SIRPA Protects against Cardiac Hypertrophy via the Disruption of TLR4 Signaling

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Running Title: SIRPA negatively regulates cardiac hypertrophy

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Supplemental Material

Materials and Methods

Reagents

Antibodies against MCP-1 (2029, 1:1000 dilution), TNFα (3707, 1:1000 dilution), p-IκBa$^{ser32/36}$ (9246, 1:1000 dilution), IκBa (4814, 1:1000 dilution), P65 (4764, 1:1000 dilution), and p-P65^{ser536} (3033, 1:1000 dilution) were purchased from Cell Signaling Technology (Danvers, MA, USA). Antibodies against TLR4 (sc30002, 1:200 dilution), β-MHC (sc53090, 1:200 dilution), and ANP (sc20158, 1:200 dilution) were purchased from Santa Cruz (Dallas, TX, USA). The antibody against IL-1β (AF-401-NA) was provided by R&D Systems (Minneapolis, MN, USA). The antibodies against GAPDH (MB001) and SIRPA (BS1324) were ordered from Bioworld Technology (Harrogate, UK). The antibody against Flag (F3165, 1:1000 dilution) was purchased from Sigma (St. Louis, MO, USA). The antibody against Myc (11814150001, 1:1000 dilution) was ordered from Roche (Mannheim, Germany). The BCA protein assay kit was obtained from Pierce (Rockford, IL, USA). We used IRDye® 800CW-conjugated secondary antibodies (LI-COR Biosciences, Lincoln, NE, USA) for visualization. Fetal calf serum (FCS) was ordered from Hyclone (Waltham, MA, USA). Eritoran was supplied by Eisai, Inc. (Andover, MA, USA). Lipopolysaccharide (LPS, stock number L4391), cell culture reagents, and all other experimental reagents were purchased from Sigma.

Mouse Models

All of the experimental procedures involving animals were approved by the Animal Care and Use Committee of Renmin Hospital of Wuhan University. The experiments of this study were performed with male mice that were 8 to 10 weeks of age and exhibited body weights of 24-27 g. All mice were anesthetized using pentobarbital (50mg/kg, Sigma, delivered intraperitoneally) or 1.5-2% Isofluorane (inhaled). The following animals were utilized in this study.

SIRPA Knockout and Cardiac-Specific SIRPA Overexpressing Mice

SIRPA knockout (SIRPA$^{-/-}$) mice (B6.129P2-Sirpa<tm1Nog>, C57BL/6 background) were kindly provided by Takashi Matozaki (Gunma University) and shipped by RIKEN (RBRC01544)[1]. Exons 7 and 8 of SIRPA were replaced with a neomycin selection cassette to produce SIRPA$^{-/-}$ mice. The following PCR primers were used to identify SIRPA$^{-/-}$ mice: primer 1, 5'**-**TAGTACAGACCA CAGCCCCATTCACTTCCT-3'; primer 2, 5'**-**TCGTGCTTTACGGTATCGCCGCTCCCGAAT-3'; and primer 3, 5'**-**ATACCATTGGCTGAGCCCACTGGGAAAGAA-3'. Primers 1 and 2 were used to identify SIRPA$^{-/-}$ mice, whereas primers 1 and 3 were utilized to detect wild-type mice. Cardiac-specific SIRPA transgenic mice were generated by cloning full-length mouse SIRPA cDNA (OriGene, MC218099) downstream of the alpha myosin heavy chain (α-MHC) promoter. The SIRPA transgenic mice were identified by PCR analyses of tail genomic DNA, using the forward primer 5'-ATCTCCCCCATAAGAGTTTGAGTC-3' and the reverse primer 5'-GTGTCAGGCTCT GAT GATCCTTT-3'. Four independent lines were generated and studied.

TLR4 Knockout Mice and SIRPA/TLR4 Double Knockout Mice

TLR4 knock-out (TLR4$^{-/-}$) mice (B6.B10ScN-*Tlr4$^{lps-del}$*/JthJ) were ordered from Jackson Laboratory (stock number 007227). The knock-out mice were identified through PCR analyses of tail genomic

DNA. The following primers were utilized for these analyses: knock-out forward, 5'-GCAAGTTTC TATATGCATTCTC-3', knock-out reverse, 5'-CCTCCATTTCCAATAGGTAG-3'; wild-type forward, 5'-ATATGCATGATCAACACCACAG-3'; and wild-type reverse, 5'-TTTCCATTGCTG CCCTATAG-3'. The SIRPA knockout mice were crossed with TLR4 knockout mice to generate SIRPA/TLR4 double knockout mice.

Aortic Banding and Human Heart Samples
We established a model of pressure overload-induced cardiac hypertrophy via aortic banding (AB) as previously described[2-4]. Briefly, mice were anesthetized with pentobarbital sodium, and the left chest was opened to identify the thoracic aorta through blunt dissection in the second intercostal space after absence of reflexes was observed. A 7-0 silk suture was used to tie the thoracic aorta to a 27G (for body weights of 24-25 g) or 26G (for body weights of 26-27 g) needle, followed by needle removal and closing of the thoracic cavity. Finally, Doppler analysis was used to determine whether adequate constriction of the aorta had been produced. In particular, pressure gradients (mm Hg) were calculated from the peak blood velocity (*Vmax*, measured in m/s; PG=4×*Vmax*^{2}) that had been determined by Doppler measurements across the AB region. And these pressure gradients were equivalent in all of the groups of AB-operated mice. The sham group underwent a similar procedure without aortic constriction.

Samples of failing human hearts were collected from the left ventricles of DCM patients who were undergoing heart transplants. Control samples were obtained from the left ventricles of normal heart donors who died of accidental causes, but their hearts were not suitable for transplantation (for non-cardiac reasons). Written informed consent was obtained from the families of prospective heart donors. All of the procedures involving human samples conformed to the principles outlined in the Declaration of Helsinki and were approved by the Renmin Hospital of Wuhan University Review Board, Wuhan, China.

Echocardiography and Hemodynamic Measurements
Echocardiography was performed on mice in M-mode using a Mylab30CV (ESAOTE) machine with a 15-MHz probe as described previously[2-6]. First, all of the mice were anesthetized with 2% isoflurane by inhalation. M-mode tracings derived from the short axis of the left ventricle (LV) at the level of the papillary muscles were recorded for measurements of LV end-diastolic dimension (LVEDD), LV end-systolic dimension (LVESD) and LV fractional shortening [LVFS(%)=(LVEDD-LVESD)/LVEDD ×100%]. All of the parameters were obtained from at least three beats and then averaged. To obtain invasive hemodynamic measurements, a 1.4-French catheter-tip micromanometer catheter (SPR-839; Millar Instruments) was inserted into the left ventricle via the right carotid artery. Pressure and dp/dt values were recorded continuously with an Aria pressure-volume conductance system that was coupled to a Powerlab/4SP A/D converter; these values were then stored and displayed on a personal computer.

Histological Analysis
Animal hearts were harvested and arrested with 1M KCl, fixed for > 24 hours in 10% formalin, and then embedded in paraffin. Subsequently, these hearts were transversely sectioned at 5μm. Using

standard staining procedures, heart sections were subjected to hematoxylin-eosin (HE) staining for histopathological analyses or picrosirius red (PSR) staining for fibrosis assessments. Heart sections were also stained with FITC-conjugated wheat germ agglutinin (WGA, Invitrogen Corp.). Myocyte cross-sectional area was measured using a quantitative digital image analysis system (Image-Pro Plus 6.0); more than 100 myocytes in the examined sections were outlined for each group of mice.

Recombinant Adenoviral Vectors
Replication-defective adenoviral vectors were used to overexpress rat SIRPA (AdSIRPA) under the control of the cytomegalovirus (CMV) promoter, and a similar adenoviral vector expressing GFP was used as a control. To knockdown SIRPA expression, three rat shSIRPA adenoviral constructs were purchased from SABiosciences (KR50731G), and the one that produced the most significant reduction in SIRPA levels was selected for our experiments (designated AdshSIRPA). AdshRNA was used as a non-targeting control. Cells were infected with the indicated adenoviruses diluted in media at a multiplicity of infection (MOI) of 10.

Cultured Neonatal Rat Cardiac Myocytes and Treatment
Neonatal rat cardiomyocytes (NRCMs) were prepared as previously described[3]. Briefly, neonatal hearts were removed from the thoracic cavities of 1- to 2-day-old Sprague-Dawley rats after euthanization, and the heart tissue was finely minced and digested in PBS containing 0.03% trypsin and 0.04% collagenase type II. After removing fibroblasts using a differential attachment technique, NRCMs were seeded at a density of 1×10^6 cells/well onto gelatin-coated six-well culture plates. Medium that consisted of DMEM/F12 medium supplemented with 20% FCS, BrdU (0.1 mM, to inhibit the proliferation of fibroblasts), and penicillin/streptomycin was then added to these six-well plates. After 48 hours, the culture medium was replaced with serum-free DMEM/F12 for 12 hours prior to stimulation with Ang II (1 μM) or phenylephrine (PE, 100 μM). To identify the role of TLR4 in SIRPA-regulated cardiac hypertrophy, we treated AdSIRPA-infected cardiomyocytes with Ang II (1 μM) in the presence or absence of the TLR4 agonist lipopolysaccharide (LPS, 100 ng/mL) or TLR4 inhibitor eritoran (10 ng/mL) for 48 hours, respectively.

Measurement of the Protein/DNA Ratio
Cultured NRCMs were washed twice with PBS for determining total cellular protein and DNA content after stimulated with Ang II or PBS for 48 hours. The samples were centrifuged for 10 min at 10,000 g at 4°C after adding 0.2N perchloric acid (1 ml) to each well. The precipitates were incubated for 20 min at 60 °C with 250 μl of 0.3 N KOH. Protein content was assessed by using BCA Protein Assay Kit (Pierce, CAT: 23225), and DNA content was determined by Hoechst dye 33258 (Invitrogen, CAT: H3569) with salmon sperm DNA (Sigma, CAT: D1626) as a standard.

Immunofluorescence
NRCMs, which were infected with AdSIRPA or AdshSIRPA were cultured on cover slips and treated with Ang II (1 μM) for 48 hours. The cardiomyocytes were then fixed with 3.7% formaldehyde in PBS for 15 min at room temperature, washed three times, and then permeabilized

with 0.1% Triton X-100 in PBS for 40 min. Finally, NRCMs were stained with α-actinin (1:100 dilution) using standard immunofluorescence staining techniques.

Quantitative Real-Time PCR and Western Blotting

Total mRNA was extracted from primary cells and ventricles using TRIzol reagent (Invitrogen), and then cDNA was synthesized with oligo (dT) primers using the Transcriptor First Strand cDNA Synthesis Kit (Roche). Quantitative real-time PCR was performed using SYBR green (Roche) in order to determine the expression levels of our genes of interest, and the results were normalized against GAPDH expression. In addition, lysis buffer was used to extract the total protein from the ventricles and primary cells, and the concentration of protein was determined using the Pierce® BCA Protein Assay kit (Pierce). Protein (50 μg) was loaded and separated through SDS-PAGE (Invitrogen) followed by transfer to PVDF membranes (Millipore), which were then blocked (5% BSA in TBS, 90 min at room temperature) and incubated with various primary antibodies (overnight at 4°C). Membranes were washed three times and then incubated with a secondary IRDye® 800CW-conjugated antibody (Li-Cor Biosciences, 1:10,000 dilution) for 60 min. Finally, signals were visualized using an Odyssey Imaging System (Li-Cor Biosciences), and the specific protein expression levels were normalized to GAPDH on the same PVDF membrane.

SIRPA-Luciferase Reporter Assays

Nucleotides -1341 to +644 of the mouse SIRPA gene were amplified from the genome of mouse heart tissue by PCR with Platinum Taq DNA polymerase High Fidelity and inserted into the pGL3 basic vector. H9C2 cells (2×10^5 per well) were seeded on 24-well plates the day before transfection. Cells at 50-80% confluence were transfected with 1 μg of pGL3-SIRPA using a FUGENE® HD Transfection reagent. After 24 hours, cells were harvested, washed three times with PBS and lysed in 100 μl of the passive lysis buffer (PLB) according to the manufacturer's instructions (Promega). Luciferase activity was measured using a Dual-Luciferase® Reporter Assay System kit (Promega), and a Single-Mode SpectraMax Microplate Reader (Molecular Devices) after removing cell debris by centrifugation.

Microarray Data Acquisition

Two weeks after AB surgery, TRIzol was used to isolate RNA from the ventricles of three SIRPA knockout and three wildtype hearts, and the total RNA from these heart samples was used for 12 hybridizations on the mouse 430GeneChip Set (Affymetrix, Santa Clara, CA). The samples were prepared for hybridization in accordance with the manufacturer's instructions. The chips were scanned using the GeneArray scanner (Affymetrix), and output files were visually inspected for hybridization artifacts. Arrays lacking artifacts were then analyzed using GeneChip Operating System (GCOS; Affymetrix), and the expression analysis files created by GCOS were then transferred to GeneSpring 7.0 (Agilent) for further analysis. In particular, statistically significant changes in mean expression values were determined by importing the data from GCOS into GeneSpring 7.0. The data were normalized using a robust multichip analysis (RMA) followed by an ANOVA, and genes with statistically significant changes in expression between groups ($P<0.05$) were selected for further analysis.

Immunoprecipitation

Mammalian expression plasmids for SIRPA and TLR4 were ordered from Addgene. A Flag-cherry-TLR4 recombinant was constructed by subcloning the encoding region of mouse TLR4 into the *BamHI* and *XhoI* sites of the pSicoR-Flag-cherry-C1 vector. Mouse TLR4 cDNA was amplified by PCR using the TLR4-Forward (5'-CGCGGATCCATGATGCCTCCCTGGCTCCT-3') and TLR4-Reverse (5'-ACGCGTCGACTCAGGTCCAAGTTGCCGTTT-3') primers; digested by *BamHI* and *SalI*; and ligated into a pSicoR-Flag-cherry-C1 vector. The EGFP-myc-SIRPA recombinant was constructed by subcloning the encoding region of mouse SIRPA into the *BamHI* and *XhoI* sites of this pSicoR-Flag-cherry-C1 vector. Mouse SIRPA cDNA was amplified by PCR using the SIRPA-Forward (5'-CGCGGATCCATGGAGCCCGCCGGCCCGG-3') and SIRPA-Reverse (5'-ACGCGTCGACTCACTTCCTCTGGACCTGGAC-3') primers; digested by *BamHI* and *SalI*; and ligated into the pSicoR-EGFP-myc-C1 vector.

To perform the transient transfection and coimmunoprecipitation experiments, cultured HEK293T cells were cotransfected with pSicoR-Flag-cherry-TLR4 and pSicoR-EGFP-myc-SIRPA for 48 h, lysed in immunoprecipitation buffer (20 mM Tris-HCl (pH 8.0), 100 mM NaCl, 1 mM EDTA, and 0.5% NP-40, supplemented with protease inhibitor cocktail) for 20 min and then centrifuged to remove cell debris. In accordance with manufacturer recommendations, for each immunoprecipitation, 500 µl of the sample was incubated with 10 µl of protein A/G-agarose beads (Roche) and 1 µg of antibody on a rocking platform overnight at 4°C. Finally, the immunoprecipitates were washed 5 to 6 times with cold immunoprecipitation buffer and dissolved in 1x loading buffer. The cell lysates and immunoprecipitates were immunoblotted using the indicated primary antibodies, corresponding secondary antibodies, and the SuperSignal chemiluminescence kit (Millipore).

Confocal Microscopy

HEK293T cells were seeded in a 24-well plate containing cover slips. At 48 h after pSicoR-EGFP-myc- SIRPA and pCherry-TLR4 cotransfection, these cells were fixed in 200 µl of 4% fresh paraformaldehyde for 15 min, permeabilized with 0.2% Triton X-100 in PBS for 5 min, and then incubated in Image-IT™ FX signal enhancer (I36933, Invitrogen) for 30 min. The cells were washed with TBS-T three times, stained with DAPI (1 g/ml, 15 min), and mounted onto slides with mounting solution (D2522, Sigma). Images were obtained with a confocal laser scanning microscope (Fluo view 1000, Olympus).

Statistical Analysis

Data are represented as means±SD. Two-tailed Student t-tests were used to compare the means of two sample groups, and one-way ANOVA tests with LSD (equal variances assumed) or Tamhane's T2 (equal variances not assumed) were applied to multiple groups. Statistical significance was set at $P<0.05$.

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Supplemental Tables

Table S1: Information of human DCM hearts and donor hearts

n	Type	Age	Sex	Cardiac Function		Therapy before transplatation			
				LVEF(%)	LVEDD(mm)	ACEI	Beta-Blocker	Diuretics	Digoxin
1	Donor	37	F	N/A	N/A	N/A	N/A	N/A	N/A
2	Donor	30	F	N/A	N/A	N/A	N/A	N/A	N/A
3	Donor	28	M	N/A	N/A	N/A	N/A	N/A	N/A
4	Donor	43	M	N/A	N/A	N/A	N/A	N/A	N/A
5	Donor	25	M	N/A	N/A	N/A	N/A	N/A	N/A
6	Donor	53	M	N/A	N/A	N/A	N/A	N/A	N/A
7	DCM	65	M	23	74	Y	N	Y	Y
8	DCM	39	F	17	80	Y	Y	Y	Y
9	DCM	41	M	9	84	Y	N	Y	Y
10	DCM	44	F	22	76	Y	Y	Y	Y
11	DCM	56	M	23	90	Y	Y	Y	Y
12	DCM	64	M	11	104	N	N	Y	Y
13	DCM	74	M	36	88	Y	N	Y	Y

DCM: Dilated cardiomyopathy; LVEF: Left ventricular ejection fraction; LVEDD: Left ventricular end-diastolic diameter. F: Female; M: Male. N/A: not available. Y: YES; N: NO

Table S2 Anatomic and Echocardiographic Analysis in 16 Weeks Old Mice.

Parameters	SIRPA$^{+/+}$ mice （n=13）	SIRPA$^{-/-}$ mice （n=15）	NTG mice （n=13）	TG mice （n=14）
BW(g)	30.45±1.45	31.03±1.53	30.02±1.18	30.78±1.45
HW/BW(mg/g)	4.36±0.24	4.31±0.34	4.42±0.24	4.34±0.22
LW/BW(mg/mg)	5.10±1.20	5.06±1.10	4.95±0.25	4.97±0.39
HW/TL(mg/mm)	7.26±0.34	7.22±0.40	7.20±0.43	7.24±0.51
HR (beats/min)	546.71±35.28	541.88±39.66	583.00±40.28	528.00±31.39
LVEDD(mm)	3.61±0.09	3.73±0.18	3.72±0.21	3.70±0.11
LVESD(mm)	2.07±0.05	2.16±0.23	2.12±0.25	2.00±0.13
FS (%)	43.43±1.27	42.25±5.42	43.17±3.31	46.00±2.28

BW=body weight; HW=heart weight; LW=lung weight; TL=tibiae length; HR=heart rate; LVEDD=left ventricular end-diastolic diameter; LVESD=left ventricular end-systolic diameter; FS=fractional shortening, LVESP=Left ventricular End-systolic Pressure. LVEF=Left ventricular ejection fraction. All values are presented as means ± SD.

Table S3 Parameters in SIRPA-/- and SIRPA+/+ mice at 4 weeks after sham operation or AB

Parameters	Sham		AB	
	SIRPA$^{+/+}$ mice （n=15）	SIRPA$^{-/-}$ mice （n=16）	SIRPA$^{+/+}$ mice （n=13）	SIRPA$^{-/-}$ mice （n=15）
BW (g)	28.68±2.06	28.03±1.90	28.12±1.48	26.50±2.77
HR (beats/min)	554.75±21.74	491.64±39.32	518.29±31.16	492.36±32.41
LVEDD(mm)	3.60±0.12	3.62±0.09	4.53±0.13*	5.06±0.25*†
LVESD(mm)	1.99±0.06	2.05±0.09	3.13±0.13*	3.92±0.25*†
FS (%)	44.75±1.39	43.55±2.58	31.00±1.53*	22.82±2.23*†
LVESP(mmHg)	112.00±8.26	113.69±13.41	156.87±5.99*	125.68±14.24*†
LVEF (%)	52.91±3.22	54.82±3.83	37.58±4.90*	25.02±4.35*†
dp/dt max (mmHg/sec)	10160.29±966.34	9931.33±1248.38	7871.00±848.54*	6095.63±1017.39*†
dp/dt min (mmHg/sec)	-8514.86±948.64	-8410.50±874.56	-6782.67±1650.98*	-4738.50±831.57*†

*$P<0.05$ vs. SIRPA$^{+/+}$ sham operation. †$P<0.05$ vs. SIRPA$^{+/+}$ AB after 4 weeks AB.

All values are presented as means ± SD.

Table S4 Parameters in SIRPA transgenic mice (TG) and non-transgenic littermates (NTG) at 8 weeks after sham operation or AB

Parameters	NTG- Sham mice （n=14）	TG -Sham mice （n=17）	NTG-AB mice （n=14）	TG -AB mice （n=15）
BW (g)	29.03±2.24	28.76±1.78	28.18±1.58	28.12±1.12
HR (beats/min)	539.86±22.56	475.90±37.41	444.86±27.93	483.27±23.82
LVEDD(mm)	3.61±0.11	3.59±0.07	4.96±0.22*	4.18±0.17*†
LVESD(mm)	2.04±0.05	2.04±0.07	3.83±0.25*	2.64±0.13*†
FS (%)	43.29±1.60	43.20±1.23	22.71±1.80*	37.18±1.17*†
ESP(mmHg)	115.11±5.34	109.65±6.52	124.54±8.77	171.77±17.15*†
LVEF (%)	53.51±5.16	58.18±7.63	28.65±6.28*	37.46±5.60*†
dp/dt max (mmHg/sec)	10041.00±863.01	9639.14±376.82	6455.38±1471.87*	8150.43±798.91*†
dp/dt min (mmHg/sec)	-8489.29±1068.27	-8091.71±469.52	-5075.38±1473.85*	-7239.86±1100.98*†

*$P<0.05$ vs. NTG sham operation. †$P<0.05$ vs. NTG AB after 8 weeks AB.

All values are presented as means ± SD.

Table S5 Parameters in SIRPA $^{+/+}$, TLR4$^{-/-}$, SIRPA $^{-/-}$, TLR4 $^{-/-}$ /SIRPA $^{-/-}$ (DKO) mice at 4 weeks after AB operation.

Parameters	SIRPA$^{+/+}$ mice （n=13）	TLR4$^{-/-}$ mice （n=9）	SIRPA$^{-/-}$ mice （n=15）	DKO mice （n=11）
BW (g)	28.12±1.48	27.28±1.39	26.50±2.77	28.24±2.78
HR (beats/min)	518.29±31.16	496.83±30.99	492.36±32.41	487.60±36.43
LVEDD(mm)	4.53±0.13	4.05±0.19*	5.06±0.25*	4.76±0.21†
LVESD(mm)	3.13±0.13	2.60±0.13*	3.92±0.25*	3.34±0.11†
FS (%)	31.00±1.53	35.83±1.72*	22.82±2.23*	29.80±2.17†

*$P<0.05$ versus SIRPA$^{+/+}$ mice after 4 weeks AB. †$P<0.05$ versus SIRPA$^{-/-}$ mice after 4 weeks AB. All values are means ± SD.
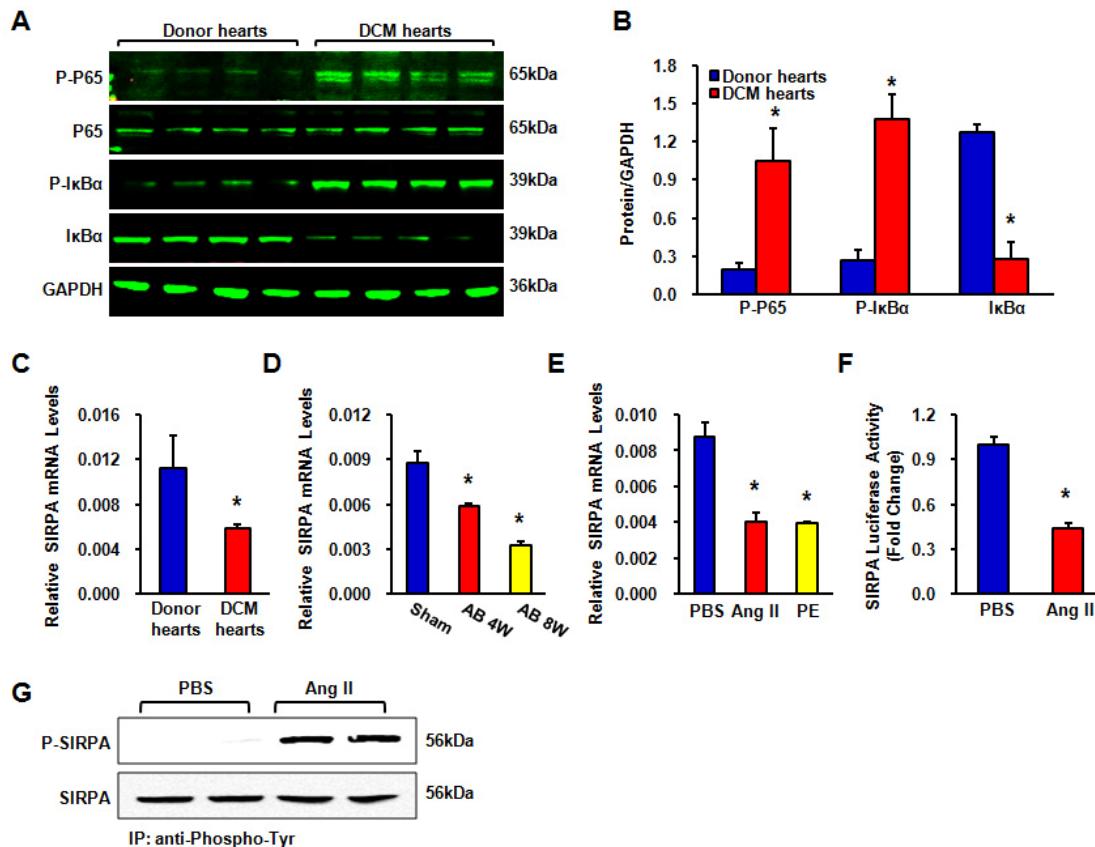
Figure S1

Figure S1 (A/B) Phosphorylation and total protein levels of IκBα and P65 expressed in human DCM and Donor Hearts. (A) Representative blots; (B) Quantitative results. (n=3, *P<0.05 vs. donor hearts). **(C)** The relative mRNA levels of SIRPA in DCM hearts (n=3, *P<0.05 vs. donor hearts). **(D)** The relative mRNA levels of SIRPA in samples from wild-type mice at the indicated times after Sham or AB surgery (n=3, *P<0.05 vs. Sham). **(E)** The relative mRNA levels of SIRPA in samples from NRCMs treated with Ang II (1μM) or PE (100μM) for 48 hours (n=3, *P<0.05 vs. PBS). **(F)** The luciferase activity of SIRPA in H9C2 cells treated with Ang II (1μM) (n=3, *P<0.05 vs. PBS). **(G)** The phosphorylation level of SIRPA was increased in response to Ang II stimulation in NRCMs. (n=3). n indicates number of independent experiments.

Figure S2
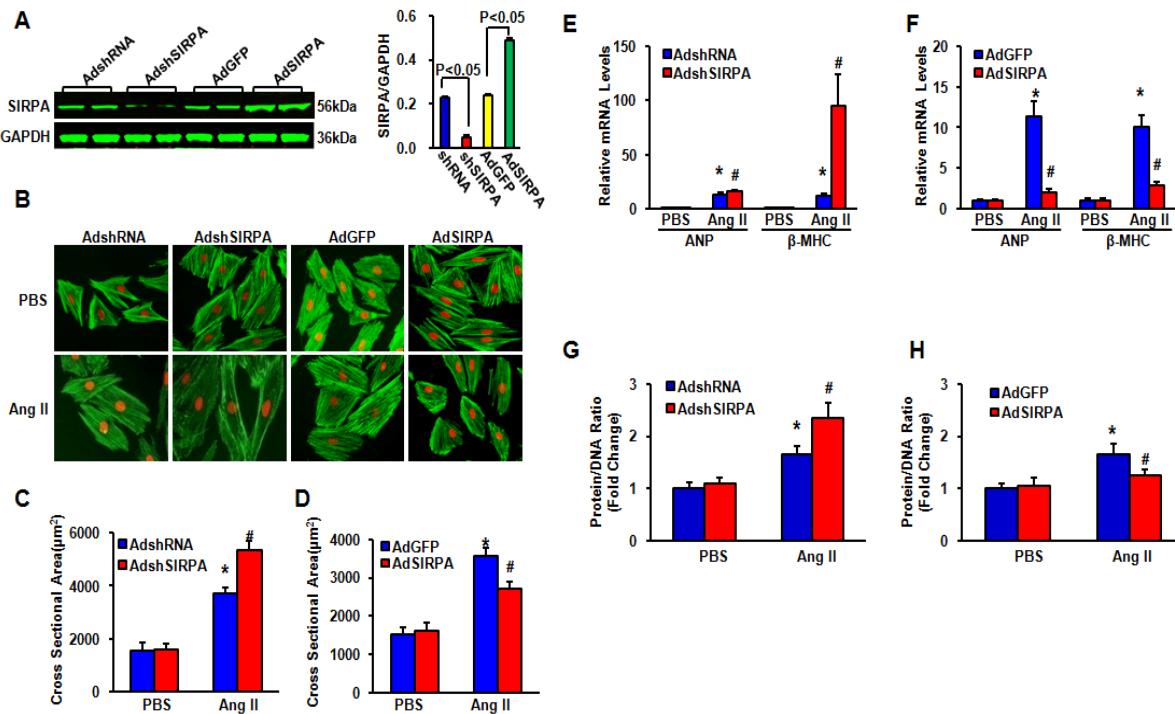
Figure 2 SIRPA Prevents Cardiomyocyte Hypertrophy *in vitro*. (A) SIRPA protein levels in NRCMs infected with AdshSIRPA or AdSIRPA (n=3 independent experiments); **Left**: Representative blots; **Right**: Quantitative results. **(B)** Representative images of NRCMs infected with AdshSIRPA or AdSIRPA and treated with Ang II (1 μM) for 48 hours. **(C-D)** Cell surface area of NRCMs infected with **(C)** AdshSIRPA or **(D)** AdSIRPA and treated with Ang II (1 μM) for 48 hours (n=100+ cells). **(E-F)** Relative mRNA levels of ANP and β-MHC in NRCMs infected with **(E)** AdshSIRPA or **(F)** AdSIRPA and treated with Ang II (1 μM) for 48 hours (n=3 independent experiments). **(G-H)** The ratio of protein/DNA was determined in AdshRNA- and AdshSIRPA- infected neonatal rat cardiomyocytes, as well as in AdGFP- and AdSIRPA-myocytes upon the treatment with either PBS or Ang II (1 μM) for 48 h (n=6). $*P<0.05$ vs. AdshRNA or AdGFP/PBS; $\#P<0.05$ vs. AdshRNA or AdGFP/Ang II.

