Epistatic interactions between *Tgfb1* and genetic loci, *Tgfbm2* and *Tgfbm3*, determine susceptibility to an asthmatic stimulus

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TGFβ activation and signaling have been extensively studied in experimental models of allergen-induced asthma as potential therapeutic targets during chronic or acute phases of the disease. Outcomes of experimental manipulation of TGFβ activity have been variable, in part due to use of different model systems. Using an ovalbumin (OVA)-induced mouse model of asthma, we here show that innate variation within TGFβ1 genetic modifier loci, *Tgfbm2* and *Tgfbm3*, alters disease susceptibility. Specifically, $Tgfbm2^{129}$ and $Tgfbm3^{C57}$ synergize to reverse accentuated airway hyperresponsiveness (AHR) caused by low TGFβ1 levels in $Tgfb1^{+/-}$ mice of the NIH/OlaHsd strain. Moreover, epistatic interaction between $Tgfbm2^{129}$ and $Tgfbm3^{C57}$ uncouples the inflammatory response to ovalbumin from those of airway remodeling and airway hyperresponsiveness, illustrating independent genetic control of these responses. We conclude that differential inheritance of genetic variants of *Tgfbm* genes alters biological responses to reduced TGFβ1 signaling in an experimental asthma model. TGFβ antagonists for treatment of lung diseases might therefore give diverse outcomes, dependent on genetic variation.

Asthma is an allergic disease of the airways affecting more than 5% of the US population. It is characterized by airway hyperresponsiveness (AHR), inflammatory infiltration, increased mucus production, elevated serum IgE levels, and airway remodeling (1). Asthma can present within a wide range of disease severity, from mild and intermittent to severe, persistent, and drug refractory. It is considered a multifactorial disorder in which complex interplay between environmental and genetic factors determines disease risk and severity. Here we investigated the contribution of genetic factors that have previously been shown to interact with transforming growth factor β (TGFβ) in vivo, to disease severity in a mouse model of asthmatic response.

Genetic variants of the human *TGFB1* gene are associated with asthma severity (2–5) and TGFβ is synthesized by, and has effects on, several cell types of the lung in response to an asthmatic stimulus. Thus, the TGFβ signaling pathway has been considered a potential therapeutic target in lung disease (6). It is a potent suppressor of inflammation, illustrated by lethal T-cell–mediated multifocal inflammation in $Tgfb1^{-/-}$ mice (7, 8). It also regulates epithelial cell growth and differentiation and stimulates smooth muscle and myofibroblast differentiation and extracellular matrix deposition (6). TGFβ appears protective in acute models of asthmatic pathology, seen both genetically and pharmacologically (9–12). Conversely, excess active TGFβ can exacerbate chronic asthma pathology by induction of fibrosis (13, 14). It can also stimulate pulmonary inflammation and accumulation and contraction of smooth muscle through induction of T_H17 cells (15) and effects on intraepithelial mast cells (16), leading to airway obstruction and decreased lung function.

We have reported genetic loci, *Tgfbm2* and *Tgfbm3*, which dramatically alter phenotypic outcome of low TGFβ1 levels in mice, with effects on both vascular development and skin tumor susceptibility (17–20). We also showed that, as for human *TGFB1*, the mouse *Tgfb1* gene is polymorphic, with allelic variants that drive different expression levels in diverse mouse species, consequently conferring strain-specific variation in tumor susceptibility (20). Interestingly, the biological outcome of *Tgfb1* genetic variation in terms of tumor risk is dependent on interaction with an unlinked genetic locus, *Skts15* (20), illustrating the power of epistasis in masking single gene effects and determining disease risk. Significantly, *Skts15* colocalizes with *Tgfbm3* on the genome (19). This locus is thus synonymous with *Skts15* and a potent modifier of two distinct TGFβ-dependent phenotypes.

In the current study, we demonstrate that different components of the asthmatic response to the allergen, ovalbumin (OVA), are dependent on mouse strain background. More specifically, we show that potentiation of AHR by loss of a single *Tgfb1* allele is dependent on synergistic interaction between variant alleles of the two TGFβ1 modifier loci, *Tgfbm2* and *Tgfbm3*. Moreover, we demonstrate uncoupling of the inflammatory vs. the AHR response to an asthmatic stimulus, mediated by these two genetic variants.

Results

***Tgfb1* Haploinsufficiency Potentiates AHR in a Mouse-Strain–Specific Manner.** Several reports have suggested that TGFβ1 is protective against allergen-induced lung pathology (9–12). We compared wild-type with $Tgfb1^{+/-}$ mice on two different strains, NIH/OlaHSD (NIH) and C57BL/6NTac, and investigated their physiological and cellular responses to acute exposure to the allergen OVA after a 3-wk period of OVA sensitization. As assessed by acute AHR, C57 wild-type mice were relatively resistant to the asthmatic challenge compared with NIH wild-type mice (Fig. 1 *A* and *B*). Interestingly, we showed no effect of *Tgfb1* gene dosage on the C57 genetic background, such that there were identical cellular and physiological responses to the asthmatic stimulus regardless of *Tgfb1* genotype (Fig. 1*A*). However, we found strain differences with respect to *Tgfb1* gene dosage on asthmatic response; loss of one *Tgfb1* allele exacerbated AHR in NIH (Fig. 1*B*) but not C57 mice (Fig. 1*A*). We conclude that the effect of reduced TGFβ1 levels on asthmatic pathology was dependent on mouse strain background.

***Tgfbm2*^{129} and *Tgfbm3*^{C57} Synergize to Reduce AHR in NIH-*Tgfb1*$^{+/-}$ Mice.** In two independent mouse models of pathology, namely tumor susceptibility (20) and vascular dysplasia (21), we previously demonstrated that the phenotypic outcome of *Tgfb1* gene dosage is mouse strain dependent and strongly influenced by endogenous variation within *Tgfbm2* and *Tgfbm3* (20, 21). To examine the influence of these genetic loci on pulmonary responses

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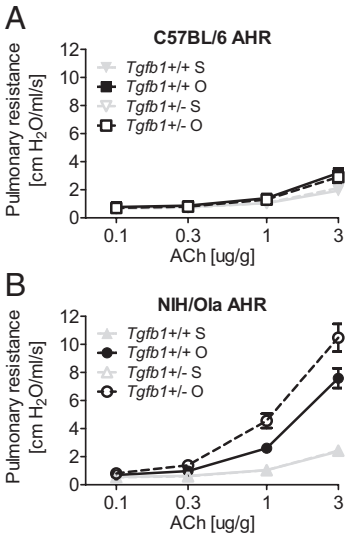

Fig. 1. *Tgfb1* haploinsufficiency potentiates AHR in a mouse-strain–specific manner. Respiratory resistance in response to escalating doses of ACh in mice sensitized and challenged with OVA (O) or saline (S) in (*A*) C57.*Tgfb1*$^{+/+}$ and C57.*Tgfb1*$^{+/-}$ mice and (*B*) NIH.*Tgfb1*$^{+/+}$ and NIH.*Tgfb1*$^{+/-}$. Data shown as mean ± SEM for each group ($n = 10$). Linear regression model comparing treatment ($P = 3 \times 10^{-11}$) and genotype ($P = 0.017$).

to OVA challenge, we used the previously reported NIH.129-*Tgfbm2* congenic mice that are >99% NIH except for a 1-Mb 129-derived interval around *Tgfbm2* on distal chromosome 1 (Fig. S1*A*) (22). We also generated NIH.B6-*Tgfbm3* congenic mice that harbor a 15-Mb interval of the C57 genome on proximal chromosome 12 around *Tgfbm3* (Fig. S1*B* and *Materials and Methods*). Subsequently, we used the most asthma-susceptible strain in the current study, namely, NIH *Tgfb1*$^{+/-}$, to compare the effects of inheritance of either or both modifier loci on responses to the asthmatic stimulus. Specifically, we compared four strains of NIH-*Tgfb1*$^{+/-}$ mice, namely, parental NIH, and NIH carrying either *Tgfbm2*$^{129/129}$ (*Tgfbm2*) or *Tgfbm3*$^{C57/C57}$ (*Tgfbm3*) or both variant modifier loci, *Tgfbm2*$^{129/129}$ and *Tgfbm3*$^{C57/C57}$ (*Tgfbm2/3*) (Fig. S1*C*).

We hypothesized that the C57 allele of *Tgfbm3* would protect from OVA-induced AHR, because mice on the C57 genetic background were relatively resistant to OVA challenge. However, homozygosity for the C57 allele of *Tgfbm3* had no effect on AHR in NIH-*Tgfb1*$^{+/-}$ mice (Fig. 2*A*). Similarly, 129Ola homozygosity at *Tgfbm2*, when acting alone, had no significant effect on AHR in NIH-*Tgfb1*$^{+/-}$ mice (Fig. 2*B*). In contrast, NIH-*Tgfb1*$^{+/-}$ mice bred to be homozygous variant for both loci, *Tgfbm2/3*, were significantly more resistant to acetylcholine (ACh)-induced AHR (Fig. 2*C*). This synergistic interaction between *Tgfbm2* and *Tgfbm3* was reproduced in two further independent experiments (Fig. S2). Thus, neither genetic modifier locus alone confers resistance to AHR, but the two loci synergize to protect the animal from an OVA-induced asthmatic airway response.

***Tgfbm2* and *Tgfbm3* Interaction Compensates for the Effect of *Tgfb1* Haploinsufficiency on AHR.** Because *Tgfb1* haploinsufficiency potentiated OVA-induced AHR in NIH mice, and synergy between *Tgfbm2* and *Tgfbm3* attenuated AHR, we postulated that *Tgfbm2* and *Tgfbm3* might interact epistatically to compensate for the reduced *Tgfb1* gene dosage effects seen in *Tgfb1*$^{+/-}$ mice. We predicted that the sensitizing effect of *Tgfb1* haploinsufficiency on AHR would be masked in *Tgfbm2/3* mice. As expected, whereas loss of a *Tgfb1* allele potentiated the asthmatic response to OVA on the NIH background (Fig. 1*B*), on the *Tgfbm2/3* background, *Tgfb1* hemizygosity had no potentiating effect on AHR (Fig. 3*A*). Indeed, loss of a single *Tgfb1* allele on the *Tgfbm2/3* background even showed a trend toward protection from asthma.

***Tgfbm2/3* Mice Have a Greater P-Smad2 Response to OVA Challenge than NIH Mice.** As interaction between *Tgfbm2* and *Tgfbm3* appears to compensate functionally for reduced *Tgfb1* gene dosage, we postulated that these mouse strains might differ in TGFβ signaling levels. To address this issue, we examined pulmonary P-Smad2 level as a marker of active TGFβ signaling in the various mouse strains. Western blot analysis demonstrated similar and invariable levels of total Smad2/3 regardless of mouse strain or treatment agent (saline vs. OVA). In contrast, all strains showed a significant elevation in P-Smad2 levels after OVA challenge, and this increase appeared marginally greater in the *Tgfbm2/3* than in the NIH mice (Fig. 3 *B* and *C*). Immunohistochemical analysis showed that P-Smad2 was localized predominantly within bronchiolar epithelial cells and macrophages, with the occasional smooth muscle cell nucleus staining for P-Smad2 (Fig. 3*D*). Consistent with Western data, immunohistochemical analysis revealed that *Tgfbm2/3* mice exhibited a significant increase in the percentage of P-Smad2 positive bronchiolar epithelial cells (Fig. 3*E*). It is possible that some of the differential increase in P-Smad2 staining seen by Western analysis was due to infiltrating macrophages. However, any greater elevation in macrophages in double congenic vs. NIH mice was not statistically significant, making it difficult to draw unequivocal conclusions (see Tgfbm2/3 *Mice Exhibit Enhanced Airway Inflammation and Eosinophilia Compared with Parental NIH Mice*).

Microarray analysis (see *Molecular Analysis of Differential Asthmatic Responses in NIH vs.* Tgfbm2/3 *Mice*) showed no significant difference in expression of *Tgfb1*, *Tgfb2*, or *Tgfb3*, or their canonical receptors between the two mouse strains. We therefore postulated that the observed increase in bronchiolar P-Smad2 signaling may be driven by other members of the TGFβ

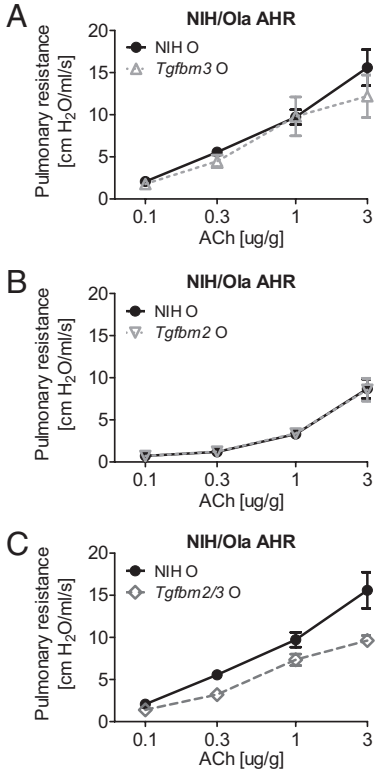

Fig. 2. *Tgfbm2* and *Tgfbm3* synergize to reduce AHR in NIH-*Tgfb1*$^{+/-}$ mice. Respiratory resistance was measured in response to escalating doses of ACh in *Tgfb1*$^{+/-}$ mice sensitized and challenged with OVA (O) or saline (S). Respiratory curves of OVA-stimulated lungs are displayed for (*A*) NIH vs. NIH.*Tgfbm3*, (*B*) NIH vs. NIH.*Tgfbm2*, and (*C*) NIH vs. *Tgfbm2/3* mice. Data shown as mean ± SEM from each group ($n = 10$). Linear regression model comparing OVA-treated NIH to OVA-treated *Tgfbm2/3* mice ($P = 0.002$).

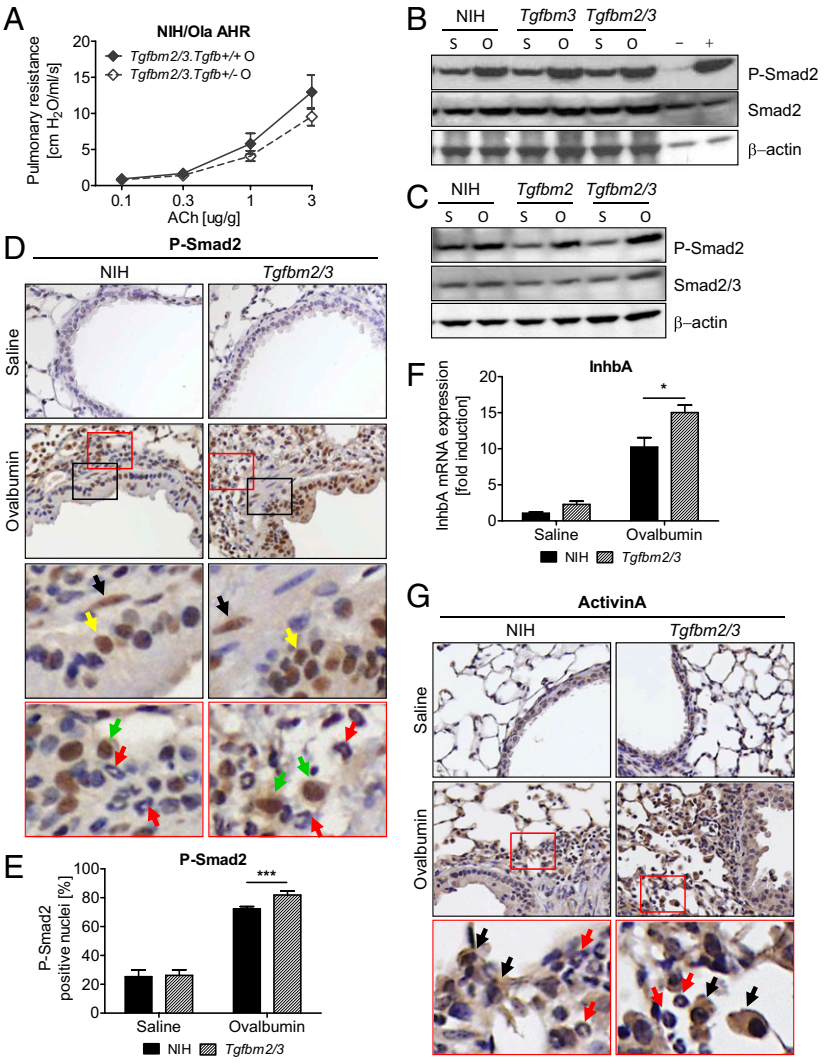

Fig. 3. *Tgfbm2* and *Tgfbm3* together compensate for *Tgfb1* haploinsufficiency in *Tgfbm2/3* mice. (*A*) Respiratory resistance measured in response to escalating doses of ACh after challenge with OVA, in *Tgfb1*$^{+/-}$ and wild-type mice on a *Tgfbm2/3* strain background. Data shown as mean ± SEM from each group ($n = 10$). (*B* and *C*) Western blot analysis using indicated antibodies was done on protein lysates from lung tissue after saline (S) or OVA (O) challenge. Of 18 independent pairwise comparisons made between lung tissues, 11 showed a higher elevation in P-Smad2 in *Tgfbm2/3* compared with NIH mice. (*D*) Immunohistochemistry for P-Smad2 with positive nuclear staining of bronchiolar epithelial cells of parental NIH and *Tgfbm2/3* lungs after OVA or saline exposure. Enlargement of stained section (red and black box) demonstrates positive staining of bronchiolar epithelial cells (yellow arrow), macrophages (green arrow), and some smooth muscle cells (black arrow) but not eosinophils (red arrow). (*E*) NIH ImageJ was used to quantify positively stained nuclei for P-Smad2. Quantification of P-Smad2 staining used five fields of view ($n = 5$–6 mice per group, 5 sections per lung). (*F*) *Inhba* mRNA expression analysis of parental NIH and *Tgfbm2/3* lungs after either saline or OVA challenge. Results are represented compared with GAPDH Ct value. Data shown as mean ± SEM from each group ($n = 5$). *P* values were determined using Student *t* test (*$P \leq 0.05$; **$P \leq 0.01$; ***$P \leq 0.001$). (*G*) Immunohistochemistry for activinA with positive cytoplasmic staining of bronchiolar epithelial cells, macrophages (black arrow), and some smooth muscle cells but not eosinophils (red arrow) of parental NIH and *Tgfbm2/3* lungs after OVA or saline exposure.

superfamily. Interrogation of microarray data (see *Molecular Analysis of Differential Asthmatic Responses in NIH vs.* Tgfbm2/3 *Mice*) for differentially expressed TGFβ signaling genes (Dataset S1*A*), suggested higher OVA-induction of *Inhba* in *Tgfbm2/3* than NIH mice. *Inhba* encodes activinA, another Smad2-activating ligand. This finding was validated by qRT-PCR, confirming significantly higher induction of *Inhba* gene expression in lungs of *Tgfbm2/3* (15.02-fold) vs. NIH mice (10.22-fold) (Fig. 3*E*). Immunohistochemical staining for activinA showed a very similar distribution to that of P-Smad2, with most activinA localized to bronchial epithelium and macrophages (Fig. 3*F*).

Enhanced Muscularization of Bronchiolar Submucosa in NIH vs. *Tgfbm2/3* Mice. H&E staining of the lungs suggested an apparent increase in subbronchiolar smooth muscle between OVA-treated NIH and *Tgfbm2/3* mice (Fig. 4*A*). To further investigate these changes, anti–α-smooth muscle actin (α-SMA) immunofluorescence staining was undertaken on paraffin sections to identify myofibroblasts and smooth muscle cells (Fig. 4*B*). In both saline control groups, the submucosal smooth muscle layer of the bronchioles was discontinuous, with no difference between NIH and *Tgfbm2/3* mice in the percent investment of bronchiolar epithelium with smooth muscle (Fig. S3). However, quantification of bronchiolar smooth muscle thickness demonstrated that both NIH and *Tgfbm2/3* mice showed a thickening of the smooth muscle layer in response to OVA challenge, and this effect was significantly greater in the NIH than in the *Tgfbm2/3* mice (Fig. 4*B*).

***Tgfbm2/3* Mice Exhibit Enhanced Airway Inflammation and Eosinophilia Compared with Parental NIH Mice.** Because asthma is considered an inflammatory disease, and the *Tgfbm2/3* mice were relatively protected from OVA-induced AHR, we hypothesized that this strain would show a reduced pulmonary inflammatory infiltrate compared with NIH mice after OVA challenge. On the contrary, although both mouse strains showed a robust increase in total bronchoalveolar lavage (BAL) cell counts after OVA challenge (Fig. 5*A*) there was a larger influx of inflammatory cells into the lungs of *Tgfbm2/3* compared with NIH mice (Fig. 5*A*). These findings were most evident when comparing eosinophil cell numbers (Fig. 5*B*; NIH: 145 ± 27.6; vs. *Tgfbm2/3*: 390 ± 105.8; $P = 0.03$). Comparison of infiltrating numbers of macrophages, lymphocytes, or non-eosinophil polymorphonuclear cells did not differ significantly between the mouse strains (Fig. 5 *C*–*E*). Thus, the *Tgfbm2/3* mice paradoxically showed greater pulmonary eosinophilia than parental NIH, despite the relative resistance of the NIH strain in terms of AHR.

Robust T_H2-Mediated Inflammatory Response in both NIH and *Tgfbm2/3* Mice. Because the *Tgfbm2/3* mice had more pronounced eosinophilia than NIH mice, we expected the cytokine profiles of these two strains to differ considerably. IgE-dependent mast cell activation induces the T_H2 allergic response, via release of T_H2-associated cytokines IL-4, IL-5, and IL-13. To investigate the cellular mechanisms of action of the TGF-β modifier loci in enhancing eosinophila but protection from AHR, we examined

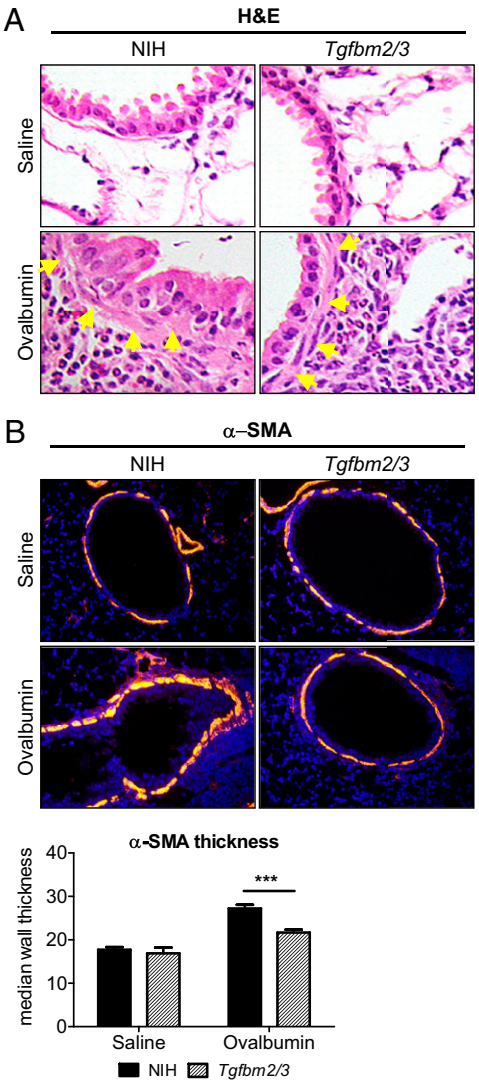

Fig. 4. Thickened peribronchiolar smooth muscle layer in NIH lungs after OVA challenge. (*A*) H&E staining of heterozygous NIH and *Tgfbm2/3* lung sections (5 μm thickness). Yellow arrows indicate smooth muscle layer. (20× fold magnification) (*B*) Anti α-SMA immunofluorescence staining of NIH and *Tgfbm2/3* lungs after treatment with OVA or saline. Quantification of α-SMA thickness around the bronchioli of parental NIH and *Tgfbm2/3* lungs after treatment with OVA or saline. NIH ImageJ was used to determine α-SMA thickness. Quantification used five fields of view per sample, 10 independent measurements per bronchiole. *P* values were determined using Student *t* test (*$P \leq 0.05$; **$P \leq 0.01$; ***$P \leq 0.001$).

these parameters. Despite robust OVA-induced increases in serum IgE levels, as well as elevated transcript levels encoding T_H2-associated cytokines IL-4, IL-5 and IL-13 in both mouse strains, there were no significant differences in the magnitude of these differentials between the two mouse strains (Fig. S4). Additional parameters examined included gene expression of osteopontin (SPP1), interferon g, PAI-1, and FoxP3 as markers of asthmatic response and of T_H1 or T_{reg} involvement, but no significant differences between mouse strains were found (Fig. S4).

Molecular Analysis of Differential Asthmatic Responses in NIH vs. *Tgfbm2/3* Mice. To investigate the possible underlying molecular causes leading to greater AHR in NIH than *Tgfbm2/3* we undertook microarray gene expression analysis on lungs from both mouse strains after challenge with either saline or OVA. Expression analysis revealed that *Tgfbm2/3* mice, despite relative resistance in terms of AHR, had more extensive OVA-induced gene expression changes than NIH mice. We postulated that this was due to the greater pulmonary influx of inflammatory cells in this mouse strain. Indeed, gene annotation analysis of differentially expressed transcripts between OVA-treated NIH and *Tgfbm2/3* mice indicated enrichment of genes in the categories, inflammation, macrophage, cytokines, and immune regulation (Dataset S2*A*). Analysis of specific genes confirmed that these were part of the asthmatic response signature, including up-regulation of *Sprr2a*, *Sprr1a*, *Mucin5ac*, and *Il6*, and down-regulation of *Hnmt* (Dataset S3*A*). In contrast, transcripts differentially expressed between the two strains after saline exposure (Dataset S3*B*) were enriched for the classes: protein synthesis, ribonucleoproteins, ribosomal genes, cell cycle, and posttranslational modifications, namely, acetylation and methylation (Dataset S2*B*). This suggests that polymorphic variants of *Tgfbm2* and/or

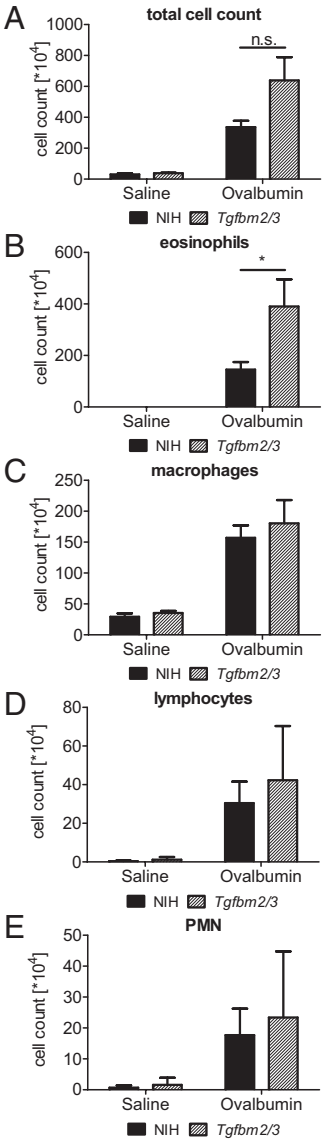

Fig. 5. Double congenic NIH-*Tgfbm2/3* mice exhibit a stronger eosinophilic response to OVA than NIH. (*A–E*) BAL fluid from NIH and *Tgfbm2/3 Tgfb1*$^{+/-}$ mice was analyzed for (*A*) total cell count, (*B*) eosinophil cell number, (*C*) macrophage number, (*D*) lymphocyte number, and (*E*) polymorphonuclear neutrophil (PMN) cell number after saline or OVA challenge. Data shown as mean ± SEM from each group ($n = 10$).

Tgfbm3 control fundamental differences in the biosynthetic machinery of the cell even in the absence of OVA exposure.

Because the extensive OVA-induced inflammatory response in *Tgfbm2/3* mice might mask gene expression differences responsible for the higher OVA-induced AHR in NIH, we mined the dataset for transcripts exhibiting a significantly larger differential in gene expression between saline and OVA treatment (Δ_{S-O}) in NIH mice vs. *Tgfbm2/3* mice (Dataset S1*B*). As a control, we undertook the converse analysis, comparing genes that had a significantly higher saline-to-OVA differential (Δ_{S-O}) in *Tgfbm2/3* than NIH mice (Dataset S1*A*). As expected, transcripts showing significantly larger Δ_{S-O} differentials in *Tgfbm2/3* than NIH mice were enriched for inflammatory signatures including chemokines and chemokine receptors, as well as markers of epithelial keratinization (Dataset S4*A*). In contrast, genes exhibiting greater Δ_{S-O} differentials in NIH than *Tgfbm2/3* mice were enriched for protein biosynthesis and posttranslational modification, including phosphoproteins, acetylation, and methylation, as well as nucleotide metabolism and chromosomal proteins (Dataset S4*B*). Once again this indicates a fundamental difference in the overall cellular biosynthetic machinery, not only between baseline characteristics of NIH vs. *Tgfbm2/3* lungs (Dataset S2*B*), but also in the pulmonary responses of NIH to OVA (Dataset S4*B*).

Discussion

Because TGFβ1 levels are elevated and implicated in the pathology of both acute and chronic asthma models, and this signaling pathway is a potential therapeutic target for reducing excessive airway remodeling and pulmonary fibrosis, many studies have addressed the role of this growth factor in experimental asthma. Manipulation of TGFβ activity either genetically or pharmacologically has had variable outcomes. In a model of chronic OVA-induced asthma, therapeutic anti-TGFβ antibody dosing reduced peribronchiolar extracellular matrix, airway smooth muscle cells, and mucus production without stimulating airway inflammation or T_H2 cytokine production (11). In contrast, in a house dust-mite–induced model, anti-TGFβ antibodies had no effect on airway remodeling but exacerbated eosinophilia resulting in potentiated AHR (23). More recently, it was shown that TGFβ produced by bone marrow stromal cells that home to the lung during an asthmatic episode, is implicated in reducing the pulmonary allergic inflammatory response (24), which is consistent with other reports that TGFβ plays a protective role in the asthmatic response (9, 10, 25, 26).

Here we have shown strain-specific differences in the magnitude of responses of C57 and NIH mice to an asthmatic stimulus. Both mouse strains showed elevated AHR to an OVA challenge, yet the C57 strain was relatively resistant compared with NIH. More importantly, whereas in NIH mice innate TGFβ1 was protective from OVA-induced AHR, on the C57 genetic background, loss of a single *Tgfb1* allele had no effect on AHR. Thus, the functional response to reduced TGFβ1 levels in a murine asthma model is determined by genetic background. Contrasting with our findings, others found that *Tgfb1* haploinsufficiency potentiates AHR in C57 mice (10). However, it is possible that the strain used in the earlier study was not a pure inbred C57 background, but carried genetic contaminants from other sources that might influence AHR (22). In the current study, $Tgfb1^{+/-}$ mice had been backcrossed through >20 generations to C57 and found to be pure by whole genome scan 500K SNP array (Jax mouse diversity genotyping array).

In an attempt to identify genetic variants that might regulate the differential responses to reduced TGFβ1 signaling on AHR, we hypothesized that the *Tgfb1* genetic modifier loci, *Tgfbm2* and *Tgfbm3* might play a role. When we used NIH mice into which we had bred variant *Tgfbm2* and/or *Tgfbm3*, we found that neither locus alone affected AHR response but the two synergized to significantly reduce AHR. These two variant loci functionally compensated for reduced TGFβ1 levels in NIH-$Tgfb1^{+/-}$ mice, in that mice carrying both variant loci no longer showed increased AHR in response to loss of a *Tgfb1* allele. Thus, dependent on genetic variation within *Tgfbm2* and *Tgfbm3*, the asthma-protective effect of TGFβ1 may be completely suppressed.

Another finding of the current study is the uncoupling between regulation of eosinophilia, airway remodeling, and AHR during an asthmatic episode, which also depends on *Tgfbm2* and *Tgfbm3*. Recent studies on human asthma have demonstrated clinical stratification of asthmatics into T_H2 low and T_H2 high populations (27, 28), implicating a noneosinophilic mechanism of disease pathology in T_H2 low asthmatics. However, the molecular etiology of asthma in the T_H2 low population has yet to be elucidated. In mice, variation in genetic background has previously been found to affect different components of the asthmatic response in different manners. For example, in an acute model of OVA-induced asthma, C57 and BALB/c mice both developed similar extents of eosinophilic inflammation. However, the BalbC strain shows a significantly larger elevation in AHR and peribronchiolar smooth muscle expansion compared with C57 (29). Moreover, in C57 mice, the asthmatic response is totally dependent on eosinophils, as C57 ΔdblGATA1 knockout mice that lack eosinophils are completely resistant to OVA-induced AHR, whereas BALB/c ΔdblGATA1 knockouts still show elevated AHR in response to OVA (30). In the current study, we found that synergy between *Tgfbm2* and *Tgfbm3* regulates the eosinophilic and AHR responses to OVA challenge but these two physiological responses are regulated in oppositional directions by this genetic interaction, resulting in reduced AHR in the presence of increased eosinophilia in NIH mice homozygous for *Tgfbm2* and *Tgfbm3*.

Tgfbm2 and *Tgfbm3* might functionally compensate for reduced TGFβ1 of $Tgfb1^{+/-}$ mice by stimulating TGFβ signaling downstream of the ligand, therefore reducing AHR. Indeed, mice carrying both variant modifier loci exhibited higher levels of OVA-induced pulmonary P-Smad2 than mice harboring the NIH alleles. ActivinA may contribute to this effect, because it was the only Smad2-activating ligand showing a greater induction in *Tgfbm2/3* than NIH mice. Both P-Smad2 and activinA were predominantly localized to bronchiolar epithelium and alveolar macrophages, with some staining in smooth muscle cells but none in eosinophils. Intriguingly, activinA has been reported, like myostatin, to suppress muscle mass (31) and may therefore contribute to the lack of bronchiolar smooth muscle expansion and consequent reduced AHR in *Tgfbm2/3* compared with NIH mice.

Two outstanding issues are the identity of the *Tgfbm2* and *Tgfbm3* causative genetic variants that compensate for TGFβ1 and elicit differential asthmatic responses. It is now widely accepted that genetic modifier loci that influence multifactorial diseases frequently constitute clusters of functionally related polymorphic genes. This has been observed in mouse models of lupus (32) and cancer (33), making it difficult to dissect the underlying molecular mechanisms. With respect to *Tgfbm2*, *Cenpf* harbors an amino acid polymorphism between mouse strains at an evolutionarily conserved residue (18) (Fig. S1*A*). *Cenpf* has been proposed to regulate muscle determination (34, 35), although its major function is regulation of the centrosome and cytokinesis. Conceptually, distinct Cenpf isoforms might drive variable proliferation and/or differentiation in distinct tissue subsets.

To address the issue further, we undertook microarray gene expression analysis of NIH vs. *Tgfbm2/3* mice. Consistent with the near genetic identity of NIH and *Tgfbm2/3* mice, microarray analysis revealed no large differentials in gene expression between the two strains. Both mouse strains showed induction of an inflammatory signature after OVA treatment, albeit to differing extents. Because *Tgfbm2/3* mice exhibited significantly more inflammation than NIH, this confounded interrogation of microarray data for genes that might contribute to the higher AHR in NIH vs. *Tgfbm2/3.* Around 500 genes showed greater differential gene expression (Δ_{S-O}) in NIH than in *Tgfbm2/3* mice. Intriguingly, this set of genes was enriched in proteins involved in protein biosynthesis and posttranslational modifications, including acetylation, phosphorylation, and methylation. In this respect, it is provocative that several genes encoding regulators of DNA or chromatin modification are localized in the *Tgfbm3* region, including *Asxl2*, a polycomb protein; *Dnmt3a*, DNA methyl transferase 3a; *DNAJC27* and *Ddx1*; as well as a regulator of translation and message stability, *Pum2* (Fig. S1*B*). In particular, it was recently demonstrated that DNA methyltransferase 3a acts directly on the *Il-13* gene within T_H2 cells to

down-regulate IL-13 expression, and hence allergic airway inflammation in mice (36). It is certainly possible that genetic variation at *Dnmt3a* may contribute to the phenotypic differences conferred by *Tgfbm3*, acting in concert with *Tgfbm2*. Microarray gene expression analysis of whole lung may be insufficiently sensitive to detect differentials in gene expression within minor cell type subsets of the lung, such as bone marrow stromal cells (24) or T_H2 subsets (36), that nevertheless have a large impact on the outcome of the allergic response.

To summarize, the major conclusion from this study is that the biological responses to reduced TGFβ1 signaling in an experimental asthma model are dependent not only on the model (acute vs. chronic), or the cell types affected (smooth muscle vs. inflammatory vs. epithelial), but on the differential inheritance of endogenous genetic variants of wild-type modifier genes. This effect is pronounced, because differential inheritance of *Tgfbm2* and *Tgfbm3* can reverse the biological outcome of reduced *Tgfb1* levels. These findings present a cautionary note for the use of TGFβ agonists or antagonists for the treatment of acute or chronic lung diseases, indicating a more personalized approach to the use of such agents. However, further dissection of the genes and molecules involved in modifying the outcome of reduced TGFβ activity may shed light on alternative pathways that could be targeted for treatment of lung diseases.

Materials and Methods

Animals. The *Tgfb1* null allele used in this study was *Tgfb1*^{Tm1n} (7), referred to as *Tgfb1*$^{+/-}$ throughout the text and figures. These mice were bred as previously described (19). NIH.C57-*Tgfbm3* congenic mice were generated by backcrossing B6NIHF1 mice through more than seven generations to recipient NIH mice. At each generation, selection was made for C57 genetic markers spanning from the centromere of chromosome 12 to exon 3 of the *Lipn1* gene. NIH.129-*Tgfbm2* congenic mice were the result of biological coselection with the *Tgfb1* null allele of 129 genomic DNA at *Tgfbm2* through multiple backcross generations to NIH mice (22). The *Tgfbm2*^{129} region spans from exons 57–60 of *Ush2a* to exons 2–6 of *Ptpn14*.

All experiments involved 10-wk-old male animals in groups of 10 mice per arm except for experiment 4, where 8 animals were used in the OVA arm and 5 animals were used in the saline control group. All animal husbandry practices were in full compliance with the recommendations published in *Guide for the Care and Use of Laboratory Animals* (37). All proposed protocols have been approved by the University of California San Francisco Institutional Animal Care and Use Committee.

Analysis of MicroArray Dataset. Affymetrix Mouse Gene 1.0 ST Array CEL files were preprocessed (background correction, quantile normalization, probeset summarization) using the aroma.affymetrix R package (38). Differential expression analysis using moderated *t* statistic with Benjamini–Hochberg false discovery rate (adjusted *P* value) correction was performed using the Limma R package (39).

Genes responding to treatment with adjusted *P* value of <0.05 were initially selected. To focus on genes with substantial differences in log fold change (FC) between NIH and *Tgfbm2/3*, the following two quantities, *M* = difference in log FC between NIH and *Tgfbm2/3*, and *A* = average log FC, were evaluated. Genes with absolute *M*/*A* > 0.33 were retained. These were segregated into a group with stronger NIH response, where [abs (logFC NIH/logFC *Tgfbm2/3*) > 1] and one with stronger *Tgfbm2/3* response [abs (logFC NIH/logFC *Tgfbm2/3*) < 1].

Functional enrichments for the four gene lists were derived by uploading MicroArray ProbeID into DAVID using Affymetrix_Exon_Gene_ID as identifier and MoGene-1–0 as background setting. The output of SP_PIR keywords (SP_PIR = Swiss Prot Protein Information Resource) within the functional categories was determined with a *P* value threshold set to 0.05.

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Supporting Information

Freimuth et al. 10.1073/pnas.1205374109

SI Materials and Methods

Ovalbumin Sensitization and Challenge. Mice were sensitized on days 0, 7, and 14 by i.p. injection of 50 μg ovalbumin (OVA) (Sigma-Aldrich) emulsified in 1 mg aluminum potassium sulfate in a total volume of 200 μL as previously described (1). Control groups received an equal volume of aluminum potassium sulfate without OVA. Subsequently, mice anesthetized by isoflurane inhalation were challenged with 100 μg OVA in 50 μL saline, or saline alone as control by intranasal aerosol, at days 21, 22, and 23 following the first i.p. injection (Fig. 1*A*). A linear regression model was fit to the data to test whether drug and genotype had a significant effect on response (Fig. 1*B*). A second linear regression model was fit to the data (Fig. 2*C*) to test whether the genetic background was significantly associated with AHR when comparing OVA-treated NIH to OVA-treated Tgfbm2/3 mice.

Measurement of Airway Responsiveness to Acetylcholine. Twenty-four hours after the last intranasal challenge, mice were anesthetized with ketamine (100 mg/kg body weight) and xylazine (10 mg/kg body weight). A tracheostomy was performed and a 20-gauge tubing adaptor was used to cannulate the trachea. Mice were then attached to a rodent ventilator and pulmonary mechanics analyzer (FlexiVent; SIRAQ) and ventilated at a tidal volume of 9 mL/kg, a frequency of 150 breaths/min and 2 cm H_2O positive end-expiratory pressure. Mice were paralyzed with pancuronium (0.1 mg/kg i.p.), given increasing doses of acetylcholine (0.1, 0.3, 1, and 3 μg/mL) administered through the tail vein to generate a dose–response curve. Measurements of airway mechanics were made continuously using the linear single compartment model.

Assessment of Pulmonary Inflammation and Mucous Production. Lungs were lavaged five times with 0.8 mL PBS. After centrifugation of total bronchoalveolar lavage (BAL) (200 × *g*, 5 min), the supernatant was removed for cytokine analysis. After red blood cell lysis, the cell pellet was resuspended in saline, and total cells were counted using a hemocytometer. Cytospin preparations were stained with HEMA 3 stain set (Fisher Scientific), and BAL fluid cell differential percentages were determined based on light microscopic evaluation of >300 cells per slide.

OVA-Specific IgE Assay. Sera were obtained from blood collected by cardiac puncture from antigen- or vehicle-treated mice after airway responsiveness measurement. OVA-specific IgE levels were measured by ELISA using microplates coated with OVA. Diluted serum samples were added to each well, and the bound IgE was detected with biotinylated antimouse IgE (Pharmingen; R35-118). Color development was achieved using streptavidin-conjugated horseradish peroxidase (Pharmingen) followed by addition of HRP substrate (TMB; BD Biosciences Pharmingen). OD readings of samples at 450 nm were obtained and the results were expressed as OD value.

RNA Extraction and TaqMan Analysis. Lungs were lysed with a benchtop homogenizer AHS 200 (VWR) in TRIzol and RNA was isolated according to manufacturer protocol. cDNA was synthesized starting from 1 μg of RNA using MMLV reverse transcriptase and buffer from Promega with oligo-dT primer (Invitrogen) according to manufacturer protocol.

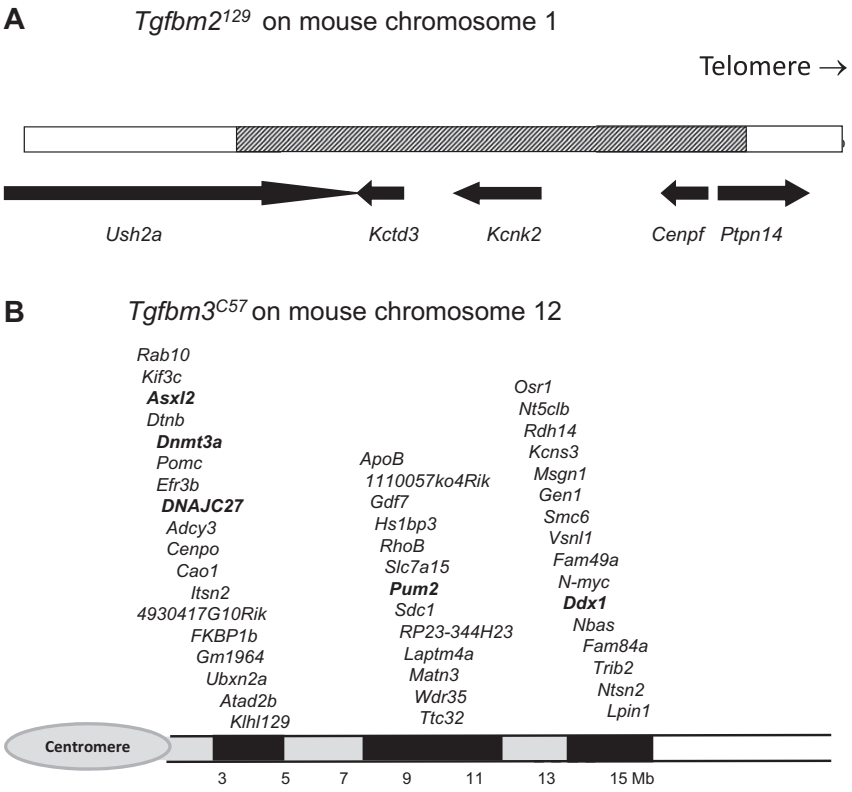
TaqMan analysis was performed on an ABI7900 using TaqMan gene expression assays from Applied Biosystems. Data were normalized to endogenous GAPDH gene expression and displayed as fold induction compared with saline-treated NIH mice. A list of TaqMan probes can be provided upon request.

MicroArray Analysis. RNA was extracted as described above and quality standard was assessed using the Agilent 2100 bioanalyzer. RNA concentration was established by NanoDrop measurement. Each microarray used RNA from three independent mouse lungs of the same mouse strain and treatment group, pooled in a 1:1:1 ratio. Microarray gene expression analysis was performed on GeneChip Mouse Gene 1.0 ST arrays from Affymetrix, using two independent pools of RNA (six mice total) for each mouse strain and treatment group.

Western Blotting Analysis. Western blot analysis on proteins from lung tissue was performed using NuPAGE Novex PAGE (Invitrogen) according to manufacturer protocol. Proteins were detected using primary antibody against phospho-Smad2 (Cell Signaling; 3101) and Smad2/3 (BD Transduction Laboratories; 610842). As internal loading control all membranes were probed with monoclonal anti–β-actin unconjugated antibody (Sigma-Aldrich; A5441). Antigen–antibody reactions were detected by enhanced chemiluminescence (ECL) (Amersham Pharmacia) and exposed to autoradiographic film.

Immunohistochemistry/Immunofluorescence. Immunofluorescence was carried out on 5-μm tissue cryofrozen sections embedded in optimal cutting temperature (OCT) compound (Tissue-Tek). The specimen was blocked in 10% (vol/vol) normal goat serum (Invitrogen) and primary antibody (α-SMA-Cy3; Sigma) was added at a 1:100 dilution in blocking solution, and staining was performed according to the antibody manufacturer's instructions. Sections were then washed three times in PBS and mounted with DAPI (ProLong Gold antifade; Invitrogen). Immunohistochemistry was carried out on 5 μm 4% PFA-fixed, paraffin-embedded tissue sections using anti–P-Smad2 (Cell Signaling) antibody. Quantification used 10 fields of view per sample. National Institutes of Health ImageJ software was used to determine positive cell counts (P-Smad staining) and α-SMA thickness.

1. Kudo M, et al. (2012) IL-17A produced by αβ T cells drives airway hyper-responsiveness in mice and enhances mouse and human airway smooth muscle contraction. *Nat Med* 18:547–554.



C NIH-derived mouse strains used in current study

	NIH	NIH-*Tgfbm2*^{129}	NIH-*Tgfbm3*^{C57}	Double Congenic (*Tgfbm2/3*)
Tgfb1+/+	NIH			NIH.129-*Tgfbm2*.B6-*Tgfbm3*
Tgfb1+/-	NIH	NIH.129-*Tgfbm2*	NIH.B6-*Tgfbm3*	NIH.129-*Tgfbm2*.B6-*Tgfbm3*

Fig. S1. (*A*) Murine *Tgfbm2* locus, indicating the -Mb 129 interval around *Tgfbm2* (hatched box) spanning from exons 57–60 of *Ush2a* to exons 2–6 of *Ptpn14*. (*B*) The murine Tgfbm3 locus, indicating position of the 14-Mb C57 region spanning from the centromere to the Lpin1 gene within Tgfbm3. Black box represents unique, gene-encoding DNA blocks of C57 origin; gray regions represent large stretches of repetitive DNA of C57 origin. White blocks in *A* and *B* are NIH genomic DNA, i.e., the rest of the genome. (*C*) Table indicates the genetically distinct mouse lines used in the study. Throughout the main text, NIH.129-*Tgfbm2*.C57-*Tgfbm3* mice are denoted as *Tgfbm2/3*.

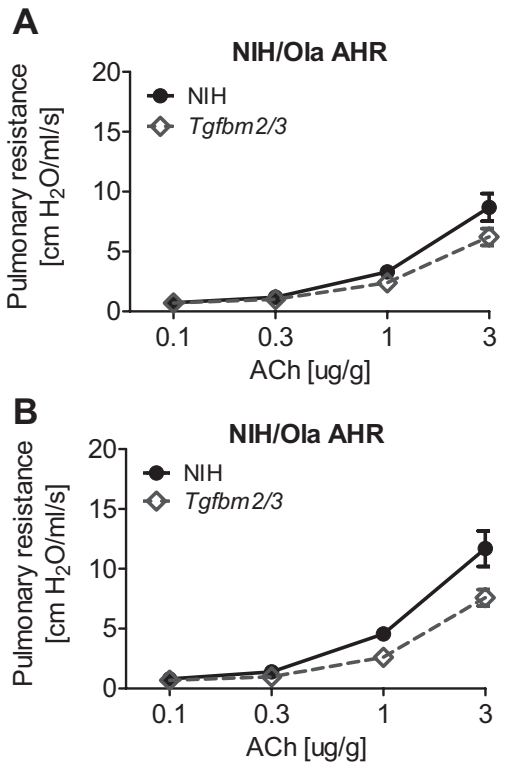


Fig. S2. (*A* and *B*) Respiratory resistance was measured in response to escalating doses of Ach in *Tgfb1*$^{+/-}$ mice sensitized and challenged with OVA (O) or saline (S) in two experiments independent of those in Fig. 2. Respiratory curves of OVA-stimulated lungs are displayed for NIH versus *Tgfbm2/3* mice. Data are shown as mean ± SEM from each group (n = 10).

