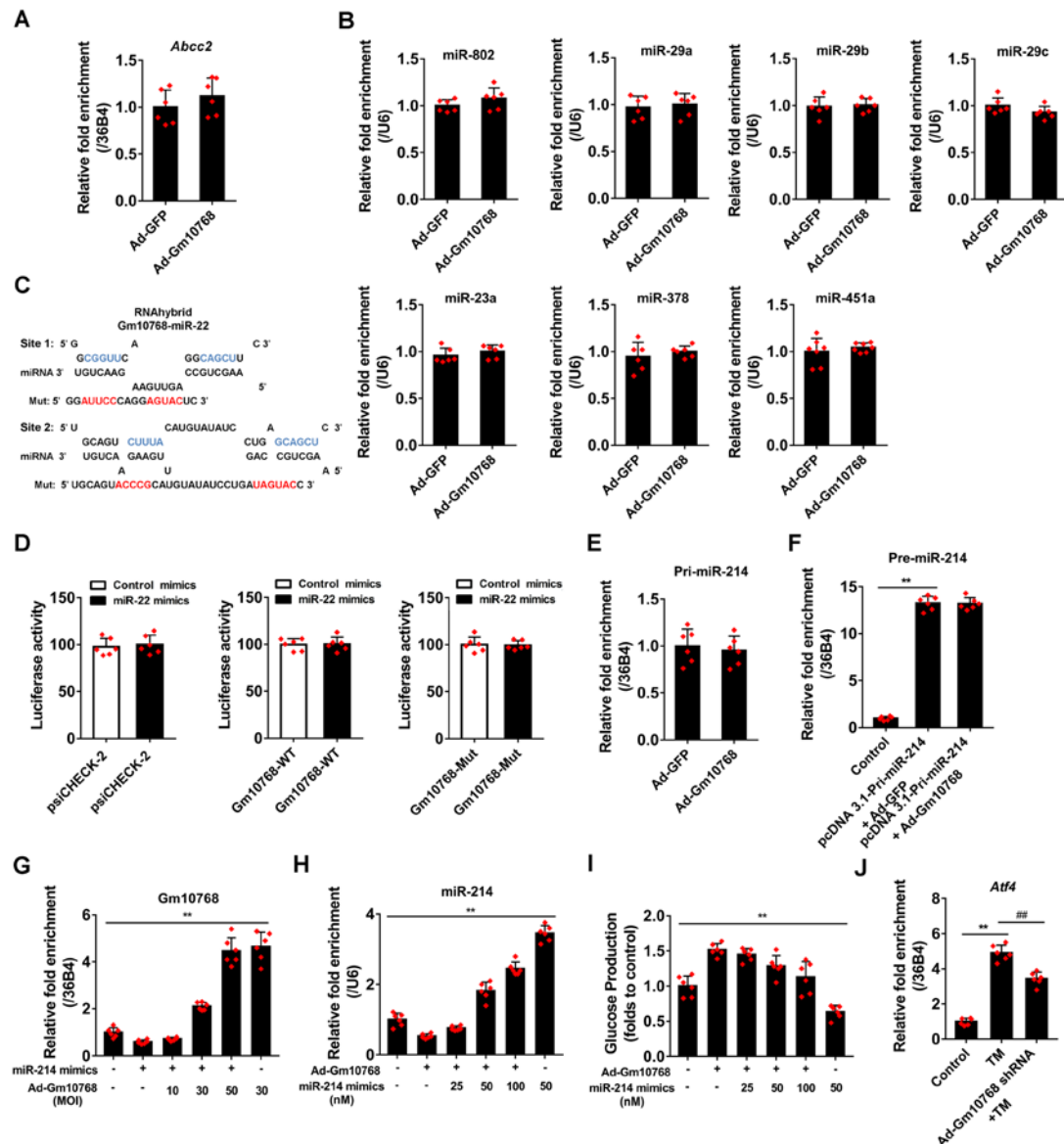
Supplemental Figure 3. Analysis of the protein coding potentiality of Gm10768. (A) Evaluation of the protein coding potential of Gm10768 by using online tools. (B) *In vitro* transcription and translation assay of Gm10768.

Supplemental Figure 4



Supplemental Figure 4. A modest effect of Gm10768 on the mouse body weight, food intake and liver weight. (A) C57BL/6J mice were transduced with adenoviruses encoding GFP or Gm10768 through tail-vein injection (1×10^9 PFU per mouse) for four days ($n=6$ per group). (B, C) C57BL/6J mice (B) or *db/db* mice (C) were transduced with adenoviruses encoding Scramble shRNA or shRNA against Gm10768 through tail-vein injection (1×10^9 PFU per mouse) for four days ($n=6$ per group). At the end of experiments, the mouse body weight, food intake, and liver weight were monitored. Data were performed as mean \pm SD. Error bars represent the SD from the mean of three independent experiments.

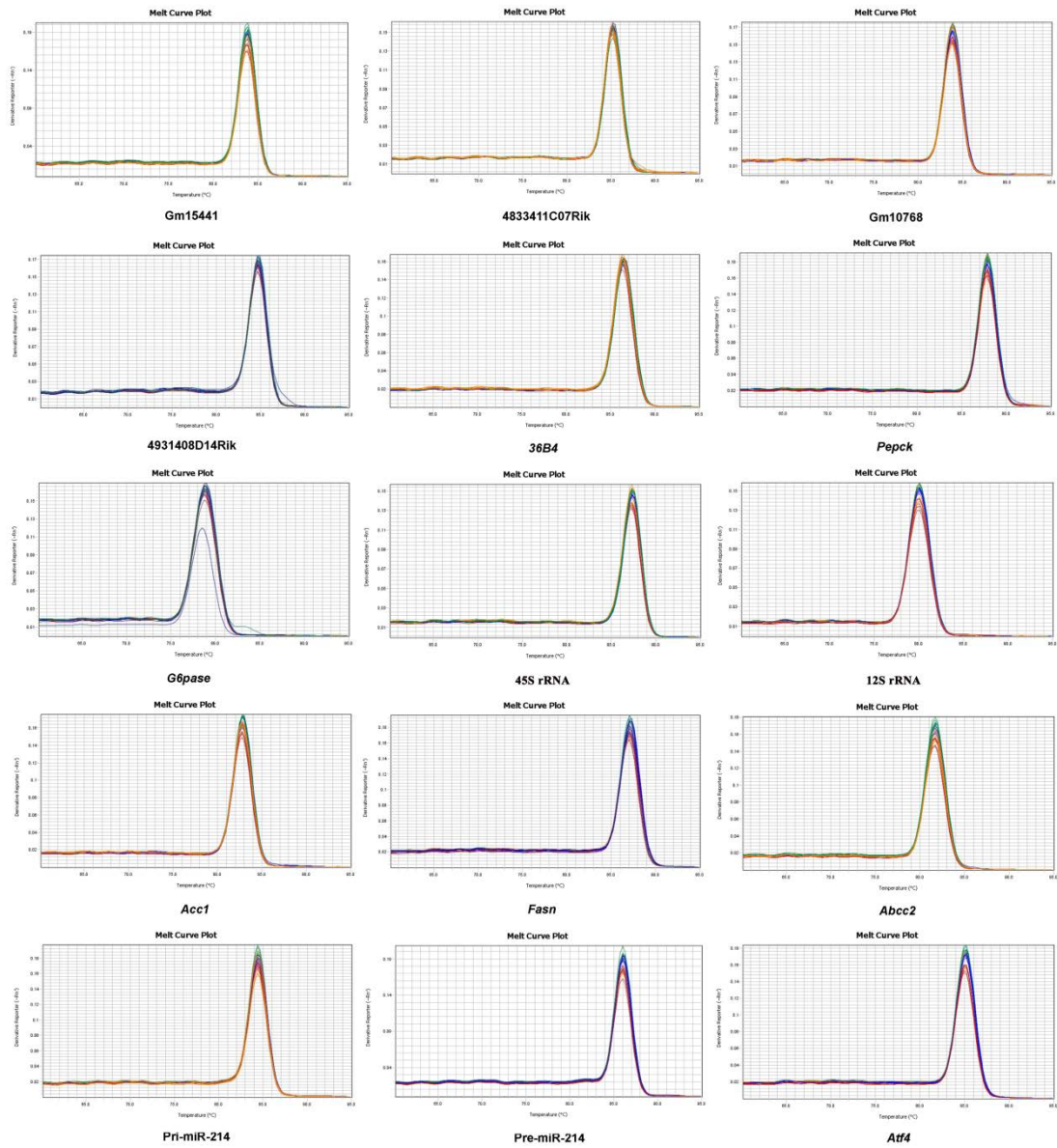
Supplemental Figure 5



Supplemental Figure 5. Mediation of miR-214-ATF4 axis in the activation of hepatic gluconeogenesis by Gm10768. (A) Mouse primary hepatocytes were transduced with adenoviruses expressing Gm10768 or GFP for 48 h, and mRNA expression levels of *Abcc2* were assessed by RT-qPCR. (B) RT-qPCR analyses of known miRNAs involved in hepatic gluconeogenesis. (C) High-affinity binding sites of miR-22 in Gm10768 cDNA predicted by RNAhybrid software. Mutations in the sequence complementary to the seed region were also shown (original sequences were marked in blue, and the non-functional mutation sequences were marked in red). (D) Relative luciferase activity of Gm10768 reporter vectors regulated by miR-22. (E) RT-qPCR analysis of pri-miR-214 levels in hepatocytes treated as panel A. (F) RT-qPCR analysis of pre-miR-214 levels in mouse primary hepatocytes transduced with pcDNA 3.1 expressing pri-miR-214 for 12 h, followed by infection of Ad-Gm10768 or Ad-GFP for another 36 h. ** $P < 0.01$ vs. control group, unpaired t -test. (G) Validation of efficiency of Gm10768 overexpression by RT-qPCR in Ad-Gm10768-infected mouse