13
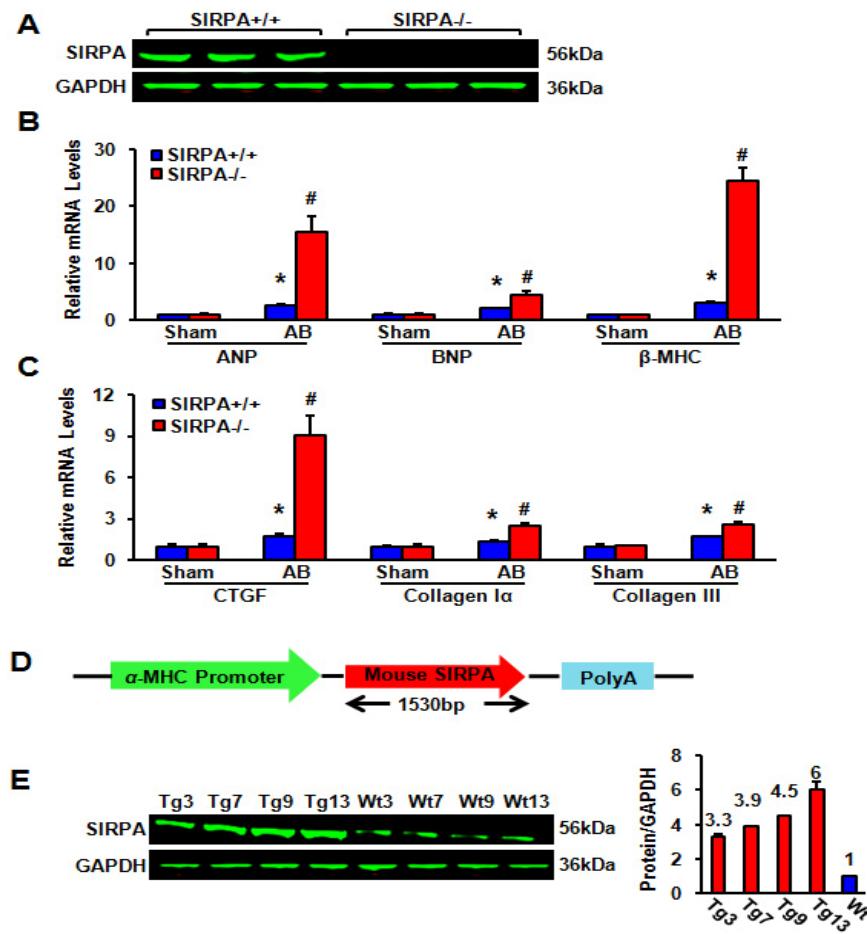
Figure S3 SIRPA Inhibits Pressure Overload-induced Cardiac Hypertrophy and Fibrosis. (A) Protein levels of SIRPA in samples from the ventricles of SIRPA$^{+/+}$ (WT) and SIRPA$^{-/-}$ (KO) mice. **(B)** Relative mRNA levels of ANP, BNP and β-MHC in samples from WT and KO mice (n=4 mice per experimental group). **(C)** Relative mRNA levels of CTGF, Collagen Iα and Collagen III in samples from WT and KO mice (n=4 mice per experimental group). *$P<0.05$ vs. WT/Sham; #$P<0.05$ vs. WT/AB. **(D)** A schematic diagram illustrating the construction of transgenic mice with full-length mouse SIRPA cDNA under the control of the α-myosin heavy chain promoter. **(E)** Protein levels of SIRPA in samples from four independent transgenic lines and their wild-type littermates. Left: Representative blots; Right: Quantitative results.
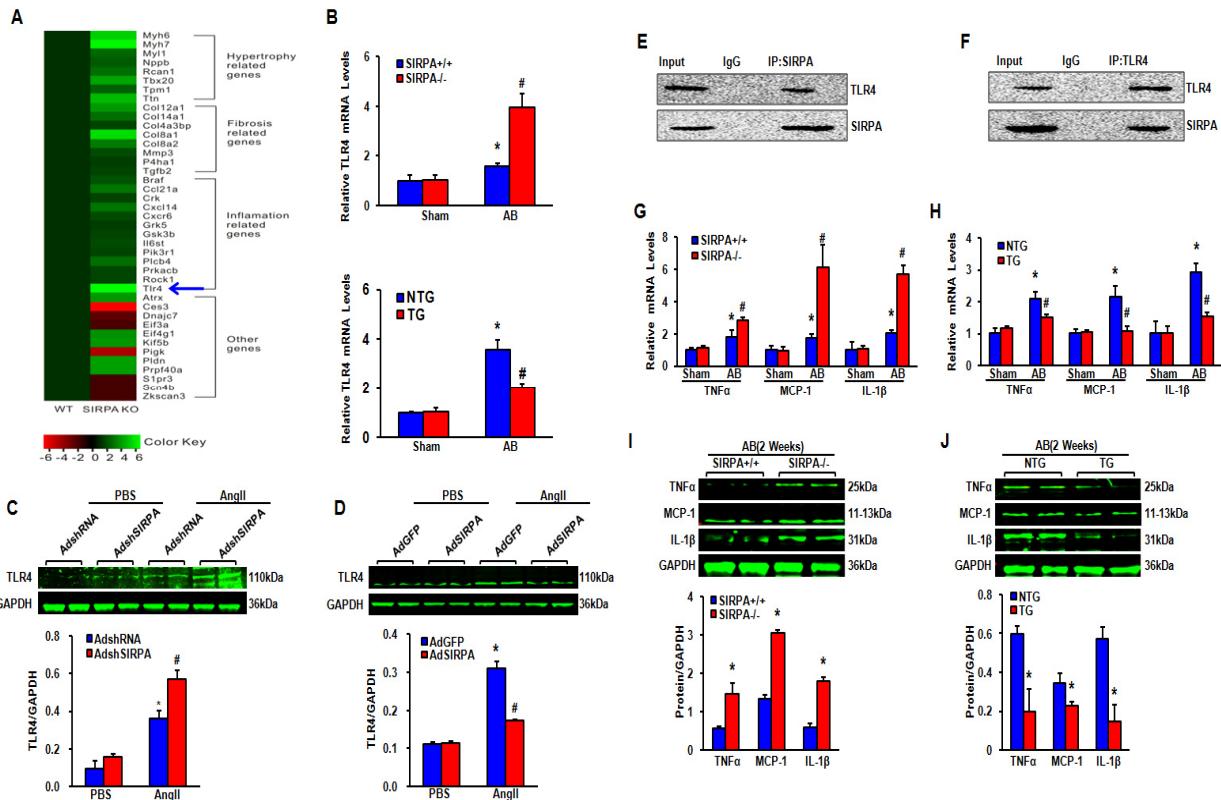
Figure S4 SIRPA Inhibits the TLR4 Signaling Pathway. (A) Heat map of the differentially expressed genes in the hearts of WT and SIRPA KO mice at 2 weeks after AB surgery. Red indicates low expression, and green indicates high expression. **(B)** TLR4 mRNA levels in (top bar graph) WT and SIRPA KO mice and (bottom bar graph) NTG and SIRPA TG mice 2 weeks after Sham or AB surgery (n=3). **(C-D)** Confirmation of the *in vivo* results using NRCMs infected with AdshSIRPA or AdSIRPA and treated with Ang II for 48 hours (n=3, *$P<0.05$ vs. AdshRNA or AdGFP/PBS; #$P<0.05$ vs. AdshRNA or AdGFP/Ang II). Top: Representative blots; Bottom: Quantitative results. **(E-F)** Co-IP was performed for endogenous interaction between SIRPA and TLR4 using the total protein of neonatal rat cardiomyocytes (NRCMs). Our results demonstrated that SIRPA interacted with TLR4. **(E)** Western blotting performed with SIRPA or TLR4 antibody after co-immunoprecipitation of SIRPA from NRCM lysates using a SIRPA antibody. **(F)** Western blot performed with SIRPA or TLR4 antibody after co-immunoprecipitation of TLR4 from NRCM lysates using a TLR4 antibody. **(G)** The levels of TNFα, MCP-1 and IL-1β mRNA in samples from WT and SIRPA KO mice 2 weeks after Sham or AB surgery. **(H)** The levels of TNFα, MCP-1 and IL-1β mRNA in samples from NTG and SIRPA TG mice 2 weeks after Sham or AB surgery. n=4 mice per experimental group, *$P<0.05$ vs. WT or NTG/Sham; # $P<0.05$ vs. WT or NTG/AB. **(I-J)**Protein levels of TNFα, MCP-1 and IL-1β in samples from **(I)** WT and SIRPA KO mice and **(J)** NTG and SIRPA TG mice 2 weeks after AB surgery (n=3, *$P<0.05$ vs. WT or NTG/AB). Top: Representative blots; Bottom: Quantitative results. n indicates number of independent experiments.

Figure S5

A

B
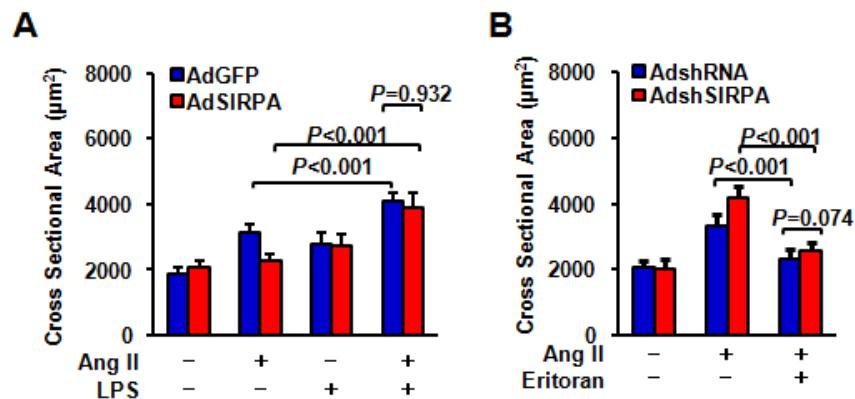
Figure S5 SIRPA-mediated Anti-hypertrophic Effects are largely Dependent on the Inactivation of TLR4. (A) NRCMs infected with AdSIRPA were treated with Ang II (1µM) and stimulation with or without the TLR4 activator LPS for 48 hours. The results of the cell size analysis revealed that the inhibition of myocyte hypertrophy by the overexpression of SIRPA was released by treatment with LPS. **(B)** Knockdown of the SIRPA-mediated promotion of myocyte hypertrophy was attenuated by the TLR4 inhibitor eritoran. n=100+ cells.
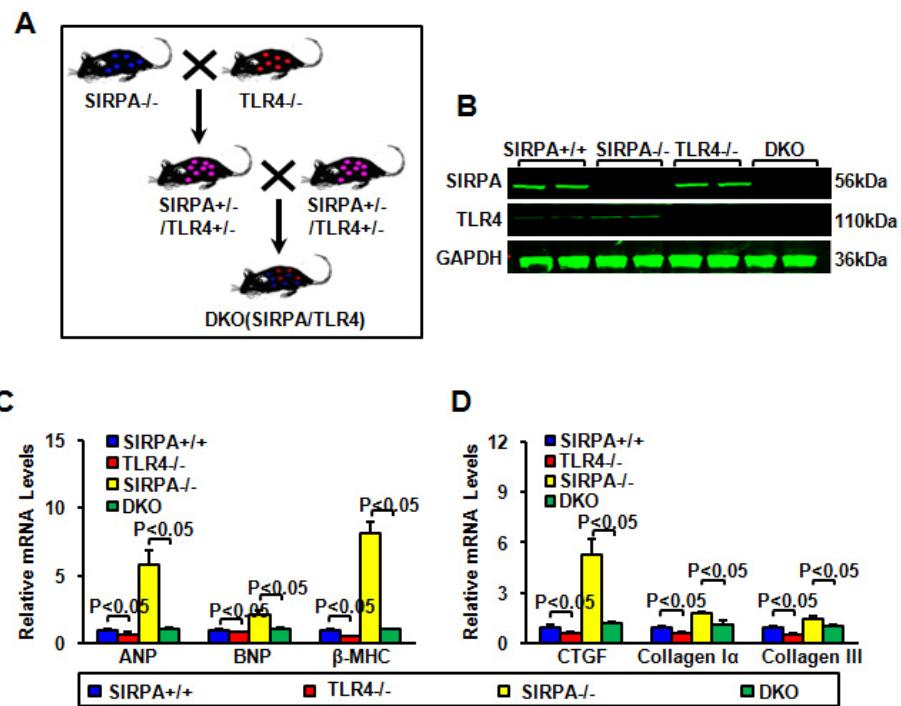
Figure S6 The Disruption of TLR4 Rescued the Adverse Effect of SIRPA Deficiency on Cardiac Hypertrophy. (A) Breeding strategy for the production of the SIRPA/TLR4 double-knockout (DKO) mice. (B) Protein levels of SIRPA and TLR4 in samples from the indicated groups 4 weeks after AB surgery. (C) The mRNA levels of the hypertrophic markers ANP, BNP and β-MHC in samples from the indicated groups (n=4). (D) The mRNA levels of the fibrotic markers CTGF, collagen Iα and collagen III in samples from the indicated groups (n=4). n indicates number of mice per experimental group.

Gene Symbol	RefSeq Transcript ID	p-value(KO-AB vs. WT-AB)	Fold-Change(KO-AB vs. WT-AB)
Malat1	NR_002847	2.48E-07	23.8089
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Malat1	NR_002847	2.33E-07	16.2883
Dbp	NM_016974	4.35E-06	8.20226
Itsn2	NM_011365	2.74E-07	7.64874
Tlr4	NM_021297	7.50E-05	6.48605
Ddx6	NM_001110826	0.00105832	6.30305
Myh7	NM_001085378	0.00965294	6.25891
Akap13	NM_029332	5.77E-06	6.20819
Malat1	NR_002847	0.000139442	6.1829
Col8a1	NM_007739	1.08E-05	5.51025
2810474O19Rik	NM_026054	0.000141888	5.26131
Myh6	NM_001164171	4.63E-05	5.24986
Gpbp1	NM_001122963	0.00031659	5.23994
Dbp	NM_016974	2.10E-05	4.86273
Jak1	NM_146145	0.000184095	4.73753
Wdfy1	NM_001111279	1.09E-05	4.71329
Nedd4	NM_010890	2.01E-07	4.67178
Ttn	NM_011652	1.30E-06	4.58442
Hdlbp	NM_133808	2.58E-06	4.45115
Itgb1bp3	NM_027120	0.000533128	4.35086
Akap9	NM_194462	0.000425636	4.3245
Tmem87a	NM_001110496	3.54E-05	4.27191
Wdfy1	NM_001111279	6.30E-05	4.24885
Vcan	NM_001081249	2.98E-06	4.24841
Hdlbp	NM_133808	6.03E-05	4.23998
Ddx6	NM_001110826	1.32E-05	4.1653
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Tbx20	NM_020496	8.25E-06	4.02477
Kctd12b	NM_175429	0.000272331	3.99547
Smg1	NM_001031814	8.03E-06	3.99223
Esco1	NM_001081222	5.60E-07	3.97212
Prpf40a	NM_018785	0.000214226	3.97068
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Rb1cc1	NM_009826	3.91E-07	3.88345
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Atrx	NM_009530	2.19E-05	3.8182
Col12a1	NM_007730	6.00E-05	3.77973

Kif5b	NM_008448	0.000203057	3.70003
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Pabpn1	NM_019402	0.000545726	3.46646
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Dlc1	NM_015802	0.00537448	3.37843
Star	NM_011485	0.000148784	3.36429
Nucks1	NM_001145804	0.000172551	3.36395
Arfgef1	NM_001102430	3.09E-06	3.34462
Gmfb	NM_022023	0.000176874	3.27977
Secisbp2l	NM_177608	2.41E-06	3.27432
Dnmt3a	NM_007872	1.50E-05	3.26737
Vcan	NM_001081249	2.38E-05	3.25133
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Pcmtd1	NM_183028	0.00106295	3.22797
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Cep350	NM_001039184	0.000521254	3.17751
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Nox4	NM_015760	0.0277003	2.97923
Vps35	NM_022997	5.69E-05	2.94892
Hspa4	NM_008300	0.00167403	2.94694
Cxcl14	NM_019568	0.00250135	2.91925
Clip1	NM_019765	1.06E-05	2.91734
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Inpp4b	NM_001024617	5.28E-05	2.86944
Ldb3	NM_001039071	3.53E-05	2.86717
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Ceacam1	NM_001039185	2.04E-05	2.77172
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Plcb4	NM_013829	0.000185511	2.76307
Spc25	NM_025565	0.00779986	2.73189
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Smc6	NM_025695	0.000526206	2.47312
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Ankrd11	NM_001081379	8.82E-05	2.11012
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Zwint	NM_025635	0.00210555	2.09659
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Usp1	NM_146144	0.0152439	2.07423
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Hbegf	NM_010415	0.000450934	2.03811
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Ddx46	NM_145975	0.00212833	2.02367
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Mfap5	NM_015776	0.0204091	2.02256
Shisa3	NM_001033415	0.0117766	2.01166

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Cul5	NM_001161618	0.000373181	1.99263
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Slk	NM_001164639	1.61E-05	1.94396
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Efhd2	NM_025994	0.000326255	1.93425
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Clca1	NM_009899	0.00883244	1.92998
Tor1b	NM_133673	0.000900728	1.92935
Arid4b	NM_194262	3.52E-05	1.92589
Fam26e	NM_178908	0.00146864	1.92557
Nop58	NM_018868	0.00105787	1.92465
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Xrn2	NM_011917	0.0295098	1.91496
Ino80	NM_026574	7.64E-05	1.91427
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Snca	NM_001042451	0.00646163	1.90763
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Cebpd	NM_007679	0.0460137	1.90687
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Sema3d	NM_028882	0.0150598	1.85096
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Coq10b	NM_001039710	2.73E-05	1.85009
Hnrnpab	NM_001048061	0.0104004	1.84944
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Slmap	NM_032008	0.000815163	1.84696
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Abra	NM_175456	0.0169451	1.84284
Eif4g2	NM_001040131	0.000347129	1.84222
Efcab7	NM_145549	7.67E-05	1.84166
Scaper	NM_001081341	0.000552903	1.84093
Tef	NM_017376	0.00284327	1.83911
Dnajc3	NM_008929	0.000199384	1.83744
Etnk1	NM_029250	0.0101871	1.83645
Ino80d	NM_001081436	0.000136506	1.83609
Gmfb	NM_022023	4.84E-05	1.83585
Loxl2	NM_033325	0.0126559	1.83581
Cd2ap	NM_009847	0.00585549	1.83338
Chd2	NM_001081345	9.37E-05	1.82649
Utrn	NM_011682	0.00269396	1.8255
Kif1b	NM_008441	3.41E-06	1.82471
Zbtb16	NM_001033324	0.00467027	1.82447
4933436C20Rik	NR_033641	0.00748859	1.82385
Rtn4	NM_024226	0.00279021	1.82097
Cd44	NM_001039150	0.00381587	1.81916
Sfrs18	NM_025669	0.00293434	1.81616
Hspa1b	NM_010478	0.0335541	1.81572
Ubxn2a	NM_145441	0.00324835	1.81527
Fbxw2	NM_001164768	0.000430525	1.81347
Tmem100	NM_026433	0.0132719	1.81202
Hdlbp	NM_133808	7.36E-05	1.81172
Vgll2	NM_153786	0.0137286	1.81136
Jmy	NM_021310	0.00298466	1.80687
Nebl	NM_028757	0.000361163	1.80086
Dpysl3	NM_001136086	0.011981	1.79976
Mmp3	NM_010809	0.0114433	1.79935
Ssb	NM_001110145	0.00430399	1.79783
Kif1b	NM_008441	0.000490271	1.79749
Cd24a	NM_009846	0.00998903	1.79732
Zfp52	NM_144515	8.81E-07	1.79549
Ms4a6d	NM_026835	0.0184979	1.79405
Mga	NM_001164274	0.005043	1.79291
Lztfl1	NM_033322	0.00013546	1.79147
Bat2l2	NM_001081290	0.00984922	1.79011
Eif5b	NM_198303	3.56E-05	1.78595
2010109K11Rik	NM_001162903	6.49E-05	1.78307

Ddx3y	NM_012008	5.02E-05	1.78074
Cyb561	NM_007805	0.000240395	1.77912
Pde1a	NM_001009978	0.0045147	1.77651
Cul5	NM_001161618	0.000273768	1.77624
Hist2h2aa1	NM_013549	0.00134355	1.77299
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Cd24a	NM_009846	0.00692762	1.77214
Hspa1a	NM_010479	0.016546	1.7713
Msi2	NM_054043	3.96E-05	1.77086
Obfc2a	NM_028696	0.00073009	1.76974
1500009L16Rik	NM_001145198	0.00631383	1.76941
Ncor1	NM_011308	0.000222568	1.76735
Tspan4	NM_053082	0.000712209	1.76291
Nebl	NM_028757	0.000887715	1.76234
Gm129	NM_001033302	0.0022918	1.76136
Il6st	NM_010560	0.00175889	1.75986
Rbm5	NM_148930	0.0463713	1.75925
Cdkl1	NM_183294	0.00103215	1.75811
Fnip1	NM_173753	0.00481175	1.75751
Malat1	NR_002847	0.025008	1.75742
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Ctgf	NM_010217	0.0482205	1.75661
C730026J16	---	1.67E-05	1.7564
Plxna2	NM_008882	0.00997358	1.75457
Ift74	NM_026319	0.00419838	1.75251
Maff	NM_010755	0.0022551	1.75197
Eif1a	NM_010120	0.00176637	1.75106
Tmem206	NM_025864	0.00520761	1.74939
Mfap5	NM_015776	0.0347882	1.74789
Mtap1b	NM_008634	0.000443539	1.74547
Wisp2	NM_016873	0.0479055	1.7435
Cntf	NM_053009	0.00783044	1.74275
Zfml	NM_001166371	0.000630576	1.73903
S100a10	NM_009112	0.00565792	1.73547
Efhd2	NM_025994	0.00113607	1.73388
Ankle2	NM_027922	0.000354649	1.73295
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Enah	NM_001083120	0.0158491	1.73151
Dynlt3	NM_025975	0.00480405	1.73134
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Ankrd12	NM_001025572	0.00214583	1.72858
Ogn	NM_008760	0.000913549	1.72777

Sfrs2ip	NM_028148	0.000117048	1.72767
Zbed6	NM_001166552	0.000888978	1.72485
Per3	NM_011067	0.0303727	1.72268
Akap2	NM_001035532	0.000175937	1.72115
Dnttip2	NM_153806	0.000542924	1.71776
Tpp2	NM_009418	0.00423271	1.71646
Hbb-b2	NM_016956	0.001533	1.71548
Crem	NM_001110850	0.00455121	1.71535
Rictor	NM_030168	0.00216098	1.71312
Zfp697	NM_172863	0.00252322	1.71271
Nlrc3	NM_001081280	0.0424926	1.71201
2810474O19Rik	NM_026054	0.0370064	1.71159
Hsp90b1	NM_011631	0.000741485	1.71121
Eif5	NM_173363	0.00026251	1.71036
Cd99l2	NM_138309	0.00198979	1.70859
Zbtb16	NM_001033324	0.0456431	1.70769
Cd44	NM_001039150	0.0169577	1.70711
Rnf168	NM_027355	0.00136337	1.70708
Fyttd1	NM_001159349	0.000223254	1.70613
Whamm	NM_001004185	0.000147044	1.70394
Fam126b	NM_172513	0.000435481	1.70092
Sfrp1	NM_013834	0.0353166	1.69964
Mpp7	NM_001081287	0.00104069	1.69859
Zfp871	NM_172458	0.0371576	1.69842
Pde4b	NM_001177980	0.004558	1.69767
Usp36	NM_001033528	0.0125222	1.6971
D1Ertd564e	---	0.00305582	1.69364
Rnf115	NM_026406	0.000826658	1.69296
Hsd17b7	NM_010476	0.00136404	1.69209
Uck2	NM_030724	0.0010324	1.68794
Pppde1	NM_024282	0.00687679	1.68793
Ckap4	NM_175451	0.00594807	1.68691
2610101N10Rik	NM_001114977	0.000176109	1.68687
Sdad1	NM_172713	0.00102981	1.68625
Vcan	NM_001081249	0.00681834	1.68542
Nus1	NM_030250	0.000271699	1.68501
Sdc4	NM_011521	0.0031998	1.68283
N6amt2	NM_026526	0.00033849	1.6812
Obfc2a	NM_028696	0.00197258	1.67885
Cd55	NM_010016	0.00141204	1.67807
Zfand5	NM_009551	0.000437794	1.67801
Uxs1	NM_026430	0.0254343	1.67791

Tgfb2	NM_009367	0.0366239	1.67788
Zbtb16	NM_001033324	0.010267	1.67691
Nbeal1	NM_173444	0.000729793	1.67635
Ifrd1	NM_013562	0.000336756	1.67489
Dnajc24	NM_026992	0.0277582	1.67482
A230046K03Rik	NM_001033375	0.00129534	1.67416
Ahcyl1	NM_145542	0.00361527	1.67342
Luc7l	NM_025881	0.0164063	1.67303
Bambi	NM_026505	0.00106619	1.67282
Gchfr	NM_177157	0.0170846	1.67211
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Prkacb	NM_001164198	0.000218979	1.66946
Dynlt3	NM_025975	0.00232938	1.66875
G0s2	NM_008059	0.0112292	1.66747
Rabgap1l	NM_001038621	0.00214696	1.66727
LOC100270747	---	0.0018282	1.66707
Mrpl51	NM_025595	0.000352486	1.66593
Ttc3	NM_009441	0.00688655	1.66578
Cenpa	NM_007681	0.00131579	1.66534
Dnajb4	NM_025926	0.00126163	1.65938
Tbl1xr1	NM_030732	1.97E-05	1.65796
2010111I01Rik	NM_028079	0.00105878	1.65648
Lrp6	NM_008514	0.00296005	1.65553
Ptpn2	NM_001127177	0.00129282	1.65438
2210403K04Rik	NR_030711	0.00480946	1.6526
Rasa1	NM_145452	0.000470093	1.65053
Plscr1	NM_011636	0.00606461	1.65031
Ccnd1	NM_007631	0.0259782	1.65027
Pdap1	NM_001033313	0.00126004	1.64999
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Btg2	NM_007570	0.0261161	1.64748
Sntb2	NM_009229	0.00104651	1.64663
Ilf3	NM_001042707	0.000897825	1.64555
Npr3	NM_001039181	0.00104342	1.64467
Filip1	NM_001081243	0.00777764	1.64287
Olfr558	NM_147093	0.00735235	1.6423
Pde8a	NM_008803	3.38E-05	1.64187
Htra4	NM_001081187	9.12E-05	1.64171
Mad2l1	NM_019499	0.00877517	1.63836
Cdv3	NM_001134426	0.000115998	1.638
8430408G22Rik	NM_001166580	0.0394308	1.63729
Col4a3bp	NM_001164222	0.00427412	1.63539

Pdcd10	NM_019745	0.00010889	1.63515
A230046K03Rik	NM_001033375	0.00149062	1.63399
Atp2b1	NM_026482	0.00376406	1.63347
Thoc2	NM_001033422	4.73E-05	1.63214
Uck2	NM_030724	0.00184551	1.63208
Rassf4	NM_178045	0.0177328	1.63114
Mmrn1	NM_001163507	0.0265143	1.6291
S100a10	NM_009112	0.00199573	1.62854
Cops2	NM_009939	0.0019746	1.6282
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Cda	NM_028176	0.00146732	1.62688
Fam122b	NM_001166365	0.0220594	1.62601
Crk	NM_133656	0.000602783	1.62565
Ptar1	NM_028208	0.0162063	1.62532
Atpif1	NM_007512	0.00364236	1.62516
Panx1	NM_019482	0.0210513	1.62379
Orc2l	NM_001025378	0.00678702	1.62358
Lrp8	NM_001080926	0.0243518	1.61901
Atp6v1h	NM_133826	0.00358113	1.61889
Zbtb3	NM_001098237	0.000439876	1.61755
Kitl	NM_013598	0.00565619	1.61746
Slc1a4	NM_018861	0.000585615	1.61737
Coq10b	NM_001039710	0.00638125	1.61729
Rasl11b	NM_026878	0.00690501	1.61354
Plscr1	NM_011636	0.00418422	1.61055
Ceacam1	NM_001039185	0.0156936	1.6093
2310057M21Rik	NM_026655	0.00616691	1.60769
Zbtb38	NM_175537	0.00237901	1.60728
Parp4	NM_001145978	6.79E-05	1.60592
Zc3h11a	NM_144530	0.00572522	1.60514
Bclaf1	NM_001025392	0.00224028	1.60471
Ctla2b	NM_001145801	0.0313317	1.60422
Hspa2	NM_001002012	0.0175349	1.60206
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Kctd15	NM_146188	0.000199164	1.60125
Tm2d2	NM_027194	0.0144533	1.60061
Synpo2l	NM_175132	0.0105061	1.59963
Tatdn1	NM_175151	0.00106659	1.5993
Mtpn	NM_008098	0.000918133	1.59893
Ikbip	NM_026166	0.000114201	1.59804
Casp12	NM_009808	0.0148419	1.59783
Tbcel	NM_173038	0.00742478	1.59555

2610005L07Rik	NR_028428	0.0414469	1.59475
Apold1	NM_001109914	0.0227416	1.59433
Tcerg1	NM_001039474	0.00138184	1.59388
Rabgap1l	NM_001038621	0.00540305	1.59384
Rabep1	NM_019400	4.46E-05	1.59365
Akap13	NM_029332	0.000381244	1.59337
Pdcd6ip	NM_001164677	0.00405265	1.59314
Sfmbt1	NM_001166531	0.00214504	1.59247
Wdr12	NM_021312	0.0014565	1.59185
Nsa2	NM_021552	0.000408181	1.59157
Rnf160	NM_001081068	0.00200592	1.5907
Spnb2	NM_009260	0.00143113	1.58925
Snrnp48	NM_026382	0.00383873	1.58907
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Pcmt1	NM_008786	0.000170524	1.58796
Appl1	NM_145221	0.00381003	1.58778
Sdccag1	NM_025441	0.00139456	1.58714
Airn	NR_002853	0.014333	1.58681
Cbx5	NM_001076789	0.00121448	1.58515
Ccni	NM_017367	0.0156386	1.58461
Ier5	NM_010500	0.0081844	1.58446
Synpo2l	NM_175132	0.0198689	1.58438
Ppp2r3a	NM_001161362	0.0149296	1.5842
Rhobtb1	NM_001081347	0.0107687	1.58416
Trdn	NM_029726	0.00018174	1.58382
Crls1	NM_001024385	0.000134537	1.58327
Crygb	NM_001082573	0.00167963	1.58159
Rassf8	NM_027760	0.000242033	1.58137
Sf3b2	NM_030109	0.0036632	1.58012
Mllt11	NM_019914	0.00142262	1.57987
Bclaf1	NM_001025392	0.0181329	1.57679
Rbm3	NM_001166409	0.000235425	1.57666
Wdr37	NM_001039388	0.00722419	1.5761
2610030H06Rik	NM_001081356	0.000396258	1.57591
Pik3r1	NM_001024955	0.00310896	1.57564
D7Ertd715e	NR_015456	0.0103328	1.57461
Tspan31	NM_025982	0.000330044	1.57447
Gm14446	NM_001101605	0.00572548	1.57349
Hn1	NM_008258	0.00348661	1.57347
A530088H08Rik	NM_178656	0.0229076	1.57344
Usp34	XM_483996	0.00123313	1.5725
Zscan18	NM_001017955	0.0116528	1.57195

Fam46c	NM_001142952	0.00111722	1.57121
Rnf115	NM_026406	0.000913921	1.56993
Mkrn1	NM_018810	0.000279253	1.56906
Fam164a	NM_173181	0.0115208	1.56783
C230081A13Rik	NM_172924	0.012209	1.56759
Gsk3b	NM_019827	0.000233417	1.56623
Slc2a1	NM_011400	0.0052852	1.56599
Eny2	NM_175009	0.00505887	1.5646
Fbxo9	NM_001081490	0.00217253	1.56284
Gm4204	NM_001146707	0.00129349	1.56182
Dcun1d1	NM_033623	0.0180356	1.56117
Mgst1	NM_019946	0.0161215	1.56107
S100a4	NM_011311	0.0182432	1.56062
Nuak1	NM_001004363	0.000364598	1.55897
Dusp3	NM_028207	0.000443848	1.55802
Cdr2	NM_007672	0.000382919	1.55802
Pfdn1	NM_026027	0.00408315	1.55766
Ccnd2	NM_009829	0.00755422	1.55748
Gimap5	NM_175035	0.000463083	1.55735
N6amt1	NM_001159331	0.00216599	1.55412
Elf2	NM_023502	0.00884988	1.55393
Scx	NM_198885	0.00536118	1.55252
E230013L22Rik	---	0.00134965	1.55239
Pdgfc	NM_019971	0.0124717	1.55104
Fam168a	NM_178764	0.0101833	1.54889
Ceacam1	NM_001039185	0.0221034	1.54803
Chic1	NM_009767	0.00196052	1.54782
Ssb	NM_001110145	0.00125538	1.54772
D9Ertd256e	---	0.0106535	1.54744
Mtpn	NM_008098	0.000110313	1.54597
0610009D07Rik	NM_025323	0.000819737	1.54491
Rock1	NM_009071	0.00107911	1.54488
Cyr61	NM_010516	0.00847141	1.54387
Wwtr1	NM_001168281	1.67E-05	1.54286
Ceacam1	NM_001039185	0.00660732	1.542
Naa35	NM_030153	0.0107142	1.54138
1500017E21Rik	NR_033510	0.0370748	1.54136
Samd5	NM_177271	0.00176207	1.54123
Huwe1	NM_021523	0.0206788	1.5409
Zmynd11	NM_144516	0.00927238	1.54027
Trove2	NM_013835	0.000960526	1.53851
Smarca4	NM_001174078	0.0224004	1.53688

