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Strain Differences in Stress Responsivity Are Associated with Divergent Amygdala Gene Expression and Glutamate-Mediated Neuronal Excitability

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Stress is a major risk factor for numerous neuropsychiatric diseases. However, susceptibility to stress and the qualitative nature of stress effects on behavior differ markedly among individuals. This is partly because of the moderating influence of genetic factors. Inbred mouse strains provide a relatively stable and restricted range of genetic and environmental variability that is valuable for disentangling gene–stress interactions. Here, we screened a panel of inbred strains for anxiety- and depression-related phenotypes at baseline (trait) and after exposure to repeated restraint. Two strains, DBA/2J and C57BL/6J, differed in trait and restraint-induced anxiety-related behavior (dark/light exploration, elevated plus maze). Gene expression analysis of amygdala, medial prefrontal cortex, and hippocampus revealed divergent expression in DBA/2J and C57BL/6J both at baseline and after repeated restraint. Restraint produced strain-dependent expression alterations in various genes including glutamate receptors (e.g., *Grin1*, *Grik1*). To elucidate neuronal correlates of these strain differences, we performed *ex vivo* analysis of glutamate excitatory neurotransmission in amygdala principal neurons. Repeated restraint augmented amygdala excitatory postsynaptic signaling and altered metaplasticity (temporal summation of NMDA receptor currents) in DBA/2J but not C57BL/6J. Furthermore, we found that the C57BL/6J-like changes in anxiety-related behavior after restraint were absent in null mutants lacking the modulatory NMDA receptor subunit *Grin2a*, but not the AMPA receptor subunit *Gria1*. *Grin2a* null mutants exhibited significant (~30%) loss of dendritic spines on amygdala principal neurons under nonrestraint conditions. Collectively, our data support a model in which genetic variation in glutamatergic neuroplasticity in corticolimbic circuitry underlies phenotypic variation in responsivity to stress.

Introduction

Although stress is a known risk factor for various neuropsychiatric disorders, ranging from mood and anxiety disorders to schizophrenia and attention deficit hyperactivity disorder, individuals differ greatly in their susceptibility to stress. Moreover, the manner in which stress manifests phenotypically varies con-

siderably across individuals; even similar stressors can increase risk for different neuropsychiatric states in different people (Yehuda and LeDoux, 2007). This variation in the impact of stress is likely to be, in some measure, under the moderating influence of genetic factors (Caspi et al., 2010).

Despite being the subject of enormous research efforts, genetic influences and their effects on the neurobiology of stress and emotion-mediating circuits are not yet fully understood. This is in part because of the complexity associated with myriad genetic and environmental factors in human populations. As an alternative approach, rodents provide important model systems for studying the pathophysiology of stress-related neuropsychiatric disease (Cryan and Holmes, 2005). Of considerable value in this regard are isogenic inbred mouse strains.

A panel of different mouse strains represents a significant but restricted degree of genetic diversity in which environmental variance can be carefully controlled. Previous studies have found

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differences in various “emotion-related” phenotypes across inbred strains. This includes marked variation in anxiety-like behavior, although differences between specific strains appear to be contingent on the behavioral task employed, consistent with the significant heterogeneity of rodent anxiety tasks (Turri et al., 2001; Ponder et al., 2007; Brigman et al., 2009; Milner and Crabbe, 2008). Earlier work also indicates that inbred strains differ in their response to stress as measured by various neural, neuroendocrine, and behavioral endpoints. For example, acute stress typically produces heightened anxiety-like behavior and hypothalamic–pituitary–adrenal (HPA)-axis activation in some strains (e.g., BALB/cJ, DBA/2J), but less so in others (e.g., C57BL/6J) (Belzung and Griebel, 2001; Jacobson and Cryan, 2007; Millstein and Holmes, 2007). Relatively few studies have examined strain differences in response to repeated stress (e.g., Pothion et al., 2004; Anisman and Matheson, 2005; Mineur et al., 2006). Such studies are of critical relevance to human stress-related disorders, which are commonly associated with a history of repeated trauma (Berton and Nestler, 2006; Yehuda and LeDoux, 2007).

Here, we first surveyed a panel of seven inbred strains for anxiety- and depression-related behaviors, and HPA-axis phenotypes at baseline and after repeated restraint stress. Subsequent analysis focused on two inbred strains (C57BL/6J and DBA/2J) exhibiting divergent trait and stress-induced anxiety-like phenotypes in the dark/light exploration test (confirmed in the elevated plus maze). To identify genes associated with this strain–stress interaction, we performed gene expression analysis in amygdala, ventromedial prefrontal cortex (vmPFC), and hippocampus. Prominent among the expression changes were glutamatergic genes. Therefore, we next tested for strain differences in stress-induced alterations in amygdala NMDA receptor (NMDAR)-mediated excitatory neurotransmission and metaplasticity (temporal summation of NMDAR currents). To establish a causative link between glutamate function and stress effects on anxiety-related behavior, we tested whether stress effects were altered by deletion of either NMDAR NR2A or AMPA receptor (AMPA) GluR1 subunits. Because stress-induced increases in dendritic length and spine density in basolateral amygdala (BLA) neurons is posited to be a neuronal correlate of changes in behavior (Vyas et al., 2006), we also quantified BLA neuronal dendritic morphology and spine density in NR2A^{−/−} mice.

Materials and Methods

Subjects. The initial strain survey comprised 129S1/SvImJ (129S1), A/J, BALB/cJ, BALB/cByJ, C57BL/6J, DBA/2J, and FVB/NJ. These were selected on the basis of (1) their frequent use in behavioral neuroscience and as genetic backgrounds for mouse mutant lines; (2) inclusion as “group A” priority strains in the Mouse Phenome Project, an international effort to provide the biomedical research community with phenotypic data on the most commonly used mouse strains (www.jax.org/phenome); (3) prior studies demonstrating differential trait fear-, anxiety-, and depression-related and stress-sensitivity phenotypes (see Introduction); and (4) their use as parental strains in several sets of recombinant inbred strains, including the AXB, BXA, CXB, and BXD sets (see www.genenetwork.org).

All mice were males obtained from The Jackson Laboratory (as in Millstein et al., 2006) to reduce a potential source (i.e., supplier) of genetic and behavioral variation. Mice were aged 8 to 9 weeks at the start of the study, housed two per cage (by strain and stress condition), with cages placed side by side in a temperature-controlled ($72 \pm 5^\circ\text{F}$) and humidity-controlled ($45 \pm 15\%$) vivarium under a 12 h light/dark cycle (lights on 6:00 A.M.). Testing was conducted in a manner counterbalanced for strain and stress condition. The number of mice used is given in the figure legends. All experimental procedures were approved by the National Institute on Alcohol Abuse and Alcoholism Animal Care and Use Committee and the local Animal Care and Use Committees, and

followed the National Institutes of Health guidelines outlined in “Using Animals in Intramural Research.”

Stressor. Ten days of immobilization in “immobilization bags” produces significant alterations in dendritic arborization and/or spine density in the vmPFC, BLA, and CA3 region of the hippocampus in rats and mice (see Holmes and Wellman, 2009; Roozendaal et al., 2009). We adopted a modified version of this protocol in which mice were placed in ventilated 50 ml Falcon tubes for 2 h per day (10:00 A.M. to 12:00 P.M.) for 10 consecutive days. We reasoned that restraint in tubes would be a less severe stressor than restraint in immobilization bags and would therefore allow us to better detect differential sensitivity to restraint across strains than a severe stressor that might cause profound changes (i.e., “floor effect”) in all strains. Nonrestrained mice remained in the home cage (Vyas et al., 2002).

Tests for anxiety-related behavior. Twenty-four hours after the final stress, mice were tested for anxiety-like behavior using the light/dark exploration test. We employed this task rather than other commonly used tests for anxiety-like behavior for a number of reasons. First, under baseline conditions in our laboratory, C57BL/6J typically display lesser anxiety-like behavior in this test [$\sim 25\%$ time out of shelter (e.g., this study)] than in the elevated plus maze [$\sim 10\%$ open-arm time (e.g., Norcross et al., 2008)]. Therefore, it seemed less likely that a high baseline anxiety-like behavior would preclude us from detecting stress-induced increases in anxiety in this test. We conducted a relatively long (15 min) test to capture the most anxiety-sensitive period during the first 5 min and dissociate this from general changes in locomotion, as measured by behavior during the final 5 min. A second reason is that the light/dark exploration test has previously demonstrated utility as an assay for uncovering gene expression differences underlying mouse strain differences in basal anxiety-like behavior (Hovatta et al., 2005).

Mice were placed in an opaque black Plexiglas shelter ($39 \times 13 \times 16$ cm) with a 13×8 cm aperture at floor level that opened onto a large white Plexiglas square arena ($39 \times 39 \times 35$ cm) illuminated to ~ 90 lux. This apparatus is a 2/3 light versus 1/3 dark design, as used in the original validated formulation of the task (Crawley, 1981) rather than the half light versus half dark design we have used in some previous studies and found to be relatively insensitive to strain differences likely because of its less “stressful” nature. Latency to first exit the shelter, the number of shelter exits (defined as all four paws out of the shelter), and time spent out of the shelter in the open field over a 15 min session were recorded by an observer using Hindsight (Scientific Programming Services). To dissociate the anxiety-related and general exploratory phases of the test session, data were separately analyzed during the first 5 min and last 5 min, respectively. The effects of strain and stress were analyzed using two-factor ANOVA followed by Newman–Keuls *post hoc* tests. Given the high number of strains tested and the resultant reduction of power in our analysis, we conducted planned *post hoc* comparisons of strain and/or stress effects in the presence of significant ANOVA main effects regardless of whether a significant strain–stress interaction effect was also found. Statistical significance for this and all other analyses was $p \leq 0.05$.

To test whether trait- and/or restraint-induced changes in anxiety-related behavior observed in DBA/2J and C57BL/6J in the light/dark exploration test (see Results) extended to another test for anxiety-like behavior, we assessed baseline and postrestraint behavior in these two strains in the elevated plus maze. The apparatus consisted of two open arms (30×5 cm; 90 lux) and two closed arms ($30 \times 5 \times 15$ cm; 20 lux) extending from a 5×5 cm central area and elevated 47 cm from the ground (San Diego Instruments), as described previously (Hefner and Holmes, 2007). The walls were made from black ABS (acrylonitrile butadiene styrene) plastic and the floor from white ABS plastic. A 0.5 cm raised lip around the perimeter of the open arms prevented mice from falling off the maze. The mouse was placed in the center facing an open arm and allowed to explore the apparatus for 6 min. Time spent in the open arms, entries into the open and closed arms, and head dipping (exploratory movement of head/shoulders over the sides of the open arms) (Holmes and Rodgers, 2003) were recorded by an observer using Hindsight. The mouse was adjudged to be in an arm when all four paws were in an arm. HPA-axis activation after elevated plus-maze exposure was measured by killing mice 30 min after testing (1:00 to 3:00 P.M.) for corticosterone analysis (as described below). Planned *t* test comparisons were conducted to examine strain differences and stress effects within each strain.

Stress-induced changes in body weight. We evaluated whether strain differences in stress-responsivity extended to depression-related phenotypes. As a systemic marker of the efficacy of repeated restraint as a stressor, we measured restraint-induced reductions in body weight in the seven inbred strains (Willner et al., 1996; Pothion et al., 2004; Krishnan et al., 2007; Shansky et al., 2009). Changes in body weight over the 10 d restraint period were compared between restrained and nonrestrained groups and analyzed using two-factor (strain by restraint) ANOVA followed by Newman–Keuls *post hoc* tests.

Forced swim test depression-related behavior. We used the forced swim test (FST) to measure depression-related behavior (Porsolt et al., 1977; Cryan and Holmes, 2005), conducting this assay 24 h after the light/dark exploration test. Mice were gently lowered into a transparent Plexiglas cylinder (20 cm diameter) filled halfway with water ($24 \pm 1^\circ\text{C}$) for a 6 min session, as described previously (Boyce-Rustay and Holmes, 2006). The presence/absence of immobility (cessation of limb movements except minor involuntary movements of the hind limbs) was scored using an instantaneous sampling technique every 5 s from 125 to 360 s and was expressed as a percentage of the total observations. The effects of strain and restraint were analyzed using two-factor ANOVA followed by Newman–Keuls *post hoc* tests.

Stress-induced corticosterone. To assess HPA-axis activation induced by swim stress, mice were returned to the home cage after FST and were killed 30 min later via rapid cervical dislocation and decapitation to collect trunk blood samples for serum corticosterone analysis. An additional set of experimentally naive mice were killed at the same time to provide a baseline measure of corticosterone. Samples were taken between 10:00 A.M. and 12:00 P.M. Blood samples were centrifuged at 13,000 rpm for 30 s. Serum was extracted and assayed for total corticosterone (bound and free) using the Coat-a-Count RIA TKRC1 kit (limit of detection: 5.7 ng/ml; Diagnostic Products) as described previously (Boyce-Rustay et al., 2007). For HPA-axis activation after elevated plus-maze exposure, trunk blood was collected 30 min after testing and centrifuged at 3500 rpm for 1–2 min. Serum was extracted and assayed for total corticosterone (bound and free) using the Immuchem Double Antibody 125I RIA kit (MP Biomedicals). The effects of strain and restraint were analyzed using two-factor ANOVA followed by Newman–Keuls *post hoc* tests.

Genome-wide analysis of basal and stress-induced corticolimbic gene expression. Microarray assays were conducted on tissue from three key corticolimbic regions mediating stress and anxiety (amygdala, vmPFC, hippocampus) in DBA/2J and C57BL/6J at baseline and after stress. After removal, brains were stored in RNAlater (Ambion). The vmPFC, amygdala (principally the basolateral nucleus), and whole hippocampus were microdissected within 48 h of brain collection. The brain was placed in a coronal matrix and sectioned 1.4–2.4 mm from bregma to obtain the vmPFC (tissue medial to the forceps minor, mainly comprising the infralimbic and prelimbic cortices), and 1.0–2.0 mm caudal to bregma to obtain the amygdala and hippocampus. The amygdala was visualized under a dark-field microscope and dissected using the external and internal capsules as a guide to obtain the basolateral nucleus (although we cannot exclude some inclusion of tissue from the central nucleus and striatum). The whole hippocampus was then dissected.

Tissue was immediately frozen and stored at -80°C . Samples from each mouse were stored and analyzed separately (i.e., no pooling). Total RNA was isolated using RNAqueous Micro kit (Ambion). RNA purity and concentration was evaluated with a spectrophotometer using a 260/280 nm absorbance ratio, and RNA quality was checked using Agilent Bioanalyzer 2100 (Agilent Technologies). Samples were processed according to the manufacturer's instructions and hybridized onto Illumina Mouse-6.1 arrays (Illumina). Samples from each strain, stress condition, and brain region were balanced across arrays on a slide to avoid batch confounds. Three biological replicates for each brain region, strain, and treatment group were performed. For each of the two strains, there were two stress conditions and three brain regions (a total of 36 arrays). The number of arrays used meant that we did not perform technical replicates. Instead, we relied on real-time (RT)-PCR confirmation to validate specific expression differences (and then physiological and gene mutant experiments to establish specific functional links).

Raw microarray data were normalized using rank invariant and background subtraction protocols provided by the Illumina BeadStation soft-

ware suite. We log-transformed the expression values and stabilized the variance of each array. We extensively reannotated these probes on the array, and the improved annotations were incorporated into the data analysis for the current study. The custom annotation for the Illumina Sentrix MouseWG-6 v1.1 is available at www.genenetwork.org/share/. The Illumina array contains over 46,000 probes, and these were initially filtered by expression; i.e., expression signals below background in half or more of the samples were excluded, resulting in 25,908 probes for analyses. A false discovery rate was not applied because this proved overly stringent to detect effects of stress and therefore likely produced false negatives. Instead, we applied a combined criterion for true positive expression differences of a fold difference ≥ 1.3 and a statistically reliable difference ($p < 0.01$, t test). Baseline strain effects were defined as gene expression values in nonstressed C57BL/6J compared to values in nonstressed DBA/2J. Stress effects were defined as gene expression values in stressed versus nonstressed mice of the same strain. Functional categorization and enrichment analysis of these genes was done using DAVID (<http://david.abcc.ncifcrf.gov>).

Real-time PCR confirmation of gene expression. To verify gene expression differences, we performed quantitative RT-PCR analysis on 15 genes that met the criteria of statistical reliability ($p \leq 0.01$) and 1.3-fold or greater gene expression difference. Eight genes (*Gal*, *Atp1a2*, *Bdnf*, *Nr4a2*, *Chrna4*, *Comt*, *Drd1a*, and *Rgs2*) have previously been linked to anxiety- and stress-related behaviors (for references, see Discussion). Four genes (*Grik1*, *Grin1*, *Gria1*, and *Homer1*) are mediators of glutamate neurotransmission and neural plasticity (for references, see Discussion). Three genes (*Per1*, *Per2*, and *Dbp*) are circadian genes (for references, see Discussion).

cDNA was synthesized using a first-strand cDNA kit (GE Healthcare) according to manufacturer's protocol. Primers for RT-PCR were designed based on available sequences using the ProbeFinder software (Roche Diagnostics). The ProbeFinder software combines a suitable Universal Library probe (Roche Diagnostics) with a set of gene-specific PCR primer pairs. All primer pairs were checked by an *in silico* PCR algorithm that searches the relevant genome and transcriptome and flags any possible mispriming sites that could lead to nonspecific amplification. The assays were chosen to be as close as possible to the Illumina probe targets, and to span exons to avoid amplification of trace genomic DNA. To assess amplification efficiency, standard dilution curves were generated for all genes. Low-efficiency assays were excluded. Two microliters of cDNA were added to a PCR reaction mix containing 0.2 μl of forward and reverse primers (20 mM), 0.1 μl of probe (10 mM), 5 μl of 2X LC480 master mix (Roche), and 2.7 μl of DNase free water. PCR was performed using the Roche LightCycler 480 system.

PCR amplification for each gene was conducted in technical duplicates and three biological replicates. The threshold cycle (Ct) of technical duplicates was then averaged. All expression values were normalized to the expression of cyclophilin D, as this gene showed no expression difference among the different RNA samples. Relative differences in RNA abundance among the different strains and treatment groups were then determined by comparing the normalized Ct values (Livak and Schmittgen, 2001). On determining polarity (upregulation or downregulation) of the effect of strain or stress, one-tailed Student's t tests were used to test for statistical significance.

Amygdala NMDAR neuronal signaling and metaplasticity. We next tested for BLA glutamate function at the neuronal level by measuring NMDAR-mediated evoked EPSCs (eEPSCs) using *ex vivo* whole-cell voltage-clamp recordings. Mice were subjected to repeated restraint (as above) and were then, 24 h after the final restraint, killed via rapid decapitation under isoflurane anesthesia, along with a set of nonrestrained mice. Brains were quickly removed and placed in ice-cold sucrose artificial CSF [ACSF; containing the following (in mM): 194 sucrose, 20 NaCl, 4.4 KCl, 2 CaCl₂, 1 MgCl₂, 1.2 NaH₂PO₄, 10.0 glucose, and 26.0 NaHCO₃, saturated with 95% O₂/5% CO₂]. Three-hundred-micrometer slices were sectioned on a vibratome and transferred to a submerged recording chamber and perfused with heated (26°C , unless otherwise stated), oxygenated ACSF at a rate of ~ 2 ml/min. Additional slices were stored in a heated ($\sim 28^\circ\text{C}$) and oxygenated (95% O₂/5% CO₂) holding chamber containing "normal" ACSF [containing the following (in mM): 124 NaCl, 4.4 KCl, 2 CaCl₂, 1.2 MgSO₄, 1 NaH₂PO₄, 10.0 glucose, and 26.0 NaHCO₃] for later use. Slices equili-

brated in normal ACSF for 1 h before recording and were then submerged in the recording chamber (Warner Instruments). Neurons of the BLA were directly visualized with infrared video microscopy. Recording electrodes (3–6 M Ω) were pulled on a Flaming-Brown Micropipette Puller (Sutter Instruments) using thin-walled borosilicate glass capillaries. Recording electrodes were filled with the following (in mM): 135 Cs⁺-gluconate, 5 NaCl, 10 HEPES, 0.6 EGTA, 4 ATP, 0.4 GTP, and 290–295 mOsmol. Signals were acquired via a Multiclamp 700B amplifier (Molecular Devices) and digitized and analyzed via pClamp 9.2 software (Molecular Devices).

NMDAR-mediated eEPSCs were evoked with bipolar Ni-chrome stimulating electrodes placed locally within the BLA, 100–500 μ m dorsal from the recorded neuron. Electrical stimulation (5–40 V, 100–150 μ s duration) was applied at 0.2 Hz unless stated otherwise. NMDAR-mediated eEPSCs were pharmacologically isolated from GABA_AR- and AMPAR-mediated currents by adding 25 μ M picrotoxin and 10 mM NBQX (2,3-dihydroxy-6-nitro-7-sulfonyl-benzo[f]quinoxaline), respectively, and recording at a holding potential of +40 mV. Input resistance, holding current, and series resistance were monitored continuously during recording. Experiments in which changes in series resistance were >20% were excluded from the data analysis.

Twenty traces (5 min) were averaged to obtain a baseline eEPSC. eEPSC decay was fitted with two exponentials (τ_1 and τ_2) using Clampfit 9.2 software (Molecular Devices) from trace normalized average traces. To directly compare decay times between experimental conditions, the two decay time components, τ_1 and τ_2 , were combined into a weighted time constant, tw , using the equation: $tw = (\tau_1 * a_1) + (\tau_2 * a_2)$, where a_1 and a_2 are the relative amplitudes of the two exponential components. Next, to evaluate temporal summation of eEPSCs (Philpot et al., 2001), we delivered a train of 10 pulses at the stated frequency. These data were analyzed by averaging traces from the same frequency, normalizing the averaged trace to the peak of the first eEPSC pulse and then measuring the normalized peak amplitude at the subsequent nine pulses. Statistical analyses were performed using Microsoft Excel, GraphPad Prism, and Microcal Origin. The effects of strain and stress on weighted τ were analyzed using a two-factor ANOVA. The effects of strain, stress, and pulse number at each stimulation intensity were analyzed using three-factor ANOVA, with repeated measures for pulse number, followed by Newman-Keuls *post hoc* tests.

Stress in NR2A and GluR1 null mutants. Our gene expression analysis found that stress altered amygdala expression of glutamate receptors, including NMDA NR1 (*Grin1*), in C57BL/6J and not DBA/2J. Constitutive null mutation of NR1 subunit is lethal. NR2A is a modulatory NMDAR subunit highly expressed in the amygdala and linked previously to anxiety-like behavior (Boyce-Rustay and Holmes, 2006; Cryan and Dev, 2007). We tested whether NR2A was necessary for stress-induced changes in anxiety-like behavior (as above) in constitutive NR2A (*Grin2a*) null mutants on a C57BL/6J genetic background. *Grin2a* null mutants were generated and backcrossed to C57BL/6J congenicity as described previously (Sakimura et al., 1995; Brigman et al., 2008). *Grin2a*^{−/−} and *Grin2a*^{+/+} littermates were subjected to repeated stress and tested in the light/dark exploration test 24 h later, as above.

Although C57BL/6J had higher hippocampal expression of AMPA GluR1 than DBA/2J under nonstressed conditions, this receptor was not altered by stress. We tested whether GluR1 was unnecessary for stress-induced changes in anxiety-like behavior (as above) in constitutive GluR1 (*Gria1*) null mutant mice on a C57BL/6J genetic background. *Gria1* null mutants were generated and backcrossed to C57BL/6J congenicity as described previously (Zamanillo et al., 1999; Wiedholz et al., 2008). *Gria1*^{−/−} and *Gria1*^{+/+} littermates were subjected to repeated stress and tested in the light/dark exploration test 24 h later, as above. This was the only experiment in which we used both males and females (because of low availability); statistical analyses found no effect of genotype and no interaction between sex and genotype or stress.

NR2A null mutant amygdala dendritic morphology and spine density. Test naive mice were overdosed with urethane and transcardially perfused with saline. Brains were removed and processed for Golgi histology using a modification of Glaser and Van der Loos' (1981) Golgi stain as described previously (Wellman et al., 2007). Coronal sections were cut at 160 μ m on a sliding microtome (American Optical 860).

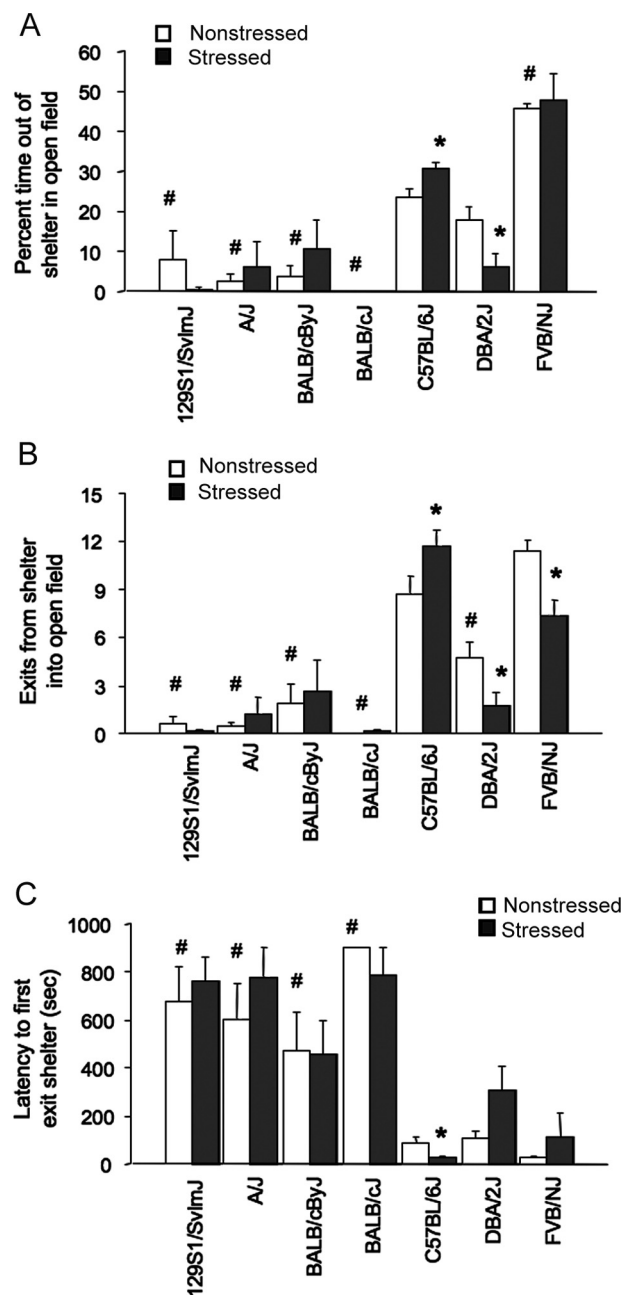


Figure 1. Basal and poststress anxiety-like behavior in seven strains. **A**, Stressed DBA/2J spent less time, whereas C57BL/6J spent more time, out of the shelter than nonstressed controls in the light/dark exploration test. All strains except FVB/NJ and DBA/2J spent less time out of the shelter than C57BL/6J under nonstressed conditions. **B**, Stressed DBA/2J and FVB/NJ made fewer shelter exits, whereas C57BL/6J made more exits than nonstressed controls. Under nonstressed conditions, all strains except FVB/NJ made fewer shelter exits than C57BL/6J. **C**, Stressed C57BL/6J had a lower latency to exit shelter than nonstressed controls. Under nonstressed conditions, all strains except FVB/NJ and DBA/2J showed a longer latency to first exit the shelter than C57BL/6J. $n = 7$ –10 per strain under stress. Data are expressed mean \pm SEM. * $p < 0.05$ versus nonstressed/same strain; # $p < 0.05$ versus nonstressed C57BL/6J.

Free-floating sections were then alkalized, developed, fixed, dehydrated, mounted, and coverslipped.

Analysis of BLA pyramidal neurons was restricted to locations between 0.8 and 2.0 mm posterior to bregma. Within this region, the BLA is readily identified in Golgi-stained material, as the external capsule branches into two smaller fiber tracts that define the dorsal, medial, and lateral borders of the BLA. Likewise, axon fibers clearly delineate the basal amygdala from the BLA. Pyramidal neurons within the BLA were defined

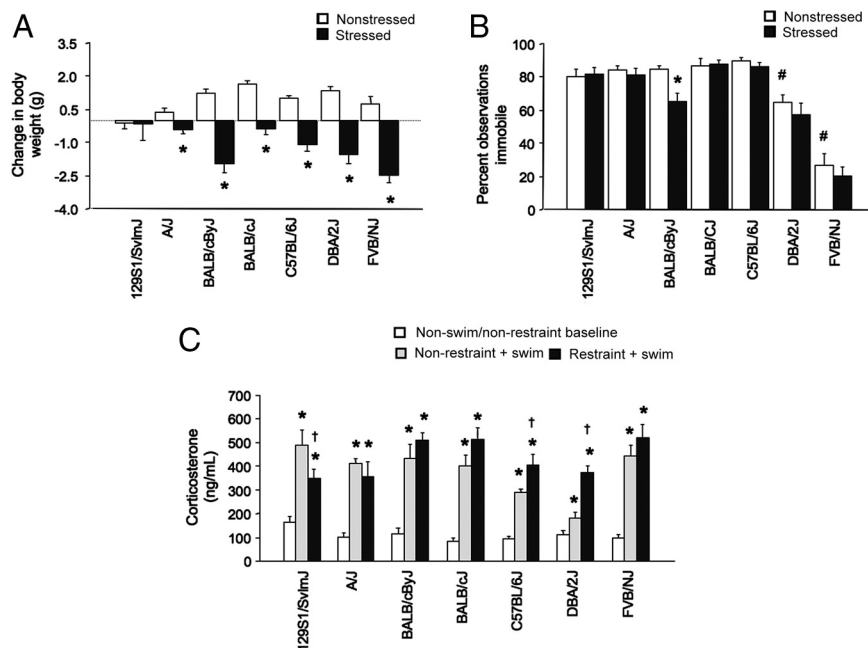


Figure 2. Basal and stress-induced depression-related phenotypes in seven strains. **A**, Repeated stress reduced body weight, relative to nonstressed controls over the same period, in all strains except 129S1/SvImJ ($n = 5–20$ per strain under stress) ($*p < 0.05$ vs nonstress/same strain). **B**, BALB/cByJ, but no other strain, showed less immobility after stress compared to no stress. Under nonstressed conditions, DBA/2J and FVB/NJ were more mobile than C57BL/6J ($n = 7–9$ per strain under stress; $*p < 0.05$ vs nonstressed BALB/cByJ; $*p < 0.05$ vs nonstressed C57BL/6J). **C**, Regardless of prior restraint stress, swim stress increased serum corticosterone levels in all strains, relative to nonswim/nonrestrained controls ($*p < 0.05$ vs nonrestrained/same strain). Restraint stressed C57BL/6J and DBA/2J had a higher swim-stress-induced corticosterone response than nonrestrained counterparts ($^{\dagger}p < 0.05$ vs nonrestrained/swim stressed/same strain; $n = 5–15$ per strain under stress). Data are expressed as mean \pm SEM.

by the presence of a distinct, single apical dendrite, two or more basilar dendritic trees extending from the base of the soma, and dendritic spines. Neurons selected for reconstruction were located in the middle third of the section, did not have truncated branches, and were not obscured by neighboring neurons and glia, with dendrites that were easily discriminable by focusing through the depth of the tissue. Within each region examined, 10 neurons were drawn for each mouse. Neurons were drawn at $600\times$, and morphology was quantified in three dimensions using a computer-based neuron-tracing system (NeuroLucida; MBF Bioscience) with the experimenter blind to genotype. Total length and number of dendrites, as well as the length and number of terminal branches, were measured. To assess differences in the amount and location of dendritic material, a three-dimensional version of a Sholl analysis (Larkman, 1991) was performed in which the number of intersections of dendrites with $10\ \mu\text{m}$ concentric spheres centered on the soma was measured. For statistical and graphical purposes, counts of intersections were summed over pairs of radii.

Spines were counted on dendritic branches from 10 neurons per mouse. Spines were counted on first- through fourth-order branches, as these make up $\sim 90\%$ of the dendritic arbor of BLA pyramidal neurons. For each neuron, one dendritic tree containing at least one third-order branch was chosen. One to two branches at each order were drawn and spines counted at $1000\times$ using a computer-based neuron-tracing system (NeuroLucida; MBF Bioscience). Branches sampled averaged 10.49 ± 0.65 , 45.48 ± 2.16 , 57.15 ± 3.56 , and $62.23 \pm 3.30\ \mu\text{m}$ for first- through fourth-order dendrites, respectively. Spines were identified based on morphological criteria for “mushroom” and “thin” spines (Peters and Kaiserman-Abramof, 1970); only protrusions perpendicular to the dendritic shaft and possessing a clear neck and bulbous head were counted. Because spine density varies with branch order, the lengths of dendritic segments were recorded, and spine densities (spines per $10\ \mu\text{m}$) for each branch order were calculated separately.

The effect of genotype on dendrite length and number was analyzed using t tests. The effects of genotype by distance from soma on amount and location of dendritic material, and the effects of genotype by branch

order on dendritic spine density, were analyzed using two-factor ANOVAs with repeated measures for distance and branch order, respectively.

Results

Stress effects on anxiety-related behavior

In the light/dark exploration test, there was a significant effect of strain ($F_{(6,102)} = 31.73$; $p < 0.01$), but no main effect of stress or a strain–stress interaction, for time out of the shelter. Despite the absence of an interaction effect, our a priori hypothesis that strains would differ in their response to stress led us to perform *post hoc* comparisons between stressed and nonstressed groups. DBA/2J spent significantly less time out of the shelter than nonstressed controls (Fig. 1A). Conversely, stressed C57BL/6J spent significantly more time out of the shelter than nonstressed C57BL/6J (Fig. 1A). Under nonstressed conditions, 129S1, A/J, BALB/cByJ, and BALB/cJ spent significantly less time, and FVB/NJ spent more time, out of the shelter than C57BL/6J.

There was also a significant strain–restraint stress interaction ($F_{(6,102)} = 3.21$; $p < 0.01$) for shelter exits during the first 5 min. *Post hoc* analysis showed that stressed DBA/2J and FVB/NJ made significantly fewer exits than nonstressed DBA/2J and FVB/NJ controls, whereas stressed C57BL/6J made significantly more exits than C57BL/6J controls

(Fig. 1B). 129S1, A/J, BALB/cByJ, and BALB/cJ showed no change in shelter exits after stress, likely because of low shelter exits under nonstressed conditions, where all strains except FVB/NJ made significantly fewer exits than C57BL/6J.

There was a significant effect of strain ($F_{(6,102)} = 19.96$; $p < 0.01$) but not stress, and no strain–stress interaction for latency to first exit the shelter. Planned *post hoc* comparisons showed that C57BL/6J had a significantly shorter latency to exit than nonstressed counterparts, except FVB/NJ and DBA/2J (Fig. 1C). Nonstressed 129S1, A/J, BALB/cByJ, and BALB/cJ were significantly slower to exit the shelter than nonstressed C57BL/6J.

Stress did not affect any measure during the last 5 min of the test. There were significant strain effects for shelter exits ($F_{(6,102)} = 35.02$; $p < 0.01$) and time out of the shelter ($F_{(6,102)} = 52.01$; $p < 0.01$). On both measures, nonstressed 129S1, A/J, BALB/cByJ, and BALB/cJ had lower scores than nonstressed C57BL/6J (data not shown).

In the elevated plus maze, stressed C57BL/6J mice spent a significantly greater percentage of time in the open arms (nonstressed C57BL/6J, $6.9 \pm 1.4\%$, mean \pm SEM; stressed C57BL/6J, $14.2 \pm 3.0\%$; nonstressed DBA/2J, $3.3 \pm 1.1\%$; stressed DBA/2J, $4.3 \pm 1.1\%$; $t = 2.33$, $df = 18$, $p < 0.05$, $n = 8–11$ per strain under stress) and made significantly more open-arm entries (nonstressed C57BL/6J, 3.3 ± 0.6 ; stressed C57BL/6J, 5.2 ± 0.7 ; nonstressed DBA/2J, 1.8 ± 0.5 ; stressed DBA/2J, 2.4 ± 0.4 ; $t = 2.11$, $df = 18$, $p < 0.05$) and head dips (nonstressed C57BL/6J, 17.6 ± 1.9 ; stressed C57BL/6J, 25.1 ± 2.4 ; nonstressed DBA/2J, 5.8 ± 1.0 ; stressed DBA/2J, 6.1 ± 1.1 ; $t = 2.46$, $df = 18$, $p < 0.05$) than nonstressed C57BL/6J, whereas stress did not affect any of these

behaviors in DBA/2J. Open-arm time ($t = 3.15$; $df = 35$; $p < 0.01$), open-arm entries ($t = 3.41$; $df = 35$; $p < 0.01$) and head dips ($t = 7.66$; $df = 35$; $p < 0.01$) were all significantly lower in DBA/2J than C57BL/6J, regardless of stress. There was a nonsignificant trend for more closed-arm entries in stressed relative to nonstressed mice of both strains (nonstressed C57BL/6J, 16.4 ± 0.9 ; stressed C57BL/6J, 19.6 ± 1.4 ; nonstressed DBA/2J, 13.0 ± 0.8 ; stressed DBA/2J, 15.4 ± 1.2). Serum corticosterone levels 30 min after plus-maze exposure were significantly elevated in stressed DBA/2J compared with nonstressed DBA/2J mice (nonstressed DBA/2J, 396 ± 40 ng/mL; stressed DBA/2J, 645 ± 58 , $t = 3.60$; $df = 15$; $p < 0.01$), but there was no difference between stress groups in C57BL/6J mice (nonstressed C57BL/6J, 412 ± 22 ng/mL; stressed C57BL/6J, 425 ± 25). Finally, there was a significant effect of stress ($F_{(1,32)} = 40.81$; $p < 0.01$), but not genotype, and no interaction for body weight in this cohort. Stress significantly reduced body weight regardless of strain (nonstressed C57BL/6J, 0.9 ± 0.2 g, mean \pm SEM; stressed C57BL/6J, -0.6 ± 0.1 ; nonstressed DBA/2J, 0.6 ± 0.3 ; stressed DBA/2J, -1.1 ± 0.3).

Stress effects on body weight and depression-related behavior

There was a significant strain–stress interaction for change in body weight over the 10 d restraint period ($F_{(6,123)} = 3.87$; $p < 0.01$). *Post hoc* tests showed that, with the exception of 129S1, all strains had a significant reduction in body weight after restraint compared to the weight gain over the same period in nonstressed mice (Fig. 2A).

There was a significant effect of strain ($F_{(6,98)} = 58.24$; $p < 0.01$) and stress ($F_{(1,98)} = 5.61$; $p < 0.05$), but no strain–stress interaction for percentage of immobility in the FST. Planned *post hoc* analysis found that stressed BALB/cByJ showed significantly less immobility than nonstress BALB/cByJ counterparts, but no other strain showed a change in behavior after stress (Fig. 2B). Under baseline conditions, DBA/2J and FVB/NJ showed significantly less immobility than C57BL/6J (Fig. 2B).

There was a significant stress–strain interaction ($F_{(6,152)} = 4.82$; $p < 0.01$) for corticosterone levels. *Post hoc* analysis showed that, regardless of whether mice had been repeatedly restrained, swim stress significantly increased corticosterone in all strains compared to a nonswim/nonrestrained baseline group (Fig. 2C). Moreover, swim stress produced significantly higher corticosterone levels in restrained C57BL/6J and DBA/2J than in nonrestrained counterparts. A maximal (“ceiling”) response under nonrestrained conditions may have prevented detection of similar increases in restrained A/J, BALB/c, BALB/cByJ, and FVB/NJ. However, contrasting with all other strains, restraint actually produced a blunted corticosterone response to swim stress in 129S1.

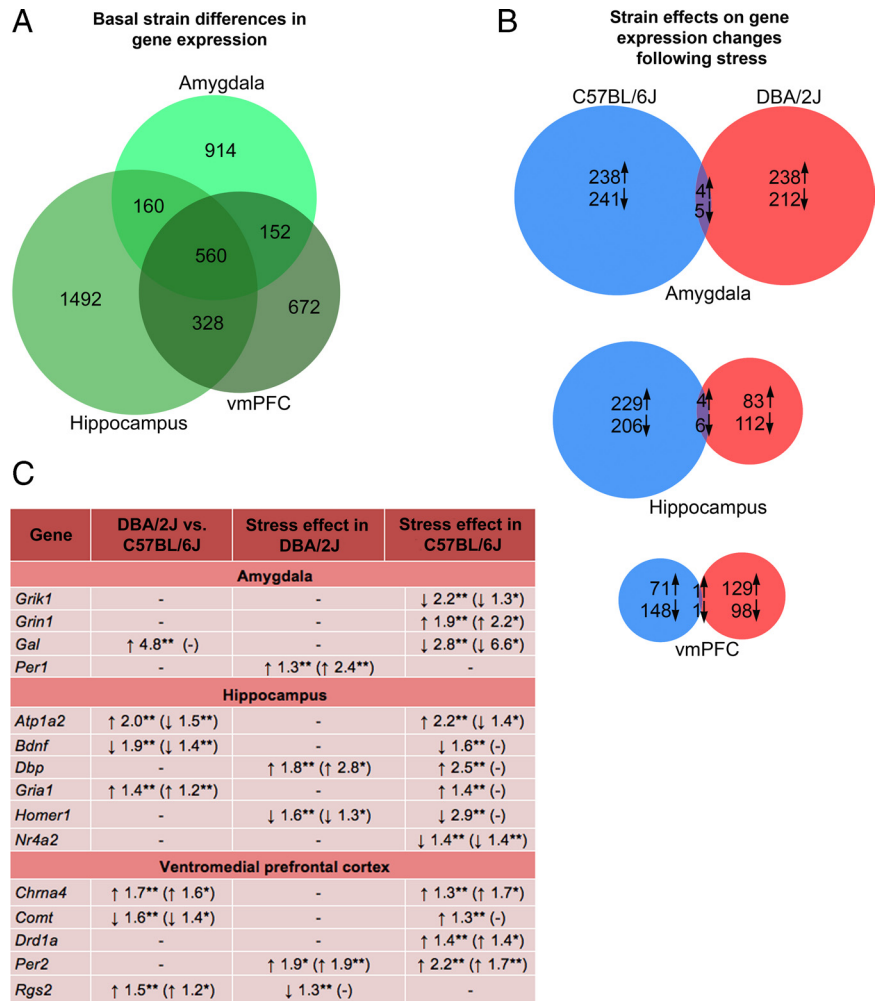


Figure 3. Basal and poststress corticolimbic gene expression in C57BL/6J and DBA/2J. **A**, Basal gene expression differed markedly between C57BL/6J and DBA/2J. Relatively more differences were evident in the hippocampus than the amygdala and vmPFC. There was extensive overlap of differentially expressed genes across the three brain regions. **B**, C57BL/6J and DBA/2J showed an approximately equal number of gene expression changes after repeated stress in the amygdala and vmPFC, whereas C57BL/6J showed more changes in the hippocampus than DBA/2J. Gene expression changes associated with stress were highly divergent between C57BL/6J and DBA/2J, with very few genes showing alterations in both these strains in any region ($n = 3$ per strain under stress). **C**, Significant gene expression differences, and confirmation by RT-PCR (in parentheses), are shown. Symbols indicate upregulation (↑), downregulation (↓), and unconfirmed (–). ** $p < 0.01$; * $p < 0.05$.

Genome-wide corticolimbic gene expression

Nonstressed DBA/2J and C57BL/6J differentially expressed 1786 transcripts (1524 known genes) in amygdala, 2540 transcripts (2154 known genes) in hippocampus, and 1712 transcripts (1491 known genes) in the vmPFC. A large proportion of the same genes was differentially expressed between strains in either two or all three regions (Fig. 3A). For full list, see supplemental Spreadsheet 1 (available at www.jneurosci.org as supplemental material).

Analyzing the effect of stress as a function of strain, stress produced a similar number of upregulations and downregulations in the amygdala of DBA/2J and C57BL/6J (Fig. 3B). Stress caused twice as many changes in the C57BL/6J than DBA/2J hippocampus (mainly upregulations). C57BL/6J showed more downregulations than upregulations in vmPFC after stress, whereas DBA/2J showed the opposite pattern. For all three regions, very few (~2%) of the stress-induced expression changes in C57BL/6J and DBA/2J involved the same genes.

Functional classification of stress-sensitive genes revealed enrichment in synaptic plasticity (e.g., glutamate receptors) and ion

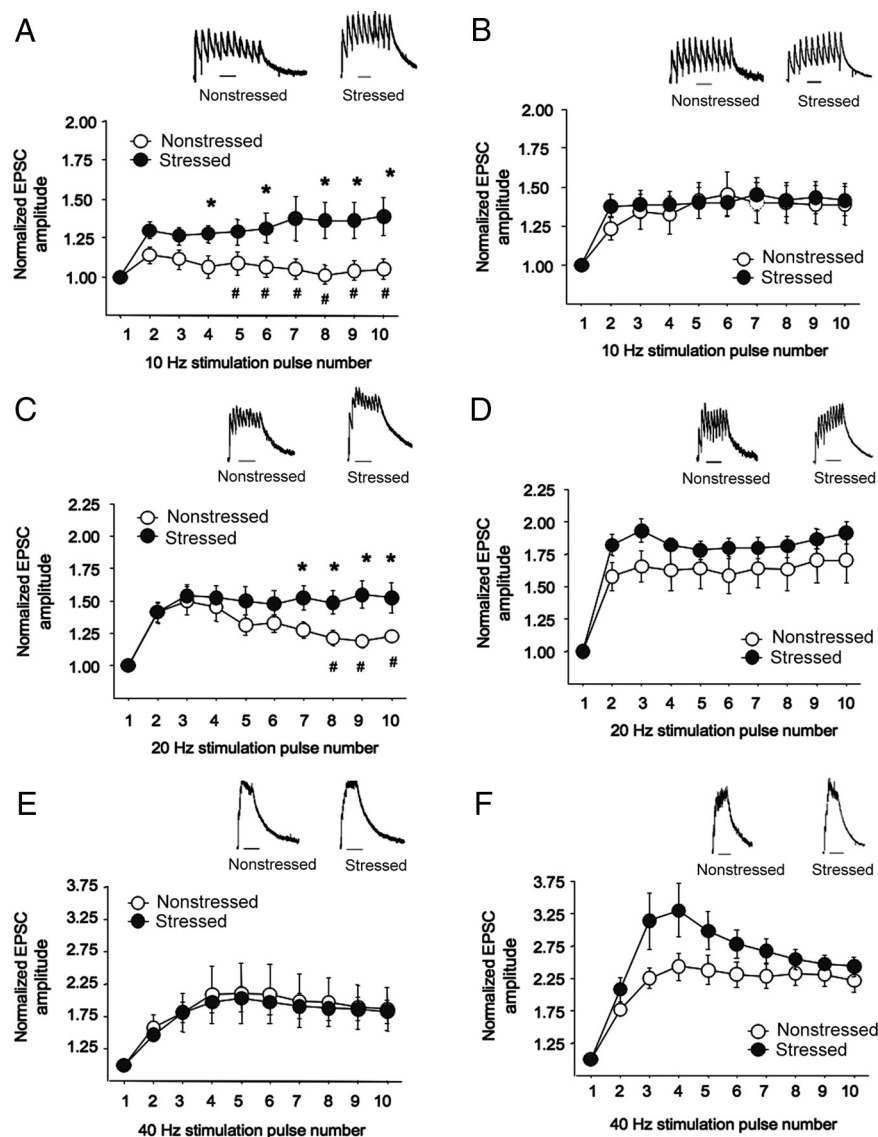


Figure 4. Amygdala NMDAR neuronal signaling and metaplasticity in C57BL/6J and DBA/2J. *A, B*, Measurement of temporal summation of NMDAR EPSCs evoked by 10 Hz local stimulation showed that stress significantly increased amplitudes in DBA/2J (*A*) but not C57BL/6J (*B*). *C, D*, NMDAR-EPSC amplitudes evoked by 20 Hz stimulation were significantly increased by stress in DBA/2J (*C*), but not C57BL/6J (*D*). *E, F*, Stress did not alter amplitudes evoked by 40 Hz stimulation in either strain probably because of saturation. Under nonstressed conditions, amplitude was significantly lower in DBA/2J than C57BL/6J after 10 Hz (pulses 5–10) and 20 Hz (pulses 8–10), but not 40 Hz. Data are expressed as mean \pm SEM. Representative traces for each stimulation frequency are depicted (insets). Scale bars, 250 ms. * $p < 0.05$ versus the same pulse number in nonstressed DBA/2J; # $p < 0.05$ versus nonstressed C57BL/6J at the same pulse number.

transport genes in C57BL/6J, and enrichment in genes related to nervous system development, programmed cell death, and myelination in DBA/2J (supplemental Spreadsheet 1, available at www.jneurosci.org as supplemental material).

RT-PCR confirmed significantly lower expression of hippocampal *Gria1* and vmPFC *Chrna4* and *Rgs2*, and higher expression of hippocampal *Bdnf* and prefrontal *Comt*, in nonstressed C57BL/6J compared to nonstressed DBA/2J (all $p < 0.05$ by *t* test) (Fig. 3C). In C57BL/6J, stress significantly reduced amygdala expression of *Grik1* and *Gal*, and hippocampal *Nr4a2*, and increased expression of amygdala *Grin1* and vmPFC *Chrna4*, *Drd1a* and *Per2*. In DBA/2J, stress significantly increased amygdala *Per1*, hippocampal *Dbp* and prefrontal *Per2*, and decreased hippocampal *Homer1*. Arrays showed higher basal expression and stress-induced upregulation of *Atp1a2* in C57BL/6J, whereas

RT-PCR showed the reverse effect, likely because of differentially spliced variants.

Amygdala NMDAR neuronal signaling and metaplasticity

NMDAR-mediated eEPSC decay time (as measured by weighted τ) was significantly affected by strain ($F_{(1,30)} = 23.67$; $p < 0.05$) but not stress, reflecting significantly longer decay time in DBA/2J than C57BL/6J, 97.1 ± 5.7 ; stressed C57BL/6J, 104.7 ± 12.5 ; nonstressed DBA/2J, 181.6 ± 24.3 ; stressed DBA/2J, 172.2 ± 17.2 ; $n = 6$ –12 per strain under stress).

There was a significant pulse by strain by stress interaction for normalized eEPSC amplitude at all three stimulation frequencies: 10 Hz ($F_{(8,240)} = 2.32$; $p < 0.05$), 20 Hz ($F_{(8,240)} = 3.61$; $p < 0.01$), and 40 Hz ($F_{(8,240)} = 2.31$; $p < 0.05$). *Post hoc* analysis showed that eEPSC amplitude at the lower (10 Hz) stimulation frequency was unaltered by stress in C57BL/6J, but was significantly increased by stress in DBA/2J at later pulses (i.e., 6, 8–10) (Fig. 4A,B). After 20 Hz stimulation, stress significantly increased amplitudes (pulses 7–10) in DBA/2J, but not C57BL/6J (Fig. 4C,D). Amplitudes were not significantly altered by stress after 40 Hz stimulation, probably because of saturation (Fig. 4E,F). Under nonstressed conditions, amplitude was significantly lower in DBA/2J than C57BL/6J after 10 Hz (pulses 5–10) and 20 Hz (pulses 8–10), but not 40 Hz.

Stress in NR2A and GluR1 null mutants

In NR2A null mutants, there were significant genotype by stress interactions for shelter exits ($F_{(1,37)} = 6.08$; $p < 0.05$) and time out of the shelter ($F_{(1,37)} = 14.12$; $p < 0.01$) during the first 5 min. *Post hoc* comparisons showed that nonstressed $-/-$ mice exhibited a trend for more time out of the shelter than $+/+$ mice, consistent with data in other assays (Boyce-Rustay and Holmes, 2006). Stress produced a significant, C57BL/6J-like increase in shelter exits and time out of the shelter in $+/+$ mice, but had no effects on exits and significantly decreased time out of the shelter in $-/-$ mice, as compared to nonstressed $-/-$ mice (Fig. 5A,B). There was a trend for shorter latency to exit after stress, but no main effects or interaction (Fig. 5C). There was a significant effect of stress ($F_{(1,29)} = 64.83$; $p < 0.01$), but not genotype and no interaction, for body weight. Stress significantly reduced body weight regardless of genotype (Fig. 5D).

In GluR1 null mutants, there was a significant effect of stress but no stress–genotype interaction for time out of the shelter ($F_{(1,37)} = 9.13$; $p < 0.01$) and shelter exits ($F_{(1,37)} = 9.77$; $p < 0.01$). Stress significantly increased both measures regardless of genotype (Table 1). $-/-$ mice made significantly more shelter exits than $+/+$ mice (main genotype effect, $F_{(1,37)} = 8.04$; $p < 0.01$). Neither stress nor genotype affected latency to exit the shelter. There was a significant effect of stress ($F_{(1,37)} = 18.12$; $p < 0.01$), but not

genotype and no interaction, for body weight. Stress significantly reduced body weight regardless of genotype (Table 1).

NR2A null mutant amygdala neuronal dendritic morphology and spine density

There was a significant effect of genotype ($F_{(1,12)} = 4.90$; $p < 0.05$) and branch order ($F_{(3,12)} = 94.10$; $p < .05$), but no interaction, for spine density. $-/-$ mice had a significantly ($\sim 30\%$) lower spine density than $+/+$ mice, regardless of branch order (Fig. 6*A,B*). Overall amount of dendritic material, dendritic branch number, and branch length, either in all branches or terminal branches only, were unaffected by genotype (Fig. 6*C–F*).

Discussion

The current data demonstrate significant variation in basal and stress-induced anxiety-related behavior in different inbred mouse strains. This variation correlated with divergent corticolimbic gene expression and excitatory glutamatergic signaling in the amygdala. Null mutation of the modulatory NMDAR NR2A subunit was sufficient to reverse stress-induced changes in behavior.

Effects of strain and stress on anxiety- and depression-related behavior

Our strain survey revealed that DBA/2J had higher basal anxiety-like behavior than C57BL/6J in two separate behavioral assays (light/dark exploration test and elevated plus maze), as found previously in some but not all studies (e.g., Bouwknecht and Paylor, 2002; Anisman and Matheson, 2005; Hovatta et al., 2005; DuBois et al., 2006; Mineur et al., 2006; Millstein and Holmes, 2007; Cohen et al., 2008; Schweizer et al., 2009). DBA/2J responded to repeated restraint stress with further increase in anxiety-like behavior (i.e., reduced exploration of aversive areas) in the light/dark exploration test, but not the elevated plus maze (possibly because of a baseline floor effect as corticosterone levels after plus-maze exposure were indeed demonstrably elevated in stressed, relative to nonstressed, DBA/2J). C57BL/6J responded to stress in the opposite manner (i.e., increased exploration of the open areas) in both tests. One explanation is that DBA/2J is “susceptible” to this stressor, whereas C57BL/6J is “resilient.” However, a more circumscribed but potentially more accurate interpretation is that both strains react strongly to this particular stress regime, but differ in the manner in which the response manifests behaviorally. Thus, DBA/2J may develop a classic “passive” anxiety-like suppression of approach behavior, whereas C57BL/6J may exhibit more of an “active” response to stress. This could reflect an increased panic-like escape drive or manic-like reaction to stress in C57BL/6J, rather than a decrease in anxiety-like behavior. Indeed, previous studies have found that C57BL/6J (and DBA/2J) exhibit strong anxiety-like reactions to certain other stressors (e.g., acute predator odor exposure) (Cohen et al., 2008). The nature of the behavioral response to repeated restraint in both strains could be parsed further by testing its reversibility by drug classes with efficacy in normalizing different disease states (e.g., anti-anxiety, anti-panic, anti-manic).