primary hepatocytes in the presence of miR-214 overexpression. **P<0.01, one-way ANOVA. (H) Validation of efficiency of miR-214 overexpression by RT-qPCR. Mouse primary hepatocytes were transfected with different doses of miR-214 mimics or control mimics for 12 h, and then infected by adenoviruses encoding Gm10768 or GFP for 36 h. **P<0.01, one-way ANOVA. (I) Glucose output assay in mouse primary hepatocytes treated as panel H. **P<0.01, one-way ANOVA. (J) Regulation of *Atf4* mRNA expression level by Gm10768 in tunicamycin (TM)-induced ER stress. Primary hepatocytes were infected by adenoviruses encoding scramble shRNA or shRNA against Gm10768 for 42 h, and then treated with or without 3 µg/ml TM for another 6 h. **P<0.01 vs. control group, one-way ANOVA. Hepatocytes used in all the experiments were isolated from six mice to do one batch of experiments, and three batches of experiments were performed. Data were performed as mean ± SD. Error bars represent the SD from the mean of three independent experiments.

Supplemental Figure 6



Supplemental Figure 6. Validation of RT-qPCR primers by melting curve analysis.

Supplemental Table S1. Summarized information of reads mapping to the mouse genome (GRCm38 /mm10).

	<i>Ad libitum</i> feeding	16-h fasting	16-h fasting followed by 8-h refeeding
Total reads	69,849,782	65,483,181	67,567,197
Total mapped	66,244,619 (94.84%)	62,525,227 (95.48%)	64,535,271 (95.51%)
Reads mapped in proper pairs	62,110,832 (88.92%)	58,494,504 (89.33%)	60,404,186 (89.40%)
Identified mRNAs	22,913	24,864	23,579
Identified LncRNAs	28,312	31,947	29,332

Supplemental Table 2. Inducible lncRNAs in the liver of 16-h fasted mice (fold changes > 3).

Gene	<i>Ad libitum</i> feeding	16-h fasting	Fold-change (Fasting/Feeding)
fantom3_7420455A22	220	56822	258.28
fantom3_7420402G03	178	44579	250.44
fantom3_6820418A11	19	3216	169.26
fantom3_G830027M03	2	199	99.50
fantom3_G930003I09	2	199	99.50
fantom3_C730049K07	2	164	82.00
fantom3_A530051E17	14	1137	81.21
fantom3_9330161B17	15	755	50.33
fantom3_6330440N17	4	178	44.50
fantom3_E130304P04	1	39	39.00
fantom3_B230112G18	2	62	31.00
fantom3_B230114P17	59	1532	25.97
fantom3_1110020O19	140	3176	22.69
fantom3_C330015B08	1	22	22.00
fantom3_F830213D04	1	21	21.00
fantom3_A730020G14	2	41	20.50
fantom3_A130041H10	1	19	19.00
fantom3_G830024B15	2	38	19.00
fantom3_G730042J04	1	19	19.00
fantom3_I920061J03	38	718	18.89
fantom3_A530027E16	38	649	17.08
fantom3_C130061I16	1	16	16.00
fantom3_D030050I05	1	16	16.00
fantom3_5330407B06	125	1968	15.74
fantom3_C730020I24	9	141	15.67
fantom3_9130202J21	5	78	15.60
fantom3_B230219G19	1295	19986	15.43
fantom3_C730033N06	5	77	15.40
fantom3_A530016A22	1	15	15.00
fantom3_D130020M07	2	30	15.00
fantom3_1700030C10	1	15	15.00
fantom3_1700071A11	1	15	15.00
fantom3_F430013O13	2	29	14.50
fantom3_4931408D14	47	675	14.36
fantom3_G430020I22	1	14	14.00
fantom3_D930006P15	1	14	14.00
fantom3_4930592C13	1	14	14.00
fantom3_D930039J15	1	14	14.00
fantom3_A230101M12	1	14	14.00

fantom3_F530004J10	1	14	14.00
fantom3_A130014B07	3	40	13.33
BC055402	1	13	13.00
fantom3_6530402A05	1	13	13.00
5330411J11Rik	1	13	13.00
fantom3_5330411J11	1	13	13.00
fantom3_2310004O12	1	13	13.00
fantom3_F830116C18	1	13	13.00
fantom3_G730010G10	1	13	13.00
fantom3_B020039J05	1	13	13.00
fantom3_9630015P16	27	343	12.70
fantom3_F830020H21	6	75	12.50
fantom3_4733401D01	2	25	12.50
fantom3_2810007J24	1151	14038	12.20
1700003D09Rik	1	12	12.00
fantom3_1700003D09	1	12	12.00
fantom3_D830033O04	1	12	12.00
fantom3_1700061H18	1	12	12.00
fantom3_B330013B20	30	350	11.67
fantom3_9030616G12	86	1001	11.64
fantom3_3110013K01	23	266	11.57
B930025P03Rik	37	426	11.51
fantom3_B930025P03	37	426	11.51
fantom3_1700025J06	2	23	11.50
fantom3_1810044K17	20	230	11.50
fantom3_4932433B11	2	22	11.00
Serp2	1	11	11.00
fantom3_F830047K07	1	11	11.00
D830026I12Rik	1	11	11.00
D830026I12Rik	1	11	11.00
fantom3_C130090D04	1	11	11.00
2810442N19Rik	2	22	11.00
fantom3_2810442N19	2	22	11.00
fantom3_F830004M11	4	44	11.00
fantom3_A830088F04	2	22	11.00
fantom3_7030406K13	1	11	11.00
fantom3_5430431D22	1	11	11.00
fantom3_1500015B05	1	11	11.00
fantom3_C130033B13	2	22	11.00
fantom3_A530066O14	1	11	11.00
E430016F16Rik	1	11	11.00
fantom3_E430016F16	1	11	11.00
fantom3_A130039P07	1	11	11.00
fantom3_2610028L16	1	11	11.00

fantom3_C130061I10	1	11	11.00
fantom3_2810438M17	1	11	11.00
1810053B23Rik	18	189	10.50
fantom3_1810053B23	18	189	10.50
1810053B23Rik	16	168	10.50
fantom3_C130007P11	2	21	10.50
1810053B23Rik	16	165	10.31
fantom3_1810008L18	16	165	10.31
fantom3_D030003A15	12	123	10.25
fantom3_C730005B11	280	2865	10.23
fantom3_G530022M02	1	10	10.00
fantom3_1700096K11	1	10	10.00
fantom3_F830036E24	3	30	10.00
fantom3_C230059K22	1	10	10.00
2610028E06Rik	1	10	10.00
fantom3_6330509E18	1	10	10.00
fantom3_I920077F18	1	10	10.00
fantom3_A730082C21	1	10	10.00
fantom3_I730058H16	2	20	10.00
fantom3_D330015B14	2	20	10.00
fantom3_7120411H13	1	10	10.00
fantom3_6720419D17	2	20	10.00
fantom3_4932419K24	1	10	10.00
fantom3_G630037M01	1	10	10.00
fantom3_9630009A13	1	10	10.00
fantom3_E030033I04	4	39	9.75
fantom3_D630050E03	2	19	9.50
fantom3_B230214C06	2	19	9.50
fantom3_6430530A15	2	19	9.50
fantom3_B230396O12	2	19	9.50
fantom3_G730013B05	2	19	9.50
G730013B05Rik	2	19	9.50
fantom3_C730031D20	153	1452	9.49
fantom3_F830221J08	11	104	9.45
fantom3_A530063G14	6	56	9.33
fantom3_G130202F18	11	102	9.27
fantom3_4933425E08	4	37	9.25
1810053B23Rik	10	91	9.10
fantom3_1810005K16	10	91	9.10
1810053B23Rik	10	91	9.10
fantom3_1810056K14	10	91	9.10
fantom3_C730014M21	37	335	9.05
fantom3_9530068D04	1	9	9.00
fantom3_2010107C10	1	9	9.00