Hsp90ab1	NM_008302	0.0096042	1.5368
7630402I04Rik	---	0.0372641	1.53652
Ggnbp2	NM_153144	0.00681805	1.53615
0610009D07Rik	NM_025323	0.00222013	1.536
Zwint	NM_025635	0.00377204	1.53555
Rnf19b	NM_029219	0.00167361	1.53541
Lbh	NM_029999	0.00416521	1.53477
Calm2	NM_007589	0.00531412	1.53457
Ddah1	NM_026993	0.00650491	1.53453
Gabpb2	NM_029885	0.000472497	1.53452
Akr1b8	NM_008012	0.00335607	1.53415
Smc2	NM_008017	0.00126339	1.53356
Dnttip2	NM_153806	0.00166145	1.53344
Tatdn1	NM_175151	0.00613805	1.53291
Pard3b	NM_001081050	0.00214314	1.53254
Kif13a	NM_010617	0.00754184	1.53234
Eif1a	NM_010120	0.00120404	1.53121
Man1a	NM_008548	0.00125005	1.53118
Phax	NM_001162989	0.00914282	1.53072
Mafk	NM_010757	0.00253027	1.53064
Tecrl	NM_153801	0.00445969	1.53061
7-Mar	NM_020575	0.00585079	1.53034
Hmgn3	NM_026122	0.0138311	1.5298
Dusp27	NM_001033344	0.0174175	1.52796
Tmed10	NM_026775	0.000522179	1.52793
Crebbp	NM_001025432	0.0136701	1.52722
Rabgef1	NM_019983	0.000705518	1.52552
Pdik1l	NM_001163794	0.00444396	1.52467
Tmem167	NM_025335	0.00455968	1.5246
3110005L21Rik	---	0.0235354	1.52444
4931406P16Rik	NM_172741	0.0030252	1.52324
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2010111I01Rik	NM_028079	0.00622803	1.5218
Slc2a1	NM_011400	0.00749958	1.52077
Enpp4	NM_199016	0.00393923	1.52037
Fxyd5	NM_001111073	0.00870131	1.51999
1110034B05Rik	NM_001037742	0.00301293	1.51977
Celf2	NM_001110228	5.14E-05	1.51854
Jag1	NM_013822	0.0051527	1.5185
2810026P18Rik	XM_925560	0.00576363	1.51751
Fam126b	NM_172513	0.000500384	1.51738
Nts	NM_024435	0.0466106	1.51648

P4ha1	NM_011030	0.00411734	1.51545
Azin1	NM_001102458	0.000966169	1.51518
Btbd7	NM_172806	0.0241992	1.51456
Fam105b	NM_001013792	0.000435697	1.51421
Rai14	NM_001166408	0.029698	1.51396
Capza1	NM_009797	0.000149903	1.51351
Eif3c	NM_146200	0.0266089	1.5119
Phlda1	NM_009344	0.0254277	1.51099
1700025G04Rik	NM_197990	0.00100478	1.51089
Tmem204	NM_001001183	0.00321583	1.51083
Heatr6	NM_145432	0.00208684	1.5104
Grk5	NM_018869	0.00319357	1.50975
Eif2c3	NM_153402	0.00622167	1.50747
Sytl4	NM_013757	0.0218986	1.5074
Ddx10	NM_029936	0.000656365	1.50714
Pqlc3	NM_001161111	0.00771163	1.5071
Mia3	NM_177389	0.04417	1.50317
Srpk2	NM_009274	0.00874074	1.50297
Edn3	NM_007903	1.71E-05	1.5021
Amd1	NM_009665	0.00746191	1.50184
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Ptprr	NM_001161838	0.0303782	1.50096
Eny2	NM_175009	0.0108162	1.50084
Wac	NM_001146298	0.0282634	1.50015
Anxa1	NM_010730	0.0280682	1.49967
Tbca	NM_009321	0.0113986	1.49891
Pfkp	NM_019703	0.00843823	1.49798
Ccdc66	NM_177111	0.0128133	1.49777
Glrx2	NM_001038592	0.00734595	1.49718
Slc22a4	NM_019687	0.00650428	1.49717
Irx3	NM_008393	0.00235256	1.4971
1110018N20Rik	XM_901931	0.0228093	1.49697
Amot	NM_153319	0.000319125	1.49588
Fam126b	NM_172513	0.000564195	1.4956
Plekha4	NM_148927	0.0247472	1.49555
Agfg1	NM_010472	0.00216303	1.49528
H2afz	NM_016750	0.0122168	1.49454
Gm7285	NM_011300	0.00101797	1.49411
Ccdc77	NM_026028	0.00758126	1.4941
Cd59a	NM_001111060	0.0289091	1.49409
Rfc4	NM_145480	0.0361931	1.49396
Prnp	NM_011170	0.000494334	1.49393

Azin1	NM_001102458	0.000703989	1.49376
Rbp7	NM_022020	0.0353479	1.49259
Hsp90aa1	NM_010480	0.00530125	1.49116
Nrip1	NM_173440	0.00848382	1.49113
Il6ra	NM_010559	0.000782224	1.49097
Prpf38b	NM_025845	0.00957832	1.49075
Atxn7	NM_139227	0.000342736	1.49033
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Map2k7	NM_001042557	0.00902485	1.4889
Cap2	NM_026056	8.60E-05	1.48868
Xrcc4	NM_028012	0.0340053	1.4884
Scoc	NM_001039137	0.0177658	1.48802
Sacs	NM_172809	0.036391	1.48681
Spsb4	NM_145134	0.0386149	1.48669
Med21	NM_025315	0.00663288	1.48614
Fahd2a	NM_029629	0.0436081	1.48571
Fabp4	NM_024406	0.0392517	1.48523
Dsel	NM_001081316	0.011324	1.48485
Lamp2	NM_001017959	0.00916725	1.48449
2510039O18Rik	NM_029841	0.00299743	1.48398
Pfkp	NM_019703	0.00651082	1.48387
Spred1	NM_033524	0.0208757	1.48313
Slc25a16	NM_175194	0.00500412	1.4826
5730601F06Rik	NM_001082485	0.0191096	1.48243
C1d	NM_020558	0.00358278	1.48143
Smc4	NM_133786	0.0250314	1.48132
Suz12	NM_001163018	0.000118243	1.48086
Nip7	NM_001164472	0.00609292	1.48047
Arpc5	NM_026369	0.00175091	1.48041
Ankrd37	NM_001039562	0.0165597	1.47945
Tbl1x	NM_020601	0.0023342	1.47886
Tgs1	NM_054089	0.00565338	1.47876
Pkdcc	NM_134117	0.0326892	1.4787
Creb3	NM_013497	0.00207744	1.47771
Slmap	NM_032008	0.000873303	1.47771
Prss44	NM_148940	0.00165165	1.47742
Fbln2	NM_001081437	0.00312433	1.47687
Sema6d	NM_172537	0.00725197	1.47594
Tnni3k	NM_177066	0.00927708	1.47565
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Wdfy3	NM_172882	0.00796137	1.47465

Comtd1	NM_026965	0.029927	1.47425
Cbx5	NM_001076789	0.00391147	1.47389
Fam73a	NM_001162375	0.000727807	1.47302
Mlec	NM_175403	0.000205498	1.47243
Zbtb4	NM_029348	0.00359348	1.47206
Ehd4	NM_133838	0.00133636	1.47191
Cebpg	NM_009884	0.00253947	1.47155
Cbwd1	NM_146097	0.0211548	1.47128
Sltm	NM_025690	0.00823084	1.47121
Bcl2	NM_009741	0.00067412	1.47096
Meg3	NR_003633	0.00945005	1.47074
Pyroxd1	NM_183165	0.00970502	1.46995
Trim47	NM_172570	0.0161141	1.4698
Calm2	NM_007589	0.000262819	1.46939
Tmem29	NM_001164683	0.00444279	1.4688
Nr1d1	NM_145434	0.0103269	1.46879
6330578E17Rik	NM_198006	0.00219429	1.46877
Pja2	NM_001025309	0.00333514	1.46831
Klhl32	NM_001033531	0.0399248	1.46776
Slfn8	NM_001167743	0.010203	1.46746
Ppp2r5c	NM_001081457	0.00107394	1.46739
Fam46a	NM_001160378	0.0383851	1.46708
Smarca2	NM_011416	0.00297527	1.46663
Cdca3	NM_013538	0.00347519	1.46608
Rassf3	NM_138956	0.0265737	1.46532
Evi5	NM_007964	0.000366185	1.46506
2310030G06Rik	NM_025865	0.00860433	1.46484
Igfbp3	NM_008343	0.0270625	1.46422
Timp3	NM_011595	0.0135342	1.46415
Zfr	NM_011767	0.0108099	1.4641
Kdelr3	NM_134090	0.0132753	1.46338
Chgb	NM_007694	0.00751526	1.46326
Trdn	NM_0297268	0.00534287	1.46286
Rab27b	NM_001082553	0.0401455	1.46188
Cytl1	NM_001081106	0.0138976	1.46158
2610039C10Rik	NM_025642	0.0101852	1.46144
Hook3	NM_207659	0.00525884	1.46031
Eif2s2	NM_026030	0.00183481	1.45958
Naa16	NM_025832	0.0496158	1.45921
Zfp871	NM_172458	0.0370519	1.45871
Pon3	NM_173006	0.00783273	1.45869
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Crbn	NM_021449	0.00245758	1.45725
LOC100048499	NM_001081975	0.0195545	1.45715
Slc2a1	NM_011400	0.00181788	1.45635
Srpk2	NM_009274	0.011841	1.45599
Dynll1	NM_001177391	0.0133022	1.45472
Ppp2r5c	NM_001081457	0.00572166	1.45469
Nipbl	NM_027707	0.000673181	1.45452
Sorbs2	NM_172752	0.00392568	1.45429
Bod1l	NM_001081422	0.0329062	1.45315
A930005H10Rik	NR_015487	0.0340893	1.4528
Mef2c	NM_001170537	0.00680775	1.45249
Dzip3	NM_001110017	0.0343493	1.45223
Ngdn	NM_026890	0.0119876	1.45204
Rfc4	NM_145480	0.0234479	1.45076
Smc6	NM_025695	0.0248185	1.45068
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Jmy	NM_021310	0.0350705	1.44843
Amn1	NM_001113424	0.00364487	1.44837
Iqgap1	NM_016721	0.000552253	1.44717
3110001I22Rik	NM_025653	0.0111715	1.4461
Fam198b	NM_133187	0.00555519	1.44596
Atp6ap2	NM_027439	0.0107213	1.44584
Suz12	NM_001163018	0.00296468	1.44569
Yars2	NM_198246	0.0396163	1.44496
Ergic2	NM_026168	0.00713762	1.44485
Masp1	NM_008555	0.0168235	1.44357
Zfx	NM_001044386	0.00358194	1.44332
1700029F09Rik	NM_029368	0.013737	1.44278
Mobkl3	NM_025283	0.00271233	1.44186
Arl6	NM_019665	0.0144856	1.44117
Akap9	NM_194462	0.00175311	1.44056
Sugt1	NM_026474	0.00137796	1.4405
Slc25a36	NM_138756	0.00957989	1.44021
Eif4e3	NM_025829	0.0270448	1.43935
Thrap3	NM_146153	0.00364453	1.43876
Sdccag1	NM_025441	0.0020725	1.43863
Sfrs3	NM_013663	0.0106578	1.43832
Ubxn1	NM_146093	0.00226519	1.43769
Saps3	NM_001164159	0.00765207	1.43746
Krit1	NM_001170552	0.00534102	1.43713
Nek1	NM_175089	0.000901243	1.43704
Eif2s2	NM_026030	0.00252852	1.43692

Nacc1	NM_025788	0.00277758	1.43637
Acot10	NM_019736	0.00795146	1.43634
Slc39a6	NM_139143	0.01728	1.43626
Anxa8	NM_013473	0.00787388	1.43618
Anxa8	NM_013473	0.0244381	1.43611
Magi2	NM_001170745	0.0184836	1.43534
Ube2w	NM_025773	0.00282011	1.4353
Cenpp	NM_025495	0.0189685	1.43528
Gatad2b	NM_139304	0.00364039	1.4346
Spcs1	NM_026911	0.00673549	1.43427
Rer1	NM_026395	0.00658632	1.43374
Hspa1l	NM_013558	0.0484375	1.43371
Matr3	NM_010771	0.00940214	1.43368
Zfp148	NM_011749	0.00867099	1.4326
Higd1b	NM_080846	0.00279477	1.43256
Atp6v1a	NM_007508	0.0170773	1.43222
Arhgap11a	NM_181416	0.0418672	1.43202
Pten	NM_008960	0.000240873	1.43198
Gnpda2	NM_001038015	0.00904814	1.43181
Bcr	NM_001081412	0.0239882	1.43134
Carhsp1	NM_025821	0.00604132	1.43121
D930014E17Rik	NM_020616	0.00141359	1.43073
Gda	NM_010266	0.0135157	1.43053
Atl1	NM_178628	0.00254156	1.43034
Gla	NM_013463	0.00319542	1.43016
Gemin5	NM_001166669	0.00700406	1.42954
Ddx26b	NM_172779	0.0278583	1.42952
Lcorl	NM_001163073	0.0137611	1.42949
2810055G20Rik	NR_015543	0.0166734	1.42947
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Pkp2	NM_026163	0.000622616	1.42827
Hsd17b7	NM_010476	0.00065504	1.42815
Ang	NM_001161731	0.0306664	1.42813
Arap2	NM_178407	0.0257285	1.42713
Csnk2a2	NM_009974	0.00599391	1.4271
Wbp5	NM_011712	0.0268493	1.42679
Lats2	NM_015771	0.0043867	1.42662
Stbd1	NM_175096	0.0488578	1.4263
Cdc5l	NM_152810	0.00594296	1.42568
LOC100048299	NM_001146176	0.00111704	1.42471
Timp3	NM_011595	0.0235028	1.42453
Ctla2a	NM_001145799	0.0206387	1.42404

Xirp1	NM_001081339	0.0292053	1.42369
Gm6722	NM_016750	0.00497038	1.42364
Slc35a5	NM_028756	0.0387388	1.4235
Rras2	NM_025846	0.00138377	1.42298
Cd99l2	NM_138309	0.0163779	1.42241
Rsl1	NM_001013769	0.0321784	1.42227
Cabin1	NM_172549	0.0129276	1.42223
Usp7	NM_001003918	0.0111149	1.42216
Prkar1a	NM_021880	0.00010953	1.4216
1110032A03Rik	NM_023483	0.0261327	1.42126
Tra2b	NM_009186	0.0423077	1.4211
Scin	NM_001146196	0.0292552	1.4208
Magt1	NM_025952	0.0312241	1.42078
Pja2	NM_001025309	0.00239583	1.42035
Lsm1	NM_026032	0.0146561	1.41963
Tmem167	NM_025335	0.0131608	1.41955
Ube2v2	NM_001159351	0.0119072	1.41938
3200002M19Rik	NM_027532	0.00429183	1.41933
Mphosph10	NM_026483	0.000978488	1.41897
Gpx8	NM_027127	0.0093741	1.41881
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Hfe	NM_010424	0.0274747	1.4184
Zfp101	NM_009542	0.00283624	1.41743
Csnk1g3	NM_152809	0.00129991	1.41736
Tfrc	NM_011638	0.00440234	1.4168
Slk	NM_001164639	0.00309362	1.41663
Trim23	NM_030731	0.0325895	1.41547
Dst	NM_133833	0.00746048	1.41546
Dtna	NM_010087	0.0012546	1.41472
Vps24	NM_025783	0.0030463	1.41445
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Rtn4	NM_024226	0.0266326	1.41357
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LOC100048247	NM_029508	0.000831365	1.41305
Radil	NM_178702	0.00671226	1.41255
Ell2	NM_138953	0.0129587	1.41234
2010106G01Rik	NM_023220	0.0126325	1.41233
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Psmd14	NM_021526	0.00365024	1.4116
Btf3l4	NM_027453	0.0139719	1.41154
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Tmem30a	NM_133718	0.000126841	1.41123

Polr3e	NM_001164096	0.0205075	1.41116
Anapc10	NM_026904	0.00678021	1.41087
Calcrl	NM_018782	0.00557509	1.41068
Bpgm	NM_007563	0.00105866	1.41062
Acer3	NM_025408	0.016965	1.41062
Psma5	NM_011967	0.00333216	1.41057
Fam92a	NM_026558	0.00265314	1.41041
Synpo2	NM_080451	0.00234281	1.4104
Eif5	NM_173363	0.000430264	1.41033
2700046G09Rik	NR_033198	0.0287572	1.40993
Pkp2	NM_026163	0.00730029	1.40987
Rbm5	NM_148930	0.0187863	1.40941
Mrps22	NM_025485	0.0161676	1.40933
Rora	NM_013646	0.022861	1.40921
Agps	NM_172666	8.56E-05	1.40888
Pfn2	NM_019410	0.00636809	1.40872
2410017P09Rik	XR_001632	0.00281004	1.40856
AU041133	NM_001163064	0.00655223	1.40763
Top2b	NM_009409	0.00060049	1.40689
Ppp2ca	NM_019411	0.00542898	1.4068
Muc15	NM_172979	0.00560403	1.40638
Gm5113	NM_001033540	0.000613946	1.40596
Ankhd1	NM_175375	0.00866263	1.40588
Ankrd10	NM_001167967	0.00506729	1.40576
Fam82a2	NM_001033136	0.00202917	1.40575
Igf1	NM_001111274	0.0426628	1.40572
Maf	NM_001025577	0.0134613	1.40568
Usp7	NM_001003918	0.0112627	1.40555
Syncrip	NM_019666	0.00311818	1.40482
Crebzf	NM_145151	0.0134185	1.40409
Rap1b	NM_024457	0.00653685	1.40387
LOC100044900	NM_001177609	0.00336083	1.4037
Bmpr1a	NM_009758	0.0022795	1.40341
Mrpl1	NM_001039084	0.00930571	1.40314
Ccdc59	NM_025602	0.00158819	1.40254
Atp6ap2	NM_027439	0.0071685	1.40194
Lrp8	NM_001080926	0.00674632	1.40186
Kpna2	NM_010655	0.00584162	1.4018
1110003E01Rik	NM_133697	0.0122488	1.40147
Slc4a7	NM_001033270	0.0334158	1.40119
Selk	NM_019979	0.0239824	1.40107
Ncl	NM_010880	0.00910081	1.40103

Aqr	NM_009702	0.0139886	1.40099
Wls	NM_026582	0.00724215	1.40076
Zfyve16	NM_173392	0.0092661	1.4005
Ssb	NM_001110145	0.00618306	1.40036
Gm11847	NM_053263	0.00494657	1.39997
LOC100045031	NM_001168578	0.0178507	1.39954
LOC100046344	NM_008704	0.00562733	1.39944
Dock10	NM_175291	0.0235748	1.39898
Creb3	NM_013497	0.0100121	1.39876
Tatdn1	NM_175151	0.0211929	1.3985
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2610029G23Rik	NM_026312	0.0333155	1.3976
Dnajb4	NM_025926	0.0137305	1.39745
Tceb1	NM_026456	0.0064554	1.39744
Pmp22	NM_008885	0.0268416	1.39721
Cst6	NM_028623	0.0309922	1.39721
Mobkl1a	NM_026735	0.0174408	1.39677
Kif3b	NM_008444	0.00571518	1.39671
Sap30	NM_021788	0.0157667	1.39668
A630033E08Rik	NM_001110254	0.0101516	1.39663
C230091D08Rik	NR_015479	0.0197455	1.39649
Asrgl1	NM_025610	0.00551585	1.39625
Vldlr	NM_001161420	0.00847002	1.39598
Btnl9	NM_172793	0.0440114	1.39569
1600012F09Rik	NM_025904	0.0358438	1.39552
Zg16	NM_026918	0.0359978	1.39502
Qpct	NM_027455	0.035203	1.3948
Fam168a	NM_178764	0.00262662	1.39428
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Ccdc97	NM_028771	0.000369412	1.39349
Fam82b	NM_025476	0.0157531	1.39331
Cacna2d1	NM_001110843	0.0314953	1.39313
Mobkl1a	NM_026735	3.46E-05	1.39302
Ppp2r5c	NM_001081457	0.00507057	1.39299
LOC433064	NM_001110129	0.0481832	1.39295
Rbm26	NM_134077	0.00143415	1.39283
Ccnb1	NM_172301	0.0398659	1.39247
Rpp14	NM_025938	0.00741072	1.39234
Dnajb6	NM_001037940	0.0201323	1.39208
Exd1	NM_172857	0.000303003	1.39179
Rpf2	NM_001042556	0.00222891	1.39131
Nrtn	NM_008738	0.0362314	1.39099

Rbmx	NM_001166623	0.00528444	1.39094
S100a6	NM_011313	0.000320445	1.39083
Rrm1	NM_009103	0.0213524	1.39071
Cuzd1	NM_008411	0.0199488	1.39066
Alkbh5	NM_172943	0.0355485	1.39035
Aasdhppt	NM_026276	0.0425113	1.39025
Bzw1	NM_025824	0.0042068	1.39012
2310003F16Rik	NM_026318	0.00334943	1.38993
Ablim1	NM_001103177	0.0105293	1.38962
Ikbip	NM_026166	0.00549507	1.38957
Nop56	NM_024193	0.0384411	1.3895
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Psmc4	NM_011874	0.0224084	1.38903
Hes1	NM_008235	0.0297629	1.38903
Srp9	NM_012058	0.00438936	1.3888
Zfp322a	NM_001111107	0.00486072	1.3887
Apool	NM_026565	0.0424069	1.3884
Tbce	NM_178337	0.0138939	1.38832
3110057O12Rik	NM_026622	0.0125399	1.38813
Psma5	NM_011967	0.00288962	1.388
Rpl22l1	NM_026517	0.0020746	1.38734
Baz1a	NM_013815	0.00986082	1.3872
Ngdn	NM_026890	0.00733387	1.38711
Atp6v1e1	NM_007510	0.0134221	1.38705
Pcmt1	NM_008786	0.00208068	1.387
Srp9	NM_012058	0.00228337	1.38685
Hba-a1	NM_001083955	0.0324496	1.38661
Ccdc141	NM_001025576	0.000751122	1.3863
Htatsf1	NM_028242	0.000472906	1.38564
Apcdd1	NM_133237	0.0380322	1.38498
Mrpl15	NM_001177658	0.00509902	1.3848
Per2	NM_011066	0.0193327	1.38472
Zfp770	NM_175466	0.000270038	1.38466
Kbtbd5	NM_028202	0.0292239	1.38465
Ergic2	NM_026168	0.00262611	1.38392
Zfp27	NM_001037707	0.0232941	1.38388
2010106G01Rik	NM_023220	0.00124987	1.38365
Ankhd1	NM_175375	0.0231775	1.3827
Mt2	NM_008630	0.0279139	1.38267
Rbbp8	NM_001081223	0.0220299	1.38257
Slc1a3	NM_148938	0.0032635	1.38245
Tspo	NM_009775	0.00532764	1.38241

Macf1	NM_009600	0.0216182	1.38218
Ddx52	NM_030096	0.0197746	1.3819
Cd9	NM_007657	0.0121481	1.38128
Spcs3	NM_029701	0.000320455	1.38127
Socs2	NM_001168655	0.0103746	1.3807
Cbx3	NM_007624	0.0251676	1.38058
Fam174a	NM_026321	0.0066228	1.38055
Rnf11	NM_013876	0.000262222	1.38035
Ggps1	NM_010282	0.0240315	1.38
Rpain	NM_027186	0.011752	1.37997
Lyrm5	NM_001163628	0.000929284	1.37993
Zc3h14	NM_001008506	0.00780458	1.37992
Nktr	NM_010918	0.0230903	1.37981
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Klhdc2	NM_027117	0.0343063	1.37892
Wwtr1	NM_001168281	0.000101449	1.37851
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Tspo	NM_009775	0.0286536	1.37819
Adap2	NM_172133	0.00723467	1.3781
Crls1	NM_001024385	0.00725914	1.37783
Ccnc	NM_001122982	0.00665498	1.37758
Myc	NM_001177352	0.00206373	1.37666
Nmd3	NM_133787	0.00658504	1.37656
Orc6l	NM_001163791	0.0104	1.37634
Dnaja1	NM_001164671	0.0362795	1.37609
Ankrd11	NM_001081379	0.0010748	1.37521
Gyk	NM_008194	0.0261388	1.37475
Dusp27	NM_001033344	0.00245611	1.37399
Etohd2	NR_015349	0.00744452	1.37383
Ppp2r5e	NM_012024	0.0235345	1.37351
Gas5	NR_002840	0.0490372	1.3735
Trdn	NM_029726	0.00195075	1.3732
Birc5	NM_001012273	0.026696	1.37311
Hax1	NM_011826	0.00517611	1.37272
Suz12	NM_001163018	0.0076862	1.3725
Cenpq	NM_031863	0.0107284	1.37227
Atp5o	NM_138597	0.0073378	1.37221
Psmc6	NM_025959	0.00444377	1.37211
Snhg1	NR_002896	0.0408482	1.37174
Vegfa	NM_001025250	0.013632	1.3715
Rcor3	NM_144814	0.0160423	1.37063
5430427G11Rik	XM_990419	0.00513731	1.36999

Bag4	NM_026121	0.0243764	1.36994
Psmc6	NM_025959	0.00352473	1.36985
2700060E02Rik	NM_026528	0.00827989	1.36977
Uck2	NM_030724	0.0237072	1.36954
Figf	NM_010216	0.00272678	1.36931
Sec63	NM_153055	0.0384318	1.36853
Arl5b	NM_029466	0.0285411	1.36835
Scn3b	NM_001083917	0.00436449	1.36832
Rabgap1l	NM_001038621	0.0130043	1.36722
Gnpda2	NM_001038015	0.0435054	1.3671
Wdfy1	NM_001111279	0.0019834	1.36666
Cux2	NM_007804	7.45E-06	1.36624
4732415M23Rik	NM_177279	0.0445321	1.36605
Hmgn3	NM_026122	0.0375159	1.36583
Dsg2	NM_007883	0.0236273	1.36578
Peli2	NM_033602	0.00563791	1.36569
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Nras	NM_010937	0.0163142	1.36511
S1pr1	NM_007901	0.0135992	1.36507
Gm10145	NM_009456	0.0102307	1.36504
Ogfrl1	NM_001081079	8.79E-05	1.36502
Wdr61	NM_001025375	0.0196725	1.36495
Fnip1	NM_173753	0.0224101	1.36486
Serf2	NM_011354	0.00235227	1.36482
Rev3l	NM_011264	0.00833822	1.36455
Srr	NM_001163311	0.018724	1.3645
Olfml2b	NM_177068	0.00656465	1.36445
AI225934	---	0.0199596	1.3641
Prelid2	NM_029942	0.0166329	1.36403
0610010O12Rik	NM_001081365	0.00184076	1.36378
Nus1	NM_030250	0.0104035	1.36359
Sdpr	NM_138741	0.0409178	1.36352
Zfp53	NM_013843	0.0195318	1.36326
Heca	NM_001033432	0.0126635	1.3629
Gm11847	NM_053263	0.00192358	1.36283
Psmd7	NM_010817	0.00519116	1.36277
Tuba1b	NM_011654	0.0162097	1.36225
Sfrs3	NM_013663	0.0386919	1.36216
Lrrc40	NM_024194	0.0475446	1.36191
LOC100047864	NM_026998	0.0487268	1.36151
Fkbp7	NM_010222	0.0242726	1.36106
C730026J16	---	0.00661166	1.36058

Hnrpll	NM_144802	0.00135196	1.36037
Utp23	NM_030132	0.00989753	1.36031
Llph	NM_025431	0.00284516	1.36019
Ccnc	NM_001122982	0.00957053	1.36017
Zfp52	NM_144515	0.0116079	1.36005
1110014N23Rik	NM_001081041	0.038996	1.35948
Tbc1d15	NM_025706	0.0199157	1.35944
Lztfl1	NM_033322	0.0204397	1.35919
Pfdn4	NM_001013369	0.032977	1.35907
Thyn1	NM_144543	0.0360899	1.35874
Rbm34	NM_172762	0.0373062	1.3587
Acp1	NM_001110239	0.031813	1.35863
Ptp4a2	NM_001164745	0.000354896	1.35847
Zfp617	NM_133358	0.00693838	1.35811
Bend5	NM_026279	0.0283168	1.35798
Brcc3	NM_001166457	0.0163862	1.3579
3200002M19Rik	NM_027532	0.0270418	1.35776
Ndufa7	NM_023202	0.00775721	1.35739
4632415L05Rik	NR_027985	0.0072029	1.35733
Ints12	NM_027927	0.039018	1.35698
Mpp5	NM_019579	0.0104326	1.35649
Utp15	NM_178918	0.0192328	1.35648
Cbx4	NM_007625	0.0199969	1.35614
Yy1	NM_009537	0.0161124	1.35606
Usp34	XM_483996	0.0422172	1.35599
Tor1aip2	NM_001160180	0.00187765	1.35592
Rp2h	NM_133669	0.0296661	1.35574
AU019823	NM_001134902	0.0198221	1.35559
Fam129a	NM_022018	0.025855	1.35522
Morc3	NM_001045529	0.034003	1.35521
Slc25a32	NM_172402	0.0115594	1.35504
Rpf2	NM_001042556	0.0146509	1.35482
6820431F20Rik	NR_030708	0.021492	1.3548
Pdlim5	NM_019808	4.61E-05	1.35461
Papola	NM_011112	0.00533626	1.35456
Nhp2	NM_026631	0.0284303	1.35455
Acot9	NM_019736	0.0105042	1.35434
Eid1	NM_025613	0.0151231	1.35427
Gm4455	NM_001142957	0.00579159	1.35416
Bbs5	NM_028284	0.0159956	1.35412
Msi2	NM_054043	0.0076375	1.3541
Ero1l	NM_015774	0.034728	1.35372

Csde1	NM_001161854	1.90E-05	1.35352
Dusp11	NM_028099	0.0453777	1.35347
Trub2	NM_145520	0.0368563	1.35312
Prpf39	NM_177806	0.0134742	1.35293
Anxa4	NM_013471	0.0171176	1.35275
Pir	NM_027153	0.0154545	1.35233
Gria3	NM_016886	0.0121091	1.35214
Trub2	NM_145520	0.0279725	1.35191
Brwd1	NM_001103179	0.0030722	1.35162
Cmc1	NM_026442	0.0439251	1.35146
Cd99l2	NM_138309	0.0153611	1.35132
Vti1a	NM_016862	0.00844417	1.3512
Nudcd2	NM_026023	0.00159372	1.35115
Rarres2	NM_027852	0.0172533	1.35108
Trim44	NM_020267	0.00523714	1.35087
Isoc1	NM_025478	0.023352	1.35082
Lima1	NM_001113545	0.00286844	1.35081
Ctr9	NM_009431	0.0485123	1.35056
Cebpz	NM_001024806	0.0190177	1.35043
Mrpl20	NM_025570	0.00226321	1.35021
Stk4	NM_021420	0.0063356	1.35003
Gca	NM_145523	0.00146551	1.34994
Csnk2a1	NM_007788	0.0019501	1.34986
Msr1	NM_001113326	0.0494281	1.34949
Gda	NM_010266	0.00470787	1.3494
Egln3	NM_028133	0.0257222	1.34911
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Gnpnat1	NM_019425	0.0353444	1.3487
Dcaf17	NM_001165980	0.00568244	1.34869
Rrm2	NM_009104	0.0108722	1.34858
1810048J11Rik	NM_026327	0.00375764	1.34843
Btaf1	NM_001080706	0.048571	1.34824
Hspa4	NM_008300	0.0017833	1.3482
Ptplb	NM_023587	0.0202234	1.34818
Phf3	NM_001081080	0.0191503	1.3481
Wbp11	NM_021714	0.0383141	1.348
Chchd3	NM_025336	0.0030604	1.34772
Podxl	NM_013723	0.0326298	1.34745
Ankrd12	NM_001025572	0.00721445	1.34735
4930579G22Rik	NM_026916	0.0015084	1.34727
Gm14288	NM_001033123	0.000334419	1.34723
Shcbp1	NM_011369	0.00876673	1.34683