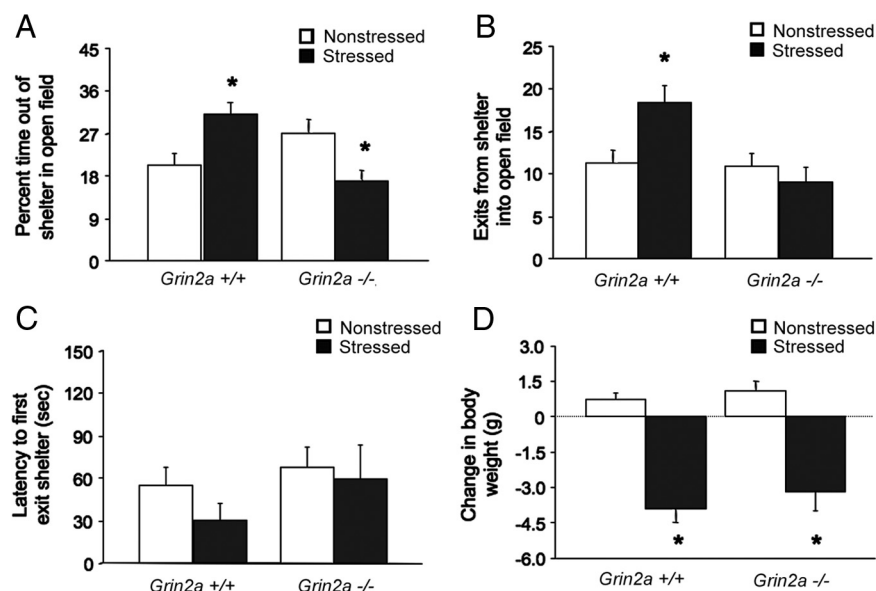


Figure 5. Stress-induced anxiety-like behavior in NR2A null mutants. *A*, Stressed $+/+$ mice spent significantly more time, and stressed $-/-$ mice spent significantly less time, out of the shelter than nonstressed counterparts ($n = 6$ – 15 per genotype per condition). *B*, Stressed $+/+$ mice but not $-/-$ mice made significantly more shelter exits than nonstressed counterparts. *C*, Latency to exit the shelter was not significantly affected by stress or genotype. *D*, Stress significantly reduced body weight, relative to nonstressed controls, regardless of genotype. Data are expressed as mean \pm SEM. * $p < 0.05$ versus nonstressed of the same genotype.

Table 1. Stress-induced anxiety-related behavior in GluR1 null mutants

	+/+		-/-	
	Nonstressed	Stressed	Nonstressed	Stressed
% of time out of shelter**	20.75 \pm 4.89	28.39 \pm 2.55	20.07 \pm 1.98	32.54 \pm 2.46
Shelter exits***	11.27 \pm 2.42	19.36 \pm 1.48	18.67 \pm 1.83	25.50 \pm 3.36
Latency to first exit	58.00 \pm 25.68	24.14 \pm 6.40	24.37 \pm 4.88	15.50 \pm 5.17
Body weight change (g)**	1.07 \pm 0.32	-1.76 \pm 0.71	0.81 \pm 0.29	-1.56 \pm 0.65

Repeated restraint stress produced a significant increase in time out of the shelter and shelter exits, and a significant decrease in body weight, compared to nonstress controls, regardless of genotype. Stress did not significantly affect latency to exit. $n = 9$ – 10 per genotype under. Data are expressed as mean \pm SEM. * $p < 0.05$; ** $p < 0.01$, main effect of stress; *** $p < 0.01$ main effect of genotype.

The differential response to stress in anxiety-related measures between C57BL/6J and DBA/2J did not generalize to measures of depression-related behavior. Repeated restraint produced an equivalent loss of body weight and sensitization of the corticosterone response to forced swim stress in DBA/2J and C57BL/6J, but had no effects on forced swim test depression-related behavior. Thus, anxiety-like behavior may be an especially sensitive read-out of the effects of repeated restraint, as it is for other repeated stressors, in mice (Strekalova et al., 2004; Krishnan et al., 2007).

Effects of strain and stress on corticolimbic gene expression

There is mounting evidence that genetically driven variation in corticolimbic function underlies individual differences in anxiety and stress (Caspi et al., 2010). Genome-wide analyses have identified patterns of gene expression underlying strain (Hovatta et al., 2005) and strain-subpopulation (Krishnan et al., 2007) differences in trait and stress-induced alterations in anxiety. Gene expression in amygdala, vmPFC, and hippocampus differed markedly at baseline between DBA/2J and C57BL/6J, with an approximately equivalent number of differences in each region [similar to the regional uniformity reported by Kerns et al.,

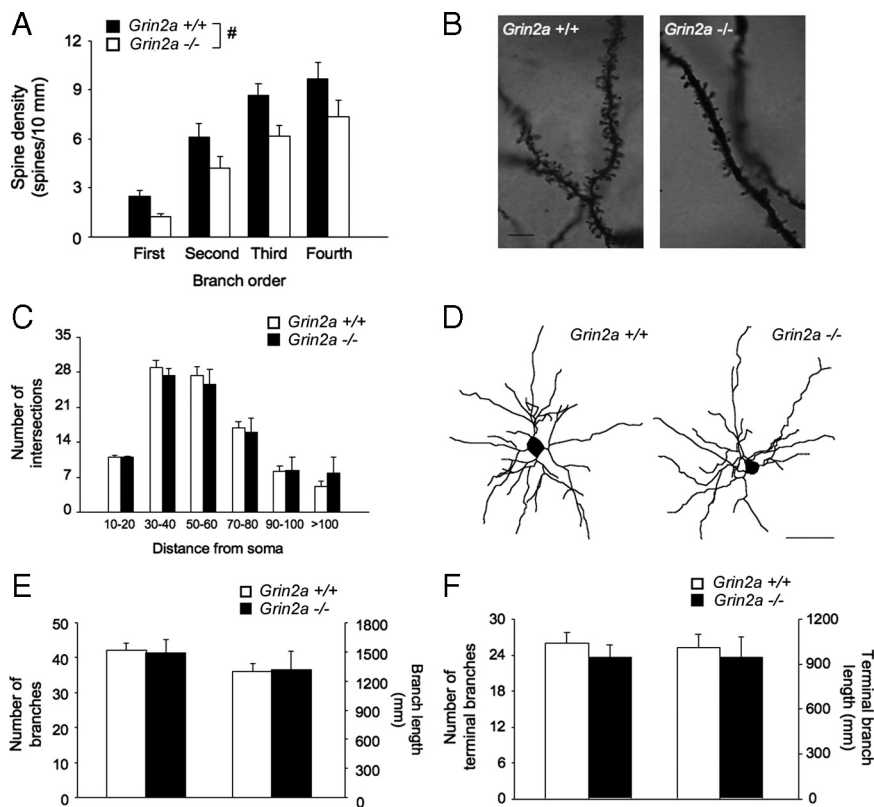


Figure 6. Amygdala dendritic morphology and neuronal spine density in NR2A null mutants. **A**, Nonstressed $-/-$ mice had significantly lesser spine density in principal BLA neurons than $+/+$ mice, regardless of branch order ($n = 6-8$ per genotype). **B**, Representative images of Golgi-Cox stained dendritic spines. **C**, The overall amount of dendritic material, as measured by the number of intersections by distance from soma, did not differ between genotypes. **D**, Representative images of reconstructed neurons. Scale bar, $50 \mu\text{m}$. **E**, Genotypes did not differ in branch number or branch length. **F**, Genotypes did not differ in terminal branch number or branch length. $n = 6-8$ per genotype. Data are expressed as mean \pm SEM. $\#p < 0.05$, $+/+$ versus $-/-$ mice.

(2005)]. Previous studies have also reported major differential basal gene expression between the strains in various forebrain regions, including the PFC and striatum (Hovatta et al., 2005; Kerns et al., 2005; Korostynski et al., 2006; Grice et al., 2007). Some of the genes our analysis found to differ between strains have been reported previously to differ in other regions. For example, the higher expression of *Comt* we found in the vmPFC of C57BL/6J relative to DBA/2J has also been reported in the nucleus accumbens (Grice et al., 2007), and the differential expression and putative splice variation of *Atp1a2* between these two strains has also been detected in the striatum (Korostynski et al., 2006).

We confirmed expression differences driven by strain and/or stress in 16 genes. Eight have previously been linked to anxiety- and stress-related behaviors: *Gal* (galanin) (e.g., Karlsson and Holmes, 2006), *Atp1a2* (sodium pump $\alpha 2$ subunit) (e.g., Ikeda et al., 2003), *Bdnf* (brain-derived nerve growth factor) (e.g., Nestler et al., 2002), *Nr4a2* (Nurr1) (e.g., Rojas et al., 2007), *Chrna4* ($\alpha 4$ nicotinic receptor) (e.g., Labarca et al., 2001), *Comt* (catechol-O-methyltransferase) (e.g., Zubieta et al., 2003; Papaleo et al., 2008), *Drd1a* (dopamine D1 receptor) (e.g., Hains and Arnsten, 2008), and *Rgs2* (Yalcin et al., 2004). Another four genes are key components of glutamate-mediated neurotransmission and neural plasticity (Malenka and Bear, 2004; Szumliński et al., 2004, 2005): *Grik1* (glutamate receptor, ionotropic, kainate 1), *Grin1* (glutamate receptor, ionotropic, NMDA 1), *Gria1* (glutamate receptor, ionotropic, AMPA 1), and *Homer1* (Homer homolog 1). The final three genes we examined are circadian genes (the period homologs *Per1*, *Per2*, and their regulator *Dbp*, D-box binding pro-

tein), increasingly implicated circadian genes in stress-related neuropsychiatric diseases such as mania (McClung, 2007).

At the systems level, of the three brain regions analyzed, stress produced the most expression changes in the amygdala in both strains. This is consistent with the amygdala being the central node within the corticolimbic “stress” network and its exquisite sensitivity to genetic factors and stress (LeDoux, 2000; Vyas et al., 2002; Hariri and Holmes, 2006; Yang et al., 2008). Critically however, stress affected an almost entirely different set of genes in DBA/2J than C57BL/6J (in the amygdala as well as vmPFC and hippocampus). For example, stress caused ubiquitous up-regulation of circadian (e.g., period) genes in DBA/2J, but altered plasticity-related (e.g., glutamate receptor) genes in C57BL/6J. These data argue against a canonically common molecular “stress network” activated to different degrees in the two strains, but instead suggest the mobilization of mostly autonomous gene networks. They are also in line with the divergent behavioral responses to stress in DBA/2J and C57BL/6J being qualitative, rather than simply quantitative, in nature.

Stress effects on amygdala neuronal excitability and metaplasticity

Our expression analysis nominates various gene sets as correlates of the divergent behavioral response to stress in DBA/2J and C57BL/6J. In the current study, we chose to focus further on the glutamate system because this system mediates both corticolimbic excitability and plasticity. Stress augmented temporal summation of NMDAR-mediated currents in BLA neurons in DBA/2J but not C57BL/6J. This effect was evident specifically at subsaturation stimulation frequencies and in the absence of altered NMDAR-mediated current duration. Temporal summation assays metaplasticity (“the plasticity of synaptic plasticity”) (Philpot et al., 2001; Kash et al., 2009) and provides a surrogate measure of the excitatory neuronal response in the face of accumulating extracellular glutamate (Kullmann et al., 1996). Enhanced summation after stress in DBA/2J could reflect impaired regulation of glutamatergic neurotransmission at the presynaptic (reduced release by metabotropic glutamate or cannabinoid receptors), glial (reduced glutamate reuptake), or postsynaptic (increased spillover activation of perisynaptic/extrasynaptic NMDARs) levels.

Additional studies will be needed to elucidate these mechanisms. Notwithstanding, the main conclusion is that the heightened anxiety-related response to stress in DBA/2J is associated with increased amygdala neuronal excitability. A similar association has been reported in other models, such as in rodents selectively bred for high-anxiety-like behavior (Muigg et al., 2007). It was notable that these physiological changes occurred in this strain, whereas changes in amygdala expression of plasticity genes, including glutamate receptors, were evident in C57BL/6J. We hypothesize that these expression changes reflect the orchestration of neuroadaptations that serve to effectively “protect”

against amygdala hyperexcitability in C57BL/6J. The failure to recruit these mechanisms in DBA/2J could underlie the increased passive-like anxiety-like response to stress. This could potentially have implications for developing novel drug treatments for stress-related anxiety disorders that target the glutamate system to mitigate the development or expression of adverse reactions to stress.

Stress effects in NR2A and GluR1 null mutants

Divergent mobilization of the glutamate system per se is unlikely to fully account for the differential strain responses to stress. However, supporting the importance of these particular changes, null mutation (on a C57BL/6J background) of one key modulatory component, the NMDAR NR2A subunit, was not only sufficient to prevent the C57BL/6J-like anxiety-related response to stress, but partially reversed the direction of these effects, i.e., producing a DBA/2J-like increase in anxiety-like behavior. Demonstrating the specificity of the contribution of NR2A, null mutation of another key glutamate receptor, AMPA GluR1 (also on a C57BL/6J background), did not mitigate the C57BL/6J-like response to stress. In addition, BLA dendritic spine density was significantly reduced in NR2A null mutants under basal conditions. This is noteworthy because increased BLA dendritic spine density (and length) is posited to be a neuronal correlate of stress-induced increases in anxiety-like behavior (in rats) (Vyas et al., 2006). Thus, current data raise the intriguing possibility that basal status of BLA spine density may determine the nature of the anxiety-related response (i.e., C57BL/6J-like or DBA/2J-like) to stress.

Summary and conclusions

In summary, our initial strain survey identified two strains exhibiting divergent basal and stress-induced anxiety-related phenotypes, DBA/2J and C57BL/6J. This behavioral variation was associated with marked differences in the expression of corticolimbic genes expressed at baseline and in response to stress. Differential recruitment of glutamate plasticity genes characterized strain differences in gene expression. Metaplasticity of NMDAR-mediated neuronal amygdala signaling was impaired in the strain (DBA/2J) showing a passive anxiety-related response to stress, but not the strain (C57BL/6J) exhibiting an active behavioral response to stress and effective mobilization of plasticity genes in the amygdala. Finally, null mutation of NR2A (but not GluR1) was sufficient to prevent and partially reverse the active, C57BL/6J-like anxiety-related response to stress, and caused a decrease of BLA dendritic spines. Our findings could have implications for elucidating the neural and genetic basis of individual differences in risk for stress-related neuropsychiatric disease.

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Full list of significant differences in basal corticolimbic gene expression between C57BL/6J and DBA/2J

vmPFC					Amygdala					Hippocampus				
ProbeID_vmPFC	Gene_ID	Gene_Symbol	ttest_vmPFC_B6vD2	Fold_High/Low_B6	ProbeID_AMY	Gene_ID	Gene_Symbol	ttest_Amy_B6vD2	Fold_High/Low_B6	ProbeID	Gene_ID	Gene_Symbol	ttest_Hip_B6vD2	Fold_High/Low_B6
5720687	193742	Bat5	0.000000006	37.4	580736	101359	D330027H18Rik	0.0000002	13.9	7510148	233802	Thumpd1	0.0000005	17.7
106900020	18203	Ntan1	0.0000005	16.9	3710040	21952	Tnni1	0.0000002	2.1	106900020	18203	Ntan1	0.0000005	14.3
2940468	20713	Serpin1	0.0000006	38.1	2340239	54218	B3galt4	0.0000003	1.9	630091	73103	3110009E18Rik	0.0000008	-1.7
105690524	54722	Dfna5h	0.0000008	3.1	60577	12371	Casp9	0.0000006	11.7	104560161	17276	Mela	0.0000008	-76.4
1940280	233489	Picalm	0.000001	6.9	105390397	68585	Rtna	0.0000008	-4.5	5390278	66526	2210012G02Rik	0.000001	2.6
101230408	22651	Zfp125	0.000001	6.6	1580097	233532	Rsf1	0.0000009	6.2	101850039	108686	Ccdc88a	0.000002	-9.2
100870215	16569	Klf3b	0.000002	8.5	60538	67529	Fgfr1op2	0.0000009	32.8	2970047	102060	Gadd45gip1	0.000002	-4.1
5340577	21672	Prdx2	0.000002	34.0	104560161	17276	Mela	0.000001	-77.7	101050546	654818	C030030A07Rik	0.000003	14.6
1240142	223696	Tomt22	0.000002	21.4	1980148	319259	9930021D14Rik	0.000001	-4.6	4670091	16651	Sspn	0.000003	12.2
106350020	75547	Akap13	0.000002	12.6	5720687	193742	Bat5	0.000002	40.8	5550020	14127	Fcer1g	0.000003	18.8
104070239		C230053E11Rik	0.000003	11.6	4560112	269400	Rtel1	0.000002	2.3	105080204	70402	2310056B04Rik	0.000005	6.8
5550020	14127	Fcer1g	0.000003	21.0	2650154	329504	Lcmt2	0.000003	3.2	104280450	74513	Neto2	0.000005	-1.6
60204	80891	Msr2	0.000005	9.3	5340577	21672	Prdx2	0.000003	36.5	101410746	94184	Pdxdc1	0.000005	20.2
102450035	67464	Entpd4	0.000005	8.2	7100026	75578	Fggy	0.000003	8.0	1980148	319259	9930021D14Rik	0.000006	-5.0
101410746	94184	Pdxdc1	0.000006	22.6	840079	53614	Reck	0.000004	2.9	1500142	20463	Cox7a2l	0.000006	36.5
105910039	214253	Etnk2	0.000006	14.0	100670538		D130052N13Rik	0.000004	30.3	101980600		LOC381946	0.000007	12.5
6520239	14043	Ext2	0.000007	1.6	105570333	24012	Rgs7	0.000004	6.0	1240411	74015	Fcho1	0.000007	-3.0
510315	20017	Rpo1-2	0.000008	6.6	4670091	16651	Sspn	0.000005	7.8	2570162	94091	Trim11	0.000009	11.0
4210048	56365	Cclnkb	0.000008	-1.7	5550020	14127	Fcer1g	0.000005	19.5	50195	117592	B3galt6	0.000009	6.4
101940711	791292	ENSMUSG00000054123	0.000008	-2.7	50195	117592	B3galt6	0.000005	7.7	510315	20017	Rpo1-2	0.000009	4.2
103060537	791088	ENSMUSG00000052691	0.000009	3.3	1090280	74196	Ttc27	0.000006	18.0	2190725	14964	H2-D1	0.000009	-13.7
7510148	233802	Thumpd1	0.00001	16.0	6370114	67398	Srpr	0.000006	3.7	4070333	229211	Acad9	0.00001	-2.2
2690711	19175	Psmb6	0.00001	40.0	1570546	56392	Shoc2	0.000007	-6.2	5340577	21672	Prdx2	0.00001	24.8
6370114	67398	Srpr	0.00001	4.3	2650020	229228	Nudt6	0.000007	5.2	4390398	57376	Smarce1	0.00001	-2.7
104560161	17276	Mela	0.00001	-91.3	1580079	98578	Tnxdcd9	0.000008	-1.9	106400035	79554	BC002216	0.00001	-9.7
102630056	66236	1500011B03Rik	0.00001	7.4	104150273	26250	Sic7a11	0.000008	3.7	106130162	17756	Mtap2	0.00001	13.4
3140129	67527	ILM3140129	0.00001	6.3	6660086	69577	Fastkd3	0.000009	5.1	2650685	215615	Rnpep	0.00001	2.1
60577	12371	Casp9	0.00001	12.1	460168	100213	Rusc2	0.000009	8.9	2230491	20674	Sox2	0.00001	-2.2
5270066	242747	MGC67181	0.00001	4.6	105910364	233103	4931406P16Rik	0.000009	2.5	1240075	19944	Rpl29	0.00001	7.0
1240075	19944	Rpl29	0.00001	5.9	2370563	67742	Samsn1	0.00001	2.8	100610632	217449	Ttc15	0.00001	1.7
2470685	79560	Ublcp1	0.00002	2.2	1500142	20463	Cox7a2l	0.00001	38.9	104920164	16554	Klf13b	0.00001	2.5
1580097	233532	Rsf1	0.00002	5.5	2260093	52443	Mrp148	0.00001	6.8	106940014	319504	Nrcam	0.00001	11.1
1500142	20463	Cox7a2l	0.00002	33.0	5550156	20238	Atxn1	0.00001	5.3	5720687	193742	Bat5	0.00001	45.8
5910411	14760	Gpr19	0.00002	-2.7	103170273		LOC331139	0.00001	34.9	106860014	52535	Mett11d1	0.00002	5.7
5360487	27049	Etv3	0.00002	1.8	102810739	71263	Mro	0.00001	5.6	106350670	14210	Fin15	0.00002	5.0
1990451	21754	Tesk1	0.00002	17.9	105050176	66447	Mgst3	0.00001	3.7	6100075	328399	A930018M24Rik	0.00002	-3.4
103940079	78579	D530043N20Rik	0.00002	4.0	2260035	241919	Sic7a14	0.00001	-2.9	4230110	108073	Grm7	0.00002	-5.0
102060075	380706	LOC237831	0.00002	2.5	2940468	20713	Serpin1	0.00001	18.2	100050129	67464	Entpd4	0.00002	1.9
3140341	27267	Cars	0.00002	4.0	60204	80891	Msr2	0.00002	10.7	6510097	11546	Parp2	0.00002	2.8
103850064	14751	Gpi1	0.00002	2.3	105890324	66223	Mrp135	0.00002	3.7	6900239	282619	Sbsn	0.00002	7.7
4010040	67304	3110070M22Rik	0.00002	1.6	104280605	21340	Taf1b	0.00002	11.3	5910411	14760	Gpr19	0.00002	-2.6
106020113	94062	Mrp13	0.00002	4.9	106130162	17756	Mtap2	0.00002	21.5	2260121	66460	Sys1	0.00002	-2.2
5550403	78274	5330430C04Rik	0.00002	-1.3	104050563	19301	Pmpx2	0.00002	6.8	3520687	26951	Zw10	0.00002	1.4
102320746	27395	Mrp15	0.00002	3.2	104670037		A830085I22Rik	0.00002	4.3	460168	100213	Rusc2	0.00002	6.3
1410446	75423	Arf15a	0.00003	11.7	460138	67216	Mboat2	0.00002	11.2	2690711	19175	Psmb6	0.00002	40.4
106400035	79554	BC002216	0.00003	-9.1	106770035		LOC243902	0.00002	4.0	102120139		5430404N14Rik	0.00002	5.3
5340100	69681	Cdk3	0.00003	1.5	1990451	21754	Tesk1	0.00002	23.1	5270671	17183	Matn4	0.00002	-3.9
105130184	100177	Zmyhm6	0.00003	6.2	104590600	99946	6720422M22Rik	0.00002	2.9	106020102	71513	9030607L20Rik	0.00002	5.9
2340440	259277	Klk8	0.00003	-4.6	6840056	22163	Tnfrsf4	0.00002	1.8	1780520	107581	Col16a1	0.00003	-2.8
6900239	282619	Sbsn	0.00003	10.7	100360465	414758	5830428H23Rik	0.00002	7.7	2650433	233066	Al428936	0.00003	1.8
103840575	68915	Vars2	0.00003	3.9	3840403	192650	Cabp7	0.00002	-2.2	60577	12371	Casp9	0.00003	9.8
106350670	14210	Fin15	0.00003	4.9	6350725	58248	1700123O20Rik	0.00002	4.5	3440048	53886	Cdk12	0.00003	26.4
3800132	22222	Ubr1	0.00003	-2.9	6200048	66147	Necap2	0.00002	13.4	6660440	66628	Thg1l	0.00003	-3.4
940433	69367	Glrx2	0.00003	-1.6	670403	57357	Srd5a2l	0.00002	1.6	106040451			0.00003	-2.0
1980538	66567	2510022D24Rik	0.00004	4.0	101410746	94184	Pdxdc1	0.00002	19.4	3170204	244141	Nars2	0.00003	2.1
4670091	16651	Sspn	0.00003	10.6	106900020	18203	Ntan1	0.00002	18.3	105360301	72919	2900019A20Rik	0.00003	4.8
104150390	76816	Sdcccag8	0.00004	-1.4	104070239		C230053E11Rik	0.00002	11.6	2360397	12042	Bcl10	0.00003	2.0
100050739	381538	Gm1027	0.00004	-5.0	6650324	21969	Top1	0.00002	-1.3	270139	99138	Stard7	0.00003	8.0
100460068	68699	1110033F14Rik	0.00004	2.8	2190725	14964	H2-D1	0.00003	-9.2	106940019	20019	Rpo1-4	0.00003	3.6
4670113	52123	Agapat5	0.00004	4.2	2320471	192136	5033411D12Rik	0.00003	2.0	1230053	215418	Axud1	0.00003	4.8
104280605	21340	Taf1b	0.00004	10.3	105910039	214253	Etnk2	0.00003	4.3	4060112		Krt11-12	0.00003	4.6
5550400	72355	2210021J22Rik	0.00005	2.4	2480411	24135	Zfp68	0.00003	6.7	5900576	68342	Ndufb10	0.00003	12.5
2570162	94091	Trim11	0.00005	6.6	2690711	19175	Psmb6	0.00003	45.7	100630047	17933	Myt1l	0.00003	6.2
101500576	67201	Glod4	0.00005	4.7	101400180	329506	Ctdspl2	0.00003	3.1	104070239		C230053E11Rik	0.00004	7.9
2190725	14964	H2-D1	0.00006	-13.9	6770037	65956	Ccl21c	0.00003	6.6	102120504	14312	Brd2	0.00004	2.4
103140193		5033414D05Rik	0.00006	3.6	3140129	67527	ILM3140129	0.00003	2.9	2900619	216635	Hbb1	0.00004	-3.6
101450400	56077	Dgke	0.00006	3.6	106350020	75547	Akap13	0.00003	6.0	2370044	116904	Alpk3	0.00004	-1.5
105340348	20515	Sic20a1	0.00006	6.9	106760253	16898	Rps2	0.00003	-12.5	103060039		LOC381212	0.00004	-3.2
107000132	23972	Paps2	0.00006	5.9	6520253	235574	Atp2c1	0.00003	8.1	6130180	11610	Agtrap	0.00004	4.1
610538	75541	1700019G17Rik	0.00006	3.0	102360600	238130	Dock4	0.00003	3.0	1780338	83965	Enpp5	0.00004	23.6
6660086	69577	Fastkd3	0.00007	4.2	6380280	193838	Eme2	0.00003	6.9	2940468	20713	Serpin1	0.00004	13.0
460138	67216	Mboat2	0.00007	8.8	6900010	22689	Zfp27	0.00003	3.7	100580408	59069	Tpm3	0.00005	1.7
104590600	99946	6720422M22Rik	0.00007	2.9	106760215	67412	C6orf174	0.00004	14.1	1780138	93695	Gpnmb	0.00005	8.4
100630484	320452	P4ha3	0.00007	-1.5	106770110	77480	Kidins220	0.00004	5.9	4200035	399558	Flrt2	0.00005	-2.3

6020601	57315	Wdr46	0.00009	2.3	1240142	223696	Tomm22	0.00005	17.5	105080746	LOC239727	0.00006	-3.1	
103170377	19270	Ptprg	0.00009	2.6	103060537	791088	ENSMUSG00000052691	0.00005	3.2	60538	Fgfr10p2	0.00006	23.0	
3190717	217449	Ttc15	0.00009	-5.1	101090397	228836	Dlgap4	0.00005	2.6	102120333	77092	9630056G07Rik	0.00006	5.2
106760215	67412	C6orf174	0.00009	16.2	3440048	53886	Cdkl2	0.00005	39.6	6900010	22689	Zfp27	0.00006	3.7
5860632	69956	Ptcd3	0.00009	4.5	100630047	17933	Myt1l	0.00005	6.0	6350575	14339	Aktip	0.00006	3.2
2260093	52443	Mrpl48	0.0001	7.3	103120315	13591	Ebf1	0.00006	3.4	4850047	17178	Telo2	0.00007	4.5
3520471	64045	Glxr1	0.0001	13.6	102470112	72203	2610507101Rik	0.00006	3.3	102760110	27364	Srr	0.00007	-1.8
101450008	71517	9030624J02Rik	0.0001	2.7	4850129	78887	Sfi1	0.00006	-2.8	1740047	105450	Mmrn2	0.00007	-1.6
2340100	108099	Prkg2	0.0001	4.3	5900014	56739	Rec8	0.00006	5.9	100360373	75901	Dcp1a	0.00007	1.7
1170180	267019	Rps15a	0.0001	8.5	1410446	75423	Ar15a	0.00006	8.6	1580079	98258	Txndc9	0.00007	-1.8
780576	17025	Alad	0.0001	-4.2	106400035	79554	BC022216	0.00006	-13.3	5720672	223978	C530044N13Rik	0.00007	-1.3
100610504	70686	Dusp16	0.0001	5.8	6760605	210719	Mkx	0.00007	2.8	105390193	53320	Folh1	0.00008	2.5
101980600		LOC381946	0.0001	17.1	102320746	27395	Mrpl15	0.00007	2.6	2970050	67332	Snrp3	0.00008	-1.8
106130162	17756	Mtap2	0.0001	17.8	2570082	20019	Rpo1-4	0.00007	6.7	101580463	LOC209182	0.00008	-2.0	
106020102	71513	9030607L20Rik	0.0001	5.7	3140341	27267	Cars	0.00007	4.2	106100520	380983	LOC380983	0.00008	-4.5
1780110	68251	5430437P03Rik	0.0001	1.6	100450273	57738	Scl15a2	0.00007	6.6	103450288	77733	Rnf170	0.00008	-7.9
4850546	218506	Mrrps27	0.0001	3.8	1780338	83965	Ennp5	0.00007	22.5	101980300	78020	4930522L14Rik	0.00008	3.7
106510133	77305	Wdr82	0.0001	12.2	105550408	67939	2010316F05Rik	0.00007	1.9	105720746	12286	Cacna1a	0.00008	2.0
840070	242553	Ankrd38	0.0001	1.4	3520471	64045	Glxr1	0.00007	20.8	4010619	21672	Prdx2	0.00008	3.7
60538	67529	Fgfr10p2	0.0001	19.3	3800132	22222	Ubr1	0.00007	-4.0	106510133	77305	Wdr82	0.00008	8.9
110161	238673	Zfp367	0.0001	5.4	4780324	77771	A330102K23Rik	0.00008	7.5	102030519	20922	Supt4h1	0.00008	1.3
101190446	69740	Dph5	0.0001	1.8	1450056	13191	Dctn1	0.00008	-2.4	2260093	52443	Mrpl48	0.00009	9.1
105890324	66223	Mrpl35	0.0001	3.9	106020113	94062	Mrpl3	0.00008	3.7	106510494	72573	Brcd1	0.00009	2.9
5080121	170209	Me2	0.0001	-2.7	670446	107272	Psat1	0.00008	-2.0	870685	67144	Lrrc40	0.00009	2.2
2260121	66460	Sys1	0.0001	-2.4	106100465	16785	Rpsa	0.00008	10.8	1410446	75423	Ar15a	0.00009	12.1
3440048	53886	Cdkl2	0.0001	25.2	107000494	68350	Mul1	0.00008	1.9	1090736	19735	Rgs2	0.00009	-1.5
2640678	19044	Ppxp	0.0001	1.4	2510026	192236	Hps1	0.00008	2.6	3170600	110446	Acat1	0.00009	-1.5
6560585	58239	Dexi	0.0001	-1.5	6350253	75566	Srrm2	0.00008	-2.1	103170273		LOC331139	0.00009	59.1
100450273	57738	Scl15a2	0.0001	8.0	106590341		1110070015Rik	0.00009	3.6	1240142	223696	Tomm22	0.00009	17.7
4560180	19763	Ring1	0.0001	3.5	106940014	319504	Nrcam	0.00009	8.7	2260075	67212	Mrpl55	0.00009	2.0
3710435	20322	Sord	0.0001	2.4	3140524	66234	Sc4mol	0.00009	4.3	3800132	22222	Ubr1	0.00009	-2.8
4780324	77771	A330102K23Rik	0.0001	3.7	6650520	242747	MGC67181	0.00009	4.7	105890465	6430530L21Rik	0.00009	2.1	
1770278	13875	Erf	0.0001	-1.4	101980300	78020	4930522L14Rik	0.00009	3.3	101340746	12558	Cdh2	0.00009	2.9
5690725	56350	Arf3	0.0001	9.7	5130722	20701	Serpina1b	0.00009	-5.9	5570504	140780	Bmp2k	0.00009	-1.9
106760253	16898	Rps2	0.0001	-27.6	103190068	95926	Usp53	0.0001	3.1	105570131		LOC194913	0.0001	2.1
101990497	1e+08	D130017D19Rik	0.0001	-4.3	610538	75541	1700019G17Rik	0.0001	3.1	106900121	242474	D730040F13Rik	0.0001	2.0
104060452	319344	C230053D17Rik	0.0001	-3.5	1780538	57738	Scl15a2	0.0001	-3.5	1500097	19731	Rgl1	0.0001	-1.6
540377	71691	0710005I19Rik	0.0001	4.3	103360133	226922	Kcnq5	0.0001	15.0	100450273	57738	Scl15a2	0.0001	7.4
102470112	72203	2610507I01Rik	0.0001	3.6	4540039	391172	Hist1h2ab	0.0001	1.6	105360156	269087	BC037704	0.0001	-1.5
1570546	56392	Shoc2	0.0001	-4.4	102450035	67464	Entpd4	0.0001	8.3	540397	16593	Klc1	0.0001	9.0
106940019	20019	Rpo1-4	0.0001	3.2	101500576	67201	Glod4	0.0001	4.8	540377	71691	0710005I19Rik	0.0001	4.6
106940014	319504	Nrcam	0.0001	13.2	1990132	75669	Pik3r4	0.0001	2.0	4390328	20394	Scg5	0.0001	-3.9
1450082	67673	Tceb2	0.0001	-1.3	4850546	218506	Mrrps27	0.0001	3.1	101770497	78751	Zc3h6	0.0001	1.5
103780603	72368	2310045N01Rik	0.0002	2.6	101850039	108686	Cdc88a	0.0001	-4.9	101940711	791292	ENSMUSG00000005	0.0001	-1.9
103450288	77733	Rnf170	0.0002	-8.1	105080204	70402	2310056804Rik	0.0001	9.7	2970563	233057	BC027344	0.0001	2.0
106770110	77480	Kidins220	0.0002	4.6	4480044	75778	Them4	0.0001	3.0	3450603	23997	Psm13	0.0001	-1.4
1090280	74196	Ttc27	0.0002	11.8	4760086	28135	Cep63	0.0001	4.3	5690725	56350	Ar13	0.0001	12.9
5900576	68342	Ndufb10	0.0002	15.9	7040181	67026	Thap4	0.0001	5.7	1170039	12654	Chi3l1	0.0001	-1.6
102100504	14027	Evp1	0.0002	2.6	3840164	212999	Tmop2	0.0001	-1.8	6450687	94090	Trim9	0.0001	6.9
50195	117592	B3gal6t6	0.0002	6.5	6770551	11702	Amd1	0.0001	-1.5	840079	53614	Reck	0.0001	3.8
4230037	71883	Coq2	0.0002	3.0	2450364	21956	Tnnt2	0.0001	7.9	5270619	117109	Pop5	0.0001	1.4
6510364	11807	Apoa2	0.0002	1.7	2360397	12042	Bcl10	0.0001	2.3	5390551	225028	Map4k3	0.0001	-1.3
4200039	19684	Rdx	0.0002	1.4	2320484	193116	Slu7	0.0001	-2.4	100460068	68699	1110033F14Rik	0.0001	2.8
103120341		D430042O12Rik	0.0002	3.8	104210196	71566	9030425E11Rik	0.0001	4.1	101500576	67201	Glod4	0.0001	4.8
107100341	71535	9030411M13Rik	0.0002	2.0	104120131	77127	A930001A20Rik	0.0001	-1.8	104060452	319344	C230053D17Rik	0.0001	-4.3
100780632	66435	Ugcpl2	0.0002	2.4	3170204	244141	Nars2	0.0001	3.2	106100465	16785	Rpsa	0.0001	7.2
2480368	52245	Comm2d	0.0002	2.7	103710647	75538	1700021P22Rik	0.0001	-2.0	103140193		5033414D05Rik	0.0001	2.8
2970095	26373	Cln7	0.0002	1.6	103140193		5033414D05Rik	0.0001	3.2	4200017	110557	H2-Q6	0.0001	-3.3
2680056	22196	Ube2i	0.0002	4.0	110161	238673	Zfp367	0.0001	4.2	104610504	72061	2010111I01Rik	0.0001	2.4
105570333	24012	Rgs7	0.0002	7.9	2470088	77090	Ocel1	0.0001	-4.0	3190717	217449	Ttc15	0.0001	-6.5
4570075	218989	6720456H20Rik	0.0002	2.4	2260075	67212	Mrpl55	0.0001	3.0	104780053	320295	C920060G11Rik	0.0001	4.8
101340746	12558	Cdh2	0.0002	3.6	3440292	16524	Kcnj9	0.0002	-3.0	4920114	78887	Sfi1	0.0001	-3.4
105890465		6430530L21Rik	0.0002	2.9	2320722	78920	Dist1	0.0002	-1.4	2320537	26458	Scl27a2	0.0001	-2.7
1170725	230872	Croc	0.0002	2.6	104590292	103300	A630071D13Rik	0.0002	6.7	6130195	194237	BC057371	0.0001	-2.1
5340400	20716	Serpina3n	0.0002	-4.3	100870215	16569	Klf3b	0.0002	11.2	3610605	56012	Pgam2	0.0001	-1.6
102360014	77877	6030458C11Rik	0.0002	-3.6	106860014	52535	Mtbb11d1	0.0002	4.2	3830519	73031	2900606N12Rik	0.0001	2.2
6900010	22689	Zfp27	0.0002	3.1	1240075	19944	Rpl29	0.0002	5.5	6130360	18223	Numb1	0.0001	1.5
870685	67144	Lrrc40	0.0002	1.7	510315	20017	Rpo1-2	0.0002	6.8	105130131	18600	Padi2	0.0001	2.7
104540717	68861	1190002N15Rik	0.0002	3.0	2470408	72416	Lrrppc	0.0002	-2.2	780091	19734	Rgs16	0.0001	2.0
103800301	13002	Dnajc5	0.0002	2.7	102340619	320833	D230004N17Rik	0.0002	3.7	1170180	267019	Rps15a	0.0001	8.6
106220601		C230094I18Rik	0.0002	1.5	4810181	54200	Sult2b1	0.0002	2.5	4050717	15129	Hbb-b1	0.0001	2.0
6100440	15032	H2-T17	0.0002	1.7	100610504	70686	Dusp16	0.0002	4.9	100380619	268480	Rapgef1	0.0001	6.7
103120026	69358	Lrrc51	0.0002	-2.5	7040603	20893	Bhlhb2	0.0002	14.2	105390524	224792	Gpr116	0.0001	2.5
103840324	19205	Ptpbp1	0.0002	4.2	3130044	12229	Btk	0.0002	-1.3	103130070		LOC380682	0.0001	1.6
3780397	11941	Atp2b2	0.0002	-2.2	6980537	100210	Atpbd1b	0.0002	3.9	6290403	12288	Cacna1c	0.0001	-2.2
101050546	654818	C030030A07Rik	0.0002	4.9	10060358	193280	C030037D09Rik	0.0002	2.4	107050072	545276	Gal3st3	0.0001	1.4
102120139		5430404N14Rik	0.0002	5.7	6370025	67282	Ccdc53	0.0002	3.9	2470088				

6100075	328399	A930018M24Rik	0.0003	-2.9	106520575	17159	Man2b1	0.0002	2.1	107100341	71535	9030411M13Rik	0.0002	2.3
106980301	228564	Frmf5	0.0003	2.9	101980600		LOC381946	0.0002	5.9	5220497	18718	Pip5k2a	0.0002	2.5
105420735	70675	Vcpi1	0.0003	6.7	2320458	243274	Tmem132d	0.0002	2.4	2810494	224132	Dirc2	0.0002	1.9
104760605	14606	Gin1	0.0003	3.4	5900576	68342	Ndufb10	0.0002	26.2	1230040	208171	Tmprss7	0.0002	-2.1
6370692	20321	Frrs1	0.0003	-2.0	105340348	20515	Slc20a1	0.0002	5.0	2340100	108099	Prkg2	0.0002	4.6
102340451	320795	Pkn1	0.0003	-3.2	2450131	15130	Hbb-b2	0.0002	-4.7	101170280	17433	Mobp	0.0002	1.8
1980176	68350	0610009K11Rik	0.0003	6.0	107000440	225468	EG225468	0.0002	2.5	3290242	74552	Npal3	0.0002	-2.1
5420112	71707	Ubiad1	0.0003	1.5	1780138	93695	Gpnmb	0.0002	2.7	670707	230861	Eif4g3	0.0002	-1.4
104120333	100633	B130019G13Rik	0.0003	1.9	102630056	66236	1500011803Rik	0.0002	8.4	101230408	22651	Zfp125	0.0002	4.9
3190519	11792	Apex1	0.0003	2.4	520463	30939	Pttg1	0.0002	3.3	780576	17025	Alad	0.0002	-3.6
102340619	320833	D230004N17Rik	0.0003	2.9	101230408	22651	Zfp125	0.0002	4.6	100460563	229445	Ctso	0.0002	-1.3
105550487	239555	Smcr7l	0.0003	3.8	7050176	13046	Cugbp1	0.0002	-1.3	4540239	114664	Hsd17b11	0.0002	-3.4
4850047	71718	Telo2	0.0003	4.0	100060541	268932	Caskin1	0.0002	4.4	103140672	21841	Tia1	0.0002	4.7
840487	56541	Habp4	0.0003	3.2	4540315	18479	Pak1	0.0002	6.5	1850021	213550	Dis3l	0.0002	-2.0
6380280	193838	Eme2	0.0003	5.9	2570162	94091	Trim11	0.0002	11.1	360736	67308	Mrpl46	0.0002	-1.4
1770520	108686	Ccdc88a	0.0003	5.0	106510133	77305	Wdr82	0.0002	10.4	100770072		LOC381151	0.0002	2.0
106180398	195018	Zzeif1	0.0003	4.3	103800739	100177	Zmyhm6	0.0002	2.2	580736	101359	D330027H18Rik	0.0002	2.5
10060427	19266	Ptpnd	0.0003	6.1	2260593	17309	Mgat3	0.0002	3.9	4920592	109689	Arrb1	0.0002	2.5
2970047	102060	Gadd45gjp1	0.0003	-3.4	102320070	19944	Rpl129	0.0003	-4.0	6580019	69938	Scrn1	0.0002	1.6
103120059	433813	Pusl1	0.0003	1.7	4010619	21672	Prdx2	0.0003	4.6	6510603	171167	Fut10	0.0002	1.8
3870301	14968	H2-Ea	0.0003	-6.6	100110563		LOC381888	0.0003	2.5	3140341	27267	Cars	0.0002	3.5
2030215	215015	C530043G21Rik	0.0003	-5.8	101170131	69579	2310034P14Rik	0.0003	2.4	106350020	75547	Akap13	0.0002	5.5
2650685	215615	Rnpep	0.0003	1.9	1770520	108686	Ccdc88a	0.0003	6.6	6550603	20215	Sag	0.0002	-2.6
102320070	19944	Rpl129	0.0003	-5.1	7050687	65114	Vps35	0.0003	2.2	106100731	23971	Papss1	0.0002	3.1
1580609	71843	R3hcc1	0.0003	-1.5	100060494	16562	Kif1c	0.0003	1.8	6980142	21835	Thrsp	0.0002	2.0
103610088	329502	Pla2g4e	0.0003	-2.5	104570161		9629514_7_rc-5	0.0003	-1.7	100450332	320797	F830005D05Rik	0.0002	1.9
103060500	75952	4930578G10Rik	0.0003	3.3	2690047	232440	H2afj	0.0003	1.7	940014	18526	Pcdh10	0.0002	-1.9
6350575	14339	Aktip	0.0004	2.5	1940280	233489	Picalm	0.0003	6.6	106770154	380692	LOC380692	0.0002	1.9
2470088	77090	Ocel1	0.0004	-4.5	3870603	50708	Hist1h1c	0.0003	3.4	5700605	72999	Insig2	0.0002	5.1
5720008	234779	Plcg2	0.0004	-1.3	3850348	208768	BC031781	0.0003	4.6	6020601	57315	Wdr46	0.0002	2.6
540397	16593	Kilc1	0.0004	7.8	5670494	76982	3110035E14Rik	0.0003	3.4	4230156	18637	Pfdn2	0.0002	-2.0
105130131	18600	Padl2	0.0004	2.9	6020601	57315	Wdr46	0.0003	2.0	106770035		LOC243902	0.0002	3.0
2360750	13871	Ercc2	0.0004	-1.5	2100204	234388	Ccdc124	0.0003	2.4	100060528	238871	Pde4d	0.0002	2.4
7040692	109801	Glo1	0.0004	-2.7	104060452	319344	C230053D17Rik	0.0003	-2.6	106220601		C230094I18Rik	0.0002	1.5
106770452	328280	EG328280	0.0004	2.3	100380008	66970	Ssbp2	0.0003	2.3	103390288	192195	Ash1l	0.0002	2.8
100580369		ILM100580369	0.0004	3.2	520403	75812	Tasp1	0.0003	7.0	1980538	66567	2510022D24Rik	0.0002	2.8
106400020	1E+08	ENSMUSG00000071316	0.0004	3.6	540397	16593	Klc1	0.0003	7.5	106020113	94062	Mrp3	0.0002	4.4
102810546		4930425H11Rik	0.0004	3.4	5860632	69956	Ptcd3	0.0003	4.2	105890324	66223	Mrp35	0.0002	3.2
5130722	20701	Serpina1b	0.0004	-5.6	103850064	14751	Gpi1	0.0003	2.9	2450010	72184	2810406K13Rik	0.0002	-1.6
6770037	65956	Ccl21c	0.0004	9.0	102120333	77092	9630056G07Rik	0.0003	11.2	101940348	385615	LOC385615	0.0002	-3.1
4200017	110557	H2-Q6	0.0004	-3.3	105220364	320591	9630026C02Rik	0.0003	3.0	101500707	319636	Fsd1l	0.0002	-1.3
4210364	226527	BC026585	0.0004	2.6	6980673	66497	2610528E23Rik	0.0003	4.4	2320025	14227	Fkbp2	0.0002	-1.9
103290440	109264	Me3	0.0004	4.1	5290253	209760	Tmc7	0.0003	2.1	5080064	16885	Limk1	0.0002	-1.7
5050685	219181	Akap11	0.0004	2.9	5570368	12511	Cd6	0.0003	2.1	106290100	228790	Asxl1	0.0002	3.2
6420168	237711	C230094A16Rik	0.0004	1.4	610546	223843	Bbx2	0.0003	3.6	104230121	71868	1700023E05Rik	0.0003	2.7
103390288	192195	Ash1l	0.0004	2.1	770446	227227	1110028C15Rik	0.0003	2.9	106770110	77480	Kidins220	0.0003	5.1
103170273		LOC331139	0.0004	8.3	1340068	53618	Fut8	0.0003	-1.4	6660301	18514	Pbx1	0.0003	-1.9
106100465	16785	Rpsa	0.0004	7.0	6020309	17314	Mgmt	0.0003	2.4	1580097	233532	Rsf1	0.0003	5.5
101850039	108686	Ccdc88a	0.0004	-8.9	1740195	11911	Atf4	0.0003	6.4	102350102	207678	Zfp648	0.0003	2.6
50632	75660	Lin37	0.0004	-2.2	1570161	22190	Ubc	0.0003	-2.2	106520672	199066	M20010.1	0.0003	2.4
610113	224705	Vps52	0.0004	3.4	6900239	282619	Sbsn	0.0003	6.0	4570075	218989	6720456H20Rik	0.0003	2.2
103140148	16991	Lt1	0.0004	1.4	5550400	72355	2210021J22Rik	0.0003	3.3	4780041	245643	Frmpp3	0.0003	-1.3
102510373	67703	Kirrel3	0.0004	2.0	102360594	11491	Adam17	0.0003	2.1	2850050	15469	Prrtm1	0.0003	-1.9
100360465	414758	5830428H23Rik	0.0004	4.0	6450687	94090	Trim9	0.0004	7.1	102370632	19303	Pxn	0.0003	2.4
105080427	12293	Cacna2d1	0.0004	2.1	2030092	233575	Frag1	0.0004	2.0	102060075	380706	LOC237831	0.0003	3.7
6450687	94090	Trim9	0.0004	7.4	104540167	276950	Sfnf8	0.0004	-1.5	610538	75541	1700019G17Rik	0.0003	4.0
102810273	14583	Gtpt1	0.0004	5.8	106770463	77272	9430027B09Rik	0.0004	1.6	6200048	66147	Necap2	0.0003	11.9
1990671	66223	Mrp135	0.0004	3.5	6380253	66897	Narg1l	0.0004	-1.5	4670113	52123	Agpat5	0.0003	4.6
102230086	15130	Hbb-b2	0.0004	35.7	2760180	27374	Prrtm5	0.0004	-1.4	103940132	22158	Tulp3	0.0003	2.0
2120039	65111	Dap3	0.0004	2.1	3140632	320398	Lrig3	0.0004	-1.3	104480458	26458	Slc27a2	0.0003	-4.1
105390397	68585	Rtn4	0.0005	-3.7	4050632	19419	Rasgrp1	0.0004	2.0	100460450	217449	Tct15	0.0003	2.6
101780215	213582	Mtap9	0.0005	3.4	100580369		ILM100580369	0.0004	4.6	2370170	27050	Rps3	0.0003	6.0
102470692		E230024B12Rik	0.0005	2.7	4850047	71718	Telo2	0.0004	4.2	770446	227227	1110028C15Rik	0.0003	4.2
1190022	241520	D430039N05Rik	0.0005	5.0	870133	21912	Tspan7	0.0004	-1.5	104280605	21340	Taf1b	0.0003	10.2
2450364	21956	Tnnt2	0.0005	7.6	106350270	14840	Gsg1	0.0004	2.0	1050270	27225	Ddx24	0.0003	-2.0
7040603	20893	Bhlhb2	0.0005	8.3	100060427	19266	Ptpnd	0.0004	2.6	2120039	65111	Dap3	0.0003	2.4
100110433	17119	Mxd1	0.0005	3.8	4230037	71883	Coq2	0.0004	3.2	103290440	109264	Me3	0.0003	2.8
6860020	13855	Epn2	0.0005	-1.9	3390341	109145	Gins4	0.0004	1.5	101400180	329506	Ctdspl2	0.0003	2.7
1740195	11911	Atf4	0.0005	8.1	540671	77827	Krba1	0.0004	-1.4	7100026	75578	Fggy	0.0003	4.8
106350270	14840	Gsg1	0.0005	2.0	520075	107729	Ubg	0.0004	-2.8	102340017	59069	Tpm3	0.0003	1.4
2510026	192236	Hps1	0.0005	2.8	103780603	72368	2310045N01Rik	0.0004	2.8	6380373	246221	Mpst	0.0003	-2.0
7100026	75578	Fggy	0.0005	7.6	106290435	18115	Nnt	0.0004	2.5	102450601	76784	Mtlf2	0.0003	2.6
1990064	17475	Mpdz	0.0005	1.4	102060722		LOC382153	0.0004	2.3	102630193	75778	Them4	0.0003	1.5
5570156	55992	Trim3	0.0005	2.7	100060546	58239	Dexi	0.0004	2.0	4920048	56354	Dnajc7	0.0003	-1.9
106840075	246316	Lgi2	0.0005	3.4	4610441	12509	Cd59a	0.0004	-3.5	101990292	70408	Polr3f	0.0003	2.3
105570142	52023	D14ErtD581e	0.0005	2.6	5270066	242747	MGC67181	0.0004	6.0	102900397	76036	5830431N17Rik	0.0003	1.7
4200164	72141	Adpgk	0.0005	1.8	102350408	791262	ENSMUSG000000053583	0.0004	1.9	630706	170768	Pkftb3	0.0003	1.5
102230142	78409	2900079J23Rik	0.0005	2.8	103840575									