Rprl3	1	9	9.00
fantom3_1700019P01	2	18	9.00
fantom3_A130098G01	1	9	9.00
Gm872	1	9	9.00
fantom3_6030476D12	1	9	9.00
fantom3_C230070C12	1	9	9.00
fantom3_A630008C13	1	9	9.00
fantom3_D930004C15	1	9	9.00
Gm15401	5	45	9.00
fantom3_B930054K19	1	9	9.00
fantom3_B830038L20	1	9	9.00
fantom3_9530083L01	1	9	9.00
fantom3_A730047N12	1	9	9.00
fantom3_D230039F21	1	9	9.00
AI854703	1	9	9.00
fantom3_2310014F06	1	9	9.00
Dio3os	2	18	9.00
fantom3_C230025E06	1	9	9.00
B430212C06Rik	2	18	9.00
fantom3_7120411O12	2	18	9.00
fantom3_E230008F14	2	18	9.00
A530065N20Rik	1	9	9.00
fantom3_A530065N20	1	9	9.00
fantom3_7530406I19	1	9	9.00
fantom3_C630010O07	1	9	9.00
Gm15441	685	6124	8.94
fantom3_F430107P11	685	6123	8.94
fantom3_9630007F23	3	26	8.67
Gm20597	2	17	8.50
fantom3_A830093M16	2	17	8.50
fantom3_K530005K05	4	34	8.50
G730013B05Rik	2	17	8.50
fantom3_6030407J18	2	17	8.50
fantom3_A430107B04	3	25	8.33
fantom3_A630086I18	13	108	8.31
fantom3_F830012H14	1905	15757	8.27
Rdh18-ps	19	153	8.05
fantom3_E030020K07	2	16	8.00
fantom3_K230002P08	1	8	8.00
fantom3_A230072F23	1	8	8.00
4930431P03Rik	1	8	8.00
fantom3_2810032E02	1	8	8.00
fantom3_A730011B16	1	8	8.00
Gm16325	1	8	8.00

fantom3_4930473B18	2	16	8.00
fantom3_A130091L06	1	8	8.00
fantom3_A530048B07	1	8	8.00
fantom3_4930579H20	1	8	8.00
fantom3_B230119K05	1	8	8.00
fantom3_A230043B06	1	8	8.00
fantom3_F830210C18	1	8	8.00
Abca16	1	8	8.00
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fantom3_4933417O19	1	8	8.00
fantom3_4930408N11	1	8	8.00
fantom3_3010023L08	1	8	8.00
fantom3_F830226M06	2	16	8.00
fantom3_A130019C19	1	8	8.00
fantom3_4933435E02	1	8	8.00
fantom3_9630003L11	1	8	8.00
fantom3_B230215P06	1	8	8.00
fantom3_C530050M13	2	16	8.00
fantom3_B930057K18	2	16	8.00
fantom3_8030487G03	4	32	8.00
fantom3_B230213I15	1	8	8.00
fantom3_B930037H11	1	8	8.00
fantom3_G530110D04	1	8	8.00
fantom3_9530019L17	1	8	8.00
fantom3_1700080G11	5	40	8.00
fantom3_A430025J19	3	23	7.67
fantom3_4930458D05	10	76	7.60
fantom3_2310031A18	37	280	7.57
AY512915	2	15	7.50
fantom3_B020008J18	2	15	7.50
fantom3_1700112J16	2	15	7.50
fantom3_I1C0037K09	2	15	7.50
fantom3_F830012C21	8	59	7.38
fantom3_D330017F15	14	103	7.36

fantom3_C430005K24	3	22	7.33
fantom3_A530024C12	61	443	7.26
fantom3_4833438M18	5	36	7.20
fantom3_D130083J23	2	14	7.00
fantom3_I1C0027L02	2	14	7.00
fantom3_I1C0029E05	2	14	7.00
fantom3_6330520A03	2	14	7.00
fantom3_D130067P18	1	7	7.00
fantom3_7120441B17	1	7	7.00
fantom3_G370129C06	1	7	7.00
fantom3_K230308O10	1	7	7.00
fantom3_D330045B20	1	7	7.00
fantom3_A430041M04	1	7	7.00
fantom3_C530029G05	1	7	7.00
1810053B23Rik	10	70	7.00
fantom3_3321403J09	2	14	7.00
Dlk1	2	14	7.00
fantom3_5832417M09	2	14	7.00
fantom3_A130064J04	2	14	7.00
Btnl5	1	7	7.00
fantom3_8430408J09	1	7	7.00
fantom3_8430415M10	1	7	7.00
1810020O05Rik	1	7	7.00
fantom3_1810020O05	1	7	7.00
fantom3_A430098J15	1	7	7.00
fantom3_B930025I16	1	7	7.00
fantom3_4932704C20	4	28	7.00
fantom3_K530032D24	2	14	7.00
fantom3_D330030J09	1	7	7.00
fantom3_C130093P08	2	14	7.00
fantom3_K430343K20	1	7	7.00
St18	1	7	7.00
St18	1	7	7.00
fantom3_9430041C13	1	7	7.00
fantom3_6720480K08	1	7	7.00
fantom3_5930418H01	2	14	7.00
fantom3_A130074A14	2	14	7.00
fantom3_1700040L02	6	42	7.00
fantom3_E130002L11	2	14	7.00
fantom3_9330188P03	1	7	7.00
fantom3_B930074B15	1	7	7.00
fantom3_D030015J17	1	7	7.00
fantom3_I1C0021P08	1	7	7.00
fantom3_D330006A22	1	7	7.00

fantom3_9830101G19	1	7	7.00
fantom3_5033430G19	1	7	7.00
fantom3_B230315B10	1	7	7.00
fantom3_2900069N19	1	7	7.00
fantom3_E230035N11	1	7	7.00
fantom3_C230007P09	2	14	7.00
fantom3_4833417J20	86	589	6.85
4921508A21Rik	4	27	6.75
fantom3_7120483E20	774	5156	6.66
fantom3_2210419I04	73	486	6.66
fantom3_7120418K18	59	391	6.63
fantom3_D630004K10	65	426	6.55
fantom3_9630012P04	2	13	6.50
fantom3_F530010N02	2	13	6.50
D5Ertd605e	2	13	6.50
fantom3_A130096F13	2	13	6.50
fantom3_D130058E02	2	13	6.50
fantom3_1190016A08	2	13	6.50
Gm5084	2	13	6.50
fantom3_9530058N13	2	13	6.50
fantom3_D430004L15	2	13	6.50
fantom3_C130099N11	2	13	6.50
Gm5607	2	13	6.50
fantom3_B230302A12	2	13	6.50
fantom3_B130063I02	2	13	6.50
fantom3_A930030P22	2	13	6.50
fantom3_A830020C21	2	13	6.50
fantom3_E130119I16	2	13	6.50
fantom3_A630066O22	2	13	6.50
fantom3_C230036G10	2	13	6.50
Ano5	5	32	6.40
fantom3_9330209H12	3	19	6.33
fantom3_5730424C05	10	63	6.30
fantom3_G630020J15	4	25	6.25
1700030C10Rik	11	68	6.18
Gm15401	6	37	6.17
fantom3_E030010N08	2	12	6.00
fantom3_1700007I02	2	12	6.00
fantom3_4930512M02	2	12	6.00
fantom3_A530056G09	2	12	6.00
fantom3_4933407E14	2	12	6.00
fantom3_9630004D11	1	6	6.00
fantom3_1810034M13	1	6	6.00
4930447K03Rik	1	6	6.00

fantom3_C130037J22	1	6	6.00
fantom3_C630047B18	1	6	6.00
fantom3_7120494P12	1	6	6.00
fantom3_A830095B13	1	6	6.00
fantom3_A730065B01	1	6	6.00
fantom3_6330536B20	1	6	6.00
fantom3_F830018F05	2	12	6.00
fantom3_5330429C20	2	12	6.00
fantom3_F530201O18	2	12	6.00
fantom3_F530212A09	2	12	6.00
fantom3_9530073A13	2	12	6.00
fantom3_A330068F07	2	12	6.00
1700007P06Rik	1	6	6.00
fantom3_1700007P06	1	6	6.00
fantom3_4930500E12	1	6	6.00
fantom3_G430061M04	1	6	6.00
fantom3_4930455M05	1	6	6.00
fantom3_B230216G19	1	6	6.00
fantom3_1700055M08	1	6	6.00
fantom3_D930022I19	1	6	6.00
fantom3_4930592I03	1	6	6.00
fantom3_4933401L05	1	6	6.00
fantom3_1500031I19	1	6	6.00
fantom3_9930009K02	2	12	6.00
fantom3_3732407C23	2	12	6.00
fantom3_D230040J18	2	12	6.00
fantom3_6430527A19	2	12	6.00
fantom3_C130048D22	1	6	6.00
fantom3_C230022H20	1	6	6.00
fantom3_F630036L05	1	6	6.00
fantom3_2310003L01	1	6	6.00
fantom3_G630016F13	1	6	6.00
Gm16497	1	6	6.00
fantom3_I920167N20	1	6	6.00
fantom3_B130019P18	1	6	6.00
fantom3_9230113L14	1	6	6.00
G6b	1	6	6.00
4930511M06Rik	1	6	6.00
fantom3_4930511M06	1	6	6.00
fantom3_B230315C17	1	6	6.00
fantom3_F830017M06	1	6	6.00
fantom3_B930051H10	1	6	6.00
fantom3_9930025K09	1	6	6.00
fantom3_B930082J09	1	6	6.00

fantom3_F830006M07	1	6	6.00
fantom3_9330171A06	1	6	6.00
fantom3_9630046I24	1	6	6.00
fantom3_7420436I21	1	6	6.00
fantom3_B230343F10	3	18	6.00
fantom3_D130073P12	2	12	6.00
fantom3_A230020K01	2	12	6.00
fantom3_5330411P19	2	12	6.00
fantom3_D930017O19	1	6	6.00
fantom3_E430019B19	1	6	6.00
fantom3_G630029K15	1	6	6.00
fantom3_F830038B19	1	6	6.00
6330410L21Rik	1	6	6.00
fantom3_6330410L21	1	6	6.00
fantom3_A330043L21	1	6	6.00
fantom3_A330079B12	1	6	6.00
fantom3_F930120N09	1	6	6.00
3110039I08Rik	1	6	6.00
fantom3_0910001L11	1	6	6.00
fantom3_3110039I08	1	6	6.00
fantom3_C130090P09	1	6	6.00
fantom3_E130301F18	1	6	6.00
fantom3_9630056H19	2	12	6.00
fantom3_A230013C21	1	6	6.00
fantom3_A530030E21	1	6	6.00
fantom3_D930037F10	1	6	6.00
fantom3_E330005O20	1	6	6.00
fantom3_E430003K09	1	6	6.00
fantom3_B930091H14	4	24	6.00
fantom3_B930093H17	4	24	6.00
fantom3_4930545H10	2	12	6.00
fantom3_C230090M03	2	12	6.00
fantom3_D530008E22	2	12	6.00
fantom3_D430025L05	2	12	6.00
fantom3_D130094B22	1	6	6.00
fantom3_B930098M14	2	12	6.00
fantom3_A830023F21	1	6	6.00
fantom3_G630068J03	1	6	6.00
fantom3_D130048G10	1	6	6.00
fantom3_E430029I17	1	6	6.00
fantom3_B830037D16	1	6	6.00
2310005A03Rik	1	6	6.00
fantom3_C730040C05	3904	23241	5.95
4833411C07Rik	570	3380	5.93