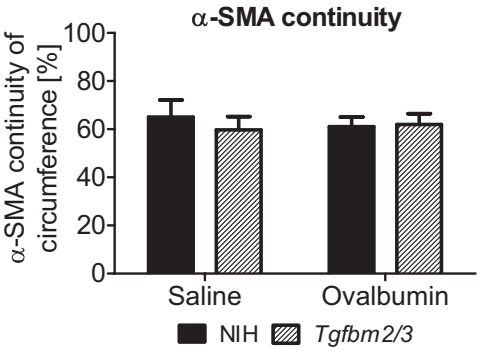


Fig. S3. Quantification of percentage of bronchiolar circumference invested in smooth muscle in parental NIH and *Tgfbm2/3* lungs treated with either OVA or saline. NIH ImageJ was used to determine α-SMA circumference. Measurement used five fields of view per sample (n = 5–10) and data are shown as mean ± SEM.

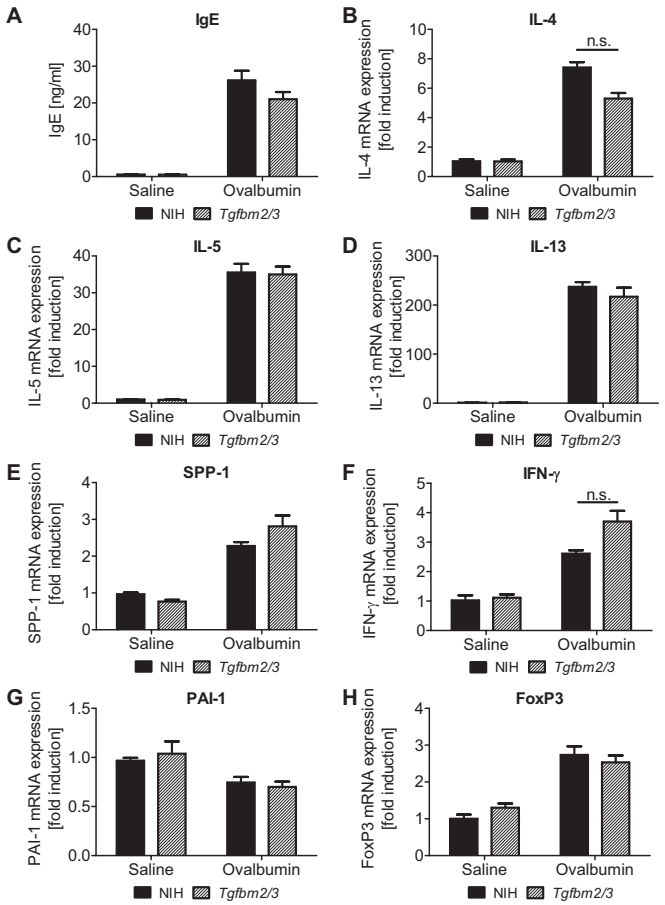


Fig. S4. (*A*) IgE levels measured by ELISA using microplates coated with OVA comparing parental NIH and *Tgfbm2/3* lungs after either saline or OVA challenge. (*B*) IL-4, (*C*) IL-5, (*D*) IL-13, (*E*) SPP1, (*F*) IFN-γ, (*G*) PAI-1, and (*H*) FoxP3 mRNA expression analysis of parental NIH and *Tgfbm2/3* lungs after either saline or OVA challenge. Results are represented compared with *Gapdh* Ct value. Data are shown as mean ± SEM from each group ($n = 8$). *P* values were determined using a Student *t* test (*$P \leq 0.05$; **$P \leq 0.01$; ***$P \leq 0.001$).

Other Supporting Information Files

Dataset S1 (PDF)
Dataset S2 (PDF)
Dataset S3 (PDF)
Dataset S4 (PDF)

Dataset S 1A: Genes showing a larger saline to OVA differential in congenic *Tgfbm2/3* than NIH mice

Δ*Tgfbm2/3* S-O > ΔNIH S-O

Probe ID	GeneName	logFC.NIH	logFC. Tgfbm2/3	P.Value.NIH	adj.P.Val. NIH	P.Value. Tgfbm2/3	adj.P.Val. Tgfbm2/3	M = logFC diff	A = logFC avg	Abs(M/A)	Abs logFC ratio	P.Value. Interaction
10545239		-0.308626879	0.884954884	0.018682813	0.12286806	3.31E-006	0.000271807	-1.193581764	0.288164002	4.142022438	0.348748716	5.52E-006
10511252	Ube2j2	0.214618605	-0.56341139	0.095127983	0.319767556	0.000393697	0.008659317	0.778029995	-0.174396393	4.461273443	0.38092699	0.000481689
10358597	Hmcn1	-0.388423691	-1.112229124	0.004145202	0.045489116	1.89E-007	3.32E-005	0.723805433	-0.750326408	0.964654083	0.349229923	0.000521606
10345077	Khdc1a	0.352051612	-0.490643838	0.026536451	0.152927171	0.004014515	0.045744813	0.84269545	-0.069296113	12.16078958	0.717529875	0.000972586
10513266	Olfr267	-0.240282801	0.386461198	0.040249909	0.195291317	0.002849374	0.03608176	-0.626743999	0.073089198	8.575056433	0.621751427	0.00103044
10597918		0.219558404	-0.384416532	0.053696244	0.231176651	0.002589831	0.033790071	0.603974936	-0.082429064	7.327208488	0.571147144	0.00118695
10450892	Olfr113	-0.168825825	0.431256631	0.125663476	0.370154935	0.001070516	0.017877692	-0.600082456	0.131215403	4.573262298	0.391474154	0.00121415
10594798		0.151033808	-0.565898937	0.25129015	0.527243661	0.000593523	0.011602855	0.716932745	-0.207432564	3.456220808	0.266891839	0.00141939
10358601	Hmcn1	-0.607546672	-1.277179193	0.000299953	0.007020476	1.30E-007	2.52E-005	0.669632521	-0.942362933	0.710588774	0.475694151	0.00219577
10578320	Gm8423	0.186842209	-0.510445181	0.176591466	0.440927952	0.001802303	0.026018849	0.69728739	-0.161801486	4.309524029	0.366037758	0.00232055
10544638	Tra2a	0.014222311	-0.658015536	0.911973971	0.963790674	0.000164515	0.004565155	0.672237847	-0.321896612	2.088365707	0.021613944	0.00233377
10493856	**Sprr2a**	**0.742792311**	**1.394091407**	**4.61E-005**	**0.001816896**	**4.57E-008**	**1.15E-005**	**-0.651299096**	**1.068441859**	**0.609578416**	**0.53281464**	**0.00265313**
10493858	**Sprr2a**	**0.742792311**	**1.394091407**	**4.61E-005**	**0.001816896**	**4.57E-008**	**1.15E-005**	**-0.651299096**	**1.068441859**	**0.609578416**	**0.53281464**	**0.00265313**
10435787		-0.332610547	-1.19556279	0.066676032	0.262410361	6.88E-006	0.000441899	0.862952243	-0.764086668	1.129390524	0.278204164	0.00280757
10562603		0.095986434	0.718592734	0.4477484	0.701381378	5.50E-005	0.002025707	-0.6226063	0.407289584	1.528657555	0.13357557	0.00327362
10559043	**Muc5ac**	**0.558372248**	**1.121930009**	**0.000228636**	**0.00578846**	**1.54E-007**	**2.85E-005**	**-0.563557761**	**0.840151129**	**0.670781412**	**0.497689022**	**0.0032878**
10349968	Chi3l1	1.632572291	2.337826058	2.61E-008	7.34E-006	3.17E-010	4.07E-007	-0.705253767	1.985199174	0.355255924	0.698329238	0.00330373
10403750	2810021B07Rik	0.059977515	-0.549992367	0.633668458	0.823699536	0.000619501	0.01193795	0.609969882	-0.245007426	2.48959753	0.109051541	0.00382426
10523156	Cxcl2	0.044259943	0.73452155	0.756103217	0.887631667	0.00015095	0.004276583	-0.690261608	0.389390746	1.772670805	0.060256833	0.00390593
10379518	Ccl7	0.865467699	1.42521818	4.03E-006	0.000303833	1.28E-008	5.06E-006	-0.559750481	1.14534294	0.488718672	0.607252778	0.00422167
10423791	4930447A16Rik	-0.342724011	-0.882022132	0.009341477	0.078962268	2.72E-006	0.000235327	0.539298121	-0.612373071	0.880669229	0.388566226	0.00482045
10564417	Aldh1a3	0.090381884	0.577863366	0.393944672	0.659391708	7.99E-005	0.002662231	-0.487481483	0.334122625	1.458989743	0.156407014	0.00507289
10417144	Timm8a2	-0.134653296	0.3502912	0.210181948	0.482480796	0.00446472	0.049373163	-0.484944496	0.107818952	4.497766743	0.384403879	0.00513126
10484704	Olfr1157	0.138568789	-0.392880158	0.238686321	0.513933436	0.003885088	0.045021032	0.531448947	-0.127155685	4.179513866	0.352699891	0.00520782
10497077		0.162836143	-0.434709034	0.219497777	0.492746978	0.00433975	0.048452674	0.597545177	-0.135936446	4.395768722	0.374586516	0.00522562
10537296		-0.25971914	-0.834868034	0.052162303	0.227783057	1.12E-005	0.000630904	0.575148895	-0.547293587	1.050896463	0.311090051	0.00524188
10543460	6332401O19Rik	0.149801926	0.641293428	0.173580122	0.436980637	3.36E-005	0.001381778	-0.491491502	0.395547677	1.242559445	0.233593422	0.00530081
10499899	**Sprr1a**	**0.878605495**	**1.46964131**	**9.33E-006**	**0.000554173**	**2.75E-008**	**8.21E-006**	**-0.591035814**	**1.174123403**	**0.503384749**	**0.59783669**	**0.00547029**
10542317	Cdkn1b	-0.047808316	-0.574992646	0.677395952	0.847969937	0.000194987	0.005170368	0.527184331	-0.311400481	1.692946423	0.08314596	0.00552585
10601844	Bhlhb9	0.094062224	-0.447094724	0.434750386	0.691924135	0.00206854	0.028731216	0.541156948	-0.17651625	3.065762777	0.210385449	0.00596235
10583418	Olfr857	0.090938763	-0.465604872	0.462183982	0.712611209	0.001887871	0.026906091	0.556543634	-0.187333054	2.970877917	0.195313169	0.00596416
10548345	Klrk1	0.010884142	0.57276359	0.929841968	0.972186706	0.000393641	0.008659317	-0.561879448	0.291823866	1.925406086	0.019002853	0.0059843
10415608	Ift88	0.025646738	-0.460890208	0.812116093	0.915596955	0.000766803	0.013978906	0.486536946	-0.217621735	2.23570015	0.05564609	0.0062522
10493831	S100a8	-0.738487168	-1.42162911	0.000253751	0.006250291	2.91E-007	4.55E-005	0.683141942	-1.080058139	0.632504786	0.519465424	0.00629861
10549982	V1rg2	0.02884898	0.50491797	0.786581983	0.902311142	0.000320682	0.007449103	-0.47606899	0.266883475	1.783808421	0.057135974	0.00660843
10584514	Olfr972	-0.123091326	0.394849113	0.302905312	0.581827557	0.004363481	0.048590818	-0.51794044	0.135878894	3.811779934	0.311742694	0.00705435
10472398	Scn2a1	0.056859948	0.550510035	0.613493973	0.81144854	0.000235758	0.005956189	-0.493650088	0.303684992	1.625533371	0.103285942	0.00725462
10581917	4932417I16Rik	0.079304828	-0.37185617	0.446421842	0.700403068	0.002749636	0.035119592	0.451160998	-0.146275671	3.084320135	0.213267478	0.00751859
10379511	Ccl2	0.798013652	1.364428694	3.98E-005	0.0016212	1.15E-007	2.24E-005	-0.566415041	1.081221173	0.523866028	0.584870178	0.00943921
10403036	Igh	0.192608312	2.085028809	0.674120547	0.845934172	0.000444609	0.009457121	-1.892420497	1.138818561	1.661740125	0.092376811	0.0104313
10358599	Hmcn1	-0.438464447	-1.005757625	0.006193793	0.059902889	4.55E-006	0.000328193	0.567293178	-0.722111036	0.785603806	0.435954385	0.0105742
10587799	Plscr2	-0.915679276	-1.451095787	6.89E-006	0.000444098	3.72E-008	1.01E-005	0.535416511	-1.183387532	0.452443934	0.631026073	0.0107456
10436596	2810055G20Rik	0.063063646	-0.407415363	0.592565049	0.798958925	0.003576798	0.042433065	0.47047901	-0.172175859	2.732549229	0.154789563	0.0125108
10356329	Ncl	0.096463107	-0.605256699	0.586343354	0.795057546	0.003886809	0.045021032	0.701719806	-0.254396796	2.758367307	0.159375529	0.0131011
10420497	Gm6907	0.180982084	0.683231335	0.167710797	0.429940832	9.81E-005	0.003071409	-0.50224925	0.432106709	1.162326896	0.26489137	0.0131825
10438423	Olfr165	0.041947549	0.590290509	0.762325491	0.89040115	0.000785626	0.014201021	-0.548342961	0.316119029	1.734609152	0.071062549	0.0134895
10396419		-0.250244653	-0.821273611	0.10175305	0.331218276	6.31E-005	0.002249824	0.571028958	-0.535759132	1.065831498	0.304703146	0.0138657
10422699		-0.061967684	-0.50194977	0.5817742	0.7924554	0.000515329	0.010482369	0.439982087	-0.281958727	1.560448549	0.123453954	0.013988
10404341	Prl4a1	0.040007552	-0.369544295	0.701932752	0.860646185	0.003128142	0.03863963	0.409551847	-0.164768371	2.485621746	0.108261858	0.0140883
10367591	Myct1	-0.278303366	-0.781701624	0.0458066	0.211164477	3.16E-005	0.001317706	0.503398258	-0.530002495	0.949803563	0.356022499	0.0143323
10591614	Dock6	-0.702324799	-1.33737737	0.000724081	0.013361398	1.34E-006	0.000140131	0.635052571	-1.019851085	0.62269147	0.525150803	0.0147848

10591630	Dock6	-0.233177954	-0.700304188	0.069326394	0.268093583	4.80E-005	0.001835198	0.467126234	-0.466741071	1.000825218	0.332966671	0.0148904
10431585	Chkb	0.052689601	-0.39134669	0.6466413	0.830688599	0.004003783	0.045675152	0.444036291	-0.169328544	2.622335724	0.134636634	0.0150892
10358619	Hmcn1	-0.354594943	-0.860324706	0.015795846	0.110304664	1.38E-005	0.00072461	0.505729763	-0.607459824	0.832532035	0.412164082	0.0150994
10458046	D0H4S114	0.03566805	-0.415101492	0.759463406	0.888833974	0.002981198	0.037382211	0.450769542	-0.189716721	2.376013775	0.085926095	0.0151472
10358633	Hmcn1	-0.729019982	-1.212853105	4.72E-005	0.00184828	1.94E-007	3.33E-005	0.483833123	-0.970936543	0.498315905	0.601078547	0.0151679
10534966	Zfp113	0.015664575	-0.451765541	0.897030459	0.95676885	0.002168603	0.02971901	0.467430115	-0.218050483	2.143678423	0.034674125	0.0154377
10364153	Gm9744	-0.068679615	-0.516050468	0.556873574	0.775716998	0.000559162	0.011091639	0.447370853	-0.292365042	1.530179018	0.133087013	0.0156495
10358513	Hmcn1	-0.489354992	-0.950144971	0.001092346	0.017927332	1.91E-006	0.000179184	0.460789979	-0.719749982	0.640208392	0.515031924	0.0156927
10476880	A530006G24Rik	-0.08758387	-0.573198774	0.493598692	0.7341944	0.00048396	0.010034153	0.485614904	-0.330391322	1.469817368	0.152798426	0.0161293
10417759	Ube2e2	-0.005370332	-0.433050302	0.961878951	0.986077611	0.001716554	0.0251057	0.42767997	-0.219210317	1.951002926	0.012401174	0.0166886
10520452	**Il6**	**1.487872173**	**2.096939886**	**3.40E-007**	**5.07E-005**	**5.75E-009**	**2.80E-006**	**-0.609067713**	**1.792406029**	**0.339804544**	**0.709544505**	**0.0170863**
10601846	2900062L11Rik	-0.469866617	-0.950115226	0.002371368	0.031046342	3.80E-006	0.000292666	0.48024861	-0.709990921	0.676415142	0.494536456	0.0175751
10366346	Phlda1	0.340056763	0.779696851	0.011511645	0.089866456	1.37E-005	0.000721632	-0.439640088	0.559876807	0.785244329	0.436139716	0.0186651
10488409	9230104L09Rik	-0.784130851	-1.183308887	5.12E-006	0.000359269	4.79E-008	1.18E-005	0.399178035	-0.983719869	0.405784256	0.66265948	0.0195345
10601303	Chic1	-0.270328689	-0.68108844	0.028406416	0.158672272	3.12E-005	0.00130617	0.410759751	-0.475708565	0.86346932	0.396906882	0.0200681
10499861	S100a9	-0.453022035	-1.068838908	0.017448446	0.117612056	2.23E-005	0.001025495	0.615816873	-0.760930471	0.809294537	0.423845007	0.0213374
10584580		-0.028383148	-0.507507803	0.830112491	0.92395505	0.001764965	0.025652954	0.479124655	-0.267945475	1.788142362	0.055926525	0.0214149
10409276		0.292441238	0.97868921	0.139844451	0.392286294	0.000151753	0.004285143	-0.686247972	0.635565224	1.07974437	0.298809096	0.0215909
10358605	Hmcn1	-0.493107952	-0.899386403	0.000617365	0.011968679	1.74E-006	0.000169011	0.40627845	-0.696247177	0.583526172	0.548271522	0.0216153
10496539	Gbp5	0.29039572	0.930676987	0.118389519	0.358478491	0.000128525	0.003805064	-0.640281267	0.610536354	1.048719315	0.312026325	0.0216917
10514645		-0.000192927	0.386778567	0.998563331	0.999341998	0.002758257	0.035170859	-0.386971494	0.19329282	2.001996213	0.000498804	0.0218155
10403303	Akr1c13	0.088967939	0.515307856	0.456963715	0.708079371	0.000660058	0.012485169	-0.426339918	0.302137898	1.411077264	0.172650072	0.0220463
10453057	Cyp1b1	0.358808453	0.805121671	0.011393476	0.089460495	1.67E-005	0.000828415	-0.446313218	0.581965062	0.766907238	0.445657428	0.02245
10508972	Gm5589	-0.104180193	-0.538587337	0.398136688	0.662434206	0.000574022	0.011333853	0.434407144	-0.321383765	1.351677312	0.193432311	0.0229822
10358591	Hmcn1	-0.362344863	-0.772569208	0.006836559	0.064177196	1.17E-005	0.000645914	0.410224345	-0.567457035	0.722917013	0.46901282	0.0233342
10358607	Hmcn1	-0.537881328	-0.985511764	0.000793021	0.01431453	2.32E-006	0.000207553	0.447630435	-0.761696546	0.587675548	0.545788846	0.0239296
10387733	Eif5a	0.249085199	0.660673572	0.048638187	0.218412348	6.41E-005	0.002275597	-0.411588372	0.454879386	0.904829687	0.377017048	0.0245551
10359582	Fmo2	-0.952471273	-1.527583879	4.76E-005	0.001855733	3.00E-007	4.63E-005	0.575112606	-1.240027576	0.463790175	0.623514876	0.0246115
10574023	Mt2	0.651685525	1.358669825	0.005926224	0.058003949	1.16E-005	0.0006449	-0.7069843	1.005177675	0.703342621	0.479649664	0.0256706
10400072	Scin	0.947785714	1.348437471	1.24E-006	0.000129236	2.06E-008	6.60E-006	-0.400651757	1.148111592	0.348965867	0.702877022	0.0257701
10587446	Myo6	-0.454417551	-0.818674954	0.000707016	0.013103023	2.39E-006	0.000212202	0.364257403	-0.636546253	0.572240276	0.555064679	0.0267446
10435841	Ccdc52	-0.001894437	-0.434016784	0.987918961	0.995637987	0.003631232	0.042853963	0.432122347	-0.21795561	1.982616303	0.004364894	0.0270569
10523138	Cxcl3	0.489733906	0.915214822	0.001360667	0.020851109	3.96E-006	0.000298636	-0.425480915	0.702474364	0.605688886	0.535102683	0.0270711
10358672	Hmcn1	-0.156409892	-0.521863867	0.156882825	0.415269501	0.000235059	0.005956077	0.365453975	-0.33913688	1.077600216	0.299713972	0.0274588
10421950	Dach1	-0.113261935	-0.478059751	0.295578889	0.575105963	0.000493206	0.010184722	0.364797816	-0.295660843	1.233838786	0.23692004	0.0274594
10384229		-0.123867057	-0.563869835	0.344520635	0.618186345	0.000630777	0.01210074	0.440002778	-0.343868446	1.279567182	0.219673139	0.0284099
10536593	Tsen15	-0.169941407	-0.595663201	0.187966766	0.455464075	0.000302498	0.007110369	0.425721794	-0.382802304	1.112119204	0.285297811	0.0285429
10376326	Irgm2	0.189596197	0.719569434	0.237159594	0.512219744	0.000408913	0.008897584	-0.529973237	0.454582815	1.165845297	0.263485618	0.0292019
10358593	Hmcn1	-0.437452226	-0.984874438	0.015970145	0.111059791	3.02E-005	0.00127416	0.547422212	-0.711163332	0.769755958	0.444170555	0.0292514
10368240	Tcf21	-0.477779844	-0.835608792	0.000475477	0.009930462	1.95E-006	0.000182344	0.357828948	-0.656694318	0.544894235	0.571774554	0.0293494
10491617	4932438A13Rik	-0.046545203	-0.405379238	0.664999325	0.841135091	0.001961292	0.027645489	0.358834035	-0.22596222	1.588026681	0.114818912	0.0311208
10393662	Nptx1	-0.167586761	-0.523477415	0.132728005	0.381379428	0.000236224	0.005956189	0.355890654	-0.345532088	1.029978593	0.32014134	0.0315433
10403834	Sfrp4	0.005600388	0.413494882	0.963494724	0.986595228	0.00432843	0.04838944	-0.407894494	0.209547635	1.946547831	0.013544032	0.0318495
10422942		-0.067190216	-0.724939023	0.734982008	0.877465962	0.002498882	0.033022218	0.657748807	-0.39606462	1.660710838	0.092683956	0.0323847
10384504	Meis1	-0.221959049	-0.597053641	0.067074844	0.263330537	0.000125171	0.003727264	0.375094593	-0.409506345	0.915967719	0.371757298	0.0328229
10402757	A730018C14Rik	-0.075989107	-0.457464481	0.515840931	0.749938283	0.001442647	0.022266902	0.381475374	-0.266726794	1.430210171	0.166109305	0.0338102
10595404	Fam46a	0.294305074	0.633915533	0.012784267	0.096371972	3.12E-005	0.001304522	-0.33961046	0.464110304	0.731745141	0.46426544	0.0350178
10397984	Ppp4r4	-0.69881753	-1.124578073	0.000107824	0.003326464	7.66E-007	9.59E-005	0.425760543	-0.911697801	0.466997444	0.621404193	0.0350192
10559095	Muc5b	0.384602549	0.921801379	0.033194793	0.174099703	7.11E-005	0.002425026	-0.53719883	0.653201964	0.822408474	0.417229305	0.0350682
10513145	Ptpn3	-0.03011147	-0.438147485	0.809983879	0.91476004	0.003399788	0.041046923	0.408036015	-0.234129478	1.742779335	0.068724507	0.0350788
10545569	Reg3g	1.962911095	3.066181935	5.12E-005	0.001960388	4.43E-007	6.31E-005	-1.10327084	2.514546515	0.438755391	0.640180895	0.0354176
10480459	**Hnmt**	**-0.181036336**	**-0.54755857**	**0.130068679**	**0.377115425**	**0.000293544**	**0.006970102**	**0.366522234**	**-0.364297453**	**1.006107044**	**0.330624606**	**0.0376644**
10387855	Alox15	0.355375478	0.849610159	0.035084624	0.17978681	8.20E-005	0.002719755	-0.494234681	0.602492819	0.820316301	0.418280637	0.0377307
10358631	Hmcn1	-0.545280699	-0.948060968	0.000684686	0.012816153	3.37E-006	0.000273046	0.402780269	-0.746670834	0.53943485	0.575153622	0.0379584
10476297		-0.097885383	-0.460462759	0.396447669	0.661381695	0.00118691	0.019221196	0.362577376	-0.279174071	1.298750181	0.212580456	0.0388349
10500529	Phgdh	-0.118376865	-0.490025749	0.322481158	0.599510853	0.000927065	0.016081915	0.371648883	-0.304201307	1.221720207	0.241572745	0.0398315

10538305	5730596B20Rik	-0.051627421	-0.416174132	0.655775223	0.836850525	0.002771208	0.03526592	0.364546711	-0.233900777	1.558552803	0.124052451	0.0402235
10447461	Ston1	-0.45354488	-0.863285414	0.003532584	0.040656533	1.32E-005	0.000707672	0.409740535	-0.658415147	0.622313348	0.52537072	0.0409393
10476725	Gm561	-0.087960747	-0.532223054	0.538707595	0.76445011	0.002109616	0.029097058	0.444262307	-0.3100919	1.432679494	0.165270456	0.0419546
10577230	Erich1	-0.120985795	-0.522431725	0.354335306	0.625721726	0.001138233	0.018632754	0.40144593	-0.32170876	1.24785514	0.231582022	0.042078
10358549	Hmcn1	-0.288532467	-0.675273653	0.033652725	0.175510725	9.17E-005	0.0029289	0.386741186	-0.48190306	0.802529012	0.427282281	0.0423741
10590620	Ccr9	0.34753463	0.770791254	0.02146376	0.133797033	6.15E-005	0.002212614	-0.423256624	0.559162942	0.756946843	0.45088035	0.0423979
10392010	1700081L11Rik	-0.189246961	-0.587481619	0.154808901	0.412567205	0.000419542	0.009064647	0.398234658	-0.38836429	1.025415231	0.322132565	0.0425512
10533858	Eif2b1	0.230102633	0.573737215	0.053676429	0.231130107	0.000144979	0.004181271	-0.343634581	0.401919924	0.854982699	0.401059278	0.0431708
10358547	Hmcn1	-0.424981413	-0.863502434	0.008957634	0.076590458	3.00E-005	0.001273293	0.438521021	-0.644241924	0.68067756	0.492160064	0.0432758
10607752	Bmx	-0.397839767	-0.759456539	0.0040779	0.044884881	1.59E-005	0.00080144	0.361616772	-0.578648153	0.62493377	0.523847971	0.0436067
10475350	Serf2	-0.035483479	-0.426955389	0.779807971	0.898150901	0.004416373	0.049030905	0.391471909	-0.231219434	1.693075287	0.083108166	0.0442031
10407124	AI452195	-0.035302091	-0.393221045	0.761720853	0.890055576	0.004292286	0.048090089	0.357918954	-0.214261568	1.670476684	0.089776709	0.044749
10351509	Fcgr4	0.298649122	0.753264457	0.061135709	0.249242594	0.00017861	0.004841154	-0.454615334	0.525956789	0.864358714	0.396473137	0.0459619
10450325	Cfb	0.864120024	1.230305129	5.46E-006	0.000375774	1.02E-007	2.07E-005	-0.366185105	1.047212576	0.349676	0.702362368	0.0462428
10474201	Lmo2	-0.160123918	-0.495983021	0.161781907	0.421756854	0.000497949	0.010237815	0.335859103	-0.328053469	1.023793784	0.322841531	0.0464435
10481949	Traf1	-0.056434578	-0.409188528	0.628384925	0.820499758	0.003250727	0.039808993	0.352753951	-0.232811553	1.515190917	0.137918279	0.0472172
10509568	Camk2n1	-0.575034327	-0.894901175	8.99E-005	0.002919689	8.99E-007	0.000105337	0.319866847	-0.734967751	0.435212085	0.642567407	0.0473349
10422244	Slitrk6	-0.463730467	-0.870234572	0.003700973	0.041959615	1.64E-005	0.00081651	0.406504105	-0.66698252	0.609467404	0.532879849	0.047655
10380398	Chad	0.076921463	0.64779241	0.684466199	0.851495277	0.003892951	0.045051514	-0.570870947	0.362356936	1.575438164	0.118744002	0.0480754
10485117	Creb3l1	0.227087167	0.587709999	0.074456278	0.278876949	0.000232574	0.005912207	-0.360622832	0.407398583	0.885184305	0.386393234	0.0484124
10598093	Gm9904	0.982212038	1.394112716	5.52E-006	0.000378821	1.07E-007	2.12E-005	-0.411900678	1.188162377	0.34667036	0.704542772	0.0484235
10412646		-0.046501282	-0.360856598	0.658012282	0.837654708	0.003780589	0.044129223	0.314355316	-0.20367894	1.543386449	0.128863605	0.0494748
10431625	Syt10	-0.226655595	-0.554495117	0.054104674	0.232506074	0.000175658	0.004781312	0.327839523	-0.390575356	0.839375853	0.408760308	0.0495465
10373452	Gm129	-0.1971475	-0.601921055	0.160591877	0.420062398	0.000547425	0.01092335	0.404773555	-0.399534278	1.013113462	0.327530493	0.0499698
10580635	Ces3	-0.683016615	-1.103408629	0.000263859	0.006379068	2.20E-006	0.000200543	0.420392014	-0.893212622	0.470651672	0.619006048	0.0506127
10601578		-0.114171918	-0.4374161	0.302084768	0.581034981	0.001205142	0.019455082	0.323244182	-0.275794009	1.172049325	0.261014439	0.0507807
10468877		0.166158791	0.491081291	0.143844664	0.397919497	0.000496219	0.010222269	-0.324922501	0.328620041	0.988748281	0.338352924	0.0508553
10436600		-0.277898055	-0.761105874	0.103795611	0.334659685	0.000349449	0.007881945	0.483207819	-0.519501964	0.930136655	0.365124044	0.0508636
10461906		-0.053850178	-0.382351681	0.627796235	0.820023091	0.003706941	0.043506975	0.328501503	-0.21810093	1.506190294	0.140839391	0.0516516
10439514	Gap43	-0.25704478	-0.601909096	0.041874018	0.200265006	0.00014627	0.004190255	0.344864316	-0.429476938	0.802986809	0.42704917	0.0518018
10531972	5830443L24Rik	0.556961411	1.000718146	0.002216819	0.029590781	1.20E-005	0.00065904	-0.443756735	0.778839778	0.569766398	0.556561718	0.0520453
10519913	Magi2	-0.087323183	-0.421943455	0.444588887	0.698818589	0.002154129	0.029536427	0.334620272	-0.254633319	1.314126027	0.206954705	0.0521858
10565994	Art2b	0.387733817	0.82695601	0.01965874	0.126593208	7.57E-005	0.002549714	-0.439222193	0.607344914	0.723184114	0.468868733	0.0528671
10381649	Higd1b	-0.236842512	-0.558893971	0.045405081	0.210143821	0.000163093	0.004530606	0.322051458	-0.397868242	0.809442486	0.423770026	0.053072
10427606	Skp2	0.22384638	0.540176996	0.053088495	0.229877315	0.00019015	0.005078841	-0.316330616	0.382011688	0.828065281	0.414394507	0.0532421
10384824	Ncrna00117	0.121968736	0.488544994	0.336686112	0.611178155	0.001513932	0.022885524	-0.366576258	0.305256865	1.200878013	0.24965712	0.0537606
10403743	Inhba	0.555042715	1.007301702	0.002801549	0.034753541	1.52E-005	0.000778102	-0.452258986	0.781172209	0.57894915	0.551019337	0.054194
10472050	Tnfaip6	0.366089644	0.700476777	0.006241223	0.060202441	3.02E-005	0.001274448	-0.334387133	0.53328321	0.627034803	0.522629238	0.0555135
10455961	Iigp1	0.810652389	1.299976865	0.000279043	0.006650396	2.56E-006	0.000223835	-0.489324476	1.055314627	0.46367639	0.623589858	0.0559441
10518781	Per3	-0.115751026	-0.492597714	0.378958617	0.647169945	0.001898318	0.026965154	0.376846689	-0.30417437	1.238916641	0.234980842	0.0560776
10423894	Tm7sf4	0.205635915	0.552964946	0.103066587	0.333246532	0.000400775	0.0087699	-0.347329031	0.37930043	0.915709563	0.371878753	0.0563904
10531987	Gbp4	0.193364838	0.538110732	0.122848228	0.366020699	0.000500716	0.01026547	-0.344745894	0.365737785	0.942603986	0.359340237	0.0578133
10409278	Nfil3	1.099380752	1.562607833	9.41E-006	0.000555348	1.90E-007	3.32E-005	-0.46322708	1.330994293	0.348030854	0.703555127	0.0578228
10350341		-0.270409812	-0.636927367	0.04935365	0.220245579	0.000200005	0.005281616	0.366517554	-0.45366859	0.807897136	0.424553609	0.0581553
10607116	Ammecr1	0.464431144	0.83412701	0.002709456	0.034010259	1.62E-005	0.000810182	-0.369695865	0.649279077	0.569394392	0.556787083	0.0581677
10358635	Hmcn1	-0.176422771	-0.52481782	0.162667297	0.42316248	0.000708303	0.013203131	0.348395049	-0.350620296	0.9936534	0.336160024	0.0592405
10571747		-0.245907969	-0.60377679	0.065848115	0.260493434	0.000272089	0.006594888	0.35786882	-0.424842379	0.84235669	0.407282912	0.0592799
10578138	Dctn6	-0.078638512	-0.428820205	0.523213982	0.754995306	0.003355222	0.04061371	0.350181693	-0.253729359	1.380138643	0.183383412	0.0593098
10536216	Gng11	-0.347749529	-0.665522972	0.007112149	0.065824131	3.72E-005	0.001491249	0.317773443	-0.506636251	0.627222079	0.5225207	0.0599969
10361366	Mtrf1l	-0.074525105	-0.402151027	0.520494264	0.753201032	0.003444732	0.041414226	0.327625923	-0.238338066	1.374626925	0.185316211	0.0606975
10358561	Hmcn1	-0.623339269	-1.007466008	0.000406783	0.008829746	3.78E-006	0.000292666	0.384126739	-0.815402638	0.471088418	0.618719901	0.0609757
10488804	Gm14214	-0.108555545	-0.564227165	0.503664476	0.741330338	0.003372953	0.040781121	0.45567162	-0.336391355	1.354587782	0.192396878	0.0619783
10595109	Lrrc1	-0.082392624	-0.517567549	0.594645432	0.800176091	0.004483778	0.049479626	0.435174925	-0.299980087	1.450679375	0.159192021	0.0624453
10494085	Selenbp2	-0.420203124	-0.724182543	0.001558086	0.02283126	1.13E-005	0.000634406	0.30397942	-0.572192833	0.531253455	0.580244756	0.062583
10454601	Tslp	-0.281601328	-0.613739321	0.030659616	0.165782815	0.00014664	0.004196174	0.332137993	-0.447670324	0.741925419	0.458828884	0.0643
10435704	Cd80	0.251709226	0.569475628	0.041507302	0.199253679	0.000196078	0.005193932	-0.317766402	0.410592427	0.773921732	0.442001753	0.0646307

10503376	Gm11818	-0.308370427	-0.600701929	0.010200563	0.083597721	5.65E-005	0.002068608	0.292331502	-0.454536178	0.64314243	0.513350152	0.0654558
10436053	Dppa2	-0.130523057	-0.531193789	0.371586919	0.641350662	0.002339426	0.031359263	0.400670732	-0.330858423	1.211003572	0.245716459	0.065736
10354370		0.13732318	0.42251138	0.194563586	0.462998829	0.001016451	0.017221305	-0.2851882	0.27991728	1.01883028	0.325016523	0.0657857
10551791	Zfp420	-0.090799089	-0.41740413	0.444435234	0.698705431	0.003060777	0.038100885	0.326605041	-0.25410161	1.285332436	0.2175328	0.0660639
10358595	Hmcn1	-0.559574169	-0.880584046	0.000267687	0.006445571	2.99E-006	0.000253133	0.321009877	-0.720079107	0.445798071	0.635457991	0.066365
10416700	Pcdh17	-0.126664287	-0.429644522	0.257867044	0.534733501	0.001463699	0.02234992	0.302980235	-0.278154404	1.089251976	0.294811828	0.0666191
10395466	Dock4	-0.128363649	-0.420684347	0.238974671	0.514123029	0.001380794	0.021589501	0.292320697	-0.274523998	1.064827481	0.305130558	0.0683204
10406941	Sgtb	-0.310551984	-0.635630431	0.018980002	0.123964046	0.000104533	0.003232725	0.325078447	-0.473091207	0.687136945	0.488573185	0.0690693
10385500	Irgm1	0.13053367	0.560229798	0.4101417	0.672384056	0.002907056	0.036685505	-0.429696128	0.345381734	1.244119436	0.233000227	0.069095
10477495	U46068	0.862615976	1.445210307	0.001153432	0.018653282	1.01E-005	0.000589577	-0.582594331	1.153913142	0.504885775	0.596879203	0.0695522
10485170	Cry2	-0.162893893	-0.526096067	0.234162559	0.509061113	0.001421125	0.022080771	0.363202174	-0.34449498	1.054303239	0.309627659	0.070846
10502156	Ccdc109b	0.134422351	0.437196502	0.238934372	0.514115038	0.00146203	0.022341715	-0.302774151	0.285809427	1.059356768	0.30746438	0.0709988
10529937	Kcnip4	-0.303144645	-0.605401199	0.015771204	0.110243807	9.43E-005	0.002988605	0.302256553	-0.454272922	0.66536335	0.500733474	0.0723176
10569020	Ifitm6	-0.109829342	-0.457679592	0.399213755	0.66314782	0.003022172	0.037737395	0.34785025	-0.283754467	1.225884669	0.239969934	0.0727503
10549222	Bcat1	0.241653623	0.526105124	0.035906971	0.182254325	0.00020418	0.005331533	-0.284451502	0.383879374	0.740991887	0.459325735	0.0734381
10503602	Fbxl4	-0.075800841	-0.354230895	0.468458174	0.716793852	0.00396979	0.04546033	0.278430054	-0.215015868	1.294927935	0.213987097	0.074357
10469816	Il1rn	0.913083844	1.355729098	7.86E-005	0.002678353	1.30E-006	0.000138095	-0.442645254	1.134406471	0.390199867	0.673500218	0.0748968
10479726	Pcmtd2	-0.089837479	-0.388978252	0.42618609	0.684276299	0.003492539	0.041771998	0.299140773	-0.239407866	1.249502693	0.230957589	0.0751009
10369023	Fam162b	-0.469770048	-0.79139977	0.001555447	0.022814408	1.43E-005	0.000742515	0.321629722	-0.630584909	0.510049825	0.593593864	0.0759968
10516229	Utp11l	0.192184259	0.486745109	0.10156399	0.331030174	0.000635181	0.012167039	-0.29456085	0.339464684	0.867721631	0.394835522	0.0784978
10358623	Hmcn1	-0.591290478	-1.074632239	0.005738523	0.056805692	4.41E-005	0.001714524	0.48334176	-0.832961359	0.580269127	0.550225889	0.0788479
10427471	Osmr	0.094802505	0.399921227	0.417716372	0.678089035	0.003671107	0.043204941	-0.305118722	0.247361866	1.233491349	0.237052946	0.079106
10498935	Gucy1b3	-0.521939878	-0.833801025	0.000604462	0.011821953	7.10E-006	0.000453252	0.311861147	-0.677870452	0.460060099	0.625976536	0.0802878
10603887	Zfp300	-0.147325969	-0.50809086	0.294663406	0.574153114	0.002341603	0.031369658	0.360764892	-0.327708415	1.100871616	0.289959887	0.0810984
10359571	Fmo1	-0.867580068	-1.228297685	2.20E-005	0.001044354	5.15E-007	7.03E-005	0.360717617	-1.047938877	0.344216275	0.706327203	0.0812328
10358557	Hmcn1	-0.350691402	-0.654289155	0.008928352	0.076365523	6.87E-005	0.002374475	0.303597753	-0.502490279	0.604186321	0.535988407	0.0827977
10587776		-0.103766367	-0.426615493	0.411080132	0.673229473	0.003957388	0.045428554	0.322849126	-0.26519093	1.217421446	0.243231596	0.084335
10351667	Slamf1	0.217142704	0.525961115	0.085997812	0.301594504	0.000593183	0.011602855	-0.308818411	0.371551909	0.831158187	0.412849349	0.0844319
10466104	Ccdc86	0.196485067	0.489031217	0.099522632	0.327422062	0.000693708	0.012997149	-0.292546149	0.342758142	0.853506054	0.401784305	0.08455
10497613	Gm10258	-0.27955426	-0.58080412	0.02916126	0.161108745	0.000204862	0.005343912	0.301249859	-0.43017919	0.700289243	0.481322792	0.0845724
10455970	BC023105	1.045390576	1.796038755	0.002776761	0.034601226	2.63E-005	0.00115061	-0.750648179	1.420714666	0.528359563	0.582053462	0.0845937
10358650	Hmcn1	-0.56754527	-0.843623286	0.000115385	0.003495865	2.01E-006	0.000186644	0.276078017	-0.705584278	0.391275749	0.672747278	0.0849214
10534935	Pilrb1	-0.160909255	-0.474087116	0.198548488	0.468141715	0.001526405	0.02302449	0.313177861	-0.317498186	0.986392599	0.339408623	0.0849399
10345089		-0.22322588	-0.525813492	0.074554387	0.279162947	0.000524876	0.010591603	0.302587612	-0.374519686	0.807935132	0.424534333	0.0859228
10403031	V165-D-J-C mu	0.182516652	0.526639457	0.187697818	0.454898273	0.001468013	0.022375858	-0.344122805	0.354578054	0.970513545	0.34656851	0.0865415
10603109	Piga	0.199069457	0.570114838	0.183232154	0.449594009	0.001430831	0.022191285	-0.371045381	0.384592147	0.964776281	0.349174312	0.086713
10558694	Scgb1c1	-0.899047387	-1.323539198	9.28E-005	0.002978095	1.73E-006	0.000169011	0.424491811	-1.111293292	0.381979999	0.679275225	0.0867427
10357345	E030049G20Rik	-0.388508767	-0.729804421	0.010581457	0.085272218	8.50E-005	0.002783083	0.341295654	-0.559156594	0.610375801	0.532346415	0.0868248
10514732	Slc35d1	0.10026437	0.421259244	0.42888973	0.686930088	0.004449584	0.049324266	-0.320994874	0.260761807	1.230988841	0.238011085	0.0873376
10587226	Lysmd2	-0.393601025	-0.734358953	0.010056359	0.082706381	8.34E-005	0.002740733	0.340757928	-0.563979989	0.604202161	0.535979065	0.088459
10439974	Gm8900	0.115061431	0.44676025	0.383560798	0.651108401	0.003883716	0.045021032	-0.331698819	0.28091084	1.180797504	0.257546259	0.0889165
10449652	Dnahc8	-0.133598139	-0.437148479	0.273479481	0.551448437	0.002453996	0.03257966	0.30355034	-0.285373309	1.063695626	0.305612727	0.0891182
10408689	Nrn1	-0.460352383	-0.742363742	0.000967742	0.016548968	1.19E-005	0.000651632	0.282011359	-0.601358063	0.468957475	0.620117009	0.0895572
10524060	Gm10417	-0.250977201	-0.612299244	0.095915246	0.321361774	0.00074035	0.013607982	0.361322043	-0.431638222	0.837094642	0.409893043	0.0906797
10358519	Hmcn1	-0.627378603	-0.916886312	9.00E-005	0.002919689	1.81E-006	0.0001735	0.289507709	-0.772132457	0.374945653	0.684249067	0.0923743
10594840	Gcom1	-0.50416767	-0.823475786	0.001393695	0.021142656	1.69E-005	0.000831677	0.319308117	-0.663821728	0.481014862	0.612243466	0.0935539
10545101	Hpgds	0.510522244	0.844539322	0.00178879	0.025241702	2.08E-005	0.000971017	-0.334017079	0.677530783	0.492991739	0.604497896	0.0937706
10358551	Hmcn1	-0.605876611	-0.994942083	0.001586314	0.023121816	1.90E-005	0.000910672	0.389065472	-0.800409347	0.48608312	0.608956663	0.0945298
10474411	Lin7c	-0.102947279	-0.385788464	0.370702751	0.640840397	0.004089235	0.046402511	0.282841184	-0.244367872	1.157440143	0.266849035	0.0948232
10363860	Slc16a9	-0.247763886	-0.543567857	0.053652579	0.231124825	0.000447265	0.009503633	0.295803971	-0.395665872	0.747610527	0.455810407	0.0965898
10476526	2210009G21Rik	0.301000295	0.571486806	0.014547669	0.104805944	0.000131229	0.00386726	-0.270486511	0.436243551	0.620035552	0.526696841	0.0968497
10519855	Cacna2d1	-0.31326053	-0.629827875	0.026449039	0.15256161	0.000227787	0.005845972	0.316567345	-0.471544202	0.671341825	0.497374826	0.097085
10381697	Hexim1	-0.221100957	-0.475736792	0.047771469	0.216642766	0.000410681	0.008918246	0.254635835	-0.348418875	0.730832493	0.464754799	0.0985509
10574226	Ccl17	0.475720036	0.754417127	0.000899571	0.015782772	1.28E-005	0.000693984	-0.27869709	0.615068581	0.453115471	0.630579582	0.100053
10435789	Zbtb20	-0.285276048	-0.5432804	0.015941028	0.110947482	0.000149312	0.004253652	0.258004352	-0.414278224	0.622780385	0.525099098	0.100086
10539933	Txnrd3	-0.113592528	-0.401379135	0.341322434	0.615477367	0.003970679	0.04546033	0.287786607	-0.257485832	1.117679388	0.283005564	0.10021