5670408	66880	Rsrc1	0.0006	-1.7	4150164	14402	Gabrb3	0.0005	-2.7	2680056	22196	Ube2i	0.0004	2.2
2260593	17309	Mgat3	0.0006	3.0	106660603	170719	Oxr1	0.0005	4.6	105130184	100177	Zmyhm6	0.0004	5.1
6510097	11546	Parp2	0.0006	2.6	106350670	14210	Fin15	0.0005	6.4	100780154		LOC277193	0.0004	1.6
101980400	67679	0710001D07Rik	0.0006	-2.1	106980026	75612	Gns	0.0005	1.7	6250095	16593	Klc1	0.0004	2.4
2810102	17921	Myo7a	0.0006	3.2	100070458	384817	4930448N21Rik	0.0005	1.4	6650600	14873	Gsto1	0.0004	2.2
103610735	16656	Hivep3	0.0006	1.8	106020102	71513	9030607L20Rik	0.0005	6.6	4850546	218506	Mrs27	0.0004	2.8
101400180	329506	Ctdsp12	0.0006	4.1	870059	14401	Gabrb2	0.0005	-2.6	105570142	52023	D14Erttd581e	0.0004	2.7
3800093	69099	1810009N02Rik	0.0006	3.0	1990524	56312	Nupr1	0.0005	2.2	5550156	20238	Atxn1	0.0004	2.9
1450048	94066	Mrpl36	0.0006	-1.4	5270242	57294	Rps27	0.0005	-1.6	100610288	76303	Osbp	0.0004	5.2
104120131	77127	A930001A20Rik	0.0006	-2.1	3140546	59013	Hnrph1	0.0005	-1.5	103130333	320700	A930033H14Rik	0.0004	-1.7
3830022	24050	3303244800	0.0006	1.3	104920154	320238	A830054O07Rik	0.0005	2.4	6510110	17219	Mcm6	0.0004	2.3
1570161	22190	Ubc	0.0006	-2.4	6520500	434057	Cml1	0.0005	2.8	104200112	103012	6720401G13Rik	0.0004	2.2
4060112		Krt1-12	0.0006	7.8	4560593	81896	Ifi122	0.0005	1.7	104010156	72834	2810468N07Rik	0.0004	1.6
101170131	69579	2310034P14Rik	0.0006	2.1	106510082	319290	A430091L06Rik	0.0005	1.7	1660427	239420	Csmd3	0.0004	-1.7
104480438	20719	Serpinb6a	0.0006	1.6	2230528	211499	Tmem87a	0.0005	4.6	1580195	14050	Eya3	0.0004	4.2
105390524	224792	Gpr116	0.0006	3.2	103940132	22158	Tulp3	0.0005	2.6	100360181	12162	Bmp7	0.0004	1.3
5890242	245841	Polr2h	0.0006	-1.4	4570400	20648	Snta1	0.0005	2.1	5130722	20701	Serpina1b	0.0004	-8.0
2650670	109689	Arrb1	0.0006	3.4	2370170	7050	Rps3	0.0005	5.0	610113	224705	Vps52	0.0004	4.4
2450131	15130	Hbb-b2	0.0006	-14.3	104210441	320859	A230077L10Rik	0.0005	1.8	105550487	239555	Smc7l	0.0004	3.7
102100519	70924	4921511C10Rik	0.0006	1.5	1230053	215418	Axud1	0.0005	3.9	103870097	21841	Tia1	0.0004	3.0
103440239	106633	Ifi140	0.0006	-1.9	102340451	320795	Pkn1	0.0005	-2.9	101660438	108100	Baiap2	0.0004	1.6
2350706	140580	Elmo1	0.0006	1.3	104070372	320937	E430014L09Rik	0.0005	3.2	1980706	18040	Nefm	0.0004	-2.4
6020309	17314	Mgmt	0.0006	1.9	104730167	70644	5730552O08Rik	0.0005	3.4	104480541	71707	Ubiad1	0.0004	-1.7
101940605	13612	Edil3	0.0006	1.9	100450008	68585	Rtna4	0.0005	4.7	6560379	319998	A230078I05Rik	0.0004	-1.4
102510619	70769	Nolc1	0.0006	1.3	6380066	216760	Mfap3	0.0005	-1.4	105420592		sc10328049.1_1-5	0.0004	1.7
6980537	100210	Atpbd1b	0.0006	2.5	103450288	77733	Rnf170	0.0005	-7.3	102230086	15130	Hbb-b2	0.0004	58.6
550338	20298	Ccl21a	0.0007	7.5	7050091	239217	Kctd12	0.0005	-1.5	101400435	77887	6720454L07Rik	0.0005	2.6
105050176	66447	Mgst3	0.0007	4.6	101340746	12558	Cdh2	0.0005	2.9	2680440	110557	H2-Q6	0.0005	-2.3
4560397	17988	Ndrp1	0.0007	1.3	3120142	18950	Np	0.0005	-2.0	102510373	67703	Kirrel3	0.0005	1.7
103870519	66970	Ssbp2	0.0007	-3.2	630204	20660	Sor1f	0.0005	-1.5	100460341	72386	2610035D17Rik	0.0005	2.3
103870239	71943	Tom1l1	0.0007	-7.4	100990672	76784	Mtlf2	0.0005	3.1	1690047	13401	Dmwd	0.0005	2.3
6040215	319832	6332401O19Rik	0.0007	-1.4	106100427	217449	Ttcl5	0.0005	1.6	105220280	269261	Rpl12	0.0005	1.4
6370025	67282	Ccdc53	0.0007	3.7	102120504	14312	Brd2	0.0005	1.8	1470168		H2afz	0.0005	-11.3
104810494	269774	Aak1	0.0007	1.5	2690176	54343	Atf7ip	0.0005	2.0	4670176	18829	Ccl21b	0.0005	5.3
104590292	103300	A630071D13Rik	0.0007	6.9	106940368	98306	At316802	0.0005	5.7	106100427	217449	Ttcl5	0.0005	1.6
6130685	69674	Mif4gd	0.0007	2.1	1190022	241520	D430039N05Rik	0.0005	3.6	102810739	71263	Mro	0.0005	3.5
36310152	14585	Gfra1	0.0007	2.4	104670546	213480	OTTUMUSG0000015049	0.0005	1.9	103060019	12841	Col9a3	0.0005	1.3
105340152	65247	Asb1	0.0007	1.6	102230673	223989	4921513D23Rik	0.0006	-5.2	102320070	19944	Rpl129	0.0005	-4.9
106400450	244882	Tnfrap8l3	0.0007	-1.9	101990497	1E+08	D130017D19Rik	0.0006	-4.9	105700131	214887	Csnk1g1	0.0005	-1.7
104560377	383483	LOC383483	0.0007	-2.5	780400	67042	Rabl4	0.0006	1.4	5270066	242747	MGC67181	0.0005	4.6
1470168		H2afz	0.0007	-10.7	105130184	100177	Zmyhm6	0.0006	9.6	102900619	56194	Prpf40a	0.0005	2.6
4920114	78887	Sfi1	0.0007	-2.7	100050735	67151	Psmr2	0.0006	1.4	3170397	74315	Rnf145	0.0005	-1.5
101770497	78751	Zc3h6	0.0007	1.6	1170180	267019	Rps15a	0.0006	12.8	104850070	75669	Pik3r4	0.0005	1.8
6370086	80720	Pbx4	0.0007	1.6	105080427	12293	Cacna2d1	0.0006	2.1	102810273	14583	Gtfp1	0.0005	4.8
3290091	71151	Exod1	0.0007	1.5	3130433	18515	Pbx2	0.0006	-1.7	100050152		3300002P13Rik	0.0005	-4.3
104670484	50496	E2f6	0.0007	1.9	100060528	238871	Pde4d	0.0006	2.4	3170053	27058	Srp9	0.0005	2.3
450068	68472	Tmem126b	0.0007	2.6	3940050	13349	Darc	0.0006	2.0	6840112	29858	Pmm1	0.0005	1.5
4570059	18004	Nek1	0.0007	1.4	1580195	14050	Eya3	0.0006	5.1	100780411	19283	Ptprz1	0.0005	-1.6
4563900	14677	Gnai1	0.0008	-2.1	2120039	65111	Dap3	0.0006	2.6	1990671	66223	Mrpl35	0.0005	3.4
100050139	73661	2210419D22Rik	0.0008	-2.0	3520092	12931	Crlf1	0.0006	-1.3	5420372	16988	Lst1	0.0005	-2.3
6040446	17151	Cncdnp1	0.0008	2.6	3130170	26936	AA536749	0.0006	-1.5	103060500	75952	4930578G10Rik	0.0005	2.0
10450168	319504	Nrcam	0.0008	2.6	100730465	225523	Ccd100	0.0006	-1.4	106550463	319919	A230006I23Rik	0.0005	1.8
106130333	676066	A730094F08Rik	0.0008	-1.4	5890112	12036	Bcat1	0.0006	-2.4	4120112	330790	Hapln4	0.0005	-2.9
106590341	1110070O15Rik		0.0008	3.0	1340647		ILM1340647	0.0006	2.9	3440292	16524	Kcnj9	0.0005	-2.5
100610288	76303	Osbp	0.0008	5.7	5700136	68240	Rpa3	0.0006	-2.4	104070411		5430404N14Rik	0.0005	1.5
104070372	320937	E430014L09Rik	0.0008	3.0	5130411	229357	Gpr149	0.0006	3.0	104280026	233908	Fus	0.0005	-2.7
6840167	78408	2900046G09Rik	0.0008	-1.9	106040451			0.0006	-3.1	1740239	79043	Spsb3	0.0005	2.0
101090181	414077	BC056474	0.0008	2.0	5860112	67490	1810074P20Rik	0.0006	-1.6	3170398	240817	5830403L16Rik	0.0005	1.3
3940288	19339	Rab3a	0.0008	-2.0	510427	72465	Zfp131	0.0006	1.7	106760253		Rps2	0.0005	-29.6
2030390	66396	Ccdc82	0.0008	-1.5	6550131	22359	Vldlr	0.0006	-1.5	670471	107999	Gtppb6	0.0005	-1.4
104570019	59009	Sh3rf1	0.0008	1.3	2480368	52245	Commnd2	0.0006	2.4	3870373	320265	6330007B19Rik	0.0005	6.0
6900673	234094	Arhgef10	0.0008	2.6	103830020	108058	Camk2d	0.0006	1.6	106420349		H2afj	0.0005	2.4
1500088	72102	Dusp11	0.0008	-1.5	6940039	22282	Usf2	0.0007	-1.5	6620176	59289	Ccbp2	0.0005	-1.8
100380692	233979	Tpcn2	0.0008	1.5	103190735	277506	LOC277506	0.0007	2.5	6220390	320825	Samd5	0.0005	-4.1
105650041	215654	Cdh12	0.0008	1.7	1666000	12349	Car2	0.0007	-2.5	106400020	100038740	ENSMUSG00000007	0.0005	2.9
101410546	414758	5830428H23Rik	0.0008	2.2	5290195	227334	Usp40	0.0007	-1.5	106590435	15275	Hk1	0.0005	4.5
106040451			0.0008	-2.8	5550364	19358	Rad23a	0.0007	1.7	104120333	100633	B130019G13Rik	0.0005	2.9
102230497	14400	Gabrb1	0.0008	-1.9	2450138	93722	Pcdhga10	0.0007	-2.3	1990451	21754	Tesk1	0.0005	9.5
101450253	18477	Prdx1	0.0008	1.4	103840176	73235	3110082D06Rik	0.0007	-1.4	3710435	20322	Sord	0.0005	2.3
105570131		LOC194913	0.0009	2.1	107000184	69219	Ddah1	0.0007	1.7	3060022	57740	Stk32c	0.0005	-2.2
670181	56457	C1ptm1	0.0009	1.4	2690020	20102	Rps4x	0.0007	-1.3	6650685	192195	Ash1l	0.0005	-3.0
6660497	13885	Esd	0.0009	3.1	106400450	244882	Tnfrap8l3	0.0007	-2.0	3830008	12028	Bax	0.0006	-2.4
2650020	229228	Nudt6	0.0009	3.8	105890195	633640	EG633640	0.0007	2.4	106200110	19346	Rab6	0.0006	1.5
2190438	14289	Fpr-rs2	0.0009	-3.0	4670176	18829	Ccl21b	0.0007	4.4	103120164	210094	A230106M20Rik	0.0006	1.7
102650180	76681	Trim12	0.0009	1.8	2970047	102060	Gadd45gip1	0.0007	-3.8	2570722	64337	Gng13	0.0006	-1.3
3120204	18627	Per2	0.0009	1.3	104540338	69188	Milf5	0.0007	5.7	5130064	16974	Lrp6	0.0006	-3.4
110347	20352	Sema4b	0.0009	-1.4	2630215	65246	Xpo7	0.0007	-1.4	6130685	69674	Mif4gd	0.0006	2.6
2470433	319651	U												

106770193	20701	Serpina1b	0.001	-3.6	4210364	226527	BC026585	0.0008	3.1	4670528	76952	Nt5c2	0.0006	-1.4
2900139	70348	Z610018I03Rik	0.001	2.4	2370035	15184	Hdac5	0.0008	-1.4	103520075	76568	1500035H01Rik	0.0006	2.1
2260577	16513	Kcnj10	0.001	-2.4	6660132	72748	Hdh3d	0.0008	-2.9	104210338		C130027E04Rik	0.0006	-1.4
5550072	30928	Zfp238	0.001	-1.8	3140053	69310	Pacrg	0.0008	-1.9	106940372	74185	Gbe1	0.0006	1.3
2340112	19700	Rem1	0.001	1.3	5220333	83603	Elovl4	0.0008	2.2	360497	56335	Mettl3	0.0006	1.6
4920598	241263	Gpr158	0.001	1.7	4540736	330260	Pon2	0.0008	1.9	4810021	72726	Tbcc	0.0007	-1.5
106760372	72351	Ptar1	0.001	1.4	4280685	67040	Ddx17	0.0009	-1.7	105390397	68585	Rtna	0.0007	-4.2
102810735	18010	Neu1	0.001	1.4	2190433	83674	Cnnm1	0.0009	2.4	1010273	241919	Slc7a14	0.0007	-16.7
3840372	245622	BC031748	0.001	1.9	100130215	76799	Z510006D16Rik	0.0009	2.8	100430687	328035	Fads6	0.0007	-1.3
104850092	20185	Ncor1	0.001	1.5	6400239	66526	Z210012G02Rik	0.0009	1.6	106860484	328133	Sic39a9	0.0007	2.2
4780025	18221	Nudc	0.001	-2.0	104920377	385034	D430030C18Rik	0.0009	2.5	1690204	20200	S100a6	0.0007	-1.4
4670176	18829	Ccl21b	0.001	7.6	104280687	70448	Z610204G22Rik	0.0009	1.7	2650020	229228	Nudt6	0.0007	4.7
106420008	27877	D1Ert471e	0.001	2.9	1780152	235281	Scn3b	0.0009	-1.7	1770333	18710	Pik3r3	0.0007	-2.8
3060446	30941	Usp21	0.001	1.8	610113	224705	Vps52	0.0009	2.2	7560768	72309	Tmem158	0.0007	-1.8
2470301	15467	Eif2ak1	0.001	1.7	3870239	13004	Ncan	0.0009	2.4	3440168	170759	Atp13a1	0.0007	1.5
103190706	381201	Gm962	0.001	-2.4	107100725	11787	Apbb2	0.0009	1.7	70687	319149	Hist1h3d	0.0007	1.5
3470577	71529	9030409G11Rik	0.001	1.6	102970519		B230213G02Rik	0.0009	2.1	4120438	13730	Emp1	0.0007	-1.7
3450128	16068	Il18bp	0.001	2.2	6660301	18514	Pbx1	0.0009	-2.2	101580446	101401	Adams9	0.0007	7.7
730398	78913	Zfp294	0.001	1.3	106650576	232400	BC048546	0.0009	-1.6	670056	245007	Zbtb38	0.0007	2.0
103120315	13591	Ebf1	0.001	2.0	3610446	11479	Acrv1b	0.0009	-1.5	6510039	19171	Psmb10	0.0007	-1.5
1010273	241919	Slc7a14	0.001	-12.0	100110433	17119	Mxd1	0.0009	4.5	1580377	93694	Clec2d	0.0007	-2.2
3780278	108077	Skiv2l	0.001	1.3	1580035	51885	D2Ert4435e	0.0009	2.2	106040500	16536	Kcnq2	0.0007	5.3
3990068	29864	Rnf11	0.001	-2.0	105270731		D930049D19Rik	0.0009	1.9	106450142	58994	Smpd3	0.0007	1.7
100060358	193280	C030037D09Rik	0.001	2.4	780735	67392	4833420G17Rik	0.0009	2.8	6380332	67157	Z610301B20Rik	0.0007	3.3
4590017	53817	Bat1a	0.001	-1.7	3830411	214987	5830457O10Rik	0.0009	-1.9	1190022	241520	D430039N05Rik	0.0007	3.5
6040452	22693	Zfp30	0.001	-1.9	106510494	72573	Brcd1	0.0009	4.4	100060358	193280	C030037D09Rik	0.0007	2.7
103060139	218989	Z620456H20Rik	0.001	1.9	106980301	228564	Frm5d5	0.0009	3.1	630037	70225	Ppil3	0.0007	-2.0
5910609	26987	Eif4e2	0.001	2.2	7040440	77065	Ints7	0.0009	1.6	6200504	234515	Ippp4b	0.0007	-2.3
1740687	15368	Hmoa1	0.001	-1.5	103060139	218989	Z620456H20Rik	0.0009	2.3	5860195	67419	Z632451006Rik	0.0007	-3.8
3170204	244141	Nars2	0.001	2.5	102900398	77696	Z620484G13Rik	0.0009	2.3	104120592	19663	Rbpms	0.0007	-1.3
106860538	74229	Paqr8	0.001	1.9	6100075	328399	A930018M24Rik	0.001	-2.6	2190750	24135	Zfp68	0.0007	3.2
106450142	58994	Smpd3	0.001	1.5	104760441	22750	Zfp9	0.001	3.2	102230497	14400	Gabrb1	0.0007	-2.2
5080332	12010	B2m	0.001	1.5	100060022	408068	Z630402I07Rik	0.001	1.5	5360592	331532	Teal5	0.0007	-1.6
870162	66125	Sf3b5	0.001	-2.0	105340735	195018	Zze1f	0.001	1.6	100630484	320452	P4ha3	0.0007	-1.9
105050575	103220	BC030307	0.001	1.6	105420735	70675	Vcpip1	0.001	8.0	102320053	170799	Plekhh1	0.0007	1.3
106550463	319919	AZ30006I23Rik	0.001	1.8	2650685	215615	Rnppe	0.001	2.3	100450347	19242	Ptn	0.0007	-4.2
4060279	226562	Bat2d	0.001	2.0	103170541	15384	Hnrpab	0.001	1.4	100730673		LOC382737	0.0007	1.9
6370471	75465	Dynlr2	0.001	1.4	2650278	12331	Cap1	0.001	-2.4	3850348	208768	BC031781	0.0007	4.0
104760170	211253	Mtrf1	0.001	2.5	101580446	101401	Adams9	0.001	4.4	104590600	99946	Z670422M22Rik	0.0007	1.7
102060095	207785	BC035295	0.001	2.1	3840647	19989	Rpl7	0.001	-1.6	1690048	77552	Tmem58	0.0008	-1.4
6380332	67157	Z610301B20Rik	0.001	3.1	103840324	19205	Ptbp1	0.001	3.3	460138	67216	Mboat2	0.0008	5.2
2650546	72244	1600014C10Rik	0.001	-1.4	4060112		Krt11-12	0.001	13.7	105050176	66447	Mgst3	0.0008	2.7
580736	101359	D330027H18Rik	0.001	4.3	5390358	228998	Arfgap1	0.001	-1.5	106860114	20411	Sorbs1	0.0008	1.3
103290372	114669	9430032L10Rik	0.001	1.3	102680201		Z930518I15Rik	0.001	2.5	3360671	21955	Tnnt1	0.0008	-2.3
6520435	20356	Sema5a	0.001	8.9	6520435	20356	Sema5a	0.001	9.2	2260593	17309	Mgat3	0.0008	2.6
102900398	77696	Z620484G13Rik	0.001	2.2	102120139		Z430404N14Rik	0.001	4.0	6840017	68126	Fahd2a	0.0008	1.8
3170440	11690	Alox5ap	0.001	-1.2	5390332	77106	Tmem181	0.001	-1.9	1570102	107272	Psat1	0.0008	6.5
5910672	56310	Gps2	0.001	2.5	104120148	57434	Xrcc2	0.001	1.6	610086	68263	Pdhb	0.0008	1.7
104780053	320295	C920006O11Rik	0.001	5.2	1010273	241919	Sic7a14	0.001	-7.3	104730170	382163	LOC382163	0.0008	2.8
2030092	233575	Frag1	0.001	2.4	1450609	12858	Cox5a	0.001	-1.6	6220592	19018	Scand1	0.0008	-1.3
1660463	103841	Cuedc1	0.001	-2.9	5290706	28019	Ing4	0.001	1.5	105690053		AW123240	0.0008	2.7
6220411	71760	Agxt2l1	0.001	4.5	130576	69900	Mfsd11	0.001	-1.5	6590170	233103	Z931406P16Rik	0.0008	1.8
6550053	319179	Hist1h2be	0.001	1.7	5700131	362634	C1ag	0.001	2.1	2100204	234388	Ccdc124	0.0008	3.0
103170411	108745	Z310051F07Rik	0.001	2.1	6520520	69930	Zfp715	0.001	1.7	6110025	51796	Srrm1	0.0008	-1.3
540292	219249	Tdrd3	0.001	-1.7	2650670	109689	Arrb1	0.001	2.0	3520112	68097	Dynll2	0.0008	-4.8
5550156	20238	Atxn1	0.001	2.9	104560091	211712	Pcdh9	0.001	-3.2	105290086	70713	Z630416L11Rik	0.0008	-1.5
3120594	24157	Acaa1	0.001	1.7	6130338	107932	Chd4	0.001	1.9	106180717	13171	Dbt	0.0008	8.1
106130400	14391	Gabpb1	0.001	2.1	2900619	216635	Hbq1	0.001	-1.6	5550372	16792	Laptm5	0.0008	-1.6
3440292	16524	Kcnj9	0.001	-2.7	106860324		B230112L11Rik	0.001	1.4	5390195	14085	Fah	0.0008	-1.8
4050731	71893	Noxo1	0.001	-1.5	106550168	50754	Bfw7	0.001	1.5	4070152	78134	Grp23	0.0008	-2.1
102030184	15234	Hgf	0.001	1.9	3520487	70394	Kptn	0.001	-1.7	105910180	407243	Tmem189	0.0008	1.6
4810040	12181	Bop1	0.001	-1.8	106620037		LOC380689	0.001	1.9	4210364	226527	BC026585	0.0009	3.4
6290010	68292	Stt3b	0.001	-1.7	5420372	16988	Lst1	0.001	-2.9	4480044	75778	Them4	0.0009	2.0
3520601	66830	Btbd14b	0.001	-1.7	2690021	268860	Abat	0.001	-1.8	102190162	66053	Ppil2	0.0009	1.7
102190021	320609	D330017J20Rik	0.001	4.4	2360095	18518	Igfbp1	0.001	-1.3	5340400	20716	Serpina3n	0.0009	-2.2
102450133	328133	Sic39a9	0.001	1.6	103170377	19270	Ptprg	0.001	3.3	2900091	56471	Stmn4	0.0009	-3.7
3850471	69232	Qrich1	0.001	1.3	103190148	78844	B230206I08Rik	0.001	4.4	3120692	20703	Serpina1d	0.0009	-2.5
102570402	18950	Np	0.001	1.4	540292	219249	Tdrd3	0.001	-1.4	1090280	74196	Ttc27	0.0009	10.3
2320471	192136	S033411D12Rik	0.001	1.9	5340685	54325	Elovl1	0.001	1.9	6840400	28295	D10Jhu81e	0.0009	-1.3
6960196	252864	Dusp15	0.001	-1.3	580136	74098	O610037L13Rik	0.001	-1.4	101780070	22066	Trpc4	0.0009	-1.4
4780170	67739	Z930570C03Rik	0.001	1.5	4780369	81904	Cacng7	0.001	-2.0	1050050	21685	Tef	0.0009	1.6
101170446	13405	Dmd	0.001	-2.5	6510097	11546	Parp2	0.001	2.3	4670670	68644	Abhd14a	0.0009	2.6
6660121	109689	Arrb1	0.001	2.9	104050068	68944	Tmco1	0.001	2.7	7040014	67053	Rpp14	0.0009	1.7
106130021	107733	Mrp141	0.001	-1.8	5340400	20716	Serpina3n	0.001	-4.4	2680048	77134	Hnrpa0	0.0009	-1.8
4230035	14696	Gnb4	0.001	-3.6	2340707	30805	Sic22a4	0.001	1.7	2630451	75202	Z930546H06Rik	0.0009	-1.7
6660440	66628	Thg1l	0.001	-3.1	1980458	97064	Wwtr1	0.001	2.2	520008	19266	Ptprd	0.0009	1.4
3190095	12452	Cng2	0.001	6.3	1660463	103841	Cuedc1	0.001	-3.0	3120730		Rbm45	0.0009	-2.2
1580035	51885	D2Ert4435e	0.001	2.1	2100110	22770	Zhx1	0.001	-1.3	6350468	16188	Il3ra	0.0009	-2.1
360113		Igh-1a	0.001	3.9	106110288									

102120504	14312	Brd2	0.002	2.0	106100520	380983	LOC380983	0.001	-4.8	7000408	12044	Bcl2a1a	0.001	-1.5
106450725	20652	Soat1	0.002	-1.4	100380731	78629	1700072122Rik	0.001	1.3	6620487	78688	Nol3	0.001	-1.5
70100	12304	Pdia4	0.002	1.9	2190750	24135	Zfp68	0.001	4.4	4570603		BC035954	0.001	-1.5
1240300	71991	Ercc8	0.002	1.7	4200017	110557	H2-Q6	0.001	-3.6	100460463	18189	Nrxn1	0.001	-2.2
2690142	77945	Rpgrip1	0.002	2.5	4280131	19014	Med1	0.001	-1.6	100610504	70686	Dusp16	0.001	4.9
100380619	268480	Rapgef11	0.002	5.1	3800377	214597	Sid2	0.001	-1.4	4920195	329064	Pkd2l1	0.001	2.2
105900095	77422	C330018D20Rik	0.002	1.3	6510435	57783	Trip1	0.001	-1.8	102030025	544717	1190007107Rik	0.001	1.8
2680091	11438	Chrna4	0.002	-1.7	105690161	319654	6430537121Rik	0.001	3.1	3840184	14131	Fcgr3	0.001	-1.7
101980300	78020	4930522L14Rik	0.002	3.6	5910092	223722	Mcat	0.001	2.2	102450035	67464	Entpd4	0.001	4.7
3360010	75141	Rasd2	0.002	1.7	1980066	80891	Msr2	0.001	2.2	3830195	101543	Wtip	0.001	-2.3
2450082	77627	Efcab3	0.002	-2.1	101580253	210104	BC043301	0.001	-1.8	1190050	69441	1700023F06Rik	0.001	-1.6
105340504	20515	Slc20a1	0.002	1.4	103120039	171167	Fut10	0.001	3.3	3120112	56282	Mrpl12	0.001	-1.7
101580446	101401	Adamts9	0.002	2.4	103520100	72690	Grrp1	0.001	2.5	6760181	56690	Mlycd	0.001	-2.8
106860121	20541	Slc8a1	0.002	2.3	430427	207704	Gtpbp10	0.001	-1.4	6400390	53608	Map3k6	0.001	2.7
104150273	26570	Slc7a11	0.002	5.0	1007770176	108913	2700024H10Rik	0.001	1.9	6380450	73341	Arhgef6	0.001	-1.3
1770079	14768	Lanc1	0.002	-2.5	2470017	74026	4121402D02Rik	0.001	-1.6	6100601	382913	Neil2	0.001	-1.8
840079	53614	Reck	0.002	3.4	5390278	66526	2210012G02Rik	0.001	2.0	106770524	14395	Gabra2	0.001	-3.1
3610075	19933	Rpl21	0.002	1.6	110176	19933	Rpl21	0.001	4.5	6770168	13384	Mpp3	0.001	-1.3
102900619	56194	Prpf40a	0.002	2.5	1740711	13682	Eif4a2	0.001	-1.6	5910609	26987	Eif4e2	0.001	2.4
101050133	15925	Ide	0.002	-3.3	580100	20054	Rps15	0.001	-1.5	3140053	69310	Pacrg	0.001	-1.8
102230673	223989	4921513D23Rik	0.002	-5.2	106510537	24135	Zfp68	0.001	-1.5	100770348		LOC381311	0.001	-1.4
6040541	66552	2010106G01Rik	0.002	2.4	770025	22592	Ercc5	0.001	3.6	2480411	24135	Zfp68	0.001	5.7
104060519	117592	B3gal6	0.002	1.7	1340600	13527	Dtna	0.001	-1.7	2370563	67742	Samsn1	0.001	1.8
104540397	73229	3110052M02Rik	0.002	-1.6	3870576	218693	Paip1	0.001	-2.3	106590528	319664	E230012J19Rik	0.001	2.5
106940368	98306	Al316802	0.002	4.8	4150136	66915	Myeov2	0.001	-1.3	5690138	28000	Prpf19	0.001	-1.5
1690427	76000	503343015Rik	0.002	-1.8	102320082		LOC270017	0.001	2.2	3140725	70113	2010001J22Rik	0.001	-1.5
104120671	74525	8430419L09Rik	0.002	2.0	102570402	18950	Np	0.001	2.6	2970706	16956	Lpl	0.001	-3.2
1850168	66061	0610012D17Rik	0.002	-1.8	102940180	22428	Dctn6	0.001	1.7	4540041	29861	Neud4	0.001	-1.6
780273	545510	EGS45510	0.002	-1.4	107040427	71529	9030409G11Rik	0.001	2.2	105220711	67289	3110021A11Rik	0.001	2.0
2320484	193116	Slu7	0.002	-2.0	3120022	73170	Rwdd3	0.001	-1.6	101170358	74753	5830415F09Rik	0.001	1.7
100510091	70284	2310040G07Rik	0.002	2.5	580671	67216	Mboat2	0.001	1.6	1660546	11481	Acvr2b	0.001	-1.4
4060181	319965	Cc2d1b	0.002	1.3	101990292	70408	Poir3f	0.001	2.3	102850100		LOC209405	0.001	2.4
102030204	11461	Actb	0.002	1.6	4280066	269424	Phf17	0.001	-1.6	510102	21899	Tlr6	0.001	-1.5
780091	19734	Rgs16	0.002	1.5	520435	12558	Cdh2	0.001	-1.4	6350725	58248	1700123020Rik	0.001	6.3
610348	70093	Ube2q1	0.002	-1.4	6420670	14768	Lanc1	0.001	1.4	4570019	227682	Trub2	0.001	-1.4
100110731	12816	Col12a1	0.002	1.4	5720048	104910	Al132487	0.001	2.5	103390746	66259	Camk2n1	0.001	2.1
3060577	30838	Fbxw4	0.002	1.3	3780161	17777	Mtpp	0.001	-1.4	102630035	26894	Cops7a	0.001	2.0
100060528	238871	Pde4d	0.002	3.0	106220601		C23009418Rik	0.001	1.7	4760286	78177	4930519N13Rik	0.001	-1.3
2030114	68180	Hyl	0.002	-2.1	2030048	69487	2310003L22Rik	0.001	2.8	105130706	75320	Etnk1	0.001	1.4
1690048	77552	Tmem58	0.002	-2.1	106400020	1E+08	ENSMUSG00000071316	0.001	3.5	4560180	19763	Ring1	0.001	3.3
105670100	228852	Ppp1r16b	0.002	-2.3	4670670	68644	Abhd14a	0.001	2.7	7000008	74198	Dtx2	0.001	1.3
4760086	28135	Cep63	0.002	2.3	105390524	224792	Gpr116	0.001	3.0	4010440	64384	Sirt3	0.001	-1.7
1850129	27418	Mklm1	0.002	-1.5	103190706	381201	Gm962	0.001	-1.9	6760681	50995	Sae2	0.001	1.6
103520167	68034	2900009I07Rik	0.002	1.4	2340451	66596	Gtf3a	0.002	1.3	3870301	14968	H2-Ea	0.001	-3.5
540563	80888	Hsp8b	0.002	2.6	5360133	66276	1810009A15Rik	0.002	-1.3	6290673	67454	1200009F10Rik	0.001	-1.3
7040671	71310	Tbcl1d9	0.002	1.4	2510403	52064	Coq5	0.002	-1.8	4610093	11838	Arc	0.001	2.5
1050288	27660	1700088E04Rik	0.002	-2.3	6100717	213491	C1orf144	0.002	-1.5	7050687	65114	Vps35	0.001	2.1
100130215	76799	2510006D16Rik	0.002	2.6	1450168	76192	Abhd12	0.002	-1.3	104590292	103300	A630071D13Rik	0.001	5.5
4920039	11546	Parp2	0.002	-1.7	106940372	74185	Gbe1	0.002	1.3	3140129	67527	ILM3140129	0.001	11.1
870528	69993	Chn2	0.002	2.3	101940348	385615	LOC385615	0.002	-3.6	104050068	68944	Tmco1	0.001	2.5
105220519		ENSMUST00000075405.3	0.002	2.2	105340292	109275	Actr5	0.002	2.4	102320372	77810	A930015D03Rik	0.001	-2.0
4850136	57431	Dnajc4	0.002	-1.3	102810273	14583	Gtfp1	0.002	5.9	103190739	385256	LOC385256	0.001	2.4
1400528	56703	Pigo	0.002	-1.3	780113	77573	Vps33a	0.002	-1.6	5700025	59046	Arpp19	0.001	-2.0
103990735	26450	Rbbp9	0.002	3.2	3120594	24157	Acaa1	0.002	1.9	2320471	192136	5033411D12Rik	0.001	1.8
6040709	51786	Cpsf2	0.002	2.5	2570195	16538	Kcns1	0.002	1.3	3450128	16068	Il18bp	0.001	2.2
2120441	232790	Oscar	0.002	1.9	103840692	100662	D930016D06Rik	0.002	-1.8	103360133	226922	Kcnq5	0.001	4.1
2570056	16145	Igtp	0.002	1.9	6660440	66628	Thgl1	0.002	-2.7	4060037	223693	Tmem184b	0.001	-1.6
101940068	23879	Fxr2	0.002	4.5	4560180	19763	Ring1	0.002	3.1	104210019	238871	Pde4d	0.001	-2.4
104850070	75669	Pik3r4	0.002	1.8	5860603	140577	Ankrd6	0.002	-1.3	7040603	20893	Bhlhb2	0.001	10.4
3440112	75210	Prr3	0.002	1.6	7050088	73683	Atg16l2	0.002	-1.8	3190167	16905	Lmna	0.001	-1.8
107050575	76104	5830472F04Rik	0.002	1.5	7040692	109801	Glo1	0.002	-2.6	1090592	71840	Tekt4	0.001	-1.5
7040341	19299	Abcd3	0.002	2.0	5720092	207278	Fchs2d2	0.002	2.2	4560025		5730405K23Rik	0.001	1.4
3120181	21647	Tcte3	0.002	-1.5	1170725	230872	Crocc	0.002	4.1	4150195	67063	2810432L12Rik	0.001	-1.8
2060452	68339	Ccdc88c	0.002	1.4	103060520	319711	E230029C05Rik	0.002	1.7	50632	75660	Lin37	0.001	-2.2
105670725	18606	Enpp2	0.002	-1.5	4010687	73296	Rhobtb3	0.002	-1.8	106450088	319615	6330416L07Rik	0.001	3.3
3170019	727359	Irf2bp1	0.002	-1.5	6940372	68035	Rbm42	0.002	1.6	4610253	320027	Fstl4	0.001	1.7
4920433	22134	Tgolin1	0.002	1.6	7000059	17433	Mobp	0.002	1.4	105340685	93873	Pcdhb2	0.001	-1.4
100060546	58239	Dexi	0.002	1.9	106200091	69489	2310007J06Rik	0.002	-1.4	106980373	66578	2610039C10Rik	0.001	2.0
106550112	26412	Map4k2	0.002	2.3	1450403	268449	Rpl23a	0.002	-1.6	106130725	100036534	ENSMUSG00000003	0.001	-2.4
104010040		LOC384607	0.002	-2.2	6860397	69499	Tsr2	0.002	-1.5	100580739	22704	Zfp46	0.001	1.9
1450128	105193	Nhlrc1	0.002	-2.1	6040039	26431	Glt2	0.002	-1.7	4230427	14961	H2-Ab1	0.001	-2.8
104730167	70644	5730552O08Rik	0.002	2.4	103940079	78579	D530043N20Rik	0.002	2.2	104610427	14755	Pigq	0.001	1.5
102340131	320971	4832406H04Rik	0.002	3.2	6370037	94184	Pdxk1	0.002	-2.2	102230673	223989	4921513D23Rik	0.001	-6.1
101990068	109029	5830454D03Rik	0.002	1.3	104230735		2310007D03Rik	0.002	1.7	103170377	19270	Ptprg	0.001	3.4
106860484	328133	Slc39a9	0.002	2.6	104850070	75669	Pik3r4	0.002	2.0	103610088	329502	Pla2g4e	0.001	-4.8
3450082	109050	6530418L21Rik	0.002	2.2	106450088	319615	6330416L07Rik	0.002	4.3	100670538		D130052N13Rik	0.001	27.6
106900121	242474	D730040F13Rik	0.002	1.8	3190519	11792	Aprex1	0.002	2.9	60520	52443	Mrpl48	0.001	1.8
5080040	20913	Sxbp4	0.002	2.0	2630519	207615	Wdr37	0.002	-1.6	6130161	55949	Eef1b2	0.001	-1.6
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103840440	66435	Ugcgl2	0.002	2.5	6040670	67044	Higd2a	0.002	-1.3	100050368	15387	Hnrpk	0.001	1.3
101240050	19243	Ptp4a1	0.002	1.9	103060500	75952	4930578G10Rik	0.002	1.9	1980739	26562	Ncdn	0.001	3.0
1170039	12654	Chl3l1	0.002	-1.6	2470164	230649	Atpafl1	0.002	-2.5	104560377	383483	LOC383483	0.001	-2.4
2970176	110959	Nudt19	0.002	4.0	106770114		LOC382159	0.002	-1.4	2120017	234664	Appbp1	0.001	-1.3
104050563	19301	Pxmp2	0.002	4.0	3360671	21955	Tnnt1	0.002	-2.4	60647	84652	Drctnnb1a	0.001	3.2
3710040	21952	Tnni1	0.002	1.5	4010605	21981	Ppp1r13b	0.002	2.3	103940079	78579	D530043N20Rik	0.001	2.6
520181	76293	Mfap4	0.002	-1.4	5080600	12974	Cs	0.002	-1.4	3780397	11941	Atp2b2	0.001	-2.9
610168	67070	Lsm14a	0.002	-1.7	100540347	77097	Tanc2	0.002	2.0	1940280	233489	Picalm	0.001	4.8
770170	50758	Fbxl17	0.002	-1.5	105570338	66606	Lrrcc7	0.002	1.7	106900465	72976	2900064K03Rik	0.001	-3.6
430280	67862	2310033P09Rik	0.002	-1.4	5550408	15483	Hsd11b1	0.002	1.7	1570594	24066	Spry4	0.001	1.4
3120364	230233	Ikbkap	0.002	-1.6	106290044	56717	Frap1	0.002	-1.3	100110563		LOC381888	0.001	2.7
101850735		LOC385909	0.002	-2.6	6900136	19943	Rpl28	0.002	-1.5	1090035	13518	Dst	0.001	1.9
5910292	12260	Clqb	0.002	2.1	5130064	16974	Lrp6	0.002	-4.6	2120735	71881	2310001A20Rik	0.001	-1.6
4060452	114255	Dok4	0.002	-1.5	1660528	65111	Dap3	0.002	3.5	5550400	72355	2210021J22Rik	0.001	2.7
5690484	66729	4921520G13Rik	0.002	-2.4	2510390	66242	Mrps16	0.002	-1.4	105550408	67939	2010316F05Rik	0.001	1.8
2450619	54709	Eif3i	0.002	2.2	520458	277250	Jmjd1b	0.002	1.3	3710300	98365	Slamf9	0.001	-1.7
6980204	217151	Arl5c	0.002	-1.9	102260093	20269	Scn3a	0.002	1.7	100060494	16562	Kif1c	0.001	2.1
520315	171212	Galnt10	0.002	1.6	6110458	71302	Arhgap26	0.002	2.4	1450139	71101	4933407H18Rik	0.001	-1.3
106770731		LOC327995	0.002	-1.6	2340369	12517	Cd72	0.002	2.6	104810053	226180	Ina	0.001	-3.5
105220324		LOC233307	0.002	2.1	6770372	68910	Zfp467	0.002	1.5	105910377	14964	H2-D1	0.001	-3.6
106660603	170719	Oxr1	0.002	2.7	104670484	50496	E2f6	0.002	2.2	4060181	319965	Cc2d1b	0.001	1.3
1500647	52850	Sgsm1	0.002	1.6	4560603	69482	Nup35	0.002	-1.8	100730390	70549	Tin2	0.001	-1.3
1190538	320895	C030025P15Rik	0.002	-2.6	2680056	22196	Ube2i	0.002	4.4	2120707	20603	Sms	0.002	-1.5
840044	75608	Chmp4b	0.002	1.9	106760403	13121	Cyp51	0.002	1.6	5360500	231050	Galnt11	0.002	-1.7
5690528	17427	Mns1	0.002	-2.1	5290168	12537	Cdc21	0.002	1.7	102630195	69718	lpmk	0.002	2.1
580463	81630	Zbtb22	0.002	1.8	102810546		4930425H11Rik	0.002	4.3	101090685	12064	Bdnf	0.002	1.9
102850064	67262	2900016B01Rik	0.002	-9.1	102630035	26894	Cops7a	0.002	1.8	360110	17175	Masp2	0.002	1.7
7000059	17433	Mobp	0.002	3.2	105390193	53320	Folh1	0.002	2.2	2030092	233575	Frag1	0.002	3.3
102350520	74213	Rbm26	0.002	3.4	2900341	236604	4933439C20Rik	0.002	-3.5	4070471	50850	Spast	0.002	1.3
5890594	208795	Tmem63a	0.002	1.7	6350575	14339	Aktip	0.002	3.5	106020070	66091	Ndufa3	0.002	1.4
2340707	30805	Sic22a4	0.002	1.9	103850315		ILM103850315	0.002	-2.6	6510341	94181	Nans	0.002	-1.5
101050537	28250	Slico1a4	0.002	1.7	106450142	58994	Smpd3	0.002	1.3	106200520	244721	2210010B09Rik	0.002	1.3
5390278	66526	2210021G02Rik	0.002	2.2	102630707	209281	LOC209281	0.002	-1.8	103800301	13002	Dnajc5	0.002	3.2
6040403	11370	Acadvl	0.002	-2.0	5340441	16594	Klc2	0.002	-1.4	1340390	17285	Meox1	0.002	-1.6
100540347	77097	Tanc2	0.002	2.2	104920551	208618	Etl4	0.002	1.6	106770193	20701	Serpina1b	0.002	-5.1
2680019	56384	Letm1	0.002	1.3	104780592	19933	Rpl21	0.002	1.9	105420735	70675	Vcpip1	0.002	4.4
770446	227227	1110028C15Rik	0.002	3.1	2850519	54393	Gabbr1	0.002	-1.5	106650128	73845	Ankrd42	0.002	-1.5
6110458	71302	Arhgap26	0.002	2.0	102230086	15130	Hbb-b2	0.002	27.2	1340711	66612	Ormdl3	0.002	1.4
4730494	75605	Jarid1b	0.002	2.1	2030039	241846	Lsm14b	0.002	-1.6	6980537	100210	Atpbd1b	0.002	2.7
103360133	226922	Kcnc9	0.002	6.3	6400279	140577	Ankrd6	0.002	-1.6	1740452	73431	1700052K11Rik	0.002	-1.3
6220091	56530	Tmem4	0.002	-1.4	101580373	211232	Cpne9	0.002	1.3	101190358	12839	Col9a1	0.002	-3.4
105860551	233332	Adamts17	0.002	-2.5	1570102	107272	Psat1	0.002	1.9	105220022	66867	Hmg20a	0.002	1.7
6450286	378466	ENSMUSG00000057924	0.002	-2.7	105220711	67289	3110021A11Rik	0.002	2.2	110300	19367	Rad9	0.002	-1.3
106220059	74430	4930452B06Rik	0.002	1.3	100050707	107527	Il1r12	0.002	-1.4	2650154	329504	Lcmt2	0.002	2.3
102810044	344002	EG434402	0.002	-2.1	5340114	12554	Cdh13	0.002	-1.6	6900022	22654	Zfp13	0.002	-1.6
100870458	66970	Ssbp2	0.002	-3.8	104560377	383483	LOC383483	0.002	-3.1	1450056	13191	Dctn1	0.002	2.8
105360301	72919	2900019A20Rik	0.002	4.4	101780020	319660	A530016D06Rik	0.002	1.5	103190735	277506	LOC277506	0.002	3.1
7000215	22334	Vdac2	0.002	-2.0	104120162	382040	LOC382040	0.002	-3.4	5860010	244198	Olffml1	0.002	-2.2
6250095	16593	Klcl1	0.002	2.1	1240446	53312	Nub1	0.002	-1.3	105340348	20515	Sic20a1	0.002	3.7
4230110	108073	Grm7	0.002	-3.7	1470168		H2afz	0.002	-6.3	2030215	215015	C530043G21Rik	0.002	-5.1
380047	18217	Ntsr2	0.002	2.1	100730435	238130	Dock4	0.002	1.7	6100390	66801	Pkrp1p1	0.002	1.4
450551	67358	1700093K21Rik	0.002	1.5	101400215	75560	Ep400	0.002	-1.3	450731	93835	Amn	0.002	-2.4
106980253	108870	4930447K04Rik	0.002	1.6	4920041	67266	2900024C23Rik	0.002	1.4	2680054	114664	Hsd17b11	0.002	-3.3
1570551	23827	Bpnt1	0.002	-1.4	103140672	21841	Tia1	0.002	4.4	1710719	449521	Zfp213	0.002	1.4
5670075	17984	Ndn	0.003	-2.6	3190717	217449	Ttc15	0.002	-4.2	3610075	19933	Rpl21	0.002	1.3
730471	73075	Ppil6	0.003	-1.8	103450019	70394	Kptn	0.002	2.5	6040452	22693	Zfp30	0.002	-1.8
4590138	64898	Lpin2	0.003	-1.4	6550053	319179	Hist1h2be	0.002	2.8	6660121	109689	Arrb1	0.002	2.7
106100520	380983	LOC380983	0.003	-4.9	100380619	268480	Rapgef1	0.002	5.8	5360139	215693	Zmat1	0.002	-1.6
102360594	11491	Adam17	0.003	2.3	1940692	110593	Pdrn2	0.002	-1.7	104200520	68339	Cdc88c	0.002	1.6
1410601		Armc3	0.003	-1.4	2030673	140723	Cacng5	0.002	-2.5	5260647		Cd200	0.002	5.0
102760133	226781	Sic30a10	0.003	1.7	106200184	320120	A130067G02Rik	0.002	1.6	380047	18217	Ntsr2	0.002	2.3
5340195	26382	Fgd2	0.003	-2.5	5420154	234366	Gata2a	0.002	2.7	106550113	319457	C130045F17Rik	0.002	1.7
106450088	319615	6330416L07Rik	0.003	3.5	2340278	13527	Dtna	0.002	-1.5	3610403	207854	Fmr1nb	0.002	-1.3
5050497	72556	Zfp566	0.003	-1.5	104480541	71707	Ubiad1	0.002	-1.5	102340131	320971	4832406H04Rik	0.002	2.8
3840280	66407	Mrps15	0.003	-1.7	105910609	269702	Mphosph9	0.002	-1.8	100630736	107163	Al414343	0.002	-1.6
102650040	80877	Lrba	0.003	1.4	1740239	79043	Spsb3	0.002	1.7	101690671	70605	Zdhc24	0.002	-1.8
103990315	217217	Asb16	0.003	-1.4	103390288	192195	Ash1l	0.002	2.5	103140047	75612	Gns	0.002	1.6
104780446	408057	BC039771	0.003	1.7	100110112		MJ-6000-168_5363	0.002	1.4	100110433	17119	Mxd1	0.002	2.3
5700131	362634	Clqg	0.003	2.3	3290242	74552	Npal3	0.002	-1.7	5860040	320271	A930041I02Rik	0.002	-1.4
380451	242083	Ppm1l	0.003	1.4	100630484	320452	P4ha3	0.002	-2.0	6940398	57764	Ntn4	0.002	1.3
510102	21899	Tlr6	0.003	-1.5	3450128	16068	Il18bp	0.002	1.9	6840131	53598	Dctn3	0.002	1.7
2650154	329504	Lcmt2	0.003	1.9	105690053		AW123240	0.002	3.3	6450603	93757	Immp2l	0.002	1.3
4730370	72117	Nat13	0.003	-1.3	1980348	57312	Mrps31	0.002	1.7	6520435	20356	Sema5a	0.002	10.7
1660528	65111	Dap3	0.003	1.9	780576	17025	Alad	0.002	-3.1	360056	237860	Ssh2	0.002	1.3
103870097	21841	Tia1	0.003	3.2	3830519	73031	2900060N12Rik	0.002	2.8	100130093	54484	Mkrm1	0.002	-1.8
2360397	12042	Bcl10	0.003	2.1	4560091	20973	Syngt2	0.002	1.4	2450131	15130	Hbb-b2	0.002	-7.2
100060022	408068	3830402I07Rik	0.003	1.9	103800288	668303	Kif26a	0.002	1.5	106110162	26446	Psmb3	0.002	1.8
6590435	106369	Ypel1	0.003	-1.6	106180398	195018	Zef1	0.002	6.5	6620433	19281	Ptprt	0.002	-1.8
6550279	104445	Cdc42ep1	0.003	1.6	106900121	242474	D730040F13Rik	0.002	2.2	840377	244853	D930028F11Rik	0.002	1.6
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3120725	20618	Sneg	0.003	-1.9	2970563	233057	BC027344	0.003	1.9	6350114	66921	Prpf38b	0.002	-1.8
101940577	68526	Gpr155	0.003	1.4	100610288	76303	Osdp	0.003	5.2	1770102	72519	Tmem55a	0.002	-1.4
105890484	73854	4930428B01Rik	0.003	-1.6	100460450	217449	Ttcl5	0.003	2.8	106770452	328280	EG328280	0.002	2.5
103800465	78795	Armc9	0.003	1.7	450403	29811	Ndrgr2	0.003	2.2	101450008	71517	9030624J02Rik	0.002	3.2
1940647	14979	H2-Ke6	0.003	-2.3	101570026	19944	Rpl129	0.003	3.0	3440504	70315	Hdac8	0.002	-1.7
101660070	211673	Arfgef1	0.003	1.5	6040446	17151	Cncdbp1	0.003	3.3	100840670	72289	Malat1	0.002	-3.8
380086	51791	Rgs14	0.003	-2.9	100060681	74552	Npal3	0.003	2.2	3830504	67099	2310038H17Rik	0.002	-1.5
5860010	244198	Olfml1	0.003	-1.7	3870100	117160	Ttyh2	0.003	-1.3	101770739	11518	Add1	0.002	1.4
6980142	21835	Thrsp	0.003	2.2	6660494	29875	Iqgap1	0.003	-1.7	2510528	71326	Trem1	0.002	-1.4
101050619	19255	Ptpn2	0.003	2.0	940132	74125	Armc8	0.003	-1.8	104590154	219158	2610301G19Rik	0.002	2.1
106110671	208618	Etl4	0.003	5.4	4060348	319159	Hist1h4	0.003	1.4	6550746		Hspa8	0.002	-1.8
102940180	22428	Dctn6	0.003	2.5	6290731	66480	Rpl15	0.003	-1.4	5860632	69956	Ptcd3	0.002	3.4
1400673	73711	1110012M11Rik	0.003	-1.9	102190053	78288	S330421F21Rik	0.003	1.8	3830358	214585	Spg11	0.002	1.3
103190735	277506	LOC277506	0.003	4.1	4780021	14163	Fgd1	0.003	-1.5	780463	20024	Sub1	0.002	-1.6
5420154	234366	Gatad2a	0.003	2.5	5270736	73094	Sgip1	0.003	-1.9	5290692	18700	Piga	0.002	-1.3
6760050	215474	Sec22c	0.003	-1.7	107000075	75288	Sic35f4	0.003	2.0	5050133	78004	Prr15	0.002	-1.6
1690563	193116	Slu7	0.003	-1.5	3120441	104009	Qsox1	0.003	-1.3	104010739	408062	BC062115	0.002	-1.3
106290100	228790	Asxl1	0.003	4.1	4590685	18611	Pea15a	0.003	-1.7	1660538	54636	Wdr45	0.002	-1.6
3120082	218734	3830406C13Rik	0.003	-1.7	6130180	11610	Agtrap	0.003	2.6	100870632	226610	C030014K22Rik	0.002	-1.6
6620021	94184	Pdxd1	0.003	-1.7	2100136	211712	Pcdh9	0.003	-1.6	6980471	16912	Psmb9	0.002	1.9
3120086	170757	Eltfd1	0.003	2.2	3120673	66481	Rps21	0.003	-1.5	5220333	83603	Elov4	0.002	1.7
6860411	11807	Apoa2	0.003	1.4	6980131	76846	Rps9	0.003	-1.7	100870458	66970	Ssbp2	0.002	-2.8
6900390	72584	Cul4b	0.003	1.4	106200156	319244	9430091N11Rik	0.003	1.3	103870239	71943	Tom1l1	0.002	-9.6
540687	22427	Wrrn	0.003	-1.4	3390091	329307	A430110L20Rik	0.003	-1.4	2510398	26462	Txnrd2	0.002	-1.5
3840731	13660	Ehd1	0.003	1.6	670184	93875	Pcdhb4	0.003	1.5	105670110	319626	9530059O14Rik	0.002	1.9
2630563	139945	Flad1	0.003	-1.3	106400100	69900	Mfsd11	0.003	2.9	102120044	83431	Ndel1	0.002	3.5
3800446	69010	Anapc13	0.003	1.8	130044	19877	Rock1	0.003	-1.3	5910113	52064	Coq5	0.002	-1.4
105360168	101966	D8Ertf738e	0.003	-1.4	3190132	66482	Exoc2	0.003	1.4	2510259	12238	Commdd3	0.002	2.3
7050131	277463	Gpr107	0.003	1.3	4780025	18221	Nudc	0.003	-1.7	102690161	56320	Dbn1	0.002	2.8
103450181	76487	Ppp1r3g	0.003	1.7	100450040	50915	Grb14	0.003	1.3	3290091	71151	Exod1	0.002	1.6
105220403	230597	Zfyve9	0.003	1.5	6650279	67041	Oxct1	0.003	-1.5	4280632	241846	Lsm14b	0.002	-2.5
104670037		A830085I22Rik	0.003	3.4	104010364	68465	Adipor2	0.003	1.6	105360463	277414	Trp53l11	0.002	1.6
2450079	74116	Plf6	0.003	-1.6	6550369	66552	2010106G01Rik	0.003	1.5	1690050	20255	Scg3	0.002	-1.3
460736	17999	Nedd4	0.003	1.4	103290161	329165	Abi2	0.003	1.4	3870239	13004	Ncan	0.002	2.5
106100427	217449	Ttcl5	0.003	1.8	3390064	19211	Pten	0.003	1.8	6380280	193838	Eme2	0.002	4.4
2970497	234373	Sfrs14	0.003	-1.6	104010538	72351	Ptar1	0.003	2.0	7100348	22368	Trpv2	0.002	-1.7
101780047	75304	4930563E22Rik	0.003	-2.0	101170044	69368	Wdrf1	0.003	-2.2	5690148	14634	Gli3	0.002	1.4
840377	244853	D930028F11Rik	0.003	1.3	2850138	26570	Sic7a11	0.003	1.5	1660465	54721	Tyk2	0.002	-1.4
5270014	215193	AA408296	0.003	-1.4	103290411	19704	Upf1	0.003	1.7	106550215	57138	Sic12a5	0.002	2.4
3440092	66261	Tm4sf20	0.003	1.3	4210195	27973	Vkorc1	0.003	-1.3	102970519		B230213G02Rik	0.002	2.8
5080010		1810022O10Rik	0.003	-1.4	106420349		H2afj	0.003	2.1	103440338	384348	LOC384348	0.002	-1.4
102970647	69102	1810015C11Rik	0.003	-1.6	4590301	67095	Trak1	0.003	-1.3	104210195	238086	Aim1	0.002	-1.6
3140347	66052	Sdhc	0.003	-2.0	6660497	13885	Esd	0.003	3.7	4850129	78887	Sfi1	0.002	-2.6
6450091	19082	Prkag1	0.003	1.5	101740673	227743	2610528K11Rik	0.003	-3.8	1340647		ILM1340647	0.002	2.4
103130471	13859	Eps15l1	0.003	2.2	104810504	94185	Tnfrsf21	0.003	1.3	102690132	72915	2900017F05Rik	0.002	15.6
2030279	68576	Hbxip	0.003	-1.5	104200402	13052	Cxadr	0.003	3.0	100130215	76799	2510006D16Rik	0.002	2.7
2760021	268395	Mpg	0.003	2.4	6620270	58187	Cldn10	0.003	2.4	106180398	195018	Zzeif1	0.002	3.8
6760605	210719	Mkx	0.003	5.4	106400484	70947	4921537I17Rik	0.003	-2.0	104210451	66797	Cntnap2	0.002	2.1
101980609		LOC218060	0.003	-1.6	101230008	226562	Bat2d	0.003	-1.4	2650575	15441	Hp1bp3	0.002	1.6
610112	333883	Cd59b	0.003	-2.2	101690180	12928	Crk	0.003	-1.4	940292	70873	4921517L17Rik	0.002	-1.7
102510139	51801	Ramp1	0.004	-2.3	102030025	544717	1190007I07Rik	0.003	2.3	6590398	18038	Nfkbi1	0.002	-2.6
104230204		LOC383340	0.004	1.6	104480368	72899	Macrod2	0.003	1.8	1580168	71684	Rbm43	0.002	-2.7
1570102	107272	Psat1	0.004	2.7	5050685	219181	Akap11	0.003	2.2	104010601	54152	Dnalc4	0.002	1.3
4480484	83409	Mapbbip	0.004	-1.8	6860301	80743	Vps16	0.003	-1.3	101090025	226751	Cdc42bpa	0.002	-1.5
4610441	12509	Cd59a	0.004	-3.5	3140315	107071	Wdr74	0.003	1.6	730603	114896	Afg3l1	0.002	-1.9
100070215		D030041G16Rik	0.004	6.0	940541	207165	Bptf	0.003	-1.5	106860687	67392	4833420G17Rik	0.002	1.5
450504	74164	Nfx1	0.004	1.3	2470132		Tctcl5	0.003	-1.8	6040132	239435	Aard	0.002	-1.7
104920154	320238	A830054A007Rik	0.004	2.2	105890148		LOC385019	0.003	-1.7	2260577	16513	Kcnj10	0.002	-2.7
1780538	57738	Sic15a2	0.004	-3.0	4780113	67680	Sdhb	0.003	-1.4	6770348	19280	Ptpns	0.002	-1.6
104150022	67188	2700046G09Rik	0.004	1.4	100610632	217449	Ttcl5	0.003	2.6	3850035	81702	Andkr17	0.002	1.8
104010687	625850	Tll2	0.004	-1.7	870162	66125	Sf3b5	0.003	-1.6	2030114	68180	Hyl	0.002	-2.1
6130195	194237	BC057371	0.004	-1.8	102640390	109344	E130215H24Rik	0.003	1.3	6290025	68035	Rbm42	0.002	1.8
101340397	109325	B230112P13Rik	0.004	1.4	540373	19724	Rfx1	0.003	1.5	102030390	97863	C78339	0.002	-1.5
4610039	228491	Zfp770	0.004	-1.8	5700605	72999	Insig2	0.003	4.1	100580047	26931	Ppp2r5c	0.002	1.3
101190487	330267	Thsd47a	0.004	1.5	101450008	71517	9030624J02Rik	0.003	2.4	2810484	381921	Taok2	0.002	1.8
2340239	54218	B3gal4	0.004	1.5	106770452	328280	EG328280	0.003	1.7	520541	270084	Aytl1a	0.002	4.0
5260647		Cd200	0.004	3.7	105690524	54722	Dfna5h	0.003	3.3	6020706	226359	C1ql2	0.002	3.1
101770053	15467	Eif2ak1	0.004	1.3	870563	78889	Wsb1	0.003	-1.7	104780037	14348	Fut9	0.002	-1.3
101780504	54393	Gabbr1	0.004	-4.1	2570377	66377	Ndufc1	0.003	-1.4	101780215	213582	Mtap9	0.002	3.1
103120039	171167	Fut10	0.004	2.8	103610088	329502	Pla2g4e	0.003	-2.5	1990398	66381	Rnf113a2	0.002	-1.5
1690047	13401	Dmwd	0.004	2.2	3520300	228852	Ppp1r16b	0.003	-1.8	2900068	67511	Tmed9	0.002	-1.7
100060541	268932	Caskin1	0.004	2.9	6550091	209497	Tmem164	0.003	-1.5	2760021	268395	Mpg	0.002	2.1
103440707	12716	Ckmt1	0.004	1.3	6040017	103098	Sic6a15	0.003	-1.3	5080129	98303	D630023F18Rik	0.002	-1.6
2510440	69721	Nkiras1	0.004	1.9	6900722	230648	4732418C07Rik	0.003	-1.6	100540373	94040	Clnn	0.002	3.2
5720053	69726	Smyd3	0.004	-1.4	1770487	72278	Ccpg1	0.003	-1.8	4150204	52552	Parp8	0.002	2.5
6400603	68441	Rrag	0.004	-1.4	1500100	66511	2500003M10Rik	0.003	-1.6	5670494	76982	3110035E14Rik	0.002	3.5
6760181	56690	Mlycd	0.004	-2.4	1190164	228602	4930402H24Rik	0.003	-1.4	106350672	243743	Plxna4	0.002	1.3
50369	69072	Ebna1bp2	0.004	1.9	510022	13046	Cugbp1	0.003	-1.6	5420593	65111	Dap3	0.002	3.9
3130451	26451	Rpl27a	0.004	-1.5	1740408	30935	Tor3a	0.003	-1.6	4480053	72201	Ottd6b	0.002	-1.8
4060673	233335	Dmn												