fantom3_F530109J04	590	3469	5.88
fantom3_4930565D21	4	23	5.75
fantom3_2810043G22	8	46	5.75
fantom3_6330531L09	63	360	5.71
fantom3_5330434L22	7	40	5.71
fantom3_9830005I08	3	17	5.67
fantom3_A430103C09	3	17	5.67
Smarca5-ps	3	17	5.67
fantom3_A530024J10	5	28	5.60
fantom3_2310076L09	1519	8493	5.59
fantom3_6430516O08	9	50	5.56
fantom3_2310069G16	2	11	5.50
fantom3_A430055B20	2	11	5.50
fantom3_D230015D14	2	11	5.50
fantom3_2510009M23	4	22	5.50
fantom3_A630005L15	2	11	5.50
fantom3_9630032I19	2	11	5.50
fantom3_2010013B24	2	11	5.50
fantom3_C130073D18	4	22	5.50
fantom3_D930019O06	2	11	5.50
fantom3_D430017G14	2	11	5.50
fantom3_C030007I01	2	11	5.50
fantom3_G430037M03	2	11	5.50
fantom3_B230354D22	2	11	5.50
Gm16197	2	11	5.50
fantom3_B930015H15	2	11	5.50
fantom3_9630009O18	4	22	5.50
fantom3_C130086H07	2	11	5.50
fantom3_F830022K14	2	11	5.50
fantom3_4932422C18	2	11	5.50
fantom3_D330013J16	2	11	5.50
fantom3_B930022I23	4	22	5.50
fantom3_C630003L08	2	11	5.50
fantom3_B230033C14	2	11	5.50
fantom3_A530021B03	2	11	5.50
fantom3_D730044B07	4	22	5.50
fantom3_A530024I22	2	11	5.50
fantom3_D230009L05	2	11	5.50
fantom3_E330033J16	8	43	5.38
fantom3_G630001H16	330	1763	5.34
fantom3_D230019E14	3	16	5.33
fantom3_B230368G18	3	16	5.33
fantom3_A430072O03	3	16	5.33
fantom3_D430001N20	3	16	5.33

fantom3_A230105L22	3	16	5.33
fantom3_G530012B12	3	16	5.33
fantom3_A630006J12	3	16	5.33
fantom3_6330439G07	246	1311	5.33
fantom3_A530092N03	37	196	5.30
fantom3_B230208B08	4	21	5.25
fantom3_D430032L03	4	21	5.25
fantom3_6430589E07	4	21	5.25
fantom3_E130002K22	12	63	5.25
fantom3_A230098N19	4	21	5.25
fantom3_D030044K10	50	262	5.24
fantom3_C330021I02	268	1386	5.17
Cyp3a25	8828	45617	5.17
fantom3_E230034P17	124	635	5.12
fantom3_F830020G23	550	2803	5.10
fantom3_A630089L15	134	678	5.06
fantom3_A830014L16	4	20	5.00
fantom3_8030487I24	2	10	5.00
fantom3_A230080N22	2	10	5.00
fantom3_6330582C22	2	10	5.00
fantom3_F930027O16	2	10	5.00
fantom3_5730552O08	2	10	5.00
E130018N17Rik	2	10	5.00
fantom3_4932418B15	2	10	5.00
fantom3_E130018N17	2	10	5.00
4930564K09Rik	2	10	5.00
4930564K09Rik	2	10	5.00
fantom3_4931406K06	2	10	5.00
fantom3_A330041C21	2	10	5.00
fantom3_B130022O15	2	10	5.00
fantom3_C230032F09	2	10	5.00
fantom3_9830139E03	2	10	5.00
fantom3_A330001A19	1	5	5.00
Vsig8	1	5	5.00
fantom3_B830043G20	1	5	5.00
fantom3_7030405N17	1	5	5.00
fantom3_F830205A03	1	5	5.00
fantom3_2810481J17	1	5	5.00
fantom3_4932410A21	1	5	5.00
fantom3_A430014K01	1	5	5.00
fantom3_1100001H14	1	5	5.00
fantom3_7120452I05	1	5	5.00
fantom3_F830001L21	1	5	5.00
fantom3_1700082G17	1	5	5.00

fantom3_B230397F05	1	5	5.00
Gm15412	1	5	5.00
fantom3_9330185H22	1	5	5.00
fantom3_A230015O16	6	30	5.00
fantom3_F830013F05	8	40	5.00
fantom3_E330028E05	2	10	5.00
fantom3_F430010F14	2	10	5.00
fantom3_4832424L05	2	10	5.00
fantom3_A730069A18	2	10	5.00
fantom3_A830013M21	2	10	5.00
fantom3_A330007M14	2	10	5.00
fantom3_9230110L19	2	10	5.00
fantom3_C230047M17	2	10	5.00
fantom3_D230009B17	2	10	5.00
fantom3_B930015J12	1	5	5.00
fantom3_C330017D18	1	5	5.00
fantom3_1700037F03	1	5	5.00
fantom3_1700042M18	1	5	5.00
fantom3_G530009E20	1	5	5.00
fantom3_A430091P18	1	5	5.00
fantom3_1700012D16	1	5	5.00
fantom3_1700021L23	1	5	5.00
fantom3_G430084B08	1	5	5.00
fantom3_F930020O14	1	5	5.00
fantom3_6820414B21	2	10	5.00
fantom3_B830019E21	2	10	5.00
fantom3_A630033D21	2	10	5.00
fantom3_A630046N03	2	10	5.00
Gm20098	2	10	5.00
fantom3_C230065K23	2	10	5.00
fantom3_D130002B20	2	10	5.00
fantom3_B020016K23	7	35	5.00
fantom3_E130104O17	3	15	5.00
fantom3_9630039A10	4	20	5.00
fantom3_4833427M02	2	10	5.00
fantom3_A430099A21	2	10	5.00
fantom3_G530023E11	2	10	5.00
Hoxa11as	2	10	5.00
fantom3_D630027P12	1	5	5.00
fantom3_C230074L02	1	5	5.00
fantom3_1700011M20	1	5	5.00
fantom3_7120474E19	1	5	5.00
fantom3_F630107N01	1	5	5.00
fantom3_4930412L05	1	5	5.00

fantom3_A230033K07	1	5	5.00
fantom3_D430026G21	1	5	5.00
fantom3_4933416K23	1	5	5.00
fantom3_2210411A11	1	5	5.00
fantom3_A530096N14	2	10	5.00
Gm13238	6	30	5.00
fantom3_D030062D16	2	10	5.00
fantom3_8030401H20	2	10	5.00
fantom3_4930584B20	1	5	5.00
fantom3_A930027E12	1	5	5.00
fantom3_D330023H14	1	5	5.00
4930509J09Rik	1	5	5.00
fantom3_1190003I05	1	5	5.00
fantom3_4930509J09	1	5	5.00
Gm9054	1	5	5.00
fantom3_9430008B02	1	5	5.00
fantom3_6030499F11	3	15	5.00
fantom3_A330013P14	2	10	5.00
fantom3_A230069F06	2	10	5.00
fantom3_4930429E23	2	10	5.00
fantom3_D230036L12	1	5	5.00
fantom3_A630025N14	1	5	5.00
fantom3_F830225K24	1	5	5.00
fantom3_A930008K18	1	5	5.00
fantom3_D030003J18	1	5	5.00
Gm4971	1	5	5.00
fantom3_F830224B06	1	5	5.00
fantom3_6720457D02	6	30	5.00
fantom3_C430038G16	2	10	5.00
fantom3_A730050L04	2	10	5.00
fantom3_6430509L22	6	30	5.00
fantom3_9830164F11	2	10	5.00
fantom3_9330180A15	2	10	5.00
fantom3_9430005B13	1	5	5.00
1600002D24Rik	1	5	5.00
fantom3_A130022N18	1	5	5.00
fantom3_1700084I05	1	5	5.00
fantom3_A330015G07	1	5	5.00
fantom3_B230398F15	1	5	5.00
fantom3_F830225F22	1	5	5.00
fantom3_F930035C23	6	30	5.00
fantom3_E330011O21	2	10	5.00
fantom3_D030074N24	1	5	5.00
fantom3_A230024A21	1	5	5.00