10449661	Tff2	0.208999984	0.599844836	0.204456105	0.475446576	0.002055969	0.02863408	-0.390844852	0.40442241	0.966427287	0.348423411	0.100704
10358581	Hmcn1	-0.553068688	-0.885058561	0.001107877	0.018112728	1.53E-005	0.000781064	0.331989873	-0.719063624	0.461697494	0.624895021	0.100708
10544768	Hoxa5	-0.26491608	-0.526508785	0.025160815	0.148120031	0.000229926	0.005870219	0.261592705	-0.395712433	0.661067694	0.503156049	0.100918
10605659	Gm14781	0.226367376	0.486458924	0.049502674	0.220711243	0.00044771	0.009505219	-0.260091548	0.35641315	0.729747339	0.465337082	0.101999
10478145	Ppp1r16b	-0.135744326	-0.434061974	0.278341549	0.55624968	0.003108812	0.038437859	0.298317647	-0.28490315	1.047084411	0.312730289	0.102193
10578623	Wwc2	-0.397963107	-0.676676674	0.003603036	0.041176642	4.23E-005	0.001658786	0.278713567	-0.53731989	0.518710683	0.58811412	0.103013
10598594		-0.200267067	-0.475119503	0.095288672	0.320223833	0.000910763	0.015892223	0.274852436	-0.337693285	0.813911463	0.421508833	0.10444
10580733	Bbs2	-0.187458094	-0.439062317	0.089060168	0.307953764	0.000850879	0.015062315	0.251604224	-0.313260206	0.803179654	0.426950996	0.104726
10380472		-0.27210294	-0.618414664	0.074646545	0.279376397	0.000706819	0.013185057	0.346311724	-0.445258802	0.777776256	0.440000789	0.104732
10567448	Dnahc3	-0.507985128	-0.981621398	0.020379857	0.129418647	0.00020133	0.005296804	0.47363627	-0.744803263	0.635921315	0.517495981	0.105396
10348600	Traf3ip1	-0.134852707	-0.403048095	0.238339642	0.513488496	0.002686668	0.034558889	0.268195388	-0.268950401	0.997192745	0.334582171	0.105766
10503570	Sfrs18	-0.105310272	-0.355576138	0.319998625	0.597618672	0.00396236	0.045431065	0.250265865	-0.230443205	1.086019721	0.296167997	0.105867
10495285	Sort1	-0.270242452	-0.560335542	0.039520609	0.19329554	0.000380551	0.008449813	0.290093091	-0.415288997	0.698533052	0.482286829	0.106092
10409660	Gkap1	-0.291961694	-0.577765675	0.026129737	0.151585128	0.00025625	0.006330534	0.285803981	-0.434863685	0.657226601	0.505328901	0.106097
10423548	Sdc2	-0.4796144	-0.773914092	0.001530882	0.022583147	2.17E-005	0.00100605	0.294299693	-0.626764246	0.469554054	0.619725632	0.107015
10559649	Cox6b2	-0.152770346	-0.440077903	0.216706376	0.489425695	0.002459923	0.03259924	0.287307557	-0.296424124	0.969244854	0.347143869	0.107868
10398996	Crip2	-0.143195631	-0.439391209	0.261235365	0.538395607	0.003190892	0.039244764	0.296195578	-0.29129342	1.016828934	0.32589553	0.109477
10350339		-0.239485947	-0.538727426	0.073929463	0.278039772	0.000750897	0.013767154	0.299241479	-0.389106687	0.769047384	0.444540105	0.109686
10458894	Lox	0.433583059	0.723735283	0.003076965	0.036992756	4.05E-005	0.001599341	-0.290152224	0.578659171	0.501421629	0.599090675	0.110138
10548367	Clec1a	-0.457640868	-0.787832002	0.005113406	0.052401728	6.27E-005	0.002238385	0.330191134	-0.622736435	0.530226137	0.580886365	0.110302
10413304	Arf4	0.277520758	0.571267593	0.039741056	0.194030886	0.000409418	0.008898348	-0.293746835	0.424394175	0.692155671	0.485798181	0.111005
10424287	Fer1l6	0.626182214	0.98047156	0.000918303	0.015947901	1.50E-005	0.000767485	-0.354289346	0.803326887	0.441027621	0.638654133	0.111851
10420596	Tnfrsf19	-0.111592245	-0.361079023	0.300809357	0.580016118	0.003996572	0.045613167	0.249486778	-0.236335634	1.055646046	0.309052142	0.112198
10356084	Irs1	-0.114030305	-0.38205652	0.324279713	0.601085151	0.004434655	0.049191324	0.268026215	-0.248043413	1.080561715	0.298464491	0.112337
10547820	Lrrc23	-0.224684364	-0.606678002	0.180499552	0.445486779	0.002108148	0.029092445	0.381993638	-0.415681183	0.918958216	0.370351921	0.112628
10459363	Fam38b2	-0.147988828	-0.423163891	0.21889154	0.491988447	0.002686824	0.034558889	0.275175063	-0.285576359	0.963577881	0.349719886	0.113157
10358625	Hmcn1	-0.584064989	-0.862875095	0.00022867	0.00578846	4.88E-006	0.000341944	0.278810106	-0.723470042	0.385378924	0.676882427	0.113414
10571467	Pdgfrl	0.199180849	0.467624027	0.098729674	0.326555564	0.001082365	0.017981967	-0.268443178	0.333402438	0.805162614	0.42594229	0.113935
10363743	Rtkn2	-0.723896276	-1.037540253	0.000100844	0.003155689	2.56E-006	0.000223835	0.313643977	-0.880718265	0.356122939	0.697704281	0.115798
10472860	Rapgef4	-0.56500292	-0.84649165	0.000355743	0.007967895	7.19E-006	0.000456965	0.281488729	-0.705747285	0.398852019	0.667464257	0.115975
10372595		-0.240361553	-0.605949391	0.141559219	0.394649943	0.00166572	0.024572241	0.365587839	-0.423155472	0.863956306	0.396669353	0.116151
10380067	Sept4	-0.318647605	-0.621184584	0.026386591	0.152405717	0.000297629	0.007041048	0.302536979	-0.469916095	0.643810634	0.512967664	0.116671
10469536		-0.247277081	-0.519832324	0.05147727	0.226369465	0.00058461	0.011472304	0.272555242	-0.383554703	0.710603313	0.475686236	0.118578
10590860	9030420J04Rik	-0.325244087	-0.608660418	0.018081093	0.120359312	0.00021736	0.005624178	0.283416332	-0.466952252	0.606949276	0.534360502	0.119779
10346114		-0.304467422	-0.59405127	0.027832786	0.156806837	0.000326082	0.007526872	0.289583849	-0.449259346	0.644580577	0.512527179	0.119884
10455954	Gm4951	0.276877706	0.711847749	0.158718048	0.417397654	0.002018466	0.028203579	-0.434970043	0.494362728	0.879860107	0.388956356	0.120607
10347792		-0.175099104	-0.458390783	0.17090138	0.433523105	0.002218783	0.030286435	0.283291679	-0.316744944	0.89438422	0.381986529	0.121178
10538408	2410066E13Rik	-0.210528752	-0.456981546	0.066462815	0.261731747	0.000784705	0.014201021	0.246452794	-0.333755149	0.738423946	0.460694209	0.121237
10358517	Hmcn1	-0.71520395	-1.025901166	0.000125023	0.003705651	3.27E-006	0.000268903	0.310697215	-0.870552558	0.356896562	0.69714703	0.122669
10496580	Gbp3	0.263595892	0.574058516	0.069518936	0.268413367	0.000845697	0.014991259	-0.310462624	0.418827204	0.741266616	0.459179482	0.12346
10415438	Mcpt2	0.497901307	0.869519795	0.008191469	0.072278659	0.00011194	0.00340034	-0.371618488	0.683710551	0.54353189	0.572616414	0.124179
10568078	Taok2	-0.244408678	-0.501393027	0.045580474	0.210727596	0.000556121	0.01103984	0.256984349	-0.372900852	0.689149267	0.487459268	0.124235
10389674	Dynll2	-0.23288439	-0.547328233	0.108939013	0.342702073	0.001381937	0.021589501	0.314443843	-0.390106311	0.80604654	0.425493107	0.124312
10582162	Cotl1	0.141413983	0.37975754	0.191429479	0.45935024	0.002652769	0.034268387	-0.238343556	0.260585761	0.914645356	0.372379659	0.124444
10372177	Tmtc2	-0.361854588	-0.613963375	0.00537815	0.054164887	7.76E-005	0.002594828	0.252108788	-0.487908982	0.516712742	0.589374875	0.124563
10584325	Vsig2	-0.183428837	-0.432475683	0.112154919	0.348117319	0.00145483	0.022341715	0.249046846	-0.30795226	0.808719007	0.424136765	0.125831
10346191	Stat1	0.385008529	0.693356424	0.01306158	0.097767625	0.000177556	0.00481767	-0.308347895	0.539182476	0.571880409	0.55528227	0.127813
10360306	Slamf8	0.138522225	0.412782422	0.266281383	0.543512585	0.004196	0.047300362	-0.274260197	0.275652323	0.994949701	0.335581696	0.127849
10540472	Bhlhe40	0.684161921	0.986315143	0.000166943	0.004627527	4.35E-006	0.000315693	-0.302153222	0.835238532	0.361756805	0.693654483	0.127862
10516393	Eif2c4	-0.203512422	-0.477477886	0.111692426	0.347463481	0.001493693	0.022684785	0.273965465	-0.340495154	0.804608998	0.426223763	0.128302
10390103	Pdk2	-0.146913645	-0.444543807	0.277759357	0.555562002	0.004477136	0.04944885	0.297630162	-0.295728726	1.006429662	0.330481817	0.128596
10470628	Ddx31	0.116050373	0.350451113	0.277023378	0.554819658	0.004489031	0.049516303	-0.23440074	0.233250743	1.004930301	0.331145684	0.129083
10591628	Dock6	-0.211467727	-0.480899888	0.095383983	0.320418279	0.001270818	0.020260477	0.269432161	-0.346183807	0.77829221	0.439733368	0.129215
10551487	Eid2b	-0.130066934	-0.369061827	0.234531858	0.509373098	0.003627788	0.042852306	0.238994893	-0.249564381	0.957648251	0.352425867	0.129257
10456254	Nedd4l	-0.356453715	-0.65297272	0.016647207	0.11419041	0.000228233	0.005845972	0.296519005	-0.504713218	0.58749998	0.545893732	0.130301
10598403	Praf2	0.292151399	0.555713773	0.025130831	0.148084981	0.00033699	0.0076956	-0.263562374	0.423932586	0.62170822	0.525722797	0.130651

10379630	Slfn2	0.434348189	0.730518482	0.00526553	0.053336866	8.18E-005	0.002716106	-0.296170292	0.582433335	0.50850505	0.594575223	0.130912
10605431	Rab39b	0.157714921	0.470544418	0.271594038	0.549236288	0.004496099	0.049572972	-0.312829497	0.314129669	0.995861033	0.335175416	0.131291
10360377	AI607873	1.123884845	1.681615149	0.000510246	0.010435857	1.14E-005	0.000638289	-0.557730304	1.402749997	0.397597794	0.668336537	0.131889
10502240	Npnt	-0.531472362	-0.81281306	0.00086957	0.015393186	1.78E-005	0.000860907	0.281340699	-0.672142711	0.418572863	0.653867891	0.132129
10498952	Gucy1a3	-0.452059763	-0.693761615	0.000945099	0.016270149	1.91E-005	0.000910672	0.241701852	-0.572910689	0.421883997	0.651606767	0.13231
10358553	Hmcn1	-0.571756787	-0.860939999	0.000604296	0.011821953	1.32E-005	0.000707672	0.289183211	-0.716348393	0.403690738	0.66410759	0.132371
10396112	Atp5s	-0.271260975	-0.527343035	0.031823596	0.169400263	0.000432118	0.00927392	0.25608206	-0.399302005	0.641324254	0.514391879	0.132575
10567460	Dnahc3	-0.180116485	-0.421914788	0.114983124	0.352657048	0.001630383	0.024176007	0.241798302	-0.301015636	0.80327489	0.426902518	0.132818
10349157	Serpinb2	0.595301775	1.020235028	0.007316192	0.067212605	0.000112125	0.003400751	-0.424933253	0.807768402	0.526058276	0.583494743	0.133249
10461365	Eef1g	0.189016574	0.505875872	0.20053736	0.47076943	0.003162277	0.038986234	-0.316859298	0.347446223	0.911966448	0.373642201	0.133945
10352396	Trp53bp2	-0.335638304	-0.610996194	0.016723223	0.114589347	0.000243159	0.006065502	0.27535789	-0.473317249	0.581761789	0.549329615	0.135533
10396161	Tmx1	0.246816711	0.537511905	0.079286108	0.287445736	0.001142347	0.018688193	-0.290695194	0.392164308	0.741258671	0.459183711	0.136864
10448235	A630033E08Rik	-0.280867385	-0.532040699	0.02627908	0.152063696	0.000378599	0.008414835	0.251173314	-0.406454042	0.617962398	0.527905826	0.137117
10368730	Bxdc1	0.51792215	0.780820984	0.000701257	0.013015078	1.57E-005	0.000794298	-0.262898835	0.649371567	0.404851164	0.663304599	0.137586
10385504	Gm5431	0.444973168	0.933109093	0.063067446	0.253583953	0.000921021	0.016016786	-0.488135925	0.68904113	0.708427848	0.476871537	0.138965
10542575	Pde3a	-0.611867245	-0.879119483	0.000201965	0.00530012	5.66E-006	0.000381287	0.267252238	-0.745493364	0.358490432	0.696000097	0.139309
10394749	Nol10	0.247112059	0.591221402	0.133850786	0.383019171	0.002092584	0.028951239	-0.344109343	0.419166731	0.820936676	0.417968731	0.139412
10459576	Cep76	0.245215709	0.490932969	0.045025753	0.20910458	0.000663182	0.012516585	-0.24571726	0.368074339	0.66757509	0.499489186	0.140206
10604505	6720401G13Rik	-0.174860267	-0.415606326	0.130895529	0.378452679	0.002066206	0.028714339	0.240746059	-0.295233297	0.815443453	0.420735336	0.140512
10569611	Fadd	0.230806178	0.474764847	0.055865605	0.236674317	0.000829047	0.014817268	-0.243958669	0.352785512	0.691521223	0.486148415	0.140673
10411958	Rnf180	0.189246063	0.447012874	0.127417261	0.373013642	0.002010816	0.028142655	-0.257766811	0.318129468	0.810257574	0.423357075	0.140809
10387985	A430084P05Rik	0.482579857	0.810532826	0.006224954	0.060136291	0.000106139	0.003266637	-0.327952969	0.646556341	0.507230303	0.59538595	0.141576
10511180	Mxra8	-0.19176106	-0.505480473	0.199290136	0.469171715	0.003439939	0.041390633	0.313719413	-0.348620767	0.899887336	0.379363933	0.141683
10384782	Vrk2	0.299378455	0.540609691	0.016746508	0.114605795	0.000261718	0.006422347	-0.241231236	0.419994073	0.574368191	0.553779298	0.142153
10519527	Abcb1a	-0.326186479	-0.627939117	0.033328976	0.174527019	0.000511843	0.01044314	0.301752639	-0.477062798	0.63252184	0.519455581	0.143641
10366153	Rassf9	-0.522264732	-0.745624095	0.000189749	0.005068122	5.62E-006	0.000380896	0.223359363	-0.633944414	0.352332726	0.70043972	0.144485
10567428	Dnahc3	-0.299008332	-0.539035486	0.01706501	0.11594089	0.000274145	0.006632188	0.240027154	-0.419021909	0.572827218	0.554709921	0.144866
10434806	Lpp	0.218415646	0.549387946	0.171424178	0.434107715	0.002973917	0.037309138	-0.3309723	0.383901796	0.862127512	0.397561773	0.144875
10360406	Ifi205	0.468325385	0.840970176	0.016320125	0.11260886	0.000263318	0.00644928	-0.372644791	0.654647781	0.569229441	0.556887032	0.144983
10460968	Rasgrp2	-0.404374944	-0.662025763	0.004466614	0.047452268	8.31E-005	0.002735545	0.257650819	-0.533200353	0.48321577	0.610814512	0.146334
10577114	Grtp1	-0.267702436	-0.521153598	0.03812315	0.189407899	0.000602122	0.011673172	0.253451162	-0.394428017	0.642579003	0.513672816	0.146457
10358652	Hmcn1	-0.535146948	-0.780059393	0.000364679	0.008125507	9.89E-006	0.000582473	0.244912445	-0.657603171	0.372431972	0.686033592	0.1469
10552369	Siglec5	0.198857697	0.456667062	0.117363553	0.356760739	0.001991097	0.027900148	-0.257809365	0.327762379	0.786573996	0.435454434	0.148144
10352914	A330023F24Rik	-0.463742176	-0.71664025	0.001584572	0.023109549	3.50E-005	0.001423598	0.252898074	-0.590191213	0.42850193	0.647105959	0.149564
10472097	Fmnl2	0.255438756	0.491020282	0.036002225	0.182388782	0.000599263	0.011653428	-0.235581526	0.373229519	0.631197464	0.520220377	0.151319
10401841	Dio2	0.199197239	0.485706804	0.158539	0.417150943	0.002936997	0.036954328	-0.286509565	0.342452022	0.836641475	0.410118281	0.152085
10497501	Naaladl2	-0.386421832	-0.660639069	0.009693086	0.080990279	0.000176648	0.00479811	0.274217237	-0.523530451	0.523784694	0.584921253	0.152706
10462406	C030046E11Rik	0.19056281	0.433852278	0.11640945	0.355671677	0.002076792	0.028814645	-0.243289468	0.312207544	0.77925557	0.43923432	0.152847
10472538	Dhrs9	0.183754483	0.410392094	0.105602984	0.337435253	0.001871653	0.026734324	-0.226637612	0.297073288	0.762901347	0.447753466	0.153267
10358617	Hmcn1	-0.548182032	-0.85937533	0.002309735	0.030540135	5.03E-005	0.001895871	0.311193297	-0.703778681	0.442174941	0.637884302	0.153772
10544932	Inmt	-0.764892657	-1.073035942	0.000141469	0.004057239	4.80E-006	0.000337825	0.308143285	-0.9189643	0.335315838	0.712830417	0.154801
10526566	Ephb4	-0.167713576	-0.40830919	0.160682618	0.42013028	0.003085511	0.038297344	0.240595615	-0.288011383	0.835368423	0.41075141	0.155188
10591618	Dock6	-0.295644251	-0.525109951	0.016644884	0.11419041	0.000299464	0.007066598	0.2294657	-0.410377101	0.55915815	0.563013994	0.155748
10513536	Gm2173	-0.237430034	-0.50122542	0.078844143	0.286860969	0.001432236	0.022192448	0.263795386	-0.369327727	0.714258278	0.473699107	0.157981
10473244	Zfp804a	-0.153399695	-0.37397528	0.164726849	0.426023385	0.003283534	0.04011507	0.220575584	-0.263687488	0.836503796	0.410186726	0.158273
10346810	Pard3b	-0.327985509	-0.540342723	0.006103631	0.059276583	0.000123371	0.003677904	0.212357214	-0.434164116	0.489117379	0.606995329	0.158599
10424582		-0.427423753	-0.746082351	0.014177521	0.103061062	0.000268061	0.006534262	0.318658597	-0.586753052	0.543088095	0.572890852	0.159671
10544089	Zc3hav1	0.162907165	0.398890052	0.169704378	0.432305899	0.00347498	0.041660811	-0.235982887	0.280898609	0.840099878	0.408401173	0.160297
10470283	Egfl7	-0.244303571	-0.560588772	0.12783601	0.373723771	0.002499695	0.033022218	0.316285201	-0.402446171	0.785906845	0.435798188	0.16037
10368356	Akap7	-0.173269279	-0.408797364	0.145629021	0.400381872	0.00291246	0.036717597	0.235528085	-0.291033321	0.809282194	0.423851263	0.160646
10397094	Psen1	0.214848411	0.4333713	0.059098231	0.244053921	0.001088826	0.018065926	-0.218522889	0.324109856	0.674224759	0.495760588	0.16076
10503251	2610301B20Rik	0.17439126	0.423298658	0.166984732	0.429071907	0.003519052	0.041973531	-0.248907397	0.298844959	0.832898096	0.411981605	0.163375
10358668	Hmcn1	-0.263764992	-0.483100598	0.026096028	0.151511615	0.000497304	0.010236401	0.219335606	-0.373432795	0.587349609	0.545983576	0.163905
10492888		-0.299670654	-0.595256975	0.057199319	0.239887276	0.001146853	0.018714197	0.295586321	-0.447463814	0.660581508	0.50343073	0.169383
10527920	Cyp51	0.543670669	0.819255129	0.001351716	0.020763525	3.65E-005	0.001473522	-0.275584461	0.681462899	0.404401268	0.663615825	0.169687
10495675	F3	0.510838127	0.754669435	0.000867912	0.015374447	2.52E-005	0.001120717	-0.243831307	0.632753781	0.385349428	0.676903163	0.171023

10351224	F5	0.393759286	0.808653494	0.074038948	0.278166235	0.00153434	0.023109978	-0.414894208	0.60120639	0.690102792	0.486932028	0.17152
10352133	Efcab2	-0.496331349	-0.745450837	0.00131884	0.02040102	3.65E-005	0.001473522	0.249119488	-0.620891093	0.401228962	0.665813658	0.172328
10522430	Dcun1d4	-0.218173377	-0.429726141	0.05534052	0.235377015	0.001144765	0.018692009	0.211552764	-0.323949759	0.653041894	0.507703293	0.172727
10476560	Ism1	-0.164845427	-0.389634156	0.158899545	0.417562908	0.003661473	0.043131115	0.224788728	-0.277239791	0.810809759	0.423077456	0.173208
10510391	Srm	0.223461734	0.44903915	0.066077416	0.260974783	0.001416981	0.02203634	-0.225577415	0.336250442	0.670861319	0.497644213	0.175753
10545168	Tacstd2	-0.3052425	-0.59747769	0.054286363	0.233013775	0.001155789	0.018823724	0.292235191	-0.451360095	0.647454646	0.510885184	0.175821
10491414	Usp13	-0.158358585	-0.370831682	0.155620261	0.413590895	0.003680689	0.043278021	0.212473097	-0.264595134	0.803012111	0.427036288	0.17628
10367746	Sash1	-0.247484293	-0.479539331	0.050336432	0.222918486	0.001075426	0.017924703	0.232055038	-0.363511812	0.638370006	0.516087581	0.176399
10380381	Tob1	-0.231704958	-0.474936327	0.076348929	0.282543875	0.001664623	0.024572241	0.243231369	-0.353320643	0.688415394	0.487865309	0.176603
10361507		-1.062219681	-1.62960791	0.002279702	0.030256152	6.09E-005	0.00219663	0.56738823	-1.345913795	0.421563574	0.65182531	0.176921
10420383	AU040096	-0.185691334	-0.422061354	0.136675001	0.387600699	0.003183438	0.039190635	0.23637002	-0.303876344	0.777849361	0.439962892	0.176927
10361651	Nup43	0.635733507	0.887920574	0.000205251	0.005333121	7.79E-006	0.000487574	-0.252187067	0.761827041	0.331029293	0.715980152	0.176973
10433885	Cebpd	-0.217163033	-0.421581092	0.051733233	0.22694829	0.001118928	0.018410664	0.204418059	-0.319372063	0.640062433	0.515115684	0.177641
10522192	Nsun7	-0.353195893	-0.61143009	0.016365393	0.112772805	0.000363695	0.008145997	0.258234197	-0.482312992	0.535407922	0.5776554	0.177993
10572727	Gm15468	-0.274768288	-0.552238894	0.067984184	0.265280943	0.001502779	0.022757131	0.277470606	-0.413503591	0.671023449	0.497553307	0.178813
10497276	Fabp12	-0.418390934	-0.64226047	0.002429674	0.031593141	6.60E-005	0.002317426	0.223869536	-0.530325702	0.422135934	0.651434977	0.179818
10348645	Gpr35	0.157851676	0.375542939	0.170136313	0.432692612	0.004249671	0.047737659	-0.217691264	0.266697308	0.816248449	0.420329233	0.180237
10369655	Stox1	-0.217212311	-0.420732989	0.052354751	0.228350338	0.001165953	0.018941576	0.203520678	-0.31897265	0.638050559	0.516271167	0.180756
10346634	Nop58	0.594082197	0.845307335	0.000396645	0.00864504	1.41E-005	0.000734425	-0.251225139	0.719694766	0.349071788	0.702800238	0.18159
10403069	Igh-6	0.658526597	0.95364729	0.000666365	0.012595177	2.22E-005	0.001022154	-0.295120694	0.806086944	0.366115214	0.690534754	0.183249
10566767	St5	-0.204069081	-0.415135256	0.07685633	0.283481575	0.001786649	0.025851018	0.211066175	-0.309602169	0.681733516	0.491572513	0.183415
10413059	Vcl	-0.172501538	-0.373123979	0.111401558	0.346941347	0.002687375	0.034558889	0.200622441	-0.272812758	0.735385112	0.462316945	0.183619
10358621	Hmcn1	-0.287995592	-0.574140711	0.067076263	0.263330537	0.001552934	0.023341029	0.28614512	-0.431068152	0.663804827	0.501611514	0.183889
10405942	Gm10037	-0.216576913	-0.499493781	0.152859939	0.410076183	0.003884573	0.045021032	0.282916868	-0.358035347	0.790192561	0.433592812	0.184197
10483819	Ttc30b	-0.337253631	-0.659078396	0.058203535	0.242134251	0.001347247	0.02120242	0.321824765	-0.498166014	0.646019111	0.511704879	0.18459
10474700	Thbs1	0.831585104	1.183937677	0.00043398	0.009275098	1.56E-005	0.00079147	-0.352352573	1.00776139	0.349638889	0.702389256	0.185112
10357391	Zranb3	0.343680069	0.579559807	0.01282911	0.096596624	0.000309041	0.007237656	-0.235879738	0.461619938	0.51098256	0.593001904	0.185397
10567462	Dnahc3	-0.524317252	-0.831316851	0.005013102	0.051635753	0.000132256	0.003893057	0.306999599	-0.677817051	0.452923984	0.630706873	0.186417
10452639	Myl12b	-0.191840666	-0.448513287	0.164777365	0.426043945	0.00435968	0.048590648	0.256672621	-0.320176976	0.801658582	0.427725714	0.187066
10580765	Pllp	-0.411090603	-0.652725837	0.005201385	0.052874909	0.000137556	0.004016822	0.241635233	-0.53190822	0.454279938	0.629805931	0.187172
10437698	Txndc11	0.165399303	0.377417046	0.151028588	0.40784738	0.004039187	0.045976873	-0.212017743	0.271408175	0.781176703	0.438240151	0.189987
10461396	LOC100045435	0.213917066	0.450190082	0.101792034	0.331253423	0.00263198	0.034102808	-0.236273016	0.332053574	0.711550889	0.475170544	0.192386
10486396	Ehd4	-0.292298421	-0.550574814	0.048001573	0.21711006	0.001220861	0.01965938	0.258276393	-0.421436617	0.612847536	0.530896826	0.195887
10502949		0.900695093	1.469419393	0.009223071	0.078316068	0.00024887	0.006185172	-0.5687243	1.185057243	0.479912936	0.612959851	0.196007
10522530	Kit	-0.483441793	-0.718899348	0.001672116	0.024017841	5.47E-005	0.002021612	0.235457555	-0.601170571	0.391665138	0.672474936	0.197532
10486061	Rasgrp1	0.354612922	0.590734912	0.012836648	0.096596624	0.000343856	0.007780723	-0.23612199	0.472673917	0.499545208	0.60029112	0.198028
10358637	Hmcn1	-0.460371836	-0.671166125	0.001069586	0.017712346	3.75E-005	0.001501277	0.210794289	-0.56576898	0.372580145	0.685928296	0.198904
10581266	Tppp3	-0.410056147	-0.71476573	0.023663298	0.142112665	0.000633059	0.012135438	0.304709582	-0.562410939	0.541791707	0.573693072	0.201433
10585048	Cadm1	-0.239395391	-0.441901482	0.042590509	0.202160283	0.001137664	0.018632754	0.202506091	-0.340648437	0.594472391	0.541739282	0.201894
10417510	Gm10044	-0.493916481	-0.854135575	0.021958543	0.135716802	0.00059599	0.011630788	0.360219094	-0.674026028	0.534429056	0.578264734	0.202893
10516640	Eif3i	0.356770788	0.5592362	0.005337191	0.053871423	0.000160506	0.004482978	-0.202465412	0.458003494	0.442060845	0.637960826	0.203545
10464342	6430537H07Rik	-0.170757538	-0.376818594	0.140906483	0.393685382	0.004209771	0.047413956	0.206061055	-0.273788066	0.752629792	0.453155819	0.203878
10580537	Aktip	-0.221751385	-0.421325033	0.055702165	0.236285434	0.00152761	0.02302449	0.199573648	-0.321538209	0.62068408	0.526319036	0.204193
10534531	Ywhag	0.233167503	0.431832078	0.045879803	0.211350105	0.001275551	0.020310692	-0.198664575	0.332499791	0.597487819	0.539949474	0.20653
10555576	3200002M19Rik	0.198506078	0.399990403	0.086769026	0.30318882	0.002496275	0.033011019	-0.201484325	0.29924824	0.673301621	0.496277101	0.206541
10502816	Gipc2	-0.354241601	-0.592115005	0.015037005	0.107201694	0.000428223	0.009213437	0.237873404	-0.473178303	0.502714099	0.59826486	0.20675
10403796	Amph	-0.363875157	-0.608775391	0.015228959	0.108042266	0.000433523	0.00929275	0.244900234	-0.486325274	0.503572911	0.5977166	0.206788
10566583	Gm8995	0.27928155	0.52963281	0.056637747	0.23855886	0.001601208	0.023825978	-0.25035126	0.40445718	0.618980876	0.527311649	0.207754
10421309	Slc39a14	0.253074745	0.452344882	0.033503473	0.175146059	0.000945175	0.01632621	-0.199270138	0.352709814	0.564969076	0.559472992	0.208628
10542369	Gm8994	-0.509247783	-0.838648556	0.012641541	0.095633091	0.000370644	0.008272783	0.329400773	-0.67394817	0.488762768	0.607224301	0.209154
10453049	Cdc42ep3	-0.339218523	-0.576621515	0.019584744	0.126333176	0.00056866	0.01126262	0.237402992	-0.457920019	0.51843768	0.588286274	0.21073
10369690	Tet1	-0.397956045	-0.605265716	0.003394142	0.039654451	0.000113104	0.003420428	0.207309671	-0.50161088	0.413287828	0.657489817	0.210982
10358654	Hmcn1	-0.260792797	-0.519637079	0.084153594	0.298103016	0.002529126	0.033274012	0.258844282	-0.390214938	0.663337706	0.501874881	0.212114
10433988	Serpind1	0.429833672	0.666508933	0.00502279	0.051694058	0.000162593	0.004527073	-0.236675261	0.548171302	0.431754198	0.644903092	0.212427
10539263	Loxl3	0.202112685	0.390672857	0.068320291	0.26582465	0.002028302	0.028294808	-0.188560172	0.296392771	0.636183436	0.517345093	0.212511
10471586	Hspa5	0.337675299	0.539340541	0.008381961	0.07342254	0.000260262	0.00640096	-0.201665243	0.43850792	0.459889624	0.62608922	0.212825

10462281	Vldlr	-0.507080282	-0.733918614	0.001166788	0.018800444	4.49E-005	0.001734584	0.226838332	-0.620499448	0.365573786	0.69092168	0.213587
10363241	Gcc2	-0.238165115	-0.460285431	0.069243127	0.267993453	0.002087475	0.02891598	0.222120316	-0.349225273	0.636037347	0.517429184	0.214286
10567446	Dnahc3	-0.391536179	-0.648540576	0.014668473	0.105465086	0.000444707	0.009457121	0.257004396	-0.520038378	0.49420275	0.603718864	0.21453
10358559	Hmcn1	-0.428543158	-0.635094782	0.002113776	0.028593681	7.68E-005	0.002576322	0.206551624	-0.53181897	0.388387094	0.674770397	0.215554
10569494	Tnfrsf22	0.319182783	0.583318829	0.044625926	0.2081516	0.001340793	0.021139723	-0.264136045	0.451250806	0.585341991	0.547184091	0.216136
10372687	Nup107	0.336650651	0.543277356	0.010348345	0.084396017	0.000325416	0.007525023	-0.206626705	0.439964004	0.469644569	0.619666267	0.216513
10433034	Atf7	-0.174984089	-0.375508912	0.133972872	0.383240352	0.004460057	0.049360654	0.200524823	-0.275246501	0.728528147	0.465991841	0.217814
10476326	Cds2	-0.406314516	-0.613294381	0.003297613	0.038880634	0.00011674	0.003504656	0.206979865	-0.509804449	0.405998547	0.662511395	0.21883
10380637	Hoxb6	-0.196819934	-0.399119665	0.098979363	0.326555564	0.003199199	0.039309261	0.202299731	-0.297969799	0.678926965	0.493135144	0.219094
10562368	4931406P16Rik	-0.261618939	-0.453108076	0.02718958	0.155158326	0.00084421	0.01498561	0.191489136	-0.357363508	0.535838529	0.577387501	0.220415
10471677	Dab2ip	-0.195719678	-0.397974971	0.101730066	0.33120907	0.003339919	0.040495537	0.202255293	-0.296847325	0.681344502	0.491788913	0.220659
10546944	Tmem111	0.23259028	0.455211099	0.079705559	0.28851816	0.002557307	0.033558771	-0.222620818	0.34390069	0.647340424	0.510950372	0.220745
10542522	Plekha5	-0.239502574	-0.442070632	0.050981522	0.224844278	0.001598927	0.023805838	0.202568059	-0.340786603	0.59441321	0.54177445	0.22108
10529732	Hs3st1	-0.18335852	-0.386266277	0.124807435	0.369057473	0.004239433	0.047643508	0.202907757	-0.284812398	0.712425999	0.47469461	0.221627
10451039	Slc25a27	-0.318560546	-0.509323419	0.009625728	0.080637461	0.000316581	0.00738057	0.190762873	-0.413941982	0.460844468	0.625458273	0.221801
10402435	Serpina3c	0.508030069	0.793139118	0.006873158	0.064336293	0.00023861	0.005999466	-0.285109049	0.650584594	0.438235168	0.640530845	0.225665
10436449		-0.284893758	-0.580867906	0.107290098	0.340242441	0.003701049	0.043457701	0.295974148	-0.432880832	0.68373124	0.490462212	0.226099
10436841	Il10rb	0.330157372	0.52544908	0.009527625	0.080103202	0.00032446	0.007509673	-0.195291708	0.427803226	0.456498913	0.628333714	0.226409
10350438	Kcnt2	0.351866741	0.572912672	0.013645859	0.100574035	0.000459433	0.009676066	-0.221045931	0.462389706	0.478051151	0.614171684	0.227853
10419934	Myh7	-0.186096944	-0.370283238	0.094524972	0.31857497	0.003291161	0.040169558	0.184186294	-0.278190091	0.662087903	0.502579985	0.229116
10479811	Mcm10	0.251759827	0.44510693	0.037087797	0.18589525	0.001233684	0.019840976	-0.193347103	0.348433378	0.554904078	0.565616507	0.229539
10542929	Calcr	-0.235107401	-0.434256828	0.055792184	0.236510946	0.001891283	0.026922746	0.199149427	-0.334682114	0.595040543	0.541401737	0.230629
10579894	Hhip	-0.338726935	-0.538410974	0.009995537	0.082550015	0.000352169	0.007936333	0.19968404	-0.438568954	0.455308197	0.629123385	0.231518
10601326	Uprt	0.230024864	0.454994497	0.092743205	0.315855248	0.003287693	0.040146768	-0.224969633	0.342509681	0.656827079	0.505555266	0.231692
10590628	Ccr3	1.225404439	1.712686989	0.000639036	0.012183844	3.01E-005	0.001273293	-0.48728255	1.469045714	0.331700059	0.715486511	0.232033
10490818	Stmn2	-0.518563487	-0.779250925	0.003716262	0.042099263	0.000142976	0.004146777	0.260687438	-0.648907206	0.401732999	0.665464063	0.2323
10577973	Adrb3	-0.437468867	-0.670334809	0.005453017	0.054717768	0.000203087	0.005324666	0.232865943	-0.553901838	0.420410128	0.652612487	0.232748
10600082	Nsdhl	0.328691637	0.583667277	0.040059349	0.194858035	0.001369858	0.021466123	-0.25497564	0.456179457	0.558937138	0.563148989	0.233067
10488415	Cst3	-0.272035268	-0.519865338	0.074193336	0.278452915	0.002608126	0.033913568	0.24783007	-0.395950303	0.62591206	0.523280258	0.233167
10515803	1110020C03Rik	-0.256669066	-0.454218463	0.04009043	0.194968009	0.001407953	0.021929217	0.197549397	-0.355443765	0.555782422	0.565078453	0.236623
10381298	Ramp2	-0.471248886	-0.807426909	0.02881126	0.159840307	0.001014771	0.017213996	0.336178024	-0.639337898	0.525822143	0.58364278	0.23718
10489909	Ube2v1	-0.330325078	-0.505675992	0.00571836	0.056693268	0.000218913	0.005658672	0.175350914	-0.418000535	0.419499257	0.653234647	0.237261
10580885	Csnk2a2	0.281467205	0.473698742	0.023660614	0.142112665	0.000841222	0.014953252	-0.192231537	0.377582974	0.509110713	0.594190316	0.238069
10395356	Agr3	-0.325494861	-0.522252926	0.012650498	0.095672651	0.000463051	0.009739519	0.196758065	-0.423873893	0.464190099	0.623251388	0.238792
10503723	Mdn1	0.191488628	0.375832881	0.092858781	0.315988225	0.003477186	0.04166779	-0.184344253	0.283660755	0.649875778	0.509504722	0.238868
10603860	Cfp	0.325785161	0.528411061	0.015122659	0.107645152	0.000556109	0.01103984	-0.2026259	0.427098111	0.474424716	0.616537361	0.240677
10452648	Emilin2	0.324081057	0.522987604	0.014129238	0.102797416	0.000522361	0.010565767	-0.198906546	0.42353433	0.469635003	0.619672541	0.240983
10607705	S100g	-0.512257448	-0.741333945	0.001884964	0.026252441	8.29E-005	0.002734382	0.229076497	-0.626795696	0.365472352	0.690994189	0.241599
10498357	F630111L10Rik	0.312653779	0.605382813	0.08842266	0.306591147	0.003434331	0.041366689	-0.292729034	0.459018296	0.637728467	0.516456319	0.244426
10495343	Wdr47	-0.197086304	-0.378418911	0.085001736	0.299992246	0.003347037	0.040556413	0.181332608	-0.287752608	0.630168426	0.520815154	0.246798
10395259	Nampt	0.319452424	0.545012276	0.031084497	0.167129631	0.001193871	0.019305219	-0.225559852	0.43223235	0.521848612	0.586138034	0.249181
10446470	Gm9984	-0.365904829	-0.561704157	0.007463518	0.068151402	0.000311247	0.007276045	0.195799329	-0.463804493	0.422159189	0.651419121	0.252812
10584628	Thy1	0.48153556	0.707564077	0.00323298	0.038312156	0.000145656	0.004182226	-0.226028517	0.594549819	0.380167498	0.680553996	0.253819
10358670	Hmcn1	-0.270244527	-0.451781253	0.026224481	0.151879506	0.001051139	0.017599889	0.181536726	-0.36101289	0.502853861	0.598175611	0.255107
10358583	Hmcn1	-0.258827356	-0.45393195	0.04366735	0.205397387	0.001756922	0.025565009	0.195104594	-0.356379653	0.547462774	0.570189775	0.255123
10545065	Gprin3	-0.304798572	-0.486455892	0.014517643	0.104669028	0.000596888	0.011633204	0.18165732	-0.395627232	0.459162832	0.626569802	0.256421
10502770	Lphn2	-0.410348837	-0.797082586	0.098944054	0.326555564	0.004277549	0.047956255	0.386733749	-0.603715712	0.640589173	0.514813452	0.257564
10352936	Sox17	-0.367227558	-0.548714253	0.004921985	0.050983529	0.000220698	0.00568762	0.181486695	-0.457970905	0.396284334	0.669250991	0.258892
10498978	Lrat	-0.47574395	-0.685521739	0.002288042	0.030335461	0.000110893	0.003380523	0.209777789	-0.580632844	0.361291633	0.693988131	0.259901
10484283	Pde1a	0.306020674	0.481967153	0.012698231	0.095892375	0.000544068	0.010900098	-0.17594648	0.393993913	0.446571568	0.634940932	0.261625
10424584	Dennd3	-0.368048673	-0.550570257	0.005249167	0.053192116	0.000238642	0.005999466	0.182521583	-0.459309465	0.397382587	0.668486299	0.261834
10447317	Epas1	-0.429169279	-0.67125914	0.011465367	0.089626867	0.000495034	0.010211815	0.242089861	-0.55021421	0.439992019	0.639349625	0.262004
10504743	Nans	0.316289426	0.491804073	0.010464092	0.084868832	0.000454568	0.00962695	-0.175514648	0.404046749	0.434391931	0.643120793	0.262174
10487588	Il1a	0.499229262	0.804853199	0.017980613	0.119806559	0.000764868	0.013953537	-0.305623937	0.65204123	0.468718729	0.620273688	0.262617
10553336	Zdhhc13	0.403919217	0.615071046	0.007433001	0.067961708	0.000331896	0.007626785	-0.211151829	0.509495132	0.414433458	0.656703351	0.263081
10564527	Nr2f2	-0.225150317	-0.408051707	0.063475506	0.254576452	0.002779932	0.035338972	0.18290139	-0.316601012	0.577703113	0.551769085	0.264895

10439312	Cd86	0.508752177	0.763971102	0.005910133	0.057983265	0.000271778	0.00659358	-0.255218926	0.636361639	0.40105957	0.665931179	0.265045
10519857	Hgf	-0.296582145	-0.472036928	0.015494191	0.109259583	0.000674477	0.012683128	0.175454782	-0.384309536	0.456545481	0.628302847	0.265289
10397633	Flrt2	0.378561546	0.599740998	0.01468814	0.105529525	0.000645588	0.012302116	-0.221179452	0.489151272	0.45216984	0.631208383	0.266425
10514510	Cyp2j6	-0.252208295	-0.429730416	0.036561137	0.184154486	0.001593158	0.023767516	0.17752212	-0.340969356	0.520639516	0.58689887	0.267165
10351788	Pigm	0.262545074	0.459734828	0.048067686	0.217125459	0.002114032	0.029142308	-0.197189754	0.361139951	0.546020328	0.571079365	0.267501
10373073	D10Ertd610e	-0.295022111	-0.4722642	0.017251333	0.116743269	0.000759496	0.013890484	0.17724209	-0.383643156	0.461997268	0.624697172	0.267552
10468159	Ldb1	-0.216976471	-0.382706499	0.051455744	0.226352361	0.002271854	0.030772527	0.165730028	-0.299841485	0.552725478	0.566952668	0.267673
10420637	Kpna3	0.344198563	0.573941019	0.029070374	0.160710393	0.001272177	0.02026954	-0.229742457	0.459069791	0.500452134	0.599710686	0.268015
10567464	Dnahc3	-0.318769892	-0.513019237	0.018854522	0.123607846	0.000835469	0.014892002	0.194249346	-0.415894565	0.46706392	0.621360504	0.268924
10515771	Tie1	-0.239332552	-0.428051283	0.058932842	0.243785364	0.002648912	0.03425303	0.18871873	-0.333691917	0.565547802	0.559121213	0.269312
10385837	Il13	0.392713448	0.593163112	0.007118895	0.065824131	0.000335021	0.007671113	-0.200449664	0.49293828	0.406642519	0.662066538	0.27075
10475218		-0.379745225	-0.629484221	0.028265415	0.158409755	0.001270636	0.020260477	0.249738996	-0.504614723	0.494910244	0.603264089	0.272016
10554839	Picalm	0.288127164	0.486959047	0.035782941	0.181876539	0.001631568	0.024179607	-0.198831882	0.387543106	0.513057462	0.591686645	0.273943
10523563	Cds1	-0.197868391	-0.364027206	0.076806462	0.28337908	0.003641238	0.042951887	0.166158815	-0.280947799	0.591422378	0.543553855	0.274443
10502405	Metap1	0.260171609	0.426829365	0.025694215	0.150163732	0.001176994	0.019084702	-0.166657756	0.343500487	0.48517473	0.609544774	0.274776
10424349	Sqle	0.244811251	0.414982417	0.038309355	0.189867642	0.001794769	0.025934525	-0.170171166	0.329896834	0.515831461	0.589931624	0.277849
10468916	Fam171a1	-0.228428711	-0.409334376	0.065862896	0.260493434	0.003228763	0.039615626	0.180905665	-0.318881544	0.567313063	0.558049175	0.281186
10461979	Aldh1a1	-0.375629036	-0.568864425	0.008683552	0.075187505	0.00043388	0.00929275	0.193235389	-0.472246731	0.409183117	0.66031381	0.282231
10587241	Hmgcll1	-0.223765107	-0.4088757	0.077594753	0.284895166	0.003890955	0.045048731	0.185110593	-0.316320403	0.585199663	0.547269272	0.282702
10391332	Ptrf	-0.245397102	-0.432298898	0.05812175	0.241990118	0.002871261	0.036323073	0.186901797	-0.338848	0.551580049	0.567656089	0.283526
10406551	Ssbp2	-0.26780986	-0.451414787	0.038157383	0.189480306	0.00185834	0.026603383	0.183604927	-0.359612324	0.510563501	0.593267805	0.283769
10389627	Rad51c	0.324784506	0.518752906	0.020239778	0.128911818	0.000991416	0.016908746	-0.1939684	0.421768706	0.459892821	0.626087107	0.284567
10511835	Fhl5	0.308914271	0.523372678	0.041001489	0.197638729	0.002026769	0.028288797	-0.214458407	0.416143475	0.515347277	0.590237672	0.285796
10596575	Manf	0.481185815	0.685319783	0.002644026	0.033464917	0.000148915	0.004247055	-0.204133969	0.583252799	0.349992266	0.702133261	0.286854
10364011	Cytsa	-0.370761304	-0.542771219	0.004913272	0.050938522	0.000263909	0.006457589	0.172009915	-0.456766261	0.376581919	0.683089469	0.28768
10367434	ENSMUSG000000 65996	-0.345262116	-0.517250718	0.007781782	0.069913467	0.000407259	0.00887477	0.171988602	-0.431256417	0.398808215	0.667494706	0.288639
10368317	Enpp3	0.382453271	0.581606293	0.01019251	0.083585092	0.000527219	0.010630527	-0.199153022	0.482029782	0.413155015	0.65758104	0.28922
10439483	Cdgap	-0.269050139	-0.487914919	0.077228685	0.28416082	0.004055523	0.046121917	0.21886478	-0.378482529	0.578269176	0.551428391	0.289801
10592533		-0.258316246	-0.440926858	0.046916578	0.214585662	0.00243288	0.032339286	0.182610612	-0.349621552	0.522309369	0.58584829	0.292548
10456289		-0.254238836	-0.441562618	0.056657255	0.238562734	0.003024226	0.037737395	0.187323782	-0.347900727	0.53844033	0.575770741	0.295704
10585194	Il18	-0.851445754	-1.203440647	0.002595678	0.033048547	0.000155903	0.004378259	0.351994893	-1.027443201	0.342593044	0.707509553	0.297589
10461775	Gm5244	0.456902547	0.656629614	0.003957133	0.043970431	0.000232637	0.005912207	-0.199727067	0.55676608	0.358727075	0.695829943	0.300053
10542414	Ptpro	0.243471518	0.426319219	0.063107747	0.253696109	0.003490121	0.041771998	-0.182847701	0.334895369	0.545984561	0.571101436	0.300265
10523145	Cxcl15	0.334350268	0.48808371	0.005616408	0.055920073	0.000324281	0.007509673	-0.153733442	0.411216989	0.373849928	0.685026485	0.301425
10395103	Pxdn	-0.331113591	-0.50300654	0.011848167	0.091574453	0.000661346	0.012491123	0.171892948	-0.417060066	0.412153937	0.65826896	0.302852
10421269	Sorbs3	-0.430335633	-0.626134535	0.005546284	0.055415341	0.000328039	0.007551669	0.195798903	-0.528235084	0.370666221	0.687289406	0.305387
10416406	Htr2a	0.268343221	0.45948494	0.054201107	0.232764601	0.003079608	0.038279596	-0.191141719	0.36391408	0.525238591	0.58400874	0.306003
10499113	Gm1019	-0.266084944	-0.449517268	0.047746978	0.216633428	0.00270047	0.034692524	0.183432324	-0.357801106	0.512665615	0.591934866	0.306215
10384622	Ehbp1	-0.214728317	-0.382118571	0.076014652	0.281852067	0.00445771	0.049360654	0.167390254	-0.298423444	0.560915226	0.56194159	0.307375
10518300	Tnfrsf1b	0.386851959	0.55913448	0.004967139	0.051244582	0.000299535	0.007066598	-0.172282521	0.472993219	0.364238882	0.691876413	0.307389
10525733	Setd8	0.298022598	0.493470049	0.03927547	0.192868331	0.002223484	0.030309292	-0.195447451	0.395746323	0.493870541	0.603932496	0.307429
10557470	Gdpd3	-0.341428013	-0.501738518	0.006962575	0.064775415	0.00041103	0.008918269	0.160310506	-0.421583266	0.380258229	0.680489937	0.307598
10566350	A530023O14Rik	-0.220274895	-0.383509225	0.063739271	0.255434754	0.003695951	0.04341861	0.16323433	-0.30189206	0.540704283	0.574366614	0.307721
10595909		0.279876819	0.45094824	0.028884086	0.160094305	0.001632701	0.024182437	-0.171071421	0.365412529	0.468159703	0.620640672	0.307934
10405058	Omd	-0.417644571	-0.698703646	0.044418854	0.207562926	0.00255078	0.033507384	0.281059075	-0.558174109	0.503532985	0.597742081	0.30913
10492522	Schip1	-0.240667692	-0.39832624	0.039746548	0.194030886	0.002276183	0.03081126	0.157658548	-0.319496966	0.493458669	0.604197434	0.309248
10345666	Pdcl3	-0.230700453	-0.392689859	0.052810854	0.229132692	0.003062984	0.038109873	0.161989406	-0.311695156	0.519704599	0.587487677	0.309541
10396608	Syne2	-0.397923531	-0.561478832	0.003036314	0.036730948	0.000193797	0.005149476	0.163555301	-0.479701182	0.340952466	0.708706203	0.310638
10445308	Cyp39a1	-0.270954889	-0.437888634	0.031301072	0.167766951	0.001819445	0.026207358	0.166933745	-0.354421762	0.47100309	0.618775798	0.312423
10406031	Lpcat1	-0.217905713	-0.378521366	0.065053267	0.258401	0.003898237	0.045092361	0.160615653	-0.29821354	0.538592757	0.575676126	0.312822
10580033	Cd97	-0.391102509	-0.61667392	0.023063205	0.140081956	0.001344082	0.021178582	0.22557141	-0.503888215	0.447661612	0.634212826	0.312906
10352717	Batf3	0.225200035	0.386540021	0.058781656	0.243395315	0.003508303	0.041884248	-0.161339986	0.305870028	0.5274789	0.582604706	0.31324
10492335	Rap2b	0.322535645	0.502306822	0.019859339	0.127405528	0.001172744	0.019027802	-0.179771176	0.412421234	0.435892146	0.642108829	0.314809
10556509	Spon1	-0.346585705	-0.511288368	0.008384037	0.07342254	0.000514899	0.010482369	0.164702663	-0.428937036	0.383978647	0.677867377	0.31622
10505894	Mtap	0.293653019	0.469677047	0.029474419	0.162210416	0.0017819	0.025823294	-0.176024028	0.381665033	0.4612003	0.62522327	0.319047