Ubl3	NM_011908	0.000411994	1.34658
Pcna	NM_011045	0.0248456	1.34651
Homer1	NM_011982	0.0105882	1.34644
Rbm4	NM_009032	0.0285407	1.34637
Rhobtb3	NM_028493	0.022481	1.34632
Creb3	NM_013497	0.00794181	1.3456
Ogfrl1	NM_001081079	0.000427543	1.34555
Nfatc3	NM_010901	0.015872	1.3454
Acyp2	NM_029344	0.00354521	1.34477
Rbm25	NM_025930	0.0078786	1.34455
Ripk1	NM_009068	0.0425997	1.34434
Orc4l	NM_001177313	0.00611888	1.34419
Mtss1	NM_001146180	0.0361897	1.34417
Mkrn1	NM_018810	0.0280737	1.34404
l7Rn6	NM_026304	0.0381678	1.34356
Mobkl1b	NM_145571	0.0132844	1.34353
Gulp1	NM_027506	0.0103654	1.34349
Sacs	NM_172809	0.0309317	1.34332
Tmem42	NM_001164823	0.0255299	1.34322
Camta1	NM_001081557	0.0223113	1.34318
Gm6563	NM_025364	0.00601907	1.34303
Rad17	NM_001044371	0.00417043	1.34299
4930402E16Rik	NM_198308	0.0188107	1.34256
Luc7l3	NM_026313	0.00194837	1.34245
Mum1l1	NM_001164630	0.0144016	1.34219
Spata24	NM_027733	0.00300922	1.34211
Nap1l1	NM_001146707	0.00247787	1.34157
Cp	NM_001042611	0.0490558	1.34146
Tra2b	NM_009186	0.0122644	1.34139
Gm13835	NM_011184	0.00204109	1.34125
Cops3	NM_011991	0.00547652	1.34117
Pdcd10	NM_019745	0.00384418	1.34099
Napg	NM_028017	0.0014443	1.34095
Pgap3	NM_001033537	0.0140784	1.34087
Ccni	NM_017367	0.0169567	1.33984
Ppp2r5e	NM_012024	0.0292871	1.33973
Ttc32	NM_029321	0.0396039	1.33969
Adipor2	NM_197985	0.00425248	1.33919
Anapc4	NM_024213	0.0466869	1.3386
Csnk2a1	NM_007788	0.00441682	1.33784
Srp19	NM_025527	0.00222609	1.33783
Gstt2	NM_010361	0.0176875	1.33778

D8Ertd738e	NM_001007571	0.000561062	1.33682
Vamp7	NM_011515	0.00879777	1.33667
Zfp110	NM_022981	0.0261774	1.33608
Zfp622	NM_144523	0.0226001	1.33607
Eef1e1	NM_025380	0.0041713	1.33595
1810026B05Rik	XM_897347	0.00621886	1.33579
Polr2g	NM_026329	0.0177767	1.33571
C330006D17Rik	---	0.00169735	1.33569
Actr2	NM_146243	0.00175888	1.33531
Purb	NM_011221	0.0220986	1.33514
Mad2l1bp	NM_025649	0.0393386	1.33511
1810037I17Rik	NM_024461	0.00903072	1.33503
Fastkd1	NM_177244	0.0191056	1.33468
Fndc3a	NM_207636	0.0449039	1.33463
E030010A14Rik	NM_183160	0.023784	1.33456
Galnt7	NM_001167981	0.0453335	1.33446
Tubb2a	NM_009450	0.0420173	1.33443
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Ubn1	NM_026666	0.0184491	1.33395
Tmem69	NM_177670	0.0136872	1.33387
Mett5d1	NM_029790	0.00951453	1.33378
Dact1	NM_021532	0.0449853	1.33357
Rps12	NM_011295	0.0169431	1.33353
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Med7	NM_001104530	0.00289056	1.33314
Nucb2	NM_001130479	0.014423	1.33291
Ecscr	NM_001033141	0.0348884	1.33266
Gm11518	NM_011289	0.0254272	1.33248
Gcap14	NM_027045	0.0314748	1.33243
Twistnb	NM_172253	0.0141944	1.33224
Pnlip	NM_026925	0.0143468	1.33224
Gpr146	NM_001038703	0.0178551	1.33189
Mttp	NM_001163457	0.0274375	1.33131
Serinc1	NM_019760	0.00615963	1.33096
Ncam1	NM_001081445	0.0173914	1.33096
2810408B13Rik	XM_001004816	0.0010396	1.33048
Exosc1	NM_001164561	0.0168608	1.33028
Uba2	NM_016682	0.00206856	1.33027
Baz2a	NM_054078	0.0157884	1.32989
Fbxo9	NM_001081490	0.00552772	1.32978
Nnt	NM_008710	0.00241208	1.3292
Rif1	NM_175238	0.0100995	1.32902

Cacna2d1	NM_001110843	0.0488854	1.3286
Gja3	NM_016975	0.00805261	1.32855
Fdx1	NM_007996	0.0153304	1.32854
LOC100047915	NM_133771	0.00590388	1.32846
Tor2a	NM_152800	0.0091026	1.32828
5730455P16Rik	NM_027472	0.0100823	1.32817
Gabarapl2	NM_026693	0.007993	1.32814
Cyp21a1	NM_009995	0.000905934	1.32784
Sgms1	NM_001168525	0.0370215	1.32777
Vbp1	NM_011692	0.0102094	1.32768
Scfd1	NM_029825	0.0211361	1.32749
Tbcc	NM_178385	0.0148751	1.32705
Dync1li1	NM_146229	0.0127465	1.32676
1110059G10Rik	NM_025419	0.0163907	1.32642
Ssu72	NM_026899	0.0150807	1.32628
1110003E01Rik	NM_133697	0.0202176	1.32627
Arhgap29	NM_172525	0.0102229	1.32624
Bud31	NM_001008705	0.0175193	1.32602
Tra2b	NM_009186	0.0362684	1.32602
Cetn2	NM_019405	0.012083	1.32595
Orc4l	NM_001177313	0.008282	1.32534
Epb4.1l2	NM_013511	0.0196751	1.32523
Cpsf6	NM_001013391	0.0242515	1.3251
Crbn	NM_021449	0.0294249	1.32499
Bola2	NM_175103	0.00390958	1.32477
Tmem71	NM_172514	0.00582272	1.32467
Ncrna00081	NR_027828	0.0108607	1.32416
Atp6v0e	NM_025272	0.0159239	1.32412
Ipo8	NM_001081113	0.0232468	1.32412
Eid1	NM_025613	0.0180024	1.32377
Mynn	NM_030557	0.0320742	1.32377
Pole3	NM_021498	0.0146914	1.32359
Zbtb8os	NM_025970	0.0301768	1.32344
Golph3	NM_025673	0.0075654	1.32342
1500011H22Rik	NM_026883	0.0180819	1.32334
Sh3gl2	NM_019535	0.0466449	1.32332
Unc50	NM_026123	0.0342959	1.32327
LOC100045866	NM_026456	0.00937243	1.32321
Prrx2	NM_009116	0.0115535	1.32304
Dok7	NM_172708	0.0213713	1.32299
Tomm20	NM_024214	0.00356289	1.3229
Mki67ip	NM_026472	0.0175833	1.32261

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Mrpl35	NM_025430	0.0191335	1.322
Dynll1	NM_001177391	0.0281606	1.32187
Nr2f2	NM_009697	0.00827751	1.32177
2-Sep	NM_001159717	0.00268424	1.32144
Gnl2	NM_145552	0.0122425	1.32103
Il13ra1	NM_133990	0.0277672	1.32078
Taf9	NM_001015889	0.0111645	1.32044
Aasdhppt	NM_026276	0.0147905	1.32036
Rfc2	NM_020022	0.00869007	1.32023
Eif2s1	NM_026114	0.0218543	1.31906
Utp23	NM_030132	0.0146642	1.31904
Acvr2a	NM_007396	0.00298118	1.31872
Arl6ip1	NM_019419	0.0330886	1.31826
Nkiras1	NM_023526	0.00892054	1.31771
Mrpl32	NM_029271	0.0178602	1.3171
Pdpk1	NM_001080773	0.00257423	1.317
Ccdc50	NM_001025615	0.00738495	1.31672
Set	NM_023871	0.00768176	1.31602
Npm1	NM_008722	0.0188634	1.31589
Zfp106	NM_011743	0.0200896	1.31569
Npm1	NM_008722	0.00781316	1.31539
Ube2b	NM_009458	0.0226686	1.31509
0610009D07Rik	NM_025323	0.00857732	1.31474
Rapgef6	NM_175258	0.00479384	1.31473
Rpl37	NM_026069	0.0072088	1.31417
Appbp2	NM_025825	0.00523914	1.31411
Zscan21	NM_001044703	0.0203205	1.31381
Tmem49	NM_029478	0.00717041	1.31378
Mib1	NM_144860	0.0256884	1.31376
Meg3	NR_003633	0.0137498	1.3135
Gm3258	NM_009296	0.027512	1.31348
Dnajc5	NM_016775	0.0183936	1.31346
Clic5	NM_172621	0.0440461	1.3134
Ogfrl1	NM_001081079	0.00166127	1.31335
Cd59a	NM_001111060	0.00665695	1.31289
Znhit3	NM_001005223	0.0299712	1.31283
AV249152	NM_145425	0.00379568	1.31272
Nap1l1	NM_001146707	0.00293102	1.31235
Mrap	NM_029844	0.00525823	1.31228
Bicd1	NM_001112796	0.0393844	1.31204
2810001A02Rik	---	0.00942842	1.31143

C330007P06Rik	NM_029951	0.043537	1.31132
Dnaja2	NM_019794	0.00653833	1.31106
Cast	NM_009817	0.00800344	1.31079
Rarres2	NM_027852	0.0236771	1.3106
Ugdh	NM_009466	4.48E-06	1.31038
Csgalnact2	NM_030165	0.0164527	1.31028
Pdcd2	NM_008799	0.0190256	1.31025
Chd1	NM_007690	0.0334142	1.31015
Snap23	NM_001177792	0.00639835	1.31006
Ier5	NM_010500	0.0153995	1.31003
Mcl1	NM_008562	0.0125289	1.30974
Srp14	NM_009273	0.0145679	1.30973
Baiap2l1	NM_025833	0.00980834	1.30971
Ndufc2	NM_024220	0.0144006	1.30968
Lats2	NM_015771	0.0443336	1.30957
Sod1	NM_011434	0.00785474	1.30949
Rpl3	NM_013762	0.0150769	1.30942
Pik3ca	NM_008839	0.00501872	1.3092
Asph	NM_001177849	0.00317768	1.30902
Clk4	NM_007714	0.0319338	1.3088
Smpx	NM_025357	2.22E-05	1.30861
Sssca1	NM_020491	0.0267646	1.30834
Trim37	NM_197987	0.0137929	1.30815
Hook3	NM_207659	0.0313924	1.30811
Snx7	NM_029655	0.0414935	1.30792
Pcnp	NM_001024622	0.00182895	1.30787
Zc3h13	NM_026083	0.0374915	1.30775
Anxa7	NM_001110794	0.0211024	1.30759
H2afj	NM_177688	0.0213447	1.30759
Arid4a	NM_001081195	0.0352612	1.30745
Timp3	NM_011595	0.0284301	1.30669
Xrcc5	NM_009533	0.0249844	1.30655
Ntan1	NM_010946	0.00617275	1.30648
Dek	NM_025900	0.00493762	1.30647
Dpy19l4	NM_001081201	0.0121441	1.30636
Speg	NM_001085370	0.0464277	1.30618
Txndc9	NM_172054	0.0445321	1.30616
Cdk8	NM_153599	0.00349323	1.30615
2810453I06Rik	NM_026050	0.00708863	1.30532
Hcfc2	NM_001081218	0.0158923	1.30504
Cep110	NM_012018	0.0264561	1.30504
Sap30bp	NM_020483	0.0280239	1.30483

Mafb	NM_010658	0.043727	1.3048
Phka1	NM_008832	0.0472118	1.30372
Prkar1a	NM_021880	0.0135116	1.30361
Rnf13	NM_001113413	0.0133479	1.30358
Plscr3	NM_001168497	0.00178374	1.30331
Yme1l1	NM_013771	0.01982	1.30327
3200002M19Rik	NM_027532	0.0153618	1.30292
Scrn3	NM_029022	0.0174268	1.3028
Ttc14	NM_025978	0.0342439	1.30275
Dcaf13	NM_198606	0.0274633	1.30257
Cnbp	NM_001109745	0.0381446	1.30216
Camta1	NM_001081557	0.0441052	1.30212
Atf2	NM_001025093	0.010962	1.30185
Ythdf2	NM_145393	0.0292071	1.30172
Kcnb1	NM_008420	0.00793096	1.30171
Arih1	NM_019927	0.00172246	1.3017
Eif3e	NM_008388	0.0112824	1.30169
Snrpb2	NM_021335	0.0331383	1.30146
BC049807	NM_001002008	0.0144587	1.3012
3830403N18Rik	NM_011725	0.00243995	1.30116
Crot	NM_023733	0.0307137	1.30103
Nmd3	NM_133787	0.0190406	1.30095
Rps6	NM_009096	0.000530525	1.30089
Vps39	NM_147153	0.0176153	1.30049
Sdf4	NM_011341	0.0410377	1.29996
Tas1r3	NM_031872	0.0208523	1.29988
9430038I01Rik	NM_029886	0.00500931	1.29945
Glrx3	NM_023140	0.0374191	1.29942
Cox4nb	NM_010926	5.70E-05	1.29938
Mcts1	NM_026902	0.0328016	1.29935
Crip1	NM_007763	0.00306656	1.29894
Vrk1	NM_001029843	0.00304669	1.29888
Yaf2	NM_024189	0.0143616	1.29816
Rap1b	NM_024457	0.0111635	1.29807
Bdnf	NM_001048139	0.0435866	1.29781
Bclaf1	NM_001025392	0.037636	1.2976
6720454L07Rik	---	0.0480033	1.29743
Nol7	NM_023554	0.00168144	1.29734
Lgals1	NM_008495	0.00514286	1.29731
Popdc3	NM_024286	0.00222577	1.29709
Herpud2	NM_020586	0.000662025	1.297
Asap1	NM_010026	0.00528034	1.29687

Tcof1	NM_011552	0.0149439	1.29679
Krr1	NM_178610	0.0273156	1.29672
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Lnx1	NM_001159577	0.0336881	1.29588
Sacm1l	NM_030692	0.0286161	1.29578
Hbxip	NM_026774	0.0403758	1.29574
Lix1	NM_025681	0.015276	1.29569
Smc4	NM_133786	0.043275	1.29523
Bmpr1a	NM_009758	0.0222311	1.29517
Map2k1	NM_008927	0.00044204	1.29504
Agfg1	NM_010472	0.0111922	1.29494
Brpf3	NM_001081315	0.00331479	1.29494
Usp2	NM_016808	0.0213145	1.29475
Gm10075	NM_001111282	0.00764739	1.29465
Slc11a2	NM_001146161	0.0376984	1.29422
Lsm3	NM_026309	0.0174479	1.29421
Rnf103	NM_009543	0.000633664	1.29384
Ppp1r3c	NM_016854	0.0466821	1.2935
Copg	NM_017477	0.00997764	1.29336
Msi2	NM_054043	0.0259257	1.29332
Eif3m	NM_145380	0.0247421	1.29325
Hrasls	NM_013751	0.0432364	1.29297
Kbtbd3	NM_001164574	0.0220004	1.29285
Ppp2r3a	NM_001161362	0.0240895	1.29268
Tmx1	NM_028339	0.0313755	1.29264
9430038I01Rik	NM_029886	0.0193421	1.29263
Eapp	NM_025456	0.0163459	1.29253
Jkamp	NM_024205	0.011049	1.29221
Ube2k	NM_016786	0.00731572	1.29211
Sertad1	NM_018820	0.0105572	1.29205
Dennd5b	NM_177192	0.0409769	1.29197
Cdk7	NM_009874	0.0325116	1.29159
Sox17	NM_011441	0.0236026	1.29159
3830406C13Rik	NM_146051	0.0279086	1.29141
LOC675405	NM_177393	0.016308	1.29139
Prpf31	NM_001159714	0.00667411	1.29128
Rtcd1	NM_025517	0.0134085	1.29113
Mrps14	NM_025474	0.0250368	1.29093
Exosc9	NM_019393	0.0382855	1.29088
Polb	NM_011130	0.0328443	1.29085
Gipc2	NM_016867	0.0444056	1.29085
Cwf19l2	NM_027545	0.0311516	1.29069

Bzw1	NM_025824	0.0150254	1.29062
Gm14057	NM_133485	0.0476951	1.2903
Pik3cd	NM_001029837	0.00889289	1.29014
Rpp30	NM_019428	0.0282044	1.29014
Aktip	NM_010241	0.0341541	1.29011
Slc1a5	NM_009201	0.00457371	1.2901
Bud31	NM_001008705	0.0131402	1.2895
Bet1l	NM_018742	0.0359339	1.28941
3110040N11Rik	NM_026077	0.0413558	1.28887
Psmc3ip	NM_008949	0.0425081	1.28873
Snhg1	NR_002896	0.0209039	1.28871
Ikbkap	NM_026079	0.0467605	1.28865
Nudcd2	NM_026023	0.00265694	1.28843
Atp6v1b2	NM_007509	0.0255967	1.28833
Pgam1	NM_023418	0.00660343	1.28815
Ndrg4	NM_145602	0.01571	1.28805
Snrpb2	NM_021335	0.0350418	1.28797
Ndufaf2	NM_001127346	0.0333726	1.28782
15-Sep	NM_053102	0.0155401	1.28749
Med30	NM_027212	0.0121114	1.28743
Baz2b	NM_001001182	0.0305934	1.28728
Ube2k	NM_016786	0.0261615	1.28723
Fxr1	NM_001113188	0.00285773	1.28706
Mphosph8	NM_023773	0.029565	1.28691
1110067D22Rik	NM_173752	0.00158681	1.28668
Eif5	NM_173363	0.0409238	1.28652
4833439L19Rik	NM_133797	0.0251008	1.28651
Klc1	NM_001025360	0.0232065	1.28647
Syne1	NM_001079686	0.0359145	1.28645
Ubfd1	NM_138589	0.0129104	1.28618
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Csrp2	NM_007792	0.0442969	1.28597
Manea	NM_172865	0.00783862	1.28594
Mtap7d2	NM_001081124	0.0470383	1.2859
Dnajc24	NM_026992	0.0136061	1.28557
Smc1a	NM_019710	0.0422358	1.28542
Pdgfc	NM_019971	0.0121757	1.28533
Ptpn2	NM_001127177	0.000689744	1.28504
1810009A15Rik	NM_025463	0.0309299	1.28448
Lats2	NM_015771	0.0244086	1.28412
Dkc1	NM_001030307	0.0163388	1.2841
Pfkfb3	NM_001177752	0.0269687	1.28409

Agfg1	NM_010472	0.00881347	1.28402
Zfp606	NM_001039951	0.0257433	1.28383
Fastkd2	NM_172422	0.0395107	1.28381
Saps2	NM_026813	0.00651674	1.28375
Tmpo	NM_001080129	0.0106146	1.2837
Atp6v1a	NM_007508	0.017631	1.28352
Srp14	NM_009273	0.0360657	1.28342
Akirin1	NM_023423	0.000368903	1.28332
Pcdh9	NM_001081377	0.041464	1.28316
Naa35	NM_030153	0.0340125	1.28296
Pex3	NM_001164195	0.0373872	1.28279
Snapin	NM_133854	0.0385426	1.28271
Brcc3	NM_001166457	0.0435556	1.28257
Mbd2	NM_010773	0.0117957	1.28255
Cir1	NM_025854	0.0161906	1.28255
Fbxl16	NM_001164225	0.00758579	1.28251
Tspo	NM_009775	0.0217915	1.28237
Zc3h10	NM_134003	0.0300237	1.282
Bnip3l	NM_009761	0.000676273	1.28195
Map3k7	NM_009316	0.0235742	1.28177
Mrpl33	NM_025796	0.0165435	1.28167
Mcts2	NM_025543	0.021288	1.28135
Zfand2b	NM_001159905	0.00165945	1.2813
Srp14	NM_009273	0.00827827	1.28114
D730045B01Rik	XM_976855	0.00828301	1.28106
Zeb2	NM_015753	0.0336873	1.28101
Riok2	NM_025934	0.0249317	1.28083
Plod1	NM_011122	0.002885	1.28028
Ralbp1	NM_009067	8.28E-05	1.2802
Snhg6	NR_024067	0.037382	1.28018
Masp1	NM_008555	0.0049392	1.28006
Sec11c	NM_025468	0.0391427	1.28003
Rbx1	NM_019712	0.00782454	1.27972
Trdn	NM_029726	0.0196362	1.27955
Tpp2	NM_009418	0.0295958	1.27927
Lnp	NM_001110209	0.0356908	1.27922
1700025G04Rik	NM_197990	0.00550603	1.27914
Zkscan1	NM_029869 6	0.0449899	1.27898
Fam126b	NM_172513	0.0227895	1.27891
Psph	NM_133900	0.00819808	1.27888
Chmp5	NM_029814	0.0197646	1.27846
Cyld	NM_001128169	0.00359229	1.27822

Hbb-b1	NM_008220	0.00749142	1.27803
Asf1a	NM_025541	0.0292434	1.27802
Zfp91	NM_053009	0.00768675	1.27798
Ninj1	NM_013610	0.0274827	1.27794
Bnip3	NM_009760	0.041219	1.27789
Susd4	NM_144796	0.00950015	1.27774
Mettl9	NM_021554	0.00678523	1.27741
Lrrc16b	NM_001024645	0.0074915	1.27736
Scrn3	NM_029022	0.00325431	1.27717
Sfrp1	NM_013834	0.0250829	1.277
2810025M15Rik	NR_027984	0.0240025	1.27666
Ammecr1l	NM_153515	0.00754544	1.276
Golga4	NM_018748	0.0136967	1.27599
Copb2	NM_015827	0.0290681	1.27597
Smurf2	NM_025481	0.0302226	1.27567
Il4ra	NM_001008700	0.0243931	1.2756
Rexo1	NM_025852	0.0175954	1.27553
Socs2	NM_001168655	0.0241899	1.27535
Vwa5a	NM_001145957	0.0118782	1.27514
Fam45a	NM_001167829	0.00792068	1.27493
2010305A19Rik	NM_027250	0.0458671	1.27458
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Bfar	NM_001177552	0.00865434	1.27453
Rps6	NM_009096	0.0175221	1.27452
Prpf38a	NM_172697	0.0379639	1.27439
Ptgir	NM_008967	0.0385801	1.27437
Utp3	NM_023054	0.00215182	1.27436
2610029I01Rik	NM_029840	0.0224878	1.27403
Hhipl1	NM_001044380	0.00493777	1.27365
C1galt1c1	NM_021550	0.0249863	1.27353
Magoh	NM_010760	0.0377035	1.27333
Hk3	NM_001033245	0.00607233	1.27326
Khdrbs1	NM_011317	0.0180823	1.27316
Ppfia1	NM_001033319	0.00845641	1.27315
Pdpn	NM_010329	0.0224753	1.27307
Luc7l3	NM_026313	0.0413071	1.27295
Zfp422-rs1	NM_029952	0.00654776	1.27285
Tbca	NM_009321	0.0191308	1.2727
Cetn2	NM_019405	0.0394144	1.27267
Atp6v1d	NM_023721	0.0104978	1.27263
Shfm1	NM_009169	0.0144117	1.27225
Papd7	NM_001169131	0.0194956	1.27213

Sfpq	NM_023603	0.0170391	1.27171
Dph5	NM_027193	0.0284668	1.27162
Fem1b	NM_010193	0.0355076	1.2715
Gjc1	NM_001159382	0.0082253	1.2708
Pdgfa	NM_008808	0.00225678	1.2708
Akr1a4	NM_021473	0.00530813	1.2707
Sfrs3	NM_013663	0.0049045	1.27069
Ssr3	NM_026155	0.000604599	1.27062
Pdgfd	NM_027924	0.0313166	1.27011
Snhg8	NR_028574	0.0241226	1.27008
Eif3e	NM_008388	0.0174458	1.27002
Atp6v1d	NM_023721	0.0410716	1.27
Sox9	NM_011448	0.0435833	1.26999
Etf1	NM_144866	0.0100227	1.26958
Sipa1l3	NM_001081028	0.00565952	1.26955
Rab33a	NM_011228	0.0296901	1.26951
Ppp2r5c	NM_001081457	0.0197448	1.26944
Bola2	NM_175103	0.0157231	1.2694
Spry2	NM_011897	0.0143601	1.26938
Pdcd6	NM_011051	0.037428	1.26928
Atad1	NM_026487	0.0307398	1.26924
Pdp2	NM_001024606	0.00760677	1.26923
Slmap	NM_032008	0.0200879	1.26917
Tax1bp1	NM_025816	0.00501967	1.26913
Dynll1	NM_019682	0.0217415	1.26899
Nfatc2	NM_001037177	0.040691	1.26888
Ssb	NM_001110145	0.0326491	1.26872
Cpt1a	NM_013495	0.0139507	1.26852
AK129341	NM_001045524	0.0315949	1.26827
Lmna	NM_001002011	0.0107234	1.26783
Ranbp1	NM_011239	0.0181388	1.26766
Rlim	NM_011276	0.00683924	1.2676
Pigx	NM_001111025	0.0470498	1.26753
Ptplad1	NM_021345	0.0234566	1.26741
Cd55	NM_010016	0.0340812	1.26728
Tln1	NM_011602	0.0369189	1.26722
Lztfl1	NM_033322	0.029516	1.26722
Stau2	NM_001111272	0.0325403	1.26694
Kalrn	NM_001164268	0.0147341	1.26683
Dnajc5	NM_016775	0.00213006	1.26658
Gnai3	NM_010306	0.00405308	1.26632
Ncrna00081	NR_027828	0.00106993	1.26603

Ptpmt1	NM_025576	0.00271599	1.26596
Yme1l1	NM_013771	0.0103061	1.26575
Lgals1	NM_008495	0.00833711	1.26563
Rprd2	NM_001081293	0.0405918	1.26547
Commd3	NM_147778	0.0199379	1.26481
Sfrs7	NM_146083	0.0408983	1.26435
Nfe2l2	NM_010902	0.0286787	1.26426
Kctd10	NM_001159941	0.000207958	1.26391
Creg1	NM_011804	0.0234367	1.26382
Mios	NM_145374	0.00348657	1.26379
Rg9mtd1	NM_029092	0.0285141	1.26346
Endod1	NM_028013	0.000194631	1.26296
4833442J19Rik	NM_177101	0.00622738	1.26275
Tmem168	NM_028990	0.0240765	1.26264
Anxa2	NM_007585	0.02039	1.26244
Snx4	NM_080557	0.038261	1.26239
Rps6ka3	NM_148945	0.0317224	1.26232
Cnpy2	NM_019953	0.011094	1.26197
Zfp644	NM_026856	0.0212559	1.26179
Gng12	NM_001177556	0.0135847	1.26161
Glo1	NM_001113560	0.0322719	1.26146
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Zfp69	NM_001005788	0.00894081	1.26071
Wac	NM_001146298	0.00498552	1.26068
Crb3	NM_177638	0.0261279	1.26057
Ppp2r5c	NM_001081457	0.0139155	1.26027
Dlc1	NM_015802	0.0109545	1.2602
Ppil3	NM_027351	0.0186506	1.26017
Pdcd4	NM_001168491	0.0109334	1.2601
Gmfb	NM_022023	0.0129933	1.26
Rpl12	NM_009076	0.00467157	1.25995
1500011K16Rik	NR_015476	0.0194091	1.25987
C330018D20Rik	NM_029909	0.0320349	1.25983
Alg13	NM_026247	0.00117565	1.25974
Gak	NM_153569	0.0227715	1.25965
Zfp426	NM_001110309	0.00347484	1.25933
Prdxdd1	NM_001163454	0.0386833	1.25928
Aars /// Exosc6	NM_028274	0.00661273	1.25928
Uba3	NM_001111106	0.00339671	1.25913
Tm2d2	NM_027194	0.00249563	1.25911
4921506J03Rik	NM_001033474	0.000246324	1.25887
Mrs2	NM_001013389	0.0453993	1.25874

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Tomm70a	NM_138599	0.000688318	1.25847
Plvap	NM_032398	0.0492382	1.25839
Aste1	NM_001164828	7.91E-05	1.25839
Zfp652	NM_201609	0.0372738	1.25827
Rasgrp2	NM_011242	0.0169524	1.25826
Gtf2h2	NM_022011	0.0252335	1.25787
Nupl1	NM_170591	0.0490668	1.25778
Glmn	NM_001161738	0.0435703	1.25772
Vps24	NM_025783	0.0106257	1.2575
A530047J11Rik	---	0.020289	1.25729
Gm7669	NM_016966	0.0421742	1.25715
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Ipo5	NM_023579	0.0359685	1.25682
Glod4	NM_026029	0.0109212	1.25682
Psma6	NM_011968	0.0137853	1.25676
Lactb2	NM_145381	0.0265163	1.25659
Cgnl1	NM_026599	0.0135016	1.25636
Eif2a	NM_001005509	0.0254727	1.25619
Rspry1	NM_026274	0.025344	1.25619
Dtx2	NM_023742	0.00571086	1.25618
Nr1d2	NM_011584	0.0177452	1.25598
Tardbp	NM_001003898	0.0401777	1.25597
Prkg1	NM_001013833	0.0256664	1.25591
Bat2l	NM_001159634	0.0317723	1.25576
Tmem223	NM_025791	0.0332514	1.2556
Pgam5	NM_001163538	0.0485403	1.2551
Nr2f6	NM_010150	0.0460679	1.25506
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Nipa1	NM_153578	0.0108279	1.25472
Rpn1	NM_133933	0.0123533	1.25456
Gabpa	NM_008065	0.00563651	1.25445
Lefty1	NM_010094	0.0267268	1.25443
Rab11a	NM_017382	0.0160841	1.25432
AY036118	XR_002323	0.0104444	1.25417
Hn1	NM_008258	0.014732	1.25411
Wdr61	NM_001025375	0.0280004	1.25409
Esd	NM_016903	0.014708	1.25372
Rps7	NM_011300	0.00679781	1.2536
Sdcbp	NM_001098227	0.0452862	1.25359
Cib1	NM_011870	0.0340153	1.25354
Trappc2	NM_025432	0.0411826	1.25353

Col4a5	NM_001163155	0.0399379	1.2535
Polr1d	NM_009087	0.0107499	1.25349
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Hist1h1c	NM_015786	0.041794	1.25313
Psma2	NM_008944	0.0232472	1.25299
Wdr20a	NM_027149	0.0273968	1.25284
Rbms3	NM_001172121	0.0359299	1.2528
Ddi2	NM_001017966	0.0270767	1.25268
Rpgr	NM_001177950	0.00693433	1.25257
Zzz3	NM_001080755	0.00366988	1.25246
B230312A22Rik	NM_172691	0.0020436	1.25234
Lyrm4	NM_201358	0.0403757	1.25233
Pfn2	NM_019410	0.00569807	1.25213
Zwint	NM_025635	0.025706	1.2521
Psmd6	NM_025550	0.0244775	1.25206
Vps29	NM_019780	0.00677323	1.252
Gtdc1	NM_172662	0.0272245	1.25156
Fem1b	NM_010193	0.000958175	1.25132
Gm13680	NM_009094	0.00875416	1.2512
Habp4	NM_019986	0.0301811	1.25117
Spcs1	NM_026911	0.00888029	1.25108
Vps29	NM_019780	0.0172738	1.25095
Tbca	NM_009321	0.0199175	1.25092
Tomm20	NM_024214	0.0195442	1.25091
LOC100040573	NM_028245	0.00171192	1.25083
Rpl17-ps3	NM_001002239	0.01452	1.25081
Capza1	NM_009797	0.0053605	1.25074
Hprt	NM_013556	0.0173723	1.25058
Rpn1	NM_133933	0.0269258	1.25058
Ube2f	NM_026454	0.0132511	1.25032
Zfyve20	NM_030081	0.00930068	1.25024
Mapk10	NM_001081567	0.0357866	1.25023
Ccnh	NM_023243	0.0182684	1.25021
Fkbp3	NM_013902	0.00810781	1.2502
Ctdspl2	NM_212450	0.0024936	1.25017
0610010B08Rik	NM_001177543	0.0245827	1.25015
Cdc16	NM_027276	0.0165872	1.24997
Usp39	NM_138592	0.00137881	1.24983
Limch1	NM_001001980	0.0477299	1.24977
Zfp593	NM_024215	0.0434396	1.24949
Tax1bp1	NM_025816	0.0122406	1.24934
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Ppig	NM_001081086	0.0168281	1.24926
Usp2	NM_016808	0.0305482	1.24868
Polr1d	NM_009087	0.0423512	1.24865
Asxl2	NM_172421	0.0244101	1.24852
Tmx4	NM_029148	0.0176505	1.24827
Tmed5	NM_028876	0.0029464	1.24809
Pde6h	NM_023898	0.0346434	1.24796
Sar1b	NM_025535	0.0204727	1.24792
Nus1	NM_030250	0.00325154	1.24781
BC003331	NM_001077237	0.0215913	1.24779
Fam72a	NM_175382	0.0322713	1.24767
Tfdp2	NM_001184706	0.0288708	1.24763
Cnot4	NM_001164411	0.0125049	1.24753
Amn1	NM_001113424	0.0349033	1.24753
Srp54a	NM_001100109	0.000666099	1.24715
Suz12	NM_001163018	0.0084089	1.24712
Dync1i2	NM_010064	0.0315441	1.24681
Sub1	NM_011294	0.0445867	1.24675
Slc30a7	NM_023214	0.035874	1.24665
Gbe1	NM_028803	0.00317498	1.24645
Rnpc3	NM_001038696	0.0321953	1.24641
Gm6563	NM_025364	0.00198144	1.24635
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Synpo2	NM_080451	0.00153561	1.24572
Dnm2	NM_001039520	0.00772124	1.24557
Psma6	NM_011968	0.00135101	1.24555
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Hmgb1	NM_010439	0.012188	1.24522
Plaa	NM_172695	0.00341741	1.24508
Ptcd3	NM_027275	0.0481021	1.24487
Cdk2ap1	NM_013812	0.00629294	1.24449
Ccdc69	NM_177471	0.018078	1.24435
Rnasel	NM_011882	0.0329759	1.24428
Nenf	NM_025424	0.0244123	1.24425
Gm10079	NM_013647	0.0044358	1.24421
Dynlrb1	NM_025947	0.0490148	1.24409
Rhbdl1	NM_144816	0.0265595	1.24402
Cnih4	NM_030131	0.0215256	1.24392
Atp6v1g1	NM_024173	0.0345629	1.24384
Bnip3l	NM_009761	0.00708326	1.24383
Xiap	NM_009688	0.00149112	1.24376
Osbpl9	NM_001134791	0.00683547	1.24361