fantom3_F830002H17	1	5	5.00
fantom3_9930104O19	1	5	5.00
fantom3_B930093C17	1	5	5.00
fantom3_D930036L11	1	5	5.00
fantom3_C030005P03	2	10	5.00
fantom3_A430088I17	1	5	5.00
fantom3_B230338A04	1	5	5.00
1700001J11Rik	1	5	5.00
fantom3_C230077I18	1	5	5.00
fantom3_9530085M16	1	5	5.00
4931408D14Rik	514	2540	4.94
fantom3_9030411M13	72	355	4.93
fantom3_A330042I21	10	49	4.90
fantom3_7530419O16	891	4339	4.87
fantom3_C730036B01	2542	12369	4.87
fantom3_E330039K20	3437	16539	4.81
Ces2d-ps	5	24	4.80
fantom3_A530027J09	4	19	4.75
fantom3_4930485C04	4	19	4.75
fantom3_I1C0011F16	4	19	4.75
fantom3_A230052H07	451	2133	4.73
fantom3_G730001L10	3	14	4.67
fantom3_E130116O09	3	14	4.67
fantom3_G630045F12	3	14	4.67
fantom3_9230112O09	3	14	4.67
Gm1082	3	14	4.67
fantom3_9430096M08	6	28	4.67
fantom3_9630004F11	9	42	4.67
fantom3_G730049H13	3	14	4.67
fantom3_E030038B07	3	14	4.67
1700091H14Rik	6	28	4.67
fantom3_D930030I03	3	14	4.67
fantom3_D030016M01	3	14	4.67
fantom3_D530008I22	3	14	4.67
fantom3_D530031M14	3	14	4.67
fantom3_I920021K10	3	14	4.67
fantom3_E030047I21	6	28	4.67
4833422C13Rik	468	2153	4.60
fantom3_1700073I01	5	23	4.60
fantom3_A330096J11	1341	6076	4.53
fantom3_C030047E05	1355	6132	4.53
fantom3_C130058A18	2	9	4.50
fantom3_A930014D11	2	9	4.50
fantom3_6430705N15	2	9	4.50

fantom3_A230061A22	2	9	4.50
fantom3_C130025H16	2	9	4.50
fantom3_E330001M20	2	9	4.50
fantom3_9330197I21	2	9	4.50
fantom3_A230004B05	2	9	4.50
fantom3_3021401A05	2	9	4.50
fantom3_2810040O04	2	9	4.50
fantom3_F830033G06	4	18	4.50
fantom3_A130090B19	4	18	4.50
fantom3_C430017E22	2	9	4.50
fantom3_9530025H10	2	9	4.50
Emx2os	2	9	4.50
fantom3_D030032E09	2	9	4.50
fantom3_9330168K07	2	9	4.50
fantom3_9330169L03	2	9	4.50
fantom3_A130029F22	2	9	4.50
fantom3_F830010P07	2	9	4.50
fantom3_4930546E13	4	18	4.50
9230105E05Rik	2	9	4.50
fantom3_9230105E05	2	9	4.50
fantom3_7420445B05	2	9	4.50
fantom3_A530065A10	2	9	4.50
fantom3_C230047O04	2	9	4.50
4732490B19Rik	2	9	4.50
fantom3_4732490B19	2	9	4.50
fantom3_9630015L23	2	9	4.50
fantom3_4930529E05	2	9	4.50
fantom3_A530086I01	2	9	4.50
fantom3_9430084D13	2	9	4.50
fantom3_E330027H18	2	9	4.50
fantom3_9630054E03	2	9	4.50
fantom3_C130074J11	2	9	4.50
fantom3_1500004F05	4	18	4.50
fantom3_5730410D22	2	9	4.50
fantom3_5830407L18	2	9	4.50
fantom3_4930482A13	2	9	4.50
fantom3_2310030G09	2	9	4.50
fantom3_2310061I08	2	9	4.50
fantom3_2610507D12	2	9	4.50
fantom3_4932429E03	2	9	4.50
fantom3_6430514B01	2	9	4.50
fantom3_G630010F24	2	9	4.50
fantom3_E330019F22	2	9	4.50
fantom3_9430024N04	2	9	4.50

4930552P12Rik	2	9	4.50
fantom3_4930552P12	2	9	4.50
fantom3_C630004G01	2	9	4.50
fantom3_G830047P04	2	9	4.50
fantom3_9630036L12	4	18	4.50
fantom3_4930509B17	2	9	4.50
fantom3_B930086C19	1526	6863	4.50
Smim4	206	926	4.50
fantom3_D830016K23	847	3806	4.49
fantom3_4833422C13	476	2136	4.49
fantom3_D230005N01	143	638	4.46
4833422C13Rik	490	2171	4.43
fantom3_C130047M12	490	2171	4.43
fantom3_B020022I17	7	31	4.43
4833422C13Rik	488	2153	4.41
fantom3_2810490B19	158	690	4.37
fantom3_D630039B14	529	2297	4.34
5730420D15Rik	3	13	4.33
5730420D15Rik	3	13	4.33
fantom3_5730420D15	3	13	4.33
fantom3_9530080J07	3	13	4.33
fantom3_F630034G15	3	13	4.33
fantom3_6330408M09	6	26	4.33
fantom3_2900024J01	3	13	4.33
fantom3_4930400K01	3	13	4.33
fantom3_6430521D21	3	13	4.33
fantom3_K530024H12	1759	7543	4.29
fantom3_E530020L22	43	184	4.28
fantom3_4933440K10	181	774	4.28
fantom3_A430081H12	4	17	4.25
fantom3_F430011H22	4	17	4.25
fantom3_6430540J22	352	1496	4.25
fantom3_1700031D16	182	768	4.22
fantom3_D830027I06	5	21	4.20
fantom3_9030425J09	5	21	4.20
fantom3_1700023D08	6	25	4.17
fantom3_E230020D19	12	50	4.17
fantom3_6430573F11	103	429	4.17
fantom3_2900053I11	4313	17919	4.15
fantom3_D930037D01	7	29	4.14
fantom3_C530032N24	7	29	4.14
A730036I17Rik	15	62	4.13
fantom3_C530042G19	24	99	4.13
fantom3_4933433O05	60	247	4.12

fantom3_A430075I01	9	37	4.11
fantom3_6030460I07	1048	4301	4.10
fantom3_D230002O22	27	110	4.07
fantom3_4930537F08	57	232	4.07
fantom3_F830218H22	46	186	4.04
fantom3_9630061O09	1349	5452	4.04
fantom3_7120433M01	4	16	4.00
fantom3_C230015I20	3	12	4.00
fantom3_C130061C17	2	8	4.00
fantom3_4931432P07	2	8	4.00
fantom3_B230219N15	2	8	4.00
fantom3_C230086P21	2	8	4.00
fantom3_9430090C22	2	8	4.00
fantom3_A530063B08	2	8	4.00
fantom3_B230342O18	2	8	4.00
fantom3_E030020C05	2	8	4.00
fantom3_6230416H20	2	8	4.00
fantom3_A730080B08	2	8	4.00
2610016A17Rik	2	8	4.00
fantom3_5031425L03	2	8	4.00
fantom3_I1C0010J19	2	8	4.00
fantom3_K530031M16	2	8	4.00
fantom3_5830487J09	2	8	4.00
fantom3_A830089E20	2	8	4.00
fantom3_4732457O22	2	8	4.00
fantom3_A630074D03	2	8	4.00
fantom3_D430031M04	2	8	4.00
fantom3_D430042D18	2	8	4.00
fantom3_C820009N22	2	8	4.00
fantom3_F730036O08	2	8	4.00
fantom3_G630064G18	2	8	4.00
fantom3_I0C0030B04	2	8	4.00
fantom3_5830485H16	1	4	4.00
fantom3_F830108J22	1	4	4.00
fantom3_F830016M16	1	4	4.00
fantom3_A630096B13	1	4	4.00
A730018C14Rik	1	4	4.00
fantom3_A530032D21	1	4	4.00
fantom3_C130068F21	1	4	4.00
fantom3_B930004P07	1	4	4.00
fantom3_E330033O05	1	4	4.00
fantom3_9330184M05	1	4	4.00
fantom3_E230008B12	1	4	4.00
9430076G02Rik	1	4	4.00

fantom3_6330512F01	1	4	4.00
fantom3_A830060C21	1	4	4.00
fantom3_C230073G23	1	4	4.00
fantom3_9330166I03	1	4	4.00
fantom3_9530039B13	1	4	4.00
fantom3_A530056J20	1	4	4.00
fantom3_A830048L15	1	4	4.00
fantom3_C230060E24	1	4	4.00
fantom3_5730419E21	1	4	4.00
fantom3_6430525O13	1	4	4.00
fantom3_A430073I07	1	4	4.00
fantom3_F830205N24	1	4	4.00
Gm1653	1	4	4.00
Samd7	1	4	4.00
fantom3_A330103E24	1	4	4.00
fantom3_4632406I19	1	4	4.00
fantom3_B020010K22	1	4	4.00
fantom3_7630403E16	1	4	4.00
fantom3_9630046P05	1	4	4.00
fantom3_4933409J01	1	4	4.00
fantom3_5730420B04	1	4	4.00
fantom3_9930030C16	1	4	4.00
fantom3_A330030O17	1	4	4.00
fantom3_A330096P22	1	4	4.00
fantom3_D130011M19	1	4	4.00
fantom3_A530010L16	1	4	4.00
fantom3_B020007E24	1	4	4.00
fantom3_D930018I06	1	4	4.00
2900079G21Rik	1	4	4.00
fantom3_A130086G18	1	4	4.00
fantom3_8030444H21	1	4	4.00
fantom3_E330016L19	6	24	4.00
fantom3_9630026I09	7	28	4.00
Gm20753	2	8	4.00
fantom3_4930564M02	2	8	4.00
fantom3_A530076I17	2	8	4.00
fantom3_D030052P04	2	8	4.00
fantom3_9330115I17	2	8	4.00
fantom3_E430016M24	2	8	4.00
fantom3_2310050J21	2	8	4.00
fantom3_F830006J18	2	8	4.00
fantom3_6330441F13	2	8	4.00
fantom3_G630009M09	2	8	4.00
fantom3_9530056P15	2	8	4.00