10358589	Hmcn1	-0.572716657	-0.814765043	0.004327646	0.046425458	0.000286326	0.006843021	0.242048386	-0.69374085	0.348903176	0.702922471	0.321965
10418480	Gnl3	0.34863463	0.520851117	0.01135779	0.089343135	0.000712903	0.01325039	-0.172216488	0.434742874	0.396134124	0.669355634	0.322465
10376577		-0.347998279	-0.602471303	0.068338878	0.265856672	0.004369428	0.048635939	0.254473024	-0.475234791	0.535468003	0.577618016	0.322917
10410766	Nr2f1	-0.304496274	-0.481829796	0.027212032	0.155182945	0.001698112	0.024906932	0.177333522	-0.393163035	0.451043223	0.631958165	0.324471
10407563		-0.296206469	-0.485465392	0.042254296	0.201414541	0.002707978	0.034736312	0.189258922	-0.39083593	0.484241359	0.610149507	0.327641
10551025	Cd79a	0.364553246	0.588703501	0.035925705	0.182277327	0.002294083	0.030926746	-0.224150254	0.476628373	0.470283069	0.619247628	0.327794
10402864	Igh	0.291355761	0.442768982	0.016019108	0.111159356	0.00102684	0.01730622	-0.151413221	0.367062372	0.41249998	0.658031102	0.328063
10561854	Tbcb	0.284544324	0.447894673	0.026829198	0.154026361	0.001726755	0.025226156	-0.163350349	0.366219498	0.446044926	0.635292941	0.329759
10556583	Nucb2	0.308327514	0.500512615	0.038882319	0.191527055	0.002519914	0.033186997	-0.192185101	0.404420065	0.475211588	0.616023462	0.329979
10357191	Ptpn4	-0.287316461	-0.474953943	0.047203857	0.21532408	0.003081682	0.038286837	0.187637482	-0.381135202	0.492312126	0.604935416	0.330063
10412882	Thrb	-0.260190639	-0.441629741	0.061843977	0.250747972	0.004148497	0.046867797	0.181439102	-0.35091019	0.517052817	0.589160137	0.332184
10606071	Ercc6l	0.384544056	0.555406402	0.006908	0.064492231	0.000470726	0.009839255	-0.170862346	0.469975229	0.363556068	0.692365184	0.332684
10344750	Sgk3	0.3252543	0.517485084	0.031808173	0.16937079	0.002094444	0.028951239	-0.192230784	0.421369692	0.456204581	0.628528841	0.333428
10446986	Crim1	-0.325553155	-0.491268428	0.015402166	0.108781827	0.001024024	0.017292527	0.165715273	-0.408410792	0.405756352	0.662678765	0.334276
10440600	Cct8	0.331126482	0.489516452	0.010988492	0.087349835	0.000740629	0.013607982	-0.15838997	0.410321467	0.386014338	0.67643586	0.334741
10376094		0.225877482	0.375657657	0.052489056	0.228740911	0.003554386	0.042239672	-0.149780175	0.30076757	0.497993103	0.601285446	0.335453
10484402	Ctnnd1	-0.274695205	-0.42143048	0.020500795	0.129737282	0.001381366	0.021589501	0.146735275	-0.348062842	0.421576959	0.651816179	0.337544
10473399	Prg2	0.448394485	0.668467264	0.013171056	0.098310428	0.000897391	0.015766078	-0.220072779	0.558430874	0.394091352	0.670780021	0.337818
10420114	Tgm1	0.343886841	0.512513666	0.013203217	0.098403073	0.000902701	0.015794501	-0.168626825	0.428200253	0.393803655	0.670980822	0.338448
10528038	Adam22	-0.259889753	-0.431966239	0.054904138	0.234435009	0.003861496	0.044889895	0.172076485	-0.345927996	0.497434401	0.60164367	0.341576
10495134	Gm4248	0.305478314	0.452090918	0.012834985	0.096596624	0.000916324	0.015956724	-0.146612604	0.378784616	0.387060608	0.675701064	0.346059
10427895	Basp1	0.405034088	0.582765169	0.007694828	0.069446779	0.000563097	0.011161051	-0.177731081	0.493899629	0.359852631	0.695021099	0.346717
10359624	Prrx1	0.254627601	0.416865297	0.049353474	0.220245579	0.003555609	0.042239672	-0.162237696	0.335746449	0.483214927	0.61081506	0.346747
10576581	Kcnk1	0.408419129	0.575718849	0.005157097	0.052642046	0.00039079	0.00862493	-0.16729972	0.492068989	0.339992406	0.709407257	0.349009
10445347	Clic5	-0.365829266	-0.55709521	0.021104662	0.132347869	0.001526955	0.02302449	0.191265944	-0.461462238	0.414477997	0.65667279	0.350248
10413461	Erc2	-0.260233384	-0.429956797	0.055677984	0.236285434	0.004119296	0.046640531	0.169723412	-0.345095091	0.491816363	0.605254729	0.350308
10462237	Smarca2	-0.256358409	-0.412181124	0.042222502	0.201368855	0.003092397	0.038345717	0.155822715	-0.334269766	0.466158567	0.621955722	0.350811
10591816	Dpy19l1	0.41102924	0.592796748	0.008686995	0.075187505	0.000652131	0.012399175	-0.181767508	0.501912994	0.362149438	0.693372966	0.352503
10589350	Shisa5	0.379346696	0.591127146	0.029792631	0.162963706	0.002193791	0.030016117	-0.21178045	0.485236921	0.436447519	0.641734521	0.353265
10499988	2310007A19Rik	-0.271054637	-0.435437668	0.042911249	0.202994094	0.003195757	0.039285766	0.164383031	-0.353246153	0.465349813	0.622487802	0.353679
10361882	Nhsl1	-0.22942889	-0.375336037	0.052415929	0.228539504	0.003962917	0.045431065	0.145907148	-0.302382463	0.482525164	0.61126262	0.354754
10370544	2610008E11Rik	-0.253792493	-0.395943693	0.030859459	0.166372738	0.002299692	0.030969835	0.1421512	-0.324868093	0.437565902	0.640981274	0.355329
10601421	A630033H20Rik	0.615702294	0.878753901	0.007528757	0.068514801	0.000584383	0.011472304	-0.263051607	0.747228098	0.352036557	0.700653839	0.35748
10358587	Hmcn1	-0.397800752	-0.625944262	0.035533427	0.181182361	0.002710645	0.034736312	0.22814351	-0.511872507	0.445703778	0.635521046	0.359045
10483178	Cobll1	-0.221974717	-0.363767247	0.056078759	0.237099255	0.004403231	0.048948518	0.14179253	-0.292870982	0.484146736	0.610210839	0.360854
10346000	Gulp1	-0.263691137	-0.415820596	0.037236119	0.186420265	0.002879588	0.036392549	0.152129459	-0.339755867	0.447761096	0.634146407	0.361297
10561702	Kcnk6	0.276252093	0.414269547	0.019122057	0.124638128	0.001479264	0.02253397	-0.138017454	0.34526082	0.399748382	0.66684142	0.362277
10428232	Rrm2b	-0.305188353	-0.463955405	0.023792076	0.142486003	0.001854817	0.02656777	0.158767052	-0.384571879	0.412841032	0.657796741	0.363907
10498367	P2ry13	0.366882312	0.521055777	0.007788982	0.069953672	0.000637264	0.012188737	-0.154173464	0.443969045	0.347261743	0.704113319	0.367767
10485711	Fibin	-0.289198009	-0.446851625	0.031009914	0.16697346	0.002483004	0.032867167	0.157653615	-0.368024817	0.428377675	0.647190238	0.368411
10447118	Gm9959	-0.310061219	-0.469945614	0.0243912	0.144802899	0.001969433	0.027714582	0.159884396	-0.390003416	0.409956397	0.659781067	0.370392
10459262	Ablim3	-0.301705261	-0.447535175	0.017802741	0.119062212	0.001445847	0.022285348	0.145829914	-0.374620218	0.389274009	0.67414871	0.371169
10431035	Ttll12	0.308555367	0.455884811	0.016720069	0.114589347	0.001359769	0.021347121	-0.147329444	0.382220089	0.385457093	0.676827478	0.371253
10578222	Dlc1	-0.271206174	-0.433249224	0.047655989	0.216633428	0.003955164	0.045423337	0.16204305	-0.352227699	0.460051979	0.625981904	0.372544
10506050	Nfia	-0.306225062	-0.480736258	0.040271036	0.195291317	0.003373006	0.040781121	0.174511196	-0.39348066	0.443506412	0.636991816	0.375511
10604944	Gabre	-0.299288911	-0.432492595	0.0121324	0.092959533	0.001021252	0.017268438	0.133203685	-0.365890753	0.364053159	0.692009329	0.376409
10456653	Myo5b	-0.304155246	-0.459915422	0.025578773	0.14969356	0.002153569	0.029536427	0.155760176	-0.382035334	0.40771144	0.661328652	0.378183
10411668	Ocln	-0.360116873	-0.509236086	0.008230838	0.072526316	0.00071143	0.013242187	0.149119213	-0.43467648	0.34305793	0.707170765	0.378826
10415784	Trim13	-0.273464308	-0.417969013	0.030262023	0.164290523	0.002582284	0.033748512	0.144504705	-0.34571666	0.417985945	0.654269335	0.380351
10382435	Gprc5c	-0.306288023	-0.468340328	0.031278492	0.167739661	0.002710156	0.034736312	0.162052305	-0.387314176	0.418400139	0.653986012	0.383129
10604906	Ids	-0.3440072	-0.48519326	0.008370067	0.073400365	0.000743255	0.013636797	0.14118606	-0.41460023	0.340535411	0.709010674	0.384232
10567049	Copb1	0.374837153	0.532457755	0.009862898	0.081849613	0.000877635	0.015471929	-0.157620601	0.453647454	0.347451749	0.703975386	0.385866
10403558	Ero1lb	0.386692899	0.567136508	0.017896521	0.11944043	0.001586985	0.023738193	-0.180443609	0.476914703	0.378356146	0.681833903	0.387911
10373834	Sec14l4	-0.273532372	-0.419165337	0.033871317	0.176243456	0.003023118	0.037737395	0.145632966	-0.346348855	0.420480575	0.652564388	0.388437
10578322	Pdgfrl	0.322032019	0.466847905	0.015075737	0.107400507	0.001354261	0.021286699	-0.144815886	0.394439962	0.367143037	0.689800716	0.38994
10403455	Dip2c	-0.246129115	-0.384543324	0.043804241	0.205712987	0.003995112	0.045613167	0.138414209	-0.31533622	0.438941675	0.640055619	0.390952

10494428	Txnip	-0.362981582	-0.513724198	0.009846094	0.081790148	0.00090159	0.015794501	0.150742616	-0.43835289	0.343884161	0.706568979	0.391479
10385153	Ccdc99	0.54614532	0.768932685	0.009090857	0.077600309	0.000843124	0.014976678	-0.222787365	0.657539002	0.33882	0.710264151	0.39344
10458828	Cdo1	-0.310927938	-0.46156718	0.02297207	0.139693697	0.002094406	0.028951239	0.150639242	-0.386247559	0.390006975	0.673635283	0.393485
10457071	Cyb5	-0.389221282	-0.5613832	0.015921632	0.110902703	0.001521331	0.022970303	0.172161919	-0.475302241	0.362215668	0.693325489	0.402229
10374590	Xpo1	0.303552787	0.4365412	0.015234783	0.108053718	0.001461046	0.022341715	-0.132988413	0.370046994	0.359382498	0.695358851	0.402824
10444407	Ager	-0.322976558	-0.499321782	0.043293785	0.204276633	0.004205522	0.047386889	0.176345224	-0.41114917	0.428908137	0.646830499	0.403201
10603425	Glod5	0.373779251	0.530850867	0.012491844	0.094779972	0.001217424	0.019628675	-0.157071616	0.452315059	0.347261523	0.704113479	0.405245
10552917	1700039E15Rik	0.245511778	0.377318344	0.04185041	0.200189403	0.00414327	0.046833829	-0.131806566	0.311415061	0.423250454	0.650675436	0.40718
10433264	Glis2	-0.258215261	-0.385610517	0.028899862	0.160147161	0.002833676	0.035936162	0.127395255	-0.321912889	0.3957445	0.669627124	0.407285
10481678	6330409D20Rik	-0.305213201	-0.455900844	0.029017963	0.16052437	0.002846669	0.036065297	0.150687643	-0.380557022	0.395966003	0.66947277	0.40737
10553559	Siglech	0.303371637	0.445769608	0.022913388	0.139535194	0.002246836	0.030546502	-0.142397971	0.374570623	0.380163212	0.680557022	0.407749
10358535	Hmcn1	-0.585567644	-0.84377601	0.017581832	0.118166852	0.001764847	0.025652954	0.258208366	-0.714671827	0.361296411	0.693984703	0.412277
10590060	Ctdspl	-0.271450565	-0.404639332	0.029814727	0.163034601	0.003008917	0.037619524	0.133188767	-0.338044949	0.39399721	0.670845723	0.412886
10593449	Layn	-0.267283156	-0.403895458	0.03596095	0.182388782	0.003654632	0.043090074	0.136612302	-0.335589307	0.407081809	0.661763213	0.413376
10417124	B930095G15Rik	-0.336214343	-0.490311006	0.022324267	0.137085956	0.00228345	0.030857755	0.154096663	-0.413262674	0.37287825	0.685716492	0.416184
10497998		0.29732751	0.429287231	0.019429268	0.125931841	0.002007114	0.028106167	-0.131959722	0.36330737	0.363217849	0.692607392	0.418176
10495035	Slc16a1	0.28078307	0.409826782	0.023560952	0.141923767	0.00245604	0.03257966	-0.129043712	0.345304926	0.373709446	0.685126209	0.419945
10592061	Kcnj5	-0.31699526	-0.461310102	0.022521176	0.137932129	0.002348255	0.031425975	0.144314842	-0.389152681	0.370843756	0.687163057	0.420043
10442240	Zfp760	-0.274388489	-0.400744962	0.024220651	0.144165035	0.002546406	0.033467046	0.126356473	-0.337566726	0.374315545	0.684696041	0.421624
10393449	Socs3	0.368395168	0.527830383	0.017783756	0.118966235	0.001870826	0.026734324	-0.159435215	0.448112776	0.355792612	0.697942331	0.421767
10523182	Areg	0.290299961	0.410206296	0.014009492	0.102255463	0.001483779	0.022570317	-0.119906335	0.350253128	0.342341939	0.707692602	0.42256
10589685	Lrrc2	-0.434551267	-0.624007392	0.018724143	0.123107402	0.001980787	0.027814012	0.189456125	-0.52927933	0.357951112	0.696388012	0.422963
10391103	Jup	-0.284262067	-0.421131143	0.031046735	0.167031563	0.003338752	0.040495537	0.136869075	-0.352696605	0.388064624	0.674996547	0.425461
10429446	Gm628	-0.303076622	-0.43122301	0.017623584	0.118264613	0.001944209	0.02743483	0.128146388	-0.367149816	0.349030239	0.702830356	0.431487
10477237	BC020535	-0.284310163	-0.416457159	0.029423577	0.16206961	0.003328947	0.040438907	0.132146997	-0.350383661	0.377149426	0.682687658	0.436039
10556216	Ipo7	0.346994863	0.488708266	0.015984931	0.111072339	0.001827202	0.026287927	-0.141713403	0.417851564	0.339147715	0.710024542	0.438694
10344981	Pi15	0.311490554	0.44805556	0.022943783	0.139616406	0.002621234	0.033997891	-0.136565006	0.379773057	0.359596353	0.695205197	0.438713
10375167	Gm6041	0.306007697	0.43835087	0.022449566	0.137624903	0.002615605	0.033952574	-0.132343173	0.372179283	0.355589843	0.69808849	0.442821
10578950	Gm10664	-0.277144775	-0.394278801	0.021465489	0.133797033	0.002575448	0.03369276	0.117134027	-0.335711788	0.348912462	0.702915738	0.449016
10606445	Rps6ka6	-0.293934748	-0.426780161	0.031483912	0.168389363	0.003909322	0.045118924	0.132845413	-0.360357455	0.368648994	0.688726363	0.4551
10436451	Stx19	-0.30074364	-0.422260865	0.019724077	0.126886618	0.002508219	0.033083747	0.121517226	-0.361502253	0.336145141	0.712222383	0.461411
10533844	Rilpl2	0.293199401	0.42002327	0.028838118	0.159874043	0.003760684	0.043979073	-0.126823869	0.356611335	0.355636114	0.698055135	0.465931
10493626	1700094D03Rik	-0.439821352	-0.631570142	0.029933803	0.163407245	0.003908542	0.045118924	0.19174879	-0.535695747	0.357943462	0.696393516	0.466034
10382425	Gprc5c	-0.289119552	-0.404062362	0.020603174	0.130256716	0.002755632	0.035170859	0.11494281	-0.346590957	0.331638226	0.715532005	0.472258
10492205	Eif2a	0.339517248	0.483573813	0.029964793	0.163461976	0.004134298	0.046789748	-0.144056565	0.411545531	0.350037976	0.702100153	0.477912
10561128	Cyp2s1	-0.265947574	-0.374948112	0.026950532	0.154515579	0.00379766	0.044279472	0.109000539	-0.320447843	0.340150639	0.709291672	0.482981
10420785	Mtmr9	-0.348234303	-0.488338969	0.027782415	0.156775595	0.004111829	0.046576531	0.140104666	-0.418286636	0.334948942	0.713099557	0.493661

Dataset S 1B: Genes showing a larger saline to OVA differential in NIH than congenic *Tgfbm2/3* mice

ΔNIH S-O > Δ*Tgfbm2/3* S-O

Probe ID	GeneName	logFC.NIH	logFC. Tgfbm2/3	P.Value.NIH	adj.P.Val.NIH	P.Value. Tgfbm2/3	adj.P.Val. Tgfbm2/3	M = logFC diff	A = logFC avg	Abs(M/A)	Abs logFC ratio	P.Value. Interaction
10362424	Trdn	-1.172676654	0.323996161	8.08E-007	9.78E-005	0.031067767	0.183616728	-1.496672814	-0.424340246	3.527058361	3.619415277	2.53E-006
10555889	Olfr663	-0.427185024	0.265198576	0.00105079	0.017506811	0.021907864	0.147148196	-0.6923836	-0.080993224	8.548660787	1.610811909	0.000341884
10423738		-0.640193698	0.041703266	7.30E-005	0.002537799	0.716828929	0.897772271	-0.681896964	-0.299245216	2.278723026	15.3511645	0.000878445
10402981	Gm900	0.781030118	0.085485857	1.44E-005	0.000754561	0.476457938	0.773396721	0.695544261	0.433257987	1.605381277	9.136366479	0.000997005
10351043		1.062617294	0.4529782	2.36E-007	3.82E-005	0.001129997	0.018545245	0.609639094	0.757797747	0.804487867	2.345846429	0.00164867
10392096		0.596668705	-0.056813921	0.000221377	0.00564842	0.638873746	0.860573601	0.653482626	0.269927392	2.420957061	10.50215679	0.00178729
10503613	Gm11878	0.808835952	-0.01480398	0.000114454	0.003476705	0.922418796	0.975183637	0.823639932	0.397015986	2.074576243	54.63638366	0.00179206
10545220	Igk	1.384262829	0.537022188	6.15E-007	7.91E-005	0.004079216	0.0463093	0.84724064	0.960642509	0.881952061	2.577664124	0.00189288
10397559	Gm8655	-0.60543591	0.254275889	0.001990805	0.027282427	0.129729949	0.41812008	-0.859711799	-0.17558001	4.896410461	2.381019732	0.00193224
10473483	Olfr1029	-0.397831781	0.224440722	0.004274005	0.046094608	0.073369206	0.307016755	-0.622272502	-0.08669553	7.177676928	1.772547236	0.00212153
10538636	V1rc2	-0.485917528	0.090371311	0.000673695	0.012696338	0.42489343	0.737152048	-0.576288839	-0.197773108	2.913888767	5.376900279	0.00258124
10548314	Klrb1b	-0.3884294	0.184700419	0.003541182	0.040668933	0.115214959	0.39347227	-0.573129819	-0.101864491	5.626394575	2.103023931	0.00263766
10559580	Syt5	-0.478876743	0.096241714	0.000888836	0.015637184	0.405285127	0.722695472	-0.575118457	-0.191317514	3.006094135	4.975771116	0.00300886

10376404	Olfr320	-0.402896917	0.172506885	0.003313903	0.039036833	0.148799465	0.451463908	-0.575403801	-0.115195016	4.995040771	2.335541085	0.00309679
10551250		-0.825076236	-0.058116371	0.000100015	0.003138356	0.70451321	0.891820539	-0.766959865	-0.441596304	1.736789594	14.19696756	0.00310589
10451291	Slc22a7	-0.547979459	0.129521022	0.001199039	0.019151795	0.34795345	0.676662562	-0.677500482	-0.209229219	3.23807777	4.230814813	0.00320535
10514830	Ttc4	0.438564713	-0.11677346	0.001636839	0.023671075	0.31154225	0.644118186	0.555338173	0.160895627	3.451542988	3.75568828	0.00360208
10558673	Cyp2e1	-1.076854373	-0.431788431	2.13E-006	0.000193491	0.006755925	0.066136947	-0.645065942	-0.754321402	0.855160599	2.493939845	0.00476476
10385325	Pttg1	0.622959049	0.135555801	4.14E-005	0.001667696	0.21185178	0.538601814	0.487403248	0.379257425	1.285151498	4.595591216	0.00531692
10522494	Gm6116	-0.383920273	0.138985916	0.004535067	0.047962958	0.237428889	0.569563058	-0.522906189	-0.122467179	4.269765942	2.762296247	0.00578355
10414965		-0.611739999	0.17393735	0.003391902	0.039654451	0.328313633	0.658783172	-0.785677349	-0.218901325	3.589184992	3.51701345	0.00637644
10543017	Pdk4	-1.04655473	-0.470585571	1.46E-006	0.000144537	0.002505257	0.033078667	-0.575969159	-0.75857015	0.759282656	2.223941391	0.00656963
10521964	Gm10440	-0.4515427	0.059461926	0.001454887	0.021838623	0.605758825	0.84395911	-0.511004626	-0.196040387	2.606629351	7.593812177	0.00675156
10568480	Nsmce4a	0.373800016	-0.102535715	0.003489157	0.040305892	0.346965204	0.676115824	0.476335732	0.13563215	3.511967702	3.645559157	0.00686921
10578690	Neil3	1.30702682	0.834128621	1.56E-008	5.28E-006	2.81E-006	0.000241116	0.472898199	1.07057772	0.441722437	1.566936786	0.00789046
10350504	Gm5263	0.527312774	0.028449937	0.000463027	0.00971788	0.806471505	0.936589928	0.498862838	0.277881356	1.795236807	18.53476079	0.00841303
10591123	Fat3	-1.095173841	-0.613527892	1.87E-007	3.26E-005	8.98E-005	0.002885897	-0.481645948	-0.854350866	0.56375661	1.785043279	0.008571
10602196	Rgag1	-0.483747939	0.050463405	0.001711552	0.024433886	0.688454933	0.886915276	-0.534211344	-0.216642267	2.465868508	9.58611375	0.00892764
10451800	4921523A10Rik	-0.4283852	0.103245984	0.003987696	0.044214333	0.415768093	0.73119344	-0.531631183	-0.162569608	3.270175711	4.149170595	0.00908137
10538567	V1rc32	-0.594230623	-0.115167942	0.000131739	0.00385134	0.319234209	0.650583857	-0.479062682	-0.354699283	1.350616438	5.159687791	0.00933731
10396694	Churc1	0.408102744	-0.073061638	0.002914483	0.035759542	0.52472464	0.801506475	0.481164382	0.167520553	2.872270733	5.585732216	0.00937618
10546533		-0.412028817	0.081073922	0.003754551	0.042360845	0.500843857	0.788787588	-0.493102739	-0.165477447	2.979878814	5.082137448	0.0106474
10540296		-0.573383887	0.022572342	0.001368868	0.020914347	0.87580754	0.958085258	-0.595956229	-0.275405772	2.163920618	25.40205538	0.010691
10585377		-0.374614084	0.066428808	0.003432061	0.039933886	0.538142878	0.809722223	-0.441042892	-0.154092638	2.862193145	5.639331711	0.0108424
10492448	Ptx3	1.004688405	0.470229082	2.55E-006	0.000216178	0.002702357	0.0346994	0.534459323	0.737458743	0.72473115	2.136593512	0.0108919
10487033	Myef2	0.533573013	0.039243995	0.000616147	0.011968679	0.747135458	0.909990034	0.494329018	0.286408504	1.725957894	13.59629709	0.0115969
10566678	Olfr485	0.395710375	-0.063435117	0.00348332	0.040274716	0.578141143	0.831276617	0.459145493	0.166137629	2.763645392	6.23803331	0.0119202
10453715	Rab18	1.312631572	0.738555662	3.41E-007	5.07E-005	0.000140198	0.004083921	0.57407591	1.025593617	0.559749886	1.777295388	0.0119695
10461150		1.301270862	0.462797943	2.40E-005	0.001116424	0.041037237	0.218445417	0.838472919	0.882034402	0.95061249	2.811747291	0.01227
10442493		1.147410031	0.513906621	4.85E-006	0.000349603	0.005417026	0.056430285	0.633503409	0.830658326	0.762652211	2.232720854	0.0123385
10575144	Nip7	0.599512217	0.023632717	0.000934151	0.016168432	0.869436529	0.95651358	0.575879499	0.311572467	1.848300349	25.36789183	0.0126385
10502196	Rpl34	0.545036062	-0.04907054	0.002431282	0.031597355	0.741307398	0.906602141	0.594106601	0.247982761	2.395757667	11.10719522	0.0126755
10489528	Wfdc9	-0.492789089	-0.040878551	0.000661428	0.012529554	0.718602104	0.898795381	-0.451910538	-0.26683382	1.693602927	12.05495499	0.012885
10566800	Ascl3	-0.422871877	0.06459063	0.004280249	0.046139116	0.607009523	0.844203286	-0.487462507	-0.179140624	2.721116501	6.546953921	0.0146245
10597511	Gm5921	1.669656098	0.658122493	1.78E-005	0.000878131	0.022490797	0.149519235	1.011533605	1.163889295	0.869097782	2.536998987	0.0146475
10407803	Gpr137b	0.790142803	0.231100108	8.91E-005	0.002907358	0.127084945	0.413332028	0.559042695	0.510621455	1.094828055	3.419049908	0.0153482
10538269		0.754743889	0.341897592	6.73E-006	0.000437371	0.00612793	0.061562307	0.412846296	0.54832074	0.75292847	2.207514489	0.0153552
10568150	Kif22	0.55389459	0.093573646	0.000418011	0.009009147	0.442317132	0.749243003	0.460320944	0.323734118	1.421910507	5.919343882	0.0162912
10420155	Dhrs1	0.591064179	0.149677201	0.000183545	0.004959869	0.214532345	0.541456856	0.441386978	0.37037069	1.191743812	3.948925923	0.0174412
10482772	Nr4a2	-0.591040232	-0.176917531	0.000102659	0.003201763	0.124275205	0.408479881	-0.4141227	-0.383978881	1.078503846	3.340766896	0.017487
10550459	Gm5155	-0.477537668	-0.07580368	0.000570027	0.011333421	0.485710469	0.779690667	-0.401733988	-0.276670674	1.452029527	6.299663388	0.0185326
10606060	Gm4779	-0.390859056	0.042558221	0.00455344	0.048097815	0.715716462	0.897049836	-0.433417276	-0.174150417	2.488752438	9.184102398	0.0188342
10515090	Cdkn2c	0.38252636	-0.016984316	0.003037841	0.036730948	0.874455281	0.957739318	0.399510677	0.182771022	2.185853491	22.5223291	0.0188415
10468738	1700019N19Rik	-0.383777859	0.013427768	0.00288766	0.035488721	0.900174999	0.967347762	-0.397205626	-0.185175045	2.145027835	28.5809124	0.0190136
10577623	Gins4	0.675931079	0.246658772	4.70E-005	0.00184828	0.048734434	0.242660611	0.429272307	0.461294926	0.93058103	2.740348838	0.0190372
10538706	Mmrn1	-0.890728008	-0.456614584	3.11E-006	0.000253202	0.00159067	0.023767516	-0.434113424	-0.673671296	0.644399467	1.950721768	0.0192732
10519555	Abcb1b	0.762782476	0.260875724	7.09E-005	0.002487064	0.07274269	0.305390804	0.501906752	0.5118291	0.980613942	2.923930456	0.0197512
10541575	Clec4a4	0.573536038	0.125897614	0.000361073	0.008073199	0.313945906	0.646275727	0.447638424	0.349716826	1.280002535	4.555575115	0.0206029
10384930	4930505A04Rik	-0.484847869	-0.058629527	0.000970037	0.016577166	0.617339256	0.849735308	-0.426218341	-0.271738698	1.568485991	8.269687473	0.0206945
10490913	Car3	-1.449915421	-0.807695978	1.30E-006	0.00013294	0.000435096	0.009298954	-0.642219443	-1.128805699	0.568937102	1.795125221	0.0209434
10595094	2310046A06Rik	-0.763876755	-0.342286674	1.44E-005	0.000754561	0.010168782	0.088628962	-0.421590081	-0.553081715	0.762256407	2.231687099	0.0213646
10428004	Ankrd33b	-0.715184757	-0.32572169	1.28E-005	0.000700758	0.008644976	0.079115147	-0.389463067	-0.520453223	0.748315217	2.19569276	0.021576
10420668		0.559857902	0.031683697	0.001807293	0.025418959	0.828664445	0.942930448	0.528174205	0.295770799	1.785755071	17.67022015	0.0218336
10450694	H2-T22	0.471233038	0.062960294	0.000941777	0.016225242	0.579936241	0.83179007	0.408272745	0.267096666	1.528557996	7.484606725	0.0218365
10604743	Snord61	1.041958337	0.395486775	5.10E-005	0.001955703	0.043009774	0.224796353	0.646471562	0.718722556	0.899473039	2.63462245	0.0223378
10449363	Nudt3	0.475544554	0.027151213	0.001897148	0.026387069	0.828282881	0.942768169	0.448393341	0.251347883	1.78395511	17.51467073	0.0226119
10383309		0.912482273	0.464902502	4.88E-006	0.000349883	0.002260104	0.030633438	0.447579771	0.688692388	0.64989795	1.962739001	0.0229717
10411728	Cenph	1.458503112	0.882917137	4.37E-007	6.06E-005	8.67E-005	0.00281608	0.575585975	1.170710125	0.491655418	1.651913924	0.022973
10368886	Foxo3	-0.411471747	0.018952862	0.004049861	0.044710469	0.875130843	0.957933012	-0.430424609	-0.196259442	2.193140899	21.71026919	0.0230775

10408321	Gmnn	0.659889538	0.269661584	3.47E-005	0.001465408	0.026038691	0.164297226	0.390227954	0.464775561	0.839605148	2.447102505	0.0233147
10518855	Klhl21	-0.406566767	0.016477105	0.003982716	0.044200023	0.889745554	0.9637514	-0.423043872	-0.195044831	2.168957105	24.67464805	0.0233954
10601854	Wbp5	1.071563666	0.566165788	3.98E-006	0.000301537	0.001504149	0.022764444	0.505397878	0.818864727	0.617193368	1.892667642	0.025348
10345167	Gm9443	-0.593012032	-0.203895909	0.000117636	0.003540464	0.085610627	0.335130939	-0.389116124	-0.39845397	0.976564805	2.908405748	0.0260498
10467420	Pdlim1	0.591424027	0.118727717	0.000666338	0.012595177	0.389406003	0.710244673	0.47269631	0.355075872	1.331254381	4.981347593	0.0262011
10515282	Tspan1	0.775230912	0.361565432	1.64E-005	0.000822889	0.008632022	0.079102725	0.41366548	0.568398172	0.727774121	2.144095768	0.0266745
10585706	Cox5a	0.943032979	0.520083537	2.72E-006	0.00022456	0.00081975	0.014683428	0.422949442	0.731558258	0.578148681	1.813233668	0.0272403
10489078	Dsn1	0.70764774	0.295238462	4.50E-005	0.001786616	0.026747188	0.167205751	0.412409278	0.501443101	0.822444814	2.3968684	0.0283364
10419323	Dlgap5	1.275571169	0.803481177	3.58E-007	5.29E-005	5.01E-005	0.001895716	0.472089992	1.039526173	0.454139592	1.587555757	0.0287162
10368041	3110003A17Rik	0.814729043	0.368576116	2.51E-005	0.001156322	0.013106509	0.105436794	0.446152927	0.591652579	0.75407924	2.210477044	0.0288064
10405994	Med10	0.545893061	0.173922231	0.000202126	0.00530012	0.128272995	0.415354011	0.37197083	0.359907646	1.033517443	3.138719289	0.0288218
10419170	Txndc16	0.528691499	0.169331435	0.000199004	0.005249322	0.125841656	0.411163905	0.359360064	0.349011467	1.029651166	3.122228895	0.0289201
10353034	Snord87	1.040072029	0.516570068	1.07E-005	0.000619497	0.004512683	0.049693293	0.523501961	0.778321048	0.672604143	2.013419078	0.0289862
10576152	Trappc2l	0.509039994	0.09799415	0.000919448	0.015956992	0.426766339	0.738007033	0.411045844	0.303517072	1.354275859	5.194595721	0.0300886
10373036	Os9	0.409297299	0.033653445	0.002460481	0.031864594	0.76334312	0.917242744	0.375643854	0.221475372	1.69609763	12.16212178	0.0304483
10563939		0.521563324	0.088702363	0.001169887	0.01882674	0.494542176	0.784347555	0.432860961	0.305132843	1.418598393	5.879925949	0.0305476
10366814	Cdk4	0.591183676	0.133411053	0.00068295	0.012795587	0.336502264	0.666770119	0.457772623	0.362297364	1.263527335	4.431294589	0.0307769
10362674	Rnu3a	1.233004366	0.50097056	6.47E-005	0.002324459	0.035727222	0.201136924	0.732033806	0.866987463	0.844341858	2.461231185	0.0308847
10427667		-0.608357667	-0.14798199	0.000575574	0.011426009	0.291963921	0.626389997	-0.460375677	-0.378169828	1.217378127	4.111025051	0.0310776
10561679	Psmd8	0.908076717	0.506680928	3.51E-006	0.000277191	0.000900375	0.015794501	0.401395789	0.707378822	0.56744106	1.792206233	0.0324183
10369252	Sept10	0.42395969	0.072913188	0.001322234	0.020432445	0.496542122	0.785670642	0.351046502	0.248436439	1.413023402	5.814581726	0.0331587
10562576	Plekhf1	0.690846924	0.259171904	0.000123257	0.003666007	0.064525308	0.285459427	0.43167502	0.475009414	0.908771504	2.665593425	0.0333763
10576657		-0.403059828	-0.020928834	0.003621486	0.04130984	0.857085664	0.951748856	-0.382130995	-0.211994331	1.802552894	19.25859017	0.0337706
10547752	Gm5077	0.502019437	0.046650261	0.00268417	0.03382828	0.736877205	0.905140228	0.455369176	0.274334849	1.659902768	10.76134241	0.0339142
10445153	Olfr121	0.498825552	0.083799278	0.001503156	0.022310191	0.513423879	0.794894996	0.415026274	0.291312415	1.424677606	5.95262351	0.0349776
10404783	Edn1	-0.571853123	-0.210574542	0.000153587	0.004327417	0.074985087	0.311331189	-0.361278582	-0.391213833	0.923481103	2.715680245	0.0353351
10491780	Hspa4l	-0.572974306	-0.130933889	0.000878325	0.015505404	0.34520158	0.674758709	-0.442040417	-0.351954098	1.255960421	4.376058096	0.03595
10430425	Lgals2	-0.425011174	-0.048251689	0.002549849	0.032659438	0.679600082	0.882423876	-0.376759484	-0.236631431	1.592178529	8.808213356	0.0363372
10369885	Cisd1	0.502703646	0.147119426	0.000443347	0.009420385	0.195893555	0.517399794	0.35558422	0.324911536	1.094403184	3.416976659	0.0365114
10490047	AY702102	-0.412293537	-0.073399144	0.001504298	0.022310191	0.489082649	0.781922979	-0.338894392	-0.24284634	1.395509572	5.617143655	0.0368937
10575733	Cenpn	0.855274111	0.496358725	2.76E-006	0.000226781	0.00054587	0.010912296	0.358915387	0.675816418	0.531084148	1.723096762	0.0369543
10540028	Klf15	-0.612949307	-0.272589768	5.06E-005	0.001947039	0.02078679	0.141992793	-0.340359539	-0.442769537	0.768705863	2.24861451	0.0371227
10459844	Haus1	0.472040828	0.127606151	0.000605652	0.011821953	0.246644015	0.580317607	0.344434677	0.299823489	1.148791502	3.699201205	0.0375178
10434698	Fetub	0.789221792	0.422377268	9.03E-006	0.000543073	0.002410089	0.032116109	0.366844524	0.60579953	0.605554322	1.868523359	0.0383573
10451547	Gm16494	1.214934014	0.750691755	1.11E-006	0.000120569	0.00015442	0.004346108	0.464242259	0.982812885	0.472360778	1.618419285	0.038851
10600781	Gm4990	-0.457942116	-0.125096929	0.000636102	0.0121796	0.244630142	0.577928126	-0.332845188	-0.291519523	1.141759511	3.660698312	0.0391372
10606868	Bex1	0.77433005	0.152522532	0.001414201	0.021395099	0.44135383	0.748260905	0.621807518	0.463426291	1.34176142	5.076824	0.0393721
10406581	Dhfr	0.899144507	0.560750187	9.76E-007	0.000109292	0.000127292	0.003781622	0.338394321	0.729947347	0.463587301	1.603467156	0.0394228
10550217	Crxos1	-0.442577243	-0.085251021	0.001498933	0.022304116	0.454672287	0.757843751	-0.357326221	-0.263914132	1.353948796	5.19145971	0.0397551
10358191	Camsap1l1	-0.467298096	-0.129057381	0.000639381	0.012183844	0.240024683	0.572207074	-0.338240715	-0.298177738	1.134359383	3.620855262	0.0399376
10376887	Snord49a	0.578327203	0.114313547	0.001443655	0.021720824	0.441008079	0.747969753	0.464013656	0.346320375	1.339839322	5.05913096	0.0399733
10529799	Cpeb2	-0.409016567	-0.04522926	0.00307872	0.036996526	0.695239762	0.889521408	-0.363787307	-0.227122913	1.601719975	9.043185063	0.0401902
10414711		0.753546032	0.368375412	2.89E-005	0.001266255	0.009118496	0.081892757	0.38517062	0.560960722	0.686626719	2.045592642	0.0414776
10374790	LOC100046559	-0.619611861	-0.254850677	0.00011563	0.003495865	0.044021824	0.227996806	-0.364761184	-0.437231269	0.834252281	2.431274138	0.041889
10501895	Myoz2	-1.589242411	-1.114663286	8.60E-008	1.74E-005	4.74E-006	0.0003369	-0.474579125	-1.351952849	0.351032305	1.425760075	0.0429651
10399874	Bcap29	1.127659137	0.772630623	1.67E-007	2.95E-005	1.10E-005	0.000627574	0.355028513	0.95014488	0.37365724	1.459506137	0.0436125
10427910	Fam105b	0.612750826	0.218444161	0.000282739	0.006713541	0.103646319	0.370683255	0.394306665	0.415597493	0.948770557	2.805068461	0.0436694
10470182	Bmyc	-0.395266728	-0.060455174	0.002521811	0.032388126	0.578385438	0.831332497	-0.334811554	-0.227860951	1.469367842	6.538178646	0.0437601
10516778	Zcchc17	0.426697507	0.053825786	0.003154719	0.037593005	0.65636885	0.869737011	0.372871721	0.240261647	1.551940255	7.927380888	0.0438991
10526217	Rfc2	0.526064762	0.128512112	0.001088629	0.017900663	0.326786041	0.656950509	0.39755265	0.327288437	1.214685901	4.093503355	0.0440292
10445528	BC040756	-0.478732412	-0.117045531	0.001087234	0.017889175	0.326326385	0.656439724	-0.361686881	-0.297888972	1.214166738	4.090138321	0.0440476
10586448	2810417H13Rik	0.978586853	0.539468975	9.12E-006	0.000544224	0.001957051	0.027600873	0.439117878	0.759027914	0.578526652	1.813981708	0.044616
10502232	Aimp1	0.534360923	0.137112707	0.0009899	0.016815857	0.298315263	0.631624502	0.397248216	0.335736815	1.183213156	3.897238528	0.0448098
10415606		0.429252926	0.033790868	0.004773158	0.049884946	0.7935173	0.931432097	0.395462058	0.231521897	1.708097863	12.70322274	0.0454953
10553635	Nipa1	-0.375112412	-0.047151054	0.003533388	0.040656533	0.662718886	0.873236243	-0.327961358	-0.211131733	1.553349435	7.955546719	0.0468562
10398173	Vrk1	1.09899477	0.770935016	1.20E-007	2.30E-005	6.42E-006	0.000420075	0.328059754	0.934964893	0.350879222	1.425534899	0.0483285

10562169	Hamp	-1.692028628	-1.167903379	1.90E-007	3.30E-005	1.15E-005	0.000641871	-0.524125249	-1.429966004	0.366529867	1.448774495	0.048752
10591072	Ccdc67	0.492655833	0.150578663	0.000692442	0.012898118	0.200217669	0.52357275	0.34207717	0.321617248	1.06361575	3.271750618	0.0492895
10578427	F11	-0.455746823	-0.104284068	0.001595707	0.02319287	0.380432195	0.702615448	-0.351462755	-0.280015446	1.255154886	4.370243993	0.0496386
10538808		-0.459544284	-0.082153185	0.00255956	0.032734826	0.517754996	0.797951957	-0.377391099	-0.270848734	1.393364825	5.593748874	0.0500028
10578413	Gm5346	-0.512387659	-0.090717838	0.00264324	0.033464917	0.523587451	0.801180772	-0.421669821	-0.301552749	1.398328559	5.648146695	0.0504877
10585874	Hexa	1.310312558	0.915671057	1.54E-007	2.79E-005	8.37E-006	0.000509215	0.394641502	1.112991808	0.354577185	1.430986104	0.0507745
10475708	Blvra	0.506145683	0.143331593	0.000964201	0.016513616	0.251666542	0.586102147	0.36281409	0.324738638	1.117249528	3.531291829	0.0511608
10466903	4430402I18Rik	-0.429296131	-0.118429674	0.001072266	0.017739825	0.269668465	0.606010344	-0.310866457	-0.273862902	1.135117078	3.624903439	0.0518407
10371082	Itgb1bp3	-0.450731159	-0.11984672	0.001205155	0.019213622	0.293509724	0.62746555	-0.330884439	-0.28528894	1.159822177	3.76089691	0.0521159
10519988	AI847670	0.396102778	0.059912116	0.003485478	0.040281521	0.599583248	0.841173087	0.336190662	0.228007447	1.474472286	6.61139688	0.0522874
10545215	Igk-V28	1.012979026	0.63606014	1.87E-006	0.000177222	0.000203727	0.005325106	0.376918887	0.824519583	0.45713758	1.592583725	0.0523876
10456001	Rps14	0.587560941	0.110662173	0.002564398	0.032764052	0.496094237	0.785500393	0.476898768	0.349111557	1.366035464	5.309501199	0.0524104
10536324	Asb4	0.365862334	0.046147277	0.004325571	0.046425458	0.671001273	0.877171413	0.319715057	0.206004805	1.551978635	7.928145657	0.0528876
10360076	Ndufs2	0.503354343	0.132314502	0.001294148	0.020112497	0.303101364	0.636818025	0.371039841	0.317834422	1.167399801	3.804226573	0.0531679
10375561	Olfr1387	-0.424500666	-0.055152686	0.004271447	0.046086377	0.661190172	0.87236861	-0.36934798	-0.239826676	1.540062127	7.696826765	0.053392
10356145	Slc19a3	-1.040632355	-0.573700092	1.49E-005	0.000766541	0.002750132	0.035119592	-0.466932263	-0.807166223	0.578483402	1.813896091	0.053881
10571567	Sorbs2	-0.743883377	-0.311367593	0.000183377	0.004959869	0.050249457	0.247487675	-0.432515784	-0.527625485	0.819740132	2.389084139	0.0538907
10525103	Iqcd	-0.355090149	-0.045335435	0.004563858	0.048168216	0.669765109	0.876572429	-0.309754714	-0.200212792	1.547127492	7.832507889	0.0549437
10463981	Rbm20	-0.442146471	-0.061261092	0.004206716	0.045909007	0.639637343	0.860871716	-0.380885379	-0.251703781	1.513228674	7.217410898	0.0549928
10356999	Prdx2	0.770567662	0.29290787	0.000351573	0.007902069	0.091872211	0.348275869	0.477659791	0.531737766	0.898299541	2.63075096	0.0559461
10598612	Otc	-0.380486587	-0.069503413	0.003088984	0.037085141	0.519900124	0.799532472	-0.310983175	-0.224995	1.382178157	5.474358336	0.056505
10497048		0.435800234	0.124276197	0.001154748	0.018653282	0.258918712	0.59359486	0.311524037	0.280038216	1.112434015	3.506707185	0.0565217
10607841	Tceanc	0.422320594	0.098922802	0.001970655	0.027078568	0.382779553	0.704447493	0.323397792	0.260621698	1.240870558	4.269193602	0.0569624
10582190	Gins2	0.440238794	0.130301793	0.001058209	0.017580654	0.237190369	0.569376319	0.309937001	0.285270293	1.086467847	3.378608881	0.0573924
10355105	AF362573	0.682374658	0.360727138	2.91E-005	0.001270065	0.005672399	0.058356364	0.32164752	0.521550898	0.616713578	1.891664327	0.0574382
10428089	Nipal2	-0.565484394	-0.213873242	0.000386536	0.00851639	0.096620084	0.357303606	-0.351611152	-0.389678818	0.902310148	2.644016561	0.0576638
10420616	Sgcg	-0.560604246	-0.227825594	0.000263848	0.006379068	0.06553734	0.288340141	-0.332778652	-0.39421492	0.844155397	2.460672817	0.058179
10569069	Rps9	0.618158537	0.19249091	0.000959171	0.016464261	0.209569272	0.535672583	0.425667627	0.405324723	1.050189151	3.211364827	0.0595082
10461156	Snhg1	0.936082637	0.56073988	6.14E-006	0.000411501	0.000774269	0.014055116	0.375342757	0.748411258	0.501519388	1.66937054	0.0598416
10583441	Olfr872	-1.0726513	-0.662762454	3.96E-006	0.000300665	0.000426855	0.009191701	-0.409888847	-0.867706877	0.472381697	1.618455141	0.0614461
10542555	MGC7817	-0.407550569	-0.107701053	0.001708434	0.024416523	0.317714975	0.649085321	-0.299849516	-0.257625811	1.163895474	3.784090838	0.0615374
10510546	Eno1	0.737597666	0.372674015	5.98E-005	0.002210044	0.011557069	0.096659126	0.364923651	0.55513584	0.657359199	1.979203371	0.0629948
10540785	6720456B07Rik	0.423648617	0.07437905	0.004020502	0.044458324	0.551363844	0.816296569	0.349269567	0.249013834	1.4026111	5.695805696	0.063194
10412100	Map3k1	0.35063308	0.058680088	0.004422512	0.047122053	0.575324736	0.829999919	0.291952992	0.204656584	1.426550697	5.975333267	0.0642197
10568369	Cox6a2	-0.602960885	-0.306514315	6.01E-005	0.00221467	0.011191078	0.094677846	-0.29644657	-0.4547376	0.651906879	1.967154077	0.0645517
10608286		-0.469644568	-0.104275582	0.002822387	0.034963813	0.430074001	0.740355654	-0.365368987	-0.286960075	1.273239793	4.503878666	0.0646817
10403765	Vps41	0.606800163	0.235048398	0.000449018	0.009525114	0.094754778	0.353872494	0.371751765	0.420924281	0.883179665	2.581596676	0.0650092
10571114	Erlin2	0.474929203	0.164112489	0.000777459	0.01410305	0.156469545	0.464629835	0.310816714	0.319520846	0.972758797	2.893924803	0.0651264
10605612	Gm7197	-0.454221864	-0.109852227	0.002397514	0.031285913	0.380517323	0.70263758	-0.344369636	-0.282037045	1.221008523	4.134844369	0.0653351
10441811		0.522717908	0.137287836	0.001969043	0.027070909	0.329535359	0.659996379	0.385430073	0.330002872	1.167959752	3.807459745	0.0654821
10597648	Myd88	0.553010685	0.259605368	0.000131736	0.00385134	0.026116903	0.164507651	0.293405317	0.406308027	0.722125328	2.130197418	0.0662186
10502823	Dnajb4	-0.430456183	-0.077248586	0.004252285	0.046066063	0.546039995	0.813120299	-0.353207598	-0.253852385	1.391389719	5.572350356	0.0662753
10561552	Eif3k	0.461823578	0.132140922	0.001589721	0.023145183	0.27648685	0.612078008	0.329682656	0.29698225	1.110108956	3.494932301	0.0663141
10561306	Pld3	0.760228437	0.391943587	5.80E-005	0.002162348	0.010112582	0.088262019	0.36828485	0.576086012	0.639287957	1.939637391	0.0672075
10551282	LOC100047728	-0.489391786	-0.13857205	0.001748728	0.024799095	0.287169542	0.621821141	-0.350819736	-0.313981918	1.117324647	3.531677457	0.0683868
10474977	1500003O03Rik	0.7647258	0.319041546	0.000345501	0.007799758	0.066657596	0.291079817	0.445684254	0.541883673	0.822472195	2.396947387	0.0696361
10591118	Fat3	-1.131680364	-0.734656227	2.43E-006	0.000213242	0.000187193	0.005015534	-0.397024137	-0.933168296	0.425458236	1.540421659	0.0711226
10444306	H2-Eb2	0.480606159	0.1536249	0.001299816	0.020183706	0.215113947	0.542284894	0.326981259	0.31711553	1.031110837	3.1284392	0.0715753
10589327	Ucn2	-0.412858638	-0.123473235	0.001659398	0.023887048	0.258933268	0.59359486	-0.289385403	-0.268165937	1.079128119	3.343709568	0.0721978
10551393	Akt2	0.746890125	0.410056107	3.52E-005	0.001476842	0.005025997	0.053730649	0.336834017	0.578473116	0.582281195	1.821433973	0.0722465
10544436	Olfr458	-0.488671512	-0.147563913	0.001660219	0.023887048	0.254597873	0.589165002	-0.341107599	-0.318117713	1.072268488	3.311592253	0.0732623
10539873	Gata2	-0.495593604	-0.186676784	0.000687181	0.012828042	0.119867429	0.401973823	-0.30891682	-0.341135194	0.90555541	2.65482185	0.0733228
10427083	Eif4b	0.457105472	0.157423328	0.001076117	0.017759497	0.173842025	0.489757116	0.299682145	0.3072644	0.975323352	2.903670499	0.074781
10492689	Pdgfc	1.058623313	0.752042145	3.32E-007	4.99E-005	1.40E-005	0.000734193	0.306581167	0.905332729	0.338639218	1.407664875	0.0748133
10478983	2410001C21Rik	0.394735799	0.08843405	0.00371657	0.042099263	0.443933742	0.75079998	0.306301749	0.241584924	1.267884368	4.463617806	0.0751487
10413559	Rft1	0.441437078	0.153473387	0.001049508	0.017506811	0.16879947	0.483019574	0.287963691	0.297455233	0.968090855	2.876310255	0.0752468