Csnk1a1	NM_146087	0.00178718	1.24358
Rps12-ps2	NM_011295	0.00728951	1.24345
Snhg1	NR_002896	0.0199406	1.24312
Dhx36	NM_028136	0.0277199	1.24297
A430107O13Rik	NM_001081351	0.00276207	1.24297
Pgk1	NM_008828	0.0214425	1.24278
Wbscr28	NM_029681	0.0360682	1.24273
Skp1a	NM_011543	0.024682	1.24271
Sft2d2	NM_145512	0.00254265	1.24254
Mobkl3	NM_025283	0.00865313	1.24247
Myh9	NM_022410	0.0208638	1.24243
Pak1ip1	NM_026550	0.0339408	1.24241
Cfl2	NM_007688	0.000631843	1.24238
Prnp	NM_011170	0.0383766	1.24218
Zfp617	NM_133358	0.0056002	1.24216
Ttc4	NM_001172073	0.037836	1.2421
Caprin1	NM_001111289	0.029712	1.24208
Trim44	NM_020267	0.0416151	1.24206
Aggf1	NM_025630	0.0036223	1.24186
Uggt2	NM_001081252	0.0158541	1.24145
Jag1	NM_013822	0.000733619	1.24143
7-Mar	NM_020575	0.0342853	1.24127
Dynll2	NM_001168471	0.00634857	1.24096
Ormdl1	NM_145517	0.0274736	1.24081
Insig2	NM_133748	0.0147629	1.24065
Map3k7	NM_009316	0.0451847	1.24059
Ube2e1	NM_009455	0.0435551	1.24037
Hars	NM_008214	0.00961618	1.24035
Cct4	NM_009837	0.0131388	1.24023
Rab18	NM_011225	0.0284498	1.24018
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Pkp2	NM_026163	0.0300217	1.23998
Ccdc21	NM_144527	0.0211855	1.23973
Derl2	NM_033562	0.0100591	1.23949
Axl	NM_009465	0.0144826	1.23943
Tmed7	NM_025698	0.0162617	1.23943
Avpi1	NM_027106	0.019885	1.23924
Ankrd10	NM_001167967	0.0301878	1.23914
Rock2	NM_009072	0.0225937	1.23913
Kdelr2	NM_025841	0.00140363	1.23907
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Ikzf2	NM_011770	0.0305405	1.23897
Rap1b	NM_024457	0.0232131	1.23892
Tmem208	NM_025486	0.040143	1.23879
Ddit3	NM_007837	0.00202426	1.23878
Cnpy2	NM_019953	0.00596373	1.23876
Polr1d	NM_009087	0.0372741	1.23875
Fig4	NM_133999	0.0350304	1.23855
Bet1l	NM_018742	0.00300967	1.23854
Cfl2	NM_007688	0.0218534	1.23852
Ddx21	NM_019553	0.0122219	1.23841
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Psma7	NM_011969	0.0363193	1.23823
Stk38l	NM_172734	0.0303637	1.23821
Atp1b1	NM_009721	0.00943333	1.2382
Rif1	NM_175238	0.0497851	1.23762
Ccnl1	NM_019937	0.0499024	1.23758
Sri	NM_001080974	0.00720154	1.2369
Chic2	NM_028850	0.00762536	1.23657
Nudt18	NM_153136	0.0370394	1.23628
Uhrf1bp1l	NM_029166	0.0402954	1.23623
Znrf2	NM_199143	0.00936175	1.23616
Ankrd13c	NM_001013806	0.00210643	1.23594
Insig2	NM_133748	0.0169057	1.23577
Ufm1	NM_026435	0.0121042	1.23564
Atp6v0a2	NM_011596	0.030416	1.23564
Tatdn1	NM_175151	0.0297142	1.23563
Rusc2	NM_001037709	0.0139871	1.23559
Atg5	NM_053069	0.0454225	1.23556
Vps35	NM_022997	0.00734246	1.23551
Jam2	NM_023844	0.0270607	1.23524
Tmcc1	NM_177412	0.00191533	1.23504
BC018101	NM_001005358	0.0363628	1.23499
Sema3c	NM_013657	0.0152611	1.23484
Ddx52	NM_030096	0.0197418	1.23465
Usp53	NM_133857	0.0438523	1.23449
Uba5	NM_025692	0.0240624	1.23444
Sgms2	NM_028943	0.0275479	1.23415
Mrps24	NM_026080	0.0216878	1.23405
Gdap2	NM_010269	0.00184907	1.23401
Mical2	NM_177282	0.0455725	1.23382
Rps7	NM_011300	0.0017447	1.23381
Sfxn3	NM_001178012	0.0341987	1.23378

Ate1	NM_001029895	0.0386915	1.23354
Rnf141	NM_025999	0.0038884	1.23353
A430107O13Rik	NM_001081351	0.00793564	1.23338
Parp4	NM_001145978	0.0149166	1.23329
Ing5	NM_025454	0.0116704	1.23322
Serinc1	NM_019760	0.00128449	1.23321
Myh10	NM_175260	0.00350974	1.233
Sgcg	NM_011892	0.0382884	1.23292
Pfdn5	NM_027044	0.048684	1.23218
Glrx3	NM_023140	0.0266033	1.23212
Nars2	NM_153591	0.0136738	1.23196
Fcf1	NM_028632	0.0287706	1.23179
Tm2d2	NM_027194	0.00929839	1.23177
Bicd1	NM_001112796	0.0233721	1.2317
Bet1l	NM_018742	0.00780553	1.23158
Ppm1b	NM_001159496	0.0117855	1.23143
7-Sep	NM_009859	0.0288215	1.23143
0610037L13Rik	NM_028754	0.044726	1.23142
Fam125a	NM_028617	0.00300642	1.23136
Rbm45	NM_153405	0.0342018	1.23034
3110021A11Rik	NR_030776	0.0450716	1.23004
Dnajc1	NM_007869	0.0124092	1.23001
Herpud2	NM_020586	0.0471692	1.22999
Napg	NM_028017	0.0222615	1.22987
Cbx3	NM_007624	0.0219129	1.22974
7-Sep	NM_009859	0.0252324	1.22956
Fxr1	NM_001113188	0.0183416	1.22949
Tm2d1	NM_053157	0.0358244	1.22945
Pik3ca	NM_008839	0.0225389	1.22925
Osbpl9	NM_001134791	0.00300142	1.22909
Sel1l3	NM_172710	0.0345923	1.22894
Mrpl41	NM_001031808	0.0389116	1.22888
Pik3ca	NM_008839	0.0266699	1.22886
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Nudt4	NM_027722	0.0493973	1.22845
Ccdc142	NM_001081266	0.00890871	1.22838
Rpl34	NM_001005859	0.00726789	1.22828
Prdx1	NM_011034	0.00633197	1.22823
Mettl6	NM_025907	0.00102806	1.22813
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Ptpn12	NM_011203	0.0147884	1.22763
Arf2	NM_007477	0.0100842	1.22756

Ube2a	NM_019668	0.00322709	1.22706
Zfand1	NM_025512	0.0346574	1.22697
Tmem30a	NM_133718	0.0173336	1.22662
Rps12-ps2	NM_011295	0.00554815	1.22655
Taf9	NM_001015889	0.0156849	1.22654
Comt1	NM_001111062	0.00495388	1.22645
Prpf18	NM_026045	0.00606645	1.22643
Scrn2	NM_146027	0.0237841	1.22643
Ankra2	NM_023472	0.0372534	1.22633
Bad	NM_007522	0.0274534	1.22633
Gm10828	NM_001114333	0.0297403	1.22624
Ggps1	NM_010282	0.0413353	1.22621
Snx13	NM_001014973	0.00177341	1.2261
Ccdc74a	NM_001166164	0.0246725	1.22609
Eif3m	NM_145380	0.0318997	1.22567
Sec22b	NM_011342	0.0403372	1.22559
Ap3s1	NM_009681	0.0481346	1.22553
Rpl15	NM_025586	0.00168728	1.22547
Gigyf2	NM_001110212	0.043437	1.22531
Ppp3cb	NM_008914	0.0474368	1.22476
Wdr43	NM_175639	0.00138267	1.22453
Gatad1	NM_026033	0.00142098	1.22429
Pkp4	NM_026361	0.0230878	1.22421
Pcf11	NM_029078	0.0422772	1.22416
Ankle2	NM_027922	0.00336615	1.22416
Eif4ebp1	NM_007918	0.0373425	1.22391
Cryzl1	NM_133679	0.0286518	1.22383
2700060E02Rik	NM_026528	0.0134255	1.22373
Yaf2	NM_024189	0.0029512	1.22372
Hnrpdl	NM_016690	0.0464317	1.2236
Gtf3c6	NM_026113	0.0310908	1.22358
Serpinb6a	NM_001164117	0.0124093	1.22332
Zbtb41	NM_172643	0.0381973	1.22287
Sft2d2	NM_145512	0.0340973	1.22282
Hist1h1c	NM_015786	0.0202164	1.22263
Fancb	NM_001146081	0.00668463	1.22247
Taf13	NM_025444	0.014046	1.22242
Slc38a9	NM_178746	0.0127318	1.22239
Tomm70a	NM_138599	0.00654176	1.22232
Strap	NM_011499	0.0186459	1.22195
Ttc35	NM_025736	0.0164169	1.22194
Rrs1	NM_021511	0.0316518	1.22189

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Bet1l	NM_018742	0.017349	1.22156
Fam108a	NM_145421	0.0349192	1.2214
Igdcc3	NM_008988	0.0397723	1.22136
Zcchc4	NM_030185	0.0104455	1.22126
Sdf2	NM_009143	0.005385	1.2211
Tm2d2	NM_027194	0.0197426	1.22109
Tmco1	NM_001039483	0.032562	1.2208
Lsm11	NM_028185	0.0242622	1.22078
Capza2	NM_007604	0.0143833	1.22054
Usp47	NM_133758	0.00327822	1.22052
Ap3m1	NM_018829	0.0142355	1.22049
Erbb2ip	NM_001005868	0.0491764	1.22032
Pafah1b2	NM_008775	0.0237827	1.22025
Ang	NM_001161731	0.044732	1.22024
Spry2	NM_011897	0.0260136	1.22009
Pdik1l	NM_001163794	0.0254893	1.21964
Fam49b	NM_144846	0.0419957	1.21956
Snx6	NM_026998	0.0409649	1.21956
Strbp	NM_009261	0.0115278	1.21941
Lrrc59	NM_133807	0.00112079	1.21924
Pgrmc2	NM_027558	0.0133865	1.21922
Ninj1	NM_013610	0.0495748	1.21903
Raph1	NM_001045513	0.00935023	1.21899
Serinc3	NM_012032	0.0212968	1.21857
Brd7	NM_012047	0.0343724	1.21856
Rab5a	NM_025887	0.00115721	1.21852
Hspa13	NM_030201	0.0354324	1.21813
Hmmr	NM_013552	0.0432094	1.21764
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Rps6	NM_009096	0.0144784	1.2176
Fam188a	NM_024185	0.0121118	1.21737
Blvra	NM_026678	0.0498172	1.21724
Ube3a	NM_001033962	0.026335	1.21717
Nlrp10	NM_175532	0.0303747	1.21714
Ppp1r12b	NM_001081307	0.00568339	1.21695
Glrx2	NM_001038592	0.0250854	1.21676
Psmb1	NM_011185	0.00452892	1.21649
Fam193a	NM_001030306	0.0312494	1.21646
Trim33	NM_001079830	0.00480547	1.21625
Otud6b	NM_152812	0.0204007	1.21624

Rod1	NM_144904	0.00747548	1.21612
Rpn1	NM_133933	0.0285226	1.21609
Ppp6c	NM_024209	0.0424275	1.21594
Phospho2	NM_028521	0.0374087	1.21591
Siah2	NM_009174	0.0194988	1.21589
Taf1a	NM_021466	0.032854	1.21586
Nhp2	NM_026631	0.0350458	1.21575
Txndc9	NM_172054	0.0175494	1.21569
D17Ertd663e	---	0.00817497	1.21567
Exoc6	NM_175353	0.00477789	1.21563
Kpna1	NM_008465	0.0423838	1.21539
Efha2	NM_030110	0.0251485	1.21523
Tmed2	NM_019770	0.000141023	1.21512
Psmb1	NM_011185	0.00345431	1.21499
Copg2as2	NR_002845	0.0168716	1.2149
Mtmr1	NM_016985	0.0287421	1.21477
Sike1	NM_025679	0.00582982	1.21476
Hnrnpc	NM_001170981	0.0240523	1.21472
Ypel5	NM_027166	0.0485451	1.21461
Gins4	NM_024240	0.0374526	1.21458
Cse1l	NM_023565	0.0334125	1.2145
Pdgfa	NM_008808	0.0311491	1.2144
Ppp1r14b	NM_008889	0.011049	1.21373
Atg3	NM_026402	0.0275477	1.21364
Zfp81	NM_207541	0.0142331	1.21288
LOC100044953	NM_172707	0.0314866	1.21284
Npr3	NM_001039181	0.0266918	1.21284
Uba2	NM_016682	0.0208271	1.2123
Gspt1	NM_001130008	0.0111976	1.21203
Dnajc2	NM_009584	0.0227055	1.21184
Cct4	NM_009837	0.0309533	1.21178
Myeov2	NM_001163425	0.00753439	1.21168
Rpl22	NM_009079	0.00493265	1.21166
Zfp597	NM_001033159	0.021432	1.21156
Abhd13	NM_001081119	0.0133686	1.21156
A930033H14Rik	XR_002305	0.0123265	1.21143
Qars	NM_001168270	0.00646818	1.21119
Eea1	NM_001001932	0.0455315	1.2109
Serinc3	NM_012032	0.032757	1.21082
Fam162a	NM_027342	0.00252372	1.21074
Nucks1	NM_001145804	0.0380366	1.21073
Taok1	NM_144825	0.0217004	1.21066

Asb1	NM_001039126	0.00696887	1.21058
Slc39a1	NM_013901	0.0481298	1.21052
Eif2s2	NM_026030	0.040739	1.2102
Tead1	NM_001166584	0.0178396	1.21009
Atp6v1d	NM_023721	0.0143639	1.21002
Ddx18	NM_025860	0.0107535	1.20997
Tcf12	NM_011544	0.014691	1.20982
Zfp30	NM_013705	0.0142731	1.2097
2510022D24Rik	XM_001004662	0.0304685	1.20967
Slc4a4	NM_001136260	0.00784505	1.20945
Rab3gap1	NM_178690	0.026332	1.2094
Me2	NM_145494	0.00383654	1.20917
Snrnp25	NM_030093	0.0225226	1.20883
Zfp655	NM_001083958	0.0127786	1.20858
Plaa	NM_172695	0.0480922	1.20819
Sptlc2	NM_011479	0.0369474	1.20808
Calm3	NM_007590	0.0179555	1.20805
Gpr123	NM_177469	0.0124186	1.20798
Hnrnpu	NM_016805	0.000709826	1.20797
Tomm70a	NM_138599	0.0082915	1.20797
Cox19	NM_197980	0.0183398	1.20793
Sgtb	NM_144838	0.00521479	1.20779
Tpm4	NM_001001491	0.0335275	1.20775
Gm9811	NM_025974	0.029863	1.20762
Sod1	NM_011434	0.0125911	1.20734
Gm10257	NM_008210	0.00716771	1.20687
Acp1	NM_001110239	0.0258651	1.20686
Tspan12	NM_173007	0.0210897	1.20685
Agpat5	NM_026792	0.0265137	1.20673
Bzw1	NM_025824	0.00920352	1.20666
Tmed2	NM_019770	0.000108595	1.20662
Ahr	NM_013464	0.00430973	1.20654
Paip2	NM_026420	0.000219344	1.20622
2310036O22Rik	NM_026760	0.00737425	1.206
Angel2	NM_021421	0.0317913	1.20595
1600012H06Rik	NM_001083880	0.0311186	1.20578
Cntnap1	NM_016782	0.0406575	1.20571
Phf14	NM_001168382	0.0346974	1.20551
Lman1	NM_001172062	0.0258071	1.20515
Zfp644	NM_026856	0.0089892	1.2049
Leprotl1	NM_026609	0.00239309	1.20476
Atp1b1	NM_009721	0.0134481	1.20472

Slc39a3	NM_134135	0.00608149	1.20471
Orc3l	NM_001159563	0.049622	1.20452
Slc38a2	NM_175121	0.0478862	1.20445
Tor1aip2	NM_001160180	0.0346638	1.20428
Usp28	NM_175482	0.00884393	1.20419
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Tmem85	NM_026519	0.027211	1.20401
Eif1ax	NM_025437	0.028172	1.20396
Mirlet7d	NR_029656	0.0292411	1.20393
Zfp622	NM_144523	0.034194	1.2038
Btg3	NM_009770	0.0146012	1.20372
Ablim2	NM_001177696	0.0212535	1.20352
Rnf139	NM_175226	0.0145699	1.20345
Etv3	NM_001083318	0.028884	1.20333
Prpf40b	NM_018786	0.012206	1.20331
Phf20l1	NM_001081409	0.0249475	1.20312
Txnl1	NM_016792	0.01437	1.20302
LOC100233175	NM_001142937	0.0445882	1.20299
Fam96b	NM_026753	0.0476717	1.20269
Rnf103	NM_009543	0.017286	1.20255
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Ccdc132	NM_001167750	0.0378702	1.20223
Csda	NM_011733	0.0315444	1.20219
Elp3	NM_028811	0.0312108	1.20203
Mettl6	NM_025907	0.0449456	1.20192
Txndc17	NM_026559	0.0228106	1.20139
Rpl36al	NM_025589	0.0382412	1.20132
Itfg1	NM_028007	0.0109671	1.20131
Zfp568	NM_001033355	0.0221212	1.20118
LOC100046086	XM_001475550	0.0177865	1.20109
Snrnp27	NM_025665	0.0366219	1.20087
Lima1	NM_001113545	0.0422118	1.20083
Papd4	NM_133905	0.021656	1.20077
Gatad1	NM_026033	0.0430348	1.20055
Cops2	NM_009939	0.0208444	1.20028
Fam54b	NM_029759	0.0237876	1.20005
Psmb3	NM_011971	0.0106834	1.19966
AA881470	NM_172724	0.0169059	1.19953
Endod1	NM_028013	0.0471138	1.19943
1810063B05Rik	NM_174987	0.0410886	1.19928
Sdcbp	NM_001098227	0.00918571	1.19921
Atg4a	NM_174875	0.041199	1.19882

Mrps10	NM_001146211	0.0277818	1.19875
Gnai1	NM_010305	0.0271135	1.19875
Srp72	NM_025691	0.000777513	1.19864
Hnrnpk	NM_025279	0.0418845	1.19849
Ddx3x	NM_010028	0.00121933	1.19836
Gnl2	NM_145552	0.0338318	1.19832
Ube2d2	NM_019912	0.0106822	1.19819
Gpbp1	NM_001122963	0.0210696	1.19817
Slc38a2	NM_175121	0.0271641	1.19808
Bnip3l	NM_009761	0.00185889	1.19803
Ppp3ca	NM_008913	0.0177998	1.1979
Zfp322a	NM_001111107	0.0261646	1.19748
Psmd1	NM_027357	0.0214056	1.19719
Tmpo	NM_001080129	0.0422878	1.19712
Hnrpdl	NM_016690	0.0210041	1.19703
LOC674712	NM_008959	0.00574423	1.19681
Bola2	NM_175103	0.0484809	1.19668
Msc	NM_010827	0.0254853	1.19668
Ccdc9	NM_001136471	0.029943	1.19655
Rnd3	NM_028810	0.0333662	1.19633
St8sia4	NM_001159745	0.0485755	1.19612
1700020G03Rik	XM_979280	0.0377064	1.19602
0610012G03Rik	NR_027897	0.0118537	1.1959
Rpl36	NM_018730	0.00179661	1.19559
Ndfip2	NM_029561	0.0328057	1.19559
Prkag2	NM_001170555	0.0230401	1.19542
Thumpd3	NM_008188	0.00664306	1.19517
Kif21a	NM_001109040	0.0301615	1.19507
Msi2	NM_054043	0.00204285	1.19487
Nhlrc2	NM_025811	0.0499206	1.19485
4933404O12Rik	NR_015555	0.00430863	1.19468
Adrm1	NM_019822	0.0165182	1.19433
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Txn1	NM_011660	0.0207007	1.19424
Mib2	NM_145124	0.00676468	1.19407
Tmco3	NM_172282	0.00380377	1.19389
Cyb5d1	NM_001045525	0.00203048	1.19385
Ppia	NM_008907	0.0155541	1.19366
Cox16	NM_025461	0.0430167	1.19359
Tm2d2	NM_027194	0.0349497	1.19351
Nmt1	NM_008707	0.0110578	1.19318
D17Wsu104e	NM_080837	0.0295682	1.19242

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Rabep1	NM_019400	0.00578869	1.19209
Hip1	NM_146001	0.0376816	1.19162
Sfrs3	NM_013663	0.018255	1.19161
Zfp191	NM_021559	0.0272921	1.19157
Serf2	NM_011354	0.0312724	1.1911
Cbx5	NM_001076789	0.0461916	1.19105
D19Bwg1357e	NM_177474	0.026756	1.19078
Apex1	NM_009687	0.0334298	1.19069
Plcd1	NM_019676	0.0343245	1.19055
Lcmt1	NM_025304	0.0326341	1.19049
Naa50	NM_028108	0.0272006	1.1903
Ccng1	NM_009831	0.04527	1.18939
Rabep1	NM_019400	0.0308565	1.18939
BC042782	---	0.0368641	1.18931
Myeov2	NM_001163425	0.0121984	1.1892
Cdk2ap1	NM_013812	0.00294747	1.18863
2700060E02Rik	NM_026528	0.0214946	1.18858
Mrpl30	NM_027098	0.0268953	1.18835
Tab2	NM_138667	0.00684262	1.18827
Mrps18c	NM_026826	0.0142691	1.18815
Prkch	NM_008856	0.0392415	1.18807
Tomm7	NM_025394	0.0417589	1.18805
Arl8a	NM_026823	0.0378696	1.18788
Pycr2	NM_133705	0.0264105	1.18754
Mgat2	NM_146035	0.0019198	1.18702
Pgls	NM_025396	0.0357585	1.187
LOC100046166	NM_001130457	0.00842185	1.18682
Psma7	NM_011969	0.00739504	1.18592
Mtdh	NM_026002	0.0488389	1.18592
Skiv2l2	NM_028151	0.0316025	1.18586
Ssfa2	NM_080558	0.00801738	1.18572
Cct4	NM_009837	0.0376921	1.18565
Armcx3	NM_027870	0.0238369	1.18565
Nudt4	NM_027722	0.0496626	1.18534
Slco3a1	NM_001038643	0.00412932	1.18509
Zfp451	NM_133817	0.0485416	1.18466
Dnaja4	NM_021422	0.00446034	1.18463
Spnb2	NM_009260	0.048455	1.18463
Tpm3	NM_022314	0.0059367	1.18455
Stk4	NM_021420	0.000927452	1.18434
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Utp14a	NM_028276	0.00793464	1.18419
Ccdc23	NM_001038998	0.018252	1.1841
Srp14	NM_009273	0.0369462	1.18407
Psmd6	NM_025550	0.0241697	1.18371
Paics	NM_025939	0.0425818	1.18368
Intu	NM_175515	0.0300484	1.18364
Larp7	NM_138593	0.0360105	1.18358
2300009A05Rik	NM_027090	0.00596956	1.18354
Kin	NM_025280	0.00556271	1.18353
Spns3	NM_029932	0.0202655	1.18348
Hba-a1	NM_001083955	0.0267522	1.18334
Stx8	NM_018768	0.0182784	1.18334
Insr	NM_001033381	0.0437633	1.18322
Ncl	NM_010880	0.0371266	1.18299
Gpihbp1	NM_026730	0.0413883	1.18269
Fbxo33	NM_001033156	0.031756	1.18266
Khdrbs1	NM_011317	0.00295391	1.18261
Wbp4	NM_018765	0.0142087	1.18187
Gm5081	NM_001037746	0.0383335	1.18186
Pklr	NM_001099779	0.0292062	1.18165
Arhgap5	NM_009706	0.00264212	1.18149
Nmt2	NM_008708	0.0457585	1.1812
Hint1	NM_008248	0.00920074	1.1811
Rab6	NM_001163663	0.0185044	1.18088
Ppig	NM_001081086	0.04806	1.18067
Hps3	NM_001146323	0.0281584	1.18067
C330018D20Rik	NM_029909	0.0417221	1.17943
Cr1l	NM_013499	0.0202496	1.17924
Arpc1b	NM_023142	0.0157116	1.17903
D6Wsu116e	NM_026585	0.0297437	1.17898
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Pros1	NM_011173	0.0294136	1.17879
Nubp1	NM_011955	0.0201777	1.17874
Morf4l1	NM_001039147	0.00678371	1.17873
1110002B05Rik	NM_134054	0.0411411	1.17841
Wdr45l	NM_025793	0.0150998	1.17828
1300014I06Rik	NM_025831	0.0190053	1.17827
Hmgn1	NM_008251	0.00875168	1.17808
LOC100045999	NM_009391	0.00712218	1.17766
Rpl17-ps3	NM_001002239	0.0169871	1.17758
Rpl12	NM_009076	0.0391414	1.17755
Strn3	NM_001172098	0.00928961	1.17716

9130011J15Rik	NM_172396	0.0468266	1.177
Gnl3	NM_153547	0.0314175	1.17662
Foxp1	NM_053202	0.012561	1.17657
Bik	NM_007546	0.0447013	1.1764
Plekhh3	NM_146030	0.0143816	1.17626
Vps13a	NM_173028	0.031291	1.17607
Evi5	NM_007964	0.0188432	1.17587
Nudt21	NM_026623	0.0283984	1.17576
Gosr2	NM_019650	0.0149529	1.1756
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Rnf19a	NM_013923	0.0158726	1.17532
Stk39	NM_016866	0.0263066	1.17523
Usp16	NM_024258	0.0154342	1.1751
Pla2r1	NM_008867	0.0406371	1.17492
Calm1	NM_009790	0.0327236	1.17485
Tmem85	NM_026519	0.0220373	1.17446
Rps6	NM_009096	0.0250009	1.17443
B230208H17Rik	NM_001024616	0.0186505	1.17396
Dusp18	NM_173745	0.0307036	1.17382
Cpsf7	NM_001164272	0.0101152	1.1738
Slc39a10	NM_172653	0.0335828	1.17318
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Zscan21	NM_001044703	0.048	1.1724
Dnajc10	NM_024181	0.0232978	1.1717
Zfp651	NM_001166644	0.0243169	1.17132
Gtpbp1	NM_013818	0.00263118	1.17096
Rexo2	NM_024233	0.0069377	1.17068
2310046K01Rik	NM_001164819	0.0279845	1.17054
Atp1b1	NM_009721	0.0179106	1.16943
Mff	NM_029409	0.019394	1.16908
Gins3	NM_030198	0.0447469	1.16906
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Matr3	NM_010771	0.0248011	1.16878
Derl1	NM_024207	0.0490381	1.16866
Srp54a	NM_001100109	0.00533625	1.16835
Hnrnpr	NM_028871	0.00666703	1.16817
Gm3217	NM_001013012	0.00669202	1.16808
Sfrs6	NM_026499	0.0376276	1.16805
Prkag2	NM_001170555	0.0282881	1.16775
Slc35b2	NM_028662	0.0180928	1.1677
Fchsd2	NM_001146010	0.0294299	1.16746
Zranb2	NM_017381	0.038731	1.16745

Rpl35	NM_025592	0.0115299	1.16731
Zfp64	NM_009564	0.00654483	1.16719
Ube2g1	NM_025985	0.0129011	1.16679
BC010981	---	0.00551093	1.16671
Pdcl3	NM_026850	0.0414817	1.16649
Bnip2	NM_001008238	0.0346243	1.16647
Wnt9a	NM_139298	0.0412287	1.16639
Polr3k	NM_025901	0.0373423	1.16631
Lrrc48	NM_029044	0.0168958	1.16631
Rbbp4	NM_009030	0.00393349	1.16581
Bloc1s3	NM_177692	0.0495816	1.16581
Hnrpll	NM_144802	0.0101344	1.16514
Tpd52l2	NM_025482	0.0140669	1.16511
Skp1a	NM_011543	0.0342978	1.16504
Ipo4	NM_024267	0.0370257	1.16486
Tut1	NM_197993	0.0426338	1.16484
3110035G12Rik	---	0.0234016	1.16455
Ptp4a2	NM_001164745	0.0336057	1.16449
Bicd2	NM_001039179	0.020591	1.16448
Mapre1	NM_007896	0.00567612	1.16447
Fkbp3	NM_013902	0.0198525	1.16412
Fgf13	NM_010200	0.0427442	1.16407
Tor1aip2	NM_001160180	0.0429021	1.16396
Podxl2	NM_176973	0.029354	1.16365
Trnau1ap	NM_027925	0.0406873	1.16351
Serf2	NM_011354	0.0155167	1.16339
Bmpr2	NM_007561	0.0240253	1.16326
Msrb3	NM_177092	0.00761036	1.16307
Zfp106	NM_011743	0.0418898	1.16301
Tpd52	NM_001025261	0.0429651	1.16291
Cdk14	NM_011074	0.0432765	1.16279
Wdr37	NM_001039388	0.0460996	1.1627
Arhgef3	NM_027871	0.0193472	1.16254
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Abhd13	NM_001081119	0.0111578	1.16241
Copg2as2	NR_002845	0.0210146	1.16199
Dnaja2	NM_019794	0.00364308	1.16188
Ssbp1	NM_028358	0.0438409	1.16187
Rbbp6	NM_011247	0.00623409	1.16183
Snrpe	NM_009227	0.0295124	1.16167
Tomm20	NM_024214	0.0107394	1.16144
Cnbp	NM_001109745	0.0275201	1.16138

Fubp1	NM_057172	0.0339982	1.16119
Vps4b	NM_009190	0.0435507	1.16118
LOC100046344	NM_008704	0.00825661	1.16114
Chchd1	NM_025366	0.0147189	1.16107
Rbbp7	NM_009031	0.0442513	1.16083
Usp8	NM_019729	0.0356245	1.16059
Gm10335	NM_207523	0.00568942	1.16057
Tm2d2	NM_027194	0.03512	1.15987
Cct6a	NM_009838	0.0215193	1.15972
Mbnl1	NM_020007	0.00351165	1.15939
Topors	NM_134097	0.0442807	1.15928
Ptpla	NM_001012396	0.0176435	1.15922
Ppp2r2c	NM_172994	0.0164551	1.15899
Pde1c	NM_001025568	0.0119915	1.15887
Ankrd54	NM_144849	0.0138463	1.15854
Syap1	NM_025932	0.00644827	1.15817
Cyfip1	NM_001164661	0.0268974	1.15772
Cyp2j6	NM_010008	0.0424284	1.15759
Rpl17-ps3	NM_001002239	0.0157271	1.15752
Smarca5	NM_053124	0.021993	1.15727
Gata6	NM_010258	0.0411656	1.15711
Eif4h	NM_033561	0.0189647	1.1569
Tmem168	NM_028990	0.0240671	1.15624
LOC640502	NM_133806	0.0400525	1.1562
Gm6142	NM_009321	0.0301291	1.15573
Ppm1a	NM_008910	0.00603725	1.15526
Ssbp4	NM_133772	0.0458527	1.15507
Fam179b	NM_177805	0.0147862	1.15505
Tmx3	NM_198295	0.00918074	1.155
Rsph3a	NM_001083945	0.00662973	1.15487
Klhl9	NM_172871	0.0344863	1.1546
Bmpr2	NM_007561	0.0353248	1.15402
Krit1	NM_001170552	0.0108564	1.15388
Dbndd2	NM_001048227	0.0446824	1.15386
Tlk2	NM_001112705	0.00676944	1.15371
Sigmar1	NM_011014	0.0422742	1.15363
Serf2	NM_011354	0.0319057	1.15344
2510006D16Rik	NM_029748	0.00189878	1.15317
Ubxn4	NM_026390	0.0324403	1.15309
Mak16	NM_026453	0.049006	1.15297
Zrsr1	NM_011663	0.00318208	1.15239
Morf4l2	NM_001168225	0.018066	1.1521