6900717	22092	Rsph1	0.004	-1.6	2060114	223989	4921513D23Rik	0.003	-1.3	106980750	493341419Rik	0.002	-1.3	
103130280	229707	6330569M22Rik	0.004	1.4	2510161	15356	Hmgcl	0.003	-1.4	3190132	Exoc2	0.002	1.3	
3390402	52502	Carhsp1	0.004	1.4	3870129	56515	Rnf138	0.003	1.8	5050593	Sema7a	0.002	-1.7	
104590020	23900	Hcst	0.004	1.4	2100102	20914	sty	0.003	-1.4	840020	Fvt1	0.002	-1.3	
2230102	14349	Fv1	0.004	-1.6	105220411		E330019C05Rik	0.003	1.6	100540577	212163	8030462N17Rik	0.002	1.6
6860463	232334	Vgll4	0.004	-1.4	1580403	13684	Elf4e	0.003	2.2	3190095	Ccng2	0.002	5.0	
2650687	382571	Kcnf1	0.004	1.4	4210014	65973	Asph	0.003	-1.6	2690082	Prpf19	0.002	-2.3	
103850315		ILM103850315	0.004	-1.9	102850673	71811	2610027H17Rik	0.003	1.9	5900161	Gpatch4	0.002	-1.5	
4610086	17828	Muted	0.004	-1.4	3170095	12960	Crybb1	0.003	1.9	100520750	9930005E07Rik	0.002	1.8	
102810739	71263	Mro	0.004	2.8	3120164	16332	Inpp11	0.003	-1.3	1500075	Lmma	0.002	-1.5	
3870373	320265	C630007B19Rik	0.004	2.5	580463	81630	Zbtb22	0.003	2.8	103850148	Tdp1	0.002	1.6	
6100537	223870	Serp1	0.004	-1.6	101400750	320313	8030466E21Rik	0.003	-1.5	520463	Pttg1	0.002	3.1	
1660142	231003	Kihl17	0.004	1.7	5220411	66399	Tsfm	0.003	-1.4	3180450	Amt	0.002	-1.3	
102100102	20639	Snrpb2	0.004	1.5	104560551	239796	1600021P15Rik	0.003	-1.5	5690070	Idh3b	0.002	-1.4	
105220711	67289	3110021A11Rik	0.004	1.7	780278	110593	Ptdm2	0.004	-1.6	100060138	LOC386154	0.002	-2.0	
7000347	319582	6430573F11Rik	0.004	3.5	3870301	14968	H2-Ea	0.004	-1.5	106650021	2410024N18Rik	0.002	1.4	
1580364	103850	Nt5m	0.004	-1.3	104070736	235330	Ttcl2	0.004	-1.5	103060537	ENSMUSG00000005	0.002	2.5	
103840750	381259	Als2cra	0.004	1.6	2260577	16513	Kcnj10	0.004	-3.2	106650142	72421	Ttc30b	0.002	-1.6
101690100	73186	3110045A19Rik	0.004	2.6	3710435	20322	Sord	0.004	2.3	103120008	380916	Lrch1	0.002	1.6
106100280	83675	Bicc1	0.004	1.3	50059	104831	Ptpn23	0.004	-1.4	105220519	ENSMUST00000007	0.002	2.7	
105720471	73094	Sgip1	0.004	2.1	2360156	269113	Nup54	0.004	-1.4	6450725	Wbp11	0.003	-2.4	
1570324	66943	Pqlc1	0.004	-1.4	5130471	71675	0610010F05Rik	0.004	-1.4	4010008	Usp36	0.003	1.4	
6290541	56456	Actl6a	0.004	-1.4	2060398	232599	EG232599	0.004	1.8	5360717	Rcor2	0.003	-1.5	
2570735	76900	Ssbp4	0.004	-1.4	106860484	328133	Slc39a9	0.004	1.8	105910039	Etnk2	0.003	2.7	
3170053	27058	Srp9	0.004	2.5	430273	118454	Gja12	0.004	-2.4	2100619	Cfp	0.003	1.7	
4780056	56449	Csda	0.004	1.7	770280	213262	Fstl5	0.004	3.5	3290711	Ube2f	0.003	1.5	
104230121	171868	1020023E05Rik	0.004	2.5	6900372	66333	Aqp11	0.004	-1.5	103870520	Uros	0.003	1.8	
7040181	67026	Thap4	0.004	3.7	101940711	791292	ENSMUSG000000054123	0.004	-3.0	104150653	67544	4932442K08Rik	0.003	1.7
106980128	56469	Pias1	0.004	1.3	3840372	245622	BC031748	0.004	1.9	5340484	14312	Brd2	0.003	-1.7
4070037	60596	Gucy1a3	0.004	1.7	2360332	114893	Dcun1d1	0.004	1.4	1050458	Pde1a	0.003	-1.7	
103840242	13483	Dpp6	0.004	-1.4	3440148	13207	Ddx5	0.004	-1.9	6550450	21804	Tgfb1l1	0.003	-1.4
5390195	14085	Fah	0.004	-1.6	3610717	233895	Prr14	0.004	-1.4	1190019	Soat1	0.003	-2.2	
2810551	213019	Pdlim2	0.004	1.5	6020593	93236	9230105E10Rik	0.004	1.4	102340451	Pkn1	0.003	-2.4	
3940348	328133	Slc39a9	0.004	-1.5	1450300	14312	Brd2	0.004	-1.4	103840364	320552	D930019F10Rik	0.003	-1.4
4670041	223227	Sox21	0.004	-2.1	6450286	378466	ENSMUSG000000057924	0.004	1.6	104010040	LOC384607	0.003	-1.4	
106200390	216049	Zfp365	0.004	-2.8	102360148	384009	Glipr2	0.004	1.9	3870398	Sfxn2	0.003	-1.6	
415195	67063	2810432L12Rik	0.004	-1.5	6550707	22036	Traip	0.004	1.4	50121	Ankzf1	0.003	1.4	
101090397	228836	Dlgap4	0.004	2.7	5270279	67905	Ppm1m	0.004	3.1	2030039	241846	Lsm14b	0.003	-1.5
7040332	13004	Ncan	0.004	2.2	7100167	270162	Elmod1	0.004	-1.7	6020079	54561	Nap1l3	0.003	-2.2
6760450	105501	Abhd4	0.004	1.8	100510414		2810029C07Rik	0.004	2.1	130364	75607	Wnk2	0.003	-2.2
3060722	114479	Slc5a5	0.004	1.7	1980546	22755	Zfp93	0.004	1.3	5670403	110637	Grik4	0.003	1.8
2940711	72147	Zbtb46	0.004	-1.9	106590528	319664	E230012J19Rik	0.004	3.0	5340100	69681	Cdk3	0.003	1.5
1770458	72098	Tmem68	0.004	2.6	100770324	240185	9430020K01Rik	0.004	2.4	5720670	67772	Chd8	0.003	-1.6
100730435	238130	Dock4	0.004	1.6	2900711	18432	Mybbp1a	0.004	-1.5	6550369	66552	2010106G01Rik	0.003	1.3
102940692	66748	4933404M02Rik	0.004	1.5	104230195	319594	Hif1an	0.004	1.8	105420576	330286	D630045J12Rik	0.003	1.7
6510086	12833	Col6a1	0.004	1.5	102340373	81840	Sorcs2	0.004	2.2	102850102		4632427E13Rik	0.003	1.5
105050068	268396	Sh3pxd2b	0.004	1.9	7040463	67128	Ube2g1	0.004	-1.3	106450450	213109	Phf3	0.003	1.9
100780154		LOC277193	0.004	1.4	670750	56698	Rnuxa	0.004	-1.4	100430541	219228	Pcdh17	0.003	1.7
6370037	94184	Pdxdc1	0.004	-1.8	105890465		6430530L21Rik	0.004	2.6	1780110	68251	5430437P03Rik	0.003	1.7
101170044	69368	Wdfy1	0.004	-3.7	7050452	13010	Cst3	0.004	-1.5	101660273	380694	Cnjl1	0.003	1.6
104150040	78874	B230201J124Rik	0.004	-1.3	430435	240913	Adamts4	0.004	-1.7	360168	13390	Dlx1	0.003	-1.8
4600092	66184	Rps4y2	0.004	-1.9	106290100	228790	Asxl1	0.004	3.1	101170044	69368	Wdfy1	0.003	-4.6
2260451	12799	Cnp	0.004	1.7	5340167	12444	Ccnd2	0.004	2.6	3710040	21952	Tnni1	0.003	2.4
3120280	75604	Tm4sf5	0.004	-1.3	630121	20295	Ccl17	0.004	-1.4	102650471	11534	Adk	0.003	1.6
940687	235542	3222402P14Rik	0.004	1.6	450068	68472	Tmem126b	0.004	2.3	6860075	76469	Cmya5	0.003	1.5
104920358		LOC193798	0.004	-1.7	6040010	108037	Shmt2	0.004	-1.6	3130048	59002	Wdr8	0.003	-1.3
2060541	20284	Srgf1	0.004	-1.4	580446	19651	Rbl2	0.004	1.3	102690403	14281	Fos	0.003	-2.0
106860324		B230112L11Rik	0.004	1.3	5420398	109151	Chd9	0.004	-1.4	100540347	77097	Tanc2	0.003	1.9
106100731	23971	Paps1	0.004	2.6	2510440	69721	Nkiras1	0.004	2.4	105570601		4932415A06Rik	0.003	2.0
2190195	14070	F8a	0.004	-1.6	103800348	76568	1500035H01Rik	0.004	-1.4	5080059	13837	Epha3	0.003	-1.5
2760541	230484	Usp1	0.004	-1.5	4920333	71728	A930001N09Rik	0.004	-1.6	3130452	54447	Asah2	0.003	-1.5
5360091	69623	Zfp33b	0.005	1.3	4150079	20701	Serpina1b	0.004	-2.5	5550014	268859	A2bp1	0.003	-2.2
2650010	72129	Pex13	0.005	-1.4	1980040	16832	Ldhb	0.004	-1.3	106590341		1110070015Rik	0.003	2.9
107000494	68350	Mul1	0.005	1.7	6980142	21835	Thrsp	0.004	1.6	4920148	18207	Nthl1	0.003	-1.6
106040500	16536	Kcnc2	0.005	3.4	104050300	319626	9530059O14Rik	0.004	-1.3	1170167	331474	Rgag4	0.003	-1.6
1980204	101869	Unc45a	0.005	-1.6	630519	17087	Ly9e	0.004	1.6	2470685	79560	Ublpc1	0.003	2.4
4920592	109689	Arrb1	0.005	2.0	5290717	226791	Lyplal1	0.004	-2.1	6860270	16598	Klf2	0.003	1.7
5900441	17540	Mrvr1	0.005	-1.3	3800021	65105	Arfrip4	0.004	-1.5	103060139	218989	6720456H20Rik	0.003	2.2
6510110	17219	Mcm6	0.005	1.5	4480411	13384	Mpp3	0.004	-2.2	1340372	78593	Nrip3	0.003	-1.7
2510551	69131	Ckrk	0.005	-1.3	2510647	19047	Ppp1cc	0.004	-1.5	3440717	20541	Slc8a1	0.003	2.0
70577	18986	Pou2f1	0.005	1.4	3830091	17155	Man1a	0.004	-1.5	105900408	21974	Top2b	0.003	-1.7
780167	67526	Atg12	0.005	-1.5	5550204	68845	Phl1d1	0.004	-1.7	102360014	77877	6030458C11Rik	0.003	-2.9
6110685	104732	4930427A07Rik	0.005	-1.3	3930279	14419	Gal	0.004	4.9	100520309	270190	Ephb1	0.003	-1.3
101660458	11603	Agrn	0.005	1.3	105130086	66171	Pgl5	0.004	1.3	102810575	66496	2700038C09Rik	0.003	2.3
4210546	109685	Hyal3	0.005	1.3	102450041		ILM102450041	0.004	3.2	106200113	207965	Gm71	0.003	-1.6
102480368	319191	Hist1h2ai	0.005	1.4	5910292	12260	C1qg	0.004	2.2	3060079	78787	Usp54	0.003	1.8
103140672	21841	Tia1	0.005	4.0	610082	14598	Ggt1	0.004	1.4	1450088	329251	Ppp1r12b	0.003	-2.4
6350129	19139	Prps1	0.005	-1.7	3940373	226976	4632411B12Rik	0.004	-1.6	380484	114863	Prosc	0.003	4.6
2190129	12764	Cmas	0.005	-1.3	2100142	53611	Vtla1a	0.004	-1.6	5220088	216049	Zfp365	0.003	2.9
4480411	13384	Mpp3	0.005	-2.1	2370025	56334	Tmed2	0.004	-1.4	610546	223843	Dbx2	0.003	2.3
4230390	74168	Zdhc16	0.005	1.3	103290021	214368	BC029127	0.004	3.1	101170131	69579	2310034P14Rik		

2450037	217201	Rundc1	0.005	1.3	130180	67181	Dullard	0.004	1.7	103830594	331912	E430003D02Rik	0.003	-2.3
3120730		Rbm45	0.005	-1.8	104670736		LOC383931	0.004	-1.4	101050133	15925	Idc	0.003	-3.4
2230528	211499	Tmem87a	0.005	2.6	2450014	56805	Zbtb33	0.004	-1.5	104050168	319504	Nrcam	0.003	2.8
103830594	331912	E430003D02Rik	0.005	-2.3	103940577	386135	A130060120Rik	0.005	-1.7	105570673	319604	B930006L02Rik	0.003	2.0
3830519	73031	2900060N12Rik	0.005	2.6	100780154		LOC277193	0.005	1.6	103990746	215690	Nav1	0.003	1.6
840538	11459	Acta1	0.005	-1.7	580603	108707	1810008A18Rik	0.005	-1.3	2640471	66044	Dtd1	0.003	-1.8
100780091	235626	Setd2	0.005	1.3	102360014	77877	6030458C11Rik	0.005	-3.1	2370347	97031	C430004E15Rik	0.003	1.5
106110609	104054	Ga	0.005	1.3	1690162	26374	Rfwd2	0.005	1.7	6290040	213391	Rassf4	0.003	-1.5
2320563	68271	4930441O14Rik	0.005	1.3	1660059	243910	AY078069	0.005	1.9	6370037	94184	Pdxdc1	0.003	-2.3
106980026	75612	Gns	0.005	1.7	104810239	319896	D430047L21Rik	0.005	-1.5	70471	17906	Myl2	0.003	-1.3
102900286	224640	Lemd2	0.005	2.3	2470463	74490	5430432N15Rik	0.005	1.7	2570079	54351	Rai12	0.003	1.4
6400184	68552	1110003E01Rik	0.005	-1.5	100050739	381538	Gm1027	0.005	-3.8	101850647	97550	C130081A10Rik	0.003	-1.4
2710603	224079	Atp13a4	0.005	-1.5	2650673	108937	Rnf169	0.005	1.6	105220347	22158	Tulp3	0.003	1.3
101940348	385615	LOC385615	0.005	-2.7	101850358	26877	B3galt1	0.005	1.8	106550112	26412	Map4k2	0.003	3.1
780278	110593	Prdm2	0.005	-1.5	1770131	103554	Psme4	0.005	-1.4	2510026	192236	Hps1	0.003	3.0
4920195	329064	Pkd2l1	0.005	1.7	1410014	12301	Cacybp	0.005	2.4	6660132	72748	Hdhd3	0.003	-2.5
103190068	99526	Usp53	0.005	2.3	103060300	99138	Stard7	0.005	1.6	5080110	72508	Rps6kb1	0.003	1.5
2940397	235169	Foxred1	0.005	1.7	4200735	12226	Rtg1	0.005	-1.5	100540594		LOC383861	0.003	1.8
4560095	77045	Bcl7a	0.005	-1.4	2970176	110959	Nudt19	0.005	4.8	2450338	18983	Cnot7	0.003	-1.5
104210196	71566	9030425E11Rik	0.005	3.3	102320372	77810	A930015D03Rik	0.005	-2.2	1190463	59009	Sh3rf1	0.003	-1.6
101340040	64652	Nisch	0.005	2.6	6450167	75977	5031425E22Rik	0.005	-2.1	2650092	329178	BC042720	0.003	-1.4
270307	619293	9230009I02Rik	0.005	-1.3	1580446	72635	Lins2	0.005	-1.5	2810300	13681	Eif4a1	0.003	-2.2
101090025	226751	Cdc42bpa	0.005	-1.6	101770497	78751	Zc3h6	0.005	1.7	102470692		E230024B12Rik	0.003	1.7
100510088	56321	Aatf	0.005	1.6	6980114	105638	Dph3	0.005	-1.4	5390341	208426	EG208426	0.003	-1.7
6290739		Krt1-12	0.005	3.8	105890059	67161	Sclt1	0.005	1.3	106290487	66596	Gtf3a	0.003	1.3
3450746	14349	Fv1	0.005	-1.5	2970020	54195	Gucy1b3	0.005	-1.4	2190348	14289	Fpr-rs2	0.003	-2.2
100770093	22693	Zfp30	0.005	1.4	100600136	75694	2310058D17Rik	0.005	-1.7	4060315	53611	Vt1a	0.003	-1.5
2470463	74490	5430432N15Rik	0.005	1.3	103520167	68034	2900009I07Rik	0.005	1.7	450068	68472	Tmem126b	0.003	2.8
5720193	16019	Igh-6	0.005	2.4	103870239	71943	Tomn1l	0.005	-5.6	4070168	52857	Gramd1a	0.003	-2.1
3520138	73658	Spns1	0.005	-1.3	3120730		Rbm45	0.005	-1.7	2450138	93722	Pcdhga10	0.003	-1.6
1340647		ILM1340647	0.005	2.2	101090465		E230016B04Rik	0.005	1.6	1770156	13877	Erh	0.003	-2.9
100730132	235497	Leo1	0.005	1.9	3800170	68801	Elov15	0.005	-1.5	2570014	66615	Atg4b	0.003	-1.6
2570440	238725	Gpr150	0.005	-1.5	106980022	72772	Rint1	0.005	-1.7	101340040	64652	Nisch	0.003	2.7
2320458	243274	Tmem132d	0.005	2.3	106200670	20591	Jarid1c	0.005	1.5	5050747	230793	Ahd1c	0.003	-1.4
103800739	100177	Zmyvm6	0.005	1.9	6350377	56215	Acin1	0.005	1.6	100130097	18710	Plk3r3	0.003	-4.0
520403	75812	Tasp1	0.005	3.9	6840110	14017	Evi2a	0.005	-1.3	102320450	11785	Aphb1	0.003	2.1
5570390	94254	Wbscr16	0.005	-1.4	4210685	70834	Spag9	0.005	-1.5	2030619	17463	Psm7	0.003	-1.4
4670670	68644	Abhd14a	0.005	1.9	510722	20055	Rps16	0.005	-1.5	6400008	68169	A930038C07Rik	0.003	-1.6
1410433	225642	Grp	0.005	-2.0	102100148	320542	A130072A22Rik	0.005	1.4	3610563	67704	1810037I17Rik	0.003	-1.3
1850021	213550	Dis3l	0.005	-2.0	2350193	67378	Bbs2	0.005	1.3	106900050	67392	4833420G17Rik	0.003	1.4
4800059	67123	Ubpap1	0.005	1.5	6510593	107656	Krt9	0.005	1.5	106020541	56194	Prpf40a	0.003	-1.3
105220364	320591	9630026C02Rik	0.005	2.8	103710348	66253	Alg1	0.005	2.1	1190670	210510	Tdrd6	0.003	-1.6
6020286	13383	Dlg1	0.005	1.7	1690086	20692	Sparc	0.005	2.9	1770278	13875	Erf	0.003	-1.4
2470025	72573	Brcd1	0.005	-1.4	4540739	19336	Rab24	0.005	-1.3	101690180	12928	Crk	0.003	-1.8
5290253	209760	Tmc7	0.005	1.9	1990195	13627	Eef1a1	0.005	-1.5	104060519	117592	B3galt6	0.003	1.6
100540373	94040	Climn	0.005	2.9	1050369	13629	Eef2	0.005	-1.4	6040709	51786	Cpsf2	0.003	2.3
100990672	76784	Mtif2	0.005	2.8	6200315	74147	Ehhadh	0.005	-1.3	102350520	74213	Rbm26	0.003	2.6
1990672	71233	4933434I06Rik	0.005	1.8	106650619	78146	7330423F06Rik	0.005	1.6	105700286	68988	Prpf31	0.003	-1.7
630402	319412	D830013H23Rik	0.005	1.3	5420402	319180	Hist1h2bf	0.005	1.9	5080541	102580	Alg9	0.003	1.8
106510441	114615	Elac1	0.005	1.9	1850075	71801	Plekhf2	0.005	-1.5	4200592	17126	Smad2	0.003	-1.4
3490551	230857	Ece1	0.006	1.7	2450605	18612	Etv4	0.005	-1.5	100460064	81840	Sorcs2	0.003	1.3
7000446	68490	Zfp579	0.006	-1.4	5290767	432486	Gnptab	0.005	1.6	102810494	241076	C030018G13Rik	0.003	1.6
5570368	12511	Cd6	0.006	3.5	4760128	83997	Slmap	0.005	-1.3	105890253	67933	Hcfc2	0.003	1.6
105890195	633640	EG633640	0.006	1.8	105220129	241589	D430041D05Rik	0.005	3.2	105690161	319654	6430537I21Rik	0.003	1.9
1190019	20652	Soat1	0.006	-2.2	6770593	193385	6330500D04Rik	0.005	-1.5	5340167	12444	Ccnd2	0.003	2.0
104560487	241322	Zbtb6	0.006	1.5	100780280	326618	Tpm4	0.005	1.6	106940180	75288	Slc35f4	0.003	2.1
5960068	12043	Bcl2	0.006	1.5	2350288	207683	lgsf11	0.005	-1.6	4280068	208198	Btbd2	0.003	2.2
3870129	56515	Rnf138	0.006	1.5	1580725	68272	Rbm28	0.005	2.6	2360546		Casp1	0.003	-1.6
1940438	24099	Tnfrsf13b	0.006	-1.5	103520575	245676	LOC245676	0.005	1.5	5670735	14114	Flnb1	0.003	1.3
3130497	327988	ENSMUSG00000055697	0.006	-1.5	101940068	23879	Fxr2	0.005	5.5	6350129	19139	Prps1	0.003	-1.6
3830551	16426	Itih3	0.006	-1.9	105050593	50880	Scly	0.005	1.3	102360594	11491	Adam17	0.003	2.2
104920377	385034	D430030C18Rik	0.006	2.2	3060722	114479	Slc5a5	0.005	2.1	106350041		LOC383125	0.003	-1.4
102450717	214290	Zchc6	0.006	2.1	580017	67896	Ccdc80	0.005	-1.9	100770204	243219	2900026A02Rik	0.003	1.8
100580128	217716	Mlh3	0.006	1.3	103170278	105651	Ppp1r3e	0.005	1.6	101450400	56077	Dgke	0.003	2.5
6400040		C330027G06Rik	0.006	-1.3	520139	75617	Rps25	0.005	-1.3	105340494	26400	Map2k7	0.003	1.4
730463	223646	Naprt1	0.006	-1.5	580286	19822	Rnf4	0.005	-1.7	2810091	70510	Rnf167	0.003	2.5
4760026	14999	H2-DMb1	0.006	1.3	5130647	93836	Rnf111	0.005	-1.3	100770338	20563	Slit2	0.003	-1.4
104050044	226041	Pgm5	0.006	2.1	610086	68263	Pdhh	0.005	1.9	4730541	12563	Cdh6	0.003	1.6
102450041		ILM102450041	0.006	2.0	4760300	399510	Map4k5	0.005	-1.4	3520026	11845	Arf6	0.003	-1.5
4060441	74178	Stk40	0.006	-1.3	104540040	24136	Zeb2	0.005	-1.8	6020309	17314	Mgmt	0.003	2.0
105550722	69549	2310009B15Rik	0.006	1.5	105220519		ENSMUST00000075405.1	0.005	1.7	103990377	14421	B4galnt1	0.003	2.1
105220524	66435	Ugcgl2	0.006	2.4	5220309	104110	Adcy4	0.005	1.5	2120441	232790	Oscar	0.003	1.8
103850047	226541	Kih120	0.006	2.8	104230204		LOC383340	0.005	1.4	105550369	16593	Klc1	0.003	2.8
4560672	18719	Pip5k1b	0.006	1.8	580142	11848	Rhoa	0.005	-1.6	101240050	19243	Ptp4a1	0.003	2.1
5890112	12036	Bcat2	0.006	-3.4	5220750		C4	0.005	-1.5	101570026	19944	Rpl129	0.003	1.8
1090537	234725	Zfp612	0.006	-1.3	102510411		C630035D16Rik	0.005	-1.3	70164	56459	Sae1	0.003	-1.9
104920112	69765	1500004F05Rik	0.006	-1.5	1850609	140580	Elmo1	0.005	-2.6	105890717	67832	Bxdc2	0.003	1.4
6100717	213491	C1orf144	0.006	-1.6	104280041	239857	Cadm2	0.005	1.4	103870397	286940	Flnb	0.003	2.0
102350484		LOC381941	0.006	1.6	104590731		B230322F03Rik	0.005	1.4	1740041	13405	Dmd	0.003	-1.3

50088	15051	H2-T9	0.006	2.0	104120504	67298	Gprasp1	0.006	-1.6	1510093	69470	Tmem127	0.003	-1.5
106660113		D330004F16Rik	0.006	1.3	105900497		LOC384298	0.006	1.5	7000717	17101	Lyst	0.003	1.3
100510026	207175	Cetn4	0.006	1.6	102900451	77920	A330102110Rik	0.006	-1.3	100580605	74189	Phactr3	0.003	1.7
4120154	52712	Zkscan6	0.006	1.4	1580504	319162	Hist3h2a	0.006	1.8	106940735	12606	Cebpa	0.003	1.9
104780010	73469	Rnf38	0.006	1.5	5360040	66505	Zmynd11	0.006	-1.9	3610524	233977	Ppfa1	0.003	1.9
104920164	16554	Kif13b	0.006	1.9	1740021	192897	Itgb4	0.006	-1.6	1690450	66109	Tspan13	0.003	-1.5
104480541	71707	Ubiad1	0.006	-1.8	2450537	18805	Pld1	0.006	-1.4	6550685	58239	Dexi	0.003	-1.7
103520100	72690	Grrp1	0.006	1.5	105080487	16569	Kif3b	0.006	1.6	3850440	27878	Tada1l	0.004	2.5
2260129	68999	Anapc10	0.006	1.4	6380025	70693	Gpr125	0.006	1.9	5340037	76484	Kndc1	0.004	1.3
102350408	791262	ENSMUSG00000053583	0.006	1.6	104590592	108871	4930447M23Rik	0.006	-1.4	105050068	268396	Sh3pxd2b	0.004	1.6
106650402	16784	Lamp2	0.006	1.3	107050575	76104	5830472F04Rik	0.006	2.1	6620021	94184	Pdxdc1	0.004	-2.0
3140026	17967	Ncam1	0.006	-1.5	5570500	52076	Tmem38b	0.006	-1.4	103140082		LOC215678	0.004	-1.8
5080056	252868	Odf4	0.006	1.5	2260397	271005	Ghdc1	0.006	-1.3	100070364	68910	Zfp467	0.004	-2.2
100610369	27204	Syn3	0.006	1.4	2510088	14729	Kp5	0.006	1.3	5340537	109349	G630035N08Rik	0.004	1.5
6350468	16188	Il3ra	0.006	-1.8	4010040	67304	3110070M22Rik	0.006	1.6	4210270	68915	Vars2	0.004	-1.7
2970538	320854	9030203C11Rik	0.006	1.4	101660520	238690	Zfp458	0.006	1.3	106520112	238205	Lrnf5	0.004	-1.5
2260075	67212	Mrpl55	0.006	2.1	4540722	74277	Chic2	0.006	-1.3	1410735	231887	Pdap1	0.004	-1.6
105340735	195018	Zzeif1	0.006	2.5	2260546	217212	Ppy	0.006	1.3	2900139	70348	2610018I03Rik	0.004	2.0
1090288	13844	Ephb2	0.007	-1.7	670279	104082	Wdr7	0.006	-1.7	100610446	329078	Emx2os	0.004	1.3
103710348	66253	Aig1	0.007	2.1	6380338	69032	Lyz14	0.006	1.3	1580725	68272	Rbm28	0.004	1.6
106510050	218341	Rfesd	0.007	-1.6	5340195	26382	Fgd2	0.006	-2.2	2350524	99650	4933434E20Rik	0.004	-1.3
2100523	258155	Olfr1425	0.007	-1.3	3440021	54722	Dfna5h	0.006	1.8	101230193	56323	Dnajb5	0.004	1.9
3140463	270097	Kiaa1576	0.007	-1.7	2190128	231659	Gcn1l1	0.006	-1.3	5910092	223722	Mcat	0.004	1.7
102900706	382972	D930016D14Rik	0.007	1.7	107050400	224813	Gm88	0.006	1.9	840148	217219	BC025575	0.004	-1.7
102850100		LOC209405	0.007	2.0	102850064	67262	2900016801Rik	0.006	-4.6	101230333	436230	BC065397	0.004	1.8
4120605	217410	Trib2	0.007	-1.9	5890598	13629	Eef2	0.006	-1.5	101660706	382182	Ppp2r3a	0.004	1.6
107050594	77339	9430051O21Rik	0.007	2.3	4920114	78887	Sfi1	0.006	-2.9	6660408	76022	5830417I10Rik	0.004	2.0
104780195	226421	5430435G22Rik	0.007	1.4	6840041	67150	Rnf141	0.006	-1.4	100110152	72640	Mex3a	0.004	1.3
780309	56390	Ssca1	0.007	-1.5	6200504	234515	Inpp4b	0.006	-1.6	2350315	16520	Kcnj4	0.004	-1.8
104780672	319518	4930402E16Rik	0.007	1.5	103830594	331912	E430003D02Rik	0.006	-2.4	105340452	15331	Hmgn2	0.004	1.6
100430132	240817	5830403L16Rik	0.007	1.5	105550341	66171	Pgl5	0.006	1.3	104760601		LOC382585	0.004	1.6
70717	67091	Trappc6a	0.007	1.6	3710670	76080	5830472M02Rik	0.006	-1.4	102320746	27395	Mrpl15	0.004	2.2
4810452	192188	Stab2	0.007	-6.3	2030722	20084	Rps18	0.006	-1.6	103140097	791318	ENSMUSG00000006	0.004	-3.4
4560673	67097	Rps10	0.007	-1.3	7100142	16391	Isgf3g	0.006	-1.3	1990133	67017	2010011I20Rik	0.004	-1.6
4060369	259036	Olfr713	0.007	1.5	4560670	14299	Freq	0.006	-1.7	380600	233280	Nipa1	0.004	-1.9
2030010	18099	Nlk	0.007	-1.4	3840519	72029	Tnrc5	0.006	-1.5	380020	22773	Zic3	0.004	-1.7
6450333	11692	Gfer	0.007	-1.5	106840286	17720	mt-Nd4l	0.006	2.3	103840575	68915	Vars2	0.004	2.6
103170537	329068	A330044H09	0.007	1.3	3830026	12151	Bmi1	0.006	-1.7	104760605	14606	Gin1	0.004	4.1
106590528	319664	E230012J19Rik	0.007	3.3	105720017	17978	Ncoa2	0.006	1.9	5290242	320469	9930014A18Rik	0.004	-1.7
6900048	14423	Galtnt1	0.007	1.4	106860706		C130048M12Rik	0.006	-1.5	101990041	58193	Extl2	0.004	2.7
5290064	55963	Sic1a4	0.007	-1.9	104760484	328232	Glod1	0.006	-1.3	5570717	11883	Arsa	0.004	-1.8
2450039	319182	Hist1h2hb	0.007	2.2	730603	114896	Afg3l1	0.006	-1.5	103840440	66435	Ugcgl2	0.004	2.2
103190288	319949	A130009I22Rik	0.007	2.1	103710435	72318	Pscd4	0.006	2.0	5700136	68240	Rpa3	0.004	-2.0
4670541	68018	Col4a3bp	0.007	-1.5	3520112	68097	Dynll2	0.006	-1.9	2510440	69721	Nkiras1	0.004	2.3
4570632	209131	Snx30	0.007	-3.1	2650136	69215	Sat2	0.006	1.6	103440239	106633	Itih40	0.004	-1.6
104480551	433904	Ociad2	0.007	2.0	104150452	77614	C030044M21Rik	0.006	1.6	102810546		4930425H11Rik	0.004	2.6
104230162		LOC383616	0.007	-1.9	101050619	19255	Ptpn2	0.006	1.7	3360010	75141	Rasd2	0.004	2.0
6020040	12579	Cdkn2b	0.007	1.7	2120333	217340	Rnf157	0.006	-1.4	100630014	50876	Tmod2	0.004	1.7
106760332	107885	Mthfs	0.007	-1.6	4810671	66129	1110018I18Rik	0.006	-1.8	870348	229584	Pogz	0.004	1.6
106380672	319545	D430020J02Rik	0.007	1.6	4060315	53611	Vt1a	0.006	-1.4	102480358	77043	4632433K11Rik	0.004	-1.3
2640494	66448	Mrpl20	0.007	-1.8	102360050	105504	Exoc5	0.006	-1.8	110154	621080	Al429214	0.004	-1.3
4230017	68695	Hddc3	0.007	2.1	610112	333883	Cd59b	0.006	-2.2	106510022	51875	Tmem141	0.004	1.5
100460463	18189	Nrxn1	0.007	-2.1	5220180	12305	Ddr1	0.006	1.7	6840048	110208	Pgd	0.004	-1.5
103130242	108946	Zuz3	0.007	1.4	2650204	105298	Epd1r1	0.006	-1.3	5360291	406222	Krt74	0.004	-1.4
6290452	108832	5430405G05Rik	0.007	-1.6	4920239	71177	4933424B01Rik	0.006	-1.3	6370142	170942	Erd1r1	0.004	7.3
101570021	67647	4930523C07Rik	0.007	1.5	6980128	105203	BC016423	0.006	-1.4	460722	67529	Fgfr1op2	0.004	3.4
100940619	260315	Nav3	0.007	-1.6	6940070	66489	Rpl35	0.006	-1.5	3830736	193452	Zfp184	0.004	-1.5
5340575	69955	Fars2	0.007	-2.1	4200184	219149	Xkr6	0.006	-1.3	100670270	14804	Grid2	0.004	-1.6
5720048	104910	Al132487	0.007	2.1	103830100	320810	E030026E10Rik	0.006	1.6	3140520	70292	Afap1	0.004	-1.8
70167	76582	Ipo11	0.007	-1.5	2850487	66599	Rdm1	0.006	1.5	6020040	12579	Cdkn2b	0.004	1.5
5220333	83603	Elow4	0.007	2.0	6100152	17904	Myf6	0.006	-1.6	102320537	385274	LOC385274	0.004	2.8
105910377	14964	H2-D1	0.007	-3.2	1230110	14155	Fem1b	0.006	-1.4	2450450	212647	Aldh4a1	0.004	2.4
101170725	208943	Myo5c	0.007	-1.5	1570113	13047	Cutl1	0.006	1.3	100990672	76784	Mtlf2	0.004	2.6
101850040	21473	Tcra	0.007	-1.5	5340301	56469	Pias1	0.006	-1.3	104810239	319896	D430047L21Rik	0.004	1.8
2650593	66590	Farsa	0.007	-1.7	2640039	13385	Dlg4	0.006	2.0	2690364	76800	Usp42	0.004	-1.3
360292	11491	Adam17	0.007	-1.6	6590403	54667	Atg8b2	0.006	-1.4	1740372	12266	C3	0.004	-2.1
770025	22592	Erc5	0.007	1.7	1570044	208898	Unc13c	0.006	-1.4	101980601	381293	Kif14	0.004	1.4
1690301	17344	Pias2	0.007	1.5	106510050	218341	Rfesd	0.006	-2.1	1580035	51885	D2Ert435e	0.004	2.1
102120538	75894	Adal	0.007	-3.2	450446	78697	Pus7	0.006	-1.3	101690047	22628	Ywhag	0.004	-1.4
1740239	79043	Spsb3	0.007	1.7	106580491		LOC230896	0.006	-1.3	101500037	13853	Epm2a	0.004	-1.5
101850301	30941	Usp21	0.007	1.4	105080725	105442	B130052P14Rik	0.007	1.9	104010010	104001	Rtn1	0.004	1.8
2690167	319195	Rpl17	0.007	-2.0	2030731	20623	Snrk	0.007	-1.7	102060722		LOC382153	0.004	-1.5
104760441	22750	Zfp9	0.007	3.3	5390632	14184	Fgfr3	0.007	-1.7	100780368	319168	Hist1h2ah	0.004	1.4
2100014	72393	Faim2	0.007	1.3	2570519	12847	Copa	0.007	1.4	3870520	244886	C15orf27	0.004	-1.9
6480601	100155	Al481877	0.007	-1.3	6650348	12807	Hps3	0.007	-1.3	106770707	71637	4930413F20Rik	0.004	-1.4
6200504	234515	Inpp4b	0.007	-1.7	2350079	14969	H2-Eb1	0.007	1.3	6450176	105841	Dennd3	0.004	-1.7
106980504	21367	Cntn2	0.007	1.3	2650687	382571	Kcnf1	0.007	1.8	2940132	68095	Ociad1	0.004	1.8
7100301	16780	Lamb3	0.007	-1.4	2060452	68339	Cdc88c	0.007	1.8	103800541	73989	4930452G13Rik	0.004	1.3
3850358	22271	Upp1	0.007	-1.6	102630288	14257	Flt4	0.007	1.4	101990497	100048572	D130017D19Rik		

4060338	239652	Zfp641	0.008	1.5	2120358	14457	Gas7	0.007	1.8	780600	217473	Ankmy2	0.004	-1.5
1190670	210510	Tdrd6	0.008	-1.4	70687	319149	Hist1h3d	0.007	1.4	1570450	234967	Sic36a4	0.004	-1.5
5700092	12846	Comt	0.008	1.6	103060093	73490	Milpol1	0.007	1.3	100940168	71517	9030624I02Rik	0.004	-1.6
60746	56353	Rybp	0.008	1.5	5890487	219151	Scara3	0.007	1.9	104560114	319957	A830061P03Rik	0.004	-2.0
104610411	214305	1600002004Rik	0.008	1.5	102900619	56194	Prpf40a	0.007	2.2	70725	57813	Tk2	0.004	-1.5
100460341	72386	2610035D17Rik	0.008	2.2	4280301	54003	Neil2	0.007	-1.7	3290347	58802	Kcnmb4	0.004	-1.5
1940605	74098	0610037L13Rik	0.008	-1.5	4570270	16561	Kif1b	0.007	-1.5	4200446	72482	Acdb6	0.004	-1.3
1940463	68077	Giltscr2	0.008	-1.4	2680369	107476	Acaca	0.007	2.1	105720136	382930	LOC382930	0.004	1.4
6220164	12286	Cacna1a	0.008	1.3	103440168	236082	Dhrsx	0.007	2.6	107050279	50876	Tmod2	0.004	2.0
6130180	11610	Agtrap	0.008	3.7	360497	56335	Mettl3	0.007	1.7	1690242	67887	Tmem66	0.004	1.3
101230100	232333	Slc6a1	0.008	-2.0	2120066	97820	4833439L19Rik	0.007	-1.4	6020286	13383	Dlg1	0.004	1.6
100840184	17433	Mobp	0.008	4.0	4560528	14904	Gtpbp1	0.007	-1.4	6760450	105501	Abhd4	0.004	2.1
105700286	68988	Prpf31	0.008	-1.8	6760673	57443	Fbxo3	0.007	-1.4	1340092	12268	C4b	0.004	-2.2
106510082	319290	A430091L06Rik	0.008	1.8	4730408	68436	Rpl34	0.007	-1.3	103800348	76568	1500035H01Rik	0.004	-1.6
104560091	211712	Pcdh9	0.008	-2.2	6290403	12288	Cacna1c	0.007	-1.4	102900398	77696	6720484G13Rik	0.004	2.0
3190142	194309	Vps37d	0.008	-1.3	102030301	69269	Scnm1	0.007	2.3	101400026	193740	Hspa1a	0.004	2.2
6980050	72585	Lypd1	0.008	-4.4	100540373	94040	C1mn	0.007	3.3	103390025	68427	Sic39a13	0.004	-2.6
5290068	78232	Trappc6b	0.008	-1.3	100380286	110920	Stch	0.007	1.4	104070372	320937	E430014L09Rik	0.004	2.4
2100167	18824	Pip2	0.008	-1.4	7040014	67053	Rpp14	0.007	1.6	2570082	20019	Rpo1-4	0.004	5.0
101410471	216393	D930020B18Rik	0.008	-1.5	6020100	17991	Ndufa2	0.007	-1.5	101940093	53417	Hif3a	0.004	2.5
104540484	20585	Hltf	0.008	1.4	4050239	14824	Grrn	0.007	1.3	106510692	70515	5730407I07Rik	0.004	-1.8
105220129	241589	D430041D05Rik	0.008	2.5	5130369	224705	Vps52	0.007	-1.3	1690369	230751	1810007P19Rik	0.004	-1.3
100110707	545156	Kalrn	0.008	1.4	103610524	26931	Ppp2r5c	0.007	1.3	4780056	56449	Csda	0.004	1.6
540717	20455	Sif1	0.008	-1.7	5270070	399510	Map4k5	0.007	1.5	107200161	22239	Ugt8a	0.004	1.4
2350538	66625	Sfrs18	0.008	1.3	4810452	192188	Stab2	0.007	-5.0	1570156	67894	1810055E12Rik	0.004	-2.0
5890215	66190	Phca	0.008	-2.0	6220458	14758	Gpm6b	0.007	1.6	3190168	320133	6030445D17Rik	0.004	-1.5
102510156	15129	Hbb-b1	0.008	2.8	150113	353156	Egfl7	0.007	2.2	840717	14794	Spsb2	0.004	-1.3
1050193	22041	Trf	0.008	2.3	105690180	66804	8430408I09Rik	0.007	1.4	2760066	60322	Chst7	0.004	-1.5
2810576	69159	Rheb1	0.008	-1.3	2370605	210376	Mtmr9	0.007	-1.3	4210315	52846	D1Bwg0212e	0.004	-1.8
1090575	320706	9830001H06Rik	0.008	1.8	100630725	75135	4930526I15Rik	0.007	1.3	4590594	101023	Zfp513	0.004	-1.5
104060253	338362	Ust	0.008	1.9	7040576	68969	Eif1b	0.007	1.6	2260035	241919	Sic7a14	0.004	-2.7
450471	66123	1110006O24Rik	0.008	1.3	2340070	68607	Serhl	0.007	-1.6	2450364	21956	Tnnt2	0.004	1.8
103940019	27215	Azi2	0.008	1.3	103840440	66435	Ugcgl2	0.007	1.8	60132	13685	Eif4ebp1	0.004	-1.6
7050687	65114	Vps35	0.008	2.1	101740110	LOC280487	0.007	-2.2	104070435	69825	2010001H16Rik	0.004	2.3	
510528	17245	Mdm1	0.008	1.3	5340725	77877	6030458C11Rik	0.007	-2.0	106980377	170574	Sp7	0.004	1.5
103060520	319711	D230029C05Rik	0.008	1.8	6020040	12579	Cdkn2b	0.007	1.7	1450537	17751	Mt3	0.004	2.4
104540438	14897	Trip12	0.008	1.4	106290176	94109	Csmd1	0.007	1.5	3850059	235599	6430571L13Rik	0.004	-1.6
101050647	17475	Mpdz	0.008	1.4	2640079	13853	Epm2a	0.007	-1.4	100360411	381607	LOC381607	0.004	1.4
3170095	12960	Crybb1	0.008	1.5	6450020	100669	9930105H17Rik	0.007	1.5	4200176	229007	Zgpat	0.004	-1.4
4050113	19882	Mst1r	0.008	-1.3	100840338	235439	Herc1	0.007	1.3	3940064	30954	Siva1	0.004	-1.4
4210538	233274	Slglech	0.008	1.5	105670059	71921	2310058N22Rik	0.007	2.5	106510592	LOC386200	0.004	-1.4	
3710139	235461	B230380D07Rik	0.008	1.3	580040	21887	Tle3	0.007	-1.5	104810494	269774	Aak1	0.004	1.4
105690750	19274	Ptprm	0.008	1.3	100770070	320856	9530009M10Rik	0.008	2.0	510427	72465	Zfp131	0.004	1.4
1090632	50768	Dlc1	0.009	2.0	103440239	106633	Ift140	0.008	-1.9	1940112	12322	Camk2a	0.004	1.6
106450576	17064	Cd93	0.009	1.9	3940162	ILM3940162	0.008	-1.6	101580731	74300	1700096K11Rik	0.004	1.3	
102030451	21761	Morf4l1	0.009	-1.9	2340619	28019	Ing4	0.008	-1.3	4920575	17428	Mnt	0.004	1.8
6620270	58187	Cldn10	0.009	2.4	101780504	54393	Gabbr1	0.008	-3.1	1740021	192897	Itgb4	0.004	-1.6
780450	66384	Srp19	0.009	-1.4	3940504	12896	Cpt2	0.008	-1.3	6590040	66314	Tpd52l2	0.004	-1.9
1740603	57377	Gcs1	0.009	-1.5	4150465	207704	Gtpbp10	0.008	-1.4	2900433	59043	Vsb2	0.004	1.7
104010390	78605	C330011F01Rik	0.009	2.0	4010044	268395	Mpg	0.008	1.4	104070184	216001	Chara1	0.004	1.6
104120162	382040	LOC382040	0.009	-3.1	4570037	240514	Ccdc85b	0.008	-1.7	104540167	276950	Sifn8	0.004	-1.6
840040	233912	Arm5	0.009	-1.4	102260605	E430030L01Rik	0.008	-2.9	4480092	12804	Cntfr	0.004	3.4	
6100601	382913	Neil2	0.009	-1.6	3850471	69232	Qrich1	0.008	-1.4	100780037	20168	Rtn3	0.004	1.6
105910364	233103	4931406P16Rik	0.009	1.6	104670022	94062	Mrpj3	0.008	1.9	3120082	218734	3830406C13Rik	0.004	-1.8
1940056	68520	Zfyve21	0.009	-1.4	2680242	14804	Grid2	0.008	-1.3	3450338	66447	Mgst3	0.004	-2.5
4050372	230700	Foxj3	0.009	1.3	5290019	11951	Atpsg1	0.008	-1.8	4670484	100383	Bsdcl	0.004	-1.3
6840056	22163	Tnfrsf4	0.009	1.4	610168	67070	Lsm14a	0.008	-1.6	101940670	223739	5031439G07Rik	0.004	1.9
4590315	66231	Thoc7	0.009	-1.8	100430253	102141	Snx25	0.008	-1.5	1660035	59022	Edf1	0.004	-1.4
106650541	320587	A230069A22Rik	0.009	2.6	4730537	74143	Opa1	0.008	-1.5	106840546	18514	Pbx1	0.004	-1.6
6980398	12443	Ccnd1	0.009	2.9	6350088	192196	Luc7l2	0.008	-1.6	4120736	70439	Taf15	0.004	-1.8
102570064	71452	Ankrd40	0.009	1.4	4920598	241263	Gpr158	0.008	2.1	100450348	241424	A230052E19Rik	0.004	-1.3
2630471	20605	Sstr1	0.009	-2.4	540184	218214	Aof1	0.008	-1.3	4480088	67446	Dusp28	0.005	-1.5
940292	70873	4921517L17Rik	0.009	-1.5	103130471	13859	Eps15l1	0.008	2.5	4730494	75605	Jarid1b	0.005	2.1
106520037	77877	6030458C11Rik	0.009	-1.3	100450025	76302	Pcnp	0.008	1.3	70064	50773	Nt5c	0.005	-2.4
2030048	69487	2310003L22Rik	0.009	2.4	104150653	67544	4932442K08Rik	0.008	-1.4	105690402	68355	2010204K13Rik	0.005	1.3
106770039	68971	1500001M20Rik	0.009	1.3	2350082	70266	Ccbl1	0.008	-1.4	380131	268510	Mgat5b	0.005	1.3
6660692	382073	Ccdc84	0.009	-1.6	2650458	233065	Alkbh6	0.008	1.4	107040711	LOC386200	0.005	-1.3	
5360372	232984	B3gnt8	0.009	-1.6	1570064	57344	As3mt	0.008	-1.8	4210576	140919	Sic17a6	0.005	-3.2
3870161	12569	Cdk5r1	0.009	-1.4	5860035	20334	Sec23a	0.008	-1.6	106290044	56717	Frap1	0.005	-1.8
6620048	102614	Rpp25	0.009	3.0	1240300	71991	Ercr8	0.008	1.9	6510161	17346	Mknk1	0.005	1.5
102320372	77810	A930015D03Rik	0.009	-1.8	2120605	232086	Tmem150	0.008	-1.4	3830722	246317	Neto1	0.005	-2.2
103870538	320131	9030208C03Rik	0.009	-1.6	5080121	107029	Me2	0.008	-1.9	105130577	108071	Grrm5	0.005	1.6
2640215	20908	Stx3	0.009	-1.3	105900112	18514	Pbx1	0.008	-1.3	106220040	68310	Zmym1	0.005	1.8
106100619	15423	Hoxc4	0.009	1.3	100870458	66970	Ssbp2	0.008	-2.6	870446	74718	Snx16	0.005	-1.7
1580131	227634	Camsap1	0.009	1.5	102690050	327958	Pitpnm3	0.008	2.0	4590017	53817	Bat1a	0.005	-1.6
104060037	LOC380770	0.009	-1.4	110692	12257	Tspo	0.008	-1.4	3870576	218693	Paip1	0.005	-3.6	
130066	20289	Scx	0.009	-1.4	2450039	319182	Hist1h2bh	0.008	1.8	104610039	69504	2310001H12Rik	0.005	1.6
870348	229584	Pogz	0.009	1.7	106130400	14391	Gabpb1	0.008	2.2	5130026	67441	Isoc2b	0.005	-1.5
2470064	76080	5830472M02Rik	0.009	1.4	105690433	19217	Ptger2	0.008	1.3	102340400	LOC380665			