10421444	Npm2	-0.466482819	-0.157411014	0.001252382	0.019685327	0.190122868	0.510475237	-0.309071804	-0.311946917	0.990783329	2.963469999	0.0771226
10472155	Kcnj3	-0.544730505	-0.209459095	0.00070082	0.013015078	0.113815848	0.390630602	-0.335271409	-0.3770948	0.889090514	2.600653385	0.0772151
10556790	2610020H08Rik	0.466609705	0.135174918	0.002156878	0.028985256	0.289820227	0.624243147	0.331434787	0.300892311	1.101506336	3.45189561	0.0779573
10427665		-0.733284666	-0.369696185	0.000109075	0.003360928	0.016513589	0.12293237	-0.363588481	-0.551490426	0.659283397	1.983479126	0.0781021
10425092	Cyth4	0.84926299	0.54155058	4.65E-006	0.000339806	0.000370297	0.008272398	0.30771241	0.695406785	0.442492677	1.568206223	0.0781597
10382136	1810010H24Rik	-1.198622323	-0.842031267	5.32E-007	7.18E-005	2.40E-005	0.001082707	-0.356591057	-1.020326795	0.349487104	1.423489092	0.0785431
10365974	Dcn	-0.460925955	-0.106321138	0.003875168	0.0433165	0.43365374	0.742430854	-0.354604818	-0.283623547	1.25026579	4.335224068	0.07902
10473125	Itga4	0.734684705	0.397646615	5.54E-005	0.002078259	0.007358804	0.070558752	0.33703809	0.56616566	0.595299421	1.84758194	0.0798265
10446619	Myom1	-0.904606185	-0.627906006	7.81E-007	9.59E-005	3.78E-005	0.001508533	-0.276700179	-0.766256095	0.36110666	1.440671337	0.080157
10525657	Denr	0.398736649	0.119162367	0.002115212	0.028593681	0.274278782	0.61055662	0.279574282	0.258949508	1.079647861	3.346162549	0.0806986
10473109	Gm14461	0.786829807	0.44636062	3.24E-005	0.001378449	0.003830718	0.044572469	0.340469187	0.616595214	0.552176176	1.762767081	0.0808563
10596148	Trf	0.616411755	0.322242756	8.53E-005	0.002830995	0.011752295	0.097769455	0.294168999	0.469327256	0.626788655	1.912880099	0.0813152
10399924	Pik3cg	0.805401486	0.51776378	4.56E-006	0.000334608	0.000340311	0.007742274	0.287637706	0.661582633	0.434772153	1.555538484	0.0815684
10572146	Atp6v1b2	0.832796241	0.500213974	1.49E-005	0.000766541	0.00146596	0.022357849	0.332582267	0.666505108	0.498994326	1.66488	0.0816933
10520521	Cenpa	0.555106113	0.285334919	0.00010251	0.003200992	0.014373941	0.112040788	0.269771195	0.420220516	0.641975306	1.945454541	0.0816976
10418848	Wdfy4	0.654747698	0.3613103	4.76E-005	0.001855733	0.005923113	0.060021498	0.293437398	0.508028999	0.577599702	1.812147892	0.0819336
10550025	Gm6946	-0.531737043	-0.124013123	0.004139375	0.045475843	0.433130675	0.742212308	-0.407723919	-0.327875083	1.243534323	4.287748172	0.0825707
10594248	Rplp1	0.639243903	0.260587737	0.000607022	0.011830703	0.090392889	0.345643727	0.378656166	0.44991582	0.841615586	2.453085135	0.0827752
10438405	Igl-V1	0.846845651	0.52609862	9.22E-006	0.0005491	0.000787109	0.014207223	0.320747031	0.686472136	0.467239695	1.609670922	0.0836209
10583100	Mmp8	1.277877574	0.743520732	2.58E-005	0.001176606	0.002746218	0.03510454	0.534356842	1.010699153	0.528700198	1.718684522	0.0839167
10378802	Blmh	0.623903328	0.332027587	7.75E-005	0.002651215	0.010018605	0.087657063	0.291875741	0.477965458	0.610662835	1.879070755	0.0839951
10571696	Casp3	0.735555321	0.422073784	3.13E-005	0.001347481	0.003463886	0.041566637	0.313481538	0.578814553	0.541592357	1.742717387	0.0840777
10546113	Sec61a1	0.874884271	0.538729848	1.09E-005	0.000621531	0.000959998	0.01651799	0.336154423	0.706807059	0.475595735	1.623975865	0.0840918
10434747	Adipoq	-0.685762713	-0.336429922	0.00017533	0.004818382	0.02457141	0.158633975	-0.349332792	-0.511096317	0.683496984	2.038352326	0.0847784
10592084	St3gal4	0.977056769	0.687196961	6.99E-007	8.83E-005	3.01E-005	0.001273293	0.289859807	0.832126865	0.348336077	1.421800188	0.0858351
10553301	Ldha	0.789826517	0.467806271	2.16E-005	0.001029451	0.002132723	0.029368419	0.322020246	0.628816394	0.512105359	1.688362395	0.0860674
10366593		0.43383356	0.109082589	0.003849251	0.043145224	0.394006283	0.714181431	0.324750971	0.271458074	1.196320913	3.977110971	0.0862241
10557069	Mettl9	0.465357359	0.140137943	0.002389532	0.031245297	0.278529719	0.614201102	0.325219416	0.302747651	1.074226058	3.320709214	0.0862462
10531869	Mapk10	-0.643596137	-0.335664734	0.000104767	0.003247773	0.013448831	0.107239697	-0.307931403	-0.489630436	0.628905763	1.917377882	0.0866539
10481585	2900010J23Rik	0.40831048	0.138692228	0.001594251	0.02318483	0.200658442	0.52427737	0.269618251	0.273501354	0.985802256	2.944004038	0.086669
10574033	Nup93	0.712532739	0.434785562	1.42E-005	0.000750411	0.001259537	0.020162474	0.277747177	0.573659151	0.484167605	1.638814168	0.0872582
10567510	Dnahc3	-0.413973211	-0.124644633	0.002462909	0.031879957	0.280545069	0.615999215	-0.289328578	-0.269308922	1.074337144	3.321227728	0.0874186
10572757	Rab8a	0.581586774	0.247738757	0.000560674	0.01123449	0.075729082	0.312761719	0.333848017	0.414662765	0.805107293	2.347580897	0.0888706
10587262	Klhl31	-0.840988333	-0.418307856	0.000180046	0.004895578	0.023314706	0.153062977	-0.422680477	-0.629648094	0.671296365	2.010453118	0.0894
10532164	Atp5k	0.494874143	0.16770116	0.001737039	0.024701565	0.206532258	0.531715822	0.327172983	0.331287651	0.987579771	2.950928564	0.0895898
10488387	Napb	-0.376689717	-0.095744452	0.004137795	0.045475843	0.393992245	0.714181431	-0.280945265	-0.236217085	1.189352012	3.93432422	0.0903302
10462091	Klf9	-0.561086108	-0.284799512	0.000160442	0.004481202	0.019793504	0.137610956	-0.276286595	-0.42294281	0.653248119	1.970109088	0.0916393
10508436	Sync	-0.413686238	-0.12612453	0.002657417	0.033568201	0.279721852	0.615138837	-0.287561709	-0.269905384	1.06541672	3.27998241	0.0920497
10508151	Clspn	0.977600924	0.686903076	9.79E-007	0.000109292	4.09E-005	0.001613553	0.290697848	0.832252	0.349290657	1.423200679	0.0937733
10469782	Gm13410	-0.42045366	-0.128151224	0.002782291	0.034617475	0.282848295	0.617736075	-0.292302436	-0.274302442	1.065620976	3.280918018	0.0939224
10466624	Aldh1a7	0.443007164	0.115407395	0.004425092	0.047129984	0.387314577	0.708353953	0.32759977	0.279207279	1.173321019	3.838637601	0.095796
10350594	Ivns1abp	0.506807663	0.183737541	0.001615376	0.023412461	0.174539255	0.490624398	0.323070121	0.345272602	0.935695793	2.75832396	0.0974411
10502785	Gm10287	-0.767946622	-0.442640067	4.76E-005	0.001855733	0.00446836	0.049373163	-0.325306555	-0.605293345	0.5374362	1.734923427	0.0980981
10374228	Gm11992	-0.438009288	-0.13699908	0.002864165	0.035327908	0.272881085	0.6090285	-0.301010208	-0.287504184	1.046976789	3.197169549	0.0986111
10360920	Tgfb2	-0.505703728	-0.232014004	0.000453656	0.009576028	0.052654542	0.254622604	-0.273689724	-0.368858866	0.741990363	2.17962588	0.0987536
10359504	Dnm3os	0.405125171	0.108912502	0.004383944	0.046840895	0.372115947	0.696832936	0.296212669	0.257018836	1.15249401	3.719730654	0.0987769
10565862	Pold3	0.789230803	0.477413044	2.48E-005	0.001146119	0.002021322	0.028228131	0.311817759	0.633321924	0.492352699	1.653140425	0.0992606
10346109	Dnahc7b	-0.469807798	-0.154270896	0.002488645	0.032133335	0.24187802	0.574544237	-0.315536902	-0.312039347	1.011208699	3.045343032	0.0995395
10375234	Nudcd2	0.540585047	0.18036338	0.002369246	0.031043285	0.231752074	0.562308007	0.360221667	0.360474213	0.999299404	2.99719958	0.0998457
10351037	Gas5	1.132956775	0.53446236	0.000381877	0.008435481	0.043426	0.226142945	0.598494415	0.833709568	0.717869193	2.11980648	0.0999554
10434396	Abcf3	0.410957205	0.111720053	0.004396735	0.046944841	0.367145564	0.692590211	0.299237151	0.261338629	1.145016917	3.678455143	0.10017
10567211	Gm9197	0.503109986	0.152040647	0.003308082	0.038986159	0.298287845	0.631624502	0.351069339	0.327575316	1.07172098	3.309049236	0.100286
10347218		1.532426017	0.547416185	0.001855418	0.025987734	0.188140145	0.507800342	0.985009832	1.039921101	0.947196697	2.799380176	0.100581
10457020		0.803670911	0.392252156	0.000300737	0.007020476	0.033332281	0.191752865	0.411418755	0.597961533	0.688035487	2.048862955	0.101105
10513320	Ptgr1	0.729129423	0.460293259	1.35E-005	0.000720963	0.000925463	0.016081915	0.268836164	0.594711341	0.452044791	1.584054098	0.102091
10351099	Tnfsf18	-0.412029559	-0.125240512	0.003444126	0.04003797	0.298323713	0.631624502	-0.286789048	-0.268635035	1.067578721	3.289906389	0.102875

10554063	Adamts17	-0.444258072	-0.174214156	0.001319374	0.02040102	0.134553736	0.427124079	-0.270043915	-0.309236114	0.87326125	2.550068726	0.103824
10483000	Itgb6	-0.372596988	-0.111578144	0.003739776	0.042268858	0.310862993	0.643538293	-0.261018844	-0.242087566	1.078200124	3.339336665	0.104643
10437236	B230307C23Rik	0.706072026	0.316954391	0.000625756	0.012070876	0.066012784	0.289544793	0.389117635	0.511513208	0.760718646	2.227677061	0.10508
10396645	Zbtb1	0.556554476	0.251700903	0.000638286	0.012182092	0.064826797	0.286349034	0.304853573	0.404127689	0.754349629	2.211173932	0.107772
10599054	Gm4907	-0.514433749	-0.19700344	0.001636908	0.023671075	0.153821008	0.460118591	-0.317430309	-0.355718595	0.892363553	2.611293228	0.10808
10392990	Grb2	0.387434052	0.120622105	0.003592758	0.041114094	0.290102957	0.624485299	0.266811947	0.254028078	1.050324627	3.211965599	0.108179
10373454	Pa2g4	0.851624237	0.552396241	9.98E-006	0.000584884	0.000588895	0.011538745	0.299227996	0.702010239	0.426244489	1.541690862	0.1082
10520965	Yes1	-0.582002258	-0.311916768	0.000153772	0.004327875	0.014538885	0.112570831	-0.27008549	-0.446959513	0.604272829	1.865889612	0.108307
10495306	Mybphl	-0.398856325	-0.143537529	0.002183276	0.029248602	0.194317928	0.515219671	-0.255318796	-0.271196927	0.941451656	2.778759867	0.108854
10376230	G3bp1	0.47671277	0.225599011	0.000474818	0.009924776	0.047592345	0.239516223	0.251113759	0.351155891	0.715106212	2.113097781	0.108876
10520304	Actr3b	0.438372751	0.134339682	0.003927602	0.04379396	0.303525509	0.637239717	0.304033069	0.286356216	1.061730292	3.263166516	0.110141
10472426	Xirp2	-0.730587834	-0.414020521	8.77E-005	0.002878035	0.007451083	0.07123069	-0.316567313	-0.572304177	0.553145207	1.764617444	0.110908
10440794	2610039C10Rik	0.464595183	0.171224816	0.002113222	0.028593681	0.182624904	0.501027792	0.293370367	0.317909999	0.922809498	2.713363599	0.111803
10375483	Gm12176	0.887113444	0.467334217	0.00020528	0.005333121	0.018824736	0.132818397	0.419779227	0.677223831	0.619853007	1.898242013	0.112326
10469243		-0.511002412	-0.178213185	0.002674028	0.033728228	0.219801775	0.548233599	-0.332789227	-0.344607799	0.965704281	2.867365907	0.112451
10591129	Fat3	-0.67403464	-0.352423506	0.000222443	0.005664342	0.020467452	0.140472531	-0.321611134	-0.513229073	0.62664247	1.912570042	0.112549
10348556	Ube2f	0.804238999	0.488069256	3.63E-005	0.001510611	0.002597881	0.033814609	0.316169743	0.646154127	0.489310103	1.647796884	0.112852
10504458	Clta	0.727055221	0.460033435	1.84E-005	0.000902974	0.001156267	0.018823724	0.267021786	0.593544328	0.449876737	1.580439954	0.113093
10595664	Tmed3	0.723036387	0.388701513	0.000175734	0.004824315	0.015472634	0.116912446	0.334334873	0.55586895	0.60146348	1.860132677	0.114226
10432152	Olfr284	-0.401464454	-0.120401885	0.004556428	0.048109578	0.323948842	0.654328632	-0.281062569	-0.260933169	1.077143889	3.334370169	0.114356
10509992	Hspb7	-0.482558119	-0.223980213	0.000636123	0.0121796	0.058819193	0.271026422	-0.258577905	-0.353269166	0.731957188	2.154467626	0.114755
10409786	1700013B16Rik	-0.430340597	-0.128652223	0.004660402	0.048945895	0.327030372	0.657287259	-0.301688373	-0.27949641	1.079399815	3.344991525	0.115039
10485635	Eif3m	0.484601477	0.19514819	0.001546242	0.022705344	0.132545247	0.422735016	0.289453286	0.339874833	0.851646718	2.483248633	0.116188
10605790	Gm371	-0.36979709	-0.129391598	0.002866327	0.035335936	0.222673917	0.551432137	-0.240405491	-0.249594344	0.963184853	2.85796833	0.116277
10351119	Vamp4	0.506923196	0.216429915	0.001143956	0.018562892	0.100175994	0.363755325	0.29049328	0.361676555	0.803185266	2.342204843	0.116862
10601424	Gpr174	0.582672395	0.272442971	0.000636851	0.0121796	0.057244579	0.266990059	0.310229423	0.427557683	0.725584958	2.138694906	0.116923
10543785	AB041803	-0.601538391	-0.349928272	7.48E-005	0.002579057	0.005700056	0.058501078	-0.251610118	-0.475733331	0.528888984	1.719033409	0.116972
10450731	H2-t9	-0.460427628	-0.171741738	0.002274762	0.0302062	0.181873503	0.500088814	-0.28868589	-0.316084683	0.91331819	2.680930298	0.117488
10527559	Polr1d	0.506419449	0.226200962	0.000912557	0.015891126	0.079028941	0.321119971	0.280218487	0.366310205	0.764975922	2.238803252	0.118945
10421293	Ppp3cc	0.410724071	0.168025796	0.001534031	0.022591695	0.126648944	0.412541257	0.242698275	0.289374933	0.838698336	2.444410806	0.119433
10427683	Spef2	-0.866958238	-0.477029967	0.000158713	0.004442569	0.012830587	0.103956919	-0.38992827	-0.671994103	0.580255494	1.817408332	0.119712
10450920	AY036118	0.689624199	0.354257831	0.00032155	0.007375829	0.027330603	0.169163714	0.335366369	0.521941015	0.642536914	1.946673129	0.120149
10534654	Znhit1	0.359763572	0.112069202	0.004645597	0.04891025	0.307667392	0.640539104	0.24769437	0.235916387	1.049924395	3.210191252	0.120916
10538126	Gimap4	0.426561041	0.136189281	0.00431364	0.046357859	0.29105553	0.625277315	0.29037176	0.281375161	1.031973679	3.13211905	0.12095
10427691	Spef2	-0.870190561	-0.50919369	7.77E-005	0.00265664	0.00563575	0.058025842	-0.360996871	-0.689692126	0.523417417	1.708957864	0.121113
10430265	Eif3d	0.604606643	0.354290901	7.79E-005	0.002660249	0.005594871	0.057743925	0.250315742	0.479448772	0.522090693	1.706526024	0.121891
10515352	Akr1a4	0.612832254	0.338607624	0.000160706	0.004483686	0.012633521	0.102847198	0.274224629	0.475719939	0.57644132	1.809859583	0.121907
10440977	Atp5o	0.637165376	0.369329203	9.13E-005	0.002944388	0.006657368	0.065371585	0.267836173	0.50324729	0.532215828	1.725196304	0.122411
10549899	Zfp418	-0.465324549	-0.200068918	0.001259505	0.019732119	0.101845323	0.367209687	-0.265255631	-0.332696734	0.797289555	2.325821288	0.122831
10452213	Gtf2f1	0.442191055	0.169423017	0.002270779	0.030184548	0.17097477	0.485957132	0.272768039	0.305807036	0.891961291	2.609982186	0.122908
10447006	Vit	-0.439971052	-0.187954789	0.001311845	0.020309075	0.105504789	0.375140924	-0.252016263	-0.31396292	0.802694354	2.340834492	0.122995
10376216	Slc36a1	0.574417962	0.305349259	0.000250748	0.006200573	0.020156931	0.139232538	0.269068703	0.439883611	0.611681583	1.881183417	0.123222
10368052	Ect2l	-0.520333018	-0.234324721	0.000959014	0.016464261	0.078521837	0.319883094	-0.286008298	-0.377328869	0.757981487	2.220563912	0.123323
10484425	2700094K13Rik	0.538635633	0.263311737	0.000547233	0.011029904	0.044698765	0.230156047	0.275323895	0.400973685	0.686638315	2.045619531	0.124502
10390691	Nr1d1	-0.999040848	-0.699631539	3.15E-006	0.000253525	0.0001162	0.003496634	-0.299409309	-0.849336193	0.352521548	1.427952848	0.125102
10408543	Mylk4	-0.599216807	-0.293552912	0.000545897	0.011015785	0.044256	0.228978633	-0.305663895	-0.446384859	0.684754173	2.04125656	0.125105
10546163	Mcm2	0.38390462	0.136876806	0.003211928	0.038133099	0.221618788	0.550266037	0.247027814	0.260390713	0.948681351	2.804745598	0.12529
10482177	Strbp	-0.520896682	-0.263629688	0.000424349	0.009107173	0.03389231	0.193838638	-0.257266993	-0.392263185	0.655853017	1.975865029	0.125903
10588903	Usp4	0.375042818	0.123472666	0.00433512	0.046480307	0.277273069	0.612810346	0.251570151	0.249257742	1.009277182	3.037456218	0.126247
10460237	Unc93b1	0.593284727	0.35284323	7.45E-005	0.002572227	0.004930861	0.052956205	0.240441498	0.473063978	0.508264228	1.681440021	0.127581
10403073	Ighg	0.934655136	0.569913876	5.33E-005	0.002018729	0.003308301	0.040264329	0.364741261	0.752284506	0.48484484	1.639993649	0.128655
10570666	LOC637882	0.771841052	0.465247925	6.39E-005	0.00230805	0.004062823	0.046143603	0.306593127	0.618544488	0.495668675	1.658988704	0.129025
10438784	Gm606	-0.716971843	-0.424354289	8.60E-005	0.002845624	0.005610124	0.057831592	-0.292617554	-0.570663066	0.512767641	1.689559555	0.130447
10469070	Nudt5	0.405892536	0.138532893	0.004177809	0.045690669	0.258304403	0.593294727	0.267359643	0.272212715	0.982171765	2.929936176	0.130649
10389858	Nme2	0.66112599	0.347959646	0.000334187	0.007592677	0.024880578	0.159898518	0.313166344	0.504542818	0.620693294	1.90000765	0.13075
10357472	Cxcr4	0.570510403	0.304179795	0.000300533	0.007020476	0.022012168	0.147596122	0.266330608	0.437345099	0.608971287	1.875569687	0.131581

10395875		-0.647532759	-0.382068098	9.39E-005	0.003000772	0.006067492	0.061137899	-0.265464661	-0.514800429	0.51566519	1.694809805	0.132131
10466839	Gm5516	0.578598242	0.266230988	0.001025274	0.017255708	0.075115205	0.311627038	0.312367255	0.422414615	0.739480225	2.173294129	0.132541
10406676	Lhfpl2	0.763095541	0.478743274	3.79E-005	0.001560205	0.002115169	0.029142328	0.284352267	0.620919407	0.457953582	1.593955638	0.132661
10482017	Rab14	0.399655963	0.15371867	0.002734812	0.034211912	0.179911558	0.497929241	0.245937294	0.276687316	0.888863634	2.599918176	0.132836
10414548	Rnase6	0.471614049	0.218401042	0.001000126	0.016922378	0.072671697	0.305192591	0.253213007	0.345007545	0.733934694	2.159394685	0.133373
10545401	Vamp5	-0.554616654	-0.278167245	0.000552022	0.011101381	0.040356438	0.216276532	-0.276449409	-0.416391949	0.663916317	1.993824451	0.133671
10548879	Mgp	0.993112453	0.658626618	1.42E-005	0.000750411	0.000649239	0.01235334	0.334485835	0.825869535	0.405010502	1.507853503	0.134021
10553477	Ano5	-0.406214063	-0.147317644	0.003569491	0.040926918	0.220913498	0.549298427	-0.25889642	-0.276765854	0.935434831	2.757402663	0.134044
10527801	Brca2	0.700130527	0.422434272	7.39E-005	0.002559755	0.004461458	0.049360654	0.277696255	0.5612824	0.494753185	1.657371509	0.13488
10532896	2610524H06Rik	0.441350039	0.168104824	0.003038016	0.036730948	0.190083162	0.510475237	0.273245215	0.304727431	0.896687293	2.625445418	0.136038
10385770	Olfr1372-ps1	-0.727953506	-0.449484186	5.46E-005	0.00205422	0.003084344	0.038297344	-0.27846932	-0.588718846	0.473009012	1.61953085	0.136579
10362701	Ddo	-0.508869099	-0.24242974	0.000887796	0.015629599	0.062228214	0.279341342	-0.266439358	-0.37564942	0.70927664	2.099037428	0.136974
10446907	Ttc27	0.57751402	0.299046921	0.000452301	0.009555287	0.031646027	0.185865096	0.278467099	0.43828047	0.635362783	1.931181965	0.137036
10380477	Ppp1r9b	0.611073323	0.219753531	0.003922228	0.043772069	0.230710568	0.561120411	0.391319791	0.415413427	0.942000826	2.780721289	0.137336
10436708	Usp16	0.453442707	0.214295144	0.000959581	0.016464261	0.066395819	0.290689079	0.239147562	0.333868926	0.716291766	2.115972847	0.137894
10458398	Hars	0.504325812	0.267519291	0.000371621	0.008237268	0.02542221	0.161759366	0.236806521	0.385922552	0.613611514	1.885194187	0.138284
10587829	Plod2	-0.514052044	-0.286350961	0.000230546	0.005818738	0.015043163	0.115065601	-0.227701083	-0.400201503	0.568966086	1.795181834	0.1396
10449315	2900010M23Rik	0.517043004	0.24658419	0.000937967	0.016201712	0.063579835	0.283042896	0.270458814	0.381813597	0.708353018	2.096821388	0.13983
10362794	Ppil6	-1.268986076	-0.721273709	0.000185879	0.004990734	0.011798828	0.098042189	-0.547712367	-0.995129892	0.550392839	1.759368267	0.14028
10400710	Gm71	0.523709289	0.226753065	0.001766131	0.024976882	0.113869115	0.390747651	0.296956224	0.375231177	0.79139539	2.309601807	0.140515
10419223	Fermt2	-0.674575545	-0.417999668	6.19E-005	0.002258762	0.003292689	0.040169558	-0.256575877	-0.546287607	0.469671788	1.613818375	0.143396
10582008	2310061C15Rik	0.664551216	0.432534937	2.81E-005	0.001233388	0.001281517	0.020393039	0.23201628	0.548543077	0.422968203	1.536410495	0.145292
10433212	Olfr15	-0.485455427	-0.197700763	0.002685501	0.03382828	0.156337724	0.464629835	-0.287754664	-0.341578095	0.842427158	2.455506084	0.145491
10376208	Gm2a	0.587996301	0.346421187	0.000136189	0.003936611	0.00783955	0.073952804	0.241575114	0.467208744	0.517060343	1.697345089	0.145857
10376196	Hint1	0.519950175	0.279916716	0.000388694	0.008549264	0.024284657	0.157368994	0.240033459	0.399933446	0.600183511	1.857517418	0.146438
10602592	Hsd17b10	0.453075144	0.20450534	0.00158006	0.023056834	0.096145621	0.356473464	0.248569804	0.328790242	0.756013324	2.215468522	0.147174
10583034	Dcun1d5	0.466433319	0.233999217	0.000748557	0.013685156	0.046989323	0.237425578	0.232434102	0.350216268	0.663687337	1.993311454	0.147312
10553131	Kdelr1	0.487207809	0.223016757	0.001469982	0.022035168	0.089243503	0.342714277	0.264191052	0.355112283	0.743964839	2.184624224	0.147959
10437376	Srl	-0.577096925	-0.327794857	0.000227816	0.005783946	0.013436222	0.107205762	-0.249302068	-0.452445891	0.551009685	1.760542951	0.148347
10546010	Arhgap25	0.799869679	0.53975003	1.54E-005	0.000782623	0.00060018	0.011653428	0.260119648	0.669809854	0.388348494	1.481926139	0.149708
10373873	Sf3a1	0.459468716	0.235194568	0.000694182	0.012921149	0.041642064	0.220656695	0.224274148	0.347331642	0.645706067	1.953568574	0.15159
10365578	Nup37	0.409618876	0.15895376	0.003750208	0.042330849	0.195116123	0.516708898	0.250665117	0.284286318	0.881734719	2.576968781	0.151654
10557177	Prkcb	0.518421839	0.292684011	0.000270013	0.006495503	0.015407921	0.116698296	0.225737828	0.405552925	0.556617433	1.771268056	0.152601
10521984	G6pd2	0.455839444	0.220511811	0.001160969	0.018724005	0.066638428	0.291063823	0.235327633	0.338175628	0.69587402	2.06718834	0.15488
10514275	Ptplad2	0.681403036	0.367265988	0.000469232	0.009832046	0.026843971	0.167578403	0.314137048	0.524334512	0.599115719	1.855339341	0.155321
10501802	Tmem56	0.727268361	0.4983332	1.31E-005	0.000707468	0.000463299	0.009739519	0.228935161	0.612800781	0.373588233	1.459401784	0.156084
10411611	Naip5	0.735990102	0.351336894	0.00131159	0.020309075	0.073830817	0.308244862	0.384653208	0.543663498	0.707520753	2.094827256	0.156234
10538715	C130092O11Rik	-0.41557209	-0.191588383	0.001670205	0.024003813	0.092090119	0.348638522	-0.223983707	-0.303580237	0.737807274	2.169088141	0.156687
10404051	Hist1h4d	0.593826232	0.334155497	0.00031395	0.00724683	0.017172198	0.125935995	0.259670735	0.463990864	0.559646225	1.777095508	0.157567
10431738	Prickle1	-0.50123337	-0.256252854	0.000802588	0.014456727	0.045077205	0.231124386	-0.244980516	-0.378743112	0.646825008	1.95601088	0.157931
10447383	Epcam	0.406159546	0.191340803	0.001486721	0.022199629	0.081646408	0.326534745	0.214818742	0.298750175	0.719058132	2.122702209	0.157981
10465625	Otub1	0.497906832	0.233212067	0.001562227	0.022859182	0.085038215	0.33401085	0.264694766	0.365559449	0.724081312	2.134996012	0.158542
10503196	Chd7	0.645643397	0.339912257	0.000631501	0.012141846	0.035135424	0.198909587	0.305731141	0.492777827	0.620423899	1.899441354	0.158751
10532576	Myo18b	-0.370752066	-0.140690889	0.004729511	0.049519299	0.219541091	0.547892807	-0.230061177	-0.255721478	0.899655277	2.635224414	0.159665
10346374	Aox1	-0.709358736	-0.481591177	1.79E-005	0.000880997	0.000644754	0.012295352	-0.227767559	-0.595474956	0.382497293	1.472947947	0.160204
10583444	Olfr39	-0.566991545	-0.264516647	0.001659974	0.023887048	0.088435501	0.341021194	-0.302474898	-0.415754096	0.727533176	2.143500424	0.160323
10605252	Tex28	-0.52197923	-0.218150971	0.003116126	0.037254179	0.154571463	0.461556575	-0.303828259	-0.370065101	0.821013	2.392743094	0.160449
10427679	Spef2	-0.615877404	-0.314426701	0.000865456	0.015341526	0.047096581	0.237840617	-0.301450703	-0.465152052	0.648069166	1.958731245	0.161008
10591853	Tbx20	-0.581216759	-0.344143513	0.000183763	0.004959869	0.009258035	0.082694726	-0.237073246	-0.462680136	0.512391233	1.688879018	0.161081
10396030	Fancm	0.434366274	0.215771071	0.001080944	0.017819956	0.058454365	0.26998117	0.218595203	0.325068673	0.672458535	2.01308856	0.16116
10404913	Cap2	-0.711572786	-0.476378162	2.49E-005	0.001146168	0.000936617	0.016222063	-0.235194623	-0.593975474	0.395966894	1.493714116	0.161512
10440522	Adamts1	-0.548401401	-0.304767692	0.000393206	0.008611621	0.020914598	0.142502537	-0.243633708	-0.426584546	0.571126429	1.799407925	0.161548
10435305	Itgb5	0.382479379	0.15063111	0.004234107	0.046002788	0.196511713	0.517820458	0.231848268	0.266555244	0.869794435	2.539179175	0.162234
10594911	Tex9	0.709736501	0.451936982	6.52E-005	0.002333912	0.002829505	0.035901002	0.257799519	0.580836742	0.443841618	1.570432448	0.162916
10345675	Npas2	-0.393819359	-0.158014542	0.00399084	0.044230085	0.185102741	0.504054439	-0.235804817	-0.27591695	0.854622438	2.492298202	0.163572
10595046	Gm3671	0.66167191	0.431811985	4.49E-005	0.001782801	0.001795452	0.025934525	0.229859924	0.546741948	0.420417576	1.532314832	0.165283

10461844	Gnaq	-0.423849238	-0.192491703	0.002157972	0.028985256	0.107276701	0.378702063	-0.231357535	-0.30817047	0.750745309	2.201909129	0.165284
10555108	Clns1a	0.475412235	0.246445177	0.000831199	0.014857389	0.043353298	0.225849781	0.228967058	0.360928706	0.634383062	1.929079077	0.165342
10538150	Tmem176a	0.908426204	0.619043635	1.90E-005	0.000920581	0.000654799	0.012422314	0.289382569	0.763734919	0.378904462	1.467467159	0.165483
10565609	Thrsp	-0.60755972	-0.365299706	0.000168058	0.00464839	0.007967446	0.074692623	-0.242260014	-0.486429713	0.49803704	1.663181521	0.166084
10481272	1700007K13Rik	-0.558812034	-0.247867805	0.002521018	0.032388126	0.122166924	0.405506349	-0.310944229	-0.40333992	0.770923517	2.254476068	0.166242
10530045	Sepsecs	0.370416768	0.147309842	0.004437652	0.047244152	0.195396273	0.51710477	0.223106927	0.258863305	0.861871584	2.514541894	0.167513
10468893	Csf2ra	0.531918431	0.296908148	0.000437417	0.009317533	0.021778668	0.146569178	0.235010283	0.41441329	0.56709157	1.791525206	0.168624
10599960		-0.504546891	-0.207710403	0.003873465	0.0433165	0.172898581	0.488331952	-0.296836488	-0.356128647	0.833509156	2.429088209	0.168739
10567456	Dnahc3	-0.723056955	-0.311258097	0.003127907	0.03732548	0.143689321	0.442869534	-0.411798858	-0.517157526	0.796273548	2.323014122	0.169196
10502230		0.53093379	0.226196411	0.003321316	0.039106209	0.150796403	0.454778443	0.304737379	0.3785651	0.804980118	2.347224645	0.169566
10574027	Mt1	0.480504095	0.263559269	0.000547456	0.011029904	0.026960768	0.167723944	0.216944826	0.372031682	0.583135353	1.823134876	0.170639
10597461	Cmtm7	0.627477322	0.386585965	0.000133505	0.003880938	0.005864381	0.059591027	0.240891357	0.507031643	0.475101229	1.623124943	0.171125
10598236	Nudt11	-0.769728684	-0.406756225	0.000816346	0.014661895	0.039628202	0.213856852	-0.362972459	-0.588242455	0.617045669	1.892358706	0.172807
10436727	ORF63	0.599562153	0.352063856	0.000266853	0.006431525	0.012342676	0.101153196	0.247498297	0.475813004	0.520158748	1.702992632	0.172865
10567458	Dnahc3	-0.517490139	-0.301399161	0.000295245	0.006952618	0.013761131	0.109086074	-0.216090978	-0.40944465	0.527766032	1.716959456	0.17288
10355998	Fam124b	-0.533523349	-0.23068458	0.003272443	0.038619338	0.144475288	0.444065583	-0.302838769	-0.382103965	0.792555944	2.312782883	0.173133
10447880	Mrpl18	0.73219699	0.499263125	2.30E-005	0.001079838	0.000760485	0.013893322	0.232933865	0.615730057	0.378305172	1.466555317	0.173551
10558248	Bub3	0.46133394	0.21981254	0.001859922	0.026016603	0.086803957	0.337368221	0.2415214	0.34057324	0.709161413	2.098760789	0.173772
10465861	Incenp	0.650180214	0.421019958	6.42E-005	0.002313719	0.002484117	0.032867167	0.229160255	0.535600086	0.427857018	1.544297844	0.174177
10347232	Xrcc5	0.492772931	0.280811472	0.000393041	0.008611621	0.01841286	0.131028914	0.211961458	0.386792201	0.547998272	1.754817659	0.174279
10411272		-0.354550015	-0.146429202	0.004190213	0.045776058	0.176322235	0.49263515	-0.208120812	-0.250489609	0.830856073	2.421306741	0.174312
10545217	LOC100046973	1.645711747	1.159152801	1.12E-005	0.000630449	0.000321909	0.007470847	0.486558946	1.402432274	0.346939353	1.419753932	0.174776
10393642	Eif4a3	0.41183419	0.182090762	0.003053944	0.036829346	0.132763283	0.423114967	0.229743428	0.296962476	0.773644642	2.261697333	0.176085
10452450	E130009J12Rik	-0.428884965	-0.203200672	0.002061549	0.028042304	0.092450592	0.349281984	-0.225684292	-0.316042819	0.714094038	2.110647371	0.177362
10401114	Rab15	0.47864023	0.257515881	0.000776495	0.014095522	0.035711838	0.201108261	0.221124349	0.368078056	0.600753959	1.858682378	0.178552
10478847	1500012F01Rik	0.399253237	0.183211506	0.002601062	0.033084266	0.112322387	0.388347392	0.216041731	0.291232372	0.741819084	2.179193032	0.179149
10527487	Cyp3a57	-0.379090775	-0.155051927	0.004772423	0.049884946	0.188327741	0.507967396	-0.224038848	-0.267071351	0.838872634	2.44492785	0.179534
10481540	Fnbp1	0.459406816	0.221893525	0.001897714	0.026387069	0.083774563	0.331226969	0.237513291	0.340650171	0.697235203	2.070393067	0.179932
10586454	D030028M11Rik	0.438139455	0.184650651	0.004230335	0.046002788	0.168815981	0.483019574	0.253488803	0.311395053	0.814042487	2.372802108	0.180739
10521815		-0.420541521	-0.190146405	0.003015855	0.036564388	0.124323189	0.408479881	-0.230395117	-0.305343963	0.754542891	2.21167222	0.182686
10487252	Gabpb1	0.419668663	0.216365774	0.001228402	0.019463341	0.05402859	0.258912122	0.20330289	0.318017218	0.639282649	1.939625923	0.182911
10354003	Mgat4a	0.969957001	0.690013509	1.08E-005	0.000619497	0.000286185	0.006843021	0.279943492	0.829985255	0.337287308	1.405707263	0.18309
10468762	4930506M07Rik	0.453357144	0.229922338	0.001424688	0.021511118	0.06183738	0.278414643	0.223434806	0.341639741	0.654007071	1.971783813	0.183798
10390640	Ikzf3	0.769328231	0.522491417	3.29E-005	0.001393647	0.001042728	0.017493298	0.246836814	0.645909824	0.382153677	1.472422716	0.184559
10493995	S100a10	0.514099445	0.262443403	0.001384443	0.021052067	0.059514563	0.273228367	0.251656043	0.388271424	0.64814464	1.958896431	0.185037
10485982	Actc1	-1.180550057	-0.816632739	2.23E-005	0.001053846	0.000660623	0.012486647	-0.363917317	-0.998591398	0.364430655	1.445631555	0.185126
10476945	Cst7	0.702224536	0.436770099	0.000159159	0.0044502	0.00623369	0.062341176	0.265454437	0.569497317	0.46612061	1.607766964	0.185126
10446253	Vav1	0.78550248	0.554527174	1.39E-005	0.000741295	0.000378224	0.008414835	0.230975307	0.670014827	0.344731635	1.416526579	0.185506
10559818		0.683292948	0.320925483	0.002557042	0.032718925	0.104139031	0.371978936	0.362367465	0.502109216	0.721690528	2.129132723	0.18639
10368644	Fam26f	0.672017103	0.465982672	2.20E-005	0.001044354	0.000639264	0.012217888	0.206034431	0.568999887	0.362099247	1.442150413	0.1867
10360120	Ufc1	0.555380489	0.292809428	0.001107488	0.018112728	0.046928266	0.237257185	0.262571062	0.424094958	0.619132711	1.896730217	0.187421
10464529	Tcirg1	0.419788033	0.201289017	0.002313365	0.030560702	0.093604831	0.351572843	0.218499016	0.310538525	0.703613233	2.085498944	0.188322
10549588	Rps9	0.805677955	0.548100008	3.48E-005	0.001465408	0.001076194	0.017925856	0.257577947	0.676888982	0.380532043	1.469946986	0.188382
10346255	Ormdl1	0.493228666	0.214037464	0.004214565	0.045936079	0.157194527	0.465060987	0.279191202	0.353633065	0.789494053	2.304403427	0.189477
10545255	Rpia	0.379364897	0.166515183	0.004046492	0.044692499	0.150536436	0.454477681	0.212849715	0.27294004	0.779840564	2.278260103	0.19061
10602223	Alg13	0.401838644	0.179562217	0.003721189	0.04212851	0.139312043	0.436293499	0.222276427	0.29070043	0.76462366	2.237879721	0.19134
10381708	Fmnl1	0.445916927	0.228999885	0.001506294	0.022310191	0.060667618	0.275662315	0.216917042	0.337458406	0.642796381	1.947236469	0.192223
10567737		-0.523382722	-0.234497887	0.003746697	0.042309822	0.138712479	0.435212311	-0.288884835	-0.378940304	0.762349192	2.231929374	0.192657
10464045	Acsl5	0.398081185	0.177414741	0.003883833	0.043381294	0.142591138	0.441499316	0.220666444	0.287747963	0.766874043	2.243788663	0.193094
10373692	Vmn2r86	-0.653166626	-0.339164465	0.001409006	0.021337083	0.05630357	0.264696101	-0.314002161	-0.496165545	0.63285765	1.925810908	0.193471
10417841	Ttc18	-0.38486527	-0.174781453	0.003539274	0.040668933	0.1308833	0.420044079	-0.210083817	-0.279823361	0.750772973	2.201980036	0.193786
10600597	Tmem47	-0.486056541	-0.271967356	0.000713733	0.013217959	0.02856292	0.174212816	-0.214089185	-0.379011949	0.564861309	1.787187068	0.193883
10504926	Rnf20	0.462090497	0.215214665	0.003216669	0.03816689	0.117446773	0.397970136	0.246875832	0.338652581	0.72899439	2.147114356	0.196943
10404898	Gm1574	-0.503049481	-0.29296622	0.000490494	0.010161427	0.018836614	0.132865681	-0.210083261	-0.39800785	0.527836978	1.71709039	0.197152
10458589	Prelid2	0.622083929	0.361366083	0.000507198	0.010398364	0.019475868	0.136140135	0.260717846	0.491725006	0.530210672	1.721478462	0.197341
10595189	Slc17a5	0.440319486	0.238882059	0.001034886	0.017371137	0.040238297	0.215893942	0.201437427	0.339600773	0.593159507	1.843250547	0.197499

10367611	Gm221	-0.502254165	-0.262821418	0.00142584	0.021514795	0.054996702	0.261318473	-0.239432746	-0.382537792	0.625906124	1.911009262	0.197642
10405927	Zfp455	-0.549479511	-0.317610744	0.000563895	0.011246347	0.021286295	0.144238813	-0.231868767	-0.433545128	0.534820374	1.730040692	0.199819
10562360	Gpi1	0.572574615	0.328160783	0.000637261	0.0121796	0.023868974	0.155263261	0.244413832	0.450367699	0.542698404	1.744799026	0.201218
10399943	1110049B09Rik	-0.511963199	-0.253788615	0.002330574	0.030740587	0.084404086	0.33263749	-0.258174585	-0.382875907	0.674303554	2.017281981	0.201988
10450957	Cenpq	0.888510453	0.568707491	0.000147758	0.004195419	0.004927085	0.052942899	0.319802962	0.728608972	0.438922624	1.562332951	0.202177
10462132	Pgm5	-0.45016931	-0.232219476	0.001762325	0.024939089	0.064456254	0.28520309	-0.217949833	-0.341194393	0.638784921	1.93855105	0.203028
10507309	RP23-233B9.8	-0.472223911	-0.240707057	0.001964746	0.02703783	0.070894479	0.301283689	-0.231516854	-0.356465484	0.649479021	1.961819966	0.203958
10450374	D17H6S56E-5	0.888657839	0.628547078	2.21E-005	0.001044354	0.000544231	0.010900098	0.260110761	0.758602459	0.342881516	1.413828606	0.206276
10544523	Rny1	1.194950563	0.66549745	0.000987043	0.016789544	0.035025047	0.198591319	0.529453113	0.930224007	0.569167329	1.795574969	0.208509
10362420	Trdn	-0.494841314	-0.277015879	0.000941094	0.016225242	0.033333383	0.191752865	-0.217825435	-0.385928597	0.564419007	1.786328336	0.208719
10473272	Zc3h15	0.460448726	0.270131398	0.000578772	0.01147176	0.020074053	0.138869717	0.190317328	0.365290062	0.521003302	1.704536125	0.209963
10357008	Pign	0.591171461	0.401414283	6.04E-005	0.002219692	0.001677587	0.024718884	0.189757178	0.496292872	0.382349191	1.47272154	0.210392
10528929	Hadha	0.427432237	0.228665864	0.001488298	0.022210112	0.051605319	0.251411339	0.198766373	0.32804905	0.605904431	1.869243751	0.210593
10495935	4930422G04Rik	0.636991868	0.410633617	0.000157713	0.004421684	0.004927559	0.052942899	0.226358251	0.523812742	0.432135824	1.551241404	0.210676
10427235	Prr13	0.581856993	0.381204806	0.000119965	0.003605679	0.003631267	0.042853963	0.200652187	0.4815309	0.416696388	1.526363213	0.210784
10606473	Hdx	-0.560174509	-0.279911558	0.002623948	0.033325831	0.086819336	0.337368221	-0.280262951	-0.420043033	0.667224376	2.001255372	0.212459
10581940	Kars	0.425583792	0.209299912	0.002931295	0.03589682	0.096005612	0.356211628	0.21628388	0.317441852	0.681333851	2.033368229	0.212505
10508452		-0.376131372	-0.179761003	0.00354021	0.040668933	0.113536011	0.390544403	-0.196370368	-0.277946188	0.706504989	2.092396929	0.212692
10583254	Cwc15	0.61394816	0.410434923	8.80E-005	0.002881691	0.00250687	0.033082946	0.203513238	0.512191541	0.397338146	1.495847762	0.213552
10552125	Pepd	0.497578246	0.248510932	0.002717054	0.034086683	0.088355159	0.341021194	0.249067314	0.373044589	0.667660974	2.002238861	0.214375
10349733	Nucks1	0.493507283	0.282005506	0.000860051	0.015256251	0.028845656	0.175393438	0.211501777	0.387756394	0.545450134	1.74999166	0.215355
10569057	Rnh1	0.502191629	0.298692791	0.000562662	0.011236534	0.018397033	0.130952593	0.203498838	0.40044221	0.508185283	1.681298123	0.217032
10586604	Rps27l	0.401141021	0.20975258	0.002019784	0.027576496	0.065625703	0.288389067	0.191388441	0.305446801	0.626585187	1.912448564	0.217251
10590983	Panx1	0.485719796	0.296330875	0.000411836	0.008905652	0.0131866	0.105758244	0.189388921	0.391025336	0.484339258	1.639113021	0.21762
10424105	Colec10	-0.409795724	-0.201151225	0.003375302	0.039560392	0.102791812	0.369084203	-0.208644499	-0.305473475	0.683020021	2.037251944	0.220531
10546624	Lmod3	-0.414937392	-0.22163616	0.001793623	0.025275451	0.057146534	0.266891781	-0.193301231	-0.318286776	0.607317821	1.872155658	0.220604
10354916	4930408G06Rik	-0.427778173	-0.20476828	0.004061042	0.044795367	0.119765924	0.401797378	-0.223009894	-0.316273226	0.705117839	2.08908418	0.222134
10465980	Sdhaf2	0.396092804	0.186345369	0.004547721	0.048057186	0.131635307	0.42136382	0.209747435	0.291219086	0.720239315	2.125584374	0.222754
10396606	Syne2	-0.580737677	-0.37761294	0.000178295	0.004868599	0.005086372	0.054150554	-0.203124737	-0.479175309	0.423904849	1.537917839	0.223389
10409190	Cenpp	0.496329345	0.295958944	0.000616733	0.011968679	0.019220822	0.134724207	0.200370401	0.396144145	0.505801749	1.677020935	0.223497
10459335	Fam38b	-0.552767212	-0.335097272	0.00051664	0.010525455	0.01578511	0.118763523	-0.217669941	-0.443932242	0.490322441	1.649572405	0.225037
10546066	Isy1	0.563417417	0.303932704	0.001825549	0.025647621	0.055542129	0.262454965	0.259484713	0.43367506	0.598339026	1.853757132	0.226647
10453825	Snrpd1	0.471824769	0.287168554	0.000514983	0.010519662	0.015422761	0.116725683	0.184656214	0.379496662	0.48658192	1.643023797	0.227567
10535508	AU022870	0.376377777	0.181332775	0.004250719	0.046066063	0.119895064	0.401973823	0.195045002	0.278855276	0.699448851	2.075619136	0.227747
10558325	Bccip	0.556586413	0.344620757	0.000417903	0.009009147	0.012265543	0.100649601	0.211965656	0.450603585	0.470403839	1.615069324	0.228663
10449280	Gm5226	-0.49826467	-0.294298544	0.000764709	0.013930846	0.022991823	0.151897002	-0.203966125	-0.396281607	0.514699955	1.69305856	0.228976
10589420	Cdc25a	0.488399237	0.304878406	0.000382977	0.008445232	0.011057073	0.093760472	0.183520832	0.396638821	0.462690039	1.601947623	0.230058
10422013	Klf12	-0.648365133	-0.398241277	0.000483717	0.010061629	0.014102378	0.11083277	-0.250123856	-0.523303205	0.47797119	1.628071147	0.230606
10392120	Smarcd2	0.362098335	0.176153391	0.004235024	0.046002788	0.116464496	0.395581669	0.185944944	0.269125863	0.690921869	2.05558538	0.231509
10384522	Actr2	0.511864333	0.296014835	0.001025877	0.017255708	0.030245062	0.180836303	0.215849497	0.403939584	0.534360845	1.729184729	0.232155
10521757		0.639701016	0.413831738	0.000232141	0.005847538	0.006338598	0.063037247	0.225869278	0.526766377	0.428784538	1.545799795	0.232183
10523802	Cdc7	0.549813632	0.333175973	0.00060404	0.011821953	0.017463569	0.126804777	0.216637659	0.441494802	0.490691301	1.650219934	0.233058
10529142	Ppm1g	0.381567557	0.183970744	0.004590204	0.048386595	0.123591351	0.40770374	0.197596813	0.28276915	0.698791976	2.074066504	0.233179
10389842	Utp18	0.729598617	0.4845966	0.000151715	0.004284074	0.003932491	0.045304839	0.245002017	0.607097609	0.40356281	1.505579314	0.233493
10352354	A430110L20Rik	-0.40451538	-0.21956094	0.001946692	0.026849919	0.056089956	0.263877746	-0.18495444	-0.31203816	0.592730197	1.842383168	0.233689
10571274	Gsr	0.449422617	0.261753924	0.000976458	0.016628897	0.028440542	0.173791204	0.187668693	0.355588271	0.527769638	1.716966111	0.233716
10594418	Smad6	-0.576232967	-0.368410924	0.000289298	0.006818823	0.007945801	0.074635501	-0.207822043	-0.472321945	0.440000819	1.56410391	0.23385
10386197	2210407C18Rik	0.663051374	0.427500618	0.000255824	0.0062626	0.006929366	0.067448985	0.235550756	0.545275996	0.431984458	1.550995123	0.234331
10603431	Suv39h1	0.454435713	0.264231162	0.001014662	0.017128913	0.029314335	0.177086456	0.190204551	0.359333438	0.529326056	1.719841483	0.234843
10509127	Fuca1	0.600332083	0.393293807	0.000199191	0.005249322	0.00524658	0.055189976	0.207038276	0.496812945	0.416732853	1.526421399	0.235007
10424392	9930014A18Rik	-0.47973627	-0.248005108	0.002970642	0.036223483	0.082297643	0.327760419	-0.231731163	-0.363870689	0.636850315	1.934380607	0.235536
10491083	Nceh1	0.438920199	0.227325601	0.002972332	0.036226887	0.081815607	0.326702394	0.211594599	0.3331229	0.635184789	1.930799691	0.236454
10373027	Tspan31	0.473884963	0.288210684	0.000618086	0.011973615	0.017387117	0.126643734	0.185674278	0.381047823	0.487272901	1.644231072	0.236783
10352048	Exo1	0.644535636	0.425068944	0.000185811	0.004990734	0.004779223	0.051793678	0.219466693	0.53480229	0.41036977	1.516308463	0.237233
10476314	Prnp	-0.399453218	-0.195732474	0.004413101	0.047041313	0.116133464	0.39508466	-0.203720744	-0.297592846	0.684561967	2.040812186	0.237306
10570201	Atp11a	0.40074843	0.204416216	0.003367611	0.039506321	0.091163665	0.346606833	0.196332214	0.302582323	0.648855533	1.96045323	0.237315