Rbbp7	NM_009031	0.0183806	1.15179
Fam185a	NM_177869	0.00451253	1.15173
Mcl1	NM_008562	0.0425457	1.15166
Vamp4	NM_016796	0.0260371	1.15166
Eif5	NM_173363	0.00160323	1.15129
Serf2	NM_011354	0.020875	1.15109
Pphln1	NM_001083114	0.0116707	1.15082
Nr4a2	NM_001139509	0.0200012	1.15082
Rg9mtd2	NM_175389	0.0327802	1.15067
Fam3c	NM_138587	0.0260113	1.1506
Hnrnpc	NM_001170981	0.0179863	1.15047
Larp4	NM_001024526	0.0345313	1.15033
Tor1aip1	NM_001160018	0.00107686	1.1501
Ribc1	NM_025660	0.0197193	1.1501
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Fhl2	NM_010212	0.0174393	1.14969
Ppap2c	NM_015817	0.033806	1.14954
Cbfb	NM_001161456	0.0244896	1.14949
Cul3	NM_016716	0.0348842	1.14935
Cept1	NM_133869	0.0191833	1.14874
Rai14	NM_001166408	0.0176214	1.14872
Ankrd13c	NM_001013806	0.0267624	1.14865
Golga7	NM_001042484	0.0245939	1.14856
Gspt1	NM_001130008	0.00980689	1.14851
Vps54	NM_139061	0.0286956	1.14835
Rbms3	NM_001172121	0.0444785	1.14796
Ptges3	NM_019766	0.0432366	1.14785
Cyb5r4	NM_024195	0.0263714	1.14779
Gm15365	NM_024214	0.00345154	1.14741
Ppp1r2	NM_025800	0.0165098	1.14729
Gramd1a	NM_027898	0.0244809	1.14672
Rpl35	NM_025592	0.0213398	1.14648
Rasal2	NM_177644	0.0199272	1.14613
Uhrf1bp1l	NM_029166	0.0371713	1.14612
LOC675405	NM_177393	0.0364187	1.14595
Dazap1	NM_001122604	0.0358825	1.14547
0610007L01Rik	NM_001081394	0.0159592	1.14545
Arl5a	NM_182994	0.0218423	1.14457
Rps17	NM_009092	0.00117084	1.14399
Tmed5	NM_028876	0.0344042	1.14396
Tomm20	NM_024214	0.0307838	1.14388
Rpl7	NM_011291	0.0145718	1.1438

Csrp3	NM_013808	0.00386503	1.14324
Arpc2	NM_029711	0.013177	1.14302
Dnajc1	NM_007869	0.00857234	1.14294
Usp7	NM_001003918	0.032283	1.1424
Rab10	NM_016676	0.036856	1.14222
Ppib	NM_011149	0.0460603	1.14214
Tdrkh	NM_028307	0.0490774	1.14192
Ktn1	NM_008477	0.00548544	1.14163
Pfn2	NM_019410	0.0476372	1.14149
5-Mar	NM_001164336	0.0359451	1.14142
Ank1	NM_001110783	0.0457448	1.14139
Rap1a	NM_145541	0.021899	1.14118
Lsm7	NM_025349	0.0131128	1.14112
Ube2d3	NM_025356	0.0272402	1.1408
Ythdf1	NM_173761	0.0150154	1.1408
Srd5a3	NM_020611	0.0369292	1.14068
Bmpr2	NM_007561	0.00995378	1.14065
Ttc37	NM_001081352	0.00625042	1.14022
Uimc1	NM_011307	0.0464556	1.13929
Tmed7	NM_025698	0.0307245	1.13914
Ift57	NM_028680	0.016003	1.13889
LOC100046168	NM_022996	0.046759	1.13881
Fkrp	NM_173430	0.00689917	1.13879
Mettl9	NM_021554	0.020483	1.13832
Atf1	NM_007497	0.0399253	1.13811
Ddx50	NM_053183	0.0377142	1.13779
Nupl1	NM_170591	0.0282372	1.13727
Bop1	NM_013481	0.0484716	1.13718
Rpl27a	NM_011975	0.0209093	1.13663
Rasa1	NM_145452	0.0394048	1.13655
Erlec1	NM_025745	0.00165185	1.13637
Rb1cc1	NM_009826	0.0421349	1.1357
Zfx	NM_001044386	0.0148058	1.13551
Rps8	NM_009098	0.0462416	1.13545
Lrch2	NM_001081173	0.0422931	1.13518
Nek7	NM_021605	0.024352	1.13375
Rbm17	NM_152824	0.0204022	1.13321
Bccip	NM_025392	0.0438322	1.13197
Cdk12	NM_001109626	0.017856	1.13197
Rps17	NM_009092	0.0025328	1.13196
Rps6	NM_009096	0.017904	1.13172
Tmed2	NM_019770	0.00350016	1.13142

Rpl23a	NM_207523	0.00192195	1.13093
Def6	NM_027185	0.0405627	1.13089
Capza2	NM_007604	0.0166948	1.13088
Cln5	NM_001033242	0.0335557	1.13077
Strap	NM_011499	0.0402127	1.13011
Rbbp4	NM_009030	0.0262703	1.12956
2410127L17Rik	NM_026120	0.0329038	1.1291
Gm9790	NM_001112668	0.0454217	1.12861
Psma6	NM_011968	0.00412153	1.12779
Gm3362	NM_207523	0.00844333	1.12774
Akirin1	NM_023423	0.0266014	1.1277
Glud1	NM_008133	0.0393407	1.12729
Sephs2	NM_009266	0.0328806	1.12714
Rps5	NM_009095	0.0260186	1.12698
Zfp511	NM_027201	0.0202555	1.12686
Gba2	NM_172692	0.0428703	1.12582
Zbtb43	NM_001025594	0.0334188	1.12574
1700123O20Rik	NM_021437	0.031317	1.12567
Gm10119	NM_016959	0.00685163	1.1253
Casq2	NM_009814	0.0134507	1.12524
5730494N06Rik	NM_001141971	0.0381945	1.12503
Etf1	NM_144866	0.0226827	1.12491
Slc39a13	NM_026721	0.0411987	1.12453
Wwp1	NM_177327	0.033028	1.12408
Eif3e	NM_008388	0.0100345	1.12404
Rpl7l1	NM_025433	0.0430169	1.12402
Pgk1	NM_008828	0.0127045	1.12339
Fuca2	NM_025799	0.0421127	1.12229
Rpl10a	NM_011287	0.0414314	1.12172
Gm15500	NM_016980	0.00639719	1.12115
C78339	NM_001033192	0.0220279	1.12107
Topors	NM_134097	0.038647	1.12106
Bnip2	NM_001008238	0.0478571	1.12103
Vamp3	NM_009498	0.00886942	1.12057
Snx12	NM_001110310	0.0161241	1.12056
Clock	NM_007715	0.022381	1.12031
Cdk2ap1	NM_013812	0.0323054	1.1203
Rpl19	NM_001159483	0.000500327	1.12019
Uba2	NM_016682	0.0180682	1.12008
Synj2bp	NM_025292	0.0483672	1.11972
Fam108b	NM_146096	0.0333529	1.11924
Mr1	NM_008209	0.0360896	1.11903

Rpsa	NM_011029	0.0172604	1.11854
Ssr3	NM_026155	0.019941	1.1185
Sike1	NM_025679	0.0217665	1.11847
Ccdc72	NM_183250	0.0458094	1.11768
Lsm14a	NM_025948	0.0271295	1.11762
Lck	NM_001162432	0.020602	1.11716
Nono	NM_023144	0.0410011	1.11697
Cycs	NM_007808	0.0181979	1.11671
Rnf130	NM_021540	0.0406419	1.11669
Rps14	NM_020600	0.0210803	1.11634
Hba-a1	NM_001083955	0.0305316	1.11502
Rpl18a	NM_029751	0.0166733	1.11501
Tmem134	NM_001078649	0.011934	1.11483
Wdr26	NM_145514	0.0474627	1.11454
Sfxn1	NM_027324	0.0163597	1.1141
Cyfip1	NM_001164661	0.0493014	1.11326
Zfand3	NM_148926	0.0127445	1.11318
Nup107	NM_134010	0.0464617	1.11312
Rpl7	NM_011291	0.0480031	1.1128
Ube2d3	NM_025356	0.0136859	1.11262
Gzf1	NM_028986	0.0363892	1.11244
Rpl41	NM_018860	0.00700756	1.11191
Rpl35a-ps2	NM_001130484	0.0187826	1.11188
Csnk1a1	NM_146087	0.0124433	1.11168
Rusc1	NM_001083807	0.0391224	1.11159
Gm6245	NM_145441	0.00577741	1.11058
Fbxo38	NM_134136	0.0309255	1.10983
LOC100046199	NM_025316	0.0155352	1.10979
Tor2a	NM_152800	0.0396006	1.1096
Rpl10	NM_052835	0.0470851	1.10913
Pcdh19	NM_001105245	0.0397799	1.10882
LOC636537	NM_025965	0.0060942	1.10813
Cycs	NM_007808	0.0113813	1.10802
Gdi2	NM_008112	0.0415373	1.10716
Caml	NM_007596	0.0369076	1.10636
Uqcrc2	NM_025899	0.0398356	1.10624
Pafah1b1	NM_013625	0.0129952	1.10624
Gm9385	NM_024218	0.0198971	1.10588
H2-T18	XM_912024	0.0258177	1.10536
Pcx	NM_001162946	0.00767855	1.10526
G3bp2	NM_001080794	0.00693125	1.10502
Shfm1	NM_009169	0.0209759	1.10464

5830408B19Rik	---	0.0213329	1.10462
Pcnp	NM_001024622	0.0382364	1.10352
Ppp1cc	NM_013636	0.000787704	1.10335
Rpl15	NM_025586	0.0353713	1.1031
Acot13	NM_025790	0.0250129	1.10227
Nucks1	NM_001145804	0.0180364	1.10188
Gtpbp6	NM_145147	0.0360069	1.10166
Ccng1	NM_009831	0.0136928	1.10128
Ppp2r2d	NM_026391	0.0214217	1.10089
Ranbp3	NM_027933	0.0142037	1.1002
Gapdh	NM_008084	0.0463824	1.10009
Arr3	NM_133205	0.0416614	1.10008
Tial1	NM_009383	0.00986966	1.09976
Rps4x	NM_009094	0.0400421	1.09973
2310003H01Rik	NM_027980	0.0287385	1.09962
Hspa8	NM_031165	0.0321297	1.09921
Nkap	NM_025937	0.0475825	1.09885
Gm10241	NM_133354	0.0220002	1.09758
Adss	NM_007422	0.0201298	1.09685
Rab1	NM_008996	0.0395208	1.09458
Lgtn	NM_001136070	0.028617	1.09254
Mtap	NM_024433	0.0299923	1.09253
Sp4	NM_001166385	0.0480876	1.09216
Cdkn2aip	NM_172407	0.0371244	1.09102
Tial1	NM_009383	0.0281261	1.08891
Prdx1	NM_011034	0.0400468	1.08782
Arglu1	NM_176849	0.0218843	1.08708
Srr	NM_001163311	0.0138014	1.08381
LOC100046895	NM_001159516	0.0286113	1.0832
Rplp1	NM_018853	0.0340253	1.08299
Mdh1	NM_008618	0.0278302	1.08291
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Mycbp2	NM_207215	0.0190294	1.07569
Rpl23a	NM_207523	0.0403084	1.0647
Chchd2	NM_024166	0.0311548	1.05708
Mbd2	NM_010773	0.0476231	1.04394
Atp5j2	NM_020582	0.036825	1.04377
Rps8-ps1	NM_009098	0.0166694	1.03742
2810422J05Rik	NM_019883	0.0373834	1.03252
BC032203	NM_001100452	0.0291815	-1.05191
Mrpl51	NM_025595	0.0378974	-1.05646
Zkscan1	NM_029869	0.0452622	-1.06033

Golga5	NM_013747	0.0128369	-1.06558
Rc3h1	NM_001024952	0.035088	-1.06723
Sepp1	NM_001042613	0.0489094	-1.06778
Gja1	NM_010288	0.0011754	-1.07088
Cox7a2l	NM_001159529	0.0409573	-1.07222
Fam53a	NM_178390	0.0274837	-1.07269
Cast	NM_009817	0.0218266	-1.07503
Acbd3	NM_133225	0.0243335	-1.07656
Timm44	NM_011592	0.0285759	-1.07892
Ube3c	NM_133907	0.0455167	-1.07902
Scamp5	NM_020270	0.0403324	-1.07948
Map2k5	NM_011840	0.0391381	-1.08092
E230029C05Rik	NR_015614	0.0159953	-1.0834
Nbr1	NM_008676	0.0350023	-1.08448
Rps2-ps6	NM_008503	0.0406344	-1.08488
Cox4i1	NM_009941	0.00779073	-1.08504
Ap1g1	NM_009677	0.0467618	-1.0871
Arfrp1	NM_001165991	0.0286637	-1.08833
Yif1a	NM_026553	0.0386803	-1.08891
Cdkn2aipnl	NM_029976	0.0295546	-1.08989
Ndufa3	NM_025348	0.0434897	-1.08997
Ndufa12	NM_025551	0.0391161	-1.09072
Cox7a2l	NM_001159529	0.0421091	-1.09153
Hbs1l	NM_001042593	0.0248287	-1.09186
D8Ertd82e	NM_172911	0.0408748	-1.09308
Park7	NM_020569	0.0265365	-1.09313
Pebp1	NM_018858	0.0282801	-1.09348
Myoz2	NM_021503	0.0328854	-1.09528
Cct7	NM_007638	0.00304964	-1.09561
2210018M11Rik	NM_172280	0.0468796	-1.09605
2610034B18Rik	NM_027420	0.0232082	-1.09628
Rps2-ps6	NM_008503	0.0151163	-1.09642
Lbr	NM_133815	0.0190759	-1.0972
Hnrpdl	NM_016690	0.0375605	-1.09735
Ssbp1	NM_028358	0.0455456	-1.09787
Api5	NM_007466	0.0149146	-1.09841
Spint2	NM_001082548	0.0454019	-1.09855
Ccdc28a	NM_144820	0.0468449	-1.09969
Dcp2	NM_027490	0.0291969	-1.09973
Appbp2	NM_025825	0.000842369	-1.09977
Cytsa	NM_001145826	0.00961346	-1.10006
Atp5b	NM_016774	0.0281971	-1.10063

Cox7a2l	NM_001159529	0.00295527	-1.10124
Slc35a2	NM_001083937	0.0474954	-1.10155
AA960436	NM_133954	0.0320279	-1.10164
Gm16515	NM_025294	0.00551207	-1.1035
Rbms1	NM_001141931	0.0216313	-1.10364
Ssrp1	NM_001136081	0.0455177	-1.10415
Gnb5	NM_010313	0.0152734	-1.1046
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Papd5	NM_001164497	0.0172901	-1.10554
Slc25a3	NM_133668	0.0140225	-1.10793
Ndufs6	NM_010888	0.0152342	-1.10793
Zmym3	NM_001177985	0.0238365	-1.10906
Sat2	NM_026991	0.012885	-1.11036
Phldb1	NM_153537	0.0423088	-1.11116
Ndufab1	NM_028177	0.0108466	-1.11122
Sult5a1	NM_020564	0.00898049	-1.11141
9930105H17Rik	XM_914869	0.0332764	-1.11156
Mrpl28	NM_024227	0.028303	-1.11236
Arhgap27	NM_133715	0.0182553	-1.11239
Naif1	NM_194335	0.00814127	-1.11242
4632411B12Rik	NM_172652	0.0419164	-1.11246
Tcf4	NM_001083967	0.0493521	-1.11295
Abhd12	NM_024465	0.0282066	-1.11297
Agk	NM_023538	0.0171526	-1.11306
Abhd4	NM_134076	0.0451591	-1.1134
Ndst2	NM_010811	0.037167	-1.11345
Tmem131	NM_018872	0.0353513	-1.11352
Kcnj11	NM_010602	0.0408712	-1.11356
1110020A21Rik	NR_027929	0.0301261	-1.11362
LOC100048050	NM_001081298	0.0107517	-1.11367
Zcchc24	NM_001101433	0.0257365	-1.11474
Bcl10	NM_009740	0.018537	-1.11505
Pcsk7	NM_008794	0.0405306	-1.11537
Mfn1	NM_024200	0.0348317	-1.1154
Lars2	NM_153168	0.0286322	-1.11586
Dcaf7	NM_027946	0.0340495	-1.11621
Slc9a3r2	NM_023055	0.047851	-1.11632
Cbx7	NM_144811	0.0236769	-1.11634
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Nfib	NM_001113209	0.0302536	-1.11728
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4732418C07Rik	NM_172698	0.0227166	-1.11909

Lrch4	NM_001081962	0.0114137	-1.11918
Hps4	NM_138646	0.00360548	-1.11964
Taf6	NM_009315	0.0160237	-1.11984
Ap2m1	NM_009679	0.0373085	-1.12096
Abl2	NM_001136104	0.0172658	-1.12133
Yif1a	NM_026553	0.0342439	-1.12134
Sync	NM_023485	0.0174766	-1.12143
Preb	NM_016703	0.043218	-1.12235
Clock	NM_007715	0.0224229	-1.12235
Gart	NM_010256	0.0122818	-1.12256
Akr1b3	NM_009658	0.0492168	-1.12262
Zfp292	NM_013889	0.0293771	-1.12262
Thap2	NM_025780	0.010662	-1.12272
Otud3	NM_028453	0.0181018	-1.12396
Dedd	NM_001128609	0.0440955	-1.12412
Suds3	NM_001122666	0.033311	-1.12482
Dnm2	NM_001039520	0.0183801	-1.12512
Atp13a2	NM_001164366	0.0460633	-1.12557
Rnf123	NM_032543	0.0425227	-1.12563
Ubr5	NM_001081359	0.0464137	-1.12566
Tspan31	NM_025982	0.0107797	-1.12566
3000002C10Rik	NR_033215	0.0350688	-1.12655
Thtpa	NM_153083	0.0147919	-1.12661
Pknox1	NM_016670	0.0085596	-1.12672
Llgl1	NM_001159404	0.0284193	-1.12679
Cdc42bpa	NM_001033285	0.0429321	-1.1268
Lancl2	NM_133737	0.00495498	-1.12708
Polk	NM_012048	0.033373	-1.12719
F11r	NM_172647	0.043017	-1.1273
Pi4ka	NM_001001983	0.0347414	-1.12738
Gramd3	NM_026240	0.0477787	-1.12841
Ndufb7	NM_025843	0.0332918	-1.12854
Tirap	NM_001177845	0.0413197	-1.129
Fam120c	NM_198105	0.0479936	-1.12925
Trmt1	NM_001164559	0.0480108	-1.1293
Glcci1	NM_133236	0.0342961	-1.1294
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Ap1s1	NM_007457	0.0141242	-1.12952
Gja1	NM_010288	0.0222299	-1.13031
Gja1	NM_010288	0.00259221	-1.13077
Aco1	NM_007386	0.0377615	-1.13107
Tmub1	NM_022418	0.0265616	-1.1322

Fam54b	NM_029759	0.0479652	-1.13234
Setdb1	NM_001163641	0.0401422	-1.13291
Rprd1b	NM_027434	0.0385592	-1.13316
Daam1	NM_026102	0.0322541	-1.1333
Fam149b	NM_001024512	0.0159664	-1.13335
Vps13b	NM_177151	0.0263726	-1.13421
BC031781	NM_145943	0.0390122	-1.13441
Atp5a1	NM_007505	0.0351334	-1.1346
Baz1b	NM_011714	0.0279507	-1.1346
Syne1	NM_001079686	0.0377343	-1.1352
Romo1	NM_001164215	0.0225021	-1.13555
Mon2	NM_001163024	0.00284982	-1.13579
Entpd6	NM_172117	0.013919	-1.13626
1110036O03Rik	NM_176830	0.0495902	-1.13627
Smcr8	NM_001085440	0.0364011	-1.13632
Terf2	NM_001083118	0.00470828	-1.13637
Asah2	NM_018830	0.0423391	-1.13658
Tpi1	NM_009415	0.0164617	-1.13715
Surf4	NM_011512	0.0393487	-1.13726
Stk25	NM_021537	0.00747294	-1.1373
Atxn7	NM_139227	0.0310036	-1.1374
Ugp2	NM_139297	0.0144107	-1.13757
Ergic3	NM_025516	0.0411787	-1.13776
Lpgat1	NM_001134829	0.031305	-1.13785
Fam63b	NM_172772	0.0402874	-1.13794
Ptpdc1	NM_207232	0.00535458	-1.13798
Bscl2	NM_001136064	0.042521	-1.13818
Pisd	NM_177298	0.0490696	-1.13819
Zfp512	NM_172993	0.0012102	-1.13826
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Tle1	NM_011599	0.0413631	-1.13906
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9430083A17Rik	NR_029463	0.0110999	-1.1393
Trip12	NM_133975	0.00412441	-1.13932
Pdxk	NM_172134	0.0405553	-1.13942
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BC026585	NM_001033284	0.0362892	-1.13987
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Ak1	NM_021515	0.0287939	-1.14122
Chkb	NM_007692	0.0354499	-1.14125
A130082M07Rik	XM_001471582	0.0330357	-1.14204
Htt	NM_010414	0.0248083	-1.14243

Emp2	NM_007929	0.0194663	-1.14278
Ep400	NM_029337	0.00118374	-1.14279
Hsdl1	NM_175185	0.000296279	-1.14316
Lamb1-1	NM_008482	0.0301884	-1.14333
Rce1	NM_023131	0.0380096	-1.14344
4921506J03Rik	NM_001033474	0.0209224	-1.14359
Atp5d	NM_025313	0.0075911	-1.1438
Fbxl20	NM_028149	0.00625121	-1.14381
Neil1	NM_028347	0.0401305	-1.14401
Lrrc2	NM_028838	0.0246854	-1.14409
Nagpa	NM_013796	0.0141733	-1.14433
Hmgcs1	NM_145942	0.000122931	-1.14473
Akr7a5	NM_025337	0.0443407	-1.14478
Uaca	NM_028283	0.0041176	-1.14494
Exosc2	NM_144886	0.0468417	-1.14547
Uck1	NM_011675	0.0338297	-1.14557
Fam116a	NM_001134465	0.0297754	-1.14576
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Cog4	NM_133973	0.0117397	-1.14676
Sulf2	NM_028072	0.0273056	-1.14695
Orai1	NM_175423	0.0472328	-1.14709
Rusc1	NM_001083807	0.0145591	-1.1473
Agpat6	NM_018743	0.0293435	-1.14806
Ino80c	NM_172625	0.0177356	-1.14817
Patl1	NM_172635	0.043041	-1.14838
Pitpnb	NM_019640	0.0206666	-1.14865
Fance	NM_001163819	0.0175894	-1.14892
Ralgapb	NM_177658	0.0178831	-1.14897
Otud4	NM_001081164	0.0350416	-1.14898
Psen1	NM_008943	0.0084927	-1.14911
BC056474	NM_001001493	0.0165954	-1.14956
Lipa	NM_001111100	0.022306	-1.14975
Araf	NM_001159645	0.0101454	-1.14984
Man1a2	NM_010763	0.0345944	-1.14999
9130404D08Rik	NM_001167939	0.041699	-1.1501
Eps8 ///			
LOC632638	NM_007945	0.0291841	-1.15029
Nedd4l	NM_001114386	0.0209135	-1.15032
Tmem147	NM_027215	0.0267373	-1.15048
Pet112l	NM_144896	0.025232	-1.15048

Phb	NM_008831	0.0488118	-1.15095
Scamp3	NM_011886	0.0113262	-1.1513
Cenpc1	NM_007683	0.0249866	-1.15137
Tmcc1	NM_177412	0.0270323	-1.15179
Sec63	NM_153055	0.0475307	-1.1518
Mybbp1a	NM_016776	0.0263281	-1.15187
Rora	NM_013646	0.0174377	-1.15204
Mapre2	NM_001162941	0.0406649	-1.15219
Pigu	NM_001004721	0.0313314	-1.15238
Rxra	NM_011305	0.036853	-1.15238
Snd1	NM_019776	0.028765	-1.15244
Atp5d	NM_025313	0.0403443	-1.15268
Mpdz	NM_010820	0.0391619	-1.15297
Glce	NM_033320	0.0384505	-1.15303
Ctbp2	NM_001170744	0.00816648	-1.15331
Becn1	NM_019584	0.0117468	-1.15364
Azi2	NM_001048146	0.0290845	-1.15393
1700081L11Rik	NM_001081045	0.0178524	-1.15404
Ing5	NM_025454	0.010434	-1.15427
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Trip12	NM_133975	0.0455517	-1.15464
Dpf2	NM_011262	0.0220577	-1.15485
Bcl10	NM_009740	0.000125797	-1.15485
Rasgrp3	NM_001166493	0.043988	-1.15509
Cs	NM_026444	0.0455535	-1.15515
Mecp2	NM_001081979	0.0315663	-1.15515
Snx19	NM_028874	0.025338	-1.15533
Itpr2	NM_010586	0.0277973	-1.1554
Ubp1	NM_001083319	0.0251873	-1.15559
Hirip3	NM_172746	0.0100845	-1.15569
Tfpt	NM_023524	0.0117919	-1.15587
Arhgef1	NM_001130150	0.00487386	-1.15608
Cdc45	NM_001161623	0.0411968	-1.15611
Tcf25	NM_001037877	0.0182271	-1.15622
Ogfr	NM_031373	0.0139568	-1.15656
Gpr107	NM_178760	0.0307184	-1.15665
Fkbp1a	NM_008019	0.0289214	-1.15668
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2310035K24Rik	NM_027129	0.0419824	-1.15795
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Ncor1	NM_011308	0.0217012	-1.15928
Vldlr	NM_001161420	0.026949	-1.15951
Samhd1	NM_001139520	0.0467512	-1.15954
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Atad3a	NM_179203	0.0344394	-1.15973
Umps	NM_009471	0.000842361	-1.16023
Atp2c1	NM_175025	0.0380952	-1.16028
Oxnad1	NM_145460	0.0243402	-1.16029
Pogz	NM_001165948	0.0354825	-1.16073
Tmem150a	NM_144916	0.0207686	-1.16094
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Mia3	NM_177389	0.017865	-1.1611
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Sik3	NM_027498	0.0144769	-1.16149
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Otub1	NM_134150	0.0372993	-1.16184
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Laptm4b	NM_033521	0.0240862	-1.16243
Acsl4	NM_001033600	0.0192305	-1.16257
Heatr6	NM_145432	0.0144882	-1.16263
Kpnb1	NM_008379	0.0292292	-1.16273
Scgb3a1	NM_054037	0.0160016	-1.16286
Mark1	NM_145515	0.0336382	-1.16295
Zbtb10	NM_177660	0.0190494	-1.16304
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Pion	NM_175437	0.0261232	-1.16656
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Nomo1	NM_153057	0.0431913	-1.16877
Acot11	NM_025590	0.0335283	-1.16885
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Tle6	NM_053254	0.0392957	-1.17059
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Phf20	NM_172674	0.0226641	-1.17094

Ezh1	NM_007970	0.0082954	-1.17098
Extl3	NM_018788	0.0251292	-1.17103
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Kctd21	NM_001039039	0.0163733	-1.17159
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Mrps25	NM_025578	0.0459062	-1.17333
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Hectd3	NM_175244	0.0196145	-1.17371
Sstr4	NM_009219	0.0420143	-1.17372
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Hexa	NM_010421	0.00635476	-1.17386
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Phb2	NM_007531	0.0150102	-1.17458
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Sharpin	NM_025340	0.000661273	-1.17497
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H13	NM_001159551	0.0477952	-1.17573
Ppm1g	NM_008014	0.0209822	-1.17598
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Srd5a1	NM_175283	0.0380525	-1.17648
Senp2	NM_029457	0.0443388	-1.17689
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Itga3	NM_013565	0.0243481	-1.17718
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Gabarap	NM_019749	0.000876621	-1.17764
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Lrrc61	NM_001110160	0.0309694	-1.17773
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Wdr35	NM_001159527	0.0357803	-1.17776
Creb3l2	NM_178661	0.0227871	-1.17789
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Ipo13	NM_146152	0.0349435	-1.17862
Plxna4	NM_175750	0.0333314	-1.17879
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Wiz	NM_011717	0.032223	-1.17882
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Phlpp1	NM_133821	0.0479345	-1.17922
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Batf	NM_016767	0.00864258	-1.17983
Amotl1	NM_001081395	0.0127246	-1.18005
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Mybbp1a	NM_016776	0.0481173	-1.1809
Klhdc4	NM_145605	0.0252108	-1.18103
Gucy1a3	NM_021896	0.0310929	-1.18104
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Plxna3	NM_008883	0.0164491	-1.18202
Vdac1	NM_011694	0.0146745	-1.18204
Agap1	NM_001037136	0.0298962	-1.18204

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Hmgcs1	NM_145942	0.00661575	-1.1827
Thra	NM_178060	0.0131328	-1.18287
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Gdi1	NM_010273	0.0304957	-1.18312
Ctcf	NM_007794	0.00367569	-1.18314
Asb2	NM_023049	0.0100628	-1.18319
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Sdf4	NM_011341	0.0162601	-1.18698
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Arhgef12	NM_027144	0.0276757	-1.18849
Arhgap6	NM_009707	0.0205239	-1.18849
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Synj1	NM_001045515	0.00989728	-1.1894
Stk24	NM_145465	0.0148848	-1.1896
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Cnot6l	NM_144910	0.00029833	-1.19078
Cdk6	NM_009873	0.0402814	-1.19108
Dido1	NM_011805	0.0419315	-1.1914
Lrba	NM_001077687	0.0216569	-1.1915
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Abhd14a	NM_001110271	0.000237923	-1.19209
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Sod2	NM_013671	0.014699	-1.19229
Pum2	NM_001160219	0.0355723	-1.19235
Aph1a	NM_146104	0.00723301	-1.19241
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Eif4g2	NM_001040131	0.00747725	-1.19265
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Trim28	NM_011588	0.0468969	-1.19297
Acsl1	NM_007981	0.00655026	-1.193
Gm3223	NM_010948	0.0387962	-1.19311

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Tlr3	NM_126166	0.0451632	-1.19411
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Thap4	NM_025920	0.043218	-1.19444
Shroom3	NM_001077595	0.0323948	-1.19448
Prickle1	NM_001033217	0.0441234	-1.19454
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Tppp3	NM_026481	0.0131312	-1.19653
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Vcp	NM_009503	0.0287897	-1.19781
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Ivns1abp	NM_001039511	0.00407212	-1.19837
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Faf1	NM_007983	0.049087	-1.19868
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Tbc1d16	NM_172443	0.0124042	-1.19895
Usp15	NM_027604	0.0281814	-1.19909
Txnl4a	NM_001038608	0.00689883	-1.19936
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Glo1	NM_001113560	0.0459771	-1.19972
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Gnpda1	NM_011937	0.023044	-1.1999
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Wdr77	NM_027432	0.0322341	-1.20058
Cnnm3	NM_001039551	0.00768846	-1.20061
Ddr1	NM_007584	0.0338868	-1.20063
Med13l	NM_172424	0.0361372	-1.20079
Mkl2	NM_001122667	0.000673234	-1.2008
Hcfc1	NM_008224	0.02967	-1.20083
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Cep350	NM_001039184	0.00302449	-1.2012
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4632404H12Rik	NM_028726	0.00077626	-1.2025
Alox12	NM_007440	0.0493528	-1.20267
Wipf3	NM_001167860	0.0197563	-1.20283
Inpp5d	NM_001110192	0.0182566	-1.20292
Hars2	NM_080636	0.0143317	-1.20294
Erbb3	NM_010153	0.0324687	-1.20311
Dync1li2	NM_001013380	0.0335966	-1.20318
Aff1	NM_001080798	0.0435604	-1.20331
Clcn4-2	NM_011334	0.0277474	-1.20341
Yy1	NM_009537	0.0149482	-1.20347