fantom3_8030441J06	3	12	4.00
fantom3_9930029D17	3	12	4.00
fantom3_A630077E22	4	16	4.00
fantom3_C530034L13	3	12	4.00
Gm19589	2	8	4.00
fantom3_6330571D19	2	8	4.00
fantom3_9630056N24	2	8	4.00
fantom3_F830205L19	2	8	4.00
fantom3_9630023C09	2	8	4.00
fantom3_A630014C17	2	8	4.00
fantom3_6820406N23	2	8	4.00
fantom3_B230206N20	2	8	4.00
fantom3_9930028J18	2	8	4.00
fantom3_A130032G04	2	8	4.00
fantom3_D130047J24	2	8	4.00
fantom3_F830022J18	2	8	4.00
B230214G05Rik	2	8	4.00
fantom3_B230214G05	2	8	4.00
fantom3_D230007E15	2	8	4.00
fantom3_F930017I12	2	8	4.00
fantom3_D930017E24	2	8	4.00
fantom3_4933425M03	2	8	4.00
fantom3_B230334C09	2	8	4.00
fantom3_4932433C14	2	8	4.00
fantom3_D630036G19	2	8	4.00
fantom3_B230111K12	2	8	4.00
fantom3_F730319F13	2	8	4.00
fantom3_F830111C14	2	8	4.00
fantom3_K530016G10	2	8	4.00
fantom3_A130044E20	2	8	4.00
fantom3_4930448E06	2	8	4.00
fantom3_E030015M07	2	8	4.00
fantom3_5330427H03	1	4	4.00
fantom3_4631419H05	1	4	4.00
fantom3_B130006A19	1	4	4.00
fantom3_C630039L13	1	4	4.00
fantom3_1110031C17	1	4	4.00
fantom3_A330034I05	1	4	4.00
A630010A05Rik	1	4	4.00
fantom3_C530030I12	1	4	4.00
fantom3_2310042O12	1	4	4.00
fantom3_E030019H01	1	4	4.00
fantom3_C030015F15	1	4	4.00
4930467D21Rik	1	4	4.00

fantom3_4930467D21	1	4	4.00
fantom3_B020023H02	1	4	4.00
fantom3_B830020B14	1	4	4.00
fantom3_G530019J10	1	4	4.00
E330023G01Rik	1	4	4.00
fantom3_E330023G01	1	4	4.00
fantom3_A430103D13	3	12	4.00
fantom3_4930500E03	3	12	4.00
fantom3_A130024J23	3	12	4.00
5930403L14Rik	4	16	4.00
fantom3_6720470B12	2	8	4.00
fantom3_G430072D06	2	8	4.00
fantom3_4833422M11	2	8	4.00
fantom3_C920004C22	2	8	4.00
Nespas	2	8	4.00
fantom3_F730207D02	2	8	4.00
fantom3_A230044A06	2	8	4.00
fantom3_K230018F12	2	8	4.00
fantom3_B020011M09	2	8	4.00
fantom3_B020023E12	2	8	4.00
fantom3_9530019H20	2	8	4.00
fantom3_B930089I02	4	16	4.00
fantom3_E330008E06	4	16	4.00
fantom3_A630076J08	6	24	4.00
fantom3_7120492D10	4	16	4.00
fantom3_C130040C23	2	8	4.00
fantom3_C230099D08	2	8	4.00
fantom3_9530074I05	2	8	4.00
fantom3_E130110J20	2	8	4.00
fantom3_D930013K24	2	8	4.00
fantom3_E130303A22	2	8	4.00
fantom3_F830207A08	2	8	4.00
fantom3_9430073I07	2	8	4.00
fantom3_F730014L09	2	8	4.00
fantom3_0710007A08	2	8	4.00
fantom3_C230063K18	2	8	4.00
fantom3_A730019A13	1	4	4.00
fantom3_K530010N24	1	4	4.00
fantom3_D230013D19	1	4	4.00
fantom3_D930017N05	1	4	4.00
fantom3_E130113D07	1	4	4.00
fantom3_D930012K20	1	4	4.00
fantom3_F430111C12	1	4	4.00
fantom3_A530046N01	1	4	4.00

fantom3_C230094P08	1	4	4.00
fantom3_D630015I18	1	4	4.00
Gm6623	1	4	4.00
fantom3_4631411J20	1	4	4.00
fantom3_A330043A11	1	4	4.00
fantom3_D230032A15	1	4	4.00
fantom3_6430605H24	1	4	4.00
fantom3_A230102G17	1	4	4.00
fantom3_C230001G10	1	4	4.00
fantom3_5730410C11	1	4	4.00
fantom3_A230073C10	1	4	4.00
fantom3_A430106C03	1	4	4.00
Vax2os	1	4	4.00
fantom3_1700020M01	1	4	4.00
fantom3_4930433G11	1	4	4.00
fantom3_6720473I03	1	4	4.00
fantom3_A230097C02	1	4	4.00
fantom3_A730071F05	1	4	4.00
fantom3_C030019G06	1	4	4.00
fantom3_6430523M17	1	4	4.00
fantom3_D130099D04	1	4	4.00
fantom3_2900011F02	1	4	4.00
fantom3_9030602I02	6	24	4.00
fantom3_4732457O16	6	24	4.00
fantom3_C530045J11	4	16	4.00
fantom3_9530060I07	2	8	4.00
fantom3_A230058M14	2	8	4.00
fantom3_D130061K21	2	8	4.00
fantom3_9830103F04	2	8	4.00
fantom3_1110012J17	2	8	4.00
fantom3_9330109P18	2	8	4.00
fantom3_A130002P08	2	8	4.00
fantom3_D230019N10	2	8	4.00
fantom3_7420463M02	2	8	4.00
fantom3_4931406G05	3	12	4.00
fantom3_B930032K05	2	8	4.00
fantom3_8030495O19	2	8	4.00
fantom3_A430040D18	2	8	4.00
fantom3_C230078I21	2	8	4.00
fantom3_D930016G20	2	8	4.00
AI414108	2	8	4.00
fantom3_5330434N09	1	4	4.00
fantom3_7420404I10	1	4	4.00
fantom3_A730099G24	1	4	4.00

F630206G17Rik	1	4	4.00
fantom3_2810442I21	1	4	4.00
fantom3_2900016I12	1	4	4.00
fantom3_2900060N18	1	4	4.00
fantom3_F630022K16	1	4	4.00
fantom3_F630206G17	1	4	4.00
2310005E17Rik	1	4	4.00
fantom3_2310005E17	1	4	4.00
fantom3_D930023B19	1	4	4.00
fantom3_A230050E13	1	4	4.00
fantom3_2210409C20	1	4	4.00
fantom3_4930534A14	1	4	4.00
fantom3_B230333H05	1	4	4.00
fantom3_B930012P20	1	4	4.00
fantom3_A930031H19	1	4	4.00
fantom3_D130008P17	1	4	4.00
fantom3_4930512O11	1	4	4.00
fantom3_0610042B23	1	4	4.00
fantom3_1110032P03	1	4	4.00
fantom3_D930029H23	1	4	4.00
fantom3_G630024A14	1	4	4.00
fantom3_4933436I20	4	16	4.00
fantom3_C730026P17	4	16	4.00
fantom3_B230308O18	2	8	4.00
fantom3_B230313A11	2	8	4.00
fantom3_K530044I24	2	8	4.00
fantom3_B930060O04	2	8	4.00
fantom3_9630019D09	3	12	4.00
fantom3_A230016M02	5	20	4.00
fantom3_6030405F07	4	16	4.00
fantom3_6720454F05	2	8	4.00
fantom3_4932408N12	2	8	4.00
fantom3_A130028J07	2	8	4.00
fantom3_C130007F22	2	8	4.00
fantom3_2310024F14	2	8	4.00
fantom3_9430012N08	1	4	4.00
fantom3_B930013C23	1	4	4.00
fantom3_G130201G04	1	4	4.00
fantom3_A230081B03	1	4	4.00
fantom3_4930540G21	1	4	4.00
4930471C04Rik	1	4	4.00
fantom3_4930471C04	1	4	4.00
fantom3_E130102J01	1	4	4.00
fantom3_A730014L24	1	4	4.00