10404376	Agtr1a	-0.53221201	-0.33350165	0.000419238	0.009027695	0.011491052	0.09632669	-0.198710359	-0.43285683	0.459067169	1.595830213	0.237579
10385686	Hnrnpab	0.58673625	0.405426989	7.72E-005	0.002646592	0.001783727	0.025823294	0.181309261	0.496081619	0.365482723	1.447205702	0.238254
10586168	Snord16a	0.568295771	0.349481224	0.000553067	0.011101381	0.015276831	0.116076592	0.218814547	0.458888497	0.47683598	1.626112453	0.238559
10461334	Mta2	0.394396701	0.210569081	0.00246908	0.03191155	0.067293083	0.292412197	0.18382762	0.302482891	0.607728983	1.873003855	0.239744
10356995		-0.737569964	-0.494818458	0.000144261	0.004123482	0.003540779	0.042154319	-0.242751506	-0.616194211	0.393952916	1.490587007	0.239968
10561337	1700049G17Rik	-0.375121161	-0.185284119	0.004409312	0.047039994	0.113458724	0.39043211	-0.189837042	-0.28020264	0.67749912	2.024572657	0.24069
10482929	Ly75	0.617037281	0.427391011	8.12E-005	0.00273032	0.001821387	0.026220621	0.18964627	0.522214146	0.363158049	1.443730133	0.24299
10439766	Pvrl3	-0.713409264	-0.486092766	0.000114075	0.003473408	0.002665181	0.034394097	-0.227316499	-0.599751015	0.379018114	1.46764016	0.243073
10450723	H2-T10	0.425707335	0.231600157	0.002236346	0.029788544	0.059742165	0.273685865	0.194107178	0.328653746	0.59061301	1.838113328	0.243394
10366653	Wif1	-0.593018053	-0.37216867	0.000459621	0.009681115	0.012111586	0.099768999	-0.220849383	-0.482593361	0.457630379	1.593412076	0.243557
10465633	Cox8a	0.429836218	0.226549221	0.003040861	0.03674498	0.078008746	0.318284612	0.203286997	0.328192719	0.619413487	1.897319337	0.246451
10475890	Mertk	0.524139763	0.309238374	0.001072628	0.017739825	0.028315701	0.17333828	0.214901389	0.416689068	0.515735607	1.694937652	0.247197
10366983	Tmem194	0.41291974	0.23999503	0.001279416	0.019951434	0.033611101	0.192732254	0.172924711	0.326457385	0.529700717	1.720534551	0.247904
10547590	Klrg1	0.584750653	0.347343344	0.001015002	0.017128913	0.026541361	0.166202405	0.237407309	0.466046999	0.509406368	1.683494624	0.248445
10535647	Atp5j2	0.45623163	0.268199651	0.001149174	0.018613307	0.029991757	0.179782441	0.188031979	0.36221564	0.519116123	1.701089573	0.24884
10571399	Zdhhc2	0.538186085	0.34519042	0.00037373	0.008276885	0.009297373	0.082949241	0.192995665	0.441688253	0.436949961	1.559099133	0.249591
10488507	Abhd12	0.608017312	0.376772409	0.000633967	0.012171024	0.016018217	0.120150672	0.231244903	0.492394861	0.469633056	1.613752222	0.251469
10586174		0.59960131	0.403701475	0.000174333	0.004796123	0.003977369	0.04549515	0.195899835	0.501651393	0.3905099	1.485259151	0.25257
10587023	Rab27a	0.421822307	0.225187824	0.003067527	0.036931189	0.075001188	0.311331189	0.196634483	0.323505065	0.607825052	1.873202111	0.253515
10392998	Caskin2	-0.394426234	-0.219987474	0.002116471	0.028593681	0.052795014	0.25496255	-0.17443876	-0.307206854	0.567821837	1.792948604	0.253681
10469457	Plxdc2	-0.414746226	-0.219516348	0.003329385	0.039165283	0.080384415	0.324215455	-0.195229877	-0.317131287	0.615612163	1.889363727	0.25447
10430574	4933432B09Rik	-0.444884093	-0.27190066	0.000819498	0.0146789	0.020254813	0.139645592	-0.172983433	-0.358392377	0.482664936	1.636200859	0.255769
10498168	Exosc8	0.507529201	0.318050806	0.000631106	0.012141846	0.015044419	0.115065601	0.189478395	0.412790003	0.459018856	1.595748829	0.259603
10446027	Chaf1a	0.504491356	0.276771994	0.002700977	0.033951361	0.063855885	0.283917003	0.227719362	0.390631675	0.582951607	1.822768805	0.259852
10579812	Ednra	-0.374555323	-0.198303228	0.003674391	0.041724881	0.084243222	0.332516533	-0.176252095	-0.286429275	0.615342459	1.888800936	0.261163
10362904	Rtn4ip1	0.600512684	0.407349376	0.000179807	0.004894256	0.003870399	0.044929416	0.193163307	0.50393103	0.383312985	1.474195662	0.261166
10577190	Rasa3	0.712780948	0.458563006	0.000444871	0.009444955	0.01029078	0.089298086	0.254217942	0.585671977	0.434061987	1.554379526	0.261298
10538106	Zfp775	-0.388526866	-0.211473886	0.002993601	0.036379893	0.069247746	0.297083595	-0.17705298	-0.300000376	0.59017586	1.837233303	0.262191
10414260	Ang3	0.648631703	0.353769869	0.002953698	0.036033987	0.068280018	0.294592479	0.294861834	0.501200786	0.588310798	1.833484874	0.262427
10591563	Kank2	-0.374531464	-0.192866844	0.004618195	0.048661666	0.102418887	0.368449613	-0.18166462	-0.283699154	0.640342481	1.941917316	0.26296
10506108		-0.978284552	-0.541562459	0.002629615	0.033370882	0.060922948	0.276141098	-0.436722093	-0.759923505	0.574692176	1.806411313	0.263155
10373986	Ap1b1	0.431310614	0.255918283	0.001328278	0.020483876	0.031316923	0.184621675	0.175392331	0.343614449	0.510433515	1.685345059	0.263401
10526743	Cops6	0.492729294	0.282682001	0.001907813	0.026455828	0.044574905	0.229794869	0.210047293	0.387705647	0.541770012	1.74305153	0.263903
10536898	Irf5	0.380786889	0.203415854	0.003665568	0.041668641	0.081692923	0.326568127	0.177371035	0.292101372	0.607224244	1.871962685	0.265626
10450161	H2-Ea	0.584958896	0.387854279	0.000296482	0.006968735	0.006465267	0.063925456	0.197104617	0.486406587	0.405226044	1.508192453	0.265655
10525553		-0.506241358	-0.29231127	0.001865009	0.026073563	0.04285955	0.224285204	-0.213930088	-0.399276314	0.535794588	1.731857134	0.266477
10507551	2610528J11Rik	-0.475782987	-0.29591729	0.000790694	0.014292621	0.018111825	0.129497027	-0.179865697	-0.385850139	0.46615429	1.607824225	0.266515
10404649	Dsp	-0.55255696	-0.377973898	0.00017071	0.004711601	0.003517424	0.041973531	-0.174583062	-0.465265429	0.375233257	1.461891848	0.266701
10537789	Tas2r126	-0.549193297	-0.329338184	0.001255692	0.01971321	0.028851138	0.175393438	-0.219855113	-0.439265741	0.500505942	1.667566423	0.267203
10591120	Fat3	-0.762349184	-0.467210706	0.001000062	0.016922378	0.022629527	0.150195079	-0.295138478	-0.614779945	0.48007174	1.631703157	0.269128
10574572	2210023G05Rik	-0.706966811	-0.500305307	8.76E-005	0.002878035	0.001649352	0.02441498	-0.206661504	-0.603636059	0.342361097	1.41307078	0.269311
10386070	Atox1	0.620063385	0.410798213	0.000334191	0.007592677	0.00707714	0.068497753	0.209265171	0.515430799	0.406000518	1.509411104	0.271219
10495830	Sec24d	0.401651913	0.230287859	0.002232742	0.029755979	0.048758328	0.24270701	0.171364054	0.315969886	0.542342995	1.744129782	0.273374
10393836	Arhgdia	0.522884678	0.323358179	0.000971271	0.01658722	0.021249842	0.144182115	0.199526499	0.423121429	0.471558484	1.617044851	0.274041
10490826	Zbtb10	-0.484358961	-0.296750387	0.00109214	0.017927332	0.023939913	0.15568525	-0.187608574	-0.390554674	0.480364431	1.63221004	0.274042
10405427	Prelid1	0.646889324	0.461965968	7.89E-005	0.002679275	0.001417407	0.02203634	0.184923356	0.554427646	0.333539205	1.400296492	0.274475
10410984	Ckmt2	-0.847468384	-0.599079473	1.00E-004	0.003138356	0.001845126	0.026473277	-0.248388911	-0.723273928	0.343423012	1.41461763	0.274508
10605081	Bcap31	0.451725938	0.246082648	0.003596056	0.04111517	0.075750647	0.312767644	0.205643289	0.348904293	0.589397418	1.835667574	0.274814
10432986	Aaas	0.544593735	0.354134835	0.000487484	0.010107225	0.010299424	0.089310288	0.1904589	0.449364285	0.42384076	1.537814644	0.275201
10375485		0.520046778	0.349432806	0.000282226	0.006707579	0.005738015	0.058772297	0.170613972	0.434739792	0.392450785	1.488259745	0.27528
10546762	Il5ra	0.426563791	0.260187013	0.001184059	0.018987738	0.02570542	0.163036006	0.166376778	0.343375402	0.484533188	1.639450742	0.275618
10377689	Gabarap	0.623766942	0.41528447	0.000338386	0.007659331	0.00692771	0.067448985	0.208482472	0.519525706	0.401293853	1.502023281	0.276321
10484227	Sestd1	0.514301326	0.310676759	0.001348323	0.020723802	0.0291159	0.176427505	0.203624566	0.412489042	0.493648425	1.65542259	0.276501
10356271	A530032D15Rik	0.715718064	0.491399965	0.00019292	0.005123255	0.00376041	0.043979073	0.224318099	0.603559014	0.371658932	1.45648782	0.276581
10594110	Neo1	-0.598391378	-0.409095665	0.000220653	0.005635549	0.004278472	0.047956255	-0.189295713	-0.503743522	0.37577796	1.462717475	0.279204
10363157	Pln	-1.062670424	-0.734368069	0.000179421	0.004888946	0.003406205	0.041105066	-0.328302355	-0.898519246	0.36538155	1.447054235	0.279489

10591369	Dnmt1	0.584594062	0.415941499	9.57E-005	0.003042659	0.001698103	0.024906932	0.168652563	0.500267781	0.337124574	1.405471834	0.279601
10455514	Kcnn2	-0.495607112	-0.30398172	0.001184329	0.018987738	0.025037517	0.160305057	-0.191625392	-0.399794416	0.479309825	1.630384589	0.279639
10387922	Slc25a11	0.50530495	0.269122444	0.004709814	0.049383786	0.093167042	0.350646867	0.236182507	0.387213697	0.609953905	1.877602416	0.281267
10427402	Ghr	-0.432595542	-0.260080835	0.001543899	0.022705344	0.03227238	0.188051632	-0.172514707	-0.346338188	0.498110553	1.663311875	0.281394
10431915	Slc38a4	-0.519044595	-0.332058381	0.000696514	0.012955169	0.014363132	0.112018884	-0.186986214	-0.425551488	0.439397392	1.563112466	0.281407
10398130	Ak7	-0.449105643	-0.250658948	0.00324384	0.038376818	0.065989336	0.289491415	-0.198446695	-0.349882295	0.567181298	1.791700022	0.28158
10593225	Zbtb16	-0.815907388	-0.534238181	0.00050301	0.01034797	0.010112927	0.088262019	-0.281669206	-0.675072785	0.417242722	1.52723526	0.28287
10581289	Atp6v0d1	0.460365712	0.264416404	0.002553534	0.032690326	0.052135228	0.25292138	0.195949308	0.362391058	0.540712315	1.741063357	0.283065
10498653	1110032A04Rik	-0.55472087	-0.358943644	0.000606418	0.011827911	0.012293911	0.10085015	-0.195777226	-0.456832257	0.428553857	1.545426083	0.28307
10430372	Rac2	0.465239187	0.294501775	0.000844528	0.015039673	0.017249938	0.126182037	0.170737412	0.379870481	0.449462173	1.579750026	0.28387
10438415	Igl-V2	0.577955549	0.398762274	0.000202797	0.005306706	0.003777349	0.044128687	0.179193275	0.488358911	0.366929466	1.449373691	0.284103
10569717		-0.458209195	-0.280247544	0.001340819	0.020633176	0.027391884	0.169402825	-0.17796165	-0.36922837	0.481982602	1.635015914	0.285001
10494804	Casq2	-0.559695305	-0.380357796	0.000276469	0.006620263	0.005257009	0.055234098	-0.179337509	-0.470026551	0.381547614	1.471496867	0.285045
10545502	Dnahc6	-0.735043168	-0.487398637	0.000442952	0.009419797	0.008593672	0.078835735	-0.247644531	-0.611220903	0.405163714	1.508094426	0.287133
10355214	Idh1	0.651629925	0.425805869	0.000568104	0.011312708	0.011126563	0.094194134	0.225824056	0.538717897	0.419187959	1.530345099	0.28783
10371662	Spic	0.790081106	0.492577089	0.001115089	0.018195874	0.022273262	0.148726617	0.297504018	0.641329098	0.463886667	1.603974534	0.288249
10512949	Abca1	0.359291066	0.197082034	0.004142102	0.045475843	0.079459822	0.321925219	0.162209032	0.27818655	0.583094446	1.82305337	0.28829
10502469	Pdlim5	-0.41062096	-0.250340668	0.001473346	0.022064089	0.029447586	0.17776591	-0.160280292	-0.330480814	0.484991215	1.640248717	0.288406
10436892	Itsn1	0.433869006	0.250235442	0.002666159	0.033662063	0.052530134	0.254231198	0.183633564	0.342052224	0.536858266	1.733843146	0.288469
10427640		-0.594418412	-0.36522139	0.001355585	0.020810501	0.026991517	0.167793235	-0.229197022	-0.479819901	0.477673023	1.627556405	0.289001
10388377	Srr	-0.488704348	-0.283765903	0.002520776	0.032388126	0.049595434	0.24551892	-0.204938445	-0.386235125	0.530605406	1.722209552	0.289086
10580649	Es22	-0.633201368	-0.441289471	0.000192003	0.005114407	0.003384688	0.040903094	-0.191911897	-0.537245419	0.35721458	1.43488891	0.291772
10550698	Ckm	-0.363131816	-0.206845927	0.00315723	0.037605463	0.060380268	0.274986499	-0.156285889	-0.284988872	0.548392953	1.755566673	0.291915
10603440	Was	0.364766942	0.198547958	0.004658939	0.048945895	0.086441985	0.336860391	0.166218985	0.28165745	0.590145883	1.837172976	0.292208
10462507	Papss2	-0.393213697	-0.221153106	0.003590381	0.04110522	0.067704721	0.293505282	-0.172060591	-0.307183401	0.560123333	1.778015709	0.29292
10429100	Lrrc6	-0.799821691	-0.564645207	0.000152263	0.004294834	0.002588303	0.033790071	-0.235176484	-0.682233449	0.344715559	1.41650311	0.293953
10483536	4930578N16Rik	-0.570674854	-0.355645273	0.001235198	0.019498808	0.023804437	0.155039911	-0.215029581	-0.463160063	0.464266239	1.604618132	0.294042
10492330	P2ry1	0.483112396	0.303782046	0.001132308	0.018406637	0.021561071	0.145601043	0.17933035	0.393447221	0.455792646	1.590325702	0.295771
10532954	Mlec	0.542159047	0.3848803	0.000139866	0.004033313	0.002328244	0.031239609	0.157278747	0.463519674	0.339314069	1.408643276	0.295902
10363696	D630028G08Rik	-0.421608443	-0.247430694	0.00252184	0.032388126	0.047541718	0.239509484	-0.174177749	-0.334519569	0.520680299	1.703945602	0.296023
10473847	Acp2	0.652050117	0.449602112	0.000260681	0.00633764	0.004579123	0.050250931	0.202448006	0.550826114	0.367535236	1.450282596	0.296507
10439009	Apod	-0.644797267	-0.444233934	0.000271947	0.006535903	0.00475156	0.051591809	-0.200563333	-0.5445156	0.368333493	1.451481343	0.297886
10351867	Aim2	0.722007035	0.418265873	0.002989331	0.036364997	0.054997646	0.261318473	0.303741162	0.570136454	0.532751694	1.726191595	0.29881
10437195	Igsf5	-0.405729991	-0.232356569	0.003391785	0.039654451	0.061516151	0.277699009	-0.173373422	-0.31904328	0.543416624	1.746152445	0.300046
10476620	Snrpb2	0.36727516	0.205275201	0.004405465	0.047018498	0.076957694	0.315710888	0.161999959	0.286275181	0.565888942	1.789184267	0.30335
10428561	Rad21	0.387356382	0.226030006	0.003026609	0.036644816	0.053855082	0.25833531	0.161326376	0.306693194	0.526018769	1.71373876	0.304298
10504650		-0.41934153	-0.255309169	0.001973776	0.027092291	0.035340825	0.199744632	-0.164032361	-0.33732535	0.486273449	1.642485194	0.305605
10358541	Hmcn1	-0.604067878	-0.356143268	0.002800576	0.034753541	0.04952439	0.245451255	-0.24792461	-0.480105573	0.516396025	1.69613729	0.305939
10400844	Pygl	0.601500911	0.37721113	0.001427839	0.021520711	0.02530313	0.161337045	0.224289781	0.489356021	0.458336613	1.594600114	0.307667
10603814	Slc9a7	0.585432013	0.390134561	0.000601348	0.011818828	0.01034297	0.089599508	0.195297452	0.487783287	0.400377498	1.50058998	0.308659
10564839	Ap3s2	0.415598349	0.247969564	0.002584726	0.032958143	0.04509253	0.231124386	0.167628785	0.331783957	0.505234753	1.676005485	0.308744
10414333	Samd4	-0.518628199	-0.304559286	0.003053356	0.036829346	0.052804305	0.25496255	-0.214068912	-0.411593742	0.520097588	1.702880924	0.309052
10567407	Thumpd1	0.39526155	0.228210986	0.003611079	0.041231834	0.061753826	0.27824335	0.167050563	0.311736268	0.535871441	1.732000531	0.309416
10403258	Gdi2	0.536607621	0.345228698	0.001057115	0.017573858	0.01837203	0.130810894	0.191378923	0.44091816	0.434046361	1.554354037	0.310231
10346651	Bmpr2	-0.501841662	-0.330988913	0.000750144	0.013704407	0.012779148	0.103738153	-0.170852748	-0.416415287	0.410294131	1.516188735	0.311789
10565802	Rps3	0.656037486	0.426456294	0.000935536	0.016173432	0.016052494	0.120322294	0.229581192	0.54124689	0.424170922	1.538346357	0.311825
10600973	Igbp1	0.503948906	0.330738639	0.0008193	0.0146789	0.013945403	0.110044212	0.173210267	0.417343772	0.415030195	1.523707384	0.312458
10356461	Hjurp	0.556737666	0.35936063	0.001056315	0.017573858	0.018054048	0.129300032	0.197377035	0.458049148	0.430907985	1.549245017	0.31296
10547177	Rassf4	0.39768185	0.23070229	0.003641398	0.04144896	0.060955877	0.276141098	0.16697956	0.31419207	0.531456954	1.723788049	0.313023
10566529	Tpp1	0.497178057	0.302004658	0.002321211	0.03063283	0.039306232	0.213257193	0.195173399	0.399591358	0.488432484	1.646259566	0.314335
10565072	Sec11a	0.596135745	0.425956222	0.000177752	0.004858941	0.002680974	0.034528475	0.170179523	0.511045983	0.333002369	1.399523506	0.315569
10477777	Ergic3	0.474944895	0.284806052	0.002746993	0.034344776	0.045757481	0.233453196	0.190138842	0.379875473	0.500529399	1.667608153	0.316226
10394593	Fam49a	-0.559786934	-0.397704032	0.000206915	0.005364736	0.003139858	0.038747058	-0.162082903	-0.478745483	0.33855756	1.407546542	0.316835
10506822	Orc1l	0.470265475	0.293186107	0.001800344	0.025335101	0.030052235	0.179976847	0.177079368	0.381725791	0.463891549	1.603982809	0.317495
10507143	Cyp4a12a	-0.549325653	-0.358115247	0.000992773	0.016842358	0.016451228	0.122542945	-0.191210406	-0.45372045	0.421427789	1.533935396	0.317814
10552140	Cebpa	0.378343371	0.228348922	0.002648405	0.03348835	0.043628198	0.226781811	0.14999445	0.303346146	0.49446631	1.656865155	0.318357

10600698	5430427O19Rik	0.545735245	0.347306353	0.001404653	0.021283721	0.023327971	0.153062977	0.198428892	0.446520799	0.444388912	1.571336775	0.318387
10544732	Skap2	0.505760496	0.322465943	0.001376061	0.020999252	0.022813933	0.15100259	0.183294553	0.414113219	0.44261942	1.56841523	0.31865
10503966	Aco1	0.466802885	0.317913342	0.000520155	0.010571123	0.008212058	0.076412228	0.148889543	0.392358114	0.379473593	1.468333736	0.321399
10508772	Fgr	0.513758506	0.350046969	0.000516416	0.010525455	0.008147886	0.075912866	0.163711537	0.431902737	0.379047233	1.467684488	0.321436
10399254	Cenpo	0.470473911	0.271912603	0.004294413	0.046217605	0.067565209	0.293098491	0.198561308	0.371193257	0.534927034	1.730239444	0.322071
10452535		0.561247844	0.39161101	0.000345366	0.007799758	0.005229916	0.055163976	0.169636834	0.476429427	0.356058682	1.433176876	0.32398
10414093	Glud1	0.589104489	0.360922037	0.002454601	0.031804491	0.039179174	0.212847921	0.228182452	0.475013263	0.480370697	1.632220892	0.324203
10392440	Slc16a6	0.434040435	0.265783009	0.002518773	0.032388126	0.039873156	0.214652722	0.168257426	0.349911722	0.480856785	1.633063137	0.32551
10559446	Lilrb3	0.575560649	0.399311193	0.00040981	0.00888255	0.006159051	0.061802397	0.176249455	0.487435921	0.361584873	1.441383709	0.327199
10466573	Ostf1	0.46125911	0.285022374	0.002447765	0.031741808	0.037709222	0.20770822	0.176236736	0.373140742	0.472306334	1.61832597	0.33039
10575476	Vac14	0.422066616	0.269992018	0.00162516	0.02352769	0.024981189	0.160144144	0.152074598	0.346029317	0.439484723	1.563255905	0.331623
10520043	Lhfpl3	-0.365634462	-0.214644593	0.004344436	0.046531818	0.064274918	0.284610211	-0.150989869	-0.290139527	0.520404341	1.703441291	0.33303
10395925	Mia2	0.654528777	0.460313719	0.000348365	0.007850609	0.005002157	0.053498067	0.194215057	0.557421248	0.348417033	1.421918898	0.333041
10550131	Pla2g4c	0.525688321	0.316074993	0.003452057	0.040091425	0.051628065	0.251411339	0.209613328	0.420881657	0.498033887	1.663175931	0.333427
10554094	Igf1r	-0.375264797	-0.224763817	0.003667823	0.041675827	0.054248915	0.259497048	-0.15050098	-0.300014307	0.501646009	1.66959612	0.334883
10423842	Dcaf13	0.537845746	0.383056604	0.000277472	0.006625263	0.003870769	0.044929416	0.154789142	0.460451175	0.336168416	1.404089475	0.335083
10522788	Stap1	0.697673148	0.487345624	0.000427842	0.009159176	0.006091281	0.061290083	0.210327524	0.592509386	0.35497754	1.431577743	0.336848
10533316	Erp29	0.492077727	0.325037417	0.001127152	0.018351581	0.016719945	0.123929408	0.167040309	0.408557572	0.408853784	1.513911015	0.337055
10435581	Polq	0.704556876	0.504324477	0.000259813	0.006333331	0.003556176	0.042239672	0.200232399	0.604440677	0.331268901	1.397030895	0.337459
10575799	Plcg2	0.599503356	0.419334285	0.000426959	0.009147907	0.006030619	0.060870834	0.180169071	0.50941882	0.353675725	1.429654996	0.338189
10427657		-0.421213733	-0.251013029	0.004074095	0.044862231	0.058679362	0.270603998	-0.170200704	-0.336113381	0.506378839	1.678055256	0.338661
10497066	Zranb2	0.473540039	0.281870428	0.004135805	0.045475843	0.059431901	0.27294651	0.191669611	0.377705234	0.507458182	1.679991912	0.338919
10352267	Lin9	0.546021596	0.355313041	0.001476583	0.022086796	0.02159783	0.145734253	0.190708555	0.450667318	0.423169258	1.536733902	0.340186
10458213	Etf1	0.49141116	0.344832151	0.000422403	0.009072994	0.005862393	0.059591027	0.146579009	0.418121656	0.350565456	1.425073499	0.341099
10359644	Mettl11b	-0.391426097	-0.233329149	0.004246202	0.046066063	0.059991756	0.274290772	-0.158096949	-0.312377623	0.506108431	1.677570502	0.341753
10512704	Exosc3	0.439045259	0.264771273	0.003839652	0.043075252	0.054234021	0.259474156	0.174273985	0.351908266	0.495225609	1.658205791	0.342844
10399691	Id2	0.501721679	0.339298951	0.000879942	0.01552326	0.012418753	0.101646861	0.162422728	0.420510315	0.386251472	1.478700944	0.344502
10458607	Lars	0.607135135	0.426474649	0.000451079	0.009545183	0.006117061	0.061477179	0.180660485	0.516804892	0.349571934	1.423613656	0.345838
10504666		-0.58221392	-0.386052939	0.001234629	0.019498808	0.017427413	0.126685596	-0.196160981	-0.48413343	0.405179582	1.508119381	0.346031
10567219	Arl6ip1	0.430918799	0.265680775	0.003200113	0.038010409	0.044676394	0.23013319	0.165238024	0.348299787	0.474413222	1.621941968	0.346499
10521759	Slit2	-0.405490963	-0.249110929	0.003397736	0.039678387	0.046963271	0.237387403	-0.156380034	-0.327300946	0.477786685	1.627752603	0.347892
10458461	Hdac3	0.566449403	0.376471826	0.001286569	0.02001434	0.017704741	0.12772493	0.189977578	0.471460615	0.402955352	1.504626283	0.350659
10487748	4930402H24Rik	-0.405294297	-0.246572781	0.003948756	0.043933183	0.053276511	0.256326426	-0.158721515	-0.325933539	0.486975093	1.64371061	0.351067
10460738	Cdca5	0.477491337	0.31920356	0.001197017	0.019141454	0.016352755	0.121982713	0.158287777	0.398347449	0.397361092	1.495883495	0.351721
10548146	Tead4	-0.406113921	-0.25214352	0.003235536	0.038324747	0.043697892	0.226868427	-0.153970401	-0.32912872	0.467812109	1.610645876	0.352522
10597352		-0.387438763	-0.24397759	0.002831646	0.035010924	0.037982177	0.20880842	-0.143461173	-0.315708177	0.454410698	1.588009632	0.354589
10461154	Snhg1	0.618365049	0.43087307	0.000635534	0.0121796	0.008278567	0.076740429	0.18749198	0.52461906	0.3573869	1.435144345	0.35626
10444927	Nrm	0.421882511	0.268920178	0.002528251	0.03243745	0.033579244	0.192606038	0.152962332	0.345401344	0.442853899	1.568801988	0.356911
10425321	Apobec3	0.372924637	0.227068184	0.004306822	0.046320334	0.05582961	0.262942099	0.145856453	0.299996411	0.486193993	1.642346498	0.357721
10542665	Cmas	0.459344655	0.304505542	0.001505081	0.022310191	0.019934245	0.138289786	0.154839113	0.381925098	0.405417485	1.50849358	0.357893
10515822	Olfr1342	-0.45391134	-0.277520246	0.004259611	0.046066063	0.05460832	0.260197951	-0.176391095	-0.365715793	0.482317411	1.635597212	0.359945
10391572	Lsm12	0.359746607	0.220408051	0.004172795	0.045690669	0.053527974	0.257295137	0.139338556	0.290077329	0.480349692	1.63218451	0.360038
10506767	Echdc2	-0.50884035	-0.361051905	0.00048591	0.010090879	0.006069011	0.061137899	-0.147788445	-0.434946128	0.339785633	1.409327422	0.361219
10451665	Apobec2	-0.616134731	-0.390569621	0.002895312	0.035558304	0.037423292	0.206652327	-0.22556511	-0.503352176	0.448125827	1.577528558	0.361349
10444244	Tap1	0.401087605	0.260996922	0.002123096	0.028651749	0.027353812	0.169266548	0.140090682	0.331042263	0.423180656	1.536752238	0.362978
10483679	Gpr155	-0.386048849	-0.238253718	0.004064246	0.044811453	0.051235279	0.250163045	-0.147795131	-0.312151283	0.473472763	1.620326649	0.363612
10364990	Eef2	0.535793571	0.369094977	0.000909249	0.01585786	0.011457589	0.096203269	0.166698594	0.452444274	0.368440056	1.451641459	0.364896
10591192	Olfr847	0.454289559	0.294178044	0.002353374	0.030914229	0.029890696	0.179470034	0.160111515	0.374233801	0.427838198	1.544267387	0.365412
10510265	Nppa	-0.606543313	-0.410438921	0.001244434	0.019608423	0.015747026	0.118566927	-0.196104392	-0.508491117	0.385659427	1.477791902	0.365684
10493585	Ube2q1	0.427248812	0.282003915	0.001855833	0.025987734	0.023409306	0.153371865	0.145244897	0.354626364	0.409571626	1.515045674	0.367003
10428398	Eif3e	0.472017134	0.298505628	0.003420083	0.0398668	0.041865353	0.221314277	0.173511507	0.385261381	0.450373474	1.581267121	0.37063
10456891	Atp5a1	0.553102255	0.365753996	0.001972708	0.027092275	0.024152515	0.156789768	0.187348259	0.459428126	0.407785786	1.512224778	0.37254
10500780	Nr1h5	0.403277458	0.26156132	0.002597572	0.033056256	0.031603157	0.185669452	0.141716138	0.332419389	0.426317304	1.541808466	0.373195
10597273	Rtp3	-0.449022312	-0.303997807	0.001426608	0.021514795	0.017254769	0.126182037	-0.145024505	-0.37651006	0.385180956	1.477057734	0.374453
10550052	Rps5	0.71321307	0.488559119	0.001216112	0.019304363	0.014514179	0.112560737	0.224653951	0.600886095	0.37387111	1.459829613	0.376393
10590830	AK129341	-0.867004122	-0.609305926	0.000819355	0.0146789	0.009474537	0.084164245	-0.257698196	-0.738155024	0.349111214	1.422937289	0.380023

10397264	7420416P09Rik	-0.38431977	-0.24034815	0.004497736	0.047666349	0.051643665	0.251439606	-0.143971619	-0.31233396	0.460954099	1.599012803	0.380753
10436666	Jam2	-0.413116537	-0.275892142	0.00201059	0.027509505	0.023316598	0.153062977	-0.137224396	-0.344504339	0.398324143	1.497384213	0.382781
10461497	Ddb1	0.399165622	0.257972993	0.003153296	0.037593005	0.036296316	0.203151734	0.141192629	0.328569307	0.42971947	1.547315543	0.382973
10351035	Gas5	0.720009714	0.481665767	0.001988395	0.027263959	0.022952691	0.15176447	0.238343947	0.600837741	0.396686045	1.494832649	0.383667
10548030	Cd9	0.453353215	0.291255281	0.003455177	0.040091425	0.039425795	0.213257193	0.162097934	0.372304248	0.435391041	1.556549339	0.384135
10471844	Nek6	0.436905382	0.29859503	0.001507436	0.02231423	0.017063049	0.125422202	0.138310352	0.367750206	0.376098639	1.463203797	0.387082
10560260	Sae1	0.473577976	0.329024379	0.001197646	0.019141454	0.013293704	0.106432565	0.144553596	0.401301177	0.360212241	1.439340078	0.389997
10436392	Cpox	0.479654993	0.34118922	0.000780465	0.014147574	0.008511059	0.078235789	0.138465772	0.410422107	0.33737406	1.405832788	0.390697
10404132	Cmah	0.390777848	0.250869763	0.00386192	0.04325859	0.042370462	0.222907364	0.139908085	0.320823805	0.436090099	1.557692101	0.39109
10516859	Ythdf2	0.354766877	0.224461507	0.004652682	0.048944693	0.050346231	0.247602707	0.130305371	0.289614192	0.449927436	1.580524352	0.392221
10374442	C1d	0.517228182	0.346743058	0.002342887	0.03087127	0.025345279	0.161429933	0.170485124	0.43198562	0.394654627	1.491675665	0.396064
10598203	Ccl28	-0.409037912	-0.263249572	0.004156028	0.045530431	0.043879	0.227486602	-0.14578834	-0.336143742	0.433708327	1.553802761	0.398192
10559816		0.531794601	0.370805118	0.00133779	0.020598923	0.014101723	0.11083277	0.160989483	0.45129986	0.356723982	1.434161977	0.400402
10489253	Zhx3	-0.417489632	-0.292154805	0.00127937	0.019951434	0.013393457	0.106997586	-0.125334826	-0.354822218	0.353232745	1.42900142	0.401557
10421730	AU021034	-0.425794266	-0.279926338	0.003391044	0.039654451	0.035276223	0.19953065	-0.145867928	-0.352860302	0.413387187	1.521093973	0.402544
10405576	Fbxl21	-0.356598042	-0.231100879	0.00418147	0.045711236	0.042798921	0.224138744	-0.125497163	-0.29384946	0.427079779	1.543040611	0.404416
10354275	1700029F09Rik	0.487146247	0.348395699	0.000903425	0.015796397	0.009186318	0.082273002	0.138750548	0.417770973	0.332121082	1.398255627	0.405252
10426467	Tmem117	-0.504259836	-0.328031384	0.004218952	0.045962718	0.042369031	0.222907364	-0.176228452	-0.41614561	0.423477858	1.53723046	0.408219
10427035	Nr4a1	-0.45476883	-0.320748866	0.001242331	0.019587323	0.012557496	0.102455753	-0.134019964	-0.387758848	0.345627095	1.417834569	0.408281
10356508		-0.38670058	-0.261812739	0.002519397	0.032388126	0.025379916	0.161570359	-0.12488784	-0.32425666	0.385151197	1.477012084	0.410049
10549171	5730419I09Rik	0.412714611	0.266426646	0.004777956	0.049914768	0.047229866	0.238265764	0.146287965	0.339570628	0.430802764	1.54907408	0.410382
10509163	Id3	-0.423801682	-0.282343172	0.003244417	0.038376818	0.03232251	0.188258266	-0.14145851	-0.353072427	0.40065012	1.501016226	0.41148
10466963	9930021J03Rik	-0.591366367	-0.390064614	0.003722435	0.04212851	0.036908569	0.205102651	-0.201301753	-0.490715491	0.410220905	1.516072839	0.411708
10413381	Asb14	-0.408386979	-0.277087119	0.002506563	0.032314648	0.025035817	0.160305057	-0.13129986	-0.342737049	0.383092111	1.473857681	0.41177
10519516	Slc25a40	0.42064074	0.281506202	0.003125905	0.03732548	0.030909312	0.18301735	0.139134538	0.351073471	0.396311741	1.494250349	0.413161
10445061	Rnf39	-0.375996035	-0.25483385	0.002775975	0.034601226	0.026948576	0.167723944	-0.121162185	-0.315414942	0.384135842	1.475455613	0.417293
10367282	Cnpy2	0.373205321	0.250693205	0.003160374	0.03762545	0.030609947	0.181789938	0.122512116	0.311949263	0.392730905	1.488693407	0.417326
10366667	Gns	0.493416383	0.328051589	0.003724392	0.042132083	0.03566815	0.200906314	0.165364793	0.410733986	0.402608012	1.504081672	0.418818
10467124	Acta2	0.645054161	0.442286308	0.002414609	0.031476989	0.023201677	0.152859505	0.202767854	0.543670234	0.372961109	1.458453834	0.419631
10599498	Utp14a	0.446239877	0.314776621	0.001517421	0.022436159	0.014489916	0.112466633	0.131463256	0.380508249	0.34549384	1.417639835	0.420365
10607467	03/01/12	0.5700924	0.385934299	0.002999658	0.036404365	0.028533801	0.174133523	0.184158101	0.47801335	0.385257235	1.477174747	0.421207
10496023	Casp6	0.556859422	0.390584995	0.001771966	0.025045609	0.016679263	0.123735062	0.166274427	0.473722209	0.350995634	1.425706131	0.423662
10580582	4933436C20Rik	-0.392894927	-0.260183788	0.004233045	0.046002788	0.039393388	0.213257193	-0.132711139	-0.326539358	0.406416978	1.510066903	0.423914
10574632	Cbfb	0.420337234	0.296830205	0.001588541	0.023141128	0.014885177	0.114153789	0.12350703	0.358583719	0.34443011	1.416086463	0.42431
10505182	Gng10	0.436877619	0.312092079	0.001378063	0.021017307	0.012610825	0.102792839	0.12478554	0.374484849	0.333219195	1.399835652	0.428594
10549341	4933424B01Rik	0.362266367	0.24092883	0.004345363	0.046531818	0.039338392	0.213257193	0.121337537	0.301597598	0.402315992	1.503623983	0.4295
10465912	Fen1	0.493081418	0.346289418	0.001920279	0.026585608	0.01753894	0.12699281	0.146792	0.419685418	0.34976674	1.423899758	0.429921
10537909	Rny3	1.295406214	0.879429911	0.00347617	0.040210151	0.031067745	0.183616728	0.415976303	1.087418063	0.382535768	1.473006772	0.433529
10541695	Lpcat3	0.50341274	0.352463829	0.002155177	0.028985256	0.019325773	0.135375232	0.150948911	0.427938284	0.352735234	1.428267807	0.433797
10345550	LOC100046859	-0.415480965	-0.285611663	0.002978114	0.036280132	0.026430345	0.165709355	-0.129869302	-0.350546314	0.370476871	1.454705876	0.435564
10580349	Mylk3	-0.440896377	-0.309275058	0.002156735	0.028985256	0.019151095	0.134382259	-0.131621319	-0.375085718	0.350909973	1.425580128	0.43582
10351703	Copa	0.472423362	0.33611881	0.001702531	0.024372875	0.015028579	0.115047294	0.136304552	0.404271086	0.337161269	1.405524917	0.436679
10586722	F830001A07Rik	-0.39118161	-0.264820088	0.003798823	0.042710553	0.03336632	0.191831435	-0.126361522	-0.328000849	0.385247546	1.477159883	0.436735
10562132	Cd22	0.396739489	0.269467152	0.003646246	0.041467361	0.031999893	0.187382338	0.127272337	0.33310332	0.382080663	1.472311139	0.437123
10508479	Ptp4a2	0.41768307	0.283893622	0.003693226	0.041897363	0.032169882	0.187702737	0.133789448	0.350788346	0.3813965	1.471266126	0.438641
10352709	Nsl1	0.384822344	0.261626388	0.00369385	0.041897363	0.032136063	0.187702737	0.123195956	0.323224366	0.381146872	1.470885055	0.438898
10596135		-0.513638491	-0.346215304	0.004209053	0.045914986	0.036376009	0.203331749	-0.167423187	-0.429926897	0.389422454	1.483581128	0.439542
10575616	Gabarapl2	-0.428129992	-0.290679766	0.003931991	0.043823856	0.033694337	0.192921313	-0.137450226	-0.359404879	0.382438397	1.472857906	0.441766
10516943	Atpif1	0.393653948	0.265995463	0.004206344	0.045909007	0.035972642	0.20213349	0.127658485	0.329824706	0.387049491	1.4799273	0.441784
10365420	AI597468	0.374341802	0.254816299	0.003876344	0.0433165	0.032997209	0.19051172	0.119525503	0.314579051	0.379953791	1.469065375	0.443262
10361509	Syne1	-0.442663354	-0.308979024	0.002656522	0.033568201	0.022706725	0.150535006	-0.133684331	-0.375821189	0.355712596	1.432664745	0.443668
10565759	Uvrag	0.462950782	0.321352456	0.003023108	0.036619692	0.025497969	0.16212085	0.141598326	0.392151619	0.36108056	1.44063247	0.44622
10367641	Mthfd1l	0.378185113	0.255700835	0.004456509	0.047385942	0.037258978	0.206024008	0.122484279	0.316942974	0.386455258	1.479013996	0.446239
10367106	Atp5b	0.494175281	0.351325484	0.002116915	0.028593681	0.01764153	0.127412153	0.142849797	0.422750383	0.337905778	1.406602434	0.449037
10354555	Asnsd1	0.505688219	0.35452265	0.00269645	0.033911066	0.02245457	0.149510737	0.151165569	0.430105434	0.351461657	1.426391851	0.449146
10560624	Apoe	0.417489111	0.293818385	0.002566728	0.032777494	0.021284921	0.144238813	0.123670726	0.355653748	0.347727885	1.420908738	0.450088

10554281	Fanci	0.390547915	0.267455938	0.003976807	0.044169923	0.032671347	0.189515962	0.123091977	0.329001927	0.374137556	1.460232731	0.450719
10362036	Hbs1l	0.42770746	0.301853027	0.00253205	0.032447656	0.020790397	0.141992793	0.125854433	0.364780243	0.34501439	1.416939444	0.452196
10417713	Rarb	-0.360731647	-0.248643342	0.003935413	0.043840943	0.03151148	0.185173231	-0.112088305	-0.304687495	0.367879572	1.450799544	0.456315
10514072	Zdhhc21	0.449516349	0.319098059	0.002519465	0.032388126	0.020120233	0.139053887	0.13041829	0.384307204	0.339359472	1.408709128	0.458111
10419744	Slc7a7	0.597390748	0.425257573	0.002398988	0.031289242	0.019158686	0.134398782	0.172133175	0.51132416	0.336641975	1.40477392	0.458116
10521243	Grk4	-0.426449952	-0.299151225	0.00308386	0.037040954	0.024578326	0.158633975	-0.127298727	-0.362800589	0.35087795	1.425533028	0.458246
10551185	Tgfb1	0.38592472	0.269203586	0.003768894	0.042467062	0.028977008	0.175951893	0.116721134	0.327564153	0.356330608	1.433579417	0.465349
10599612	Phf6	0.377097938	0.261288788	0.004220591	0.045962718	0.032262895	0.188039055	0.11580915	0.319193363	0.362818163	1.443222805	0.466046
10441620	Fgfr1op	0.42755984	0.298623582	0.004440719	0.047257205	0.032220129	0.187855811	0.128936258	0.363091711	0.355106587	1.431768507	0.477288
10554521	Pde8a	-0.479823447	-0.335855494	0.004338094	0.04649278	0.031401895	0.184825461	-0.143967953	-0.407839471	0.35300152	1.428660407	0.477942
10565456	Prss23	-0.402022856	-0.281171338	0.004448385	0.047319164	0.032060622	0.187627007	-0.120851518	-0.341597097	0.353783796	1.429814498	0.478768
10563101	Rpl13a	0.526570748	0.375452666	0.003643645	0.041456154	0.025540351	0.162350107	0.151118082	0.451011707	0.335064654	1.402495694	0.485882
10456317	Zfp532	-0.402512909	-0.283342858	0.004667966	0.049005048	0.032183253	0.187702737	-0.119170051	-0.342927884	0.347507615	1.420586041	0.488442
10479743	Gm14496	-0.383752347	-0.271401982	0.004355299	0.046618772	0.030040876	0.179950806	-0.112350365	-0.327577164	0.342973739	1.413962949	0.488731
10453717	Fabp5l2	0.4594095	0.328209604	0.003825984	0.042978278	0.026186146	0.164862888	0.131199895	0.393809552	0.333155696	1.399744229	0.491052

Dataset S2: Functional enrichment analysis of genes that are differentially expressed between NIH and Tgfbm2/3 mice

A. OVA treatment (NIH x Tgfbm2/3)

Term	Count	P-Value
inflammatory response	9	6.20E-07
secreted	30	4.60E-05
macrophage	4	1.30E-04
cytokine	9	2.00E-04
immunoregulation	3	5.20E-04
lymphokine	3	5.40E-03
disulfide bond	36	5.80E-03
inflammation	3	1.10E-02
pyrogen	2	1.90E-02
chemotaxis	4	1.90E-02
acute phase	3	1.90E-02
signal	39	2.00E-02
glycoprotein	45	2.90E-02
receptor	32	3.90E-02
ribonucleoprotein	7	3.90E-02
mitogen	3	4.30E-02

B. Saline treatment (NIH x Tgfbm2/3)

Term	Count	P-Value
cell cycle	15	2.40E-03
ribonucleoprotein	10	8.60E-03
ribosomal protein	8	8.80E-03
protein kinase inhibitor	3	1.00E-02
endoplasmic reticulum	17	1.70E-02
methylation	8	2.50E-02
acetylation	42	2.80E-02
mitosis	7	3.10E-02
mitochondrion inner mem	7	3.30E-02
respiratory chain	4	4.60E-02

Dataset S 3A: Differential expression between congenic *Tgfbm2/3* and NIH mice after OVA exposure