Foxj3	NM_172699	0.013438	-1.2036
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Ankmy2	NM_146033	0.0150693	-1.20433
Arfgef2	NM_001085495	0.0288925	-1.20445
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Arl2bp	NM_024191	0.00940238	-1.20485
Ptdss2	NM_013782	0.0288275	-1.20498
Rexo4	NM_207234	0.0341924	-1.20523
Nup98	NM_022979	0.0241434	-1.20545
Prpf6	NM_133701	0.0208995	-1.20573
Rpn2	NM_019642	0.0100477	-1.20578
Irak1	NM_001177973	0.0250856	-1.20578
Fnbp1	NM_001038700	0.0487774	-1.2058
Rbm4b	NM_025717	0.0408653	-1.20606
Stard5	NM_023377	0.0188021	-1.2062
Ank	NM_020332	0.0210436	-1.20627
Extl1	NM_019578	0.0025543	-1.20645
Nat6	NM_019750	0.0044605	-1.20661
5430437P03Rik	NM_026636	0.00415883	-1.20663
Inpp5k	NM_008916	0.0286544	-1.2068
Slc9a1	NM_016981	0.0342036	-1.20681
Sec24c	NM_001168273	0.019539	-1.20682
Taz	NM_001173547	0.0178085	-1.20688
Ano6	NM_175344	0.0293692	-1.20705
Dpp9	NM_172624	0.00824816	-1.20708
Ppt2	NM_019441	0.0221467	-1.20711
Ccdc117	NM_134033	0.00583899	-1.20718
1110007C09Rik	NM_026738	0.0301213	-1.20727
Hipk2	NM_001136065	0.0121065	-1.20734
Ino80	NM_026574	0.015114	-1.20753
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Tbl2	NM_013763	0.0371991	-1.20789
Zfp9	NM_011763	0.0212943	-1.20795
Rrp7a	NM_029101	0.0288376	-1.20801
Cnot3	NM_146176	0.0427432	-1.20803
Mks1	NM_001039684	0.0474001	-1.20817
Lpin3	NM_022883	0.0208507	-1.20824
6230424C14Rik	---	0.0334347	-1.20827
Cnot6l	NM_144910	0.0147162	-1.20857

Ezr	NM_009510	0.024083	-1.20864
Gstm4	NM_001160411	0.0130851	-1.2091
Unc45b	NM_178680	0.00950097	-1.20922
Reep5	NM_007874	0.024007	-1.20955
LOC100048058	NM_146257	0.0459641	-1.20965
Epb4.1l4a	NM_013512	0.0366987	-1.20967
Jph2	NM_021566	0.032217	-1.20993
Inpp5e	NM_033134	0.0076016	-1.21002
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Mll1	NM_001081049	0.0265126	-1.21016
Glt25d2	NM_177756	0.0380589	-1.21025
Exoc8	NM_198103	0.0401447	-1.21031
Txn2	NM_019913	0.0267198	-1.21042
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Sertad3	NM_133210	0.0113046	-1.21076
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Wfdc1	NM_023395	0.00884961	-1.21088
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C230098O21Rik	---	0.0251522	-1.21142
Cbara1	NM_144822	0.00187964	-1.2115
Gpd2	NM_001145820	0.02797	-1.21176
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1110037F02Rik	NM_001081183	0.000292413	-1.21198
Ak2	NM_001033966	0.0228672	-1.21214
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Spns1	NM_023712	0.0098768	-1.21229
Bms1	NM_194339	0.00127437	-1.21231
Cnn2	NM_007725	0.0226946	-1.21236
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Dgcr6	NM_010047	0.034692	-1.21262
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Irf2bp1	NM_178757	0.0303944	-1.21354
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Bcl7b	NM_009745	0.0314732	-1.21426

Abhd14b	NM_029631	0.018083	-1.21456
Mcart1	NM_001009949	0.00258945	-1.21501
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Prep	NM_011156	0.0377396	-1.21579
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Eif1	NM_011508	0.0101495	-1.21622
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Tmcc1	NM_177412	0.043939	-1.21683
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Ap3m2	NM_001122820	0.0281266	-1.21685
Etv6	NM_007961	0.0164318	-1.21734
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Lphn1	NM_181039	0.00163799	-1.21825
Nf1	NM_010897	0.00243114	-1.21848
Unc13b	NM_001081413	0.00829456	-1.21874
Hdgfrp2	NM_008233	0.0242689	-1.21876
Zmym5	NM_144842	0.0258471	-1.21918
Rtp3	NM_153100	0.0367487	-1.21942
Prkaca	NM_008854	0.00459406	-1.21947
Myadm	NM_001093764	0.0473729	-1.21951
Flad1	NM_020517	0.00453434	-1.2197
5930434B04Rik	NM_029862	0.0285434	-1.21983
4933426M11Rik	NM_178682	0.0137488	-1.22019
Klf16	NM_078477	0.0111833	-1.22027
Exoc4	NM_009148	0.02582	-1.2203
Neurl2	NM_001082974	0.00668406	-1.22048
2310001A20Rik	NM_027977	0.0183611	-1.22048
Aplp2	NM_001102455	0.0488143	-1.22101
Ncoa2	NM_001077695	0.0243954	-1.2213
Smug1	NM_027885	0.000346504	-1.22133
Mif4gd	NM_027162	0.00351311	-1.22149
Asph	NM_001177849	0.0376148	-1.22163
C230081A13Rik	NM_172924	0.0015302	-1.22169

Poldip3	NM_178627	0.0121192	-1.2218
Lama5	NM_001081171	0.0422206	-1.22187
LOC319460	---	0.00524641	-1.22193
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Thap4	NM_025920	0.00555327	-1.22205
Arhgef5	NM_133674	0.0226369	-1.22237
Ppil2	NM_144954	0.0418347	-1.2225
Cpt2	NM_009949	0.0417214	-1.22255
Itfg2	NM_133927	0.0409546	-1.22258
Atp2a3	NM_001163336	0.0367174	-1.22271
Crebbp	NM_001025432	0.0185169	-1.2228
Tfdp2	NM_001184706	0.00997307	-1.22335
Eno3	NM_001136062	0.0194736	-1.22343
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Pctp	NM_008796	0.0142665	-1.22398
Pigq	NM_011822	0.00576286	-1.22416
Nucb1	NM_001163662	0.0359784	-1.22427
Adam17	NM_009615	0.00529264	-1.22434
Erlec1	NM_025745	0.00187817	-1.22447
Hp1bp3	NM_001122896	0.0033921	-1.22459
Fam132a	NM_026125	0.0117065	-1.22466
Acot2	NM_134188	0.0144947	-1.22485
Actb	NM_007393	0.0201777	-1.225
Ttf1	NM_009442	0.0248203	-1.22513
Cog3	NM_177381	0.01928	-1.22521
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Gfod1	NM_001033399	0.00379024	-1.22607
Trip6	NM_011639	0.0133987	-1.22611
Map3k4	NM_011948	0.0103707	-1.22612
Sdccag3	NM_001085407	0.0138317	-1.22657
Rsph9	NM_029338	0.0110874	-1.22664
Syngr2	NM_009304	0.0376402	-1.22675
Atg9a	NM_001003917	0.0327435	-1.22698
Atp1b2	NM_013415	0.043485	-1.22699
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C4bp-ps1	NR_028304	0.0489033	-1.22724

Ptprd	NM_001014288	0.00252047	-1.22728
Top3b	NM_011624	0.0359823	-1.22729
Pfkm	NM_001163487	0.0167431	-1.22737
Fgd4	NM_139232	0.0357886	-1.22743
Dnaja3	NM_001135112	0.00674396	-1.2275
Itpr1	NM_010585	0.000286239	-1.22755
Rhbdl3	NM_139228	0.0399061	-1.22758
Cabc1	NM_001163290	0.032133	-1.22759
Fads1	NM_146094	0.0321339	-1.22761
Mapk6	NM_015806	0.00247534	-1.22783
Gp1bb	NM_001001999	0.0473373	-1.22792
Tollip	NM_023764	0.0123519	-1.22806
Snx5	NM_024225	0.0213881	-1.22831
Nt5dc2	NM_027289	0.0403373	-1.22835
Fadd	NM_010175	0.0160618	-1.22843
Sh3pxd2a	NM_001164717	0.0424818	-1.22846
St3gal6	NM_018784	0.0220138	-1.22846
Prkab1	NM_031869	0.0486771	-1.2285
Txlnb	NM_138628	0.0202572	-1.22852
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Kcnq2	NM_001003824	0.0153489	-1.22866
Jmjd8	NM_028101	0.00360745	-1.22878
P4htm	NM_028944	0.0273173	-1.22889
Abca1	NM_013454	0.00733922	-1.22909
Epc1	NM_007935	0.00976841	-1.22916
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Ankmy2	NM_146033	0.0220666	-1.22928
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C1qtnf2	NM_026979	0.0389962	-1.23023
Ahcyl2	NM_001171000	0.0115525	-1.23025
Hfe2	NM_027126	0.0498598	-1.23037
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Gatad2b	NM_139304	0.0306935	-1.23044
Bahcc1	NM_198423	0.0146826	-1.23064
4930430F08Rik	NM_175128	0.0231392	-1.23072
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Mpv17	NM_008622	0.0160319	-1.23103
Atp6v0a2	NM_011596	0.0180383	-1.23103

Sf3b2	NM_030109	0.0387232	-1.2312
Adat3	NM_001100606	0.0441462	-1.23121
Cramp1l	NM_020608	0.0136471	-1.23122
Poldip3	NM_178627	0.0344587	-1.23128
LOC100047839	NM_001164729	0.0192018	-1.23132
Pigu	NM_001004721	0.00208143	-1.23135
Gramd1b	NM_172768	0.0156172	-1.23138
Terf2	NM_001083118	0.0181482	-1.23169
Hmgb3	NM_008253	0.0380497	-1.23189
Mlycd	NM_019966	0.0345353	-1.23208
Rpusd3	NM_001033204	0.018024	-1.23209
Macf1	NM_009600	0.0114204	-1.2322
Rabgef1	NM_019983	0.0122959	-1.23238
Abcc5	NM_013790	0.00142657	-1.23259
Bcl7a	NM_029850	0.00524001	-1.23302
Eif2c1	NM_153403	0.00852128	-1.23309
Klf9	NM_010638	0.0159204	-1.23312
2310079F09Rik	---	0.0435883	-1.23323
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Sirt3	NM_001127351	0.0346908	-1.23344
Hfe2	NM_027126	0.0392924	-1.23378
Prdm11	NM_001177536	0.0233675	-1.23381
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Mrto4	NM_023536	0.00257914	-1.23425
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Parm1	NM_145562	0.0362572	-1.23455
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Rnf217	NM_001146349	0.0312547	-1.23589
Plec	NM_001163540	0.0487588	-1.23618
Pofut1	NM_001039055	0.0340715	-1.23619
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Itpr1	NM_010585	0.0129301	-1.23678
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Larp4b	NM_172585	0.0312586	-1.23691
Camk2d	NM_001025438	0.0441837	-1.23715
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Qk	NM_001159516	0.00838027	-1.23724
Surf4	NM_011512	0.0146774	-1.23732
Nbeal1	NM_173444	0.000816555	-1.23735
Crybg3	NM_174848	0.0128838	-1.2374
Rtn4r	NM_022982	0.0232229	-1.23752
Arfgef1	NM_001102430	0.0264231	-1.23768
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Acad10	NM_028037	0.0347551	-1.2379
Abcc4	NM_001033336	0.0154801	-1.23809
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Polr1a	NM_009088	0.0186621	-1.23867
Nipal3	NM_028995	0.0381723	-1.23896
Tbc1d2b	NM_194334	0.0422314	-1.23926
Capns1	NM_009795	0.0140484	-1.23935
Ddx19a	NM_007916	0.0456529	-1.23937
Mlh3	NM_175337	0.0164731	-1.23944
Opa3	NM_207525	0.0210367	-1.23956
Cpsf4	NM_178576	0.0401972	-1.23975
Tnrc6c	NM_198022	0.0283853	-1.23995
Helz	NM_198298	0.0037915	-1.23996
Tfpi	NM_001177319	0.0429657	-1.24002
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Ndst1	NM_008306	0.0145063	-1.24034
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Flcn	NM_146018	0.0320664	-1.24048
Ctnnd1	NM_001085448	0.0329653	-1.24049
Exoc4	NM_009148	0.00667324	-1.24057
Ctdsp2	NM_001113470	0.0323633	-1.24059
Cox7a1	NM_009944	0.00181434	-1.24083
Insc	NM_173767	0.0277406	-1.24109
Fbxo7	NM_153195	0.0232921	-1.24121
Myo18a	NM_011586	0.0481635	-1.2413
B9d2	NM_172148	0.0103096	-1.24149
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Smtn	NM_001159284	0.0447971	-1.24171
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Btrc	NM_001037758	0.022422	-1.24188
Sel1l	NM_001039089	0.00875071	-1.24219
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Aph1b	NM_177583	0.00928595	-1.24246

Rnf38	NM_001038993	0.0271842	-1.24296
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Sfmbt1	NM_001166531	0.00850926	-1.24361
Ndufs2	NM_153064	0.00306424	-1.24366
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Rbm19	NM_028762	0.0270752	-1.2437
Gna13	NM_010303	0.0482021	-1.24402
Nckipsd	NM_030729	0.0226023	-1.24422
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Igh-6	---	0.00846918	-1.24432
Scarb2	NM_007644	0.0108062	-1.24449
Rps6kb2	NM_021485	0.026279	-1.24456
Pold3	NM_133692	0.0403296	-1.24462
Ptdss2	NM_013782	0.00647005	-1.24475
Gm9780	NM_207229	0.00483133	-1.24485
Plcg1	NM_021280	0.0274447	-1.24496
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Tapbpl	NM_145391	0.0228222	-1.24515
Ddb1	NM_015735	0.0397987	-1.24519
Klc4	NM_029091	0.0115536	-1.24534
Sh3bp4	NM_133816	0.0156608	-1.2454
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Vps13a	NM_173028	0.0360807	-1.24571
Mrm1	NM_145433	0.0274327	-1.24628
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Eif4b	NM_145625	0.00102817	-1.24665
Hyou1	NM_021395	0.0420483	-1.24671
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Ick	NM_001163780	0.024843	-1.247
Znf512b	NM_001164597	0.001028	-1.24717
Fam117a	NM_172543	0.0212633	-1.24718
Ywhaz	NM_011740	0.00133804	-1.24724
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Cldnd1	NM_171826	0.0237594	-1.24765
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Sh3rf2	NM_001146299	0.0486088	-1.24781

Rcc1	NM_133878	0.00172121	-1.24784
Phb2	NM_007531	0.000975536	-1.24791
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Igsf3	NM_207205	0.0311415	-1.2483
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Peo1	NM_153796	0.0149746	-1.2488
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Purb	NM_011221	0.0328902	-1.24899
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Pik3r6	NM_001004435	0.00115158	-1.24911
Srprb	NM_009275	0.00892565	-1.24912
Acsl1	NM_007981	0.0367649	-1.24994
Klhdc9	NM_001033039	0.0234007	-1.24994
Arhgef11	NM_001003912	0.00201003	-1.25018
Arid1b	NM_001085355	0.0409681	-1.25022
Ptdss2	NM_013782	0.0075129	-1.25031
Tmem106c	NM_201359	0.0111594	-1.25051
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Fam53b	NM_175268	0.00203017	-1.25238
Dcaf11	NM_133734	0.0159857	-1.25269
Ywhaz	NM_011740	0.0108419	-1.25271
Golga2	NM_001080968	0.0207437	-1.2532
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Sfrs12	NM_172592	0.0124541	-1.25352
Heyl	NM_013905	0.0372332	-1.25361
Mpnd	NM_026530	0.0164598	-1.25379
Cdk16	NM_011049	0.0266045	-1.25384
Brd3	NM_001113573	0.00691763	-1.25398
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Pard3	NM_001013580	0.0193534	-1.25423
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Csrnp2	NM_153407	0.0193351	-1.25438
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Rnf24	NM_178607	0.0113557	-1.25497
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Syngr2	NM_009304	0.0401567	-1.25603
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Plscr4	NM_178711	0.0146142	-1.26364
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Eif2c4	NM_153177	0.0219278	-1.26517
Ptpn3	NM_011207	0.00855763	-1.26526
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Flot2	NM_001040403	0.0377125	-1.26557
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Rab11b	NM_008997	0.00703565	-1.2659
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Flot2	NM_001040403	0.00760534	-1.26712
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Kif13b	NM_001081177	0.000653558	-1.2678
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Bpnt1	NM_011794	0.0182716	-1.26844
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Prkag1	NM_016781	0.00150168	-1.27269
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Vdac1	NM_011694	0.00644738	-1.27302
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Ints7	NM_178632	0.000333915	-1.27573
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Ylpm1	NM_178363	0.016399	-1.27921
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Eltd1	NM_133222	0.0404969	-1.28213
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Trim25	NM_009546	0.000364874	-1.28224
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Mia3	NM_177389	0.000635828	-1.28285
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Crat	NM_007760	0.0220454	-1.28302
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Smg7	NM_001005507	0.00849464	-1.28589
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Ttyh2	NM_053273	0.0272268	-1.28743
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Exoc8	NM_198103	0.00725788	-1.28795
Disp1	NM_026866	0.0494241	-1.28821
Mavs	NM_144888	0.00204391	-1.28824
P2ry1	NM_008772	0.0490785	-1.2884
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Trafd1	NM_001163470	0.00112628	-1.28875
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Mta1	NM_054081	0.041363	-1.28942
Evc	NM_021292	0.026807	-1.28946
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Dpp8	NM_028906	0.00186448	-1.28983
Prps2	NM_026662	0.029163	-1.28984
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Bmp1	NM_009755	0.00489938	-1.29039
Tor1aip1	NM_001160018	0.0111478	-1.29046
Ophn1	NM_052976	0.0317449	-1.29048
Dennd3	NM_001081066	0.0103635	-1.29063
Abcd1	NM_007435	0.00208407	-1.29086
Snrk	NM_001164572	0.0197855	-1.29105
Trip11	NM_028446	0.00513525	-1.29105
Gnpat	NM_010322	0.00481912	-1.29107
Gramd4	NM_172611	0.0280349	-1.29112
Parp1	NM_007415	0.0121691	-1.29118
Plekha2	NM_031257	0.00048144	-1.29131
Chd8	NM_201637	0.00939163	-1.29151
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Cyba	NM_007806	0.0144802	-1.29205
Mapk3	NM_011952	0.00164143	-1.2921
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Eepd1	NM_026189	0.0276589	-1.2923
Cds2	NM_138651	0.000168656	-1.29234
Oas2	NM_145227	0.0243751	-1.29251
Slc16a9	NM_025807	0.00978113	-1.29266
Fblim1	NM_001163256	0.0175742	-1.29276
Mbd1	NM_013594	0.00429316	-1.29278

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Cc2d2a	NM_172274	0.000963252	-1.29368
Acy1	NM_025371	0.0270275	-1.29378
Mkrn1	NM_018810	0.0301253	-1.29382
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Abhd11	NM_145215	0.0162731	-1.29428
Arrb1	NM_177231	0.0284368	-1.29449
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Suclg2	NM_011507	0.0165968	-1.29539
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Pfkl	NM_008826	0.0350359	-1.29556
Trip10	NM_134125	0.00897249	-1.29559
Tle3	NM_001083927	0.0226576	-1.29562
Ampd3	NM_009667	0.0122465	-1.29598
Map2k6	NM_011943	0.00576036	-1.2961
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Ncor1	NM_011308	0.00251043	-1.29643
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2700089E24Rik	NM_001163445	0.0342154	-1.29668
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Entpd5	NM_001026214	0.0358342	-1.29709
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Shmt2	NM_028230	0.0391168	-1.2972
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Stc2	NM_011491	0.00487291	-1.29741
Hspa9	NM_010481	0.000152502	-1.29743
Nsf	NM_008740	0.00856499	-1.29768
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Cbl	NM_007619	0.0249668	-1.29856
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Adar	NM_001038587	0.00405748	-1.29899
Ruvbl2	NM_011304	0.00741202	-1.299
Wars	NM_001164314	0.0104933	-1.29903
Asb7	NM_080443	0.00172257	-1.29921
Dtx4	NM_172442	0.0141093	-1.29927
Zmat2	NM_025594	0.00946614	-1.29953

C730029A08Rik	---	0.00772737	-1.29965
Zhx3	NM_177263	0.000349436	-1.29969
Aplp2	NM_001102455	0.00805172	-1.30011
Csnk2b	NM_009975	0.0225127	-1.30012
Pnpo	NM_134021	0.00147169	-1.30023
Hgsnat	NM_029884	0.00834281	-1.30024
1700021K19Rik	NM_172615	0.0131464	-1.30034
Arfrp1	NM_001165991	0.000817702	-1.30041
Nr1h2	NM_009473	0.0018264	-1.30088
Rnf150	NM_177378	0.00865118	-1.30096
Slc20a2	NM_011394	0.0184299	-1.30097
Arhgef18	NM_133962	0.00349319	-1.30151
P2rx5	NM_033321	0.0309353	-1.30158
H2-K1	NM_001001892	0.00765082	-1.30186
Arhgef19	NM_172520	0.0372117	-1.30201
Cdc14b	NM_001122989	0.0186913	-1.30211
P2rx4	NM_011026	0.0298387	-1.30222
Aplp2	NM_001102455	0.00980258	-1.30232
Bsg	NM_001077184	0.00527947	-1.30237
Tgfbi	NM_009369	0.0367562	-1.30256
Alox5	NM_009662	0.0418938	-1.30283
Grb2	NM_008163	0.0137754	-1.30309
Crat	NM_007760	0.00710378	-1.30315
Kctd5	NM_027008	0.00875899	-1.30316
Cry1	NM_007771	0.0129986	-1.30363
D0H4S114	NM_001109988	0.0247871	-1.30365
Cyb5b	NM_025558	0.00253294	-1.30365
Ap1m1	NM_007456	0.000774919	-1.30417
Fsd2	NM_172904	0.00212352	-1.30433
Mmaa	NM_133823	0.0203696	-1.30444
Neurl4	NM_001013414	0.0432515	-1.30464
Tnfrsf21	NM_178589	0.0211962	-1.30471
Pdgfrb	NM_001146268	0.0410153	-1.30479
Card6	NM_001163138	0.013791	-1.30481
Pacsin3	NM_028733	0.0497307	-1.30498
Aifm2	NM_001039194	0.0031527	-1.30509
Scly	NM_016717	0.0153381	-1.30522
5430417C01Rik	---	0.0455561	-1.30544
Vps37a	NM_033560	0.0146925	-1.30556
LOC100045148	NM_001130149	0.00676724	-1.30559
Prpf19	NM_134129	0.00255654	-1.3057
1300001I01Rik	NM_001081158	0.0327697	-1.30573

Hyou1	NM_021395	0.0299614	-1.30583
Pank1	NM_001114339	0.00244488	-1.3059
Ebf1	NM_007897	0.00374379	-1.306
Ifi27l1	NM_026790	0.0258833	-1.30603
Tnik	NM_001163007	0.00391989	-1.30606
Mrpl14	NM_026732	0.03271	-1.30628
Frrs1	NM_001113478	0.0265689	-1.30632
Tmem98	NM_029537	0.0104175	-1.30636
Trex1	NM_001012236	0.0059216	-1.30636
Dlg1	NM_007862	0.0159044	-1.30643
Chka	NM_001025566	0.0151298	-1.30663
Ptbp1	NM_001077363	7.46E-05	-1.30688
Pard3	NM_001013580	0.0394097	-1.30689
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Sun1	NM_024451	0.00727921	-1.30704
Kctd20	NM_025888	0.0301391	-1.30751
Litaf	NM_019980	0.00940539	-1.30776
9430016H08Rik	NM_001081181	0.0104935	-1.3081
2810004N23Rik	NM_025615	0.00865899	-1.30817
Cnot10	NM_153585	0.00622214	-1.30842
Katnal1	NM_153572	0.00869717	-1.30852
Hadh	NM_008212	0.0105463	-1.30853
Wdr5	NM_080848	0.00816528	-1.30863
Syt11	NM_018804	0.0190293	-1.30874
Sumo3	NM_019929	0.00758843	-1.30879
Smarcd1	NM_031842	0.00388313	-1.30881
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Wdr55	NM_026464	0.008726	-1.30921
Pigo	NM_020035	0.00843853	-1.30938
A930005H10Rik	NR_015487	0.0247101	-1.30974
Ganab	NM_008060	0.0349985	-1.30997
Calm3	NM_007590	0.0164852	-1.31
Tlcd2	NM_027249	0.0468112	-1.31017
Pcnt	NM_008787	0.0175933	-1.31029
Exosc5	NM_138586	0.038574	-1.31051
Appl2	NM_145220	0.0269926	-1.31092
Capzb	NM_001037761	0.0091318	-1.31119
Isoc2b	NM_026158	0.0188118	-1.31132
Pcnt	NM_008787	0.0127583	-1.31149
Psme1	NM_011189	0.0228789	-1.31153
Rptor	NM_028898	0.0187373	-1.31173

Stard8	NM_199018	0.00135263	-1.3118
Svil	NM_153153	0.0106521	-1.3119
Svil	NM_153153	0.00212759	-1.312
Pptc7	NM_177242	0.00587612	-1.31212
1110012J17Rik	NM_001114098	0.0387703	-1.31247
Zfp712	NM_001166218	0.0140842	-1.31302
Lcmt2	NM_177846	0.0324684	-1.31315
Srd5a1	NM_175283	0.011601	-1.31325
Dnmt3a	NM_007872	0.0240775	-1.31335
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Cnot7	NM_011135	0.0090581	-1.31363
Aco1	NM_007386	0.0225335	-1.31383
2610036D13Rik	NM_029282	0.00359828	-1.31396
1300010F03Rik	NM_027906	0.0105527	-1.31414
Abcf3	NM_013852	0.0159135	-1.31456
Ppp2r4	NM_138748	0.00404587	-1.31474
Rap1gap	NM_001081155	0.0449593	-1.31486
Opa3	NM_207525	0.00236197	-1.31516
Itpkc	NM_181593	0.00799999	-1.31517
Tbc1d1	NM_019636	0.0134253	-1.31525
Cyp2j6	NM_010008	0.0486136	-1.31537
Tspan2	NM_027533	0.0431327	-1.31539
Gna12	NM_010302	0.0022676	-1.3155
Ank2	NM_001034168	0.00386998	-1.31578
Yipf5	NM_023311	0.0196004	-1.31584
Ralgapa2	NM_001033348	0.00304097	-1.31588
Polr3d	NM_001164082	0.0147904	-1.31588
Cyp51	NM_020010	0.0246117	-1.31614
AA408213	---	0.038627	-1.31627
Anks1	NM_181413	0.0237724	-1.31638
Lpcat1	NM_145376	0.0153139	-1.3164
Agtpbp1	NM_001048008	0.000268423	-1.31647
Stxbp5	NM_001081344	0.0197074	-1.31676
Map1lc3b	NM_026160	0.0166722	-1.31679
Cdc123	NM_133837	0.0405928	-1.3168
Mthfr	NM_001161798	0.0140637	-1.31684
Kbtbd12	NM_001142724	0.0360451	-1.31709
Gstp1	NM_013541	0.00157679	-1.31727
Ifi27l1	NM_026790	0.0100619	-1.3174
Pde2a	NM_001008548	0.0228557	-1.31747
Cyth1	NM_001112699	0.00270383	-1.31749
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2310047B19Rik	NM_025870	0.0260644	-1.31761
Lysmd4	NM_175215	0.0148627	-1.31769
Csnk1d	NM_027874	0.0188785	-1.3177
Naa40	NM_027643	0.0229051	-1.31775
Dpep1	NM_007876	0.0157654	-1.31783
Dennd4b	NM_201407	0.00148107	-1.31833
Cmbl	NM_181588	0.0439288	-1.31851
E330009J07Rik	NM_175528	0.00178666	-1.31872
Nutf2	NM_026532	0.0056307	-1.31875
Myst4	NM_017479	0.000588164	-1.31876
Dlc1	NM_015802	0.018083	-1.31879
Wdtc1	NM_199306	0.0190018	-1.3188
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Ncbp2	NM_026554	0.0344734	-1.31923
Tanc1	NM_198294	0.00319266	-1.31934
Qser1	NM_001123327	0.025	-1.31939
Srebf2	NM_033218	0.00319428	-1.31958
Brd8	NM_030147	0.0139303	-1.3197
Alas1	NM_020559	0.0494251	-1.32003
Dtx3l	NM_001013371	0.0247946	-1.32075
E430010N07Rik	---	0.0173675	-1.32114
Hist3h2a	NM_178218	0.000772461	-1.32128
Usp9x	NM_009481	0.0179861	-1.32138
Ccng2	NM_007635	0.021525	-1.32153
Fbxl20	NM_028149	0.0244045	-1.32156
Entpd5	NM_001026214	0.0247516	-1.32157
Chd7	NM_001081417	0.014157	-1.32158
Obscn	NM_001003914	0.00216535	-1.3216
Pramef8	NM_172877	0.00697893	-1.32169
Larp4b	NM_172585	0.00348148	-1.32194
Slc36a1	NM_153139	0.0053935	-1.32201
Parm1	NM_145562	0.0187406	-1.32207
Gns	NM_029364	0.0102307	-1.32228
LOC676870	NM_008783	0.00117784	-1.32235
Tpk1	NM_013861	0.0301373	-1.3227
Adamtsl3	XM_194370	0.00562361	-1.32279
Ssbp3	NM_023672	0.00532772	-1.32287
4930422I07Rik	NM_001142943	0.022407	-1.32295
Acvrl1	NM_009612	0.00413056	-1.32315
Slc25a19	NM_026071	0.00968998	-1.32316
Isyna1	NM_023627	0.0102164	-1.32329

Rnf169	NM_175388	0.00313167	-1.32359
Irx1	NM_010573	0.0437018	-1.32383
2610528E23Rik	NM_025599	0.0172219	-1.3241
Iqsec1	NM_001134383	0.0348793	-1.32429
Egln1	NM_053207	0.0227614	-1.32454
Pdp2	NM_001024606	0.025397	-1.32465
Asb13	NM_080857	0.002595	-1.32482
Camta2	NM_178116	0.0383826	-1.32494
LOC671957	NM_001024712	0.00996083	-1.32619
Rcsd1	NM_001038846	0.00311606	-1.32633
Clip4	NM_030179	0.011132	-1.3264
Plxna1	NM_008881	0.00713315	-1.32652
Prlr	NM_011169	0.0187185	-1.32654
Parp11	NM_181402	0.0257379	-1.3266
Prpf39	NM_177806	0.00108288	-1.32678
Gpatch8	NM_001159492	0.00988627	-1.32728
Unc119b	NM_175352	0.0094236	-1.32737
Lhpp	NM_029609	0.0286038	-1.32746
Tex261	NM_009357	0.0254415	-1.32769
Lass4	NM_026058	0.00954488	-1.32846
Alg8	NM_199035	0.0119603	-1.32872
Ehd1	NM_010119	0.00453315	-1.32918
Zyg11b	NM_001033634	0.020923	-1.32938
Tmcc3	NM_001168684	0.0056185	-1.32939
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Pdzd8	NM_001033222	0.0146313	-1.3297
1810044D09Rik	---	0.0271711	-1.32975
Calr	NM_007591	0.00338351	-1.32978
5730410E15Rik	NM_001032727	0.0333512	-1.32979
Hspa5	NM_001163434	0.00679457	-1.33021
Cybb	NM_007807	0.0491225	-1.33044
Pcnxl3	NM_144868	0.0284027	-1.33098
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Tmem229b	NM_001170401	0.0173704	-1.33134
Mtmr6	NM_144843	0.0176999	-1.33137
Iqsec1	NM_001134383	0.00846683	-1.33137
Grip2	NM_001159507	0.0261135	-1.33152
Pex26	NM_028730	0.0406362	-1.33155
Synj2	NM_001113351	0.0047515	-1.33183
Rpap1	NM_001163701	0.00676756	-1.33187
Dapk1	NM_029653	0.0127567	-1.33222