fantom3_D130069E17	1	4	4.00
fantom3_4930583K21	1	4	4.00
fantom3_9430044O05	1	4	4.00
fantom3_E030018C24	1	4	4.00
fantom3_C230084I20	2	8	4.00
fantom3_9030614I24	2	8	4.00
D630045M09Rik	3	12	4.00
fantom3_0610012K18	2	8	4.00
fantom3_6430591O13	2	8	4.00
fantom3_D230034L24	1	4	4.00
fantom3_7120444A08	1	4	4.00
fantom3_4732435N08	1	4	4.00
fantom3_B130014L21	1	4	4.00
fantom3_A530096P14	2	8	4.00
fantom3_D630045M09	2	8	4.00
fantom3_G630004E22	1	4	4.00
fantom3_B230347B12	1	4	4.00
Zim3	1	4	4.00
fantom3_9530019A01	2	8	4.00
fantom3_A130091D23	1	4	4.00
I730030J21Rik	1	4	4.00
5730422E09Rik	1	4	4.00
fantom3_E330040K20	1	4	4.00
fantom3_2900006B19	4	16	4.00
fantom3_B020030O10	2	8	4.00
fantom3_2900074L10	11	44	4.00
fantom3_B230209O05	1	4	4.00
fantom3_8030487O14	1	4	4.00
fantom3_4732455F06	2	8	4.00
fantom3_C230003P19	1	4	4.00
fantom3_E430008K20	4135	16337	3.95
E330011O21Rik	30	118	3.93
Eci2	3939	15409	3.91
Gm13845	8	31	3.88
fantom3_2700016F22	7	27	3.86
fantom3_B130005E17	7	27	3.86
fantom3_A830040F21	7	27	3.86
fantom3_B230367P07	13	50	3.85
Marcks11-ps4	88	338	3.84
fantom3_B730047E09	6	23	3.83
fantom3_8030487P14	6	23	3.83
fantom3_C230011H18	6	23	3.83
fantom3_4732482G11	168	644	3.83
fantom3_2310004G06	207	791	3.82

fantom3_C130047P17	5	19	3.80
fantom3_A430052O14	5	19	3.80
fantom3_E030030M11	10	38	3.80
fantom3_B130052D06	5	19	3.80
fantom3_9930027L19	15	57	3.80
fantom3_C630028N24	644	2427	3.77
fantom3_D330005P14	25	94	3.76
fantom3_D530027M21	4	15	3.75
fantom3_A630033B20	4	15	3.75
fantom3_A430108I23	4	15	3.75
fantom3_7120455F01	4	15	3.75
fantom3_1190006G21	4	15	3.75
fantom3_B230215B20	12	45	3.75
fantom3_4631413D02	4	15	3.75
fantom3_F830035K10	4	15	3.75
fantom3_F830034M11	12	45	3.75
fantom3_4930442N21	4	15	3.75
fantom3_E330013L06	4	15	3.75
Gm13315	4	15	3.75
fantom3_C130030M18	4	15	3.75
Gm16157	123	461	3.75
fantom3_E030006J08	30	112	3.73
fantom3_6030437L03	10	37	3.70
fantom3_9330128J06	678	2495	3.68
Gm10768	900	3305	3.67
fantom3_E030041I08	355	1303	3.67
2310069G16Rik	3	11	3.67
fantom3_4732420M22	3	11	3.67
fantom3_A530058N18	3	11	3.67
fantom3_4930520I17	3	11	3.67
fantom3_2410005N02	3	11	3.67
fantom3_E230017D19	3	11	3.67
fantom3_C130041M12	6	22	3.67
fantom3_4833442F11	3	11	3.67
fantom3_C530045K13	3	11	3.67
fantom3_D330040M08	3	11	3.67
2810442I21Rik	3	11	3.67
fantom3_6430576B06	3	11	3.67
fantom3_F830006K17	3	11	3.67
fantom3_F630024E08	3	11	3.67
fantom3_F630019C12	3	11	3.67
fantom3_C530035F08	3	11	3.67
fantom3_G630036P13	74	270	3.65
fantom3_7230401N02	8	29	3.63

fantom3_D830040G08	5	18	3.60
fantom3_A130029O22	5	18	3.60
fantom3_G530006K04	5	18	3.60
fantom3_G530145B22	5	18	3.60
fantom3_B230330H24	5	18	3.60
fantom3_A230049N09	200	719	3.60
0610040B10Rik	19	68	3.58
fantom3_2310034A14	19	68	3.58
fantom3_C030003J12	7	25	3.57
fantom3_2700007L21	959	3419	3.57
fantom3_C730003K16	7775	27622	3.55
fantom3_9230106B05	13	46	3.54
fantom3_2410041F14	236	831	3.52
fantom3_I830129C17	4480	15767	3.52
fantom3_F630116G07	4	14	3.50
fantom3_A230022H13	4	14	3.50
fantom3_A530053M12	2	7	3.50
Gm5177	2	7	3.50
B020018J22Rik	2	7	3.50
fantom3_B020018J22	2	7	3.50
fantom3_D230005K10	2	7	3.50
fantom3_4930428F12	2	7	3.50
fantom3_7120498O09	2	7	3.50
fantom3_2610016A17	2	7	3.50
fantom3_A430013M15	2	7	3.50
Gm5547	2	7	3.50
fantom3_9630001P10	2	7	3.50
fantom3_B230037B17	2	7	3.50
fantom3_A730007E21	2	7	3.50
fantom3_B230204M08	2	7	3.50
fantom3_C230060D03	2	7	3.50
fantom3_F730222I11	2	7	3.50
fantom3_4932410E14	4	14	3.50
fantom3_C030014O09	4	14	3.50
fantom3_B930034P18	2	7	3.50
fantom3_F630040K05	2	7	3.50
fantom3_B930016E20	2	7	3.50
fantom3_1600017P15	2	7	3.50
fantom3_D230034E19	2	7	3.50
fantom3_9230028E05	2	7	3.50
fantom3_F830035A15	2	7	3.50
fantom3_4933431K03	2	7	3.50
fantom3_8030461E11	4	14	3.50
fantom3_A530045O15	10	35	3.50

fantom3_G730045L09	6	21	3.50
fantom3_4933439K20	2	7	3.50
fantom3_9630037A12	2	7	3.50
fantom3_9230108N11	2	7	3.50
fantom3_9930004D09	2	7	3.50
fantom3_C230074K04	2	7	3.50
fantom3_9630032A21	2	7	3.50
fantom3_A130035E13	2	7	3.50
fantom3_A230046L02	2	7	3.50
fantom3_4930414F18	2	7	3.50
fantom3_K530005H07	2	7	3.50
fantom3_A630046B08	2	7	3.50
fantom3_4930516I09	2	7	3.50
fantom3_A130051P19	2	7	3.50
fantom3_9330010F12	2	7	3.50
fantom3_B230380C22	2	7	3.50
fantom3_F830007A09	2	7	3.50
fantom3_9630039A02	2	7	3.50
fantom3_B930002O17	2	7	3.50
fantom3_2610312K03	2	7	3.50
fantom3_A130074A05	2	7	3.50
fantom3_6720458L19	2	7	3.50
fantom3_C230084O20	2	7	3.50
fantom3_A130004F19	4	14	3.50
fantom3_C630001C05	4	14	3.50
fantom3_B430210J15	4	14	3.50
fantom3_D930040D23	4	14	3.50
fantom3_4732420C16	2	7	3.50
fantom3_4921520D11	2	7	3.50
fantom3_A730008F11	2	7	3.50
fantom3_C230045J03	2	7	3.50
9330159M07Rik	30	105	3.50
fantom3_2610028M16	8	28	3.50
fantom3_F830112B07	4	14	3.50
fantom3_B930011K02	10	35	3.50
fantom3_4832418E19	8	28	3.50
fantom3_C230059E23	4	14	3.50
fantom3_5730408A14	2	7	3.50
fantom3_A430069B06	2	7	3.50
fantom3_A930002L11	2	7	3.50
fantom3_E030013C19	2	7	3.50
fantom3_E230035I03	2	7	3.50
fantom3_B230345L09	2	7	3.50
fantom3_G830038H18	2	7	3.50

1700120C14Rik	2	7	3.50
fantom3_1700120C14	2	7	3.50
fantom3_D130045L18	2	7	3.50
fantom3_D730003G15	2	7	3.50
fantom3_A830011E02	2	7	3.50
fantom3_F830110L06	2	7	3.50
fantom3_8430438M01	2	7	3.50
fantom3_4932703L18	2	7	3.50
fantom3_D130006C22	2	7	3.50
fantom3_4931433I17	2	7	3.50
fantom3_G630005F21	2	7	3.50
fantom3_D430030D24	2	7	3.50
fantom3_1700007F02	8	28	3.50
fantom3_2900089D17	4	14	3.50
fantom3_2900090N03	4	14	3.50
fantom3_E030038F08	2	7	3.50
fantom3_C230035M14	2	7	3.50
fantom3_4932701E15	2	7	3.50
fantom3_I0C0009L23	2	7	3.50
fantom3_A830011K09	2	7	3.50
fantom3_4833431P16	6	21	3.50
fantom3_9830142N19	4	14	3.50
fantom3_4930485B16	2	7	3.50
fantom3_G730039K21	2	7	3.50
fantom3_D230015L17	2	7	3.50
fantom3_B930031P11	2	7	3.50
4930412O13Rik	2	7	3.50
fantom3_D830038L22	2	7	3.50
fantom3_8030437L22	4	14	3.50
fantom3_B230343M05	4	14	3.50
fantom3_C030004G18	2	7	3.50
fantom3_6430542D16	2	7	3.50
fantom3_4930421P22	2	7	3.50
fantom3_1700048O20	4	14	3.50
fantom3_A730068O03	2	7	3.50
1700095A21Rik	2	7	3.50
fantom3_1700095A21	2	7	3.50
fantom3_9330118A15	2	7	3.50
fantom3_B230369O13	2	7	3.50
fantom3_3110047P20	2	7	3.50
fantom3_C920018K02	2	7	3.50
fantom3_D630044B14	2	7	3.50
fantom3_F730014G11	2	7	3.50
fantom3_9430089F21	2	7	3.50