Probe ID	GeneName	GeneDescription	logFC	AveExpr	t	P.Value	adj.P.Val	NumExpectedFalse	B
10362424	Trdn	triadin	1.34718	5.9578	10.0458	1.65E-07	0.00422343	0.00422343	-1.04007
10479975	NA	NA	1.29194	7.92893	8.18989	1.68E-06	0.0215638	0.0431277	-1.31758
10478523	NA	NA	0.951301	7.03248	6.6663	1.52E-05	0.129789	0.389367	-1.66939
10358597	Hmcn1	hemicentin 1	-0.650418	7.65368	-5.80577	6.02E-05	0.276885	1.10754	-1.94281
10593191	NA	NA	0.798801	4.985	5.80283	6.05E-05	0.276885	1.38442	-1.94386
10545239	NA	NA	0.662417	6.26493	5.76191	6.47E-05	0.276885	1.66131	-1.95855
10402981	Gm900	predicted gene 900	-0.608185	6.9832	-5.2156	0.000164278	0.507906	3.55534	-2.17118
10600031	2610030H06Rik	RIKEN cDNA 2610030H06 gene	0.560373	5.97907	5.13359	0.000189601	0.507906	4.06324	-2.20588
10545220	Igk	immunoglobulin kappa chain complex	-0.78989	5.97085	-5.112	0.000196923	0.507906	4.57115	-2.21514
10470318	NA	NA	1.18437	6.55678	5.10926	0.000197875	0.507906	5.07906	-2.21632
10516211	Ndufs5	NADH dehydrogenase (ubiquinone) Fe-S protein 5	-0.552032	7.24281	-4.89968	0.000286806	0.632071	6.95278	-2.3091
10462623	Ifit1	interferon-induced protein with tetratricopeptide repeats 1	0.520966	8.18334	4.87334	0.000300624	0.632071	7.58485	-2.32112
10392096	NA	NA	-0.572155	7.82419	-4.83824	0.000320123	0.632071	8.21692	-2.33727
10473483	Olfr1029	olfactory receptor 1029	0.528364	5.13583	4.58362	0.000507403	0.859325	12.0305	-2.45888
10423894	Tm7sf4	transmembrane 7 superfamily member 4	0.52594	6.32793	4.48311	0.000609915	0.859325	12.8899	-2.50907
10530465	NA	NA	-0.867224	3.8017	-4.46676	0.000628518	0.859325	13.7492	-2.51735
10489909	Ube2v1	ubiquitin-conjugating enzyme E2 variant 1	0.446901	6.15296	4.4647	0.000630912	0.859325	14.6085	-2.5184
10353674	Lsm5	LSM5 homolog, U6 small nuclear RNA associated (S. cerevisiae)	-0.588147	6.25086	-4.45191	0.000645924	0.859325	15.4678	-2.5249
10493856	**Sprr2a**	**small proline-rich protein 2A**	**0.551714**	**8.77149**	**4.43239**	**0.000669569**	**0.859325**	**16.3272**	**-2.53487**
10493858	**Sprr2a**	**small proline-rich protein 2A**	**0.551714**	**8.77149**	**4.43239**	**0.000669569**	**0.859325**	**17.1865**	**-2.53487**
10548345	Klrk1	killer cell lectin-like receptor subfamily K, member 1	0.517037	5.93176	4.26385	0.000914875	0.999875	20.9974	-2.62293
10520452	**Il6**	**interleukin 6**	**0.670605**	**5.71303**	**4.25289**	**0.000933724**	**0.999875**	**21.9972**	**-2.62877**
10516037	Gm12888	predicted gene 12888	0.431671	5.12706	4.23106	0.000972501	0.999875	22.9971	-2.64047
10423738	NA	NA	0.475707	4.95353	4.22821	0.000977683	0.999875	23.997	-2.642
10521964	Gm10440	predicted gene 10440	0.469473	7.24226	4.17577	0.00107829	0.999875	24.9969	-2.67036
10346067	NA	NA	0.608627	4.40463	4.16088	0.00110874	0.999875	25.9967	-2.67847
10403036	Igh	immunoglobulin heavy chain complex	1.85249	5.42879	4.13689	0.00115971	0.999875	26.9966	-2.69161
10586814	NA	NA	0.493698	4.94315	4.12679	0.00118188	0.999875	27.9965	-2.69716
10360367	Gm4955	predicted gene 4955	0.565674	6.00916	4.10076	0.00124106	0.999875	28.9964	-2.71153
10591127	Fat3	FAT tumor suppressor homolog 3 (Drosophila)	-0.491685	6.70898	-4.07706	0.00129757	0.999875	29.9962	-2.72468
10559043	**Muc5ac**	**mucin 5, subtypes A and C, tracheobronchial/gastric**	**0.445971**	**7.43266**	**4.01528**	**0.00145765**	**0.999875**	**30.9961**	**-2.7593**
10415431	Mcpt1	mast cell protease 1	0.57089	5.75791	4.00998	0.00147229	0.999875	31.996	-2.76229
10373620	Olfr772	olfactory receptor 772	0.515802	4.22988	3.99219	0.00152256	0.999875	32.9959	-2.77236
10595145	Gm8074	predicted gene 8074	0.50406	6.18973	3.94099	0.00167728	0.999875	33.9957	-2.80155

10606184	NA	NA	0.451705	3.97197	3.92434	0.00173101	0.999875	34.9956	-2.81112
10523138	Cxcl3	chemokine (C-X-C motif) ligand 3	0.47337	7.0682	3.91643	0.00175712	0.999875	35.9955	-2.81567
10474223	Cd59b	CD59b antigen	0.527244	5.66321	3.88812	0.001854	0.999875	36.9954	-2.83204
10395365	Agr2	anterior gradient 2 (Xenopus laevis)	0.763215	7.91965	3.86815	0.00192563	0.999875	37.9952	-2.84365
10538636	V1rc2	vomeronasal 1 receptor, C2	0.423502	5.05432	3.86015	0.00195509	0.999875	38.9951	-2.84831
10563597	Saa3	serum amyloid A 3	0.576491	7.10313	3.83264	0.00206	0.999875	39.995	-2.86441
10508972	Gm5589	predicted gene 5589	-0.456591	6.66161	-3.82862	0.00207584	0.999875	40.9949	-2.86677
10477475	Plunc	palate, lung, and nasal epithelium associated	1.23204	7.69735	3.8155	0.00212828	0.999875	41.9947	-2.87449
10559580	Syt5	synaptotagmin V	0.426426	6.8363	3.81065	0.00214801	0.999875	42.9946	-2.87734
10537296	NA	NA	-0.461023	5.93981	-3.79211	0.00222518	0.999875	43.9945	-2.88829
10475517	AA467197	expressed sequence AA467197	0.402496	6.1999	3.7853	0.0022542	0.999875	44.9944	-2.89232
10544286	Moxd2	monooxygenase, DBH-like 2	0.429608	5.56462	3.76609	0.00233824	0.999875	45.9942	-2.90373
10432810	Krt74	keratin 74	-0.414302	5.70334	-3.7548	0.00238914	0.999875	46.9941	-2.91045
10395374	Gm5434	ubiquitin-conjugating enzyme E2F (putative) pseudogene	0.543584	5.1903	3.74654	0.00242707	0.999875	47.994	-2.91538
10544687	Cycs	cytochrome c, somatic	0.566465	6.05379	3.7345	0.00248348	0.999875	48.9939	-2.92258
10594798	NA	NA	-0.468331	5.30487	-3.72245	0.00254125	0.999875	49.9937	-2.9298
10376404	Olfr320	olfactory receptor 320	0.41696	7.89181	3.7088	0.00260836	0.999875	50.9936	-2.93801
10441392	Cldn20	claudin 20	-0.399303	7.45532	-3.70297	0.00263755	0.999875	51.9935	-2.94151
10384797	Ccdc85a	coiled-coil domain containing 85A	-0.423279	8.59158	-3.70123	0.00264635	0.999875	52.9934	-2.94256
10390080	Tmem92	transmembrane protein 92	0.437062	4.98923	3.68325	0.00273885	0.999875	53.9932	-2.95342
10513583	Cdc26	cell division cycle 26	-0.40639	6.84677	-3.6536	0.00289865	0.999875	54.9931	-2.9714
10382523	4933422H20Rik	RIKEN cDNA 4933422H20 gene	0.391161	6.13608	3.64936	0.00292229	0.999875	55.993	-2.97398
10472050	Tnfaip6	tumor necrosis factor alpha induced protein 6	0.409959	6.12863	3.6447	0.00294847	0.999875	56.9929	-2.97682
10507777	9530002B09Rik	RIKEN cDNA 9530002B09 gene	0.380831	5.54145	3.64342	0.00295568	0.999875	57.9927	-2.9776
10358581	Hmcn1	hemicentin 1	-0.483279	10.1578	-3.6362	0.00299681	0.999875	58.9926	-2.982
10526217	Rfc2	replication factor C (activator 1) 2	-0.455153	6.63206	-3.60847	0.00316029	0.999875	59.9925	-2.99897
10363187	NA	NA	0.385954	4.81769	3.60384	0.00318847	0.999875	60.9924	-3.00181
10404341	Prl4a1	prolactin family 4, subfamily a, member 1	-0.367777	5.95991	-3.59652	0.00323349	0.999875	61.9922	-3.00631
10598093	Gm9904	predicted gene 9904	0.478939	8.39099	3.57973	0.00333928	0.999875	62.9921	-3.01665
10400189	Gm7172	predicted gene 7172	-0.537149	7.55191	-3.57951	0.00334068	0.999875	63.992	-3.01679
10584514	Olfr972	olfactory receptor 972	0.410481	4.8403	3.57667	0.00335895	0.999875	64.9919	-3.01854
10418812	1700024G13Rik	RIKEN cDNA 1700024G13 gene	0.381632	6.73251	3.57226	0.00338751	0.999875	65.9917	-3.02127
10389717	NA	NA	0.624664	6.04159	3.56055	0.00346443	0.999875	66.9916	-3.0285
10400458	NA	NA	0.425655	5.40039	3.55482	0.00350275	0.999875	67.9915	-3.03206
10344723	Rrs1	RRS1 ribosome biogenesis regulator homolog (S. cerevisiae)	0.572215	7.09321	3.5234	0.0037205	0.999875	68.9914	-3.05158
10358513	Hmcn1	hemicentin 1	-0.411107	7.70316	-3.50225	0.00387477	0.999875	69.9912	-3.06479
10497319	NA	NA	0.667611	4.42793	3.49955	0.00389492	0.999875	70.9911	-3.06648
10438666	NA	NA	-0.387375	7.78079	-3.49847	0.00390301	0.999875	71.991	-3.06715
10439287	NA	NA	0.390671	4.47559	3.49666	0.00391664	0.999875	72.9909	-3.06829

10548385	Olr1	oxidized low density lipoprotein (lectin-like) receptor 1	0.654925	7.26112	3.48683	0.00399132	0.999875	73.9907	-3.07445
10561513	Mrps12	mitochondrial ribosomal protein S12	0.556881	7.40551	3.47425	0.00408901	0.999875	74.9906	-3.08235
10529091	NA	NA	0.952884	5.52358	3.47399	0.00409106	0.999875	75.9905	-3.08251
10555889	Olfr663	olfactory receptor 663	0.352781	5.40881	3.45988	0.00420358	0.999875	76.9904	-3.0914
10431585	Chkb	choline kinase beta	-0.387953	7.30779	-3.45498	0.00424335	0.999875	77.9902	-3.09449
10379511	Ccl2	chemokine (C-C motif) ligand 2	0.455138	8.12556	3.45477	0.0042451	0.999875	78.9901	-3.09462
10577424	NA	NA	0.420237	5.35927	3.4419	0.00435146	0.999875	79.99	-3.10275
10374553	Tmem17	transmembrane protein 17	0.395954	7.01328	3.43329	0.00442413	0.999875	80.9899	-3.10819
10555177	NA	NA	0.451431	5.33993	3.41536	0.00457943	0.999875	81.9897	-3.11956
10597511	Gm5921	predicted gene 5921	-0.865025	6.59008	-3.40043	0.00471299	0.999875	82.9896	-3.12906
10502240	Npnt	nephronectin	-0.42111	9.59286	-3.40008	0.00471621	0.999875	83.9895	-3.12929
10358583	Hmcn1	hemicentin 1	-0.393875	10.7507	-3.39833	0.00473211	0.999875	84.9894	-3.1304
10538580	V1rc7	vomeronasal 1 receptor, C7	0.36692	3.79024	3.38174	0.00488567	0.999875	85.9892	-3.14098
10440903	4932438H23Rik	RIKEN cDNA 4932438H23 gene	0.383643	6.65374	3.37918	0.00490987	0.999875	86.9891	-3.14262
10493910	Gm4858	predicted gene 4858	-0.624752	5.56506	-3.37805	0.0049205	0.999875	87.989	-3.14334
10438423	Olfr165	olfactory receptor 165	0.457679	5.99437	3.36955	0.00500177	0.999875	88.9889	-3.14878
10435787	NA	NA	-0.5593	6.1923	-3.36414	0.00505413	0.999875	89.9887	-3.15224
10510265	Nppa	natriuretic peptide precursor type A	0.497704	6.93221	3.36372	0.00505822	0.999875	90.9886	-3.15251
10591614	Dock6	dedicator of cytokinesis 6	-0.536256	7.62885	-3.35193	0.00517439	0.999875	91.9885	-3.16007
10366158	NA	NA	0.412725	3.86174	3.34	0.00529476	0.999875	92.9884	-3.16774
10518568	Gm13208	ribosomal protein SA pseudogene	-0.44359	5.44908	-3.33906	0.00530429	0.999875	93.9882	-3.16834
10607950	NA	NA	-0.381624	7.01033	-3.33715	0.00532385	0.999875	94.9881	-3.16957
10555877	Olfr654	olfactory receptor 654	0.375423	5.57746	3.33377	0.0053587	0.999875	95.988	-3.17175
10536667	Ptprz1	protein tyrosine phosphatase, receptor type Z, polypeptide 1	-0.376799	6.21012	-3.33173	0.00537979	0.999875	96.9879	-3.17306
10538567	V1rc32	vomeronasal 1 receptor, C32	0.370247	4.47396	3.329	0.00540819	0.999875	97.9877	-3.17482
10549534	NA	NA	-0.406346	6.34481	-3.32891	0.00540907	0.999875	98.9876	-3.17487
10469816	Il1rn	interleukin 1 receptor antagonist	0.538099	7.82725	3.32739	0.00542494	0.999875	99.9875	-3.17585
10480459	**Hnmt**	**histamine N-methyltransferase**	**-0.371321**	**6.57713**	**-3.31384**	**0.00556847**	**0.999875**	**100.987**	**-3.18459**
10600825	Zc3h12b	zinc finger CCCH-type containing 12B	-0.410157	6.27604	-3.30672	0.00564545	0.999875	101.987	-3.1892
10527959	NA	NA	-0.333045	7.19192	-3.30231	0.00569365	0.999875	102.987	-3.19205
10531049	NA	NA	0.500304	5.49466	3.30193	0.00569785	0.999875	103.987	-3.1923
10403013	NA	NA	0.67982	5.39505	3.28882	0.00584364	0.999875	104.987	-3.20079
10522285	C330024D21Rik	RIKEN cDNA C330024D21 gene	0.485636	5.91653	3.28471	0.00589015	0.999875	105.987	-3.20345
10539802	Bmp10	bone morphogenetic protein 10	0.370971	5.39262	3.28309	0.0059085	0.999875	106.987	-3.2045
10608509	NA	NA	0.390444	7.0762	3.27794	0.00596749	0.999875	107.986	-3.20785
10534493	Ccl24	chemokine (C-C motif) ligand 24	0.620415	7.77179	3.27274	0.00602758	0.999875	108.986	-3.21122
10379518	Ccl7	chemokine (C-C motif) ligand 7	0.374461	7.82913	3.2712	0.00604552	0.999875	109.986	-3.21222
10422699	NA	NA	-0.358721	7.19984	-3.26964	0.00606375	0.999875	110.986	-3.21324
10358660	Hmcn1	hemicentin 1	-0.596176	7.73839	-3.26784	0.00608491	0.999875	111.986	-3.21441
10433190	NA	NA	0.443171	4.9124	3.2678	0.00608534	0.999875	112.986	-3.21444
10580733	Bbs2	Bardet-Biedl syndrome 2 (human)	-0.331932	6.87402	-3.25296	0.00626197	0.999875	113.986	-3.2241
10415606	NA	NA	-0.409998	5.20163	-3.24161	0.00640058	0.999875	114.986	-3.23151

10565355	Vmn2r70	vomeronasal 2, receptor 70	0.371747	5.27183	3.22899	0.00655819	0.999875	115.985	-3.23975
10416897	NA	NA	-0.663033	3.57305	-3.228	0.00657075	0.999875	116.985	-3.2404
10578690	Neil3	nei like 3 (E. coli)	-0.343716	6.88882	-3.22049	0.00666658	0.999875	117.985	-3.24532
10562576	Plekhf1	pleckstrin homology domain containing, family F (with FYVE domain) member 1	-0.412402	6.76742	-3.21252	0.00676994	0.999875	118.985	-3.25055
10591125	Fat3	FAT tumor suppressor homolog 3 (Drosophila)	-0.352537	7.36804	-3.20624	0.00685238	0.999875	119.985	-3.25466
10526085	NA	NA	0.377441	5.91434	3.20481	0.00687132	0.999875	120.985	-3.2556
10408900	NA	NA	0.320878	6.47584	3.20466	0.00687325	0.999875	121.985	-3.2557
10537062	Mest	mesoderm specific transcript	-0.395382	7.98758	-3.18876	0.00708727	0.999875	122.985	-3.26615
10373073	D10Ertd610e	DNA segment, Chr 10, ERATO Doi 610, expressed	-0.345031	7.23193	-3.18839	0.00709235	0.999875	123.984	-3.26639
10497613	Gm10258	predicted gene 10258	-0.362732	6.09921	-3.17858	0.00722787	0.999875	124.984	-3.27286
10596148	Trf	transferrin	-0.347465	9.83617	-3.15539	0.00755854	0.999875	125.984	-3.28817
10465366	Zfpl1	zinc finger like protein 1	-0.338945	6.58738	-3.15273	0.00759734	0.999875	126.984	-3.28992
10358599	Hmcn1	hemicentin 1	-0.423835	8.25608	-3.14991	0.0076388	0.999875	127.984	-3.29179
10439409	BC031361	cDNA sequence BC031361	0.354163	5.70328	3.14401	0.00772628	0.999875	128.984	-3.2957
10446769	NA	NA	0.38214	3.61465	3.13943	0.00779473	0.999875	129.984	-3.29873
10356461	Hjurp	Holliday junction recognition protein	0.416156	7.10286	3.12958	0.00794426	0.999875	130.984	-3.30526
10410317	Zfp459	zinc finger protein 459	-0.388587	6.37735	-3.12916	0.00795066	0.999875	131.983	-3.30553
10563911	NA	NA	0.439647	3.32552	3.12837	0.00796286	0.999875	132.983	-3.30606
10351959	1810030J14Rik	RIKEN cDNA 1810030J14 gene	0.40095	4.9933	3.12673	0.00798813	0.999875	133.983	-3.30715
10565994	Art2b	ADP-ribosyltransferase 2b	0.4557	6.38943	3.12373	0.00803446	0.999875	134.983	-3.30914
10531191	Adamts3	a disintegrin-like and metallopeptidase (reprolysin type) with thrombospondin type 1 motif, 3	-0.335563	6.05808	-3.12332	0.00804075	0.999875	135.983	-3.30941
10513266	Olfr267	olfactory receptor 267	0.328484	6.49039	3.11311	0.0082007	0.999875	136.983	-3.3162
10395953	NA	NA	0.361745	6.56912	3.10745	0.00829063	0.999875	137.983	-3.31996
10439289	BC117090	cDNA sequence BC1179090	0.38988	5.4424	3.10662	0.00830391	0.999875	138.983	-3.32051
10545569	Reg3g	regenerating islet-derived 3 gamma	1.02843	8.00832	3.09267	0.00853043	0.999875	139.982	-3.32981
10358658	Hmcn1	hemicentin 1	-0.559923	9.35044	-3.0921	0.00853973	0.999875	140.982	-3.33019
10582190	Gins2	GINS complex subunit 2 (Psf2 homolog)	-0.325205	7.71734	-3.09208	0.00854014	0.999875	141.982	-3.3302
10499899	**Sprr1a**	**small proline-rich protein 1A**	**0.387723**	**8.05856**	**3.08292**	**0.00869217**	**0.999875**	**142.982**	**-3.33631**
10452376	Vmn2r120	vomeronasal 2, receptor 120	0.328112	5.79508	3.06994	0.00891249	0.999875	143.982	-3.34498
10397559	Gm8655	predicted gene 8655	0.482262	7.03908	3.06722	0.00895934	0.999875	144.982	-3.3468
10583418	Olfr857	olfactory receptor 857	-0.366155	4.71645	-3.05014	0.00925926	0.999875	145.982	-3.35824
10401665	NA	NA	0.405765	5.49809	3.04679	0.00931927	0.999875	146.982	-3.36048
10476880	A530006G24Rik	RIKEN cDNA A530006G24 gene	-0.378696	6.63898	-3.04541	0.0093441	0.999875	147.981	-3.36141
10484283	Pde1a	phosphodiesterase 1A, calmodulin-dependent	0.322068	6.18459	3.03742	0.00948902	0.999875	148.981	-3.36677
10380965	Gsdma2	gasdermin A2	0.350401	5.12837	3.03169	0.00959443	0.999875	149.981	-3.37062

10563407	Kcnj14	potassium inwardly-rectifying channel, subfamily J, member 14	0.314553	7.54943	3.03159	0.00959627	0.999875	150.981	-3.37068
10346678	Carf	calcium response factor	-0.398666	6.74575	-3.0289	0.0096461	0.999875	151.981	-3.37249
10346928	NA	NA	0.334689	6.10137	3.02729	0.0096762	0.999875	152.981	-3.37358
10499363	Bglap1	bone gamma carboxyglutamate protein 1	0.356403	7.79753	3.02637	0.00969336	0.999875	153.981	-3.37419
10345875	NA	NA	0.520353	6.27269	3.02111	0.00979207	0.999875	154.981	-3.37773
10384782	Vrk2	vaccinia related kinase 2	0.329852	6.38551	3.02088	0.00979636	0.999875	155.98	-3.37788
10376950	Pmp22	peripheral myelin protein 22	-0.59586	10.9042	-3.01283	0.00994962	0.999875	156.98	-3.3833
10491619	4932438A13Rik	RIKEN cDNA 4932438A13 gene	-0.348723	8.03325	-3.00908	0.0100217	0.999875	157.98	-3.38583
10416850	Scel	sciellin	-0.389509	9.35264	-3.00694	0.0100631	0.999875	158.98	-3.38727
10572960	LOC100039235	hypothetical protein LOC100039235	-0.369073	7.06316	-3.00583	0.0100846	0.999875	159.98	-3.38801
10487588	Il1a	interleukin 1 alpha	0.554749	7.00552	3.00538	0.0100934	0.999875	160.98	-3.38832
10452468	E130009J12Rik	RIKEN cDNA E130009J12 gene	0.454738	7.12703	3.00385	0.0101233	0.999875	161.98	-3.38935
10493905	NA	NA	0.503051	4.48181	2.99972	0.0102041	0.999875	162.98	-3.39214
10368050	Ect2l	epithelial cell transforming sequence 2 oncogene-like	-0.337129	5.26621	-2.99574	0.0102827	0.999875	163.979	-3.39482
10565204	Bnc1	basonuclin 1	0.310145	6.5935	2.99535	0.0102904	0.999875	164.979	-3.39508
10601461	Cylc1	cylicin, basic protein of sperm head cytoskeleton 1	0.306373	4.65978	2.9946	0.0103051	0.999875	165.979	-3.39558
10491617	4932438A13Rik	RIKEN cDNA 4932438A13 gene	-0.314021	8.87035	-2.98891	0.0104187	0.999875	166.979	-3.39942
10472944	NA	NA	0.361055	4.93866	2.9881	0.0104349	0.999875	167.979	-3.39997
10571749	NA	NA	0.416771	5.92889	2.98551	0.0104871	0.999875	168.979	-3.40172
10550217	Crxos1	Crx opposite strand transcript 1	0.329887	5.40884	2.98187	0.010561	0.999875	169.979	-3.40418
10420596	Tnfrsf19	tumor necrosis factor receptor superfamily, member 19	-0.308318	7.15118	-2.97675	0.0106656	0.999875	170.979	-3.40764
10479973	Gm10115	predicted gene 10115	-0.38636	9.2463	-2.96832	0.0108401	0.999875	171.978	-3.41334
10368173	4933406P04Rik	RIKEN cDNA 4933406P04 gene	-0.313718	5.31447	-2.96323	0.010947	0.999875	172.978	-3.41679
10445153	Olfr121	olfactory receptor 121	-0.369581	4.76333	-2.96286	0.0109547	0.999875	173.978	-3.41704
10482123	Olfr351	olfactory receptor 351	0.318459	5.77212	2.95705	0.0110779	0.999875	174.978	-3.42097
10566620	Olfr711	olfactory receptor 711	0.394745	6.05021	2.95522	0.011117	0.999875	175.978	-3.42221
10533085	Pebp1	phosphatidylethanolamine binding protein 1	-0.449266	7.14388	-2.95497	0.0111223	0.999875	176.978	-3.42238
10406614	Mtx3	metaxin 3	-0.309362	6.748	-2.95238	0.011178	0.999875	177.978	-3.42414
10412414	4833420G17Rik	RIKEN cDNA 4833420G17 gene	-0.369693	7.02085	-2.94639	0.0113075	0.999875	178.978	-3.4282
10404898	Gm1574	predicted gene 1574	0.321952	6.9371	2.94542	0.0113287	0.999875	179.977	-3.42886
10565990	Art2a	ADP-ribosyltransferase 2a	0.467023	7.18712	2.94518	0.0113339	0.999875	180.977	-3.42902
10398859	Adssl1	adenylosuccinate synthetase like 1	0.306841	7.12916	2.93927	0.0114635	0.999875	181.977	-3.43303
10598976	Timp1	tissue inhibitor of metalloproteinase 1	0.44508	7.30858	2.93123	0.0116424	0.999875	182.977	-3.43849
10492983	Fcrl5	Fc receptor-like 5	0.322588	6.10231	2.92819	0.0117105	0.999875	183.977	-3.44055
10444587	NA	NA	0.324429	6.32399	2.92763	0.0117232	0.999875	184.977	-3.44094
10454632	Camk4	calcium/calmodulin-dependent protein kinase IV	0.298474	6.20393	2.92527	0.0117766	0.999875	185.977	-3.44254

10402347	Ifi27l2a	interferon, alpha-inducible protein 27 like 2A	0.325175	7.22826	2.92457	0.0117924	0.999875	186.977	-3.44302
10576386	Rhou	ras homolog gene family, member U	0.347981	7.5999	2.92172	0.0118574	0.999875	187.976	-3.44496
10406548	NA	NA	0.437567	5.66042	2.91813	0.0119394	0.999875	188.976	-3.4474
10458888	NA	NA	-0.47547	3.82931	-2.91717	0.0119616	0.999875	189.976	-3.44805
10499089	NA	NA	0.402351	5.56268	2.91563	0.0119971	0.999875	190.976	-3.4491
10345077	Khdc1a	KH domain containing 1A	-0.410607	4.88996	-2.91552	0.0119996	0.999875	191.976	-3.44918
10519988	AI847670	expressed sequence AI847670	-0.323897	7.17885	-2.90892	0.0121529	0.999875	192.976	-3.45367
10480288	Nebl	nebulette	-0.321632	8.70284	-2.8989	0.0123891	0.999875	193.976	-3.46049
10586174	NA	NA	-0.335214	5.28198	-2.89681	0.0124392	0.999875	194.976	-3.46192
10597960	Slc6a20a	solute carrier family 6 (neurotransmitter transporter), member 20A	-0.296206	7.59733	-2.89373	0.012513	0.999875	195.975	-3.46402
10571198	Gm1698	predicted gene 1698	0.326724	5.51721	2.89246	0.0125436	0.999875	196.975	-3.46488
10354773	Hsfy2	heat shock transcription factor, Y linked 2	0.325707	4.73543	2.89022	0.0125977	0.999875	197.975	-3.46641
10386703	Gm12271	predicted gene 12271	0.374317	5.65944	2.88806	0.0126501	0.999875	198.975	-3.46788
10538269	NA	NA	-0.302144	5.32311	-2.88464	0.0127335	0.999875	199.975	-3.47022
10582839	Gm9909	predicted gene 9909	-0.349646	7.55996	-2.88379	0.0127543	0.999875	200.975	-3.4708
10403579	Prl2c5	prolactin family 2, subfamily c, member 5	0.405004	5.57833	2.88314	0.0127703	0.999875	201.975	-3.47124
10407803	Gpr137b	G protein-coupled receptor 137B	-0.408478	7.19423	-2.88023	0.0128418	0.999875	202.975	-3.47323
10549055	NA	NA	0.431987	5.08095	2.87777	0.0129028	0.999875	203.974	-3.47491
10582458	Ankrd11	ankyrin repeat domain 11	-0.294785	7.04711	-2.87609	0.0129444	0.999875	204.974	-3.47605
10403750	2810021B07Rik	RIKEN cDNA 2810021B07 gene	-0.353121	8.58741	-2.87292	0.0130236	0.999875	205.974	-3.47822
10583291	2200002K05Rik	RIKEN cDNA 2200002K05 gene	0.359157	6.31219	2.8724	0.0130365	0.999875	206.974	-3.47857
10397507	Gstz1	glutathione transferase zeta 1 (maleylacetoacetate isomerase)	-0.332998	6.46998	-2.87232	0.0130387	0.999875	207.974	-3.47863
10421293	Ppp3cc	protein phosphatase 3, catalytic subunit, gamma isoform	-0.295463	8.62844	-2.869	0.0131219	0.999875	208.974	-3.4809
10451167	Tmem63b	transmembrane protein 63b	-0.344867	8.28697	-2.85807	0.0134004	0.999875	209.974	-3.48837
10581917	4932417I16Rik	RIKEN cDNA 4932417I16 gene	-0.288378	6.54277	-2.8548	0.0134848	0.999875	210.974	-3.49061
10495820	Fabp2	fatty acid binding protein 2, intestinal	0.337377	6.06809	2.8531	0.013529	0.999875	211.973	-3.49178
10507775	NA	NA	0.375778	4.46735	2.84991	0.0136122	0.999875	212.973	-3.49396
10469579	NA	NA	0.323314	5.80849	2.84683	0.0136928	0.999875	213.973	-3.49607
10606835	Bex2	brain expressed X-linked 2	0.391617	5.89828	2.84604	0.0137137	0.999875	214.973	-3.49661
10572083	NA	NA	0.372332	6.16685	2.84489	0.013744	0.999875	215.973	-3.4974
10502791	Ifi44	interferon-induced protein 44	0.461923	8.02579	2.84465	0.0137503	0.999875	216.973	-3.49756
10358635	Hmcn1	hemicentin 1	-0.338885	7.66413	-2.84239	0.01381	0.999875	217.973	-3.49911
10350504	Gm5263	predicted gene 5263	-0.323132	8.04567	-2.83959	0.0138846	0.999875	218.973	-3.50103
10362442	Trdn	triadin	0.601865	6.71536	2.83694	0.0139552	0.999875	219.972	-3.50284
10439974	Gm8900	predicted gene 8900	0.361742	5.43854	2.8348	0.0140127	0.999875	220.972	-3.50431
10548779	Pbp2	phosphatidylethanolamine binding protein 2	0.350254	6.23911	2.83263	0.0140711	0.999875	221.972	-3.5058

10470182	Bmyc	brain expressed myelocytomatosis oncogene	0.299731	7.34202	2.82578	0.0142573	0.999875	222.972	-3.5105
10598598	1700054O13Rik	RIKEN cDNA 1700054O13 gene	0.298106	7.21737	2.82097	0.0143897	0.999875	223.972	-3.5138
10476950	NA	NA	0.300716	5.90719	2.81923	0.0144377	0.999875	224.972	-3.515
10358601	Hmcn1	hemicentin 1	-0.351144	8.55008	-2.81737	0.0144892	0.999875	225.972	-3.51627
10376376	1810065E05Rik	RIKEN cDNA 1810065E05 gene	0.392127	5.3718	2.80549	0.0148232	0.999875	226.972	-3.52443
10415608	Ift88	intraflagellar transport 88 homolog (Chlamydomonas)	-0.296567	8.19303	-2.80484	0.0148416	0.999875	227.971	-3.52488
10543460	6332401O19Rik	RIKEN cDNA 6332401O19 gene	0.291862	6.29064	2.80443	0.0148532	0.999875	228.971	-3.52516
10379630	Slfn2	schlafen 2	0.363942	7.73285	2.801	0.0149513	0.999875	229.971	-3.52752
10553027	Fut1	fucosyltransferase 1	-0.289407	5.76655	-2.79471	0.0151327	0.999875	230.971	-3.53185
10501164	Csf1	colony stimulating factor 1 (macrophage)	0.283695	7.31302	2.79442	0.0151411	0.999875	231.971	-3.53205
10497329	NA	NA	0.399884	6.26731	2.79423	0.0151468	0.999875	232.971	-3.53218
10462281	Vldlr	very low density lipoprotein receptor	-0.34193	8.12286	-2.78737	0.0153473	0.999875	233.971	-3.5369
10358577	Hmcn1	hemicentin 1	-0.471074	10.1355	-2.7863	0.0153785	0.999875	234.971	-3.53763
10428081	Hrsp12	heat-responsive protein 12	-0.353649	7.3007	-2.78526	0.0154094	0.999875	235.97	-3.53835
10487597	Il1b	interleukin 1 beta	0.414658	8.83271	2.78121	0.0155294	0.999875	236.97	-3.54114
10562603	NA	NA	0.340421	3.92956	2.77603	0.0156843	0.999875	237.97	-3.54471
10501895	Myoz2	myozenin 2	0.415454	7.33102	2.77556	0.0156983	0.999875	238.97	-3.54503
10467258	Myof	myoferlin	-0.351434	8.79882	-2.77515	0.0157107	0.999875	239.97	-3.54532
10542255	Tas2r113	taste receptor, type 2, member 113	0.327596	6.58407	2.77396	0.0157465	0.999875	240.97	-3.54613
10403834	Sfrp4	secreted frizzled-related protein 4	0.332606	6.919	2.77081	0.0158419	0.999875	241.97	-3.54831
10546533	NA	NA	0.324446	7.42551	2.77071	0.0158448	0.999875	242.97	-3.54837
10522494	Gm6116	predicted gene 6116	0.31099	5.38716	2.77067	0.0158461	0.999875	243.969	-3.5484
10537676	1700034O15Rik	RIKEN cDNA 1700034O15 gene	0.327383	5.96705	2.76886	0.015901	0.999875	244.969	-3.54965
10546024	Prokr1	prokineticin receptor 1	-0.361833	6.4937	-2.76732	0.015948	0.999875	245.969	-3.55071
10549982	V1rg2	vomeronasal 1 receptor, G2	0.288609	4.76806	2.76496	0.0160202	0.999875	246.969	-3.55234
10527182	E130309D02Rik	RIKEN cDNA E130309D02 gene	0.400019	6.89584	2.75981	0.016179	0.999875	247.969	-3.55589
10577449	Atp7b	ATPase, Cu++ transporting, beta polypeptide	-0.302512	7.23344	-2.75875	0.0162119	0.999875	248.969	-3.55662
10404452	Serpinb9d	serine (or cysteine) peptidase inhibitor, clade B, member 9d	0.318939	4.84132	2.75624	0.01629	0.999875	249.969	-3.55835
10412062	Gm6233	predicted gene 6233	0.328437	7.72628	2.75486	0.0163329	0.999875	250.969	-3.5593
10490913	Car3	carbonic anhydrase 3	0.476554	8.02995	2.75427	0.0163516	0.999875	251.968	-3.55971
10456754	Gm10532	predicted gene 10532	-0.311764	6.32315	-2.75201	0.0164224	0.999875	252.968	-3.56127
10373000	Xrcc6bp1	XRCC6 binding protein 1	-0.283596	7.33493	-2.74584	0.0166173	0.999875	253.968	-3.56553
10403743	**Inhba**	**inhibin beta-A**	**0.414779**	**7.51885**	**2.74362**	**0.0166881**	**0.999875**	**254.968**	**-3.56706**
10442052	Gm6712	predicted gene 6712	-0.392149	7.65153	-2.74309	0.0167052	0.999875	255.968	-3.56743
10545200	LOC100046894	similar to Igk-C protein	-0.42186	6.81669	-2.73859	0.0168495	0.999875	256.968	-3.57054
10465826	AI462493	expressed sequence AI462493	0.289464	6.95922	2.73452	0.0169812	0.999875	257.968	-3.57335
10407057	Ercc8	excision repaiross-complementing rodent repair deficiency, complementation group 8	-0.287457	6.5057	-2.73209	0.0170604	0.999875	258.968	-3.57503

10580635	Ces3	carboxylesterase 3	-0.377248	8.93402	-2.73207	0.0170608	0.999875	259.967	-3.57504
10450369	Hspa1a	heat shock protein 1A	0.520311	8.3405	2.73101	0.0170955	0.999875	260.967	-3.57577
10488372	Gm14115	predicted gene 14115	0.325022	6.84684	2.72608	0.0172573	0.999875	261.967	-3.57918
10577067	NA	NA	0.339788	5.77821	2.72015	0.0174543	0.999875	262.967	-3.58329
10542335	Gprc5a	G protein-coupled receptor, family C, group 5, member A	-0.308768	7.8282	-2.71723	0.0175518	0.999875	263.967	-3.5853
10473630	Olfr1260	olfactory receptor 1260	0.290637	5.86882	2.71025	0.0177877	0.999875	264.967	-3.59014
10463476	Kazald1	Kazal-type serine peptidase inhibitor domain 1	-0.300456	5.84126	-2.70935	0.0178183	0.999875	265.967	-3.59076
10451670	Bzrpl1	benzodiazapine receptor, peripheral-like 1	0.293589	6.17736	2.70879	0.0178371	0.999875	266.967	-3.59114
10381561	Asb16	ankyrin repeat and SOCS box-containing 16	0.280043	6.4149	2.70722	0.0178907	0.999875	267.966	-3.59223
10531495	Gm5109	predicted gene 5109	0.372702	6.34703	2.70595	0.0179344	0.999875	268.966	-3.59311
10550494	NA	NA	0.305491	5.08263	2.70383	0.0180069	0.999875	269.966	-3.59458
10481962	Hc	hemolytic complement	-0.325999	9.80946	-2.70086	0.0181094	0.999875	270.966	-3.59663
10517703	LOC626000	similar to Cyclin D3	-0.396468	6.50434	-2.70026	0.0181302	0.999875	271.966	-3.59705
10438478	Abcc5	ATP-binding cassette, sub-family C (CFTR/MRP), member 5	-0.33107	7.61171	-2.69969	0.01815	0.999875	272.966	-3.59745
10545886	1700019G17Rik	RIKEN cDNA 1700019G17 gene	-0.319109	6.3826	-2.69834	0.0181969	0.999875	273.966	-3.59838
10504650	NA	NA	0.293348	6.84153	2.69684	0.018249	0.999875	274.966	-3.59942
10401997	Ptpn21	protein tyrosine phosphatase, non-receptor type 21	-0.296022	7.15851	-2.69369	0.018359	0.999875	275.965	-3.6016
10415952	NA	NA	-0.46903	7.20679	-2.69274	0.0183923	0.999875	276.965	-3.60226
10368875	Armc2	armadillo repeat containing 2	0.301207	6.51205	2.6925	0.0184007	0.999875	277.965	-3.60242
10505356	Zfp618	zinc fingerprotein 618	0.281142	7.66326	2.68264	0.0187504	0.999875	278.965	-3.60926
10436412	Olfr195	olfactory receptor 195	0.313299	4.72088	2.68153	0.0187903	0.999875	279.965	-3.61003
10598833	Chst7	carbohydrate (N-acetylglucosamino) sulfotransferase 7	0.29577	6.37442	2.67952	0.0188622	0.999875	280.965	-3.61142
10433197	Olfr161	olfactory receptor 161	-0.437757	6.19309	-2.67801	0.018917	0.999875	281.965	-3.61248
10359908	Rgs4	regulator of G-protein signaling 4	0.331341	7.83786	2.67526	0.0190163	0.999875	282.965	-3.61438
10418982	4930596D02Rik	RIKEN cDNA 4930596D02 gene	0.311498	6.80703	2.67503	0.0190245	0.999875	283.964	-3.61454
10499945	Lce1l	late cornified envelope 1L	0.281607	6.19674	2.67117	0.0191651	0.999875	284.964	-3.61722
10606060	Gm4779	predicted gene 4779	0.305371	6.61847	2.67067	0.0191835	0.999875	285.964	-3.61756
10539983	BC048671	cDNA sequence BC048671	0.276806	6.35383	2.66893	0.0192471	0.999875	286.964	-3.61877
10595094	2310046A06Rik	RIKEN cDNA 2310046A06 gene	0.304034	6.65088	2.66608	0.0193521	0.999875	287.964	-3.62075
10598071	NA	NA	0.425106	4.09125	2.66285	0.0194716	0.999875	288.964	-3.62299
10430132	Zfp647	zinc finger protein 647	-0.289917	6.55986	-2.66164	0.0195165	0.999875	289.964	-3.62383
10592404	Olfr948	olfactory receptor 948	0.404057	3.99398	2.66103	0.0195394	0.999875	290.964	-3.62425
10566155	NA	NA	0.301035	7.17142	2.65827	0.0196424	0.999875	291.963	-3.62617
10450874	Olfr101	olfactory receptor 101	-0.28638	5.94262	-2.6569	0.0196938	0.999875	292.963	-3.62712
10375083	Stk10	serine/threonine kinase 10	-0.275755	7.06364	-2.65337	0.0198267	0.999875	293.963	-3.62957
10361356	NA	NA	0.532314	6.63481	2.65145	0.0198993	0.999875	294.963	-3.63091

10406941	Sgtb	small glutamine-rich tetratricopeptide repeat (TPR)-containing, beta	-0.307648	6.8482	-2.65123	0.0199076	0.999875	295.963	-3.63106
10359582	Fmo2	flavin containing monooxygenase 2	-0.424406	10.0489	-2.65035	0.019941	0.999875	296.963	-3.63167
10467136	Ch25h	cholesterol 25-hydroxylase	0.349615	7.63292	2.65024	0.0199453	0.999875	297.963	-3.63175

DatasetS 3B: Differential expression between NIH and congenic *Tgfbm2/3* mice after saline exposure

Probe ID	GeneName	Gene Description	logFC	AveExpr	t	P.Value	adj.P.Val	NumExpectedFalse Discoveries	B
10479975	NA	NA	1.394	7.92893	8.83686	7.18E-07	0.0184214	0.0184214	-1.53495
10591123	Fat3	FAT tumor suppressor homolog 3 (Drosophila)	-0.688868	7.44678	-6.25044	2.91E-05	0.239986	0.479972	-2.05307
10489909	Ube2v1	ubiquitin-conjugating enzyme E2 variant 1	0.622252	6.15296	6.21651	3.08E-05	0.239986	0.719959	-2.0626
10436095	Retnla	resistin like alpha	0.796869	10.5529	6.0956	3.74E-05	0.239986	0.959945	-2.09734
10470320	NA	NA	0.731817	6.8718	5.73188	6.81E-05	0.349344	1.74672	-2.20922
10366158	NA	NA	0.680434	3.86174	5.50644	9.95E-05	0.425819	2.55491	-2.28448
10597918	NA	NA	0.513475	7.77284	4.95892	0.000258087	0.93598	6.55186	-2.48798
10493831	S100a8	S100 calcium binding protein A8 (calgranulin A)	0.714693	8.10711	4.80837	0.000337755	0.93598	7.48784	-2.54943
10478523	NA	NA	0.679547	7.03248	4.76197	0.000367172	0.93598	8.42382	-2.56887
10544638	Tra2a	transformer 2 alpha homolog (Drosophila)	0.59984	8.57119	4.75373	0.000372666	0.93598	9.3598	-2.57234
10490299	NA	NA	0.512326	3.59002	4.65184	0.000448138	0.93598	10.2958	-2.61596
10545239	NA	NA	-0.531164	6.26493	-4.62023	0.000474651	0.93598	11.2318	-2.62973
10356461	Hjurp	Holliday junction recognition protein	0.613534	7.10286	4.6139	0.00048016	0.93598	12.1677	-2.63251
10559728	NA	NA	0.545412	4.68028	4.58028	0.000510508	0.93598	13.1037	-2.6473
10351043	NA	NA	0.470789	8.64592	4.31395	0.000833529	0.99974	14.9961	-2.76906
10511252	Ube2j2	ubiquitin-conjugating enzyme E2, J2 homolog (yeast)	0.513371	6.59156	4.30381	0.000849357	0.99974	15.9958	-2.77386
10591118	Fat3	FAT tumor suppressor homolog 3 (Drosophila)	-0.610416	9.21341	-4.27149	0.00090196	0.99974	16.9956	-2.78923
10497077	NA	NA	0.532217	4.22855	4.21566	0.00100085	0.99974	17.9953	-2.81608
10365492	Gm5174	predicted gene 5174	-0.507828	6.4302	-4.21439	0.00100323	0.99974	18.9951	-2.81669
10416705	Gm9264	predicted gene 9264	0.506653	7.3878	4.20053	0.00102953	0.99974	19.9948	-2.82341
10499861	S100a9	S100 calcium binding protein A9 (calgranulin B)	0.691118	9.23069	4.15005	0.00113147	0.99974	20.9945	-2.84808
10593191	NA	NA	0.569935	4.985	4.14025	0.00115243	0.99974	21.9943	-2.8529
10546944	Tmem111	transmembrane protein 111	-0.487306	9.97717	-3.98137	0.001554	0.99974	22.994	-2.93268
10427667	NA	NA	-0.536256	7.34688	-3.97962	0.00155913	0.99974	23.9938	-2.93357
10346069	Gm8304	predicted gene 8304	0.458005	5.48191	3.9663	0.00159889	0.99974	24.9935	-2.9404

10550494	NA	NA	0.441799	5.08263	3.91027	0.00177775	0.99974	25.9932	-2.96932
10585706	Cox5a	cytochrome c oxidase, subunit Va	0.468905	8.89803	3.89753	0.0018212	0.99974	26.993	-2.97595
10500524	NA	NA	0.506897	5.6791	3.85252	0.00198363	0.99974	27.9927	-2.99952
10456968	Gm6133	predicted gene 6133	0.672685	4.42997	3.80545	0.00216937	0.99974	28.9925	-3.02442
10533858	Eif2b1	eukaryotic translation initiation factor 2B, subunit 1 (alpha)	-0.412219	6.97704	-3.79897	0.00219628	0.99974	29.9922	-3.02786
10443463	Cdkn1a	cyclin-dependent kinase inhibitor 1A (P21)	-0.418676	8.00386	-3.79766	0.00220178	0.99974	30.9919	-3.02856
10578320	Gm8423	predicted gene 8423	0.496486	6.93168	3.7963	0.00220747	0.99974	31.9917	-3.02928
10491913	NA	NA	-0.549709	4.46789	-3.76239	0.00235479	0.99974	32.9914	-3.04741
10545255	Rpia	ribose 5-phosphate isomerase A	0.409998	6.94913	3.76066	0.00236258	0.99974	33.9912	-3.04834
10585986	Myo9a	myosin IXa	-0.609314	8.47898	-3.75898	0.00237018	0.99974	34.9909	-3.04924
10484704	Olfr1157	olfactory receptor 1157	0.418631	5.5094	3.73033	0.00250333	0.99974	35.9906	-3.06467
10400124	Gm7239	predicted gene 7239	0.410634	7.27438	3.71337	0.00258569	0.99974	36.9904	-3.07385
10541895	Tnfrsf1a	tumor necrosis factor receptor superfamily, member 1a	0.380194	7.4899	3.70756	0.00261456	0.99974	37.9901	-3.077
10450694	H2-T22	histocompatibility 2, T region locus 22	0.407411	6.21232	3.67291	0.00279355	0.99974	38.9899	-3.09587
10445796	AI314976	expressed sequence AI314976	0.384334	6.95405	3.6502	0.0029176	0.99974	39.9896	-3.10831
10508721	Snora44	small nucleolar RNA, H/ACA box 44	0.39248	7.54501	3.63914	0.00297999	0.99974	40.9893	-3.11438
10552090	Abpe	androgen binding protein epsilon	0.433917	5.05221	3.63805	0.00298626	0.99974	41.9891	-3.11499
10350341	NA	NA	0.452224	6.10585	3.62329	0.00307182	0.99974	42.9888	-3.12312
10591125	Fat3	FAT tumor suppressor homolog 3 (Drosophila)	-0.396577	7.36804	-3.60677	0.0031706	0.99974	43.9886	-3.13225
10404783	Edn1	endothelin 1	-0.3916	7.74929	-3.59808	0.00322386	0.99974	44.9883	-3.13707
10503172	Chd7	chromodomain helicase DNA binding protein 7	0.645144	6.97362	3.57197	0.00338937	0.99974	45.988	-3.15159
10474541	Nop10	NOP10 ribonucleoprotein homolog (yeast)	0.422793	8.44521	3.56776	0.00341686	0.99974	46.9878	-3.15394
10428837	NA	NA	0.546331	6.70102	3.56711	0.00342109	0.99974	47.9875	-3.1543
10400508	Gm4805	ribosomal protein L26 pseudogene	0.402567	5.60751	3.56666	0.00342406	0.99974	48.9873	-3.15456
10540296	NA	NA	-0.503119	7.72644	-3.55249	0.0035184	0.99974	49.987	-3.16247
10376230	G3bp1	Ras-GTPase-activating protein SH3-domain binding protein 1	0.365858	7.37985	3.5457	0.0035646	0.99974	50.9868	-3.16628
10536324	Asb4	ankyrin repeat and SOCS box-containing 4	0.374892	5.70842	3.53003	0.00367343	0.99974	51.9865	-3.17507
10389732	Gm15698	transcription elongation factor B (SIII), polypeptide 2 pseudogene	0.425684	6.74537	3.52498	0.00370922	0.99974	52.9862	-3.17791
10472398	Scn2a1	sodium channel, voltage-gated, type II, alpha 1	-0.386062	6.51037	-3.51337	0.00379287	0.99974	53.986	-3.18445
10516211	Ndufs5	NADH dehydrogenase (ubiquinone) Fe-S protein 5	-0.395583	7.24281	-3.51108	0.00380959	0.99974	54.9857	-3.18574
10584315	NA	NA	-0.585202	6.48167	-3.50267	0.00387162	0.99974	55.9855	-3.19049
10502785	Gm10287	predicted gene 10287	-0.452025	6.5328	-3.50081	0.00388551	0.99974	56.9852	-3.19154
10546417	Trh	thyrotropin releasing hormone	0.44649	6.5496	3.49962	0.00389437	0.99974	57.9849	-3.19221