4280487	17153	Mal	0.009	2.2	102680132	56036	Ccnl2	0.008	1.3	3940670	76482	3110002H16Rik	0.005	-1.3
7100440	64209	Herpud1	0.009	2.1	102650403	68923	1190001L17Rik	0.008	-1.3	2450603	213019	Pdlim2	0.005	1.9
1190037	215303	Camk1g	0.009	1.6	106100044	69288	Rhobtb1	0.008	1.3	6940593	21927	Tnfrsf1	0.005	-1.4
3120091	17886	Myh9	0.009	-1.5	100520053	67785	Zmyym4	0.008	-1.3	100070114	58226	Cacna1h	0.005	1.4
5290048	76459	Car12	0.009	-1.4	940685	226412	R3hdm1	0.008	-1.3	780136	214489	BC003965	0.005	-1.4
7000408	12044	Bcl2a1a	0.009	-1.7	6370044	110842	Etfa	0.008	-1.3	103850064	14751	Gpi1	0.005	2.0
380706	21334	Tac2	0.01	-1.7	2450110	19276	Ptpn22	0.008	-1.7	105670433		ILM105670433	0.005	-1.3
101410408	382793	Mtx3	0.01	1.5	6940408	53893	Nudt5	0.008	-1.4	6420035	71538	Fbxo9	0.005	1.4
510398	27280	Phlda3	0.01	2.2	104810053	226180	Ina	0.008	-4.3	102120538	75894	Adal	0.005	-3.6
103120008	380916	Lrch1	0.01	1.3	105720707	20466	Sin3a	0.008	1.8	4810253	27279	Tnfrsf12a	0.005	-1.9
1340390	17285	Meox1	0.01	-1.3	940102	213649	Arhgef19	0.008	2.1	1230750	68198	Ndufb2	0.005	-1.6
1500541	72399	Brp	0.01	1.7	6860292	11554	Adrb1	0.008	-1.4	7100091	20359	Sema6b	0.005	-1.6
5340075	11492	Adam19	0.01	-2.0	100050592	74570	Zkscan1	0.009	-2.2	1850168	66061	0610012D17Rik	0.005	-1.9
5910735	56149	Grasp	0.01	-1.7	105360020		2810017I02Rik	0.009	-1.8	2340707	30805	Sic22a4	0.005	1.6
102060735	67166	Arl8b	0.01	1.4	6200278	22348	Sic32a1	0.009	2.2	101050619	19255	Ptpn2	0.005	1.8
106550551	74025	Nphp3	0.01	-2.0	1450239	12861	Cox6a1	0.009	-1.4	3710484	53857	Tuba8	0.005	-1.6
103800373	319366	C920008N22Rik	0.01	1.8	2230280	94093	Trim33	0.009	-1.4	26400670	103844	Al842396	0.005	-1.4
105690435	51813	Ccnc	0.01	-1.6	103840487	72608	2700069I18Rik	0.009	1.3	6590066	104759	Pld4	0.005	-1.5
6510537	99412	Golg2a	0.01	-1.4	5670152	270135	BC038156	0.009	-1.3	3140037	19298	Pex19	0.005	1.5
6130161	55949	Eef1b2	0.01	-1.6	1570156	67894	1810055E12Rik	0.009	-1.8	106450576	17064	Cd93	0.005	1.9
100070577	66645	Pspc1	0.01	-1.8	1090575	320706	9830001H06Rik	0.009	1.4	3940164	208922	Cpeb3	0.005	-1.3
105390373	331033	2900079G21Rik	0.01	1.4	4230048	16477	Junb	0.009	-1.7	103120706	73184	3110047M12Rik	0.005	1.9
103710647	75538	1700021P22Rik	0.01	-1.7	6760095	21672	Prdx2	0.009	-1.7	2060427	30957	Mapk8ip3	0.005	3.0
4210110	18185	Nrl	0.01	-1.3	2100348	12564	Cdh8	0.009	1.9	6180088	268709	BC055107	0.005	2.1
5360484	57440	Hdh3	0.01	1.7	2940044	66353	2310007A19Rik	0.009	1.4	4060411	72205	Emil2	0.005	-1.9
2680440	110557	H2-Q6	0.01	-2.1	104570364	17722	mt-Nd6	0.009	2.0	103140152	76626	Msi2	0.005	1.6
3440041	224794	Enpp4	0.01	1.6	6110711	56376	Pdlim5	0.009	-1.5	730471	73075	Ppil6	0.005	-1.8
101450020		LOC243823	0.01	2.5	104120463	319716	6430520M22Rik	0.009	-2.6	3830692	73299	1700041G16Rik	0.005	-1.6
106900458	234374	Ddx49	0.01	1.5	105720471	73094	Sgip1	0.009	1.8	101850609	13418	Dnajc1	0.005	1.5
6550746		Hspa8	0.01	-2.1	1740092	67427	Rps20	0.009	-1.3	4120441	66711	Sbds	0.005	-1.6
6020722	17441	Mog	0.01	2.9	100730132	235497	Leo1	0.009	1.9	106100411	241764	L3mbtl	0.005	3.1
6550450	21804	Tgfb1i1	0.01	-1.5	1580168	71684	Rbm43	0.009	-1.7	6900673	234094	Arhgef10	0.005	3.5
5690047	50776	Polg2	0.01	-1.3	1740121	19885	Rorc	0.009	-1.3	104540670	70807	Arhgef10	0.005	1.7
3190041	97212	Hadha	0.01	-1.6	6770301	27277	Golga5	0.009	-1.4	103990152		LOC384742	0.005	1.8
1500333	70510	Rnf167	0.01	-1.6	2630497	18810	Plec1	0.009	2.1	4480411	13384	Mpp3	0.005	-1.8
610338	330401	Tmcc1	0.01	-2.0	6220253	110959	Nudt19	0.009	2.4	103840180	68187	4921533L14Rik	0.005	1.9
5900204	227615	C730025P13Rik	0.01	-2.2	3830022	24050	3303244800	0.009	-1.5	101740121	226414	Dars	0.005	-1.3
102680537	67295	Rab3c	0.01	1.4	100780095	76846	Rps9	0.009	-1.6	104070577	73451	1700065013Rik	0.005	1.3
3170463	11865	Arntl	0.01	-1.8	104730358	320780	9430029E18Rik	0.009	-1.7	6660411	67889	Rbm18	0.005	1.4
70164	56459	Sae1	0.01	-1.6	6420450	17183	Matn4	0.009	-1.4	104730632	223658	D330001F17Rik	0.005	1.7
6220273	235611	Pknox1	0.01	-1.8	6860722	239408	Tmem74	0.009	1.7	580170	226251	Abilim1	0.005	1.6
101660706	382182	Ppp2r3a	0.01	1.8	1770528	19268	Ptpnrf	0.009	-1.3	2630403	76219	6530401D17Rik	0.005	-1.5
5570504	140780	Bmp2k	0.01	-1.4	2650440	16998	Ltbp4	0.009	-1.6	1500333	70510	Rnf167	0.005	-1.4
5900577	19275	Ptpn4	0.01	-1.3	106110136	16590	Klt	0.009	-1.3	3360039	14057	Sfxn1	0.005	-1.3
2320204	225872	Npas4	0.01	-1.4	4850162	268373	Ppia	0.009	-1.3	2640403	319822	Smyd4	0.005	-1.6
4210520	23945	Mgll	0.01	1.5	2470301	15467	Eif2ak1	0.009	1.5	5910129	73106	Prss1	0.005	-1.3
2810494	224132	Dirc2	0.01	1.4	1570520	110911	Cds2	0.009	-1.7	1770286	83703	Dbr1	0.005	-1.4
1990603	83924	Gpr137b	0.01	-1.5	101400300	73229	3110052M02Rik	0.009	-1.6	1170286	80890	Trim2	0.005	-1.6
101980725	16987	Lss	0.01	1.4	1780121	100434	Sic44a1	0.009	-1.5	540292	219249	Tdrd3	0.005	-1.9
3290707	338372	Map3k9	0.01	-1.5	3060279	69608	Sec24d	0.009	1.8	105390112	71875	2300010F08Rik	0.005	1.4
102690671	67392	4833420G17Rik	0.01	1.9	105340458	12569	Cdk5r1	0.009	1.3	4060605	78688	Nol3	0.005	-1.5
100670707	338367	Myo1d	0.01	1.5	3850129	70652	Tmem144	0.009	-1.5	10260286	15531	Ndst1	0.005	-2.0
6520112	70508	Bbx	0.01	1.5	104920563	13347	Dffa	0.009	-2.3	5270136	13808	Eno3	0.005	1.6
5720372	73830	Eif3k	0.01	-2.0	4120403	72707	Rps11	0.009	-1.4	5890112	12036	Bcat2	0.005	-2.0
5290575	67211	Armc10	0.01	-1.4	6350008	20384	Sfrs5	0.009	-1.5	6040431	64384	Sirt3	0.005	-1.5
102690438	78610	Uvrug	0.01	-2.0	100360711	21418	Tcfap2a	0.009	1.3	6760739	18861	Pms2	0.005	-1.7
7050088	73683	Atg16l2	0.01	-1.5	4920551	20170	Hps6	0.009	2.4	100360364	109880	Braf	0.005	1.3
102060315	230249	Ai341480	0.01	2.0	6620129	215690	Nav1	0.009	1.5	106770170	382091	LOC382091	0.005	1.4
4050403	66257	Nicn1	0.01	-1.4	102640600	67781	Ifi2	0.009	2.0	104610411	214305	1600002O04Rik	0.005	1.3
5290717	226791	Lypla1	0.01	-1.5	780441	320635	Cyb5r2	0.009	1.3	5220348	212427	A730008H23Rik	0.005	2.6
2060095	107047	Tnfrsf5ip1	0.01	-1.4	360110	17175	Masp2	0.009	1.5	5700131	362634	C1qg	0.005	2.6
730338	215819	Nhs1f	0.01	-1.3	4780079	68090	Yifia	0.009	-1.3	103130593	66209	1110054A005Rik	0.005	1.5
6520717	18567	Pdcd2	0.01	-1.3	104120332		LOC214545	0.009	1.4	105390373	331033	2900079G21Rik	0.005	1.8
106020390		LOC383579	0.01	-1.3	6450161	12167	Bmpr1b	0.009	1.6	3140026	17967	Ncam1	0.005	-1.4
100360347	77559	Agf1	0.01	1.4	4810575	171429	Sic26a6	0.009	-1.4	2230373	66230	Mrps28	0.005	-1.5
1090035	13518	Dst	0.01	2.0	103520075	76568	1500035H01Rik	0.009	1.8	5910324	232441	Rerg	0.005	-1.5
101570735	381163	D330025A21Rik	0.01	1.4	4780193	207952	Klhl25	0.009	-1.4	2360750	13871	Erc2c	0.005	-2.1
102650048	238673	Zfp367	0.01	1.4	105270390	268396	Sh3pdx2b	0.009	1.8	2360088	319666	D630014A15Rik	0.005	1.3
5910347	78925	Srd5a1	0.01	1.4	5550368	56807	Scamp5	0.009	-2.0	100070215		D030041G16Rik	0.005	6.6
106110072	14349	Fv1	0.01	2.2	2350132	14559	Gdf1	0.009	1.8	1240603	209225	Zfp710	0.005	-1.7
610632	13998	Fgd6	0.01	-1.5	540195	114716	Spred2	0.009	-1.3	103870450	269966	Nup98	0.005	1.6
2810131	20378	Frzb	0.01	2.7	2900156	213753	Zfp598	0.009	-1.3	6420168	237711	C230094A16Rik	0.005	1.3
2350195	70769	Nolc1	0.01	-1.3	100780433	12464	Cct4	0.009	1.5	100460487	70477	5730407O05Rik	0.005	1.4
6660132	72748	Hdhdb3	0.01	-2.4	2570019	66505	Zmynd11	0.009	-1.5	3060176	68018	Col4a3bp	0.005	-1.3
1240162	24051	Sgcb	0.01	-1.6	102360369	74757	5830416I19Rik	0.009	1.6	5910292	12260	C1qg	0.005	2.5
104540338	69188	Mll5	0.01	3.2	2940397	235169	Foxred1	0.009	1.6	2760563	21951	Tnks	0.005	1.7
5860133	102058	Exoc8	0.01	-1.5	2340102	225283	BC021395	0.009	-1.7	104070020	320495	A130090K04Rik	0.005	-3.0
101690609	72650	2810006K23Rik	0.01	-1.3	106770731		LOC327995	0.009	-1.7	6040576	231642	Alkbh2	0.005	-1.9
1340286	93960	Nkd1	0.01	1.3	6900673	234094	Arhgef10	0.009	2.2	2640300	14739	Edg5	0.005	-1.7
101580128	83671	Sytl2	0.01	2.6	2470086	20091	Rps3a	0.009	1.6	5690528	17427	Mns1</		

105720066	12480	Cd1d2	0.01	1.3	4570451	216150	Cdc34	0.01	-1.3	2230093	17084	Ly86	0.005	-1.7
101400162	320516	A730060N03Rik	0.01	-1.9	6590020	74610	Abcb8	0.01	-1.7	2630706	57423	Atp5j2	0.006	-1.4
6350332	68879	Pprf6	0.01	-1.5	101780546	223739	5031439G07Rik	0.01	1.8	103190047	78902	4833447P13Rik	0.006	1.6
105390494	320749	D630041G03Rik	0.01	1.4	2970538	320854	9030203C11Rik	0.01	1.3	104050095		sclo00554.1_19	0.006	1.9
3190053	228662	Btbd3	0.01	-1.8	2060671	240880	Scyl3	0.01	-1.4	3780497	58188	Vstm2b	0.006	-1.7
4010044	268395	Mpg	0.01	1.4	2510487	19305	Pex5	0.01	-1.5	4670672	214359	Tmem51	0.006	-2.0
104200750	381373	Sp9	0.01	1.3	2360324	52538	Acaa2	0.01	-1.4	6840435	72780	Rspo3	0.006	-1.5
5690093	75599	Pcdh1	0.01	-1.5	1850204	66521	Rwdd1	0.01	-1.3	6350377	56215	Acin1	0.006	-1.5
2690176	54343	Atf7ip	0.01	1.7	4230110	108073	Grm7	0.01	-3.2	100610408	27204	Syn3	0.006	1.5
101690180	12928	Crk	0.01	-1.6	106590739	14211	Smc2	0.01	1.4	104010390	78605	C330011F01Rik	0.006	1.6
2030170	70380	Mospd1	0.01	-1.6	2510142	23882	Gadd45g	0.01	-1.3	2850035	319749	C230078M08Rik	0.006	1.5
100730369	72689	2810047F03Rik	0.01	1.3	1240168	12540	Cdc42	0.01	-1.3	6420136	18600	Padi2	0.006	2.7
5290373	56348	Hsd17b12	0.01	-1.3	360292	11491	Adam17	0.01	-1.3	105690524	54722	Dfna5h	0.006	2.2
1090372	20448	St6galnac4	0.01	1.4	4230025	84113	Ptov1	0.01	-1.4	5910131	76789	2410129H14Rik	0.006	2.6
1050546	67388	1110008F13Rik	0.01	-1.6	104760411	14312	Brd2	0.01	-1.6	940239	20872	Stk16	0.006	-1.4
6840180	59038	Pxmp4	0.01	-1.4	3440300	30927	Snai3	0.01	1.3	3520451	68352	0610012D14Rik	0.006	-1.6
2640039	13385	Dlg4	0.01	3.6	103710132	320152	4930412C18Rik	0.01	1.4	105220427	15530	Hspg2	0.006	1.7
104210524	19735	Rgs2	0.01	-1.5	102360088	20732	Spint1	0.01	2.3	104050563	19301	Pxmp2	0.006	4.0
1660253	232976	Zfp574	0.01	-1.3	3830181	18657	Pgr	0.01	-1.6	100770672	71588	9130009M17Rik	0.006	1.7
1780040	20182	Rxrb	0.01	1.3	7050576	13423	Dnase2a	0.01	-1.6	3850100	21916	Tmod1	0.006	1.6
5130685	67800	Dgat2	0.01	1.8	100460433	382084	LOC382084	0.01	-1.5	2650053	57247	Zfp276	0.006	1.4
103170278	105651	Ppp1r3e	0.01	1.7	4280022	26895	Cops7b	0.01	-1.5	6290398	18810	Plec1	0.006	-1.6
460408	18189	Nrxn1	0.01	1.3	3990139	77116	Mtmr2	0.01	-1.5	105720372	78928	Pigt	0.006	-2.2
2470164	230649	Atpa1	0.01	-1.7	2360100	94190	Ophn1	0.01	-1.3	7050692	233335	Dmn	0.006	-2.1
3190132	66482	Exoc2	0.01	1.6	2230102	14349	Fv1	0.01	-1.7	2350717	271711	Tmem169	0.006	-1.5
102450435	67434	5730557B15Rik	0.01	1.5	4850093	269180	Inpp4a	0.01	-1.6	6940458	21961	Tns1	0.006	-3.3
2630672	21766	Tex261	0.01	-1.6	104730408	16956	Lpl	0.01	1.4	5420402	319180	Hist1h2bf	0.006	2.7
4780242	66873	1200009O22Rik	0.01	-1.7	3830575	66170	Chchd5	0.01	1.3	6760224		Ptp4a2	0.006	-1.2
3130014	26889	Cln8	0.01	1.3	106180300	210162	Zkscan2	0.01	1.3	6760010	235527	Plscr4	0.006	2.3
4230270	14630	Gclm	0.01	1.5	6040253	14645	Glul	0.01	1.9	104670037		A830085I22Rik	0.006	2.6
2450139	19057	Ppp3cc	0.01	1.5	105550750	54709	Eif3i	0.01	1.3	107100673	231148	Ablm2	0.006	2.0
1980079	71340	Riok1	0.01	-1.4	2650092	329178	BC042720	0.01	-1.5	104480368	72899	Macro2	0.006	1.8
4920575	17428	Mnt	0.01	1.3	460731	72085	Osgep1	0.01	-1.4	102340332	226562	Bat2d	0.006	-3.1
104210154	12444	Ccnd2	0.01	1.3	3850440	27878	Tada1l	0.01	1.9	5690484	66729	4921520G13Rik	0.006	-2.0
670471	107999	Gtpbp6	0.01	-1.4	70528	69305	Dcps	0.01	-1.3	2810112	114143	Atp6v0b	0.006	1.3
610364	17441	Mog	0.01	2.6	103290309	77967	A930036I15Rik	0.01	1.9	4280750	72611	Zfp655	0.006	-1.3
2100204	234388	Ccdc124	0.01	2.2	101780215	213582	Mtap9	0.01	2.4	6400706	12575	Cdkn1a	0.006	1.8
103130333	320700	A930033H14Rik	0.01	-1.3	2630692	18451	Affa1	0.01	1.3	102690017	29809	Rabgap1l	0.006	-1.4
4810056	67894	1810055E12Rik	0.01	-1.3	100780731	17355	Afh1	0.01	1.5	101340037	75743	6820401H01Rik	0.006	-1.6
6770672	75533	Nme5	0.01	-1.6	1990672	71233	4933434I06Rik	0.01	1.5	101850452	271697	Als2cr7	0.006	1.4
5570717	11883	Arsa	0.01	-1.8	101580463		LOC209182	0.01	-2.6	2370066		2410089E03Rik	0.006	-1.3
770279	230119	Zbtb5	0.01	-1.4	5340142	76257	Slc38a3	0.01	-1.8	102680168	22201	Ube1x	0.006	2.4
5270279	67905	Ppm1m	0.01	1.8	100050397	68968	Cdan1	0.01	1.5	5720092	207278	Fchs2d	0.006	1.7
101580463		LOC209182	0.01	-2.2	7000398	28080	Atf5o	0.01	-1.4	100060463	319545	D430020I02Rik	0.006	-1.3
2370112	239393	Lrp12	0.01	1.5	104540524	66596	Gtp3a	0.01	1.5	5700044	70350	Basp1	0.006	-1.5
5340484	14312	Brd2	0.01	-1.7	2120193	28114	Nsun2	0.01	-1.6	520403	75812	Tasp1	0.006	3.3
2650541	57742	Abhd1	0.01	-1.2	102900017	52535	Mett11d1	0.01	-1.3	101770014	76487	Ppp1r3g	0.006	1.5
3440463	69852	Tcf23	0.01	-1.3	3120086	170757	Eltid1	0.01	2.1	2230288	320208	Tmem91	0.006	-1.6
3780082	225994	BC016495	0.01	1.6	102630411		ILM102630411	0.01	-1.6	3710044	101943	Sf3b3	0.006	1.7
104210471	218975	C130032J12Rik	0.01	2.0	2510139	76499	Clasp2	0.01	-1.8	102100341	72750	Als2cr13	0.006	-1.3
100510059	18647	Pftk1	0.01	-2.6	7000601	60344	Fign	0.01	1.5	105220129	241589	D430041D05Rik	0.006	2.7
102450138	66407	Mtrp315	0.01	-1.5	6760746	227331	Tnrc15	0.01	-1.4	430538	23964	Od2	0.006	-1.9
5220497	18718	Pip5k2a	0.01	2.2	6510292	18515	Pbx2	0.01	-1.5	101170338	19205	Ptbp1	0.006	1.3
104560609	77087	Ankrd11	0.01	1.4	2260020	110279	Bcr	0.01	1.8	6590020	74610	Abcb8	0.006	-1.9
1940044	217835	Rin3	0.01	-1.4	103780358	320163	4930525G20Rik	0.01	2.0	101400750	320313	8030466E21Rik	0.006	-1.9
2850670	433759	Hdac1	0.01	1.9	6980400	23922	Jtb	0.01	-1.4	105910400	75894	Adal	0.006	-1.4
3870446	67101	2310039H08Rik	0.01	-1.4	3780672	57776	Ttyh1	0.01	-1.6	102510161		LOC381447	0.006	1.3
1580086	50769	Atp8a2	0.01	1.5	100460068	68699	1110033F14Rik	0.01	1.5	360008	12854	Cort	0.006	2.2
3580010	228880	Prkcbp1	0.01	1.6	106590372	636791	EGG36791	0.01	1.4	106400484	70947	4921537I17Rik	0.006	-1.6
105570112	78928	Pigt	0.01	-1.7	2850136	21826	Thbs2	0.01	-1.4	3190523	74766	Yipf2	0.006	-1.9
3360156	15374	Hn1	0.01	-1.7	6200010	233833	Tnrc6a	0.01	-1.3	104850711	27395	Mrp1l5	0.006	1.6
103290161	329165	Abi2	0.01	-1.6	2810390	20720	Serpine2	0.01	1.6	460092	66184	Rps4y2	0.006	3.7
103120435	228829	Phf20	0.01	1.3	107050309	13386	Dlk1	0.01	2.1	5890066	13143	Dapk2	0.006	-1.5
6620494	320632	Ascc3l1	0.01	-1.5	5270722	83766	Actl6b	0.01	-1.5	1190537	238377	Gpr68	0.006	1.8
3610500	68311	Lypd2	0.01	-1.6	1780731	13527	Dtna	0.01	-1.6	1580446	72635	Lins2	0.006	-1.7
2360014	353187	Nr1d2	0.01	2.2	101190717	73288	Ccdc132	0.01	1.6	103140092	83814	Nedd4l	0.006	1.3
5690692	192351	Fbxo6b	0.01	-1.5	100460279		D030019N20Rik	0.01	1.7	6510064	67804	Snx2	0.006	-1.4
102690008	15018	H2-Q7	0.01	1.3	2450377	17308	Mgat1	0.01	-1.4	2690594	242291	Impad1	0.006	-1.6
100670047	71769	Bbs10	0.01	1.3	1940035	13929	X83328	0.01	-1.5	4810465	216810	Tom1l2	0.006	1.7
1450603	319263	Pcmtd1	0.01	1.4	6100537	223870	Senp1	0.01	-1.4	6400035	225998	Rorb	0.006	-1.8
1690706	68079	Pdcd2l	0.01	-1.3	3940619	74244	Atg7	0.01	-1.3	5360450	16909	Lmo2	0.006	-1.6
2260035	241919	Slc7a14	0.01	-2.8	3390014	18582	Pde6d	0.01	-1.3	4480181	105835	Sgsm3	0.006	-1.8
3140725	70113	2010001J22Rik	0.01	-1.3	100450750	70592	5730480H06Rik	0.01	1.4	105290347	320268	B930095G15Rik	0.006	-1.8
50139	26430	Parg	0.01	1.3	2100504	320339	6720469N11Rik	0.01	-1.4	5130673	226777	C130074G19Rik	0.006	-1.3
105690008	114874	Dhdh1	0.01	1.4	102470136	330096	D830007B15Rik	0.01	-1.4	5340685	54325	Elov1	0.006	1.7
103840180	68187	4921533L14Rik	0.01	1.7	101190538	12183	Bpgm	0.01	-1.7	4210538	233274	Siglech	0.006	1.4
107000184	69219	Ddah1	0.01	1.6	730411	55943	Stx8	0.01	-1.3	104540292	52335	D8Ert5d587e	0.006	1.7
2120717	229503	BC023814	0.01	1.4	5720341	59045	Stard3	0.01	-1.3	105220487		LOC331102	0.006	1.7
5130411	229357	Gpr149	0.01	1.5	6940292	320319	E330018D03Rik	0.01	-1.4	106040577	72306	Zfp777	0.006	1.3
100670278	73812	4930402C16Rik	0.01	1.5	106370114	210126	Lpp	0.01	-1.3	104730671	77630	Prdm8	0.006	-1.4
100360082	56086													

102680047	75739	Mpp7	0.01	1.6	1580452	12048	Bcl2l1	0.01	-1.7	6220411	71760	Agxt2l1	0.006	3.0
60647	84652	Drctnnb1a	0.01	4.4	6420136	18600	Padl2	0.01	1.6	3940050	13349	Darc	0.006	2.3
3520079	14782	Gsr	0.01	-1.7	3610039	22756	Zfp94	0.01	1.8	3800315	76167	6330548G22Rik	0.006	-1.4
5360164	101490	Inpp5f	0.01	1.3	3120433	13663	Ei24	0.01	-1.3	100730435	238130	Dock4	0.006	2.8
3520687	26951	Zw10	0.01	1.5	3140292	56040	Rplp1	0.01	-1.3	102650520	70603	Mutyh	0.006	-1.3
4810180	14062	Fzr	0.01	-1.6	6520044	12398	Cbfa2t3h	0.01	-1.7	104210112	384719	EG384719	0.006	1.3
104070286	381921	Taok2	0.01	1.3	380253	20273	Scn8a	0.01	-1.7	6840520	71755	Dhdh	0.006	-1.9
4590102	14674	Gna13	0.01	-1.7	6200113	15959	Ifit3	0.01	-1.3	1090672	59079	Erbp2ip	0.006	-1.6
103290021	214368	BC029127	0.01	1.7	6590528	244585	1700047E16Rik	0.01	1.5	4280373	56347	Eif3c	0.006	1.6
102760309	71952	2410016006Rik	0.01	1.3	102680008	277744	Gm694	0.01	1.4	6520465	243616	Slc6a11	0.006	-2.0
106420349		H2afj	0.01	1.9	5220066	67030	Fancf	0.01	1.4	2650520	69942	Rnf113a1	0.006	-1.6
6980075	20365	Serf1	0.01	-1.6	4050300	15552	Htr1d	0.01	2.1	1450128	105193	Nhlrc1	0.006	-2.1
104570022	56357	Ivd	0.01	2.4	5420014	20742	Spnb2	0.01	-1.8	6220279	12492	Scar2	0.006	-1.5
2690195	109689	Arrb1	0.01	1.7	5270368	66074	Tmem167	0.01	-1.4	6770670	229791	D3Bwg0562e	0.006	-1.8
104920138	320895	C030025P15Rik	0.01	-1.5	5220131	72865	Cox1c	0.01	-1.4	2680253	52357	Wwc2	0.006	-1.4
2370563	67742	Samsn1	0.01	3.5	2360671	11765	Ap1g1	0.01	-1.4	103830204	231668	BC023744	0.006	1.4
106770463	77272	9430027B09Rik	0.01	1.5	101850168	70727	Rasgef1a	0.01	1.6	106940601	11789	Apc	0.006	-1.4
6450161	12167	Bmpr1b	0.01	1.7	5390097	26371	Cla01	0.01	1.4	610397	93893	Pcdhb22	0.006	-2.0
5050747	230793	Ahdcd1	0.01	-2.1	2940671	67843	Slc35a4	0.01	-1.3	100540010	238123	Cog5	0.006	1.5
3140315	107071	Wdr74	0.01	1.5	5220497	18718	Pip5k2a	0.01	2.1	3800097	74600	Mrpl47	0.006	-1.4
2970520	109731	Maob	0.01	1.7	4480551	51793	Ddah2	0.01	1.8	2100450	52118	Pvr	0.006	1.4
100450008	68585	Rtn4	0.01	2.8	380180	19043	Ppm1b	0.01	-1.9	3060341	258147	Olfr675	0.006	-1.3
3710132	20185	Ncor1	0.01	1.6	940170	67210	Gata1d1	0.01	-1.4	4070577	52004	Cdk2ap2	0.006	1.5
101690047	22628	Ywhag	0.01	-1.4	103830685	320788	9930104M19Rik	0.01	1.8	2900162	210297	Lrch2	0.006	-1.4
4920341	226043	Cbw1d	0.01	1.5	101570008	99937	5330432B20Rik	0.01	1.8	3390402	52502	Carhsp1	0.006	1.8
102760097	60597	Mapk8ip2	0.01	1.6	106760332	107885	Mthfs	0.01	-2.3	1990672	71233	4933434I06Rik	0.006	1.7
1090093	75564	170027N10Rik	0.01	-1.6	5290487	207777	Bzrap1	0.01	-1.3	4540731	99887	Tmem56	0.006	-1.5
1580504	319162	Hist3h2a	0.01	2.0	102690398	72429	2010203O07Rik	0.01	-1.6	4560100	329908	Usp24	0.006	-1.3
103120066	66602	1700020I14Rik	0.01	1.8	1050154	192169	1810047C23Rik	0.01	-1.4	3170093	53606	Isg15	0.006	-1.6
103780300	383555	LOC241215	0.01	-1.3	101570735	381163	D330025A21Rik	0.01	1.3	104540253	384281	2010003O18Rik	0.007	1.6
3710148	54632	Ftsj1	0.01	-1.4	104730279	227800	Rabgap1	0.01	1.4	102970102	381677	Vgfr	0.007	2.2
4150132	20832	Ssr4	0.01	-1.3	2650537	27057	Ncoa4	0.01	-2.1	5080010		1810022O10Rik	0.007	-1.6
106980347	29859	Sult4a1	0.01	-1.8	5340369	67074	Mon2	0.01	-1.3	630239	380684	Nefh	0.007	-1.9
102760397		LOC381527	0.01	1.3	104590154	291158	2610301G19Rik	0.01	-1.3	4010605	21981	Ppp1r13b	0.007	2.2
106660154	13840	Epha6	0.01	1.3	106550112	26412	Map4k2	0.01	1.5	2120390	69161	Manbal	0.007	-1.3
100460711	319975	D630014H12Rik	0.01	1.3	103840278	59265		0.01	1.8	2510603	227738	Lrsam1	0.007	-1.3
105340647	72254	1700030K09Rik	0.01	1.5	106370725	329506	Ctdspl2	0.01	2.5	7000215	22334	Vdac2	0.007	-2.3
6290403	12288	Cacna1c	0.01	-1.9	5910341	12268	C4b	0.01	-1.6	5050497	72556	Zfp566	0.007	-1.7
102510463	67534	Ttll4	0.01	1.5	2060497	18438	P2rx4	0.01	-1.5	4480484	83409	Mapbpip	0.007	-2.4
1980156	67516	Kctd4	0.01	-1.7	670647	66154	Tmem14c	0.01	-1.3	1850348	15108	Hsd17b10	0.007	-1.8
450364	11512	Adcy6	0.01	1.3	2480162	20810	Srm	0.01	-1.3	101740053	11539	Adora1	0.007	2.5
105860008	72899	Macrod2	0.01	1.3	2650070	232455	3287606400	0.01	-1.4	3140403	66935	1700023B02Rik	0.007	-1.3
5700136	68240	Rpa3	0.01	-1.9	2320692	239796	1600021P15Rik	0.01	-1.6	730390	239099	Homez	0.007	-1.7
103130725	69232	Qrich1	0.01	1.3	3140176	214505	Gnptg	0.01	1.5	101230128	108100	Ba1ap2	0.007	1.6
100380008	66970	Ssbp2	0.01	1.8	100840397	228911	Tsh2	0.01	1.9	3120086	170757	Eltld1	0.007	1.7
630121	20295	Ccl17	0.01	-1.7	4150368	107065	Lrrtm2	0.01	-1.4	1660528	65111	Dap3	0.007	2.0
107100215	67300	Cltc	0.01	2.0	107100341	71535	9030411M13Rik	0.01	1.4	3800072	99031	Osbpl6	0.007	-1.6
1400377	76478	2410004L22Rik	0.01	1.5	60050	109113	Uhrf2	0.01	-1.4	510739	170748	BC017612	0.007	-1.3
6450044	12576	Cdkn1b	0.01	1.7	2350685	232370	Ctstn3	0.01	-1.6	6760332	94315	Prrc	0.007	1.4
101580465	76508	2210015D19Rik	0.01	1.5	106040500	16536	Kcnq2	0.01	2.4	107050520	68827	1110061A14Rik	0.007	-1.3
102690044		Gl_24475922-5	0.01	1.5	1770026	70827	Trak2	0.01	-2.0	106040739	231580	Gak	0.007	2.1
6130021	57908	Zfp318	0.01	-1.5	101580519	319933	E230024E03Rik	0.01	1.3	102640403	544971	Bdp1	0.007	-1.3
3060546	18707	Pik3cd	0.01	1.3	100380601	66797	Cntnap2	0.01	1.6	6040438	66091	Ndufa3	0.007	1.4
1850427	232889	Pla2g4c	0.01	-1.3	7050148	217830	9030617O03Rik	0.01	1.4	100780632	66435	Ugcgl2	0.007	1.7
103360050	67886	Camsap1l1	0.01	1.3	3170471	223649	Nrbp2	0.01	-1.5	6550563	67302	Zc3h13	0.007	-1.7
840605	70560	Wars2	0.01	-1.6	5080273	56505	Ruvbl1	0.01	-1.5	7040050	12914	Crebbp	0.007	-2.0
1050504	233575	Frag1	0.01	1.5	6180075	12896	Cpt2	0.01	-1.3	2450575	227743	Mapkap1	0.007	-1.3
630037	70225	Ppil3	0.01	-2.1	105390010	320615	Dopey1	0.01	1.5	6590064	21881	Tkt	0.007	-1.6
106650576	232400	BC048546	0.01	-2.0	102970286	231760	Rimbp2	0.01	2.0	6350563	68043	N6amt2	0.007	1.9
100060136	75694	2310058D17Rik	0.01	-1.7	2030022	22671	Zfp179	0.01	1.9	105910253	77070	6030442H21Rik	0.007	-1.3
104150184	69597	Atg3d	0.01	-1.5	540242	68929	Mospd3	0.01	-1.4	60750	94281	Sfxn4	0.007	-1.6
3830687	72930	Ppp2r2b	0.01	-1.5	3710603	319352	C530028O21Rik	0.01	-1.4	104480131	381142	Gm949	0.007	-1.9
4570400	20648	Snta1	0.01	1.8	2850504	13682	Eif4a2	0.01	-1.6	101850619	383461	C530027B15Rik	0.007	1.5
1740017	19732	Rgl2	0.01	1.7	5130017	254880	Wasf3	0.01	-1.6	5340195	26382	Fgd2	0.007	-1.9
6020079	54561	Nap1l3	0.01	-1.6	580280	270106	Rpl13	0.01	-1.5	103190592	269704	Zfp664	0.007	1.8
102480037	76166	6330545A04Rik	0.01	1.5	103830110	320800	9230112E08Rik	0.01	1.7	6550707	22036	Traip	0.007	1.4
4730411	19229	Ptk2b	0.01	1.6	1690047	13401	Dmwd	0.01	2.0	6040446	17151	Ccndbp1	0.007	2.9
360446	76590	4930521E07Rik	0.01	1.3	6250095	16593	Klc1	0.01	1.8	105890484	73854	4930428B01Rik	0.007	-1.9
3840008	67604	1110007L15Rik	0.01	-1.4	2260121	66460	Sys1	0.01	-2.0	160475		Iqwd1	0.007	-1.4
5340736	72357	2210016L21Rik	0.01	-1.5	100670047	71769	Bbs10	0.01	1.4	102480451	70918	Nsun7	0.007	1.9
3290242	74552	Npal3	0.01	-1.6	6520195	12803	Cntf	0.01	-1.4	1850520	26554	Cul3	0.007	-1.4
105420605	382114	D830035M03Rik	0.01	1.3	102320059	108159	Ubxw6	0.01	-1.4	70717	67091	Trappc6a	0.007	1.6
100580204	231580	Gak	0.01	1.4	6760138	107566	Ar12bp	0.01	-1.5	102650519	77126	9930101C24Rik	0.007	1.3
2100706	22409	Wnt10a	0.01	-1.6	2190121	20466	Sin3a	0.01	1.3	6290739		Krt1-12	0.007	3.1
106290458	75909	Tmem49	0.01	-1.5	106940121	18186	Nrp1	0.01	1.3	105340722	27395	Mrpl15	0.007	1.3
6370142	170942	Erdr1	0.01	7.8	106370373	20104	Rps6	0.01	1.3	103440402		LOC381820	0.007	2.0
103520075	76568	1500035H01Rik	0.01	1.7	5260647		Cd200	0.01	3.7	6200040		Arf14	0.007	-1.5
4850181	70375	Ica1l	0.01	-1.7	1410390	66989	Kctd20	0.01	-1.4	5220731	14609	Gja1	0.007	-1.5
106760300	69675	Pxdn	0.01	1.5	106420372	242819	Gm440	0.01	-1.3	104150019	109249	9430029L20Rik	0.007	1.8
102030025	544717	1190007I07Rik	0.01	2.6	5690093	75599	Pcdh1	0.01	-1.7	3520066	69551	2310022B05Rik	0.007	-1.5</

105700176	20817	SrpK2	0.01	1.7	6130685	69674	Mif4gd	0.01	1.8	106650576	232400	BC048546	0.007	-2.4
100360358	667561	EG667561	0.01	1.3	7040725	229445	Ctso	0.01	-1.5	2340725	54003	Nell2	0.007	-1.7
4060162	20603	Sms	0.01	1.3	3440215	14115	Fbln2	0.01	-1.6	610632	13998	Fgd6	0.007	-1.3
3840324	17113	M6pr	0.01	-1.5	3780270	19046	Ppp1cb	0.01	-1.8	2970095	26373	Cln7	0.007	1.8
104780162	11432	AcP2	0.01	1.5	6900092	319161	Hist1h4m	0.01	1.5	1090079	66595	Aste1	0.007	1.5
3780494	214063	Dnajc16	0.01	-1.4	6110687	13194	Ddb1	0.01	-1.6	7040465	11906	Zfhx3	0.007	-1.9
105420592		scI328049.1_1-5	0.01	1.7	101090270	97064	Wwtr1	0.01	1.7	106900427	77890	6720407P12Rik	0.007	-1.8
3710735	105855	Nckap1l	0.01	-1.7	6980471	16912	Psmb9	0.01	1.8	6450435	74053	Grip1	0.007	-1.4
2510603	227738	Lrsam1	0.01	-1.4	130176	52357	Wwc2	0.01	-1.3	100060022	408068	3830402I07Rik	0.007	1.8
11850647	97550	C130081A10Rik	0.01	-1.3	100520373	77847	B230104F01Rik	0.01	-1.6	2510180	70834	Spag9	0.007	-1.6
106650528	215999	Ccdc109a	0.01	1.8	2630619	69113	Alkbh3	0.01	-1.3	1400563	54169	Myst4	0.007	-1.7
102370010	67771	ArpC5	0.01	-2.0	5340497	81879	Tcfcp2l1	0.01	1.4	102100102	20639	Snrbp2	0.007	1.4
3830333	80290	Gpr146	0.01	-1.4	5270040	269061	5730453I16Rik	0.01	-1.5	100060136	75694	2310058D17Rik	0.007	-1.7
2900647	73940	Hapln2	0.01	1.5	4540239	114664	Hsd17b11	0.01	-1.6	101980133	234378	Klhl26	0.007	-1.5
2100722	232853	5730403M16Rik	0.01	1.3	6840707	67554	Slc25a30	0.01	-1.5	102450494	328429	C230072K23	0.007	1.6
6290731	66480	Rpl15	0.01	-1.5	100360739		Ddx26	0.01	1.9	450019	11891	Rab27a	0.007	-1.4
5550014	268859	A2bp1	0.01	-1.5	6760364	74026	4121402D02Rik	0.01	-1.4	104050300	319626	9530059O14Rik	0.007	1.3
100940168	71517	9030624J02Rik	0.01	-1.7	5910603	330552	EG330552	0.01	1.9	2470301	15467	Elf2ak1	0.007	1.7
4540528	18739	Pitpnm1	0.01	-1.5	6400010	329274	A230106N23Rik	0.01	2.0	1400537	232906	Grif1	0.007	-1.4
102350102	207678	Zfp648	0.01	1.6	6350735	270049	4930431L04Rik	0.01	1.8	102940519	71073	4933421O10Rik	0.007	1.5
104210195	230806	Alim1l	0.01	-1.4	3130717	108861	4833412L08Rik	0.01	1.5	5360433	66264	Ccdc28b	0.007	1.3
100110132	319535	Zfp182	0.01	1.3	450551	67358	1700093K21Rik	0.01	1.8	101980670		LOC331511	0.007	1.8
4010136	217378	Rbj	0.01	1.3	2570180	30791	Slc39a1	0.01	1.4	5900180	227195	A430093A21Rik	0.007	-1.9
1240403	20218	Khdrbs1	0.01	1.5	940687	235542	3222402P14Rik	0.01	-1.3	106760315	67877	Nat5	0.007	-1.3
2630014	20650	Sntb2	0.01	-1.4	4210397	76846	Rps9	0.01	2.3	103940600	433634	EG433634	0.007	-1.3
2940021	18436	P2rx1	0.01	-1.5	100450180	70155	Ogfr1	0.01	1.7	101500736		LOC381552	0.007	1.3
105080403	235626	Setd2	0.01	1.6	106900035	67660	LOC67660	0.01	1.5	106840286	17720	mt-Nd4l	0.007	-2.6
105570433	319491	1110029I05Rik	0.01	1.4	4730577	71529	9030409G11Rik	0.01	1.3	5290064	55963	Slc14a	0.007	-1.9
106520364	17433	Mobp	0.01	3.5	2650433	233066	A1428936	0.01	1.5	3780278	108077	Skiv2l	0.007	1.3
105670440	17196	Mbp	0.01	2.5	101340040	64652	Nisch	0.01	2.7	4010541	54367	Zfp326	0.007	-1.7
103800397	252870	Usp7	0.01	1.4	50088	15051	H2-T9	0.01	1.5	4730408	68436	Rpl34	0.007	-1.3
2060441	216869	Arrb2	0.01	-1.5	6660184	17171	Mus81	0.01	-1.4	104150050		AA4101030	0.007	-1.3
102060195	629499	4922505G16Rik	0.01	1.3	101570114	18983	Cnot7	0.01	-1.6	2850411	76987	Hdh2	0.007	2.7
2510131	16514	Kcnj11	0.01	1.4	1500670	72556	Zfp566	0.01	1.4	5390292	77040	Atg16l1	0.007	1.4
103940014	66939	2310007F21Rik	0.01	1.7	3610300	18150	Npm3	0.01	-1.4	105720433	13631	Eef2k	0.007	1.5
101690671	70605	Zdhxc24	0.01	-1.6	5670066	52690	Setd3	0.01	2.2	4810452	192188	Stab2	0.007	-7.3
4920239	71177	4933424B01Rik	0.01	1.4	2360601	12334	Capn2	0.01	-1.5	104570333	11495	Adam2	0.007	1.3
102760520	76245	6530415H11Rik	0.01	1.7	104120138	320116	C030019I05Rik	0.01	1.7	106200035	12064	Bdnf	0.007	1.4
102120519	243961	Shank1	0.01	-1.4	4670519	22371	Vcwf	0.01	1.6	101780010	320628	A130038J17Rik	0.007	1.7
101850358	26877	B3gal1	0.01	1.5	5910609	26987	Elf4e2	0.01	1.6	4540193	329777	Pigk	0.007	-1.8
104540010	243912	Hspb6	0.01	1.7	103990735	26450	Rbbp9	0.01	3.3	104780685	239857	Cadm2	0.008	2.5
6130128	18391	Oprs1	0.01	-1.8	4070711	22228	Ucp2	0.01	-2.1	103870347		LOC277837	0.008	-2.5
105290301	12514	Cd68	0.01	1.3	6940427	20451	St8sia3	0.01	1.4	103780280	212528	Trmt1	0.008	1.8
5700072	99311	Comm7d	0.01	-1.4	5700373	78798	Emi4	0.01	-1.3	1660446	19099	Mapk8ip1	0.008	-2.4
105690471	15115	Hars	0.01	1.3	106220280		LOC385992	0.01	1.3	3610039	22756	Zfp94	0.008	1.7
70288	17060	Blnk	0.01	-1.6	104850692	244417	Gm501	0.01	1.4	5910026	56876	Nelf	0.008	-1.8
2260711	68252	A030007L17Rik	0.01	1.5	520180	11534	Adk	0.01	-1.3	2650687	382571	Kcnf1	0.008	2.0
107100059	70549	Tln2	0.01	1.6	6370541	50755	Fbxo18	0.01	-1.3	430215	19385	Ranbp1	0.008	-1.4
5420471	78795	Arm9	0.01	-1.3	6350280	212163	8030462N17Rik	0.01	-1.5	100380524	235344	Snf1lk2	0.008	-1.3
104010070		LOC224137	0.01	-2.1	100360292	14600	Ghr	0.01	1.3	102510156	15129	Hbb-b1	0.008	5.3
106200020		2900072M03Rik	0.01	1.5	101190040	68095	Ociad1	0.01	-1.6	510398	27280	Phlda3	0.008	2.4
6550707	22036	Traip	0.01	1.4	7040403	20658	Son	0.01	-1.3	3850707	85030	Tnfrsf25	0.008	2.3
6770139	20509	Slc19a1	0.01	-1.3	3360181	216560	AV249152	0.01	1.8	4920039	11546	Parp2	0.008	-1.6
4050632	19419	Rasgrp1	0.01	2.3	101580056	94109	Csmd1	0.01	1.5	450154	19043	Ppm1b	0.008	-1.4
7000176	104871	Spata7	0.01	-1.4	103140328		C130041A08Rik	0.01	1.3	4480017	192654	Lypla3	0.008	-1.5
3120044	100102	Pcsk9	0.01	-1.3	106760025	68476	1110003F10Rik	0.01	1.4	102480369		LOC386073	0.008	-2.0
2230164	66665	503528L13Rik	0.01	-1.3	101500162	67876	Coq10b	0.01	1.5	105890184		LOC234987	0.008	2.1
7100411	74761	Mxra8	0.01	1.9	510064	70381	2210010N04Rik	0.01	-1.4	102900128	52665	Echdc1	0.008	-1.7
6130129	225341	Lims2	0.01	-1.5	4060600	14299	Freq	0.01	-1.5	7100440	64209	Herpud1	0.008	2.7
2760563	21951	Tnks	0.01	1.4	102030451	21761	Morf4l1	0.01	-2.5	106130465	383934	A230059K20Rik	0.008	-1.7
104730114	319317	AS30034L06Rik	0.01	1.4	103780280	212528	Trmt1	0.01	2.4	10278	98660	Atpla2	0.008	-2.0
520541	270084	Aytl1a	0.01	2.1	1050093	99237	Tm9sf4	0.01	-1.3	103450181	76487	Ppp1r3g	0.008	2.4
101230735	67896	Ccdc80	0.01	1.3	6760181	56690	Mlycd	0.01	-1.6	1580528	384309	Trim56	0.008	-1.3
2850132	13527	Dtna	0.01	-1.8	1740609	104112	Acly	0.01	-1.3	3830168	227753	Gsn	0.008	1.9
5290767	432486	Gnptab	0.01	1.4	1690309	67732	Iah1	0.01	2.6	106660195		ILM106660195	0.008	-3.4
6110465	233806	Tmem159	0.01	2.0	1580672	105785	Kdelr3	0.01	1.3	102060195	629499	4922505G16Rik	0.008	1.3
104070411		5430404N14Rik	0.01	1.9	5910017	108086	2810055G22Rik	0.01	-1.4	6200278	22348	Slc32a1	0.008	1.6
1570129	246710	Rhobtb2	0.01	1.4	380309	14287	Fpgs	0.01	-1.3	70685	71436	Ftrt3	0.008	-1.4
3610026	330171	Kctd10	0.01	-1.3	1410288	17354	Mlit10	0.01	-1.3	5670408	66880	Rsrc1	0.008	-1.8
3440717	20541	Slc8a1	0.01	2.5	1580348	77652	Zfp422-rs1	0.01	-1.3	2470735	73181	Nfatc4	0.008	-1.4
1410315	20480	Cjpb	0.01	1.4	106100253	231863	Fbxl18	0.01	1.4	2650458	233065	Alkbh6	0.008	1.3
104120717		B230384C22Rik	0.01	1.4	3800446	69010	Anapc13	0.01	2.4	7040181	67026	Thap4	0.008	2.9
3830408	16157	Il11ra1	0.01	-1.8	6660315	213056	BC049806	0.01	-1.3	3830040	213019	Pdlim2	0.008	2.1
100520373	77847	B230104F01Rik	0.01	-1.7	6770519	217031	Tada2l	0.01	-1.3	5360093	13555	E2f1	0.008	-1.8
2120193	28114	Nsun2	0.01	-1.5	940504	74194	Rnd3	0.01	2.2	104480019	68205	Urm1	0.008	1.7
6380673	240058	Cpne5	0.01	-1.7	4150204	52552	Parp8	0.01	1.9	2510131	16514	Kcnj11	0.008	1.4
1050711	67588	Rnf41	0.01	1.4	5360673	94067	Mrpl43	0.01	-1.4	102030377	67062	Mcart6	0.008	-2.1
2510059	215456	AS30057A03Rik	0.01	-1.6	106760180		AW120700	0.01	1.4	104150184	69597	Afg3l2	0.008	-1.3
3710286	56280	Mrpl37	0.01	-1.3	1980441	217140	Scn2	0.01	-1.3	1340132	11426	Macf1	0.008	-1.3
2060288	21804	Tgfb1i1	0.01	-1.5	1740154	20872	Stk16	0.01	1.4	130180	67181	Dullard	0.008	1.4

5270632	24115	Best1	0.01	-1.6	10060725	544971	Bdp1	0.01	-1.4	106660433	320472	Ppm1e	0.008	-1.5
4590725	118445	Klf16	0.01	-1.5	6040403	11370	Acadvl	0.01	-1.6	6620746	78829	Tsc22d4	0.008	1.9
3120692	20703	Serpina1d	0.01	-2.4	870075	93840	Vangl2	0.01	2.2	3290463	108067	Eif2b3	0.008	-1.9
2030722	20084	Rps18	0.01	-1.6	2680735	328162	6720458F09Rik	0.01	1.4	3390097	69379	C8g	0.008	1.3
50164	108075	Ltpb4	0.01	1.3	102570440		D930015M12Rik	0.01	1.5	2900546	50868	Keap1	0.008	-1.4
106550154	11569	Aebp2	0.01	1.5	3290692	54151	Cyhr1	0.01	-1.3	104280025		LOC383584	0.008	1.5
2120497		1500041I23Rik	0.01	-1.6	1240162	24051	Sgcb	0.01	-1.3	1450609	12858	Cox5a	0.008	-1.3
4050717	15129	Hbb-b1	0.01	2.1	1850746	74720	4930511I11Rik	0.01	1.8	104730167	70644	5730552O08Rik	0.008	2.0
5690358	76014	5830416A07Rik	0.01	-1.7	100840112		D930030K21Rik	0.01	1.3	101990152	210126	Lpp	0.008	-1.6
102940025	384909	C130020N16Rik	0.01	1.5	106590068	1E+08	ENSMUSG00000074885	0.01	-1.3	2650136	69215	Sat2	0.008	1.6
102360600	238130	Dock4	0.01	1.7	5130717	30935	Tor3a	0.01	-1.4	100630093	76832	Hyls1	0.008	1.6
360600	97487	Cmtm4	0.01	-1.3	5890041	23850	Pappa2	0.01	1.3	3140315	107071	Wdr74	0.008	1.5
6620176	59289	Ccbp2	0.01	-1.9	101990286	68095	Ociad1	0.01	-1.6	1980164	226499	BC003331	0.008	-1.3
6380025	70693	Gpr125	0.01	1.9	105570112	78928	Pigt	0.01	-1.9	5270092	17347	Mknk2	0.008	1.3
7050315	26448	Rage	0.01	1.3	104760600	75137	4930535B03Rik	0.01	1.3	2370373	17149	Magoh	0.008	-1.3
3170037	68628	Fbxw9	0.01	-1.6	580324	20090	Rps29	0.01	-1.6	105270739	12859	Cox5b	0.008	1.8
100510402		LOC232890	0.01	1.4	104570435	381165	LOC381165	0.01	1.3	2650484	218885	Oxnad1	0.008	-1.3
5890047	16195	Il6st	0.01	1.6	102450601	76784	Mtlf2	0.01	1.9	100430725	286946	Myodysa	0.008	1.5
1690086	20692	Sparc	0.01	2.3	102640551	330052	A930003O13Rik	0.01	1.4	100510270	213411	LOC213411	0.008	2.6
101990082	75717	Cul5	0.01	1.4	104540717	68861	1190002N15Rik	0.01	2.6	4280717	13618	Ednrb	0.008	-1.7
105290192	12450	Ccng1	0.01	1.3	1770338	74729	Setmar	0.01	-1.3	1740746	230233	Ikbbap	0.008	-1.3
103290309	77967	A930036I15Rik	0.01	1.3	2680008	59028	Rcl1	0.01	-1.5	870731	105638	Dph3	0.008	-1.7
3870576	218693	Paip1	0.01	-3.0	5130088	17536	Mrg1	0.01	1.7	103710576		LOC386078	0.008	-2.0
1580348	77652	Zfp422-rs1	0.01	-1.3	2510279	57783	Tnfp1	0.01	-1.7	102900609	93790	Nipa2	0.008	1.8
2030156	15200	Hbegf	0.01	1.6	6020451	69399	1700025G04Rik	0.01	2.1	102650253		9626953_200-S	0.008	-1.7
360347	106064	AW549877	0.01	-1.6	103710546	11931	Atp1b1	0.01	-1.3	101780601	56220	Zfp386	0.008	-1.6
105900577	330319	Wipf3	0.01	1.4	2340364	17764	Mtf1	0.01	-1.6	104180187		1700065O13Rik	0.008	1.6
103440377	230257	Rod1	0.01	1.5	103440497	72502	Cwf19l1	0.01	1.3	101850017	242050	Igsf10	0.008	1.5
106510280	233328	Lrrk1	0.01	1.5	104390059		LOC234081	0.01	1.4	1570056	17207	Mcf2l	0.008	1.3
102060400	319666	D630014A15Rik	0.01	1.4	6020563	328971	Spink10	0.01	1.6	4480594	271970	Arsj	0.009	1.9
106550168	50754	Fbxw7	0.01	1.7	3520603	26562	Ncdn	0.01	-1.7	3360184	319190	Hist2h2be	0.009	1.7
4850390	235431	Coro2b	0.01	1.6	5700435	71156	Man1a2	0.01	-1.4	106840292		LOC381894	0.009	1.3
102850673	71811	2610027H17Rik	0.01	1.6	6770195	12070	Ngfrap1	0.01	-1.4	103450204	665775	A230054D04Rik	0.009	1.4
6450541	353325	Tas2r115	0.01	-1.3	3120131	29862	Ninj2	0.01	1.4	105390600	353235	Pcdha8	0.009	-3.7
5700239	66246	Osgpe	0.01	-1.5	100430114	67412	6330407J23Rik	0.01	1.5	1940647	14979	H2-Ke6	0.009	-1.7
101580050	72055	1810073N04Rik	0.01	1.8	5220059	69504	2310001H12Rik	0.01	-1.4	4920008	243937	Zfp536	0.009	-1.8
106520253	72801	2810488O17Rik	0.01	-1.4	100780632	66435	Ugggl2	0.01	1.5	2030048	69487	2310003L22Rik	0.009	1.7
1740736	54721	Tyk2	0.01	1.3	104060039	78045	4930564I24Rik	0.01	1.5	520128	74270	Usp20	0.009	-1.4
100540577	212163	8030462N17Rik	0.01	1.4	840162	14635	Galk1	0.01	-1.5	105270390	268396	Sh3pxd2b	0.009	1.6
3830075	19697	Rela	0.01	-1.3	3170088	23908	Hzs2t1	0.01	-1.3	5720681	20682	Sox9	0.009	-2.1
2690047	232440	H2afj	0.01	1.4	2940091	12833	Col6a1	0.01	-1.6	5130292	108121	U2af1	0.009	-1.5
4070358	98363	EFhd1	0.01	1.5	730722	76993	Nudt12	0.01	-1.4	102850215	320650	9530056K15Rik	0.009	-1.5
4590338	18537	Pcmt1	0.01	-1.6	100510592	76421	1700028K03Rik	0.01	1.5	4670538	71908	Cldn23	0.009	-1.4
1400025	64704	Htra2	0.01	-1.3	5340528	68349	Ndufs3	0.01	-1.4	100360082	56086	Set	0.009	-1.5
6100546	17916	Myo1f	0.01	-1.4	1340390	17285	Meox1	0.01	-1.3	4810458	109264	Me3	0.009	-2.0
2060022	14088	Fancc	0.01	1.9	101410546	414758	5830428H23Rik	0.01	2.6	6510717	12741	Cldn5	0.009	-2.2
1580500	70466	Ckap2l	0.01	1.3	2690142	77945	Rpgrip1	0.01	3.1	4590280	70560	Wars2	0.009	-1.6
4490368	231946	D330028D13Rik	0.01	-1.4	540020	12908	Crat	0.01	-1.3	100430731	18082	Nipsnap1	0.009	-1.7
7000315	69186	1810027O10Rik	0.01	-1.5	104920053	17151	Ccndbp1	0.01	-1.5	3170544	102032	Al316807	0.009	1.5
6350372	193796	Jmjd2b	0.01	-1.5	102640722	51886	Fubp1	0.01	-1.3	102900152	18007	Neo1	0.009	1.4
630731	76650	Srxn1	0.01	1.4	6110373	59013	Hnrph1	0.01	-1.7	104540524	66596	Gtf3a	0.009	1.6
3170544	102032	Al316807	0.01	1.6	1190592	18526	Pcdh10	0.01	-1.7	2510487	19305	Pex5	0.009	1.7
4674008	13032	Ctsc	0.01	-1.3	3850717	64176	Sv2b	0.01	2.1	1770008	57782	Rbak	0.009	-1.4
3610524	233977	Ppfia1	0.01	1.5	770725	15360	Hmgcs2	0.01	1.6	104810170	381199	Tmem151	0.009	1.6
6590086	109229	Ppp4r1l	0.01	-1.3	4050332	20973	Syng2	0.01	-1.3	2470017	74026	4121402D02Rik	0.009	-1.7
105550369	16593	Klcl	0.01	2.2	105340647	72254	1700030K09Rik	0.01	1.3	6760519	11514	Adcy8	0.009	-1.6
5700086	68917	Hint2	0.01	-1.4	1780270	725339	Ammecr1l	0.01	-1.3	2470725	16499	Kcnab3	0.009	-1.8
102360129	320368	A730063M14Rik	0.01	-1.5	2510706	108645	Mat2b	0.01	-1.6	4780092	319148	Hist1h3c	0.009	1.7
2340609	14534	Gcn5l2	0.01	1.3	1690242	67887	Tmem66	0.01	1.6	104730022	210933	Bai3	0.009	-1.5
4570427	16400	Itga3	0.01	-1.4	101050324		9626953_7_rc-S	0.01	-1.4	110600	114584	Clic1	0.009	-2.1
102450601	76784	Mtlf2	0.01	2.2	2260181	71834	Zbtb43	0.01	1.9	630504	19171	Psmb10	0.009	-1.4
103170168	654818	C030030A07Rik	0.01	1.5	104010040		LOC384607	0.01	-1.9	3520138	73658	Spsn1	0.009	-2.0
4480332	53885	Nphp1	0.01	1.5	103610735	16656	Hivep3	0.01	1.6	6760021	402747	D630004N19Rik	0.009	-1.5
5420546	227580	C1ql3	0.01	-2.0	6940148	108098	Med21	0.01	-1.3	6940168	76987	Hdh2d	0.009	2.3
104760010	74192	Arpc5l	0.01	1.3	3130594	11931	Atp1b1	0.01	-1.5	1980239	17436	Mod1	0.009	-2.0
6180315	18101	Nmbr	0.01	-1.5	101580400	74482	Ifitm7	0.01	1.4	2190341	16796	Lasp1	0.009	-1.5
5570411	53896	Slc7a10	0.01	-1.8	104200538	18183	Nrg3	0.01	1.4	1170300	98766	Ubac1	0.009	1.4
130008	140571	Plnxb3	0.01	1.4	6900167	66653	Brf2	0.01	1.4	105890047		LOC280097	0.009	-2.1
1580014	382243	OTTMUSG00000019138	0.01	-1.3	6660373	77652	Zfp422-rs1	0.01	-1.4	780441	320635	Cyb5r2	0.009	-1.4
60750	94281	Sfxn4	0.01	-1.7	104810494	269774	Aak1	0.01	1.4	520603	56273	Pex14	0.009	-1.7
5690129	20668	Sox13	0.01	-1.6	103190736		Sap18	0.01	1.3	2360100	94190	Ophn1	0.009	-1.4
7100162	19655	RbmX	0.01	1.3	107050025	76614	Immt	0.01	-1.6	1740685	71897	2310010M24Rik	0.009	-1.4
4780575	210356	E030049G20Rik	0.01	-1.5	4480594	271970	Arsj	0.01	2.4	105910750	80720	Pbx4	0.009	1.6
1570348	170833	Hook2	0.01	-1.6	6110093	26457	Slc27a1	0.01	-1.5	4570707	320203	C130071C03Rik	0.009	-1.8
5890020	19325	Rab10	0.01	-1.8	102680152	353234	Pcdha2	0.01	-1.4	106370504	68190	5330426P16Rik	0.009	1.4
3140487	319924	Alpa1	0.01	2.0	101580609	384382	A430108E01Rik	0.01	-2.9	5390736	66291	1810030N24Rik	0.009	1.3
104050242	18174	Slc11a2	0.01	1.5	100520152	68095	Ociad1	0.01	-2.1	1190162	16998	Ltpb3	0.009	-2.9
101410500	51902	Rnf24	0.01	1.5	3120072	58238	A830059I20Rik	0.01	-1.8	1770044	106326	Osbpl11	0.009	-1.4
106020605	59040	Rhot1	0.01	1.3	101450577	66435	Ugggl2	0.01	2.0	105860324		mtCOXl	0.009	2.0
7050064	68634	Tm2d3	0.01	1.5	2760168	403187	Opas3	0.01	-1.4	104390059		LOC234081	0.009	1.5
1038														