Cited2	NM_010828	0.0409968	-1.33229
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Shmt2	NM_028230	0.0123467	-1.33251
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Tspan13	NM_025359	0.000713697	-1.33275
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Ncoa1	NM_010881	0.0130063	-1.33361
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Rcor3	NM_144814	0.00456425	-1.33378
Nsun2	NM_145354	0.0126827	-1.33386
Cgnl1	NM_026599	0.0102435	-1.33421
Gmppa	NM_133708	0.00565953	-1.33425
Nap1l4	NM_008672	0.00102213	-1.33431
Nsmaf	NM_010945	0.00506955	-1.33431
Ube2h	NM_001169576	0.0031145	-1.33449
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Kctd12b	NM_175429	0.0189546	-1.33458
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Tacc2	NM_001004468	0.032607	-1.33511
Eef1a2	NM_007906	0.0232131	-1.33539
Elmo2	NM_080287	0.00633067	-1.3354
Pcid2	NM_178708	0.00598996	-1.33542
Mcoln1	NM_053177	0.00525288	-1.33558
Pou2f1	NM_011137	0.00331416	-1.3356
Angptl6	NM_145154	0.00176621	-1.33561
Nacc2	NM_001037098	0.00729782	-1.33568
Frem2	NM_172862	0.0202495	-1.33585
Cmya5	NM_023821	0.0075677	-1.33597
Fryl	NM_028194	0.0292471	-1.33605
Smr2	NM_021289	0.00226614	-1.33633
Dnaja3	NM_001135112	0.0478807	-1.33638
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Entpd5	NM_001026214	0.0200607	-1.33645
Rhot2	NM_145999	0.0111456	-1.33651
Myo1b	NM_001161817	0.00331235	-1.33673
Impa2	NM_053261	0.0309009	-1.33688
Mettl7a1	NM_027334	0.0338997	-1.33694
Sobp	NM_175407	0.0110205	-1.33701
Plce1	NM_019588	0.0107426	-1.33705
Ncoa2	NM_001077695	0.0310184	-1.33738

Sh3bp5	NM_011894	0.00716153	-1.33753
H2afb3	XM_619451	0.0176262	-1.3376
Ppp5c	NM_011155	0.0132165	-1.33773
Mapt	NM_001038609	0.0221978	-1.33859
Samm50	NM_178614	0.0021607	-1.33961
Rnf122	NM_175136	0.00356334	-1.33985
Fasn	NM_007988	0.0290668	-1.34018
H2-K1	NM_001001892	0.0238108	-1.34027
Reps1	NM_001111065	0.00126892	-1.34028
Mertk	NM_008587	0.00282434	-1.34122
Lsm12	NM_172947	0.0023539	-1.34122
Ptgds	NM_008963	0.00782979	-1.3415
Eef2	NM_007907	0.0302538	-1.3417
Egfl7	NM_001164564	0.00881837	-1.34222
A2bp1	NM_021477	0.023771	-1.34275
Clip4	NM_030179	0.0291115	-1.34279
Herpud1	NM_022331	0.0458026	-1.34292
Tuba8	NM_017379	0.022755	-1.34294
Crtc3	NM_173863	0.0254858	-1.34326
Taf10	NM_020024	0.028527	-1.3433
Kri1	NM_145416	0.0130328	-1.34351
Wdr81	NM_138950	0.0130965	-1.344
Pank1	NM_001114339	0.0325686	-1.34449
Pum1	NM_001159603	0.00328716	-1.34453
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Rnf167	NM_027445	0.0135363	-1.34533
Atg2a	NM_194348	0.0484367	-1.34593
Prodh	NM_011172	0.0422417	-1.34601
2510009E07Rik	NM_001001881	0.0251236	-1.34616
Dhrs3	NM_001172424	0.0100859	-1.34631
Smad3	NM_016769	0.00335731	-1.34695
BC026590	NM_001081420	0.016118	-1.34706
Poll	NM_020032	0.0016958	-1.3472
Ptdss2	NM_013782	0.0426824	-1.34721
Cnst	NM_146105	0.0127859	-1.34722
Trappc5	NM_025701	0.0115296	-1.34723
LOC100047441	NM_028722	0.0279501	-1.34783
Pomt2	NM_153415	0.00223735	-1.34795
Sspn	NM_010656	0.000906253	-1.34839
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2310051F07Rik	---	0.00692489	-1.34899
Trim14	NM_029077	0.0373381	-1.34926
Adi1	NM_134052	0.00203886	-1.34949
Dusp23	NM_026725	0.0471576	-1.34951
Rere	NM_001085492	0.0226629	-1.34965
Mccc2	NM_030026	0.0449488	-1.34989
Dnajc3	NM_008929	0.00462133	-1.35007
Spg11	NM_145531	0.0166398	-1.35019
Cttnbp2nl	NM_001163332	0.00342384	-1.35021
Wnk2	NM_029361	0.036579	-1.35029
Map1lc3a	NM_025735	0.00135169	-1.35091
Mgll	NM_001166249	0.038061	-1.35091
Kcna7	NM_010596	0.0016641	-1.35092
Inadl	NM_001005784	0.000840928	-1.351
Abcc9	NM_001044720	0.00643126	-1.35126
Blnk	NM_008528	0.00481498	-1.35137
Tmem143	NM_144801	0.0122099	-1.35173
Lman2	NM_025828	0.00297194	-1.35206
Slc12a6	NM_133648	0.000895588	-1.3523
Dnajc3	NM_008929	0.0460174	-1.35253
Ppapdc3	NM_145521	0.0224141	-1.35259
Stat1	NM_009283	0.045698	-1.3528
Rilpl1	NM_021430	0.0134665	-1.35311
Sec16a	NM_153125	0.0115037	-1.35341
Rgs12	NM_001163512	0.00118781	-1.35371
Notch3	NM_008716	0.0290831	-1.35401
Eif4g3	NM_172703	0.00975747	-1.35427
Mef2a	NM_001033713	0.000139886	-1.35433
Hspd1	NM_010477	0.000405882	-1.35448
Epb4.1l3	NM_013813	0.0298685	-1.35455
Adi1	NM_134052	0.00255731	-1.35472
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Cd19	NM_009844	0.00703637	-1.35513
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Smap2	NM_133716	0.0412732	-1.35525
Cdk18	NM_008795	0.0158018	-1.35555
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Arid5b	NM_023598	0.00880825	-1.35567
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Cpeb3	NM_198300	0.005289	-1.35615
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Sp100	NM_013673	0.0396889	-1.35629

Erap1	NM_030711	0.00270022	-1.35645
Atp1a2	NM_178405	0.00685761	-1.35693
Akt1s1	NM_026270	0.0366522	-1.35714
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Rhpn2	NM_027897	0.0170773	-1.35745
Clasp1	NM_001081276	0.00770951	-1.3582
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1700020C11Rik	NM_026443	0.00200843	-1.35853
Ccdc127	NM_001168658	0.0212723	-1.35855
Ogfod2	NM_025671	0.00310947	-1.35859
Rapgef4	NM_019688	0.0263414	-1.3586
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Cbx6	NM_028763	0.00666256	-1.35877
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Gmppa	NM_133708	0.00386157	-1.35904
Smg6	NM_001002764	0.0271503	-1.35941
Npr2	NM_173788	0.00152663	-1.35979
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Pds5a	NM_001081321	0.0209588	-1.35994
Cpd	NM_007754	0.00584526	-1.36017
Gns	NM_029364	0.0103214	-1.36023
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Mll3	NM_001081383	0.0303652	-1.3613
Supt7l	NM_028150	9.06E-05	-1.36163
Entpd5	NM_001026214	0.0320412	-1.36195
Kcnq1	NM_008434	0.00910487	-1.36209
Rgl1	NM_016846	0.0121927	-1.36211
Fbl	NM_007991	0.0124041	-1.36221
Scpep1	NM_029023	0.0166973	-1.36247
Gorasp2	NM_027352	0.0263362	-1.36252
Gas6	NM_019521	0.0381763	-1.36266
Higd1c	NM_001002900	0.0461096	-1.36278
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Rhobtb2	NM_153514	0.0024679	-1.36426
Lama3	NM_010680	0.00323909	-1.3644
Lamb1-1	NM_008482	0.00489288	-1.3647
Nid1	NM_010917	0.021865	-1.36502
Impa2	NM_053261	0.0480126	-1.36586
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Mettl1	NM_010792	0.0210593	-1.36658
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Prkce	NM_011104	0.0441918	-1.36689
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Magix	NM_018832	0.0369657	-1.36709
Tyk2	NM_018793	0.0440671	-1.3677
Ttc28	NM_024477	0.0467544	-1.36783
Nfya	NM_001110832	0.00311022	-1.36784
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Dock4	NM_172803	0.00946717	-1.36821
Ube2i	NM_001177609	0.00630928	-1.36822
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Rtn4ip1	NM_130892	0.00399486	-1.36863
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2310015A10Rik	NR_033514	0.0151618	-1.36875
Pfkl	NM_008826	0.00399865	-1.36876
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Suds3	NM_001122666	0.000658326	-1.36966
Thy1	NM_009382	0.0135252	-1.36989
Tuba8	NM_017379	0.0207278	-1.37002
Abtb2	NM_178890	0.00281118	-1.37003
Notch3	NM_008716	0.0148063	-1.37036
Mta2	NM_011842	0.0293334	-1.37043
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Alpk2	NM_001037294	0.0395805	-1.37077
Bat2l	NM_001159634	0.0162171	-1.37126
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Whsc1	NM_001081102	0.0113063	-1.37188
Vapb	NM_019806	0.0108314	-1.37194
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Stox2	NM_001114311	0.00402867	-1.37243
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Glb1	NM_009752	0.0139607	-1.37322
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Plin4	NM_020568	0.00849229	-1.37436
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Adck5	NM_172960	0.00115045	-1.37761
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Ttl	NM_027192	0.00835344	-1.38234
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Ttl	NM_027192	0.0029614	-1.38352
Plin3	NM_025836	0.0027069	-1.38373
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Naprt1	NM_172607	0.0116761	-1.38493
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Serpinh1	NM_001111043	0.0272665	-1.38569
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Pfkfb4	NM_173019	0.0283354	-1.38618
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Inpp1	NM_008384	0.00807822	-1.38714
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Fat4	NM_183221	0.00186399	-1.38762
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Opa3	NM_207525	0.00253827	-1.38969
Ppp5c	NM_011155	0.0152028	-1.39042
Thumpd1	NM_145585	0.000548695	-1.39046
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Lonrf2	NM_001029878	0.0185609	-1.39102
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Rundc1	NM_172566	0.000707057	-1.39269
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Rfwd3	NM_146218	0.00645246	-1.39557
Huwe1	NM_021523	0.00156728	-1.39573
Epn2	NM_010148	0.00113256	-1.39613
Pm20d1	NM_178079	0.0263845	-1.39637
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Mmp15	NM_008609	0.0364449	-1.39677
Arap3	NM_139206	0.039339	-1.397
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Pygm	NM_011224	0.00518376	-1.39945
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Fyco1	NM_001110253	0.00112668	-1.40022
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Ank1	NM_001110783	0.0076895	-1.40193
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Lmod3	NM_001081157	0.00179792	-1.40522
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Sox6	NM_001025559	0.0340779	-1.40667
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Lpcat1	NM_145376	0.00905112	-1.40759
Glb1	NM_009752	0.000316509	-1.40802
Tgfb1	NM_011577	0.0360245	-1.40861
Atp6ap1	NM_018794	7.97E-05	-1.40899
Rad1	NM_011232	0.0479336	-1.40909
Mast4	NM_175171	0.0156104	-1.40918
Fkbpl	NM_019873	0.0125737	-1.40931
Stip1	NM_016737	0.000761319	-1.40983
Hivep2	NM_010437	0.0206808	-1.41077
LOC100048559	NM_001078167	0.0226263	-1.41107
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Gys1	NM_030678	0.0281075	-1.41321
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4632415K11Rik	NM_028883	0.00102399	-1.41384
Adprhl1	NM_172750	0.000397081	-1.4148
H1f0	NM_008197	0.00102014	-1.41522
Gatsl2	NM_030719	0.00741421	-1.41541
Fat4	NM_183221	0.0108382	-1.41609
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Rasa3	NM_009025	0.0180468	-1.41903
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Rilpl1	NM_021430	0.00287465	-1.41958
Gna12	NM_010302	0.0104454	-1.4206
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Cmtm6	NM_026036	0.0209049	-1.4226
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Rmnd1	NM_025343	0.0161108	-1.42322
Ubc	NM_019639	0.0123868	-1.4242
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Jarid2	NM_021878	0.000486975	-1.42489
Reep1	NM_178608	0.00188817	-1.4256
Dnajc18	NM_029669	0.0317104	-1.42669
Klf9	NM_010638	0.0198109	-1.42697
Fbxo21	NM_145564	0.00191697	-1.42701
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Vapb	NM_019806	0.0079575	-1.4331
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Cxcr4	NM_009911	0.0429821	-1.43471
Bmf	NM_138313	0.0128481	-1.43544
Hadha	NM_178878	0.0102454	-1.43545
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Scfd1	NM_029825	0.00905042	-1.43679
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Actb	NM_007393	0.00992769	-1.43768
Ccdc56	NM_026618	0.042156	-1.43781
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Emp2	NM_007929	0.000654428	-1.43846
Flcn	NM_146018	0.000591764	-1.43924
Polr1b	NM_009086	0.000400244	-1.43984
Gnptab	NM_001004164	0.0310132	-1.44072
Stk38	NM_134115	0.000568783	-1.44079
Cox10	NM_178379	0.0267921	-1.44109
Smarcd2	NM_001130187	0.00760308	-1.44112
Rell1	NM_145923	0.00145964	-1.44145
Ergic1	NM_026170	0.0248402	-1.44238
Oaz2	NM_010952	0.0119041	-1.44344
Msrb2	NM_029619	0.0277405	-1.44358
Lmtk2	NM_001081109	0.0115439	-1.44376
Macrod2	NM_001013802	0.000691707	-1.44424
Dcaf4	NM_001165256	0.00244658	-1.44495
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Lgi1	NM_020278	0.0349351	-1.4465

Tubgcp4	NM_153387	0.0210668	-1.44727
Pla2g15	NM_133792	0.0108225	-1.44748
Flad1	NM_177041	0.000722393	-1.4475
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Mpdu1	NM_011900	0.00944768	-1.44931
Ctsb	NM_007798	0.0078444	-1.44961
Cxcr7	NM_007722	0.00158849	-1.44972
Zbtb12	NM_198886	0.03257	-1.45037
Fndc5	NM_027402	0.000566206	-1.45038
Kdr	NM_010612	0.0301022	-1.45117
Snrpd3	NM_026095	0.0106448	-1.45176
Mcoln1	NM_053177	0.00559748	-1.45197
Galntl2	NM_030166	0.00264631	-1.45212
Snx5	NM_024225	0.00350461	-1.4534
Mrpl19	NM_026490	0.00253902	-1.45367
Slc38a3	NM_023805	0.00450874	-1.4538
Ahsa1	NM_146036	0.00221328	-1.45388
2410137M14Rik	NM_029747	0.00594176	-1.45395
Ube2b	NM_009458	0.0376003	-1.45439
Aen	NM_001162939	0.00742636	-1.45473
Depdc5	NM_001025426	0.00192162	-1.45506
Slc24a3	NM_053195	0.020587	-1.45559
2310061I04Rik	NM_001033630	0.000872693	-1.45579
Dync1h1	NM_030238	0.0144007	-1.45605
Anapc1	NM_008569	0.00502748	-1.45608
Calr	NM_007591	0.00156093	-1.45619
Dgcr6	NM_010047	0.00661377	-1.45623
Cpd	NM_007754	0.0482424	-1.45675
Rab3a	NM_001166399	0.00905675	-1.45694
E130203B14Rik	NM_178791	0.000514668	-1.45702
Ccdc47	NM_026009	0.0234352	-1.45724
Pggt1b	NM_172627	0.00485854	-1.45731
Sepw1	NM_009156	0.0143577	-1.45756
Cyb5r3	NM_029787	0.0111097	-1.45793
Foxs1	NM_010226	0.00959771	-1.45811
Abcf1	NM_013854	0.0111097	-1.45815
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Ankrd50	NM_001033198	0.00121403	-1.46094
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Fastk	NM_023229	0.000744647	-1.46168
Nhsl1	NM_001163592	0.000949727	-1.46248
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Rab17	NM_001159725	0.0417558	-1.46626
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Ldlr	NM_010700	0.00655873	-1.4679
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Tap1	NM_001161730	0.0394765	-1.47149
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Adamts9	NM_175314	0.00700968	-1.4741
Mcc	NM_001085373	0.0477766	-1.47463
Rab6b	NM_173781	0.0155923	-1.47506
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Cdh5	NM_009868	0.0353363	-1.4806
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Dgke	NM_019505	0.0097224	-1.48187
Vamp3	NM_009498	0.00918162	-1.48201
Gtf3c2	NM_027901	0.00980646	-1.48295
Tln2	NM_001081242	0.00428643	-1.48317
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Ctnnb1	NM_001165902	0.00839778	-1.48924
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H2-K1	NM_001001892	0.0152618	-1.49019
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Snrnp70	NM_009224	0.0289117	-1.49742
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Cd82	NM_001136055	0.007964	-1.51438
Glg1	NM_009149	0.00622977	-1.51441
Preb	NM_016703	0.000920814	-1.51524
Mgat5	NM_145128	0.0143264	-1.5159
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Atp5g1	NM_001161419	0.00146842	-1.51994
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Abcc9	NM_001044720	0.00413988	-1.52414
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Sirpa	NM_001177646	0.0134847	-1.52647
Ptgds	NM_008963	0.0148868	-1.52691
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Lrrc1	NM_001146048	0.000766222	-1.5274
Lpin1	NM_001130412	0.00693038	-1.5278
Plekhh1	NM_181073	0.00698067	-1.5285
Gm9780	NM_207229	0.000316179	-1.52972
Il17d	NM_145837	0.0393675	-1.53289
Slc38a9	NM_178746	0.0112273	-1.53335
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Brd1	NM_001033274	0.0276727	-1.53632
Cabc1	NM_001163290	0.00279541	-1.53703
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Foxp1	NM_053202	0.0167702	-1.54172

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Kcnip2	NM_030716	0.00559022	-1.54324
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Dnaic1	NM_175138	0.0251717	-1.54621
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Cyfip2	NM_133769	0.00178024	-1.54896
Snx8	NM_172277	0.028893	-1.54945
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Gpr107	NM_178760	0.000694599	-1.5513
Rtn4ip1	NM_130892	0.000888902	-1.55317
Rps6ka2	NM_011299	0.00434175	-1.55331
Nav2	NM_001111016	0.00081504	-1.5537
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Agap1	NM_001037136	0.0180014	-1.55445
Meis2	NM_001136072	2.99E-05	-1.55648
Lgals3bp	NM_011150	0.0124584	-1.5569
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Dcakd	NM_026551	0.0168391	-1.5644
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Gstm1	NM_010358	0.0141603	-1.56484
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Dhrs4	NM_001037938	0.0137146	-1.56921
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Cadm4	NM_153112	0.000681619	-1.57099
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Gstm1	NM_010358	0.023908	-1.57413
Arl2bp	NM_024191	0.000748548	-1.57413
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Rsad2	NM_021384	0.0214416	-1.57929
Gstm1	NM_010358	0.0169666	-1.57943
Bach2	NM_001109661	0.00843179	-1.57973
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Vtn	NM_011707	0.0152909	-1.58106
Rap1gap2	NM_001015046	0.000369149	-1.58395
Rxrg	NM_001159731	0.00461759	-1.58472
Spsb1	NM_029035	0.00586797	-1.58688
Acss1	NM_080575	0.00728218	-1.5875
Wnt5a	NM_009524	0.0338183	-1.5879
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Foxp1	NM_053202	0.0193001	-1.58953
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Pdk2	NM_133667	0.00173764	-1.59649
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Pltp	NM_011125	0.00498905	-1.59737
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Trim25	NM_009546	9.60E-06	-1.60018
Bach2	NM_001109661	0.00327095	-1.60204
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Haus2	NM_025475	0.0484309	-1.60542
Dnaic1	NM_175138	0.0166788	-1.6065
Stat1	NM_009283	0.00192725	-1.6072
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Adam19	NM_009616	0.000118515	-1.60798
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Actr3b	NM_001004365	0.00214654	-1.61507
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Arpc1b	NM_023142	0.00911764	-1.6188
Egflam	NM_178748	0.0256308	-1.61931
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Parp14	NM_001039530	0.00559239	-1.62591
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Elk3	NM_013508	0.0464969	-1.62876
Cdc42	NM_009861	0.019901	-1.63079
Rad52	NM_001166381	0.00132951	-1.63193
Picalm	NM_146194	0.0169554	-1.63238
Coro6	NM_139128	0.00852084	-1.63315
Blmh	NM_178645	0.0252743	-1.63634
Kcnip2	NM_030716	0.000821934	-1.63721
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Lrrc68	NM_199149	0.0117517	-1.63743
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Lynx1	NM_011838	0.000118533	-1.64385
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Nav3	NM_001081035	0.000734611	-1.64681
Med12l	NM_177855	0.00229999	-1.64844
Spred1	NM_033524	0.00762254	-1.64849
Ppm1l	NM_178726	0.0193305	-1.64871
Mgea5	NM_023799	0.00780183	-1.64904
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Stat1	NM_009283	0.000918067	-1.65701
Foxj2	NM_021899	0.00714745	-1.65724
Neo1	NM_001042752	0.00115424	-1.65731
Robld3	NM_031248	0.000850403	-1.65873
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Neo1	NM_001042752	0.00678999	-1.66892
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Tkt	NM_009388	0.0101195	-1.67546
Numa1	NM_133947	0.0406735	-1.67722
Scara5	NM_001168318	0.0355889	-1.67773
Nlrc5	NM_001033207	0.0245646	-1.67974
Vtn	NM_011707	0.0159089	-1.68095
Higd1c	NM_001002900	0.0065544	-1.68174
Clip4	NM_030179	0.0052143	-1.68181
Rprd2	NM_001081293	0.00148236	-1.68404
H2-D1	NM_010380	0.00632815	-1.68487
Meis2	NM_001136072	0.00023934	-1.68549
Col5a3	NM_016919	0.015365	-1.68559
Auts2	NM_177047	0.00471028	-1.68713
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Tet1	NM_027384	0.000511054	-1.69728
Pim1	NM_008842	0.0234607	-1.69768
Fkbp2	NM_001166368	0.0391407	-1.69824
Rpl3l	NM_001163945	0.00959291	-1.69971
Rcan2	NM_030598	0.0246597	-1.70025
Epha4	NM_007936	0.00833211	-1.70224
Osgin2	NM_145950	0.00150373	-1.7028
Pik3r3	NM_181585	0.0484465	-1.70389
Hmcn1	NM_001024720	4.61E-05	-1.70511
Sf3b1	NM_031179	0.0012884	-1.70626
Keap1	NM_001110305	0.0459274	-1.70714
2310050B05Rik	NR_015477	0.0219168	-1.7101
Egf	NM_010113	0.00447668	-1.71064
Dhrs4	NM_001037938	0.00297344	-1.71219
H2-D1	NM_010380	0.0178961	-1.71302
Fahd1	NM_023480	0.000993605	-1.71324
Arhgef17	NM_001081116	0.00312866	-1.71348
Hcls1	NM_008225	0.0127407	-1.71523
H2-Aa	NM_010378	0.0393835	-1.71652
Clic1	NM_033444	0.0139475	-1.71675
Trim63	NM_001039048	0.000153779	-1.72435
Ephb1	NM_001168296	0.000566139	-1.72875
Cd93	NM_010740	0.0047061	-1.73097
Map3k5	NM_008580	3.31E-05	-1.7323
2900057H02Rik	NM_144801	0.0082588	-1.73325
Tbx3	NM_011535	0.0337948	-1.7349
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Abcb1a	NM_011076	0.00382734	-1.74188
Cdk16	NM_011049	0.00767624	-1.74326
Ndrg2	NM_001145959	0.00352565	-1.74562
Irgm2	NM_019440	0.0282024	-1.74915
Sdf2l1	NM_022324	0.0368639	-1.74998
Dgat2	NM_026384	0.000287331	-1.75633
Tkt	NM_009388	0.00544651	-1.75788
Eml2	NM_001162996	0.00402017	-1.75842
Fbxo30	NM_001168297	0.00124224	-1.76051

Acaa1a	NM_130864	0.00495563	-1.76096
Mtmr4	NM_133215	0.0153591	-1.76124
Cd93	NM_010740	0.00252662	-1.76491
Jun	NM_010591	0.0397132	-1.76544
Asxl1	NM_001039939	0.00044485	-1.76591
Ptgr2	NM_029880	4.94E-05	-1.76627
2310010M20Rik	NM_183283	0.00378286	-1.76686
Adcy6	NM_007405	0.00841609	-1.7719
Tmem87b	NM_028248	0.0185774	-1.7749
Fkbp4	NM_010219	0.000340345	-1.78253
1500003O03Rik	NM_019769	0.0357178	-1.78849
Asb15	NM_080847	7.93E-05	-1.78967
Usf1	NM_009480	0.00357687	-1.79648
Snrnp200	NM_177214	0.000218096	-1.80045
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Lrtm1	NM_176920	0.00977367	-1.80456
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Cenpb	NM_007682	0.0184882	-1.80755
Acads	NM_007383	0.0149046	-1.80976
Ramp1	NM_001168392	0.035027	-1.81024
Haus2	NM_025475	0.0227394	-1.81276
Rorc	NM_011281	0.00048157	-1.8138
Foxo4	NM_018789	0.000221959	-1.81654
Tmem101	NM_029649	0.0252676	-1.81679
Agpat3	NM_053014	9.01E-07	-1.81834
Ndst1	NM_008306	0.0314837	-1.82235
D1Bwg0212e	NM_028043	0.00420802	-1.82506
H2-Q7	NM_010394	0.0188093	-1.83039
St3gal4	NM_009178	0.00712683	-1.83481
Rsad2	NM_021384	0.0102274	-1.83559
Ypel2	NM_001005341	0.000274559	-1.83622
Npas2	NM_008719	6.63E-06	-1.8366
Slc2a4	NM_009204	0.0129911	-1.83693
Aplnr	NM_011784	0.0250297	-1.8423
Tap2	NM_011530	8.88E-05	-1.84402
Rc3h2	NM_001100591	0.0166904	-1.84561
Asb10	NM_080444	0.000819592	-1.84723
Ung	NM_001040691	0.00304766	-1.84879
Adam19	NM_009616	7.73E-05	-1.8493
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Prpf19	NM_134129	0.0419174	-1.85004

Ppil1	NM_026845	0.00101911	-1.8581
Gmps	NM_001033300	0.000471573	-1.8592
Kat5	NM_178637	0.0153171	-1.86103
Prdm16	NM_001177995	0.00425908	-1.86174
Zc3h7b	NM_001081016	0.000870876	-1.86195
Ypel2	NM_001005341	0.000146839	-1.86584
Bcl2l11	NM_009754	0.000150608	-1.86729
Cyfip2	NM_133769	0.00185616	-1.86887
Shroom4	NM_001040459	0.0121409	-1.86928
D7Wsu130e	---	0.0017655	-1.87532
Nfrkb	NM_172766	9.52E-05	-1.87934
S1pr3	NM_010101	6.96E-05	-1.87981
Pfdn2	NM_011070	0.0263454	-1.88179
Blmh	NM_178645	0.00269972	-1.88182
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Tmx1	NM_028339	0.00481008	-1.89109
Msh2	NM_008628	5.00E-05	-1.89204
Samd4	NM_001037221	0.0309984	-1.89216
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Scn4b	NM_001013390	0.00729742	-1.89965
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Fnip2	NM_001162999	0.00114962	-1.90513
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Rnf114	NM_030743	0.00448281	-1.91496
Slc29a1	NM_022880	1.68E-05	-1.92057
Gm5806	NM_011561	0.0179194	-1.92277
Ap2b1	NM_001035854	0.000210223	-1.92336
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H2-Aa	NM_010378	0.0148307	-1.93171
Dynll2	NM_001168471	0.00239072	-1.93387
Ddit4	NM_029083	0.023037	-1.93414
Igtp	NM_018738	0.0128853	-1.94103
Gnb3	NM_013530	0.00220121	-1.94207
Psap	NM_001146120	0.00249184	-1.94765
H1f0	NM_008197	0.0027706	-1.9493
Kcnd2	NM_019697	0.000448674	-1.95391
H2-Aa	NM_010378	0.0123902	-1.96053
Mpa2l	NM_194336	0.00409675	-1.96253

Stt3a	NM_008408	0.00214881	-1.96358
Rrp1	NM_010925	8.34E-05	-1.96854
H2-Eb1	NM_010382	0.0154686	-1.96927
Zfp58	NM_001007575	0.0134145	-1.97447
Zkscan3	NM_001145778	0.0169677	-1.97468
Gpt2	NM_173866	0.00245275	-1.97697
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Mapk8	NM_016700	4.16E-06	-1.99131
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Gm5806	NM_011561	0.0054979	-1.99471
Fus	NM_139149	0.0113199	-2.01162
Ano10	NM_133979	0.000388875	-2.01296
Rad23b	NM_009011	0.0217376	-2.01521
2900010J23Rik	NM_175190	0.00362826	-2.02099
Sae1	NM_019748	0.0147727	-2.02689
Dgat2	NM_026384	0.000728399	-2.03016
Eif3a	NM_010123	0.0138834	-2.03042
Gm9706	NM_015783	0.00264273	-2.03506
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Dnajc9	NM_134081	0.00036892	-2.04409
Kidins220	NM_001081378	0.0130085	-2.05126
Acacb	NM_133904	0.00771457	-2.05506
Ddx5	NM_007840	0.000954706	-2.06289
Kat5	NM_178637	0.0222402	-2.06512
5830411K21Rik	---	0.00974817	-2.0733
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Agpat3	NM_053014	0.000900907	-2.07534
Tmtc2	NM_177368	0.00054051	-2.07636
Cflar	NM_009805	0.00353718	-2.07822
Serinc3	NM_012032	0.00437515	-2.09055
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Foxn3	NM_183186	0.000120913	-2.10075
Efcab2	NM_026626	0.0106562	-2.10314
Tmed9	NM_026211	0.000117269	-2.11047
Mga	NM_001164274	0.00134759	-2.11464
Marcks	NM_008538	0.0257702	-2.11921
Rbak	NM_001045482	1.77E-05	-2.12099

Psmd13	NM_011875	0.0314329	-2.12978
Hnrnpul2	NM_001081196	0.0016462	-2.13282
Epha4	NM_007936	0.000807462	-2.14475
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Vps13d	NM_001128198	0.00720389	-2.15995
Cd74	NM_001042605	0.00473024	-2.16169
Plxnb1	NM_172775	0.000368156	-2.16897
Igh-2	---	0.0180221	-2.18314
Trappc3	NM_013718	8.19E-05	-2.19004
Metrn	NM_133719	0.00103354	-2.19322
Ttll1	NM_178869	0.00393064	-2.19777
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Pdia3	NM_007952	0.0217276	-2.2069
Psap	NM_001146120	0.00300431	-2.21016
Igh-2	---	0.0103566	-2.25789
Abcb1a	NM_011076	3.05E-05	-2.26555
Ing3	NM_023626	0.00692437	-2.2712
Mtmr4	NM_133215	0.0144374	-2.28767
H2-Ab1	NM_207105	0.00267653	-2.31345
Numa1	NM_133947	0.0158274	-2.31444
Arntl	NM_007489	0.000730075	-2.31756
H2-Aa	NM_010378	0.0134895	-2.33492
Tbc1d24	NM_001163847	0.000224813	-2.34297
Oaz2	NM_010952	0.0100785	-2.34331
Aen	NM_001162939	0.00184821	-2.36658
Eif2c4	NM_153177	0.00246199	-2.37359
2310042D19Rik	NM_172417	0.015031	-2.38637
Tnpo3	NM_177296	0.000786304	-2.42082
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Bax	NM_007527	0.000356533	-2.44666
C1qtnf9	NM_183175	0.0159956	-2.4592
Sh3bp5	NM_011894	0.00739239	-2.46957
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Sema4c	NM_001126047	0.000212782	-2.5418
H2-Ab1	NM_207105	0.00133003	-2.54382
Tnpo3	NM_177296	0.000160943	-2.56794
Prnd	NM_001126338	0.00489888	-2.59052
Dnajc7	NM_019795	2.01E-05	-2.59939
Utp6	NM_144826	0.00718457	-2.7639
Entpd4	NM_026174	3.18E-05	-2.76517
Vapb	NM_019806	0.00465291	-2.78192
Bst2	NM_198095	0.00111361	-2.89103

H2-Ab1	NM_207105	0.00100727	-2.8924
Atp1a2	NM_178405	0.00856213	-2.95698
Eif4e2	NM_001039169	0.00613319	-2.98729
Plekhg1	NM_001033253	0.00280654	-3.01088
Cyp39a1	NM_018887	0.00602601	-3.07282
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Gm10336	---	0.00118854	-3.81666
Pigk	NM_025662	0.00100476	-4.61898
Ces3	NM_053200	2.21295E-05	-6.84752

Signal Regulatory Protein-α Protects Against Cardiac Hypertrophy Via the Disruption of Toll-Like Receptor 4 Signaling

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