10514830	Ttc4	tetratricopeptide repeat domain 4	0.387691	7.0289	3.49524	0.00392731	0.99974	58.9847	-3.19469
10591129	Fat3	FAT tumor suppressor homolog 3 (Drosophila)	-0.467073	8.32561	-3.49443	0.00393346	0.99974	59.9844	-3.19515
10434698	Fetub	fetuin beta	0.392831	6.52341	3.48788	0.00398325	0.99974	60.9842	-3.19886
10516658	Ccdc28b	coiled coil domain containing 28B	0.394252	7.80585	3.47691	0.00406813	0.99974	61.9839	-3.20508
10523672	NA	NA	-0.398128	5.94602	-3.47381	0.00409248	0.99974	62.9836	-3.20685
10515090	Cdkn2c	cyclin-dependent kinase inhibitor 2C (p18, inhibits CDK4)	0.365237	7.27382	3.46508	0.00416175	0.99974	63.9834	-3.21181
10542241	Tas2r120	taste receptor, type 2, member 120	0.445924	5.29695	3.46484	0.00416362	0.99974	64.9831	-3.21194
10550181	NA	NA	0.717979	5.7491	3.46288	0.0041794	0.99974	65.9829	-3.21306
10347158	NA	NA	-0.382758	5.48482	-3.46287	0.00417948	0.99974	66.9826	-3.21307
10470318	NA	NA	0.795559	6.55678	3.43196	0.00443552	0.99974	67.9823	-3.23071
10591127	Fat3	FAT tumor suppressor homolog 3 (Drosophila)	-0.412256	6.70898	-3.41844	0.00455244	0.99974	68.9821	-3.23846
10489498	Dbndd2	dysbindin (dystrobrevin binding protein 1) domain containing 2	-0.378336	8.72572	-3.41806	0.00455575	0.99974	69.9818	-3.23868
10531256	AU017193	expressed sequence AU017193	0.479233	8.74699	3.41243	0.00460536	0.99974	70.9816	-3.24191
10459335	Fam38b	family with sequence similarity 38, member B	-0.41095	8.3969	-3.40031	0.00471408	0.99974	71.9813	-3.24888
10528909	NA	NA	0.412208	5.01144	3.39542	0.00475871	0.99974	72.981	-3.2517
10491751	NA	NA	0.400933	4.86331	3.39481	0.00476422	0.99974	73.9808	-3.25204
10404356	Gm11362	predicted gene 11362	0.444179	6.0253	3.39335	0.00477771	0.99974	74.9805	-3.25289
10549588	Rps9	ribosomal protein S9	0.444991	8.481	3.39107	0.00479872	0.99974	75.9803	-3.2542
10559720	Rasl2-9	RAS-like, family 2, locus 9	0.413693	5.2996	3.39005	0.00480815	0.99974	76.98	-3.25479
10601901	1700014N06Rik	RIKEN cDNA 1700014N06 gene	-0.349988	6.25227	-3.38543	0.00485108	0.99974	77.9797	-3.25745
10423791	4930447A16Rik	RIKEN cDNA 4930447A16 gene	0.38045	7.31427	3.3808	0.00489452	0.99974	78.9795	-3.26013
10385361	Ublcp1	ubiquitin-like domain containing CTD phosphatase 1	0.456992	6.85859	3.37414	0.00495777	0.99974	79.9792	-3.26398
10379820	Acaca	acetyl-Coenzyme A carboxylase alpha	0.392393	6.44395	3.37388	0.0049602	0.99974	80.979	-3.26413
10502196	Rpl34	ribosomal protein L34	0.490493	7.7111	3.3708	0.00498972	0.99974	81.9787	-3.26591
10449315	2900010M23Rik	RIKEN cDNA 2900010M23 gene	0.409676	7.28556	3.36783	0.00501839	0.99974	82.9784	-3.26763
10398436	NA	NA	0.421356	5.81077	3.35061	0.00518761	0.99974	83.9782	-3.27761
10362701	Ddo	D-aspartate oxidase	-0.397428	6.60611	-3.34269	0.00526739	0.99974	84.9779	-3.28221
10362464	Sult3a1	sulfotransferase family 3A, member 1	0.343831	4.09553	3.34178	0.00527663	0.99974	85.9777	-3.28274
10558673	Cyp2e1	cytochrome P450, family 2, subfamily e, polypeptide 1	-0.448347	6.49815	-3.33683	0.00532719	0.99974	86.9774	-3.28562
10555889	Olfr663	olfactory receptor 663	-0.339602	5.40881	-3.33062	0.00539126	0.99974	87.9771	-3.28924
10502232	Aimp1	aminoacyl tRNA synthetase complex-interacting multifunctional protein 1	0.420358	7.65227	3.32091	0.00549316	0.99974	88.9769	-3.2949
10487787	Gfra4	glial cell line derived neurotrophic factor family receptor alpha 4	-0.376214	6.40474	-3.32074	0.0054949	0.99974	89.9766	-3.295
10352867	Plxna2	plexin A2	-0.396768	8.15347	-3.31557	0.00554994	0.99974	90.9764	-3.29802
10461150	NA	NA	0.676264	6.68441	3.31229	0.00558518	0.99974	91.9761	-3.29993
10551250	NA	NA	-0.495268	4.78869	-3.30366	0.00567884	0.99974	92.9758	-3.30498

10447036	NA	NA	0.4435	4.47186	3.29427	0.00578258	0.99974	93.9756	-3.31048
10524781	Rab35	RAB35, member RAS oncogene family	0.374547	6.99902	3.28919	0.00583947	0.99974	94.9753	-3.31346
10541751	NA	NA	0.426405	5.3623	3.28798	0.00585312	0.99974	95.9751	-3.31417
10514323	ENSMUSG00000073	predicted gene, ENSMUSG00000073810	-0.376156	7.66613	-3.28205	0.00592043	0.99974	96.9748	-3.31765
10582376	NA	NA	-0.366388	8.24464	-3.27238	0.00603187	0.99974	97.9745	-3.32334
10453705	Rab18	RAB18, member RAS oncogene family	0.423374	8.22825	3.26041	0.00617263	0.99974	98.9743	-3.33038
10513145	Ptpn3	protein tyrosine phosphatase, non-receptor type 3	0.400102	8.02058	3.26035	0.00617341	0.99974	99.974	-3.33042
10604100	Ndufa1	NADH dehydrogenase (ubiquinone) 1 alpha subcomplex, 1	0.390411	8.35931	3.25491	0.00623848	0.99974	100.974	-3.33363
10450892	Olfr113	olfactory receptor 113	-0.335693	6.08885	-3.25346	0.00625597	0.99974	101.974	-3.33448
10424097	Med30	mediator complex subunit 30	0.372509	7.54471	3.24796	0.00632268	0.99974	102.973	-3.33773
10351099	Tnfsf18	tumor necrosis factor (ligand) superfamily, member 18	-0.375113	6.25688	-3.24433	0.00636711	0.99974	103.973	-3.33987
10368240	Tcf21	transcription factor 21	0.334582	8.22756	3.23481	0.00648497	0.99974	104.973	-3.3455
10485773	Olfr1290	olfactory receptor 1290	0.514003	4.59214	3.2264	0.00659111	0.99974	105.972	-3.35048
10542021	Gm6487	predicted gene 6487	0.470373	6.17294	3.22532	0.00660485	0.99974	106.972	-3.35112
10356510	Iqca	IQ motif containing with AAA domain	0.396733	7.56423	3.20793	0.00683005	0.99974	107.972	-3.36144
10568480	Nsmce4a	non-SMC element 4 homolog A (S. cerevisiae)	0.337087	8.14697	3.20751	0.00683562	0.99974	108.972	-3.36169
10356331	NA	NA	0.687704	4.04208	3.20567	0.00685995	0.99974	109.971	-3.36279
10503613	Gm11878	predicted gene 11878	0.477952	6.73844	3.20552	0.00686187	0.99974	110.971	-3.36287
10405994	Med10	mediator of RNA polymerase II transcription, subunit 10 homolog (NUT2, S. cerevisiae)	0.342849	8.53708	3.20129	0.00691817	0.99974	111.971	-3.36539
10561679	Psmd8	proteasome (prosome, macropain) 26S subunit, non-ATPase, 8	0.379488	8.244	3.19992	0.00693648	0.99974	112.971	-3.36621
10454601	Tslp	thymic stromal lymphopoietin	0.371879	6.33729	3.19984	0.00693746	0.99974	113.97	-3.36625
10410919	Gm5666	predicted gene 5666	0.556695	5.77227	3.19816	0.00695998	0.99974	114.97	-3.36725
10440136	Olfr173	olfactory receptor 173	-0.365915	5.67032	-3.19791	0.00696333	0.99974	115.97	-3.3674
10373608	Olfr766	olfactory receptor 766	0.460026	4.22843	3.19457	0.00700836	0.99974	116.97	-3.36939
10575144	Nip7	nuclear import 7 homolog (S. cerevisiae)	0.450251	7.04271	3.19386	0.00701798	0.99974	117.969	-3.36981
10501319	Celsr2	cadherin, EGF LAG seven-pass G-type receptor 2 (flamingo homolog, Drosophila)	-0.332055	7.32907	-3.19263	0.00703468	0.99974	118.969	-3.37055
10437236	B230307C23Rik	RIKEN cDNA B230307C23 gene	0.502488	7.80415	3.18055	0.00720044	0.99974	119.969	-3.37774
10374840	NA	NA	-0.69131	6.77759	-3.17482	0.00728045	0.99974	120.969	-3.38117
10594513	NA	NA	0.563947	5.00056	3.17398	0.0072923	0.99974	121.968	-3.38167
10385325	Pttg1	pituitary tumor-transforming gene 1	0.327658	7.56947	3.1733	0.00730184	0.99974	122.968	-3.38207
10368041	3110003A17Rik	RIKEN cDNA 3110003A17 gene	0.406874	8.9161	3.16779	0.00737984	0.99974	123.968	-3.38537
10503017	NA	NA	0.352341	4.0535	3.16389	0.00743559	0.99974	124.968	-3.3877
10421975	2410129H14Rik	RIKEN cDNA 2410129H14 gene	0.34447	7.09636	3.16199	0.00746289	0.99974	125.967	-3.38884
10349968	Chi3l1	chitinase 3-like 1	-0.439299	9.42289	-3.15833	0.00751579	0.99974	126.967	-3.39103

10578017	Gm9911	predicted gene 9911	-0.392409	5.58299	-3.15817	0.00751808	0.99974	127.967	-3.39112
10532616	Myo18b	myosin XVIIIb	0.364004	6.72783	3.15432	0.0075741	0.99974	128.966	-3.39343
10568432	1110007A13Rik	RIKEN cDNA 1110007A13 gene	-0.376506	6.66925	-3.14894	0.00765311	0.99974	129.966	-3.39665
10556139	Olfr494	olfactory receptor 494	0.335951	5.70156	3.14537	0.00770603	0.99974	130.966	-3.39879
10542310	Cdkn1b	cyclin-dependent kinase inhibitor 1B	0.322743	7.4358	3.13861	0.00780712	0.99974	131.966	-3.40285
10543054	Shfm1	split hand/foot malformation (ectrodactyly) type 1	0.413961	8.59829	3.13804	0.0078157	0.99974	132.965	-3.40319
10458046	D0H4S114	DNA segment, human D4S114	0.357656	8.36456	3.13534	0.00785645	0.99974	133.965	-3.40481
10390691	Nr1d1	nuclear receptor subfamily 1, group D, member 1	-0.404887	9.01994	-3.13424	0.00787319	0.99974	134.965	-3.40547
10563949	NA	NA	0.410124	3.81363	3.12739	0.00797785	0.99974	135.965	-3.40959
10534935	Pilrb1	paired immunoglobin-like type 2 receptor beta 1	0.371337	6.47255	3.12591	0.00800073	0.99974	136.964	-3.41048
10416850	Scel	sciellin	-0.402916	9.35264	-3.11044	0.00824302	0.99974	137.964	-3.4198
10604891	NA	NA	-0.342313	4.24703	-3.11035	0.00824441	0.99974	138.964	-3.41985
10373515	Suox	sulfite oxidase	0.34654	6.43636	3.10662	0.0083039	0.99974	139.964	-3.4221
10601854	Wbp5	WW domain binding protein 5	0.438723	9.82105	3.09855	0.00843416	0.99974	140.963	-3.42697
10595371	Hmgn3	high mobility group nucleosomal binding domain 3	0.358321	6.92778	3.09474	0.00849645	0.99974	141.963	-3.42927
10348556	Ube2f	ubiquitin-conjugating enzyme E2F (putative)	0.407006	5.23026	3.09457	0.00849924	0.99974	142.963	-3.42938
10580450	NA	NA	-0.471544	6.70841	-3.09242	0.00853445	0.99974	143.963	-3.43067
10509568	Camk2n1	calcium/calmodulin-dependent protein kinase II inhibitor 1	0.319388	8.53864	3.09156	0.0085487	0.99974	144.962	-3.4312
10428089	Nipal2	NIPA-like domain containing 2	-0.369195	7.76589	-3.09041	0.00856764	0.99974	145.962	-3.43189
10543017	Pdk4	pyruvate dehydrogenase kinase, isoenzyme 4	-0.389871	7.65304	-3.09017	0.00857166	0.99974	146.962	-3.43204
10494910	Bcas2	breast carcinoma amplified sequence 2	0.327508	7.74874	3.08199	0.00870788	0.99974	147.962	-3.43698
10588464	NA	NA	0.398114	6.10151	3.06995	0.00891243	0.99974	148.961	-3.44428
10345077	Khdc1a	KH domain containing 1A	0.432088	4.88996	3.06804	0.00894524	0.99974	149.961	-3.44543
10439790	Trat1	T cell receptor associated transmembrane adaptor 1	-0.426431	5.16279	-3.06795	0.00894672	0.99974	150.961	-3.44548
10358541	Hmcn1	hemicentin 1	-0.504266	7.82509	-3.06499	0.00899796	0.99974	151.961	-3.44728
10531987	Gbp4	guanylate binding protein 4	-0.359049	8.99864	-3.06323	0.0090286	0.99974	152.96	-3.44835
10560370	Psg26	pregnancy-specific glycoprotein 26	0.394252	5.04822	3.06314	0.00903014	0.99974	153.96	-3.4484
10605499	3426406K10Rik	RIKEN cDNA 3426406K10 gene	0.325641	3.72933	3.06222	0.00904612	0.99974	154.96	-3.44896
10584194	Srpr	signal recognition particle receptor ('docking protein')	0.349979	7.75	3.06064	0.00907383	0.99974	155.959	-3.44992
10415013	NA	NA	-0.367148	10.4464	-3.05619	0.00915195	0.99974	156.959	-3.45262
10511734	Cnbd1	cyclic nucleotide binding domain containing 1	-0.344721	5.06365	-3.05365	0.00919688	0.99974	157.959	-3.45417
10467258	Myof	myoferlin	-0.386663	8.79882	-3.05333	0.00920245	0.99974	158.959	-3.45436
10585377	NA	NA	-0.320668	8.42251	-3.05201	0.009226	0.99974	159.958	-3.45516
10556158	Olfr508	olfactory receptor 508	-0.441725	5.55996	-3.04825	0.00929305	0.99974	160.958	-3.45745

10591192	Olfr847	olfactory receptor 847	0.367351	4.44963	3.04263	0.00939427	0.99974	161.958	-3.46086
10361021	NA	NA	0.329993	6.3512	3.04138	0.00941689	0.99974	162.958	-3.46162
10529732	Hs3st1	heparan sulfate (glucosamine) 3-O-sulfotransferase 1	0.339965	6.87133	3.04126	0.00941911	0.99974	163.957	-3.4617
10577992	NA	NA	0.351906	4.20975	3.04108	0.00942237	0.99974	164.957	-3.46181
10548314	Klrb1b	killer cell lectin-like receptor subfamily B member 1B	-0.332795	6.26913	-3.04079	0.00942767	0.99974	165.957	-3.46198
10538706	Mmrn1	multimerin 1	-0.349114	6.46271	-3.0346	0.00954074	0.99974	166.957	-3.46575
10354275	1700029F09Rik	RIKEN cDNA 1700029F09 gene	0.345624	6.89791	3.02995	0.00962671	0.99974	167.956	-3.46859
10584580	NA	NA	0.392751	10.2492	3.02904	0.00964367	0.99974	168.956	-3.46914
10399874	Bcap29	B-cell receptor-associated protein 29	0.340392	8.83204	3.02887	0.00964677	0.99974	169.956	-3.46924
10519913	Magi2	membrane associated guanylate kinase, WW and PDZ domain containing 2	0.335489	6.70444	3.02867	0.00965042	0.99974	170.956	-3.46936
10504534	Frmpd1	FERM and PDZ domain containing 1	-0.329539	6.4424	-3.02799	0.00966303	0.99974	171.955	-3.46978
10541678	C1r	complement component 1, r subcomponent	-0.326164	7.08968	-3.02759	0.00967064	0.99974	172.955	-3.47003
10437629	Grin2a	glutamate receptor, ionotropic, NMDA2A (epsilon 1)	0.376081	5.77207	3.02457	0.00972706	0.99974	173.955	-3.47187
10524060	Gm10417	predicted gene 10417	0.422505	6.45305	3.02091	0.00979576	0.99974	174.955	-3.47409
10415645	Mrp63	mitochondrial ribosomal protein 63	0.335667	7.53369	3.01733	0.00986364	0.99974	175.954	-3.47628
10600476	Gm4989	predicted gene 4989	0.357327	6.53417	3.01725	0.00986511	0.99974	176.954	-3.47633
10382104	NA	NA	1.05795	6.86346	3.0153	0.00990237	0.99974	177.954	-3.47752
10401630	Acyp1	acylphosphatase 1, erythrocyte (common) type	0.369362	7.43618	3.00728	0.0100566	0.99974	178.953	-3.48242
10476512	Snap25	synaptosomal-associated protein 25	-0.340495	6.57843	-3.00617	0.010078	0.99974	179.953	-3.4831
10604499	Olfr1323	olfactory receptor 1323	-0.33169	5.68804	-3.00197	0.0101599	0.99974	180.953	-3.48567
10466266	Stx3	syntaxin 3	-0.381018	6.58632	-2.99998	0.010199	0.99974	181.953	-3.48688
10583465	Ubl5	ubiquitin-like 5	0.351284	9.3659	2.99866	0.0102249	0.99974	182.952	-3.48769
10365983	Lum	lumican	0.414583	6.22349	2.99819	0.0102342	0.99974	183.952	-3.48798
10469046	Phyh	phytanoyl-CoA hydroxylase	0.32388	8.5517	2.9917	0.0103629	0.99974	184.952	-3.49195
10503374	NA	NA	-0.323397	5.84588	-2.99109	0.0103751	0.99974	185.952	-3.49232
10484630	Olfr1090	olfactory receptor 1090	0.354311	4.84887	2.98562	0.0104851	0.99974	186.951	-3.49568
10585988	Myo9a	myosin IXa	-0.670895	9.42786	-2.98546	0.0104882	0.99974	187.951	-3.49577
10348376	Heatr7b1	HEAT repeat containing 7B1	0.315009	6.27446	2.98063	0.0105862	0.99974	188.951	-3.49873
10368229	Tbpl1	TATA box binding protein-like 1	0.324927	8.01357	2.97703	0.0106598	0.99974	189.951	-3.50094
10356154	Sphkap	SPHK1 interactor, AKAP domain containing	0.314051	5.85424	2.97696	0.0106614	0.99974	190.95	-3.50099
10436600	NA	NA	0.473024	6.81966	2.97662	0.0106684	0.99974	191.95	-3.50119
10423834	Gm7194	predicted gene 7194	0.402866	4.58921	2.97544	0.0106925	0.99974	192.95	-3.50191
10593225	Zbtb16	zinc finger and BTB domain containing 16	-0.528724	8.54308	-2.97337	0.0107353	0.99974	193.95	-3.50319
10555903	Olfr676	olfactory receptor 676	-0.318488	5.1792	-2.97153	0.0107733	0.99974	194.949	-3.50431
10527959	NA	NA	-0.299588	7.19192	-2.97057	0.0107934	0.99974	195.949	-3.50491

10599680	3830403N18Rik	RIKEN cDNA 3830403N18 gene	0.528995	4.68024	2.9665	0.0108782	0.99974	196.949	-3.5074
10393662	Nptx1	neuronal pentraxin 1	0.310032	6.80638	2.9665	0.0108782	0.99974	197.949	-3.5074
10440794	2610039C10Rik	RIKEN cDNA 2610039C10 gene	0.360794	7.04399	2.96593	0.0108902	0.99974	198.948	-3.50775
10572786	Ap1m1	adaptor-related protein complex AP-1, mu subunit 1	0.331736	7.5726	2.9639	0.0109329	0.99974	199.948	-3.509
10387733	Eif5a	eukaryotic translation initiation factor 5A	-0.339	7.79341	-2.9595	0.0110259	0.99974	200.948	-3.51171
10532989	Gatc	glutamyl-tRNA(Gln) amidotransferase, subunit C homolog (bacterial)	-0.326756	8.1793	-2.9526	0.0111733	0.99974	201.948	-3.51595
10544583	Gimap6	GTPase, IMAP family member 6	0.330097	8.35862	2.95113	0.0112049	0.99974	202.947	-3.51685
10404010	V1rh5	vomeronasal 1 receptor, H5	0.358032	4.5236	2.95062	0.0112158	0.99974	203.947	-3.51716
10375941	Vdac1	voltage-dependent anion channel 1	0.445109	8.33665	2.94992	0.011231	0.99974	204.947	-3.51759
10416533	Ccdc122	coiled-coil domain containing 122	0.364077	6.21623	2.94346	0.0113714	0.99974	205.946	-3.52157
10395594	NA	NA	0.319375	5.57383	2.94279	0.0113863	0.99974	206.946	-3.52199
10532538	Asphd2	aspartate beta-hydroxylase domain containing 2	-0.316676	6.30671	-2.94113	0.0114227	0.99974	207.946	-3.52301
10566678	Olfr485	olfactory receptor 485	0.327017	6.0529	2.94011	0.011445	0.99974	208.946	-3.52363
10535849	Slc46a3	solute carrier family 46, member 3	0.328978	7.28596	2.9395	0.0114584	0.99974	209.945	-3.52401
10405633	Ntrk2	neurotrophic tyrosine kinase, receptor, type 2	-0.337763	6.77365	-2.93849	0.0114809	0.99974	210.945	-3.52464
10601846	2900062L11Rik	signal peptidase complex subunit 3 homolog pseudogene	0.366684	6.17339	2.9333	0.011596	0.99974	211.945	-3.52783
10434747	Adipoq	adiponectin, C1Q and collagen domain containing	-0.388314	6.32967	-2.93221	0.0116203	0.99974	212.945	-3.5285
10535426	Spdyb	speedy homolog B (Drosophila)	0.333991	6.75043	2.92391	0.0118074	0.99974	213.944	-3.53362
10575249	Txnl4b	thioredoxin-like 4B	0.360869	7.01972	2.92369	0.0118124	0.99974	214.944	-3.53376
10482846	Ccdc148	coiled-coil domain containing 148	0.302247	5.95653	2.92304	0.0118271	0.99974	215.944	-3.53416
10407454	Gm9973	predicted gene 9973	0.342904	5.07028	2.92208	0.0118491	0.99974	216.944	-3.53476
10472570	Ppig	peptidyl-prolyl isomerase G (cyclophilin G)	-0.376277	9.33227	-2.92128	0.0118672	0.99974	217.943	-3.53525
10569020	Ifitm6	interferon induced transmembrane protein 6	0.368111	5.94734	2.92106	0.0118724	0.99974	218.943	-3.53539
10471519	Tor2a	torsin family 2, member A	-0.304024	6.69972	-2.91786	0.0119457	0.99974	219.943	-3.53736
10483865	Fkbp7	FK506 binding protein 7	0.339251	8.31528	2.91777	0.0119476	0.99974	220.943	-3.53741
10436046	NA	NA	-0.316505	5.91363	-2.91754	0.011953	0.99974	221.942	-3.53756
10346882	Adam23	a disintegrin and metallopeptidase domain 23	-0.361632	7.14339	-2.91291	0.0120599	0.99974	222.942	-3.54042
10571364	1700016D18Rik	RIKEN cDNA 1700016D18 gene	-0.349407	5.02613	-2.91151	0.0120923	0.99974	223.942	-3.54128
10570397	Cdc16	CDC16 cell division cycle 16 homolog (S. cerevisiae)	0.292675	7.31836	2.8998	0.0123678	0.99974	224.942	-3.54852
10447429	Gm4832	predicted gene 4832	0.304191	8.6452	2.89788	0.0124136	0.99974	225.941	-3.54971
10554445	Prc1	protein regulator of cytokinesis 1	0.313747	7.24117	2.8836	0.012759	0.99974	226.941	-3.55856
10372595	NA	NA	0.442481	5.06455	2.88049	0.0128355	0.99974	227.941	-3.56049
10572757	Rab8a	RAB8A, member RAS oncogene family	0.369842	8.77382	2.88009	0.0128454	0.99974	228.941	-3.56074

10358140	Igfn1	immunoglobulin-like and fibronectin type III domain containing 1	-0.354352	6.62017	-2.87821	0.0128918	0.99974	229.94	-3.5619
10529979	Ppargc1a	peroxisome proliferative activated receptor, gamma, coactivator 1 alpha	-0.362282	8.08211	-2.87599	0.0129469	0.99974	230.94	-3.56327
10451547	Gm16494	predicted gene 16494	0.410902	7.87201	2.8743	0.0129892	0.99974	231.94	-3.56433
10591120	Fat3	FAT tumor suppressor homolog 3 (Drosophila)	-0.519333	6.94637	-2.87211	0.0130438	0.99974	232.939	-3.56568
10453250	NA	NA	0.511807	5.96561	2.8715	0.0130592	0.99974	233.939	-3.56606
10606174	Nap1l2	nucleosome assembly protein 1-like 2	0.305634	4.94573	2.87114	0.0130682	0.99974	234.939	-3.56629
10555323	P4ha3	procollagen-proline, 2-oxoglutarate 4-dioxygenase (proline 4-hydroxylase), alpha polypeptide III	-0.312157	6.09674	-2.86682	0.0131771	0.99974	235.939	-3.56897
10484514	Olfr993	olfactory receptor 993	-0.42357	5.28773	-2.8665	0.0131853	0.99974	236.938	-3.56917
10578423	LOC100045396	hypothetical protein LOC100045396	-0.350349	6.96776	-2.86351	0.0132612	0.99974	237.938	-3.57103
10561918	NA	NA	-0.324304	6.32912	-2.86257	0.0132851	0.99974	238.938	-3.57161
10515519	Atp6v0b	ATPase, H+ transporting, lysosomal V0 subunit B	0.309161	7.88358	2.86044	0.0133397	0.99974	239.938	-3.57293
10498160	Ufm1	ubiquitin-fold modifier 1	0.384141	6.99759	2.85864	0.0133858	0.99974	240.937	-3.57405
10358191	Camsap1l1	calmodulin regulated spectrin-associated protein 1-like 1	-0.29952	9.76029	-2.85705	0.0134268	0.99974	241.937	-3.57504
10604974	Cetn2	centrin 2	0.399256	6.44102	2.85552	0.0134662	0.99974	242.937	-3.57599
10414965	NA	NA	-0.488683	4.58819	-2.85312	0.0135284	0.99974	243.937	-3.57748
10431915	Slc38a4	solute carrier family 38, member 4	-0.335483	6.4855	-2.85103	0.0135829	0.99974	244.936	-3.57878
10531869	Mapk10	mitogen-activated protein kinase 10	-0.334928	6.36566	-2.84993	0.0136116	0.99974	245.936	-3.57947
10380472	NA	NA	0.400172	5.4583	2.84917	0.0136314	0.99974	246.936	-3.57994
10484689	Olfr1137	olfactory receptor 1137	0.350737	5.24605	2.84821	0.0136566	0.99974	247.936	-3.58054
10428698	Sntb1	syntrophin, basic 1	-0.301502	9.03737	-2.84579	0.0137201	0.99974	248.935	-3.58204
10473505	Olfr1076	olfactory receptor 1076	0.292592	5.3971	2.84236	0.0138108	0.99974	249.935	-3.58417
10606902	Tmsb15b1-Tmsb15b	Tmsb15b1-Tmsb15b2 readthrough transcript	0.422315	5.37541	2.84173	0.0138275	0.99974	250.935	-3.58457
10450731	H2-t9	MHC class Ib T9	-0.345891	6.93298	-2.84009	0.0138712	0.99974	251.935	-3.58559
10356339	Pde6d	phosphodiesterase 6D, cGMP-specific, rod, delta	0.312549	7.95546	2.83849	0.0139138	0.99974	252.934	-3.58658
10351400	Fam78b	family with sequence similarity 78, member B	-0.341517	7.14479	-2.83588	0.0139838	0.99974	253.934	-3.58821
10403057	LOC641089	similar to Ig heavy chain V region BCL1 precursor	-0.501974	5.3304	-2.8331	0.0140586	0.99974	254.934	-3.58994
10493860	**Sprr2b**	**small proline-rich protein 2B**	**-0.390935**	**5.75445**	**-2.83208**	**0.0140861**	**0.99974**	**255.933**	**-3.59058**
10492165	NA	NA	0.342739	5.37426	2.82707	0.0142222	0.99974	256.933	-3.5937
10445839	Kif6	kinesin family member 6	-0.341903	6.63841	-2.82671	0.0142319	0.99974	257.933	-3.59392
10513266	Olfr267	olfactory receptor 267	-0.29826	6.49039	-2.82666	0.0142332	0.99974	258.933	-3.59395
10603525	Ssxb2	synovial sarcoma, X member B, breakpoint 2	0.443822	5.61447	2.8264	0.0142404	0.99974	259.932	-3.59412

10548450	Klra5	killer cell lectin-like receptor, subfamily A, member 5	-0.506346	4.92316	-2.82497	0.0142795	0.99974	260.932	-3.59501
10579744	Large	like-glycosyltransferase	-0.289459	7.45578	-2.82469	0.0142872	0.99974	261.932	-3.59518
10344809	Cspp1	centrosome and spindle pole associated protein 1	-0.374778	9.34257	-2.82389	0.0143091	0.99974	262.932	-3.59568
10548892	Arhgdib	Rho, GDP dissociation inhibitor (GDI) beta	0.361514	10.1141	2.82282	0.0143386	0.99974	263.931	-3.59635
10422176	D130079A08Rik	RIKEN cDNA D130079A08 gene	-0.34467	6.19417	-2.82112	0.0143853	0.99974	264.931	-3.59741
10525343	Myl2	myosin, light polypeptide 2, regulatory, cardiac, slow	0.309127	6.66144	2.81747	0.0144865	0.99974	265.931	-3.59969
10357875	Btg2	B-cell translocation gene 2, anti-proliferative	0.364209	9.50337	2.81732	0.0144908	0.99974	266.931	-3.59978
10562667	NA	NA	0.333779	7.78448	2.81583	0.0145321	0.99974	267.93	-3.60071
10433885	Cebpd	CCAAT/enhancer binding protein (C/EBP), delta	0.285619	7.40634	2.81567	0.0145367	0.99974	268.93	-3.60081
10367120	NA	NA	0.376142	6.4664	2.81564	0.0145376	0.99974	269.93	-3.60083
10419223	Fermt2	fermitin family homolog 2 (Drosophila)	-0.327999	10.0418	-2.81472	0.014563	0.99974	270.93	-3.6014
10435305	Itgb5	integrin beta 5	0.311275	8.68807	2.8127	0.0146196	0.99974	271.929	-3.60266
10451291	Slc22a7	solute carrier family 22 (organic anion transporter), member 7	-0.374063	6.45895	-2.8118	0.014645	0.99974	272.929	-3.60323
10416273	Phyhip	phytanoyl-CoA hydroxylase interacting protein	0.304964	6.45889	2.81152	0.0146529	0.99974	273.929	-3.6034
10578796	4930431L04Rik	RIKEN cDNA 4930431L04 gene	0.299404	5.68547	2.80756	0.0147645	0.99974	274.929	-3.60587
10594248	Rplp1	ribosomal protein, large, P1	0.399882	10.4469	2.80605	0.0148072	0.99974	275.928	-3.60681
10550795	Nlrp5	NLR family, pyrin domain containing 5	0.296744	6.26087	2.79743	0.0150541	0.99974	276.928	-3.6122
10565341	Gm6155	predicted gene 6155	0.379283	7.8464	2.7959	0.0150982	0.99974	277.928	-3.61316
10362899	F830002L21Rik	RIKEN cDNA F830002L21 gene	-0.326668	7.73264	-2.79047	0.0152561	0.99974	278.928	-3.61655
10395520	Immp2l	IMP2 inner mitochondrial membrane peptidase-like (S. cerevisiae)	-0.330842	6.00597	-2.78995	0.0152714	0.99974	279.927	-3.61688
10564448	Asb7	ankyrin repeat and SOCS box-containing 7	0.363203	6.88298	2.78945	0.0152861	0.99974	280.927	-3.61719
10508135	Trappc3	trafficking protein particle complex 3	0.345088	9.17337	2.78902	0.0152987	0.99974	281.927	-3.61746
10563959	NA	NA	0.461204	4.38361	2.78834	0.0153186	0.99974	282.926	-3.61789
10540812	Tatdn2	TatD DNase domain containing 2	0.311714	7.68015	2.7882	0.0153226	0.99974	283.926	-3.61797
10481114	Abo	ABO blood group (transferase A, alpha 1-3-N-acetylgalactosaminyltransferase, transferase B, alpha 1-3-galactosyltransferase)	0.349993	5.8814	2.78706	0.0153563	0.99974	284.926	-3.61869
10475245	Ubr1	ubiquitin protein ligase E3 component n-recognin 1	-0.318027	8.16752	-2.78682	0.0153633	0.99974	285.926	-3.61884
10466366	Olfr1499	olfactory receptor 1499	0.32387	4.97297	2.78603	0.0153867	0.99974	286.925	-3.61933
10535852	Slc7a1	solute carrier family 7 (cationic amino acid transporter, y+ system), member 1	-0.302577	7.50582	-2.78586	0.0153915	0.99974	287.925	-3.61944

10473602	Olfr1189	olfactory receptor 1189	-0.297765	5.13049	-2.78472	0.0154253	0.99974	288.925	-3.62015
10557560	Cdipt	CDP-diacylglycerol--inositol 3-phosphatidyltransferase (phosphatidylinositol synthase)	0.308977	7.01588	2.77983	0.0155703	0.99974	289.925	-3.62321
10535575	Gm6272	predicted gene 6272	0.307523	8.1249	2.77704	0.015654	0.99974	290.924	-3.62496
10545932	Snrnp27	small nuclear ribonucleoprotein 27 (U4/U6.U5)	0.314038	8.12079	2.77671	0.0156637	0.99974	291.924	-3.62516
10514388	NA	NA	0.457991	3.49977	2.77644	0.0156718	0.99974	292.924	-3.62533
10376196	Hint1	histidine triad nucleotide binding protein 1	0.304893	9.16877	2.77385	0.0157497	0.99974	293.924	-3.62695
10450482	NA	NA	0.386457	6.90366	2.77365	0.0157558	0.99974	294.923	-3.62708
10491605	4932438A13Rik	RIKEN cDNA 4932438A13 gene	-0.377391	8.24483	-2.7733	0.0157663	0.99974	295.923	-3.6273
10376887	Snord49a	small nucleolar RNA, C/D box 49A	0.397535	6.19869	2.76357	0.0160628	0.99974	296.923	-3.6334
10548547	Gm6600	predicted gene 6600	0.392041	5.86945	2.76307	0.0160785	0.99974	297.923	-3.63372
10566810	Nrip3	nuclear receptor interacting protein 3	-0.332061	6.36826	-2.76291	0.0160833	0.99974	298.922	-3.63381
10492448	Ptx3	pentraxin related gene	0.35197	6.84198	2.7622	0.0161052	0.99974	299.922	-3.63426
10572046	NA	NA	0.461166	3.18021	2.7614	0.0161298	0.99974	300.922	-3.63476
10551264	Cyp2b19	cytochrome P450, family 2, subfamily b, polypeptide 19	-0.315654	6.23883	-2.76085	0.016147	0.99974	301.922	-3.63511
10604930	LOC100044102	similar to syndecan-1	-0.312489	6.90818	-2.76029	0.0161641	0.99974	302.921	-3.63545
10597648	Myd88	myeloid differentiation primary response gene 88	0.285525	7.39895	2.7586	0.0162164	0.99974	303.921	-3.63651
10448184	4930515G13Rik	RIKEN cDNA 4930515G13 gene	0.326428	6.26501	2.75714	0.016262	0.99974	304.921	-3.63743
10400479	Nkx2-9	NK2 transcription factor related, locus 9 (Drosophila)	-0.305865	6.55204	-2.75675	0.0162742	0.99974	305.921	-3.63768
10594426	Zwilch	Zwilch, kinetochore associated, homolog (Drosophila)	-0.289387	5.91078	-2.75567	0.0163077	0.99974	306.92	-3.63835
10512093	Ndufb6	NADH dehydrogenase (ubiquinone) 1 beta subcomplex, 6	0.327167	8.29136	2.75554	0.0163118	0.99974	307.92	-3.63843
10496357	NA	NA	0.311912	4.672	2.7535	0.0163755	0.99974	308.92	-3.63971
10520371	Prr8	proline rich 8	0.322029	9.6966	2.75143	0.0164408	0.99974	309.919	-3.64102
10541188	NA	NA	-0.326433	7.79645	-2.75104	0.016453	0.99974	310.919	-3.64126
10361799	Adat2	adenosine deaminase, tRNA-specific 2, TAD2 homolog (S. cerevisiae)	0.310254	7.14309	2.75091	0.0164569	0.99974	311.919	-3.64134
10597960	Slc6a20a	solute carrier family 6 (neurotransmitter transporter), member 20A	-0.28156	7.59733	-2.75064	0.0164654	0.99974	312.919	-3.64151
10540785	6720456B07Rik	RIKEN cDNA 6720456B07 gene	0.334452	7.95311	2.74971	0.0164949	0.99974	313.918	-3.64209
10407211	Ppap2a	phosphatidic acid phosphatase type 2A	-0.343568	8.57041	-2.74948	0.016502	0.99974	314.918	-3.64224
10417144	Timm8a2	translocase of inner mitochondrial membrane 8 homolog a2 (yeast)	-0.280813	5.85967	-2.74852	0.0165325	0.99974	315.918	-3.64284
10501020	Chi3l3	chitinase 3-like 3	0.347228	10.1303	2.74818	0.0165431	0.99974	316.918	-3.64305
10504912	NA	NA	0.353118	8.35521	2.74818	0.0165431	0.99974	317.917	-3.64305
10410576	Cep72	centrosomal protein 72	-0.306078	6.16507	-2.74722	0.0165735	0.99974	318.917	-3.64365

10427910	Fam105b	family with sequence similarity 105, member B	0.342417	7.63535	2.7425	0.0167238	0.99974	319.917	-3.64662
10391744	Gpatch8	G patch domain containing 8	-0.501299	7.57807	-2.74162	0.016752	0.99974	320.917	-3.64717
10439289	BC117090	cDNA sequence BC1179090	0.343877	5.4424	2.74006	0.0168022	0.99974	321.916	-3.64815
10386703	Gm12271	predicted gene 12271	0.355078	5.65944	2.73963	0.0168161	0.99974	322.916	-3.64842
10586140	Lctl	lactase-like	-0.291252	6.37277	-2.73958	0.0168176	0.99974	323.916	-3.64845
10478875	Rnf114	ring finger protein 114	0.287889	7.51544	2.73526	0.0169573	0.99974	324.916	-3.65117
10373649	Olfr814	olfactory receptor 814	0.318474	3.8735	2.73261	0.0170432	0.99974	325.915	-3.65283
10546229	NA	NA	-0.33925	5.2266	-2.73129	0.0170863	0.99974	326.915	-3.65366
10385447	Dppa1	developmental pluripotency associated 1	0.347811	5.25853	2.7301	0.0171252	0.99974	327.915	-3.65441
10377255	Stx8	syntaxin 8	0.29506	8.22335	2.72938	0.0171488	0.99974	328.915	-3.65486
10531057	Ugt2b5	UDP glucuronosyltransferase 2 family, polypeptide B5	0.381261	5.32092	2.72669	0.0172373	0.99974	329.914	-3.65655
10535974	Vmn2r18	vomeronasal 2, receptor 18	-0.343163	5.00723	-2.72586	0.0172646	0.99974	330.914	-3.65707
10428439	NA	NA	0.36987	4.77696	2.72484	0.0172986	0.99974	331.914	-3.65772
10407946	Stard3nl	STARD3 N-terminal like	0.351168	8.57844	2.72321	0.0173525	0.99974	332.913	-3.65874
10536799	Fam71f2	family with sequence similarity 71, member F2	-0.298171	7.58363	-2.71601	0.0175927	0.99974	333.913	-3.66327
10563718	Gm9717	predicted gene 9717	0.4219	6.64062	2.71197	0.0177293	0.99974	334.913	-3.66582
10568180	Cd2bp2	CD2 antigen (cytoplasmic tail) binding protein 2	0.302758	6.82396	2.711	0.017762	0.99974	335.913	-3.66642
10441811	NA	NA	0.367456	8.49807	2.71095	0.0177639	0.99974	336.912	-3.66646
10465764	C730048C13Rik	RIKEN cDNA C730048C13 gene	0.375825	4.41497	2.71082	0.0177682	0.99974	337.912	-3.66654
10474201	Lmo2	LIM domain only 2	0.292474	8.38207	2.70898	0.0178309	0.99974	338.912	-3.6677
10498323	4932431H17Rik	RIKEN cDNA 4932431H17 gene	-0.308424	5.59173	-2.70602	0.0179317	0.99974	339.912	-3.66956
10565738	2210018M11Rik	RIKEN cDNA 2210018M11 gene	-0.423527	8.90877	-2.7029	0.0180392	0.99974	340.911	-3.67153
10545009	Pigy	phosphatidylinositol glycan anchor biosynthesis, class Y	0.312172	7.50689	2.70281	0.0180422	0.99974	341.911	-3.67158
10364153	Gm9744	predicted gene 9744	0.307482	6.87018	2.69943	0.0181591	0.99974	342.911	-3.67371
10550047	Zscan22	zinc finger and SCAN domain containing 22	0.282489	7.1322	2.69427	0.0183387	0.99974	343.911	-3.67696
10603706	Med4	mediator of RNA polymerase II transcription, subunit 4 homolog (yeast)	0.315167	5.51836	2.69286	0.0183881	0.99974	344.91	-3.67785
10442493	NA	NA	0.415765	4.54198	2.69257	0.0183986	0.99974	345.91	-3.67804
10357472	Cxcr4	chemokine (C-X-C motif) receptor 4	0.315131	8.9317	2.69197	0.0184196	0.99974	346.91	-3.67841
10491081	NA	NA	-0.294466	5.91655	-2.69165	0.0184308	0.99974	347.91	-3.67861
10387723	2810408A11Rik	RIKEN cDNA 2810408A11 gene	0.280887	6.18501	2.68952	0.0185057	0.99974	348.909	-3.67996
10346328	Mars2	methionine-tRNA synthetase 2 (mitochondrial)	0.300953	9.71969	2.68913	0.0185197	0.99974	349.909	-3.6802
10603373	Pqbp1	polyglutamine binding protein 1	0.287654	8.25801	2.6891	0.0185208	0.99974	350.909	-3.68022
10598499	Gm7079	predicted gene 7079	0.281435	10.019	2.68882	0.0185306	0.99974	351.909	-3.6804

10372988	Slc16a7	solute carrier family 16 (monocarboxylic acid transporters), member 7	-0.293054	7.9764	-2.68648	0.0186134	0.99974	352.908	-3.68187
10430679	NA	NA	0.709225	4.46876	2.68599	0.0186309	0.99974	353.908	-3.68218
10562084	Haus5	HAUS augmin-like complex, subunit 5	-0.468827	6.53923	-2.68462	0.0186798	0.99974	354.908	-3.68305
10367591	Myct1	myc target 1	0.338226	7.45424	2.68243	0.018758	0.99974	355.908	-3.68443
10414548	Rnase6	ribonuclease, RNase A family, 6	0.300025	8.2449	2.68211	0.0187694	0.99974	356.907	-3.68463
10428004	Ankrd33b	ankyrin repeat domain 33B	-0.283023	7.9188	-2.68124	0.0188005	0.99974	357.907	-3.68518
10536216	Gng11	guanine nucleotide binding protein (G protein), gamma 11	0.292181	7.5536	2.67769	0.0189284	0.99974	358.907	-3.68742
10366512	NA	NA	0.318888	4.90257	2.67723	0.018945	0.99974	359.906	-3.68771
10428119	Cox6c	cytochrome c oxidase, subunit VIc	0.345953	9.61016	2.67557	0.019005	0.99974	360.906	-3.68875
10503188	Chd7	chromodomain helicase DNA binding protein 7	0.45222	8.95395	2.67515	0.0190201	0.99974	361.906	-3.68902
10406548	NA	NA	0.401106	5.66042	2.67498	0.0190266	0.99974	362.906	-3.68913
10532921	Sppl3	signal peptide peptidase 3	0.360841	8.60754	2.67367	0.019074	0.99974	363.905	-3.68995
10565349	Vmn2r66	vomeronasal 2, receptor 66	-0.42567	4.77972	-2.67125	0.0191622	0.99974	364.905	-3.69148
10607950	NA	NA	-0.305469	7.01033	-2.67121	0.0191639	0.99974	365.905	-3.69151
10507833	Nt5c1a	5'-nucleotidase, cytosolic IA	-0.281487	5.55849	-2.66883	0.019251	0.99974	366.905	-3.69301
10586441	Oaz2	ornithine decarboxylase antizyme 2	0.417518	7.67299	2.66797	0.0192825	0.99974	367.904	-3.69355
10431722	Glt8d3	glycosyltransferase 8 domain containing 3	-0.31729	7.72883	-2.66283	0.0194726	0.99974	368.904	-3.6968
10491060	Spin3	spindlin family, member 3	-0.344629	7.13346	-2.66173	0.0195132	0.99974	369.904	-3.69749
10352354	A430110L20Rik	RIKEN cDNA A430110L20 gene	-0.278134	7.16772	-2.6557	0.019739	0.99974	370.904	-3.7013
10592362	Olfr160	olfactory receptor 160	-0.335113	5.3725	-2.65529	0.0197543	0.99974	371.903	-3.70156
10576881	Gm7461	predicted gene 7461	-0.270257	6.75971	-2.65495	0.0197673	0.99974	372.903	-3.70178
10387180	Ndel1	nuclear distribution gene E-like homolog 1 (A. nidulans)	0.281061	8.04729	2.6547	0.0197765	0.99974	373.903	-3.70193
10488031	NA	NA	0.350107	4.31791	2.65403	0.0198016	0.99974	374.903	-3.70236
10469457	Plxdc2	plexin domain containing 2	-0.307107	10.9323	-2.65183	0.0198849	0.99974	375.902	-3.70375
10600044	Prrg3	proline rich Gla (G-carboxyglutamic acid) 3 (transmembrane)	0.37398	7.1249	2.64963	0.0199683	0.99974	376.902	-3.70514

Dataset S4: Functional enrichment analysis of genes with greater saline-to-OVA gene expression differentials (ΔS-O) in one strain than another

A. ΔS-O Tgfbm2/3> S-O NIH

Term	Count	P-Value
microsome	13	4.00E-06
endoplasmic reticulum	33	1.80E-04
cytoplasm	101	2.30E-04
disulfide bond	83	5.60E-04
cytokine	13	7.40E-04
phosphoprotein	182	8.50E-04
signal	95	9.70E-04
membrane	160	1.50E-03
inflammatory response	8	2.40E-03
chemotaxis	7	3.00E-03
synaptosome	5	7.50E-03
oxidoreductase	24	9.90E-03
Secreted	47	1.70E-02
plasma	4	1.90E-02
cytoskeleton	23	2.30E-02
macrophage	3	2.70E-02
monooxygenase	7	4.30E-02
coiled coil	53	4.40E-02

B. ΔS-O NIH > S-O Tgfbm2/3

Term	Count	P-Value
acetylation	132	2.20E-13
protein biosynthesis	16	2.00E-05
centromere	9	2.10E-05
Chromosome partition	8	3.80E-05
cell cycle	30	9.50E-05
ribonucleoprotein	21	1.60E-04
chromosomal protein	14	1.60E-04
atp synthesis	5	2.30E-04
phosphoprotein	228	3.80E-04
kinetochore	9	4.60E-04
lysosome	13	1.40E-03
rrna processing	8	1.90E-03
hydrogen ion transport	7	2.20E-03
ribosomal protein	14	2.60E-03
mitosis	14	3.10E-03
cell division	17	4.90E-03
methylation	15	6.40E-03
atp-binding	53	1.70E-02
mitochondrion inner membrane	12	2.20E-02
nucleotide-binding	63	3.00E-02
er-golgi transport	7	3.20E-02
DNA damage	12	3.20E-02
dna repair	11	3.60E-02
ATP	10	3.90E-02
oxidoreductase	26	3.90E-02
proto-oncogene	7	4.30E-02
dna replication	7	4.30E-02
nucleotide binding	6	4.30E-02
sh3 domain	12	4.50E-02
p-loop	6	4.60E-02
iron-sulfur	5	4.60E-02
exosome	3	4.90E-02

N.B. ΔS-O indicates differential in gene expression between saline and OVA