106400100	69900	Mfsd11	0.01	1.9	4210520	23945	Mgll	0.01	-1.4	2760072	26987	Eif4e2	0.009	-1.3
2480138	260409	Cdc42ep3	0.01	-2.2	1190162	16998	Ltbp3	0.01	-2.4	780164	67678	Lsm3	0.009	-1.7
1090494	66249	Pno1	0.01	-1.6	2810541	108679	Cops8	0.01	-1.4	50711	170459	Stard4	0.009	-1.9
1240594	27967	Cherp	0.01	1.4	4590170	269695	Tmem118	0.01	1.6	3850102	19044	Ppxo	0.009	1.5
6520286	16597	Klf12	0.01	1.5	102030390	97863	C78339	0.01	-1.7	103130181	11938	Atp2a2	0.009	2.0
1240500	66866	Nhlrc2	0.01	1.3	2030273	214505	Gnptg	0.01	1.8	3840082	18854	Pml	0.009	1.5
106770524	14395	Gabra2	0.01	-2.6	5270025	94062	Mrpl3	0.01	-1.6	100780519	384278	LOC384278	0.009	1.5
6900022	22654	Zfp13	0.01	-1.3	106900427	77890	6720407P12Rik	0.01	-1.5	101660242	14950	H13	0.009	1.5
102810575	66496	2700038C09Rik	0.01	1.8	6130025	66594	Uqcr	0.01	-1.4	5690358	76014	5830416A07Rik	0.009	-2.6
4230056	319876	Cobl1	0.01	1.4	105420070	16978	Lrrrip1	0.01	1.5	6510047	18792	Plau	0.009	-1.4
106510168	68097	Dynll2	0.01	1.3	106590086	13070	Cyp11a1	0.01	1.7	6620452	208715	Hmgcs1	0.009	-1.5
1580093	54351	Ral12	0.01	-1.5	2630333	67968	2410146L05Rik	0.01	1.5	103800373	319366	C920008N22Rik	0.009	1.6
4480053	72201	Otud6b	0.01	-1.6	3610278	106200	Txndc11	0.01	-1.5	105420377	320308	A130013F12Rik	0.009	-1.4
100730731	245000	Atr	0.01	1.5	6520204	105844	Card10	0.01	-2.8	101340019	20411	Sorbs1	0.009	1.6
2480722	20619	Snap23	0.01	-1.4	102350528	320254	A630084N20Rik	0.01	1.4	6860546	66155	Ufc1	0.009	1.3
1230397	83602	Gtf2a1	0.01	-1.4	2230093	17084	Ly86	0.01	-1.5	2340242	68652	Map3k7ip2	0.009	-1.9
5420402	319180	Hist1h2bf	0.01	2.0	2030563	18576	Pde3b	0.01	-1.6	101690292	76763	Mospd2	0.009	1.7
101850286	16522	Kcnj6	0.01	1.7	101980358		LOC236262	0.01	1.3	107050041	73332	1700041C02Rik	0.009	1.5
6860044	13823	Epb4.1l3	0.01	1.9	6620021	94184	Pdxdc1	0.01	-1.6	106420008	27877	D1Ert471e	0.009	2.3
940725	17470	Cd200	0.01	1.6	101090181	414077	BC056474	0.01	2.4	102470136	330096	O830007B15Rik	0.009	-1.6
6520170	229004	Gmeb2	0.01	1.3	380184	76425	2310003C23Rik	0.01	-1.4	105700438	246102	Rttm	0.009	-1.3
101230142	242474	D730040F13Rik	0.01	1.3	4780026	66989	Kctd20	0.01	-1.5	1780538	57738	Slc15a2	0.009	-2.6
6110452	232685	AB041803	0.01	-1.4	106510551	207212	Arhgef17	0.01	1.7	106100647	74886	4930445K14Rik	0.009	1.4
106860400	57785	Rangrf	0.01	-1.6	102340154	17263	Gtl2	0.01	-1.4	4610086	17828	Muted	0.009	-1.5
4920097	58187	Cldn10	0.01	-1.6	1170039	12654	Chi3l1	0.01	-1.9	100360390	242997	Gm447	0.009	1.6
103710577	228850	B230339M05Rik	0.01	1.3	4570056	66910	Tmem107	0.01	1.4	107050465	70646	Nat12	0.009	1.5
6660441	224897	Dpp9	0.01	1.4	2810471	56369	Apip	0.01	1.4	2370601	12704	Cit	0.009	-1.9
3120673	66481	Rps21	0.01	-1.4	105720619	234138	BC019943	0.01	-1.3	100510735	212391	Lcor	0.01	1.3
3780092	16969	Zbtb7a	0.01	-1.6	70717	67091	Trappc6a	0.01	1.3	104120463	319716	6430520M22Rik	0.01	-2.3
4850435	65019	Rpl23	0.01	-1.5	103290068	228357	Lrp4	0.01	1.3	2510286	230259	E130308A19Rik	0.01	-1.7
5270452	381813	Prrmt8	0.01	-1.6	5290300	225289	AW554918	0.01	-1.3	4780301	14390	Gabpa	0.01	1.3
100430138	18174	Slc11a2	0.01	1.3	104120382	213012	Abhd10	0.01	1.9	3360156	15374	Hn1	0.01	-2.0
5690286	233895	Prr14	0.01	-1.3	2030600	319176	Hist2h2ac	0.01	1.5	2190433	83674	Cnnm1	0.01	1.9
5910113	52064	Cocq5	0.01	-1.7	106900458	234374	Dxd49	0.01	1.5	5890215	66190	Phca	0.01	-1.7
2900619	216635	Hbq1	0.01	-1.3	105270398	320879	B230217O12Rik	0.01	1.6	105390097	69641	Wdr20a	0.01	1.4
104610039	69504	2310001H12Rik	0.01	1.5	103850286	214763	E330016A19Rik	0.01	1.5	102470707		4930580J09Rik	0.01	1.3
101660161	13482	Dpp4	0.01	1.3	6980100	219024	Tmem55b	0.01	1.3	430019	66462	2810428I15Rik	0.01	-1.5
1050019	11658	Alcam	0.01	-1.8	6180088	268709	BC0555107	0.01	1.4	6040471	74144	Robo4	0.01	-1.4
7100632	79464	Lias	0.01	-1.3	6180162	54131	Irf3	0.01	1.5	940609	54151	Cyhr1	0.01	-1.5
4260603		Prrx2	0.01	-1.3	6040576	231642	Alkbh2	0.01	-1.6	2690021	268860	Abat	0.01	2.7
5670048	226791	Lypal1	0.01	-1.6	4210593	15388	Hnrpl	0.01	-1.6	3710500	268932	Caskin1	0.01	2.0
100770333		ILM100770333	0.01	-1.3	360010	233887	Zfp553	0.01	1.4	106550168	50754	Fbxw7	0.01	1.9
3360671	21955	Tnnt1	0.01	-1.8	100460095	67899	2010110K16Rik	0.01	1.5	103190148	78844	B230206I08Rik	0.01	2.8
6620129	215690	Nav1	0.01	1.4	102900286	224640	Lemd2	0.01	2.5	104730270	13557	E2f3	0.01	-1.3
360402	13865	Nr2f1	0.01	-1.6	2030181	235504	Slc17a5	0.01	-1.6	103800021	545622	Ptpn3	0.01	1.5
4780193	207952	Klhl25	0.01	-1.4	104670609	320226	4930473A06Rik	0.01	1.6	3610551	64656	Mrrp23	0.01	1.3
105720433	13631	Eef2k	0.01	1.4	5220037	231821	Centa1	0.01	-1.6	110176	19933	Rpl21	0.01	2.3
6200484	226539	Dars2	0.01	1.4	6200494	53379	Hnrpa2b1	0.01	-1.5	105910041		LOC386169	0.01	-2.1
5900279	239410	A930017M01Rik	0.01	-1.5	106980373	66578	2610039C10Rik	0.01	1.4	5690338	56480	Tbk1	0.01	-1.4
100110195	320973	D330023K18Rik	0.01	1.7	6550168	11977	Atp7a	0.01	-1.3	4480086	66439	2010012005Rik	0.01	1.7
102230184	27045	Nit1	0.01	-1.3	2810746	74781	Wip12	0.01	-1.4	3610156	12750	Clk4	0.01	1.8
6620692	66433	Chchd7	0.01	-1.9	104560100	109594	Lmo1	0.01	1.3	840487	56541	Habp4	0.01	2.9
360181	15569	Elavd2	0.01	-1.7	3840520	73447	Wdr13	0.01	-1.8	100730408	66961	2310043N10Rik	0.01	2.6
3850035	81702	Ankrd17	0.01	1.6	106130180	16412	Igfb1	0.01	1.3	100520170	228852	Ppp1r16b	0.01	1.6
610546	223843	Dbx2	0.01	1.8	6370692	20321	Frrs1	0.01	-1.5	520091	75599	Pcdh1	0.01	-1.4
103990047		B230310H07Rik	0.01	2.1	2260711	68252	A030007L17Rik	0.01	1.7	100360347	77559	Ag1	0.01	1.5
4810458	109264	Me3	0.01	-1.5	105290767		LOC386149	0.01	1.4	7040288	67464	Entpd4	0.01	1.8
101450114	118452	Baal	0.01	1.4	100510091	70284	2310040G07Rik	0.01	1.5	4850184	107986	Dbd2	0.01	1.5
2640008	140481	Man2a2	0.01	1.7	6510603	171767	Fut10	0.01	1.4	50369	69072	Ebna1bp2	0.01	1.7
106520575	17159	Man2b1	0.01	1.5	101660706	382182	Ppp2r3a	0.01	1.8	1570546	56392	Shc2	0.01	-3.3
60731	22404	Wiz	0.01	1.3	6660609	14670	Gna-rs1	0.01	-1.3	105290402	101943	Sf3b3	0.01	1.6
2850494	229543	Ints3	0.01	1.3	2630093	68957	Paqf6	0.01	-1.8	105550685		F830002E14Rik	0.01	-3.1
6200739	320808	Wdr22	0.01	1.4	5270441	53378	Sdcbp	0.01	-1.4	2360019	245386	6430550H21Rik	0.01	-1.8
2740397	69994	Rsc1a1	0.01	1.3	1660142	231003	Klhl17	0.01	1.5	3780110	272396	Tarsl2	0.01	1.7
5670026	66231	Thoc7	0.01	-2.0	7000114	76205	Stard3nl	0.01	1.5	5700072	99311	Commd7	0.01	-1.4
106100592		LOC328014	0.01	-1.3	5340402	217980	Larp5	0.01	-1.5	4670541	68018	Col4a3bp	0.01	-1.5
107100725	11787	Apbb2	0.01	1.3	105220324		LOC233307	0.01	1.5	5910121	30959	Ddx25	0.01	-1.5
100730451	67062	Mcart6	0.01	1.7	7400528	19692	Reg1	0.01	1.3	101740397	68889	Ubac2	0.01	1.6
105220022	66867	Hmg20a	0.01	1.7	1400129	11798	Birc4	0.01	-1.3	104560358	57247	Zfp276	0.01	1.4
105860148	73229	3110052M02Rik	0.01	-1.5	5700458	101314	6720456B07Rik	0.01	-1.5	104230044	52023	D14Ert4581e	0.01	1.4
1570156	67894	1810055E12Rik	0.01	-1.6	770528	76469	Cmya5	0.01	1.5	6520176	69953	2810025M15Rik	0.01	3.1
360397	75410	Wbp7	0.01	1.4	105050068	268396	Sh3pxd2b	0.01	1.6	4050070	67453	Slc25a46	0.01	-1.3
1340180	50780	Rgs3	0.01	1.3	4570292	11870	Art1	0.01	1.3	101190446	69740	Dph5	0.01	1.9
6110088	109154	2410014A08Rik	0.01	1.8	1340064	56392	Shoc2	0.01	-1.7	3290440	52639	Wip1	0.01	-1.6
2060131	94064	Mrpl27	0.01	-1.4	2450315	110816	Pwp2	0.01	-1.3	104920563	13347	Dffa	0.01	-2.5
6860253	11541	Adora2b	0.01	-1.3	1940438	24099	Tnfrsf13b	0.01	-1.5	6620494	320632	Ascc3l1	0.01	-1.8
520075	107729	Ubg	0.01	-2.2	6350446	22196	Ube2i	0.01	-1.8	2850487	66599	Rdm1	0.01	1.3
630114	102502	Al427122	0.01	1.3	103830279	54393	Gabrr1	0.01	-1.5	2940736	12032	Bcan	0.01	1.4
4810609	76539	D19Ert4737e	0.01	-1.3	106520037	77877	6030458C11Rik	0.01	-1.4	3610113	70767	Prpf3	0.01	1.4
3840082	18854	Pml	0.01	1.3	1580086	50769	Atp8a2	0.01	1.5	103290372	114669	9430032L10Rik	0.01	1.5
6450390	20867	Stip1												

101500088	383295	Ypel5	0.01	1.5	106860154	63959	Sic29a1	0.01	1.5
5220450	14719	Got2	0.01	-1.5	5890541	103511	BB146404	0.01	-1.9
4480427	52028	Bbs1	0.01	1.3	6650441	545725	Mterf	0.01	-1.4
6110014	66832	Rsh12a	0.01	1.9	106130180	16412	Itgb1	0.01	1.5
4200433	102607	Snx19	0.01	-1.3	4610092	213990	Centg3	0.01	-2.2
2680082	20450	St8sia2	0.01	-1.4	4570632	209131	Snx30	0.01	-4.9
4540593	71492	Bbs7	0.01	-1.4	102810239	68895	Ras111a	0.01	2.2
105270725	227682	Trub2	0.01	1.3	3830458	74284	1700086L19Rik	0.01	-1.7
103190725	170822	Usp33	0.01	1.5	3990537	110173	Manba	0.01	1.4
2450368	14225	Fkbp1a	0.01	-1.5	4920440	14799	Gria1	0.01	-1.4
2470047	12867	Cox7c	0.01	-1.6	2630672	21766	Tex261	0.01	-1.8
100460075	319555	Nwd1	0.01	1.7	3610519	19215	Ptgd5	0.01	2.7
1570164	70235	Wdr51a	0.01	1.7	2640446	67564	Tmem35	0.01	-1.8
1240452	19125	Prodh	0.01	1.3	6940239		2610204M08Rik	0.01	1.5
101660242	14950	H13	0.01	2.1	1570086	67198	2810022L02Rik	0.01	-1.4
2370603	232536	Mrps35	0.01	-1.6	1980707	110651	Rps6ka3	0.01	-1.3
4150433	20133	Rrm1	0.01	1.5	1190139	22320	Vamp8	0.01	3.8
105570167	20983	Syt4	0.01	1.4	2190056		Pcdhgc5	0.01	1.4
3710020	18616	Peg3	0.01	-1.4	102850066		A130035O14Rik	0.01	1.6
940725	17470	Cd200	0.01	2.6	6130333	56491	Vapb	0.01	-1.7
104920368	383619	Aim2	0.01	1.3	1690600	17968	Ncam2	0.01	-1.5
100460711	319975	D630014H12Rik	0.01	1.4	102190039	80912	Pum1	0.01	1.8
360324	69109	1810009O10Rik	0.01	-1.3	540373	19724	Rfx1	0.01	1.3
2810577	20947	Swap70	0.01	-1.3	6860138	18082	Nipsnap1	0.01	-1.5
770487	225392	Rell2	0.01	-1.6	2190672	18103	Nme2	0.01	-1.3
104210088	606558	Bcl11b	0.01	1.3	7100605	228012	Tlk1	0.01	-1.3
100050139	73661	2210419D22Rik	0.01	-2.3	2650673	108937	Rnf169	0.01	1.5
730148	229663	Csde1	0.01	-1.5	5690047	50776	Polg2	0.01	-1.3
104230142	23854	Def8	0.01	1.6	106380133	268859	A2bp1	0.01	2.1
106130021	107733	Mrpl41	0.01	-1.3	3130131	240185	9430020K01Rik	0.01	1.3
6650671	19302	Pxmp3	0.01	-1.3	3120131	29862	Ninj2	0.01	1.6
102510731	269019	Stk32a	0.01	-1.4	4570068	20315	Cxcl12	0.01	1.8
4850164	17748	Mt1	0.01	-1.4	5550184	17005	Ltk	0.01	1.5
5130048	20930	Surf1	0.01	-1.3	110026	72459	Htatsf1	0.01	-1.3
104590215	17268	Meis1	0.01	1.3	2480402	414109	9830163H01Rik	0.01	-1.3
4810176	235682	Zfp445	0.01	-1.5	610427	11676	Aldoc	0.01	1.3
780020	319984	Jph4	0.01	-1.3	2630112	241490	Rbm45	0.01	-1.6
2450278	15959	Ifit3	0.01	-1.3	100520465	69847	Wnk4	0.01	1.9
2370309	245688	Rbbp7	0.01	-1.5	102230537	545725	Mterf	0.01	1.5
5270592	66330	1700020L24Rik	0.01	1.3	3170131	12234	Btrc	0.01	1.8
2100025	212679	Mars2	0.01	-1.4	3800446	69010	Anapc13	0.01	2.2
5290088	218613	Mier3	0.01	-1.3	104540338	69188	MI15	0.01	3.3
105340286	67836	1500041N16Rik	0.01	1.4	101690487		1810008K04Rik	0.01	-1.7
104230019		A230095E03Rik	0.01	1.6	3060064	94112	Med15	0.01	1.7
101190446	69740	Dph5	0.01	1.8	102370184	238247	Arid4a	0.01	1.7
5910114	14450	Gart	0.01	-1.3	3170095	12960	Crybb1	0.01	1.6
2680037	11737	Anp32a	0.01	-1.4	4730204	403185	4932443I19Rik	0.01	-1.4
105910142	114615	Elac1	0.01	-1.5	6040079	68262	Agpat4	0.01	1.4
105390600	353235	Pcdha8	0.01	-2.7	1660253	232976	Zfp574	0.01	-1.3
870433	54709	Eif3i	0.01	-1.3	103440097		A930038D23Rik	0.01	1.4
105220347	22158	Tulp3	0.01	1.3	3360301	67848	Ddx55	0.01	-1.4
610288	14738	Gpr12	0.01	1.7	102060148	383229	EG383229	0.01	-1.6
103130059	18028	Nfib	0.01	1.7	510082	27756	Lsm2	0.01	1.4
3830112	50878	Stag3	0.01	1.3	102970204	50913	Olig2	0.01	1.8
520102	78697	Pus7	0.01	-1.5	101940082	70557	5730416O20Rik	0.01	1.4
106200576	18746	Pkm2	0.01	1.4	1990113	244418	D8Ert082e	0.01	-1.8
2350152	66427	Cyb5b	0.01	1.3	5360487	27049	Etv3	0.01	1.7
2760204	21367	Cntn2	0.01	2.8	106980026	75612	Gns	0.01	1.7
4210037	233863	Gtf3c1	0.01	-1.4	2940427	12295	Cacnb1	0.01	-1.3
3610301	19141	Lgmn	0.01	-1.5	106840075	246316	Lgi2	0.01	2.6
2450037	217201	Rundc1	0.01	-1.3	6450292	23965	Odz3	0.01	-1.8
6510364	11807	Apoa2	0.01	1.9	2470465	72162	Dhx36	0.01	-1.5
770138	21423	Tcf2a	0.01	-1.3	102190053	78288	5330421F21Rik	0.01	1.8
2100463	66511	2500003M10Rik	0.01	-1.4	6110685	104732	4930427A07Rik	0.01	-1.4
1170152	233575	Frag1	0.01	1.8	3870113	19158	Pscd2	0.01	-1.5
2900368	268373	Ppia	0.01	-1.3	4280167	53881	Slc5a3	0.01	-1.4
102340309	15260	Hira	0.01	-1.4	3170037	68628	Fbxw9	0.01	-1.6
1410500	67043	Syp1	0.01	-1.5	2260403	68874	Klhdc9	0.01	-1.5
					101170446	13405	Dmd	0.01	-2.4
					101850154	69922	Vrk2	0.01	1.4
					105900017	69178	Snx5	0.01	1.4
					1570487	19058	Ppp3r1	0.01	-1.6
					105390722	242506	Frmd3	0.01	-1.8
					105860022	13840	Epha6	0.01	-2.6
					6350427	106894	A630042L21Rik	0.01	-1.4
					6380609	328329	Mast4	0.01	-1.5
					5690110	18569	Pdcd4	0.01	-1.6
					3120494		5830493J20Rik	0.01	-1.3
					5130411	229357	Gpr149	0.01	1.3
					580463	81630	Zbtb22	0.01	1.6
					4850181	70375	Ica1l	0.01	-1.8
					130092	21854	Timm17a	0.01	-1.3
					104200402	13052	Cxadr	0.01	2.8
					2450368	14225	Fkbp1a	0.01	1.4
					2510373		BC030045	0.01	1.7
					103990215	78785	Clip4	0.01	-1.7
					104230047	215949	E230008D17Rik	0.01	1.3
					6020519	654465	EG654465	0.01	-1.3
					106550458	78785	Clip4	0.01	-1.7
					1240315	218397	Rasa1	0.01	-1.4
					3360114	66515	Cul7	0.01	-1.4
					3120397	21685	Tef	0.01	1.3
					102470053	64817	Svep1	0.01	1.9
					105910047		LOC380953	0.01	1.3
					106590647	16524	Kcnj9	0.01	2.7
					1500541	72399	Brp	0.01	1.9

101580128	83671	Syt12	0.01	2.0
2230458	56459	Sae1	0.01	-1.5
5720048	104910	Al132487	0.01	1.8
7000161	27393	Mrpl39	0.01	-1.7
2690632	218734	3830406C13Rik	0.01	-1.3
100050044	214899	Jarid1a	0.01	1.3
105900128	380928	Lmo7	0.01	2.0
2230021	80515	A030009H04Rik	0.01	-1.9
380408	21770	Ppp2r5d	0.01	1.6
360181	15569	Elavl2	0.01	-1.5
6900484		C330046E03	0.01	-1.8
105220524	66435	Ugcgl2	0.01	2.0
100540717	74782	Glh8d2	0.01	1.4
100450008	68585	Rtn4	0.01	2.5
130215	12862	Cox6a2	0.01	1.8
4200673	13392	Dlx2	0.01	-1.6
105340019	320876	D930002L09Rik	0.01	-1.7
1170593	66959	Dusp26	0.01	1.9
105670673		18S_rRNA_X00686	0.01	-3.0
106450170	109151	Chd9	0.01	1.3
360427	69639	Exosc8	0.01	-1.7
610162	18120	Mrpl49	0.01	-1.3
2900438	76117	Arhgap15	0.01	1.4
106220446	64652	Nisch	0.01	2.1
100460070	320587	A230069A22Rik	0.01	-1.6
106660603	170719	Oxr1	0.01	2.4
3840066	224904	Z410015M20Rik	0.01	-1.4
103190048	330189	Tmem120b	0.01	1.3
4150132	20832	Ssr4	0.01	-1.4
2630152	94282	Sfxn5	0.01	-2.3
4810019	13480	Dpm1	0.01	-1.7
4730113	74100	Arpp21	0.01	-1.4
6110458	71302	Arhgap26	0.01	1.9
630332	229663	Csde1	0.01	-1.3
101240091		9626096_7-5	0.01	1.6
1940605	74098	0610037L13Rik	0.01	-1.6
3130451	26451	Rpl27a	0.01	-1.5
5860086	56424	Stub1	0.01	-1.3
105890148		LOC385019	0.01	-1.8
105670100	228852	Ppp1r16b	0.01	-2.2
2940035	140482	Zfp358	0.01	-1.6
2810131	20378	Frzb	0.01	1.6
630528	231148	Abilim2	0.01	1.4
6220092	110891	Sic8a2	0.01	-2.1
5570156	55992	Trim3	0.01	3.5
2450019	54325	Elovl1	0.01	1.6
2350168	109333	Pkn2	0.01	1.4
100730451	67062	Mcart6	0.01	1.9
105340152	65247	Asb1	0.01	1.8
105860148	73229	3110052M02Rik	0.01	-1.8
5390739	106025	Sharpin	0.01	-1.7
110044	224763	EG224763	0.01	-1.4
4280446	433700	Spag8	0.01	-1.5
106760372	72351	Ptar1	0.01	1.3
3870129	56515	Rnf138	0.01	1.6
100610609	209586	Nudcd3	0.01	1.4
5700577	20516	Sic20a2	0.01	-1.8
2510291	70762	Dclk2	0.01	1.4
6650397	66090	Ypel3	0.01	-1.6
730440	67495	2010200016Rik	0.01	-1.6
1780014	231549	Lrrcc8d	0.01	-1.6
105670725	18606	Enpp2	0.01	-3.2
6520204	105844	Card10	0.01	-1.6
104210471	218975	C130032J12Rik	0.01	2.2
6380347	20536	Sic4a3	0.01	-2.1
6040300	76884	Cyflp2	0.01	-1.5
110162	242126	Sic22a15	0.01	-1.5
2450039	319182	Hist1h2bh	0.01	2.1
3120537	12448	Ccne2	0.01	1.3
106040647	22704	Zfp46	0.01	1.8
4590427	13121	Cyp51	0.01	1.8
4610333	108155	Ogt	0.01	-1.7
3870093	230857	Ece1	0.01	-1.5
4540593	71492	Bbs7	0.01	-1.4
101570021	67647	4930523C07Rik	0.01	1.5
5390204	66789	Alg14	0.01	-1.4
106770463	77272	9430027B09Rik	0.01	1.3
6840161	223701	Mkl1	0.01	1.7
780433	67938	Mylc2b	0.01	-1.4
2370286	53945	Sic40a1	0.01	-1.7
270437	66526	Z210012G02Rik	0.01	1.8
101240435	320190	A330015K06Rik	0.01	1.5
102190465	319461	D230040N21Rik	0.01	-1.4
380451	242083	Ppm1l	0.01	-1.5
1400324	58998	Pvrl3	0.01	-1.3
106380167	56195	Ptbp2	0.01	-2.6
104010528	244911	EG244911	0.01	2.3
3360181	216560	AV249152	0.01	1.9
101780504	54393	Gabbr1	0.01	-4.5
103440433	66867	Hmg20a	0.01	1.4
1170725	230872	Crocc	0.01	2.4
6200369	66494	Prelid1	0.01	1.5
3710193	78248	Armxc1	0.01	-1.5
5360400	72287	Plekhf1	0.01	1.7
6510364	11807	Apoa2	0.01	1.6
4780242	66873	1200009022Rik	0.01	-1.6

1580358	235682	Zfp445	0.01	-1.3
6520102	53895	Clpp	0.01	-1.3
101850735		LOC385909	0.01	-2.4
2850121	319423	D930031A20Rik	0.01	-1.4
1740520	242585	Slc35d1	0.01	-1.6
1740017	19732	Rgl2	0.01	1.9
103830450	20887	Sult1a1	0.01	1.7
3520092	12931	Crif1	0.01	1.8
3170019	272359	Irf2bp1	0.01	-1.7
2940142	66556	Drap1	0.01	-1.4
50019	228608	Smox	0.01	1.5
100770397		LOC278147	0.01	1.6
101940133	94217	Lrp1b	0.01	-1.7
104670368	73464	1700057A11Rik	0.01	1.4
105130215	26968	Islr	0.01	1.4
6450044	12576	Cdkn1b	0.01	2.1
1430139		LOC433479	0.01	1.4
102680471	102645	B930001P03Rik	0.01	-1.3
540358	14651	Hagh	0.01	1.5
5570044	11777	Ap3s1	0.01	-1.7
105690064	72899	Macrod2	0.01	1.3
104560707	15129	Hbb-b1	0.01	3.6
6660692	382073	Ccdc84	0.01	-1.4
6760706	53621	Cnot4	0.01	-1.4
360687	12846	Comt	0.01	1.9
100630600	53376	Usp2	0.01	1.6
101580279	27360	Add3	0.01	1.4
2190021	13447	Doc2b	0.01	2.6
780400	67042	Rab14	0.01	1.4
3450139	226610	C030014K22Rik	0.01	-1.4
1050019	11658	Alcam	0.01	-1.5
3610170	227325	Dner	0.01	-1.3
450725	93874	Pcdh3	0.01	-2.1
7100180	140580	Elmo1	0.01	1.7
100360465	414758	S830428H23Rik	0.01	2.7
3450402	80877	Lrba	0.01	-1.3
1170736	94062	Mrp3	0.01	2.1
6510035	67049	Pus3	0.01	-1.7
1570348	170833	Hook2	0.01	-1.6
6040403	11370	Acadvl	0.01	-1.8
103290373	20230	Satb1	0.01	-1.4
2640091	243469	Igk	0.01	-1.3
6290168	378430	Nanos2	0.01	-1.6
630128	19743	Rhag	0.01	1.3
5890546		Hectd1	0.01	-2.0
5910017	108086	2810055G22Rik	0.01	1.8
102690347	13645	Egf	0.01	1.4
4280487	17153	Mal	0.01	2.5
730754	94246	Arid4b	0.01	-1.5
5080056	252868	Od4	0.01	-1.3
3120441	104009	Qsox1	0.01	-1.6
105270148	68709	Clp2	0.01	-1.6
4780102	109889	Mzf1	0.01	-1.5
101230170	13176	Dcc	0.01	-1.5
106900601	320214	4932425I24Rik	0.01	-1.3
5690377	67292	Pigc	0.01	1.4
6220075	228550	Itpka	0.01	1.5
1660403	77124	9130221H12Rik	0.01	-1.4
670100	14405	Gabrg1	0.01	-1.4
1030280		BC010304	0.01	1.3
1410427	80883	Ntng1	0.01	-2.0
106860494	385462	6330437B22Rik	0.01	1.5
6420670	14768	Lanc1	0.01	1.6
104920377	385034	D430030C18Rik	0.01	2.4
3610309	594844	Tceal3	0.01	-1.4
104120072	381801	Tatdn2	0.01	-1.9
2060504	103712	6330403K07Rik	0.01	-1.9
2350270	76282	Gpt1	0.01	-1.6
5550348		1200014I11Rik	0.01	-1.4
105890528	225888	Suv420h1	0.01	1.8
2680369	107476	Acaca	0.01	1.5
3390546	257883	Olfir1357	0.01	-1.3
3610373	70461	Crtc3	0.01	-1.5
101770086	78283	Mtap7d2	0.01	1.5
6590435	106369	Ypel1	0.01	-1.3
1340239	13587	Ear2	0.01	-1.3
105290014	20383	Sfrs3	0.01	1.6
102450097	230085	N28178	0.01	2.2
840673	52013	D19Ert386e	0.01	1.5
130035	107566	Arl2bp	0.01	-2.3
102850064	67262	2900016B01Rik	0.01	-17.5
3390079	14696	Gnb4	0.01	1.5
6550133	27993	Imp4	0.01	1.3
104560546	78798	Eml4	0.01	1.6
102320082		LOC270017	0.01	-2.5
101090400	17128	Smad4	0.01	1.6
103130537	68526	Gpr155	0.01	1.7
4150242	12522	Cd83	0.01	-1.9
3520333	225742	St8sia5	0.01	-1.6
110746	11409	Acads	0.01	-1.5
106550551	74025	Nphp3	0.01	-2.6
1570717	76482	3110002H16Rik	0.01	-2.0
101990093	226525	Rasal2	0.01	1.4
102640181	11785	Apb1	0.01	1.6
2190358	57321	Terf2lp	0.01	-1.6
4150079	20701	Serpina1b	0.01	-2.7

105690497	13518	Dst	0.01	1.8
2640494	66448	Mrpl20	0.01	-2.4
2320484	193116	Slu7	0.01	-2.0
5900400	22764	Zfx	0.01	-1.6
1340270	22652	Mkrm3	0.01	1.3
104570575		LOC384008	0.01	1.5
2690435	68728	Trp53inp2	0.01	1.4
103830725	12345	Capzb	0.01	1.4
3610195	109934	Abr	0.01	1.8
103610735	16656	Hivep3	0.01	1.8
6130731	107094	Rrp12	0.01	-1.3
101230301	56706	Ccn1	0.01	1.3
2640707	330788	D330038O06Rik	0.01	-1.3
6450286	378466	ENSMUSG0000005	0.01	2.6
2450037	217201	Rundc1	0.01	1.5
104150040	78874	B230201I24Rik	0.01	-1.3
102680315		Sic30a10	0.01	1.3
940754		Pcna	0.01	-1.6
106620471	77422	C330018D20Rik	0.01	1.5
5290736	66447	Mgst3	0.01	-2.0
3140435	214932	Cecr5	0.01	-1.4
3450040	22040	Trex1	0.01	1.4
104780594	94112	Med15	0.01	1.6
103990047		B230310H07Rik	0.01	1.7
102190021	320609	D330017I20Rik	0.01	3.9
240768	257900	Olfr1024	0.01	-1.3
106620037		LOC380689	0.01	1.5
105890600	72091	Snhg7	0.01	-2.7
102900242	320987	Klhl3	0.01	1.8
6400524	21372	Tbl1x	0.01	-1.7
4010044	268395	Mpg	0.01	1.3
105390010	320615	Dopey1	0.01	-1.3
4610039	228491	Zfp770	0.01	-1.7
870092	56787	Ascl3	0.01	-1.7
6520717	18567	Pdcd2	0.01	-1.3
3830687	72930	Ppp2r2b	0.01	-1.6
2450215	22192	Ube2m	0.01	1.6
103130100		LOC380906	0.01	-1.4
6590044	27632	Rdbp	0.01	-1.5
2900288	17918	Myo5a	0.01	1.4
7550703	72780	Rspo3	0.01	-1.6
103800739	100177	Zmyrm6	0.01	1.8
101570242		LOC386082	0.01	-2.8
7050064	68634	Tm2d3	0.01	1.7
1780541	93710	Pcdhga2	0.01	1.4
3120594	24157	Acaa1	0.01	1.6
380390	104458	Rars	0.01	1.5
1240193	76238	Grhpr	0.01	-1.5
2940403	212670	Catsper2	0.01	-1.3
102470075		scf0001842.1_115	0.01	1.4
6660133	22590	Xpa	0.01	-1.4
105080427	12293	Cacna2d1	0.01	1.6
2630746	12659	Ovgp1	0.01	-1.6
4230035	14696	Gnb4	0.01	-2.3
540110	321008	6330408A02Rik	0.01	-1.6
2260278	54208	Arl6ip1	0.01	1.9
1780064	20346	Sema3a	0.01	-1.4
103520167	68034	2900009I07Rik	0.01	1.4
50088	15051	H2-T9	0.01	1.6
1580242	67203	Nde1	0.01	1.4
101570008	99937	5330432B20Rik	0.01	-1.4
103440400	668173	Pex10	0.01	-1.7
102340064	19263	Ptprb	0.01	-1.4
5700092	12846	Comt	0.01	1.9
102190301	78514	Arhgap10	0.01	-1.4
104540538	11881	Arsb	0.01	2.4
1450132	58230	Rnf8	0.01	1.6
4780670	69572	Mfsd3	0.01	-1.6
5340603	244373	Erlin2	0.01	2.9
102120577	68910	Zfp467	0.01	-1.4
3780546	242362	Manea	0.01	-1.4
104120039	77294	9430064K01Rik	0.01	1.7
103520746	69635	Dapk1	0.01	1.5
1770170	74463	Exoc3l2	0.01	-1.3
101190538	12183	Bpgm	0.01	-1.8
104120162	382040	LOC382040	0.01	-3.5
380086	51791	Rgs14	0.01	-2.1
450324	258407	Olfr464	0.01	-1.5
2030725	319154	Hist2h3b	0.01	1.4
106940193	20348	Sema3c	0.01	1.7
104570161		9629514_7_rc-5	0.01	-1.4
100520088	71137	Rfx4	0.01	-1.3
1850746	74720	4930511I11Rik	0.01	-1.6
5290408	20016	Rpo1-1	0.01	-1.7
460129	56534	Hspb3	0.01	-1.3
100770520	230235	6430704M03Rik	0.01	3.9
100070594	234695	D130029J02Rik	0.01	1.4
101850286	16522	Kcnj6	0.01	1.8
380152	26939	Polr3e	0.01	1.9
2030138	223922	Atf7	0.01	1.3
6520242	13842	Epha8	0.01	1.6
104920324	383131	LOC383131	0.01	-2.1
101770520	16554	Kif13b	0.01	1.7
100870292	383295	Ypel5	0.01	1.4
5220048	382056	Crtc1	0.01	2.1
3870176	75291	Zbtb3	0.01	-1.3

6510072	14605	Tsc22d3	0.01	3.0
6520068	11973	Atp6v1e1	0.01	-1.4
1780215	14537	Gcnt1	0.01	-1.7
2940609	239510	Phf20l1	0.01	1.7
102850673	71811	2610027H17Rik	0.01	2.2
2030072	13063	Cycs	0.01	-1.3
110215	66419	Mrpl11	0.01	1.5
6520603	54633	Pqbp1	0.01	1.3
3390154	22720	Zfp62	0.01	-1.4
4210070	101206	Tada3l	0.01	1.3
106650463	20741	Spnb1	0.01	1.3
6110152	93898	Lass1	0.01	2.2
100580347	29858	Pmm1	0.01	2.0
2100168	71435	Arhgap21	0.01	-1.3
102120707	70661	BC033915	0.01	1.8
5270482	14964	H2-D1	0.01	-1.3
105220136	20451	St8sia3	0.01	1.4
4280440	230917	D4Ert429e	0.01	-1.5
101450577	66435	Ugcg2	0.01	1.8
540687	22427	Wrn	0.01	-1.5
6450026	78938	Fbxo34	0.01	1.4
770372	17912	Myo1b	0.01	-1.3
540280	11774	Ap3b1	0.01	1.3
1660484	112407	Egln3	0.01	-1.3
2350450	50492	Thop1	0.01	-1.5
6660619	14683	Gnas	0.01	-1.4
4480427	52028	Bbs1	0.01	1.3
3140176	214505	Gnptg	0.01	1.4
4050408	12035	Bcat1	0.01	1.4
3130091	67153	Rnaseh2b	0.01	-1.3
3780593	228071	Sestd1	0.01	1.6
103120369	78523	Mrpl9	0.01	1.6
5220215	19883	Rora	0.01	-1.4
460520	52906	Ahi1	0.01	-1.3
6980402	18628	Per3	0.01	2.0
103170053	380921	Dgkh	0.01	1.9
2690176	54343	Atf7ip	0.01	1.5
3180682	54371	Chst2	0.01	1.6
5130154	11553	Adra2c	0.01	-1.7
1990154	18007	Neo1	0.01	-1.6
4670040	19017	Ppargc1a	0.01	-1.9
5900279	239410	A930017M01Rik	0.01	-1.9
2690136	56219	Extl1	0.01	-1.5
110037	67731	Fbxo32	0.01	-1.4
104230162		LOC383616	0.01	-1.7
101050332	258815	Olfr1218	0.01	1.3
101170576	66939	2310007F21Rik	0.01	1.9
104230204		LOC383340	0.01	1.3
6040121	18441	P2ry1	0.01	-1.3
2760402	268977	Ltbp1	0.01	-1.6
670687	216136	Ilvbl	0.01	-1.6
3190347	66671	Ccnh	0.01	-1.9
630373	60597	Mapk8ip2	0.01	-1.6
870253	12803	Cntf	0.01	-1.4
4280037	75425	2610036D13Rik	0.01	1.3
101450020		LOC243823	0.01	-1.7
104920347	268902	Robo2	0.01	1.7
60524	13036	Ctsh	0.01	-1.4
102100600	233410	Zfp592	0.01	1.6
5220711	235044	BC018242	0.01	1.5
6220253	110959	Nudt19	0.01	3.1
103190014	240539	Gm336	0.01	-2.1
2360528	20068	Rps17	0.01	-1.4
4070519	242620	Dmrta2	0.01	-1.4
4610484	68080	Atpbd1c	0.01	1.4
6350020	20443	St3gal4	0.01	-1.6
101500088	383295	Ypel5	0.01	1.7
870324	15902	Id2	0.01	-1.9
6200138	229706	Slc6a17	0.01	1.5
100050026	69188	MLI5	0.01	1.7
104560487	241322	Zbtb6	0.01	2.0
106400520	259300	Ehd2	0.01	1.3
105390309	12234	Btrc	0.01	1.4
6840056	22163	Tnfrsf4	0.01	1.3
380538	13650	Rhbdf1	0.01	-1.6
7000315	69186	1810027O10Rik	0.01	-1.5
102680129	77779	A930007I19Rik	0.01	1.3
5290253	209760	Tmc7	0.01	1.9
100070168	15388	Hnrpl	0.01	-1.3
106200156	319244	9430091N11Rik	0.01	1.5
102230487	53963	D630030822Rik	0.01	-1.3
6020671	66905	M6prbp1	0.01	-1.5
2940397	235169	Foxred1	0.01	2.4
102100373	320404	Itpkb	0.01	1.5
5290168	12537	Cdc2l1	0.01	-1.7
6350332	68879	Prpf6	0.01	-1.5
1690685	108138	Xrcc4	0.01	-1.4
6620528	16348	Invs	0.01	-1.3
1400301	66391	2310061J03Rik	0.01	-1.4
2060722	20663	Sos2	0.01	-1.5
870148	71446	Vrb	0.01	-1.4
105220309	18536	Pcm1	0.01	1.4
106510551	207212	Arhgef17	0.01	1.7
2030021	12123	Hrk	0.01	-1.8
105130400	53378	Sdcbp	0.01	-1.3
3940288	19339	Rab3a	0.01	-2.1

103360110	77772	Dcst1	0.01	-1.3
2680450	224171	C330027C09Rik	0.01	-1.3
2060131	94064	Mrpl27	0.01	-1.3
102690438	78610	Uvrug	0.01	-1.5
2190563	67951	Tubb6	0.01	-1.5
4050170	67249	Tbc1d19	0.01	-1.8
1090685	225523	Ccdc100	0.01	-1.5
101990402	30841	Fbxl10	0.01	1.9
101090161	24010	Ik	0.01	1.3
4200678	626359	LOC626359	0.01	-1.3
110338	140580	Elmo1	0.01	1.4
6200082	100737	Dcun1d4	0.01	-1.5
510162	237107	Gnl3l	0.01	1.8
3360333	103978	Gpc5	0.01	1.7
106130373	93871	Brwd1	0.01	1.8
104780446	408057	BC039771	0.01	1.7
107000673	64652	Nisch	0.01	1.4
100940546	12830	Col4a5	0.01	-1.6
4610670	258638	Olfr1163	0.01	-1.3
104830537	67703	Kirrel3	0.01	2.5
1500601	23856	Dido1	0.01	1.3
103360692	72087	2010015M23Rik	0.01	-1.3
106130400	14391	Gabpb1	0.01	1.5
2470348	78317	Ccdc88b	0.01	-1.6
102680201		4930518I15Rik	0.01	2.4
103130463	78693	C030004M13Rik	0.01	1.5
5220735	71973	Rbpms2	0.01	1.3
101940601	73053	2900078C09Rik	0.01	1.8
4560050	72960	Top1mt	0.01	-1.6
4570711	66455	2610019P18Rik	0.01	-1.4
104920053	17151	Ccndbp1	0.01	1.6
1500022	58809	Rnase4	0.01	-2.6
2100167	18824	Plp2	0.01	-1.6
6760576	327744	E130307A14Rik	0.01	-1.5
450403	29811	Ndr2	0.01	1.6
6940121	18286	Odf2	0.01	-1.4
3520671	20638	Snrb	0.01	1.5
3710427	70575	Gfod2	0.01	-1.6
104730110	216156	Wdr18	0.01	1.3
5080100	13664	Eif1a	0.01	-1.7
6130605	14056	Ezh2	0.01	-1.5
2470095	227867	Epc2	0.01	-1.4
104760131	50876	Tmod2	0.01	1.5
1980309	16918	Mycl1	0.01	-1.5
2690167	319195	Rpl17	0.01	-1.6
730731	56324	Stam2	0.01	-1.3
4060673	233335	Dmn	0.01	-2.1
5670711	11863	Arnt	0.01	1.6
2120056	26932	Ppp2r5e	0.01	-2.0
106350446	217039	Ggnbp2	0.01	-1.9
103120059	433813	Pusl1	0.01	2.0
450711	16180	Il1rap	0.01	2.0
6770672	75533	Nme5	0.01	-2.0
103780592	21960	Tnr	0.01	-1.3
3360398	19089	Prkcsh	0.01	1.4
4760373	50785	Hs6st1	0.01	1.7
730458	14165	Fgf10	0.01	-1.4
6380333	244484	Wdr17	0.01	-1.5
105890619		2700024D06Rik	0.01	1.7
2030673	140723	Cacng5	0.01	-1.8
100510059	18647	Pftk1	0.01	-3.2
103190068	99526	Usp53	0.01	1.9
2470609	20750	Spp1	0.01	-3.1
105340647	72254	1700030K09Rik	0.01	1.5
6660497	13885	Esd	0.01	2.4
3850093	22019	Tpp2	0.01	-1.6
101400408	19164	Psen1	0.01	1.7
103940292	269881	Map3k10	0.01	-1.3
102230333		LOC386246	0.01	-2.6
4050021	232679	Zc3hc1	0.01	-1.3
103850605	71198	Otud1	0.01	1.4
1500347	276852	D11Wsu47e	0.01	-2.0
450047	232987	B9d2	0.01	-1.6
5550390	102294	Cyp4v3	0.01	-1.3
2120193	28114	Nsun2	0.01	-1.9
2570037	238875	9830130M13Rik	0.01	-1.3
2710441	268534	Sntg2	0.01	-1.6
5870273	73137	Prrc1	0.01	-1.8
105570176	66278	1810013D10Rik	0.01	1.4
130711	78751	Zc3h6	0.01	-2.0
1170017	545085	Wdr70	0.01	1.3
106040152	78545	C430014O12Rik	0.01	-1.4
104010364	68465	Adipor2	0.01	1.5
102810044	434402	EG434402	0.01	-1.8
3060338	209351	Wfdc6a	0.01	-1.7
5310681	22153	Tubb4	0.01	1.3
106110056	69718	lpmk	0.01	2.0
100050139	73661	2210419D22Rik	0.01	-3.5
100460008	331475	6430511F03	0.01	1.4
1740504	21763	Tex2	0.01	-1.4
4590725	118445	Klf16	0.01	-1.6
6760050	215474	Sec22c	0.01	-2.0
6550546	226153	Peo1	0.01	1.3
1450239	12861	Cox6a1	0.01	1.4
5220450	14719	Got2	0.01	1.9
104210736	77336	9430030N17Rik	0.01	1.3

1340113	241638	Prosapip1	0.01	1.6
102940739	236790	Ddx26b	0.01	1.3
102030520	21766	Tex261	0.01	1.3
4670563	50794	Klf13	0.01	1.9
106220280		LOC385992	0.01	-1.5
3190100	21761	Morf4l1	0.01	-1.3
4150315	78610	Uvrug	0.01	-1.4
101190309	75735	Pank1	0.01	1.3
101850706		LOC333818	0.01	-1.8
2350520	74241	D18wg1363e	0.01	-1.6
360347	106064	AW549877	0.01	-1.5
105690672	72762	2810436812Rik	0.01	-1.9
1240309	67803	Limd2	0.01	-1.7
105860008	72899	MacroD2	0.01	-1.7
100540037	77976	Nuak1	0.01	1.3
100840286	75754	9030607L02Rik	0.01	-1.5
1050035	77965	A930033C23Rik	0.01	1.4
6590309	26568	Slc27a3	0.01	1.9
6220017	67752	4930579J09Rik	0.01	-1.5
4640280		Pdpn	0.01	-2.1
6020324	97961	Nol12	0.01	1.5
102480441	20908	Stx3	0.01	1.3
102570402	18950	Np	0.01	2.1
105420600	328456	6720482D04	0.01	1.6
4570193	403180	Ccdc121	0.01	-1.7
1850079	193736	Zbtb12	0.01	-1.9
4540504	75686	Nudt16	0.01	-1.5
103870025	70646	Nat12	0.01	2.2
2030524	17532	Mras	0.01	1.5
2650093	20544	Slc9a1	0.01	-1.3
1450619	13026	Pcyt1a	0.01	-2.5
1170563	58230	Rnf8	0.01	1.3
104150577	15257	Hipk1	0.01	-1.6
101410022	226849	Ppp2r5a	0.01	1.6
580114	68828	Sync	0.01	-1.3
104610685	442800	D430018E03Rik	0.01	-1.3
6200446	15185	Hdac6	0.01	-1.8
2260162	13628	Eef1a2	0.01	-1.3
6770433	68565	Mrps18a	0.01	-1.3
6510286	23873	Faim	0.01	1.4
102100551	216848	Chd3	0.01	-1.5
104120440	94109	Csmd1	0.01	-1.3
6590397	233490	Crebzf	0.01	-1.3
4640537	12695	Inadl	0.01	-1.3
380095	75565	Ccdc101	0.01	-1.3
5860301	22690	Zfp28	0.01	-1.3
2630195	67703	Kirrel3	0.01	-1.4
105720576	13361	Dhfr	0.01	-1.4
460301	117599	Helb	0.01	-1.3
70142	20265	Scn1a	0.01	-2.0
103440735	17470	Cd200	0.01	3.1
2480035	12297	Cacnb3	0.01	1.3
3190021	320709	Tmem117	0.01	-1.5
102060041	211961	Asxl3	0.01	-1.3
105360494		LOC329698	0.01	1.4
6400086	319817	Rc3h2	0.01	-2.8
105080725	105442	B130052P14Rik	0.01	-1.4
1780075	54403	Slc4a4	0.01	1.6
2640673	77579	Myh10	0.01	1.9
6510497	53612	Vti1b	0.01	-1.8
2320064	231724	Rad9b	0.01	-1.3
630100	217143	Gpr179	0.01	-1.4
101090181	414077	BC056474	0.01	3.3
104850670	12421	Rb1cc1	0.01	-1.3
430273	118454	Gja12	0.01	-1.7
103520364	407786	Taf9b	0.01	1.7
106860121	20541	Slc8a1	0.01	2.4
4230703	21934	Tnfrsf11a	0.01	-1.6
104480605	232933	C530028I08Rik	0.01	1.5
1940022	171207	Arhgap4	0.01	-1.4
3130129	94061	Mrpl1	0.01	-1.3
106350500	380787	A230065H16Rik	0.01	-3.0
4670041	223227	Sox21	0.01	-2.0
106550411	76022	5830417I10Rik	0.01	-1.6
60195	56786	Tmem9b	0.01	1.7
104540717	68861	1190002N15Rik	0.01	2.0
102810600	77369	9430087D07Rik	0.01	1.3
4050288	108888	Atad3a	0.01	-1.5
940008	17761	Mtap7	0.01	2.3
101770593	69633	2310014D11Rik	0.01	1.6
101740110		LOC280487	0.01	-1.5
1570279	234734	Aars	0.01	-1.4
630070	72669	2810032G03Rik	0.01	-1.4
6110487	71963	Cdca4	0.01	-1.3
100460056	381853	Gipr	0.01	1.3
104230497	232879	ZBTB45	0.01	1.9
104780066	330836	Slc7a6	0.01	1.3
1090709	80517	Herpud2	0.01	1.7
104780184	20411	Sorbs1	0.01	1.4
3130601	99889	Arfp1	0.01	-1.4
4120170	56513	Pard6a	0.01	-1.3
4120746	51798	Ech1	0.01	-1.6
380021	108755	Lyrm2	0.01	-1.6
102970167	546001	D030022P06Rik	0.01	-1.5
101190711	71517	9030624I02Rik	0.01	1.5
2690538	399568	BC052040	0.01	-1.5