fantom3_4930579H01	4	14	3.50
Cd1d2	2	7	3.50
fantom3_F630036E10	2	7	3.50
fantom3_4930579P19	2	7	3.50
fantom3_A230062O07	2	7	3.50
fantom3_0610040B10	19	66	3.47
fantom3_A530094K13	77	267	3.47
fantom3_E230021K14	43	149	3.47
fantom3_G830028C15	11	38	3.45
fantom3_9330159M07	9	31	3.44
fantom3_C630001G20	7	24	3.43
fantom3_9630026O22	19	65	3.42
9330159M07Rik	36	123	3.42
fantom3_A930002N16	29	99	3.41
fantom3_4831430G22	51	174	3.41
fantom3_D930024E14	37	126	3.41
fantom3_F830006A19	5	17	3.40
fantom3_4930568L21	5	17	3.40
fantom3_A130034K24	5	17	3.40
fantom3_D330042P04	5	17	3.40
fantom3_B430109A22	1271	4310	3.39
fantom3_C130051K14	27	91	3.37
fantom3_2810425J22	521	1752	3.36
fantom3_9430037G07	213	712	3.34
fantom3_1700101I11	320	1067	3.33
1700101I11Rik	341	1137	3.33
fantom3_4930459L24	341	1137	3.33
fantom3_9530022G22	3	10	3.33
fantom3_7120434M08	3	10	3.33
fantom3_A630059D20	3	10	3.33
fantom3_D030029K08	3	10	3.33
Hmgb1-rs17	3	10	3.33
fantom3_D030053I05	6	20	3.33
fantom3_C230015N21	6	20	3.33
fantom3_A130083J18	6	20	3.33
A630020A06	3	10	3.33
fantom3_A630020A06	3	10	3.33
fantom3_C130090B16	3	10	3.33
fantom3_9330121K16	3	10	3.33
fantom3_D730012J16	15	50	3.33
fantom3_F830114M07	9	30	3.33
fantom3_6430508I04	6	20	3.33
fantom3_A830097D02	3	10	3.33
fantom3_5930428D04	3	10	3.33

fantom3_D430027E22	3	10	3.33
fantom3_E130011N22	3	10	3.33
fantom3_9330020O03	3	10	3.33
fantom3_B230341L24	3	10	3.33
fantom3_C230056N09	6	20	3.33
2700046A07Rik	3	10	3.33
fantom3_2610202E01	3	10	3.33
fantom3_I1C0019N16	15	50	3.33
fantom3_A830047E08	15	50	3.33
fantom3_4832402I06	3	10	3.33
fantom3_4931406K07	3	10	3.33
fantom3_A530052C14	3	10	3.33
fantom3_C230035I16	3	10	3.33
fantom3_F630113E18	6	20	3.33
9430037G07Rik	170	566	3.33
fantom3_9530014F03	998	3316	3.32
fantom3_4933428M03	13	43	3.31
fantom3_A230068F22	7423	24462	3.30
fantom3_A630023G13	7	23	3.29
fantom3_5730527A11	7	23	3.29
fantom3_A730048J02	7	23	3.29
1700061I17Rik	7	23	3.29
B230378P21Rik	7	23	3.29
fantom3_2610511G02	1880	6175	3.28
Pnpla2	535	1753	3.28
fantom3_B230317N08	29	95	3.28
fantom3_D430011M04	11	36	3.27
fantom3_F830222M02	15	49	3.27
fantom3_4930423K06	985	3217	3.27
fantom3_A130035H13	4	13	3.25
fantom3_9830145C14	4	13	3.25
fantom3_D030035M16	8	26	3.25
fantom3_D830012D17	4	13	3.25
fantom3_G730018I03	4	13	3.25
fantom3_A530046N15	4	13	3.25
fantom3_D430040I23	4	13	3.25
fantom3_C230067O04	4	13	3.25
fantom3_7120443J16	4	13	3.25
fantom3_6820419D04	4	13	3.25
fantom3_F930002H20	4	13	3.25
fantom3_D330001C11	4	13	3.25
fantom3_D030042F20	4	13	3.25
fantom3_C430019L13	4	13	3.25
Gm2381	4	13	3.25

fantom3_6820417N05	16	52	3.25
fantom3_D430002C08	8	26	3.25
fantom3_9230118L13	4	13	3.25
fantom3_C130081L23	4	13	3.25
fantom3_E330001N03	14	45	3.21
fantom3_4933424M13	29	93	3.21
fantom3_A330041N07	5	16	3.20
fantom3_4930414L22	10	32	3.20
fantom3_1810016H11	10	32	3.20
Speer7-ps1	5	16	3.20
fantom3_F930007C13	5	16	3.20
fantom3_C430017A15	5	16	3.20
fantom3_D130027A10	5	16	3.20
fantom3_C130012C08	5	16	3.20
fantom3_D930029A21	1064	3394	3.19
2410006H16Rik	198	630	3.18
fantom3_2410006H16	198	630	3.18
fantom3_F830032I09	6	19	3.17
fantom3_E130001G03	6	19	3.17
C330024D21Rik	6	19	3.17
fantom3_C330024D21	6	19	3.17
fantom3_B230311A21	6	19	3.17
Gm5086	6	19	3.17
fantom3_1700127G21	13	41	3.15
fantom3_D730031K04	27	85	3.15
fantom3_A630052D18	14	44	3.14
fantom3_9430039L02	7	22	3.14
fantom3_3010019M01	14	44	3.14
fantom3_9030408J19	105	330	3.14
fantom3_C730004M04	198	621	3.14
Gm16157	198	621	3.14
fantom3_A830046I07	8	25	3.13
fantom3_B020011F16	8	25	3.13
fantom3_1110032G03	518	1614	3.12
fantom3_E860011M11	9	28	3.11
fantom3_F830212J09	9	28	3.11
fantom3_F830002N21	9	28	3.11
1300015D01Rik	145	451	3.11
fantom3_1300015D01	145	451	3.11
fantom3_9430025K05	131	406	3.10
fantom3_E230021E14	178	551	3.10
fantom3_9330186E03	557	1724	3.10
fantom3_2900046P06	24	74	3.08
fantom3_E330001G02	16	49	3.06

fantom3_F830118O04	16	49	3.06
fantom3_F830003M21	66	202	3.06
fantom3_6430530M09	38	116	3.05
Ppargc1a	198	603	3.05
Hgd	9625	29097	3.02

Supplemental Table S3. Sequences of primers and siRNAs.

	Sequences	Application
Gm15441	F : GAGAAAGAGCCCACCCGATA R: AGAGATGGCTTGGTGGTTGA	qPCR
4833411C07Rik	F: TGACTIONAAGGACCCAGTGCC R: ATGGGATCTGAGGTTGGGTG	qPCR
Gm10768	F: TGTTTTACCTGCACGCACAT R: GGCACCAAGGTTAAGAGCAC	qPCR
4931408D14Rik	F: ACTGAGCCACTGACTTCTCC R: TGGACCTGTACTGGCTCAAG	qPCR
<i>Pepck</i>	F: CATATGCTGATCCTGGGCATAAC R: CAAACTTCATCCAGGCAATGTC	qPCR
<i>G6pase</i>	F: TGGTAGCCCTGTCTTTCTTTG R: TTCCAGCATTACACTTTCT	qPCR
<i>Acc1</i>	F: GCCTCTTCCTGACAAACGAG R: GCCGAAACATCTCTGGGATA	qPCR
<i>Fasn</i>	F: TCCTGGAACGAGAACACGATCT R: GAGACGTGTCACCTCCTGGACTTG	qPCR
<i>Abcc2</i>	F: GTGTGGATTCCCTTGGGCTTT R: CACAACGAACACCTGCTTGG	qPCR
<i>Atf4</i>	F: CCTGAACAGCGAAGTGTTGG R: TGGAGAACCCATGAGGTTTCAA	qPCR
pri-miR-214	F: TCTGCCTGTCTACACTTGCTG R: TGACTIONCCTGTCTGTGCCT	qPCR
pre-miR-214	F: CTGGCTGGACAGAGTTG R: TACAGGTGAG CGGATGTT	qPCR
<i>36B4</i>	F: GAAACTGCTGCCTCACATCCG R: GCTGGCACAGTGACCTCACACG	qPCR
45S rRNA	F: GTGCCCTCACGTGTTTCACTTT R: TAGGAGACAAACCTGGAACGCT	qPCR
12S rRNA	F: TCGATAAACCCCGCTCTACCT R: TGGCTACACCTTGACCTAACGTT	qPCR
si1-4833411C07Rik	F: CCGGUGUCUCUAAUGACAGUCAUCA R: UGAUGACUGUCAUAGAGACACCGG	siRNA
si2-4833411C07Rik	F: CAGCUACUGGUGAAGGUCACAGUUU R: AAACUGUGACCUUCACCAGUAGCUG	siRNA
si1-Gm10768	F: GAGGUUCUCAGAGGGAGAGAGUAUA R: UAUACUCUCUCCUCUGAGAACCUC	siRNA
si2-Gm10768	F: UGGCGGUGACCAGUUGCAUUGGUUA R: UAACCAAUGCAACUGGUCACCGCCA	siRNA
5'-RACE	F: AATGGCCAGGTAAATGAGGAAC R: TGTGCCCTGAAGCTGCCTGAAC	RACE

3'-RACE	F: CAGGGGAGGACATTTGAAGATT R: CGCGTTTCTAGATACACAACAT	RACE
Full length (Gm10768)	F: TGTTAGGGTGCTTGCCTTGA R: TATTCGGGGAAAGCCAGAGC	RACE
pri-miR-214	F: TTTTTCATGGGCAAGGCTAT R: GCCAAATGGTTTTGTCGAAT	Sequence clone

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