5270152	14412	Slc6a13	0.01	-1.8
5860576	64339	Fndc4	0.01	-1.5
101170347	20740	Srna2	0.01	1.5
2640008	140481	Man2a2	0.01	1.7
2570750	210417	Thsd7b	0.01	-1.8
2060100	69101	1810015A11Rik	0.01	-1.5
4120450	215114	Hip1	0.01	-1.5
6400369	83797	Smarcd1	0.01	1.4
3290315	18626	Per1	0.01	1.7
3140347	66052	Sdhc	0.01	-1.9
6860273	245000	Atr	0.01	-1.7
100130551		BC048412.1	0.01	1.4
105570398	68925	Rpap1	0.01	-1.7
770053	232089	Rbed1	0.01	1.5
670139	30931	Tor1a	0.01	-1.6
106940068	74268	Aven	0.01	-1.3
102650717	73663	2210419I08Rik	0.01	-1.5
360292	11491	Adam17	0.01	-1.8
3170168	319179	Hist1h2be	0.01	2.0
106350707		D430015M13Rik	0.01	-1.4
100540494	114664	Hsd17b11	0.01	2.6
106020152	71198	Otud1	0.01	1.5
100610706	67544	4932442K08Rik	0.01	-1.3
2370315	20402	Zfp106	0.01	1.6
60692	11307	Abcg1	0.01	-1.5
1230372	227620	Uap1l1	0.01	1.8
104780195	226421	5430435G22Rik	0.01	1.5
102260025	231430	Cox18	0.01	-2.0
101940463	77864	Ypel2	0.01	1.7
6200484	226539	Dars2	0.01	1.5
5910731	242864	AB112350	0.01	3.0
102940176	72125	2600011E07Rik	0.01	1.5
107040162	237403	BC072620	0.01	1.5
5290041	269997	6430604K15Rik	0.01	-1.4
100940372	327814	Ppfla2	0.01	1.3
2940692	13048	Cuti2	0.01	1.3
3610253	13481	Dpm2	0.01	-1.4
100780685	383712	LOC383712	0.01	1.5
103840092		LOC268569	0.01	1.6
1410026	70510	Rnf167	0.01	2.1
4230017	68695	Hddc3	0.01	2.3
6130129	225341	Lims2	0.01	-1.6
104060253	338362	Ust	0.01	2.0
105340026	66676	Tmed7	0.01	2.5
105390132	224647	D17Wsu92e	0.01	1.9
103290369	226562	Bat2d	0.01	-2.9
100780026	103207	Al426953	0.01	-1.8
5080397	14252	Flot2	0.01	1.3
6400020	210710	Gab3	0.01	-1.3
5050026	226830	Smyd2	0.01	1.5
103990315	217217	Asb16	0.01	-1.8
101190040	68095	Ociad1	0.01	-1.6
4560110	13497	Drp2	0.01	-1.6
2480358	100088	Rcc1	0.01	-1.4
2970300	26377	Dapp1	0.01	-1.3
380500	69349	1700008O03Rik	0.01	-1.4
101690093	320025	6430510820Rik	0.01	-2.1
5270500	244349	Myst3	0.01	-1.4
106650471	70729	Nos1ap	0.01	-2.7
5910142	50789	Fbxl3	0.01	-1.8
3450463	14086	Fscn1	0.01	2.3
106420091	380916	Lrch1	0.01	1.3
5910717	17083	Tmed1	0.01	-1.4
4560184	231093	Agbl5	0.01	1.3
3140364	53612	Vti1b	0.01	-2.6
6400148	18972	Pold2	0.01	-1.4
4560390	14677	Gnai1	0.01	-2.6
100580022	116838	Rims2	0.01	-1.3
5050685	219181	Akap11	0.01	1.8
101400300	73229	3110052M02Rik	0.01	-1.4
870131	69698	2310046K01Rik	0.01	-1.3
105720707	20466	Sin3a	0.01	1.4
102570059	238871	Pde4d	0.01	-1.6
3780537	68157	6720475J19Rik	0.01	1.4
3610398	76161	6330527O06Rik	0.01	1.3
2510673	56357	Ivd	0.01	1.3
106290288	106755	AV3444025	0.01	-1.6
102230390	22378	Wbp2	0.01	-1.3
2350500	12033	Bcap29	0.01	-1.3
102340605	109205	Sobp	0.01	-1.5
2340504	66142	Cox7b	0.01	-1.7
2030390	66396	Ccdc82	0.01	1.5
106130021	107733	Mrpl41	0.01	-1.5
4610020	22413	Wnt2	0.01	-1.8
100430113	243574	Kbtbd8	0.01	1.5
105690433	19217	Ptger2	0.01	1.3
4060332	213541	Ythdf2	0.01	1.5
4150164	14402	Gabrb3	0.01	-2.5
103390471	13199	Ddn	0.01	1.5
100430253	102141	Snx25	0.01	1.7
3310044	235130	Adamts15	0.01	-1.3
1770047	13614	Edn1	0.01	-1.6
6980671	244713	Zfp75	0.01	-1.5
107000600	75062	Sf3a3	0.01	-1.6
2480068	78895	Pus7l	0.01	-1.4
520097	18553	Pcsk6	0.01	1.5

3840008	67604	1110007L15Rik	0.01	-1.3
2260471	75434	1700001C02Rik	0.01	-1.5
106860112	238943	LOC238943	0.01	1.7
104210685	68988	Prpf31	0.01	1.3
6590528	244585	1700047E16Rik	0.01	1.3
60438	71785	Pdgfd	0.01	-1.3
104010278		A730024G14Rik	0.01	-3.3
6380136	72141	Adpgk	0.01	1.4
106130014	71941	Cars2	0.01	1.4
1500670	72556	Zfp566	0.01	1.3
101230053		LOC386094	0.01	-2.7
1740270	228859	D930001I22Rik	0.01	-1.4
4010687	73296	Rhobtb3	0.01	-1.7
450079	18186	Nrp1	0.01	1.5
5890594	208795	Tmem63a	0.01	1.5
104280324	218461	Pde8b	0.01	1.6
4210446	17159	Man2b1	0.01	1.6
103290398	382096	LOC382096	0.01	-1.6
1410053	20656	Sod2	0.01	-1.5
106110440	217843	9030205A07Rik	0.01	-1.5
2120619	58185	Rsad2	0.01	-1.5
2640079	13853	Epm2a	0.01	-1.8
5860133	102058	Exoc8	0.01	-1.4
2480056	20393	Sgk	0.01	4.8
5130707	50927	Nasp	0.01	1.3
6520576	101706	Numa1	0.01	-1.4
105720603	104156	Etv5	0.01	1.5
3710047	207740	1500031H01Rik	0.01	2.3
6620102	435626	Rufy4	0.01	-1.3
3710112	19415	Rasal1	0.01	1.7
3780041	239027	Arhgap22	0.01	-1.5
1740563	66610	Abi3	0.01	-1.4
2760647	320795	Pkn1	0.01	-1.3
106520647	215999	Ccdc109a	0.01	2.5
940402	83679	Pde4dip	0.01	-1.3
107050685	71778	Klhl5	0.01	1.4
6450347	54217	Rpl36	0.01	-1.7
6980301	14431	Gamt	0.01	1.6
102850010	330544	C230091D08Rik	0.01	1.5
100050181	78465	1700084C01Rik	0.01	-2.1
4920452	66449	Magmas	0.01	-1.6
104050484	213582	Mtap9	0.01	1.3
6770047	20778	Scarb1	0.01	-1.3
5700315	28081	D11Wsu99e	0.01	-1.3
2680114	386753	Dbpht2	0.01	-1.9
5900445		Phactr3	0.01	1.3
102320577	84585	Rnf123	0.01	1.3
60451	319477	6030419C18Rik	0.01	-1.8
3780398	98238	Lrrc59	0.01	-1.6
4540465	14538	Gcnt2	0.01	-1.5
104210113	69988	2010205J10Rik	0.01	-1.7
2100154	21991	Tpi1	0.01	-1.3
4230575	231452	Sdad1	0.01	1.5
1570538	231912	Katnal1	0.01	-1.4

Full list of significant differences in corticolimbic gene expression between restrained and non-restrained C57BL/6J mice

vmPFC					Amygdala					Hippocampus				
ProbeID_vmPFC	Gene_ID	Gene_Symbol	ttest_PFC_BovBER	Fold_change_restraint	ProbeID_AMY	Gene_ID	Gene_Symbol	ttest_BLA_BovBER	Fold_change_restraint	ProbeID_HIP	Gene_ID	Gene_Symbol	ttest_Hip_BovBER	Fold_change_restraint
5700725	140546	Prnp1p1	0.00005	1.7	106040692	73526	Speer4b	0.00002	-1.3	1770333	18710	Pik3r3	0.00003	3.3
106100524	229599	Gm129	0.0001	1.9	1570131	78818	S830407P18Rik	0.00003	1.4	940014	18526	Pcdh10	0.00008	1.9
100450059	67811	Poldip2	0.0002	-1.4	3120440	19094	Mapk11	0.00004	-1.5	5050593	20361	Sema7a	0.0001	2.5
103140601		9030003C19Rik	0.0003	-1.3	4850014	56209	Mir16	0.00006	1.3	6650397	66090	Ypel3	0.0001	1.5
670711	18551	Pcsk4	0.0004	1.3	2320253	246710	Rhobtb2	0.00007	1.5	5690112	67974	Ccny	0.0001	1.9
106400725	75735	Pank1	0.0005	-1.3	5270435	231717	A230106M15Rik	0.00007	1.3	105340056	78436	A930018C05Rik	0.0002	-1.5
102320746	27395	Mrpl15	0.0008	-1.4	102030091	14683	Gnas	0.0001	-1.7	670471	107999	Gtpbp6	0.0002	1.4
5550438	227612	A830007P12Rik	0.001	-1.4	5720338	74182	AK030645.1	0.0002	1.4	4200270	13170	Dbp	0.0002	2.5
3710746	66464	Taf12	0.001	1.3	106370528	623661	A230090K04Rik	0.0002	1.5	100050129	67464	Entpd4	0.0003	-1.3
105690750	19274	Ptprm	0.001	-1.4	3710487	12295	Cacnb1	0.0002	1.3	102350102	207678	Zfp648	0.0003	-1.8
100870133	19386	Ranbp2	0.001	-1.3	106770538	67847	Sncalp	0.0002	-1.8	2970050	67332	Snrp3	0.0003	2.0
5890131	18205	Ntf3	0.002	1.3	6510717	12741	Cldn5	0.0003	-1.5	3170278	269536	Tex10	0.0004	-1.3
103120376	108655	Foxp1	0.002	-1.3	5700025	59046	Arpp19	0.0003	1.6	1690324	74342	Lrrtm1	0.0005	1.3
101340347	68053	3110003A22Rik	0.002	-1.4	5700008	98766	Ubcac1	0.0003	1.3	100130039	330409	Cecr2	0.0005	-1.3
1170706	56088	Dscr2	0.002	1.4	101850707		A230020C19Rik	0.0003	-1.4	104610685	442800	D430018E03Rik	0.0005	1.4
102940484	16539	Kcns2	0.002	-1.4	4540093	13546	dwt	0.0003	-1.3	105910021	17912	Myo1b	0.0005	-1.4
102810735	18010	Neu1	0.002	-1.4	4730131	83679	Pde4dip	0.0004	1.3	3060022	57740	Stk32c	0.0005	2.0
100460433	382084	LOC382084	0.002	-1.4	1400725	66849	Ppp1r2	0.0005	1.4	101780164	13194	Ddb1	0.0006	-1.3
106900041	1f+08	ENSMUSG000000054797	0.002	-1.6	2320333	67876	Coq10b	0.0005	1.4	100770072		LOC381151	0.0006	-2.2
101660164	329251	Ppp1r12b	0.002	-1.4	4200270	13170	Dbp	0.0005	1.8	2900091	56471	Stmn4	0.0006	3.6
2900546	50868	Keap1	0.002	1.3	130435	22284	Usp9x	0.0006	-1.3	4390398	57376	Smarce1	0.0007	2.4
106860537	207304	Hectd1	0.002	-1.4	2690092	13175	Dclk1	0.0006	1.4	4540239	114664	Hsd17b11	0.0007	3.1
105670239	104816	A530050D06Rik	0.002	-1.3	104810170	381199	Tmem151	0.0006	-1.3	2760215	83704	Slc12a9	0.0007	-1.3
100380528	382236	Brwd3	0.002	-1.4	520735	22004	Tpm2	0.0006	1.3	105550102			0.0007	-1.5
4850309	66409	Rsl1d1	0.003	1.3	106480154	407819	BC031181	0.0006	1.3	100540717	74782	Git8d2	0.0007	-1.5
2360619	58991	Ghrl	0.003	-1.3	4590239	71153	Mal	0.0007	1.8	100050044	214899	Jarid1a	0.0008	-1.7
102370364	225358	2610024E20Rik	0.003	-1.3	2230465	209268	Igslf1	0.0007	-3.2	1230097	20638	Snrbp	0.0008	-1.5
1850088	11889	Asgr1	0.003	-1.5	2260324	269788	Hhflp4	0.0008	-1.5	6520465	243616	Slc6a11	0.0008	1.9
101850750	72482	Acdb6	0.003	-1.4	6860121	19252	Dusp1	0.0008	1.5	105720736	12326	Camk4	0.0009	-1.4
4200270	13170	Dbp	0.003	2.0	103940088	76730	2310005C01Rik	0.0008	-1.8	4570039	233902	Fbxl19	0.0009	1.3
3390593	18627	Per2	0.003	2.2	1740121	19885	Rorc	0.0008	1.5	103060039		LOC381212	0.0009	3.7
106620279	71017	4933407E14Rik	0.003	-1.3	3830152	15904	Id4	0.0008	1.7	6840019	78928	Pigt	0.0009	8.1
103190576	80861	Dhx58	0.003	-1.4	3440156	71704	Arhgef3	0.0008	1.4	101850347	223658	D330001F17Rik	0.0009	-1.4
520377	59002	Wdr8	0.003	1.4	106760133	68327	0610007P22Rik	0.0009	-3.0	102190039	80912	Pum1	0.001	-2.0
5890242	245841	Polr2h	0.003	1.4	106100528	77775	A430103D13Rik	0.0009	-1.3	3520112	68097	Dynl12	0.001	6.2
5420095	14226	Fkbp1b	0.003	1.3	5900047	19167	Pasma3	0.001	1.3	6380373	246221	Mpst	0.001	1.9
102320315		9030024J15Rik	0.003	-1.3	1940020	107767	Scamp1	0.001	1.3	540278	231532	Arhgap24	0.001	1.9
101450397	64933	Ap3m2	0.004	-1.3	100460278	68215	2610510H03Rik	0.001	-1.4	100430731	18082	Nipsnap1	0.001	1.3
101660092	1f+08	ENSMUSG00000070560	0.004	-1.3	106650576	232400	BC048546	0.001	-1.9	104010040		LOC384607	0.001	-1.3
4670465	226548	Aph1a	0.004	1.3	4570600	52055	Rab11fip5	0.001	-1.4	107050687	213012	Abhd10	0.001	-1.3
2030435	14470	Rabac1	0.004	1.3	4730600	108100	Baiap2	0.001	1.3	101450020		LOC423823	0.001	3.3
103120121	192652	Wdr81	0.004	-1.3	100060280	102902	A830031M15Rik	0.001	-1.4	4670484	100383	Bsdcl1	0.001	1.4
4150403	13382	Dld	0.004	1.7	107050309	13386	Dlk1	0.001	-2.7	4120746	51798	Ech1	0.001	1.5
380239	12632	Cf12	0.004	1.3	104610746	71523	8430429K09Rik	0.001	1.6	6380056	103677	Smg6	0.001	1.4
100360129	11883	Arsa	0.004	-1.3	3850288	22342	Lin7b	0.001	1.3	4540041	29861	Neud4	0.001	1.4
101400239	21376	Tbrg1	0.004	-1.3	1240138	13386	Dlk1	0.001	-1.6	2680504	114664	Hsd17b11	0.001	2.7
5290575	67211	Armc10	0.004	1.3	2970088	229600	BC028528	0.001	1.3	360736	67308	Mrpl46	0.001	1.3
107040040	320398	Lrig3	0.004	-1.3	6130020	65246	Xpo7	0.001	1.4	4760619	233908	Fus	0.001	4.2
3190519	11792	Apex1	0.004	1.3	4480128	66214	1190002H23Rik	0.001	1.4	580170	226251	Abllm1	0.001	-1.7
102370095	67500	Ccar1	0.004	-1.4	100730180	319405	D430036J16Rik	0.001	1.4	2350315	16520	Kcnj4	0.001	2.0
106770707	71637	4930413F20Rik	0.005	-1.4	103800075	381418	BB181834	0.001	-1.5	105220136	20451	Sls8ia3	0.001	-1.6
3800152	331424	C230004F18Rik	0.005	1.3	1990110	69253	Hspb2	0.001	-1.3	3520026	11845	Arf6	0.001	1.5
101940402	105522	Ankrd28	0.005	-1.4	380338	11534	Adk	0.001	1.5	2320025	14227	Fkbp2	0.001	2.1
102690008	15018	H2-Q7	0.005	-1.4	105130750	110197	Dgkg	0.001	-1.8	6940577	22379	Fmnl3	0.001	1.4
100670082	320496	C230076A16Rik	0.005	-1.4	520332	59053	Brip16	0.001	-1.3	450551	67358	1700093K21Rik	0.001	1.4
104060079	234214	Sorbs2	0.005	-1.4	1580070	16497	Kcnab1	0.001	1.5	6900048	14423	Galnt1	0.002	1.6
5700092	12846	Comt	0.005	1.3	1780068	12803	Cntf	0.001	1.5	4730408	68436	Rpl34	0.002	1.3
100940315	320378	9630023C09Rik	0.005	-1.5	2100102	20914	sty	0.001	1.5	3440463	69852	Tcf23	0.002	-1.3
101690435	20467	Sin3b	0.005	-1.4	1050672	74754	Dhcr24	0.001	1.4	2690082	28000	Prpf19	0.002	2.6
103170279	71373	Prr16	0.005	-1.4	4230594	27883	D16H225680E	0.001	-1.4	2230373	66230	Mrps28	0.002	1.5
105270537	56790	D3Ertdd300e	0.005	-1.3	3520672	80748	BC004004	0.002	-1.5	103840180	68187	4921533L14Rik	0.002	-1.5
106110167		A230070D14Rik	0.006	-1.3	6650324	21969	Top1	0.002	1.3	510368	114896	Afg3l1	0.002	1.9
105700458	60441	Mrpl38	0.006	-1.4	101030368		3830612M24	0.002	-1.4	8400044	75608	Chmp4b	0.002	2.2
102030538	70997	Spef1	0.006	-1.3	104050044	226041	Pgm5	0.002	-1.3	1580528	384309	Trim56	0.002	1.3
105130086	66171	Pgis	0.006	-1.3	3440059	53902	Rcan3	0.002	-1.3	3780035	234736	Rfwd3	0.002	1.4
104610446	17711	mt-Cytb	0.006	-1.5	3520561	114142	Foxp2	0.002	1.4	5270671	17183	Matn4	0.002	2.5
106200446	20563	Slit2	0.006	-1.4	6350253	75956	Srrm2	0.002	1.4	2680048	77134	Hnrpa0	0.002	2.3
104610017	78300	0610040O15Rik	0.006	-1.3	130148	13180	Pcbid1	0.002	-1.3	101770086	78283	Mtap7d2	0.002	-1.8
4730736	13722	Scey1	0.006	1.3	2340180	101869	Unc45a	0.002	-1.4	3440168	170759	Atp13a1	0.002	-1.3
3840309	64406	Sp5	0.006	-1.3	730300	192678	Rassf3	0.002	1.8	5050047	11461	Actb	0.002	1.7
7040541	320268	B930095G15Rik	0.007	1.3	6370332	19277	Ptprm	0.002	-1.3	6760707	215436	Slc35e3	0.002	2.3
4590373	67946	Spata6	0.007	-1.3	103710184	78169	4930483P17Rik	0.002	-1.5	101980670		LOC331511	0.002	-2.1
6550450	21804	Tgfb1i1	0.007	1.3	105220411		E330019C05Rik	0.002	-2.0	1660722	70223	Nars	0.002	1.3
101690441	12660	Chka	0.007	-1.3	106380014	14683	Gnas	0.002	-1.6	3310136	76510	1810044A24Rik	0.002	-1.3
101500411	77708	9130223C08Rik	0.007	-1.3	5390408	243725	Ppp1r9a	0.002	1.3	101780039	109135	Plekha5	0.002	-1.4
105550110	227446	2310035C23Rik	0.007	-1.4	60463	14950	H13	0.002	-1.3	103780075	66867	Hmg20a	0.002	-1.4
104670167	22284	Usp9x	0.007	-1.3	4050164	16886	Limk2	0.002	1.3	1				

100780600	386612	Thoc6	0.009	-1.4	3190070	71943	Tom11	0.002	1.3	2900068	67511	Tmed9	0.003	1.9
1230053	215418	Axud1	0.009	1.3	102850239	545192	Baiap3	0.002	-2.1	105910519	75522	1700024I08Rik	0.003	-1.3
2030075	13063	Cyca	0.009	1.3	4760286	78177	4930519N13Rik	0.002	-1.5	2810484	381921	Taok2	0.003	-1.8
3520435	28035	Usp39	0.009	1.3	4050632	19419	Rasgrp1	0.003	1.3	103850605	71198	Otud1	0.003	-1.6
6940161	20448	St6galnac4	0.009	1.3	1980113	56191	Tro	0.003	-1.5	6420450	17183	Matn4	0.003	1.4
102260500	100226	Stx12	0.01	-1.4	100870398	26903	Dysf	0.003	-1.6	102100551	216848	Chd3	0.003	1.6
104480075	18613	Pecam1	0.01	-1.5	1090672	59079	Erbb2ip	0.003	1.3	6760593	57875	Angptl4	0.003	-1.5
107100059	70549	Tln2	0.01	-1.4	6200369	66494	Prelid1	0.003	-1.5	4120736	70439	Taf15	0.003	2.0
104070128	75938	4930570E01Rik	0.01	-1.4	1980040	16832	Ldhb	0.003	1.4	2850050	15469	Prmt1	0.003	1.9
6290731	66480	Rpl15	0.01	1.4	2030593	230709	Zmpste24	0.003	1.3	102120156	75320	Etnk1	0.003	-2.2
105130377	78913	Zfp294	0.01	-1.5	3190538	53972	Ngef	0.003	1.3	6220092	110891	Slc8a2	0.003	2.9
5900524	76477	Pcolce2	0.01	1.5	2510242	232232	Hdac11	0.003	-1.7	1410397	20375	Sfp1	0.003	1.4
4610687	66495	Ndufb3	0.01	1.4	4670091	16651	Sspn	0.003	1.3	3780279	18762	Prkcz	0.003	1.4
1990195	13627	Eef1a1	0.01	1.3	3390593	18627	Per2	0.003	1.8	2900546	50868	Keap1	0.003	1.4
101690025	380716	4832410F06Rik	0.01	-1.4	4280411	54151	Cyhr1	0.003	1.3	4920048	56354	Dnajc7	0.003	1.8
6900619	27060	Tcirg1	0.01	1.3	4920519	268857	Nlrc3	0.003	-1.3	3290440	52639	Wip1	0.003	1.9
104610239	68428	Steap3	0.01	-1.5	3850128	54524	Syt6	0.003	1.6	105690180	66804	8430408J09Rik	0.003	-1.7
104070537	71156	1700108M19Rik	0.01	-1.4	2690047	232440	H2afj	0.003	-1.3	106620022	76551	Ccdc6	0.004	-2.1
4230500	64452	Slc5a4a	0.01	-1.3	5130278	170755	Sgk3	0.003	1.6	1570577	243914	Lgi4	0.004	1.3
106350132		mtBC012020	0.01	-1.5	5860154	54131	Irf3	0.003	-1.3	4560020	12683	Cidea	0.004	1.6
730040	18645	Pfn2	0.01	1.3	3800112	20408	Sh3gl3	0.003	1.3	1660446	19099	Mapk8ip1	0.004	3.0
104210154	12444	Cnd2	0.01	-1.3	6400075	71562	Almid	0.003	-1.5	105290014	20383	Sfrs3	0.004	-1.7
100670707	338367	Myo1d	0.01	-1.5	5690551	72097	2010300C02Rik	0.003	1.3	102690403	14281	Fos	0.004	1.5
100060546	58239	Dexi	0.01	-1.5	106650369	68327	0610007P22Rik	0.003	-2.7	2120390	69161	Manbal	0.004	1.3
102940195	19324	Rab1	0.01	-1.4	5270593	18209	Ntn2l	0.003	-1.3	5080064	16885	Limk1	0.004	1.4
102900093	12571	Cdk6	0.01	-1.3	70500	18746	Pkm2	0.003	-1.4	103130181	11938	Atp2a2	0.004	-2.1
103780164	75276	Ppp1r1c	0.01	-1.5	106550075		B230397M16Rik	0.004	-1.5	104210736	77336	9430030N17Rik	0.004	-1.3
3140113	56403	Syncrip	0.01	1.3	130053	103534	Mgat4b	0.004	1.4	100360082	56086	Set	0.004	2.0
2810019	66412	Arrdc4	0.01	1.4	3190309	58235	Pvr1l	0.004	-1.8	6520576	101706	Numa1	0.004	1.6
100380324	231991	Creb5	0.01	-1.5	130193	68327	0610007P22Rik	0.004	1.5	106860154	63959	Slc29a1	0.004	-1.4
1190364	30057	Timm8b	0.01	1.4	3450600	11733	Ank1	0.004	-1.4	3850167	210992	Aytl2	0.004	1.3
1500333	70510	Rnf167	0.01	1.3	103850112		LOC382691	0.004	-1.3	102900746	108682	Gpt2	0.004	-1.7
104560593	70248	Dazap1	0.01	-1.3	6220092	110891	Slc8a2	0.004	1.5	5690148	14634	Gil3	0.004	-1.3
100730672	140630	Ube4a	0.01	-1.4	940373	106931	Kctd1	0.004	1.5	7560768	72309	Tmem158	0.004	1.7
520706	16194	Il6ra	0.01	1.3	110736	18220	Nucb1	0.004	-1.7	105360100	330836	Slc7a6	0.004	3.7
100510324	231506	Lin5a	0.01	-1.3	1990600	21833	Thra	0.004	1.4	102690593		D130003E24Rik	0.005	-1.3
100670520	226178	D19Wsu162e	0.01	-1.5	6840066	216134	Pdxk	0.004	1.7	106900121	242474	D730040F13Rik	0.005	-1.3
102230315	22017	Tpmt	0.01	-1.3	5220594	19711	Resp18	0.004	-1.8	106520025		LOC381132	0.005	-2.0
103870576	26365	Ceacam1	0.01	-1.3	106660487	268396	Sh3pxd2b	0.004	-1.4	101230053		LOC386094	0.005	2.4
106770114		LOC382159	0.01	-1.3	5130411	229357	Gpr149	0.004	1.6	106370736	353186	A630075F10Rik	0.005	-1.3
101660575	71101	4933407H18Rik	0.01	-1.4	103870056	19699	Reln	0.004	1.3	104200050	66659	Acp6	0.005	-1.4
100730132	235497	Leo1	0.01	-1.5	2370164	20776	Tmie	0.004	-1.8	110278	98660	Atp1a2	0.005	2.2
100070278	243272	Sbno1	0.01	-1.3	870528	69993	Chn2	0.004	1.3	106650164	58246	Slc35b4	0.005	-1.3
460593	28240	Trpm2	0.01	1.3	5860039	71764	Tmem24	0.004	1.3	101660605	72930	Ppp2r2b	0.005	-1.6
103610692	109299	C330006A16Rik	0.01	-1.3	104050300	319626	9530059014Rik	0.004	1.7	105910215	1E+08	ENSMUSG00000073981	0.005	-1.4
104010519	98685	1190055F20Rik	0.01	-1.5	2190524	56613	Rps6ka4	0.004	1.7	100630687		A830042C15Rik	0.005	-1.3
100770176	108913	2700024H10Rik	0.01	-1.4	5340167	12444	Cnd2	0.004	1.4	1570487	19058	Ppp3r1	0.005	2.1
105220711	67289	3110021A11Rik	0.01	-1.5	7000601	60344	Fign	0.004	-1.6	101770739	11518	Add1	0.005	-1.3
104760014	26932	Ppp2r5e	0.01	-1.3	5050048	114601	Ehbp1l1	0.004	-1.3	3840731	13660	Ehd1	0.005	1.5
102350138	226413	Lct	0.01	-1.3	3170309	245468	Pnma3	0.004	-1.8	3060338	209351	Hdmc6a	0.005	2.1
3360364	67804	Snx2	0.01	1.4	6590040	66314	Tpd52l2	0.004	1.4	101450593	26556	Wdrf1	0.005	-2.9
103940707	97112	Nmd3	0.01	-1.4	4010358	331392	EG331392	0.004	-1.3	5860593	234814	Mthfsd	0.005	-1.5
105080672	319757	Smo	0.01	-1.3	6100300	21366	Slc6a6	0.004	1.3	540110	321008	6330408A02Rik	0.005	1.4
101570301	14211	Snc2	0.01	-1.3	4760377	21357	Tarbp2	0.004	-1.3	106550113	319457	C130045F17Rik	0.005	-1.5
2680091	11438	Chrna4	0.01	1.3	104070452	67784	Pknox1	0.004	1.4	5290338	231807	BC037034	0.005	-1.4
3780717	69654	Dctn2	0.01	1.5	1400575	17268	Meis1	0.004	1.4	105690601	327946	A730013G04	0.005	-1.3
106900035	67660	LOC67660	0.01	-1.3	2350180	18230	Nxn	0.005	-1.3	6290471	55943	Stx8	0.005	1.3
106420433	77574	3321401G04Rik	0.01	-1.3	101770025	20360	Sema6c	0.005	-1.3	5220180	12305	Ddr1	0.006	2.5
100870113	76508	2210015D19Rik	0.01	-1.3	2900014	71978	Ppp2r2a	0.005	1.4	100130097	18710	Pik3r3	0.006	2.8
105420167		LOC227397	0.01	-1.3	4200037	26412	Map4k2	0.005	1.5	105890048	56407	Trpc4ap	0.006	1.5
780309	56390	Ssca1	0.01	1.3	104010278		A730024G14Rik	0.005	2.1	670056	245007	Zbtb38	0.006	-1.7
100430500	77283	9430022A07Rik	0.01	-1.3	104920411	18227	Nr4a2	0.005	-1.5	100630364	77347	B230204H03Rik	0.006	1.5
106100047	52708	Zfp410	0.01	-1.3	4200435	11472	Actn2	0.005	1.5	106020102	71513	9030607L20Rik	0.006	-1.4
540088	234407	Glt25d1	0.01	1.4	101770332		LOC245668	0.005	-1.3	101570025	338355	Fkbp15	0.006	-1.5
3170452	12261	C1qbp	0.01	1.4	3290092	66092	Ghltn	0.005	1.4	50044	107566	Arl2bp	0.006	2.8
4760180	20523	Slc25a14	0.01	1.3	6660082	64296	Abhd8	0.005	-1.3	4780161	14569	Gdl2	0.006	1.4
105220301	16913	Psmb8	0.01	-1.6	6660176	80837	Rhoj	0.005	-1.4	1240411	74015	Fcho1	0.006	1.4
104570338	319355	C530036F05Rik	0.01	-1.5	101340647	16564	Klf21a	0.005	-1.3	102510161		LOC381447	0.006	-1.3
102360129	320368	A730063M14Rik	0.01	-1.5	6200600	269016	Sh3rf2	0.005	1.8	102690161	56320	Dbn1	0.006	-2.4
104920039	320211	A130010C12Rik	0.01	-1.5	106840433	432615	OTTMUSG00000003802	0.005	1.7	6350114	66921	Prpf38b	0.006	1.8
104810452		18S_rRNA_X00686_301	0.01	-1.5	670075	52187	Rragd	0.005	1.6	105690161	319654	6430537121Rik	0.006	-1.5
102030041	320267	Fubp3	0.01	-1.4	103940398	57775	Usp29	0.005	-1.3	103120100	414271	1700121M19Rik	0.006	-1.5
105420592		scf10328049_1_1-5	0.01	-1.4	1340450	14778	Gpx3	0.005	-2.9	100610102	22066	Trpc4	0.006	-1.5
104070300		LOC385625	0.01	-1.4	3060193	83797	Smarcd1	0.005	1.3	780537	20878	Aurka	0.006	-1.3
101500519	16576	Klf7	0.01	-1.4	1230750	68198	Ndufb2	0.005	1.4	104760092	73057	2900086E13Rik	0.006	-1.8
105290176	102334	Ankrd10	0.01	-1.4	104480671	56747	Sez6l	0.005	-1.6	4070333	229211	Acad9	0.007	1.9
102190338		9626953_5-5	0.01	-1.4	104610097	20336	Exoc4	0.005	-1.3	1940019	14708	Gng7	0.007	1.6
101190487	330267	Thsd7a	0.01	-1.4	5570348	22282	Usf2	0.005	1.6	6590066	104759	Pld4	0.007	1.3
105550605	26436	Psg16	0.01	-1.4	102230333		LOC386246	0.005	1.5	100450519	80721	Slc19a3	0.007	-1.4
101990707	93840	Vangl2	0.01	-1.4	1500									

104050360	20541	Slc8a1	0.01	-1.3	2450037	217201	Rundc1	0.006	1.4	104120142	218543	Sfrs12	0.008	-1.7
102900180	70622	5730507N06Rik	0.01	-1.3	2370685	180858	Camk2d	0.006	-1.7	106550215	57138	Slc12a5	0.008	-2.3
105050139	106068	Slc45a4	0.01	-1.3	3190402	12729	Clns1a	0.006	-1.3	102900056	320234	Ccdc66	0.008	-1.4
100460735	56357	Ivd	0.01	-1.3	100430332	319478	Cocx4	0.006	-1.4	3520441	53422	Ybx2	0.008	-1.7
105050575	103220	BC030307	0.01	-1.3	540315	233208	Scaf1	0.006	-1.4	105570176	66278	1810013D10Rik	0.008	-1.5
2120162	94090	Trim9	0.01	-1.3	7100451	68655	Fndc1	0.006	-1.3	106450170	109151	Chd9	0.008	-1.5
103120487	71602	Myo1e	0.01	-1.3	3190358	68226	Efcab2	0.006	-1.3	670170	353156	Egflf7	0.008	1.5
104120717		B230384C22Rik	0.01	-1.3	6520711		B230373P09Rik	0.006	-1.4	2760072	26987	Eif4e2	0.008	1.5
102030164	14299	Freq	0.01	-1.3	6770100	71844	Nupl1	0.006	1.4	380451	242083	Ppm1l	0.008	1.6
2100735	76246	Rtf1	0.01	1.3	104560088	319626	9530059O14Rik	0.006	1.6	3450184	102115	Dohh	0.008	1.4
4670292	240354	Malt1	0.01	1.3	1740746	230233	Ikbkap	0.006	-1.3	4730450	74610	Abcb8	0.008	1.3
6900528	75573	2310007L24Rik	0.01	1.3	2060091	74002	Psd2	0.006	-1.5	6560379	319998	A230078I05Rik	0.008	1.6
7100687	27053	Asns	0.01	1.3	5130154	11553	Adra2c	0.006	1.3	3610309	594844	Tceal3	0.008	1.8
6650471	59069	Tpm3	0.01	1.3	7040037	68303	9130005N14Rik	0.006	-1.3	5270079	207742	Rnf43	0.008	1.6
4150609	20130	Rras	0.01	1.3	450731	93835	Amn	0.006	-1.5	1580121	69802	Cox11	0.008	1.4
730039	56017	Slc2a8	0.01	1.3	1850408	12696	Cirbp	0.006	1.4	105420592		sc10328049.1_1-5	0.008	-1.4
6040576	231642	Alkbh2	0.01	1.3	3520253	246710	Rhobtb2	0.007	1.3	105130372	76126	5830490A04Rik	0.008	-1.4
3120750	13656	Egr4	0.01	1.3	5890022	20351	Sema4a	0.007	-1.5	103870551	77087	Ankrd11	0.008	-2.0
1400301	66391	2310061J03Rik	0.01	1.4	4200184	219149	Xkr6	0.007	1.4	2450520	93674	Cml3	0.008	1.6
430025	13488	Drd1a	0.01	1.4	7050053	70025	Acot7	0.007	-1.8	105360373	237048	LOC237048	0.008	-1.3
6550670	12859	Cox5b	0.01	1.4	770056	218035	Vps41	0.007	1.5	2940142	66556	Drap1	0.008	1.4
6200706	215494	C85492	0.01	1.4	3890376		Dusp23	0.007	-1.4	6650398	14784	Grb2	0.008	1.3
5270092	17347	Mknk2	0.01	1.4	2570592	212285	Centd1	0.007	1.3	5130707	50927	Nasp	0.008	-1.3
2030390	66396	Ccdc82	0.01	1.5	5570494	11745	Anxa3	0.007	1.3	6900239	282619	Sbsn	0.008	1.3
5290500	67005	Polr3k	0.01	1.5	6840056	22163	Tnfrsf4	0.007	1.3	5130324	75089	E030041M21Rik	0.008	1.3
2320333	67876	Coq10b	0.01	1.6	5570112	71819	Klf23	0.007	1.3	103830471	77591	Ddx10	0.008	-1.5
1050154	192169	1810047C23Rik	0.01	1.6	1500647	52850	Sgsm1	0.007	-1.3	100780072	69372	Mocs3	0.008	-1.6
4610273	26386	Hsf4	0.01	1.7	102690674			0.007	-1.3	6550458	66647	Ndn12	0.008	1.3
3360131	270685	Mthfd1l	0.01	1.8	4780273	16517	Kcnj16	0.007	-1.7	380164	19883	Rora	0.008	-1.3
					106840603		LOC385062	0.007	1.4	102100333	70221	2610015J01Rik	0.009	-1.5
					2030079	23874	Farsb	0.007	-1.3	105690433	19217	Ptger2	0.009	-1.3
					100780433	12464	Cct4	0.007	-1.4	6590400	18301	Fxyd5	0.009	-1.4
					1990097	19116	Prlr	0.007	-2.3	100430440	75612	Gns	0.009	-1.5
					6650180	319642	Rab9b	0.007	-1.4	100540037	77976	Nuak1	0.009	-1.6
					4920324	75209	Sv2c	0.007	1.5	102810253	17174	Masp1	0.009	-1.6
					5550368	56807	Scamp5	0.007	1.6	6620487	78688	Nol3	0.009	1.3
					2640398	229603	Otud7b	0.007	1.3	100840670	72289	Malat1	0.009	3.2
					7100301	16780	Lamb3	0.007	-1.3	104780594	94112	Med15	0.009	-1.6
					1050315	170574	Sp7	0.007	1.8	5670685	107503	Atf5	0.009	1.7
					106840546	18514	Pbx1	0.007	-1.3	3130044	12229	Btk	0.009	1.3
					1500332	231070	Insig1	0.008	-1.3	106450204	83486	Rbm5	0.009	-1.6
					4230048	16477	Junb	0.008	1.5	102510551	11484	Aspa	0.009	1.5
					2030594	16485	Kcna1	0.008	1.3	6040458	20018	Rpo1-3	0.009	-1.3
					670279	104082	Wdr7	0.008	1.6	6550707	22036	Traip	0.009	-1.3
					520180	11534	Adk	0.008	1.4	1690204	20200	S100a6	0.009	1.4
					2320593	19387	Rangap1	0.008	1.3	540064	66104	Tceal6	0.009	3.1
					7000195	21333	Tac1	0.008	1.5	104760524	69236	2610034E01Rik	0.009	-1.3
					100460465	442806	E330033J05Rik	0.008	-1.3	4570193	403180	Ccdc121	0.01	1.6
					3520647	74257	Tspan17	0.008	-1.6	3780546	242362	Manea	0.01	1.5
					5340739	66136	Znrd1	0.008	1.3	870075	93840	Vangl2	0.01	1.4
					2940091	12833	Col6a1	0.008	1.4	2570152	18682	Phkg1	0.01	-1.3
					6760193	14400	Gabbr1	0.008	-1.3	1740270	228859	D930001I22Rik	0.01	1.5
					3170164	71720	Osbpl3	0.008	1.5	106100685	320538	D130059P03Rik	0.01	2.4
					3830551	16426	Itih3	0.008	-1.9	107050377	12355	Nr1i3	0.01	-1.5
					6980402	18628	Per3	0.008	1.4	106220040	68310	Zmym1	0.01	-1.7
					5290168	12537	Cdc21l	0.008	1.3	4210315	52846	D1Bwg0212e	0.01	1.8
					2030037	66245	1500019G21Rik	0.008	-1.3	105420093	381406	2810408M09Rik	0.01	-1.9
					7050184	73192	Xpot	0.008	-1.3	6100021	56464	Ctsf	0.01	-1.3
					2100253	224824	Pex6	0.008	-1.3	4230156	18637	Pfdn2	0.01	1.8
					1940112	12322	Camk2a	0.008	1.3	104560358	57247	Zfp276	0.01	-1.3
					730402	71306	Mfap3l	0.009	1.4	770037	15493	Hsd3b2	0.01	1.6
					2630600	14706	Gng4	0.009	-1.3	3440040	99011	Pomt1	0.01	-1.3
					105550593	71059	Hexim2	0.009	-1.3	6350563	68043	N6amt2	0.01	-1.9
					106550707	110350	Dync2h1	0.009	-1.3	105420541	19089	Prkcsb	0.01	-1.4
					6650253	20467	Sin3b	0.009	-1.3	4050176	21827	Thbs3	0.01	1.3
					3930279	14419	Gal	0.009	-2.8	105550017	99031	Osbpl6	0.01	-1.6
					2570433	93703	Pcdhgb6	0.009	1.3	1190390	72175	Mfsd8	0.01	1.6
					7100112	77578	Bcl9	0.009	-1.3	101850452	271697	Als2cr7	0.01	-1.5
					6130170	12308	Calb2	0.009	-6.2	1770286	83703	Dbr1	0.01	1.3
					2570398	68888	1190003M12Rik	0.009	1.4	3450603	23997	Psmc13	0.01	1.5
					6220397	20698	Sphk1	0.009	1.3	3940035	52609	Cbx7	0.01	1.4
					1850746	74720	4930511J11Rik	0.009	-1.3	102100519	70924	4921511C10Rik	0.01	-1.3
					6200315	74147	Ehhadh	0.009	1.3	4810022	210710	Gab3	0.01	1.3
					6510279	18209	Ntn2l	0.009	-1.3	2470017	74026	4121402D02Rik	0.01	1.8
					130440	53313	Atp2a3	0.009	-1.7	102470309	78938	Fbxo34	0.01	1.6
					105420176		G630039A15Rik	0.009	-1.3	5340538	319757	Smo	0.01	1.4
					6860292	11554	Adrb1	0.009	1.3	102370184	238247	Arid4a	0.01	-1.6
					3710408	18619	Penk1	0.009	1.8	106760538	22099	Tsn	0.01	-1.5
					5130435	237353	Sh3md4	0.009	1.3	100520170	228852	Ppp1r16b	0.01	-1.4
					1980372	19671	Rce1	0.009	1.3	106770102	218914	Wapal	0.01	-1.4
					3450315	231834	Smx8	0.009	-1.7	103390369	110611	Hdlbp	0.01	-1.4
					6940286	11512	Adcy6	0.009	-1.4	106380133	268859	A2bp1	0.01	-2.4
					670095	99349	Dph4	0.009	1.3	105570452	226251	Abliim1	0.01	1.3
					105910673	432839	Gprn2	0.01	-1.3	1690369	230751	1810007P19Rik	0.01	1.3
					6590368	12308	Calb2	0.01	-5.4	730731	56324	Stam2	0.01	1.3
					103520100	72690	Grrp1	0.01	-1.4	70576	67154	Mtdh	0.01	1.7
					103450671	20271	Scn5a	0.01	-1.9	60692	11307	Abcg1	0.01	1.5
					2680048	77134	Hnmpa0	0.01	1.5	2100609	20525	Slc2a1	0.01	1.3
					106400053	16835	Ldlr	0.01	-1.7	101050332	258815	Olfr1218	0.01	-1.3
					2650133	17970	Ncf2	0.01	1.4	103940072		LOC385957	0.01	-1.3
					3130044	12229	Btk	0.01	1.3	7040152	71242	5133400G04Rik	0.01	1.5
					1190292	53376	Usp2	0.01	1.8	4760576	230751	1810007P19Rik	0.01	1.3
					5270040	269061	5730453I16Rik	0.01	1.3	1090451	78779	Spata2L	0.01	-1.3

1660053	214952	Rhot2	0.01	1.4	3830008	12028	Bax	0.01	2.0
106400008	74347	4632415K11Rik	0.01	1.3	101660142	54366	Ctnnal1	0.01	-1.4
6840152	22626	Slc23a3	0.01	2.0	102570619	29856	Smtn	0.01	-1.3
103130348	98366	Smap1	0.01	-1.3	2680047	99011	Pomt1	0.01	-1.3
5900692	16907	Lmnb2	0.01	-1.5	105220487		LOC331102	0.01	-1.7
107000075	75288	Slc35f4	0.01	-1.5	1570164	70235	Wdr51a	0.01	1.5
100770672	71588	9130009M17Rik	0.01	1.3	106770528	106572	Rab31	0.01	-1.3
1740575	12826	Col4a1	0.01	-1.6	105420167		LOC227397	0.01	-1.3
103840113	280645	B3gat2	0.01	-1.4	106130725	1E+08	ENSMUSG00000039373	0.01	1.7
1230348	233879	Asphd1	0.01	-1.3	2100735	76246	Rtf1	0.01	-1.7
60632	73420	1700054N08Rik	0.01	1.4	580138	11723	Amy2	0.01	1.4
6200113	15959	Ifit3	0.01	1.3	1450563	54219	Cd320	0.01	1.3
1230592	16526	Kcrnk2	0.01	1.9	103190279		LOC381844	0.01	-1.3
5050672	228608	SmoX	0.01	-1.4	5900180	227195	A430093A21Rik	0.01	1.5
110253	60596	Gucy1a3	0.01	1.5	5860288	78785	Clip4	0.01	1.3
106900064	333315	Frem3	0.01	-2.3	101230193	56323	Dnajb5	0.01	-1.7
1660082	58200	Ppp1r1a	0.01	1.4	2030725	319154	Hist2h3b	0.01	-1.3
104730056	320535	A230060L24Rik	0.01	1.3	102450369	18041	Nfs1	0.01	-1.5
4210037	233863	Gtf3c1	0.01	1.4	103520746	69635	Dapk1	0.01	-1.6
102510605	269513	E130310K16Rik	0.01	-1.5	3450114	16647	Kpna2	0.01	1.4
2680390	15930	Indo	0.01	1.7	1500075	16905	Lmna	0.01	1.5
3940725	66622	5730410I19Rik	0.01	1.3	6400164	231440	9130213805Rik	0.01	-2.2
580035	268932	Caskin1	0.01	-1.3	1570594	24066	Spry4	0.01	-1.3
104760047	108058	Camk2d	0.01	-1.6	106370685	20740	Spna2	0.01	-2.0
1500707	14805	Grik1	0.01	-2.2	770746	217166	Nr1d1	0.01	1.4
1690546	243923	Rgs9bp	0.01	-1.3	103120164	210094	A230106M20Rik	0.01	-1.4
103830451	19085	Prkar1b	0.01	-1.5	105670068	76098	5830462P14Rik	0.01	-1.8
105670687	319319	B230214O09Rik	0.01	1.5	780133	108946	Zzz3	0.01	1.6
730735	70025	Acot7	0.01	-1.4	6130360	18223	Numbl	0.01	-1.5
1940097	67826	1110031B06Rik	0.01	-1.3	3120068	22782	Slc30a1	0.01	1.3
2320020	21743	Inmt	0.01	2.7	101450369	94190	Ophn1	0.01	-1.3
6020121	13446	Doc2a	0.01	-1.3	104010463		6330575807Rik	0.01	-1.5
106370373	20104	Rps6	0.01	-1.4	104120072	381801	Tatdn2	0.01	1.8
2940156	80987	Nckipsd	0.01	-1.4	102940487	224997	Dlgap1	0.01	-1.7
4850136	57431	Dnajc4	0.01	-1.3	6220156	270166	Clpx	0.01	1.3
1940750	269252	Gtf3c4	0.01	1.4	2100619	18636	Cfp	0.01	-1.4
3130731	232798	Leng8	0.01	1.5	103840692	100662	D930016D06Rik	0.01	-1.5
610161	15900	Irf8	0.01	1.3	4480088	67446	Dusp28	0.01	1.5
1690092	26556	Homer1	0.01	1.3	105570673	319604	B930006L02Rik	0.01	-1.9
770725	15360	Hmgcs2	0.01	-1.5	103140450		LOC383428	0.01	-1.3
6510091	230904	Fbxo2	0.01	-1.3	2260471	75434	1700001C02Rik	0.01	1.6
2900288	17918	Myo5a	0.01	1.4	106450619	269610	Chd5	0.01	-1.3
1690433	223473	Npal2	0.01	1.3	101980609		LOC218060	0.01	1.3
104210204	53876	Ear3	0.01	-1.3	840132	72836	Pot1b	0.01	1.5
870131	69698	2310046K01Rik	0.01	-1.3	105700368	76210	6430597G12Rik	0.01	-1.4
1050040	26949	Vat1	0.01	-1.3	5050647	64540	Tspan4	0.01	1.3
106760450	108699	Chn1	0.01	1.3	2360440	110809	Sfrs1	0.01	1.3
1340113	241638	Prosapip1	0.01	1.8	1240603	209225	Zfp710	0.01	1.4
106550215	57138	Slc12a5	0.01	1.5	2060427	30957	Mapk8ip3	0.01	-2.8
5270020	56279	B230317C12Rik	0.01	-1.4	380131	268510	Mgat5b	0.01	-1.3
5130600	78625	1700061G19Rik	0.01	-1.3	7000592	20293	Ccl12	0.01	1.4
104610487	110304	Gira3	0.01	-1.3	130035	107566	Arl2bp	0.01	2.4
102470139	16367	Irs1	0.01	-1.3	103870369	64540	Tspan4	0.01	-1.3
106290403	29819	Stau2	0.01	-1.3	870114	68458	Ppp1r14a	0.01	1.5
1980044	18117	Cox4nb	0.01	1.3	101990519	269587	Epb4.1	0.01	-1.4
1690458	80904	Dtx3	0.01	-1.3	2570026	21422	Tcfcp2	0.01	1.3
104200706	19059	Ppp3r2	0.01	-2.0	7000725	11950	Atp5f1	0.01	1.4
103130537	68526	Gpr155	0.01	1.4	5720672	223978	C530044N13Rik	0.01	1.3
5360138	19291	Purb	0.01	1.3	6860463	232334	Vgll4	0.01	1.4
4540465	14538	Gcnt2	0.01	1.4	5700577	20516	Slc20a2	0.01	1.5
4670184	243846	Ccdc9	0.01	-1.3	101090047	67302	Zc3h13	0.01	-1.6
6840619	107182	Btaf1	0.01	1.3	104070408	19246	Ptpn1	0.01	-1.5
5340048	223601	0910001A06Rik	0.01	1.3	104920411	18227	Nr4a2	0.01	-1.4
102900097		LOC277046	0.01	1.7	3710484	53857	Tube8	0.01	1.4
4560672	18719	Pip5k1b	0.01	-1.5	3190008	19364	Rad51i3	0.01	1.3
4610100	210044	Adcy2	0.01	-1.3	110600	114584	Clc1	0.01	1.9
1570433	268307	4833431D13Rik	0.01	1.3	1340433	269424	Phf17	0.01	1.7
130324	380752	Tssc1	0.01	-1.3	4760025	20400	Sh2d1a	0.01	-1.3
103360736	329942	Csmd2	0.01	-1.5	6770037	65956	Ccl21c	0.01	1.5
3140707	110639	Prps2	0.01	1.4	102900181	13175	Dcl1	0.01	-1.3
6760040	56421	Pfkp	0.01	-1.4	100630014	50876	Tmod2	0.01	-1.4
870019	18751	Prkcb1	0.01	1.5	4810647	71699	Slc41a3	0.01	1.3
2630088	75689	Higd1b	0.01	1.3	104070672	76505	1500009C09Rik	0.01	-1.9
870035	14228	Fkbp4	0.01	-1.3	60575	20592	Jarid1d	0.01	1.3
104590162	71217	4933431I19Rik	0.01	-1.3	1500593	57754	Cend1	0.01	-1.6
4230079	15114	Hap1	0.01	-1.8	2100615	103724	Tbc1d10a	0.01	1.4
520086	11516	Adcyap1	0.01	-1.7	6040010	108037	Shmt2	0.01	-1.3
870398	230815	Man1c1	0.01	1.3	107000008	67583	4930442L01Rik	0.01	-1.3
1980672	11740	Slc25a5	0.01	1.3	3140364	53612	Vti1b	0.01	2.4
6290739		Krt11-12	0.01	1.7	6770725	20359	Sema6b	0.01	1.3
103870347		LOC277837	0.01	1.7	103830100	320810	E030026E10Rik	0.01	-1.3
540278	231532	Arhgap24	0.01	-1.4	102230040	213988	Tnrc6b	0.01	-1.4
2190341	16796	Lasp1	0.01	-1.3	6020324	97961	Nol12	0.01	-1.3
6590112	380752	Tssc1	0.01	-1.3	105570215	213014	LOC213014	0.01	-1.3
2480609	110524	Dgkq	0.01	-1.4	100070593	66797	Cntnap2	0.01	-1.3
580040	21887	Tle3	0.01	1.3	105290019	268752	Wdly2	0.01	-1.3
6400164	231440	9130213805Rik	0.01	-1.5	102100138		LOC330441	0.01	-1.3
101780047	75304	4930563E22Rik	0.01	-1.3	2680022	230789	BC008163	0.01	1.7
5050592	223864	Rapgef3	0.01	-1.4	2900441	225849	Ppp2r5b	0.01	1.3
6860102	329002	Zfp236	0.01	1.3	101090685	12064	Bdnf	0.01	-1.6
105910097	11944	Atp4a	0.01	-1.4	105270369	353342	Peg13	0.01	-1.3
520309	12982	Csf2ra	0.01	-1.3	4610093	11838	Arc	0.01	-1.6
3780452	75909	Tmem49	0.01	1.3	103440402		LOC381820	0.01	-1.9
3710717	14809	Grik5	0.01	1.3	7100091	20359	Sema6b	0.01	1.4
4730411	19229	Ptk2b	0.01	1.4	1230692	56336	B4gat5	0.01	1.3
840270	77827	Krba1	0.01	1.5	5050167	104158	Ces3	0.01	1.6
4560102	240025	Dact2	0.01	1.6	2510164	100434	Slc44a1	0.01	1.6
4200019	27388	Ptdss2	0.01	-1.3	3780603	56428	Mtch2	0.01	1.4
3120168	18476	Pafah1b3	0.01	-1.5	104200520	68339	Ccdc88c	0.01	-1.4
1400176	70025	Acot7	0.01	-1.4	2350692	110611	Hdlbp	0.01	-1.8
840692	19039	Lgals3bp	0.01	-1.6	630504	19171	Psmb10	0.01	1.3

3190142	194309	Vps37d	0.01	-1.4	70687	319149	Hist1h3d	0.01	-1.4
610301	12822	Col18a1	0.01	-1.7	4480484	83409	Mapbpip	0.01	1.7
2940092	18600	Padi2	0.01	1.5	3130037	72947	Agxt2l2	0.01	-1.3
102690750	51813	Ccnc	0.01	-1.3	3170600	110446	Acat1	0.01	1.3
2450079	74116	Pl16	0.01	-1.5	840148	217219	BC025575	0.01	1.5
103130292	78929	Poir3h	0.01	-1.3	100060446	14701	Gng12	0.01	-1.3
5860100	228543	Rhov	0.01	-1.3	102630333	230809	Pdik1l	0.01	-1.3
5360575	243312	A930017N06Rik	0.01	-1.6	102360050	105504	Exoc5	0.01	-1.3
2320458	243274	Tmem132d	0.01	-1.3	100460129	236774	Gm362	0.01	-1.3
5360112	18711	Pip5k3	0.01	1.5	1410091	106565	Dlk2	0.01	-1.4
1570600	192159	Prpf8	0.01	1.7	104050484	213582	Mtap9	0.01	-1.6
105860647	18751	Prkcb1	0.01	1.5	105860022	13840	Epha6	0.01	2.3
4490368	231946	D330028D13Rik	0.01	-1.3	102510438	233871	Atxn2l	0.01	-1.3
4590068	26556	Homer1	0.01	1.4	2810458	57436	Gabarapl1	0.01	1.8
940014	18526	Pcdh10	0.01	1.3	6520692	218639	Arl15	0.01	2.0
5670347	231470	Fras1	0.01	1.6	104280739	77994	2810055G20Rik	0.01	-1.4
5700575	71978	Ppp2r2a	0.01	1.4	1450056	13191	Dctn1	0.01	-2.0
1170725	230872	Crocc	0.01	-1.4	6040300	76884	Cyfp2	0.01	1.5
100940082	384835	LOC384835	0.01	-1.3	4120441	66711	Sbds	0.01	1.6
3940215	74772	Atp13a2	0.01	-1.3	50398	235050	Zfp810	0.01	1.3
2570411	17001	Ltc4s	0.01	1.3	106020152	71198	Otud1	0.01	-1.6
3610156	12750	Clk4	0.01	1.3	4070152	78134	Gpr23	0.01	1.5
2370162	19400	Rapsn	0.01	1.3	103190193	330217	Gal3st4	0.01	-1.3
2650100	94219	Cnnm2	0.01	-1.3	101410047	234023	9430010O03Rik	0.01	1.3
3360347	18232	Nxph2	0.01	-2.5	104060500	170624	Dep1	0.01	-1.3
50019	228608	Smox	0.01	-1.4	102810497		D130057F13Rik	0.01	1.8
5890377	56327	Arl2	0.01	-1.3	4810019	13480	Dpm1	0.01	1.9
104010528	244911	EG244911	0.01	-1.4	103190358	72125	2600011E07Rik	0.01	-1.3
50538	16939	Lor	0.01	-1.3	2680397	269951	ldh2	0.01	1.8
6220068	67302	Zc3h13	0.01	-1.3	2190672	18103	Nme2	0.01	1.5
610142	67054	Paics	0.01	1.3	101190010	70649	5730575I04Rik	0.01	-1.3
130156	22337	Vdr	0.01	-1.4	3170093	53606	Isg15	0.01	1.5
107050278	638345	Sbpl	0.01	-1.3	106020100	14007	Cugbp2	0.01	-1.4
104210170	19272	Ptprk	0.01	-1.3	101990402	30841	Fbxl10	0.01	-1.6
103610524	26931	Ppp2r5c	0.01	-1.3	4570504	268294	Zbtb24	0.01	1.4
103440017	278240	Spin2	0.01	-1.3	2810500	216440	AK028047.1	0.01	1.4
1660369	14860	Gsta4	0.01	-1.4	6020440	18572	Pdcd11	0.01	-1.3
4760594	56506	Cib2	0.01	-1.4	106840368	319574	9330133O14Rik	0.01	1.4
4230402	232910	Ap2s1	0.01	-1.3	3440592	70359	Gtpbp3	0.01	-1.6
103840487	72608	Z700069I18Rik	0.01	-1.3	106100739	228361	D030051N19Rik	0.01	-1.3
360332	320713	Mysm1	0.01	1.3	1570156	67894	1810055E12Rik	0.01	1.3
6110402	236915	Arhgef9	0.01	1.3	3780435	67025	Rpl11	0.01	1.4
2260435	229487	Pet112l	0.01	1.4	5390280	11981	Atp9a	0.01	1.4
2640039	13385	Dlg4	0.01	1.3	4050070	67453	Slc25a46	0.01	1.3
5690446	58227	9630031F12Rik	0.01	1.4	6590398	18038	Nfkbi1	0.01	1.7
7100167	270162	Elmod1	0.01	1.4	107050020		9628654_7_S	0.01	-1.4
2570133	18648	Pgam1	0.01	1.4	100780079	18720	Pip5k1a	0.01	1.8
1500161	11735	Ank3	0.01	1.3	103610524	26931	Ppp2r5c	0.01	-1.9
450440	320827	C530008M17Rik	0.01	-1.7	4760711	208718	Dis3l2	0.01	1.3
7050091	239217	Kctd12	0.01	1.3	4210020	16905	Lmna	0.01	1.5
2470148	67971	Tppp3	0.01	-1.9	6770020	68002	1110058L19Rik	0.01	1.4
105910039	214253	Etnk2	0.01	-1.5					
103170575	21955	Tnnt1	0.01	1.3					
3520114	105439	Slain1	0.01	1.5					
1450465	66078	Tsen34	0.01	-1.3					
2450332	14912	Nkx6-2	0.01	-1.8					
1340494	231440	9130213B05Rik	0.01	-1.7					
103190717	68038	Chid1	0.01	-1.3					
103850113	13429	Dnm1	0.01	1.7					
6130164	232670	Tspan33	0.01	-1.6					
1090148	74192	Arpc5l	0.01	1.3					
2680138	101437	Dhxc32	0.01	1.3					
430152	54445	Unc93b1	0.01	1.4					
1410138	218772	Rarb	0.01	1.5					
1690129	654824	Ankrd37	0.01	1.5					
104810369		LOC381256	0.01	-1.4					
770411	19376	Rab34	0.01	1.3					
5050538	17069	Ly6e	0.01	-1.4					
2680601	72053	Tmub2	0.01	1.5					
3440066	18574	Pde1b	0.01	1.3					
106130053	75288	Slc35f4	0.01	-1.3					
6350019	94280	Sfxn3	0.01	1.9					
105130348	71302	Arhgap26	0.01	-1.3					
3450707	105559	Mbnl2	0.01	1.4					
2810593	171095	Il17rc	0.01	-1.3					
7040100	226747	Ahctf1	0.01	1.4					
3120154	68166	Spire1	0.01	1.4					
3140671	72634	Tdrkh	0.01	-1.3					
7550400	64242	Ngb	0.01	-1.7					
70161	66129	1110018J18Rik	0.01	-1.3					
103780053	384214	Abhd7	0.01	1.3					
4850035	53376	Usp2	0.01	1.4					
2810471	56369	Apip	0.01	-1.3					
110288	13644	Efs	0.01	-1.5					
5690021	68087	Dcakd	0.01	-1.3					
104480338	320342	4931432P07Rik	0.01	1.4					
6220215	319263	Pcmttd1	0.01	1.3					
1190575	381560	Xkr8	0.01	-1.5					
3360131	270685	Mthfd1l	0.01	1.3					
6510711	23956	Neu2	0.01	1.4					
1400091	11989	Slc7a3	0.01	-2.2					
6350341	64945	Cldn12	0.01	1.5					
100630088	59036	Dact1	0.01	-1.3					
101990088	71750	R3hdm2	0.01	1.4					

Full list of significant differences in corticolimbic gene expression between restrained and non-restrained DBA/2J mice

vmPFC

ProbeID_vmPFC	Gene_ID	Gene_Symbol	ttest_PFC_D2vD2R	Fold_change_restraint
510341	66421	2410004B18Rik	0.000002	-1.3
1340301	54723	Tfip11	0.00002	1.3
6290452	108832	5430405G05Rik	0.00007	-1.6
580026	20681	Sox8	0.0002	1.5
4540088	224907	Dus3l	0.0002	-1.5
4610348	12321	Calu	0.0003	-1.5
5220131	72865	Cox1c	0.0004	1.3
6200541	217826	Kcnk13	0.0004	1.3
4010446	259063	Olfr691	0.0007	1.3
940433	69367	Glrx2	0.0008	-1.4
870044	14284	Fosl2	0.0009	-1.9
4050088	12575	Cdkn1a	0.001	-1.9
103940014	66939	2310007F21Rik	0.001	1.4
520309	12982	Csf2ra	0.001	-1.4
3190010	229517	Slc25a44	0.001	1.5
7100438	76308	Rab1b	0.001	1.4
106590215	242915	Gm444	0.001	1.3
3830022	24050	3303244800	0.001	1.4
3610685	67726	1810073G14Rik	0.001	1.3
5890594	208795	Tmem63a	0.001	1.3
6840010	54608	Abhd2	0.001	-1.3
3140487	319924	Aplba1	0.002	1.6
104880288	15926	Idh1	0.002	1.3
103710053	67609	4930453N24Rik	0.002	-1.3
101770520	16554	Kif13b	0.002	1.3
1940348	14773	Grk5	0.002	-1.4
1850026	66916	Ndufb7	0.002	-1.3
5420433	66359	2310005N03Rik	0.002	-1.4
4060438	71409	Fmnl2	0.002	1.3
1940600	326619	Hist1h4a	0.002	-1.4
3120441	104009	Qsxo1	0.003	1.3
5420546	227580	C1ql3	0.003	-1.7
6040519	71436	Flrt3	0.003	-1.4
4210176	330153	ENSMUSG00000068116	0.003	1.3
3060369	50915	Grb14	0.003	1.3
105860451	24050	3303244800	0.003	1.3
6840368	66410	Mterfd1	0.003	-1.3
1696006	17968	Ncam2	0.003	-1.3
103140239	75964	D030074E01Rik	0.003	1.3
3290161	226412	R3hdm1	0.003	-1.4
101580040	211712	Pcdh9	0.003	1.3
4810044	319604	B93006L02Rik	0.004	1.3
4060377	80517	Herpud2	0.004	1.3
2640594	109161	Ube2q2	0.004	-1.4
5690465	30938	Fgd3	0.004	1.3
104920347	268902	Robo2	0.004	-1.4
100610348	320637	C130089K02Rik	0.004	1.4
101770082		D930029E11Rik	0.004	1.4
101770358		LOC385348	0.004	-1.3
101580500	108155	Ogt	0.004	1.3
5290068	78232	Trappc6b	0.004	-1.3
4540193	329777	Pigk	0.004	-1.3
6660471	66768	4933428G09Rik	0.004	-1.3
1780446	14980	H2-L	0.004	-1.4
105130131	18600	Padi2	0.004	1.4
5890154	231866	Zfp12	0.004	-1.3
6100184	19726	Rfx3	0.005	-1.4
1190538	320895	C030025P15Rik	0.005	-1.7
100770270	320103	A73008H06Rik	0.005	1.4
104060300	14376	Ganab	0.005	1.3
101050537	28250	Slco1a4	0.005	1.6
7100022	217154	Stac2	0.005	1.4
770056	218035	Vps41	0.005	-1.4
102120041	78080	9230114J08Rik	0.005	1.3
3170066	19070	Mobk3	0.006	-1.5
6980075	20365	Serf1	0.006	-1.4
100870039	353326	Rtl1	0.006	1.5
460524	12443	Ccnd1	0.006	1.3
6860463	232334	Vgll4	0.006	-1.3
106220358	81004	Tbl1xr1	0.006	1.4
104290373	13026	Pcyt1a	0.006	1.4
2680154	11803	Aplp1	0.006	1.4
4010390	77087	Ankrd11	0.006	-1.4
1980156	67516	Kctd4	0.006	-1.3
6900195	67789	Dalrd3	0.006	-1.3
3170685	14411	Slc6a12	0.006	-2.2
3310746	20539	Slc7a5	0.006	1.3
50731	72144	Slc37a3	0.006	-1.4
6980504	70308	2610005M20Rik	0.007	1.3
105570148		AK034046.1	0.007	1.4
106380132	211712	Pcdh9	0.007	1.4
1980280	70797	Ankib1	0.007	-1.5
7000446	68490	Zfp579	0.007	-1.4
100510402		LOC232890	0.007	1.3
4570075	218989	6720456H20Rik	0.007	1.3
5130605	228880	Prkcbp1	0.007	1.3
430707	69612	2310037I24Rik	0.007	-1.3
104200735	668212	C030014M07Rik	0.007	1.3
1090746	72462	Rrp1b	0.007	1.3
6350372	193796	Jmjd2b	0.008	-1.3
2120066	97820	4833439L19Rik	0.008	-1.3

Amygdala

ProbeID_Amy	Gene_ID	Gene_Symbol	ttest_BLA_D2vD2R	Fold_change_restraint
105130451	329217	EG329217	0.00002	1.5
3840403	192650	Cabp7	0.00004	-1.9
1500736	214951	Rhbdl1	0.00006	-1.4
101580497	399604	C530014P21Rik	0.0002	1.5
105890390	77421	C030013E06Rik	0.0002	1.3
5670408	66880	Rsrc1	0.0002	-1.4
1980148	319259	9930021D14Rik	0.0003	-1.4
103360497	223435	Trio	0.0003	1.5
106350672	243743	Plxna4	0.0003	1.4
1740239	79043	Spsb3	0.0004	-1.3
103440452	18762	Prkcz	0.0004	1.7
5910519	78244	4930461P20Rik	0.0006	-1.6
104810397	216549	Aftph	0.0007	1.5
105390397	68585	Rtn4	0.0007	1.6
105720504	58194	Sh3kbp1	0.0007	1.4
6980551	11993	Aup1	0.0007	-1.4
101780300	68292	Sit3b	0.0007	1.3
5310133	118452	Baalc	0.0007	-1.4
102360164	97884	B3galnt2	0.0008	1.5
104200592	71603	9130004J05Rik	0.0008	1.5
104560609	77087	Ankrd11	0.0009	1.4
1050373	11747	Anxa5	0.001	-1.3
6900592	22344	Verf1	0.001	-1.3
105670059	71921	2310058N22Rik	0.001	2.0
100130167	71561	8430437N05Rik	0.001	1.3
7000021	232146	Tmem166	0.001	-1.3
100060128	94280	Sfkn3	0.001	1.7
2850014	15571	Elavl3	0.001	-1.4
3830594	53599	Cd164	0.001	-1.5
104480242	108147	Atic	0.001	1.3
2810500	216440	AK028047.1	0.001	-1.4
6840088	329910	Acot11	0.001	-1.4
104920280	77255	9430014F16Rik	0.001	1.4
1660402	56407	Trpc4ap	0.001	-1.3
4730551	67880	Dcxr	0.002	-1.3
5360139	215693	Zmat1	0.002	-1.3
100430446	55943	Stx8	0.002	1.6
5080463	14009	Etv1	0.002	-1.7
5360152	22340	Vegfb	0.002	-1.4
1940059	26896	Medf1	0.002	-1.4
101690167	338363	6030446N20Rik	0.002	1.4
6450369	79464	Lias	0.002	-1.6
106550152	74103	Neb1	0.002	1.4
105290487	83946	Phip	0.002	1.3
106350270	14840	Gsg1	0.002	1.3
100130035	170822	Usp33	0.002	1.4
5570368	12511	Cd6	0.002	1.3
4570440	52829	D48wg0951e	0.002	-1.7
103120204	382418	4833442A19Rik	0.002	2.0
100360494	72843	Prdm4	0.002	1.3
100670465	226432	Ipo9	0.002	1.5
6550021	70184	Psmc5	0.002	-1.5
6550215	19591	5730455P16Rik	0.002	-1.4
4850463	231238	2310045A20Rik	0.002	-1.6
3850156	228410	Cstf3	0.002	-1.3
6650193	378937	Lrrc24	0.002	-1.4
2900167	20678	Sox5	0.002	-1.4
102940484	16539	Kcns2	0.002	1.6
106550064	97761	Sgsm2	0.002	1.5
104590592	108871	4930447M23Rik	0.002	1.3
104120463	319716	6430520M22Rik	0.002	1.9
1340040	11988	Ndrp1	0.002	-1.5
104540035	330908	Opcml	0.003	-1.3
102760341	12387	Tnnb1	0.003	1.5
2940142	66556	Drap1	0.003	-1.3
520435	12558	Cdh2	0.003	-1.4
104010070		LOC224137	0.003	1.8
1400176	70025	Acot7	0.003	-1.6
4200184	219149	Xkr6	0.003	1.3
100630563	320661	D5Entd579e	0.003	1.5
5050717	78891	Scyl1	0.003	-1.3
104920364	14407	Gabrg3	0.003	1.4
70735	14009	Etv1	0.003	-2.1
105420711	54613	St3gal6	0.003	1.3
5570112	71819	Klf23	0.003	1.3
104070736	235330	Ttc12	0.003	1.3
104150019	109249	9430022B20Rik	0.003	1.4
2450131	15130	Hbb-b2	0.003	-1.9
106860154	63959	Slc29a1	0.003	1.4
3360202	229285	Spg20	0.003	-1.3
2510114	20190	Ryr1	0.003	1.3
106550373	320368	A730063M14Rik	0.004	1.6
460706	20970	Sdc3	0.004	-1.4
510020	50790	Acs1a	0.004	-1.4
103290450	65257	Asb3	0.004	1.3
5220524	227697	Dolk	0.004	-1.3
100060546	58239	Dexi	0.004	1.3
102640292	14755	Pigq	0.004	1.3
100610102	22066	Trpc4	0.004	-1.4
106940670	94109	Csmd1	0.004	1.6
1940050	68947	Chst8	0.004	-3.1

Hippocampus

ProbeID_HIP	Gene_ID	Gene_Symbol	ttest_HIP_D2vD2R	Fold_change_restraint
610017	110391	Qdpr	0.000004	-1.3
102630014	22247	Umps	0.00003	1.4
940438	53901	Rcan2	0.0001	-1.4
1690017	15505	Hsp110	0.0002	-1.3
4200270	13170	Dbp	0.0003	1.8
101990156	239985	Arid1b	0.0003	1.5
2570121	52840	Dnndd2	0.0004	-1.3
2570184	66117	1110001J03Rik	0.0006	-1.3
5290692	18700	Piga	0.0006	-1.5
430273	118454	Gja12	0.0007	-1.6
101400026	193740	Hspa1a	0.0008	1.3
101940348	385615	LOC385615	0.0008	1.7
580494	108673	Ccdc86	0.0008	-1.3
6130440	80795	Selk	0.0008	-1.3
2260450	67264	Ndufb8	0.001	-1.3
6620270	58187	Cldn10	0.001	-1.3
105690402	68355	2010204K13Rik	0.001	1.3
4060520	13640	Efnas5	0.001	1.3
103830017	73569	Vgll3	0.001	1.3
105360593		LOC277922	0.001	1.4
2370279	107449	Unc5b	0.002	-1.5
1980435	78672	9530057J20Rik	0.002	1.3
105910692	76021	5830418L09Rik	0.002	1.4
107040133	66171	Pgls	0.002	1.3
1230463	76453	Prss23	0.002	-1.3
104050292		4732460I02Rik	0.002	1.3
2510164	100434	Slc44a1	0.002	-1.5
106420670	78282	5330439K02Rik	0.002	1.3
102690347	13645	Egf	0.002	1.5
106100524	229599	Gm129	0.002	2.2
3120673	66481	Rps21	0.003	-1.4
5890184	170942	Erd1r	0.003	1.8
6220373	75763	4833418A01Rik	0.003	-1.3
104150070	225845	Hrasl3	0.003	1.3
4730204	403185	4932443I19Rik	0.003	-1.3
4560110	13497	Drp2	0.003	-1.3
4570577	17527	Mpv17	0.004	-1.4
6510717	12741	Cldn5	0.004	-1.7
100050338		9930108M23Rik	0.004	1.3
770022	75284	Bcdin3d	0.004	1.3
103780017	72149	2610019A05Rik	0.004	1.3
104210450	382564	SLC382S53	0.004	1.3
5270152	14412	Slc6a13	0.004	-1.6
105080286	12444	Cnd2	0.004	-1.3
510450	107650	Plak8	0.004	1.3
104070040	110380	Shroom2	0.004	1.3
5220592	19941	Rpl26	0.004	-1.4
106770075	16594	Klc2	0.004	-1.3
6130161	55949	Etf1b2	0.004	-1.5
1909592	71840	Tekt4	0.004	-1.4
3390487	77569	Limch1	0.005	-1.3
102630121	22130	Ttf1	0.005	1.3
101410215	77941	A930001M01Rik	0.005	1.4
2320524	66656	Eef1d	0.005	-1.3
101450458	223455	3287060400	0.005	1.3
105220020	207806	Gm608	0.005	1.4
840731	26384	Gnpd1a	0.005	-1.3
104810504	94185	Tnfrs12	0.005	1.3
1050193	22041	Trf	0.006	-1.4
101170576	66939	2310007F21Rik	0.006	1.3
1660844	112407	Egln3	0.006	-1.3
102970647	69102	1810015C11Rik	0.006	1.5
6620577	84004	Mcam	0.006	-1.3
100870402	74476	4933439C10Rik	0.006	1.3
100450446	17885	Myh8	0.006	1.4
105420592		sclo328049.1_1-5	0.006	1.4
105220324		LOC233307	0.006	1.4
1850672	64930	Tsc1	0.006	-1.5
5220369	17196	Mbp	0.007	-1.5
3940324	68036	Zfp706	0.007	-1.3
103140619	225207	Zfp521	0.007	1.4
100450020	239122	Setdb2	0.007	1.3
105890452	20168	Rtn3	0.007	1.4
100580438	74005	6130412A17Rik	0.007	1.5
105860184	72614	Pih1d2	0.007	-1.3
3940161	70747	Tspan2	0.007	-1.4
6550446	14866	Gstm5	0.007	-1.5
4730577	71529	9030409G11Rik	0.007	-1.3
5890594	208795	Tmem63a	0.007	-1.4
1660097	13429	Dnm1	0.007	1.3
2030072	13063	Cycs	0.007	-1.3
2630692	18451	P4ha1	0.007	-1.3
1340040	17988	Ndrp1	0.007	-1.6
6590725	224661	Slc26a8	0.007	1.3
6840110	14017	Evl2a	0.008	-1.4
2100619	18636	Cfp	0.008	1.4
3290110	75007	4930504E06Rik	0.008	-1.3
2850487	66599	Rdm1	0.008	-1.3
103290008	77305	Wdr82	0.008	1.3
6660433	66549	Aggri1	0.008	-1.3
104150154	66795	Atg10	0.008	1.3

4060181	319965	Cc2d1b	0.008	1.3	106100524	229599	Gm129	0.004	2.2	4280167	53881	Slc5a3	0.008	-1.3
5860446	51800	Bok	0.008	-1.5	110132	77220	C03003D03Rik	0.004	-1.5	6400204	71702	Cdc5l	0.008	-1.3
940102	213649	Arhgef19	0.008	-1.5	100360072	227693	Zer1	0.004	1.3	6590687	77125	Il33	0.009	-1.5
100770341	223922	Atf7	0.008	1.4	2350500	12033	Bcap29	0.004	-1.3	101450593	26556	Homer1	0.009	-1.6
520593	16319	Incenp	0.008	1.3	102320070	19944	Rpl129	0.004	1.6	102450168	103880	AS30017024Rik	0.009	1.4
6770156	22232	Slc35a2	0.008	-1.3	1340301	54723	Tfip11	0.004	1.4	5700142	22121	Rpl13a	0.009	-1.3
102360673	78434	A93009K04Rik	0.008	1.3	103710577	228850	B230039M05Rik	0.004	1.4	1940706	69957	Cdc16	0.01	-1.4
2940463	258921	Olfr1188	0.008	1.3	5700440	68525	Evc2	0.004	-1.3	106760224		1700124K17Rik	0.01	1.3
4480368	52575	Rg9mtd1	0.008	-1.3	100130368	12453	Ccni	0.004	1.8	103780168	20286	Zc3h7b	0.01	1.3
630706	170768	Pfkfb3	0.008	1.3	106760706	329790	A63003412Rik	0.004	1.5	102850100		LOC209405	0.01	-2.1
3870452	75697	3300001A09Rik	0.008	-1.3	6040333	194401	Mical3	0.004	-1.4	103870035	16576	Kif7	0.01	1.3
3360131	270685	Mthfd1l	0.008	1.4	7040576	68969	Eif1b	0.005	-1.3	6100075	328399	A930018M24Rik	0.01	-1.3
7050484	29857	Mapk12	0.008	1.4	100360050	66084	Rmnd1	0.005	1.3	2030600	319176	Hist2h2ac	0.01	-1.3
3870167	27261	Dok3	0.008	-1.3	4390040		119000215Rik	0.005	-1.4	4670398	15382	Hnrpa1	0.01	-1.5
102760168	654309	Nrp	0.008	1.5	101740706	14852	Gspt1	0.005	1.3	3390341	109145	Gins4	0.01	-1.3
2970184	93747	Echs1	0.008	1.3	540008	230780	Zcchc17	0.005	-1.3	1980079	71340	Riok1	0.01	-1.4
4610463	20362	3303676800	0.009	1.3	4210338	50754	Fbxw7	0.005	-1.5	110746	11409	Acads	0.01	-1.4
105420270	20370	Sez6	0.009	1.4	106130091	102141	Snx25	0.005	1.4	102850435		2810038D20Rik	0.01	1.4
4560181	67988	Txndc10	0.009	-1.3	580193	227737	9130404D14Rik	0.005	-1.3	380600	233280	Nipa1	0.01	-1.3
2340056	53618	Fut8	0.009	-1.3	101450575	78204	4930563A19Rik	0.005	1.3	106860551	71974	Prmt3	0.01	1.3
104210524	19735	Rgs2	0.009	-1.3	105890242	212986	Scfd2	0.005	1.5	6220091	56530	Tmem4	0.01	-1.4
6290725	18488	Cntn3	0.009	-1.4	101850672	110351	Rap1gap	0.005	1.4	104010504	71568	9030407P20Rik	0.01	1.3
102640609	241764	L3mbtl1	0.009	1.3	1980458	97064	Wwtr1	0.005	-1.3	1780113	68743	Anln	0.01	-1.5
100460739	117160	Ttyh2	0.009	1.4	5270609	242705	E2f2	0.005	-1.4	101500735	109624	Cald1	0.01	1.3
101410408	382793	Mtx3	0.01	1.3	6250095	16593	Klcl1	0.006	-1.3	7050687	65114	Vps35	0.01	-1.3
630019	16518	Kcnj2	0.01	-1.3	106020300	383558	9630011E01Rik	0.006	1.4	3130452	54447	Asah2	0.01	-1.3
5900601	83815	Cenpq	0.01	-1.3	6400397	58804	Cdc42ep5	0.006	-1.3	101660438	108100	Balap2	0.01	1.3
4200035	399558	Flrt2	0.01	-1.4	104730711	99696	Ankrd50	0.006	1.3	106110762		4933401105Rik	0.01	1.3
1090451	78779	Spta2L	0.01	1.3	3940161	70747	Tspan2	0.006	-1.5	2470148	67971	Tppp3	0.01	-1.3
104050494	231841	AA881470	0.01	1.5	103610100	66673	Sorcs3	0.006	1.4	102810072	238505	Mtr	0.01	1.3
105860672	232791	Cnot3	0.01	1.3	105690750	19274	Ptprm	0.006	1.3	1780068	12803	Cntf	0.01	-1.3
104150292	319332	B930096F20Rik	0.01	1.5	102640609	241764	L3mbtl1	0.006	1.4	2630497	18810	Plec1	0.01	-1.8
102810471	269702	Mphosph9	0.01	1.3	104560161	17276	Meia	0.006	1.4	4810619	12955	Cryab	0.01	-1.7
102100025	230251	Zkscan16	0.01	1.3	2260070	67384	Bag4	0.006	-1.4	1410300	15081	H3f3b	0.01	-1.3
2650441	14608	Gpr83	0.01	-1.4	102690180	243617	E030038D23Rik	0.006	1.6	3520372	108897	2810003C17Rik	0.01	-1.4
2370563	67742	Samsn1	0.01	1.3	100460095	67899	2010110K16Rik	0.006	1.5	2760402	268977	Utpb1	0.01	-1.3
6620746	78829	Tsc22d4	0.01	1.3	104590278	84035	Kremen1	0.006	1.5	104150673	68760	Synpo2l	0.01	1.3
1980041	228662	Btbd3	0.01	-1.5	610427	11676	Aldoc	0.006	-1.5	103450504	238988	Err2	0.01	-1.3
6840446	22436	Xdh	0.01	1.3	104560377	383483	LOC383483	0.006	1.3	6130129	225341	Lims2	0.01	-1.3
3850528	70153	2210016F16Rik	0.01	-1.3	730722	67993	Nudt12	0.006	-1.5	2120088	93690	Gpr45	0.01	1.3
6100408	279653	Pcdh19	0.01	-1.3	106220711	76972	2810008D09Rik	0.006	1.4	6760411	94180	Acsbg1	0.01	-1.3
5700438	239188	Enox1	0.01	-1.4	1030575	13008	Csrp2	0.006	-1.4	4560672	18719	Pip5k1b	0.01	-1.4
6290575	66531	2310061C15Rik	0.01	-1.5	103060039		LOC381212	0.006	1.3	6220324	71990	Ddx54	0.01	-1.3
102350114	12444	Ccnd2	0.01	1.5	3800537	225164	Mib1	0.007	-1.4	1660594	50914	Olig1	0.01	-1.4
7040050	12914	Crebbp	0.01	-1.6	1580372	70355	Gprc5c	0.007	-1.3	6660176	80837	Rhoj	0.01	-1.3
5890452	66513	Map3k7ip1	0.01	-1.8	103360184	17536	Mrg1	0.007	1.8	6590398	18038	Nfkbil1	0.01	-1.4
100460068	68699	1110033F14Rik	0.01	-1.3	105550446	67933	Hcfc2	0.007	1.3	4570056	66910	Tmem107	0.01	-1.4
105670546	320833	D230004N17Rik	0.01	1.4	5670286	218194	Phactr1	0.007	-1.3	6290170	66922	Rras2	0.01	-1.4
103840450	76798	2410137F16Rik	0.01	1.7	105290301	12514	Cd68	0.007	1.6	100380397		9628654_7_rc-S	0.01	1.3
3450731	16331	Inpp5d	0.01	1.3	100520148	11863	Arnt	0.007	1.5	103890338	384434	LOC384434	0.01	1.4
4280402	15275	Hkl1	0.01	-1.5	100780133	23963	Odz1	0.007	1.5	103190703	225631	Onecut2	0.01	1.3
110014	68142	Inoc1	0.01	1.3	104730358	320780	9430029E18Rik	0.007	1.6	104150692	72306	Zfp777	0.01	1.3
4050471	66123	1110006O24Rik	0.01	1.3	100130082	67465	5F3a1	0.007	1.4	6550161	109652	Acy1	0.01	-1.4
1400093	213053	Slc39a14	0.01	1.3	2690168	20977	Syp	0.007	-1.4	1770102	72519	Tmem55a	0.01	-1.3
4610193	103694	Tmed4	0.01	-1.3	6900364	27403	Abca7	0.007	-1.6	610139	50883	Chek2	0.01	-1.4
105080204	70402	2310056B04Rik	0.01	-1.3	101850358	26877	B3gal1	0.007	1.4	104670139	67713	Dnajc19	0.01	-1.3
460672	110198	Akr7a5	0.01	-1.3	100050647	229512	Smg5	0.007	1.3	2630112	241490	Rbm45	0.01	-1.3
104590082	106633	Ifit140	0.01	1.3	101780008	18626	Per1	0.007	1.3	105860048	237465	Ccdc38	0.01	1.4
3390402	52502	Carhsp1	0.01	1.3	104200156	268980	Strn	0.007	1.7	3390593	18627	Per2	0.01	1.6
2190195	14070	F8a	0.01	-1.4	4230358	54138	Atxn10	0.007	-1.4	107100402	214240	Disp2	0.01	1.3
3710494	50771	Atp9b	0.01	1.3	1050008	11488	Adam11	0.007	-1.4	104180187		1700065013Rik	0.01	1.4
100020356	53970	Rfx5	0.01	1.3	2850546	66445	Cyc1	0.007	-1.4	50739	68992	Zfp580	0.01	1.4
510315	20017	Rpo1-2	0.01	1.3	100870133	19386	Ranbp2	0.007	1.4	106220040	68310	Zmym1	0.01	1.3
105290086	70713	6330416L11Rik	0.01	-1.4	3060176	68018	Col4a3bp	0.007	-1.5	105550750	54709	Eif3i	0.01	1.3
5910110	80976	Syt13	0.01	-1.3	2850136	21826	Thbs2	0.007	-1.3	100730673		LOC382737	0.01	1.3
3940735	67035	Dnajb4	0.01	-1.5	102450435	67434	5730557B15Rik	0.007	1.5	101240605	58186	Rad18	0.01	1.4
100770288	19274	Ptprm	0.01	1.3	6550685	58239	Dexi	0.007	-1.3	107050041	73332	1700041C02Rik	0.01	1.3
4760739	13057	Cyba	0.01	-1.3	3290059	54381	Pgcp	0.008	-1.3	102810603	73126	3110038A09Rik	0.01	1.3
2650541	57742	Abhd1	0.01	-1.3	102120377	75739	Mpp7	0.008	1.4	1050397	53609	Sfrs16	0.01	-1.3
101850286	16522	Kcnj6	0.01	1.4	3440717	20541	Slc8a1	0.008	-1.5	1340132	11426	Macf1	0.01	-1.4
106590576		E330019D12Rik	0.01	1.3	3710647	217882	AW555464	0.008	-1.5	103870097	21841	Tia1	0.01	1.3
105420390	18611	Pea15a	0.01	-1.4	106040600	58894	473246K03Rik	0.008	1.6	104760601		LOC382585	0.01	1.3
4070162	72776	Sass6	0.01	1.3	106450411	77590	4631426J05Rik	0.008	1.5	4920441	11815	Apod	0.01	-1.5
2230491	20674	Sox2	0.01	-1.3	6860056	66310	2810410M20Rik	0.008	-1.3	5900168	74034	4632404H12Rik	0.01	1.3
5290253	209760	Tmc7	0.01	1.3	101500088	383295	Ypel5	0.008	1.4	770725	15360	Hmgcs2	0.01	-1.6
4120433	207521	Dtx4	0.01	1.3	103360020	380753	Atxn7l1	0.008	1.4	3710128	22239	Ugt8a	0.01	-1.4
102320601	101401	Adamts9	0.01	-1.3	1740609	104112	Acly	0.008	-1.3	807167	104346	Gas8	0.01	-1.3
6520487	216760	Mfap3	0.01	1.4	106520347	58223	Mmp19	0.008	1.3	104760497	54611	Pde3a	0.01	1.3
107380767	16001	Igf1r	0.01	1.3	290491	11907	Ate1	0.008	-1.3	2100037	67801	Pilp	0.01	-1.5
6510717	12741	Cldn5	0.01	-1.4	670707	230861	Eif4g3	0.008	-1.3	4280487	17153	Mal	0.01	-1.4

4780025	18221	Nudc	0.01	-1.3	102360348	546001	D030022P06Rik	0.009	1.9	2350692	110611	Hdlbp	0.01	-1.3
6290059	56427	Tubd1	0.01	-1.5	102680047	75739	Mpp7	0.009	1.7	4560397	17988	Ndrp1	0.01	-1.4
450364	11512	Adcy6	0.01	1.4	106760315	67877	Nat5	0.009	1.3	105340730	382801	LOC382801	0.01	1.3
102060452		D930002M03Rik	0.01	1.5	6760021	402747	D630004N19Rik	0.009	-1.4	2570133	18648	Pgam1	0.01	-1.3
107100300	227693	Zer1	0.01	1.4	104730750	100972	Rab28	0.009	1.4	100130368	12453	Ccnl	0.01	1.3
1770100	381974	Mrgprg	0.01	1.3	6770309	20409	Ostf1	0.009	-1.5	940025	67040	Ddx17	0.01	-1.3
5670524	320292	Rasgef1b	0.01	-1.3	105080017		LOC237195	0.009	1.3	5910129	73106	Prssl1	0.01	-1.3
102510463	67534	Ttll4	0.01	1.3	7050672	67809	1200015F23Rik	0.009	-1.7	106420349		H2afj	0.01	1.3
101090025	226751	Cdc42bpa	0.01	-1.4	2190121	20466	Sin3a	0.009	1.4	4200133	54635	Pdgfc	0.01	-1.3
105860154	791338	ENSMUSG00000066938	0.01	1.3	106840520	17764	Mtf1	0.009	1.4	103990377	14421	B4galnt1	0.01	1.3
106550113	319457	C130045F17Rik	0.01	1.5	6760673	57443	Fbxo3	0.009	-1.5	5720681	20682	Sox9	0.01	-1.3
360619	15931	Ids	0.01	-1.3	7000520	66180	1110036O03Rik	0.009	-1.4	4120438	13730	Emp1	0.01	-1.3
107050463	1E+08	1110031I01Rik	0.01	1.4	6370112	11829	Aqp4	0.01	-1.3	106420564		9430076G02Rik	0.01	1.3
101660070	211673	Arfgef1	0.01	1.3	7040673	14205	Figf	0.01	-1.4					
106380594	67330	1700047M11Rik	0.01	1.5	3780341	22628	Ywhag	0.01	-1.4					
4060168	50996	Pdcd7	0.01	1.3	6290673	67454	1200009F10Rik	0.01	-1.5					
106200026	228602	4930402H24Rik	0.01	1.3	106350397	224019	D16Bwg1494e	0.01	1.6					
3990603	320165	Tacc1	0.01	1.5	101690671	70605	Zdhc24	0.01	1.3					
3800014	14810	Grin1	0.01	1.6	3190504	69257	Elf2	0.01	-1.3					
1050397	53609	Sfrs16	0.01	-1.3	104570440	269252	Gtf3c4	0.01	1.3					
102570647	381265	A530093H06Rik	0.01	-1.4	3290168	26913	Gprin1	0.01	-1.6					
3360731	213993	A630007B06Rik	0.01	-1.3	104050377	213452	Ripk5	0.01	1.3					
3520411	270893	Tmem132e	0.01	1.4	670288	109305	Orai1	0.01	-1.3					
2900647	73940	Hapln2	0.01	1.3	2060504	103712	6330403K07Rik	0.01	-1.4					
6400706	12575	Cdkn1a	0.01	-1.7	101090546	214133	E130014J05Rik	0.01	1.4					
5860040	320271	A930041I02Rik	0.01	-1.5	3120594	24157	Acaa1	0.01	-1.4					
5390253	68401	G6pc3	0.01	-1.3	102360746	16526	Kcnk2	0.01	1.4					
2120722		Hspca	0.01	-1.4	106550154	11569	Aebp2	0.01	1.4					
4010136	217378	Rbj	0.01	1.4	6860458	84095	Pik42a	0.01	-1.3					
104480148	18087	Nktr	0.01	1.5	101240446	58800	Trpm7	0.01	1.4					
6220152	53883	Celsr2	0.01	1.5	6770471	72947	Agxt2l2	0.01	-1.3					
4540707	108030	Lin7a	0.01	-1.4	105910131	71331	5430411C19Rik	0.01	1.3					
3440215	14115	Fbln2	0.01	1.4	106840292		LOC381894	0.01	1.3					
104920167	53421	Sec61a1	0.01	1.3	3870546	18231	Nxph1	0.01	-1.6					
105670204	320198	E230011G24Rik	0.01	1.3	105420592		scl0328049.1_1-S	0.01	1.3					
3710132	20185	Ncor1	0.01	1.3	6370692	20321	Frrs1	0.01	-1.3					
106040066	17761	Mtap7	0.01	1.4	105700064	1E+08	6820437F20Rik	0.01	1.3					
					3870441	11975	Atp6v0a1	0.01	-1.3					
					4920301	20964	Syn1	0.01	-1.3					
					104780711	14055	Ezh1	0.01	1.3					
					4570427	16400	Itga3	0.01	-1.7					
					104570161		9629514_7_rc-S	0.01	1.3					
					106370167	28022	D5Wsu152e	0.01	1.4					
					100130452	224170	2310047C04Rik	0.01	1.6					
					100360121	100515	6820424L24Rik	0.01	1.3					
					104810739	68161	A930005H10Rik	0.01	1.5					
					6380025	70693	Gpr125	0.01	-1.4					
					106520692		LOC381019	0.01	1.3					
					2680053	70240	2700038N03Rik	0.01	-1.4					
					2450215	22192	Ube2m	0.01	-1.4					
					106980441	242466	Zfp462	0.01	1.3					
					6370601	67958	2610101N10Rik	0.01	-1.3					
					100520170	228852	Ppp1r16b	0.01	1.4					
					100580047	26931	Ppp2r5c	0.01	1.4					
					450440	320827	C530008M17Rik	0.01	-1.5					
					3120576	12443	Ccnd1	0.01	-1.4					
					4050239	14824	Grn	0.01	-1.3					
					102260551	381629	3290025600	0.01	1.4					
					106980373	66578	2610039C10Rik	0.01	1.3					
					4060524	229615	Pias3	0.01	-1.4					
					4480088	67446	Dusp28	0.01	-1.4					
					106940435	234847	Spq7	0.01	1.5					
					4200039	19684	Rdx	0.01	-1.5					
					104590605	18021	Nfatc3	0.01	1.4					
					106520706	231889	Bud31	0.01	1.5					
					103390092	12695	Inadl	0.01	1.4					
					4780079	68090	Yif1a	0.01	-1.4					
					6350538	19179	Psmc1	0.01	4.9					
					100070035	217262	Abca9	0.01	1.4					
					610047	319504	Nrcam	0.01	-1.4					
					106370390	67207	Lsm1	0.01	1.6					
					106100706	69254	2810410D24Rik	0.01	1.3					
					101170746	320854	9030203C11Rik	0.01	1.3					
					102450020		A630054D14	0.01	1.3					
					2640056	22253	Unc5c	0.01	-1.3					
					6180075	12896	Cpt2	0.01	-1.4					
					2760114	64297	Gprc5b	0.01	-1.6					
					102680315		Slc30a10	0.01	1.4					
					7000278	16204	Fabp6	0.01	1.3					
					101990239	70208	Med23	0.01	1.6					
					103710040	75560	Ep400	0.01	1.4					
					730008	11682	Alk	0.01	-1.6					
					106220070	72822	2810455O05Rik	0.01	1.3					
					105890603	67263	Zswim6	0.01	1.8					
					100070402	217351	Tnrc6c	0.01	1.6					
					6520131	74764	Klc4	0.01	-1.4					
					1570202	64602	Ireb2	0.01	-1.3					
					106660095	192195	Ash1l	0.01	1.3					
					2510600	23992	Prkra	0.01	-1.5					
					6760494	211673	Arfgef1	0.01	-1.4					
					101570148	16800	Arhgef2	0.01	1.7					
					1500021	12661	Chl1	0.01	-1.5					
					6110341	24030	Mrps12	0.01	-1.4					
					103840176	73235	3110082D06Rik	0.01	-1.3					
					6660056	17936	Nab1	0.01	-1.3					
					4070286	66437	Fis1	0.01	-1.5					
					101190541	240025	Dact2	0.01	1.3					
					105550092	67610	Rspry1	0.01	1.5					
					100840647	277973	Slc9a5	0.01	1.7					
					870450	76614	Immt	0.01	-1.4					
					4560181	67988	Txndc10	0.01	-1.6					

102100242	269587	Epb4.1	0.01	1.7
100520097	241846	Lsm14b	0.01	1.5
1990670	106952	Centd3	0.01	-1.3
106400400	57330	Perq1	0.01	1.5
3870301	14968	H2-Ea	0.01	-1.4
102060452		D930002M03Rik	0.01	1.9
7100204	17755	Mtap1b	0.01	-1.6
100610021	18994	Pou3f4	0.01	1.6
3440292	16524	Kcnj9	0.01	-1.3
104760600	75137	4930535B03Rik	0.01	1.3
5130551	64706	Scube1	0.01	-1.3
106110162	26446	Psmb3	0.01	1.4
4010239	18858	Pmp22	0.01	-1.3
2350075	14571	Gpd2	0.01	-1.3
105390465	77853	Msl2l1	0.01	1.3
105420020	320022	Ccdc79	0.01	1.4
103190358	72125	2600011E07Rik	0.01	1.4
105420292	76080	5830472M02Rik	0.01	1.4
1690053	56207	Uchl5	0.01	-1.4
2370605	210376	Mtmr9	0.01	-1.4
103390692	106824	D230046O15Rik	0.01	1.3
2030154	57080	Gtf2ird1	0.01	1.3
103780075	66867	Hmg20a	0.01	1.4
5290373	56348	Hsd17b12	0.01	-1.6
6450390	20867	Stip1	0.01	-1.5
107000484	72371	2210408I21Rik	0.01	1.3
103940309	73681	Trmt11	0.01	1.3
102850465	20192	Ryr3	0.01	1.3
450079	18186	Nrp1	0.01	-1.6
6200538	20665	Sox10	0.01	-1.6
100540605		LOC380720	0.01	1.5
670672	114144	4930544D05Rik	0.01	1.3
104280671	77036	1700109H08Rik	0.01	1.6
104920053	17151	Ccndbp1	0.01	1.4
1090408	57905	Isy1	0.01	-1.3
105900128	380928	Lmo7	0.01	2.1
2360601	12334	Capn2	0.01	-1.3
102360161		E330025B05Rik	0.01	1.3
3120497	69080	Gmppa	0.01	-1.3
106590609	72831	Dhx30	0.01	1.3
3830181	18667	Pgr	0.01	-1.3
106130368	73674	Wdr75	0.01	1.4
6370647	18173	Slc11a1	0.01	-1.3
102340075		LOC386268	0.01	1.5
104610398	634802	ILM104610398	0.01	1.5
1780450	233204	Tbc1d17	0.01	-1.4
105900576	93890	Pcdhb19	0.01	1.5
6290333	67871	Mrrf	0.01	-1.5
1230270	69871	2010007H12Rik	0.01	-1.4
102650082	16800	Arhgef2	0.01	1.8
940112	239570	AW124722	0.01	-1.3
5420044	66237	Atp6v1g2	0.01	-1.3
3170524	20975	Synj2	0.01	-1.4
2970037	70082	Lysmd2	0.01	-1.5
1400129	11798	Birc4	0.01	-1.4
4920280	18186	Nrp1	0.01	-1.7
2570609	228545	Vps18	0.01	-1.3
105690433	19217	Ptger2	0.01	1.4
104540152	102153	C230098O21Rik	0.01	1.3
1990020	320343	Lypd6	0.01	-1.3
100110487	69188	Mil5	0.01	1.3
104010278		A730024G14Rik	0.01	2.2
103450402	17761	Mtap7	0.01	1.5
106620577	72852	2900024O10Rik	0.01	1.4
102810180		C630001G20Rik	0.01	1.4
101340725	319804	Glt1d1	0.01	1.4
105340605	20874	Slk	0.01	1.6
104050039	231713	C330023M02Rik	0.01	1.4
103520048	233899	Gm166	0.01	1.4
102630433	75141	Rasd2	0.01	1.3
7000059	17433	Mobp	0.01	-1.4
107040072	385516	LOC385516	0.01	1.3
5420095	14226	Fkbp1b	0.01	-1.4
106840368	319574	9330133O14Rik	0.01	1.3
3390437	53421	Sec61a1	0.01	-1.4
6860253	11541	Adora2b	0.01	-1.4
106100440	13353	Dgcr6	0.01	1.3
102350576	330096	D830007B15Rik	0.01	1.5
102030131	217716	Mlh3	0.01	1.4
2230053	56367	Scoc	0.01	-1.5
3520333	225742	St8sia5	0.01	-1.3
104920603	19091	Prkg1	0.01	1.5
106840040	74187	Katnb1	0.01	1.3
104120180	319496	6030432P03Rik	0.01	1.3
6510162	13542	Dvl1	0.01	-1.3
4210551	14455	Gas5	0.01	-1.3
1400075	66366	Ergic3	0.01	-1.3
430435	240913	Adamts4	0.01	-1.4
106650528	215999	Ccdc109a	0.01	1.4
2320025	14227	Fkbp2	0.01	-1.3
2450524	232910	Ap2s1	0.01	-1.3
103450181	76487	Ppp1r3g	0.01	1.7
3710551	70134	2210011C24Rik	0.01	-1.4
4480044	75778	Them4	0.01	1.4
104780184	20411	Sorbs1	0.01	1.6
100780438	240613	9930021J03Rik	0.01	1.3
102810440	18286	Odf2	0.01	1.5
107100039	67016	Tbc1d2b	0.01	1.4
4780273	16517	Kcnj16	0.01	-1.5
1570086	67198	2810022L02Rik	0.01	-1.3
100430129	20621	Snn	0.01	1.7

2470484	227682	Trub2	0.01	-1.3
107050576	70141	2210414122Rik	0.01	1.4
104570497	70208	Med23	0.01	1.6
106110167		A230070D14Rik	0.01	1.5
6400164	231440	9130213B05Rik	0.01	-1.9
3870603	50708	Hist1h1c	0.01	-1.5
100060110	627648	EG627648	0.01	1.3
7550703	72780	Rspo3	0.01	-1.7
102900132	319387	Lphn3	0.01	1.4
104070577	73451	1700065O13Rik	0.01	1.5
102340121	15040	H2-T23	0.01	1.3
6510286	23873	Faim	0.01	-1.4
7050053	70025	Acot7	0.01	-1.8
103850519	240669	EG240669	0.01	1.3
105690441	68135	Eif3h	0.01	1.3
104010471	320860	B130021B11Rik	0.01	1.8
2650092	329178	BC042720	0.01	-1.3
106660014	72711	2810037O22Rik	0.01	1.4
2260427	50887	Nsbp1	0.01	-1.5
4070075	18195	Nsf	0.01	-1.4
4150075	11993	Aup1	0.01	-1.4
5080593	70564	5730469M10Rik	0.01	-1.4
105890195	633640	EG633640	0.01	1.3
101190064	20563	Slit2	0.01	1.5
6840110	14017	Evi2a	0.01	-1.4
104730408	16956	Lpl	0.01	1.4
106130600	14114	Fbln1	0.01	-1.4
1740021	192897	Itgb4	0.01	-1.4
106860632	74503	5530401J07Rik	0.01	1.5
106590519	11764	Ap1b1	0.01	1.3
103060377	208228	Mobk12a	0.01	1.3
520021	21413	Tcf4	0.01	-1.6
100840068	229542	Gatad2b	0.01	1.7
103120152	382391	LOC382391	0.01	1.3
106760025	68476	1110003F10Rik	0.01	1.3
101980438	791381	OTTMUSG00000002	0.01	1.4
5860035	20334	Sec23a	0.01	-1.5
4150403	13382	Did	0.01	-1.3
6220053	110012	Gtrgeo22	0.01	-1.4
5340685	54325	Elovl1	0.01	1.3
540546	27276	Plekhb1	0.01	-1.7
102450138	66407	Mrps15	0.01	1.5
103450403	332579	Card9	0.01	1.3
104070408	19246	Ptpn1	0.01	1.5
104540279	68941	1110018N20Rik	0.01	1.6

Functional enrichment among restraint-sensitive genes in C57BL/6J

GO Term	Count*	Pvalue**
GO:0051234~establishment of localization	166	4.83E-06
GO:0006810~transport	162	5.72E-06
GO:0051179~localization	182	6.77E-06
GO:0007268~synaptic transmission	25	2.51E-05
GO:0019226~transmission of nerve impulse	26	1.83E-04
GO:0006811~ion transport	58	1.89E-04
GO:0008152~metabolic process	405	1.94E-04
GO:0044238~primary metabolic process	368	2.01E-04
GO:0007242~intracellular signaling cascade	79	5.85E-04
GO:0006812~cation transport	42	6.41E-04
GO:0008380~RNA splicing	19	0.002
GO:0065009~regulation of a molecular function	33	0.002
GO:0051641~cellular localization	60	0.003
GO:0003012~muscle system process	12	0.003
GO:0006936~muscle contraction	12	0.003
GO:0051649~establishment of cellular localization	59	0.003
GO:0016043~cellular component organization and biogenesis	148	0.004
GO:0006464~protein modification process	97	0.004
GO:0044237~cellular metabolic process	357	0.004
GO:0030001~metal ion transport	33	0.004
GO:0007611~learning and/or memory	10	0.005
GO:0007267~cell-cell signaling	29	0.005
GO:0006397~mRNA processing	21	0.005
GO:0033555~multicellular organismal response to stress	6	0.005
GO:0015672~monovalent inorganic cation transport	27	0.005
GO:0006576~biogenic amine metabolic process	10	0.006
GO:0050790~regulation of catalytic activity	28	0.006
GO:0043412~biopolymer modification	99	0.006
GO:0006575~amino acid derivative metabolic process	11	0.007
GO:0043687~post-translational protein modification	84	0.008
GO:0008105~asymmetric protein localization	4	0.008
GO:0015674~di-, tri-valent inorganic cation transport	15	0.01
GO:0043085~positive regulation of catalytic activity	17	0.01
GO:0016071~mRNA metabolic process	22	0.01
GO:0044248~cellular catabolic process	34	0.01
GO:0001505~regulation of neurotransmitter levels	11	0.01
GO:0043170~macromolecule metabolic process	311	0.01
GO:0008104~protein localization	51	0.01
GO:0008286~insulin receptor signaling pathway	6	0.01
GO:0044260~cellular macromolecule metabolic process	166	0.01
GO:0032147~activation of protein kinase activity	7	0.01

* Number of genes in the list that fall into the GO term

** Modified Fisher Exact p-value, EASE score from DAVID (<http://david.abcc.ncifcrf.gov/home.jsp>)

Functional enrichment among restraint-sensitive genes in DBA/2J

GO Term	Count	PValue
GO:0051179~localization	143	1.95E-05
GO:0051234~establishment of localization	123	4.07E-04
GO:0006810~transport	120	4.46E-04
GO:0007399~nervous system development	41	5.10E-04
GO:0009987~cellular process	455	0.001
GO:0012501~programmed cell death	40	0.002
GO:0048468~cell development	62	0.002
GO:0016043~cellular component organization and biogenesis	118	0.003
GO:0043413~biopolymer glycosylation	10	0.003
GO:0032990~cell part morphogenesis	21	0.003
GO:0030030~cell projection organization and biogenesis	21	0.003
GO:0048858~cell projection morphogenesis	21	0.003
GO:0008219~cell death	40	0.004
GO:0009628~response to abiotic stimulus	15	0.004
GO:0030154~cell differentiation	85	0.004
GO:0048869~cellular developmental process	85	0.004
GO:0016265~death	40	0.004
GO:0042552~myelination	6	0.004
GO:0006915~apoptosis	38	0.004
GO:0007272~ensheathment of neurons	6	0.006
GO:0008366~axon ensheathment	6	0.006
GO:0009058~biosynthetic process	63	0.006
GO:0044237~cellular metabolic process	276	0.006
GO:0006486~protein amino acid glycosylation	9	0.009
GO:0065007~biological regulation	184	0.009
GO:0007017~microtubule-based process	16	0.009
GO:0046467~membrane lipid biosynthetic process	9	0.009
GO:0044238~primary metabolic process	274	0.01
GO:0032502~developmental process	126	0.01
GO:0007169~transmembrane receptor protein tyrosine kinase signaling pathw	14	0.01

* Number of genes in the list that fall into the GO term

** Modified Fisher Exact p-value, EASE score from DAVID (<http://david.abcc.ncifcrf.gov/home.jsp>)