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Transcriptional changes in dendritic cells underlying allergen specific induced tolerance in a mouse model

Rafael Nuñez^{1,8}, Maria Jose Rodriguez^{1,8}, Francisca Palomares¹, Francisca Gomez², Fernando M. Jabato³, Jose Cordoba-Caballero³, Pedro Seoane^{3,4}, Jorge Losada⁵, Javier Rojo⁵, Maria Jose Torres^{1,2,6,7}, James Richard Perkins^{1,3,4,8} & Cristobalina Mayorga^{1,2,6,8}✉

To investigate food allergy-tolerance mechanisms induced through allergen-specific immunotherapy we used RNA-Sequencing to measure gene expression in lymph-node-derived dendritic cells from Pru p 3-anaphylactic mice after immunotherapy with glycodendropeptides at 2 nM and 5 nM, leading to permanent tolerance and short-term desensitization, respectively. Gene expression was also measured in mice receiving no immunotherapy (anaphylaxis); and in which anaphylaxis could never occur (antigen-only). Compared to anaphylaxis, the antigen-only group showed the greatest number of expression-changes (411), followed by tolerant (186) and desensitized (119). Only 29 genes changed in all groups, including *Il12b*, *Cebpb* and *Ifngr1*. The desensitized group showed enrichment for genes related to chronic inflammatory response, secretory granule, and regulation of interleukin-12 production; the tolerant group showed genes related to cytokine receptor activity and glucocorticoid receptor binding, suggesting distinct pathways for similar outcomes. We identified genes and processes potentially involved in the restoration of long-term tolerance via allergen-specific immunotherapy, representing potential prognostic biomarkers.

Food allergy (FA) is a growing problem, affecting up to 10% of the population in some Western countries¹. Non-specific lipid transfer proteins (nsLTPs) like Pru p 3, the major peach allergen, are important plant-derived food allergens that can lead to severe reactions and present a wide range of cross-reactivity with other foods and pollens inducing a complex clinical pattern known as LTP syndrome². This syndrome can be produced by multiple taxonomically related and unrelated allergenic sources, increasing the complexity of clinical management³. Reactions can be severe, and the high number of plant-based foods involved leads to dietary restrictions, greatly affecting quality of life. Currently, the only effective FA treatment is allergen-specific immunotherapy (AIT), which has been shown to improve LTP allergy⁴. However, its capacity to induce long-lasting tolerance is still an issue⁵ and, given its length and expense, there is much interest in finding potential prognostic biomarkers of treatment response.

In AIT for LTP with sublingual immunotherapy (SLIT), we demonstrated the shift of the sensitization profile from a Th2 to Th1/T regulatory (Treg) pattern with increased allergen-specific IgG4 (sIgG4) and IL-10⁺Treg cell levels and decreased allergen-specific IgE (sIgE) and effector Th2/Th9 cells⁶.

Moreover, in a mouse model, SLIT with glycodendropeptides (GDPs) bound to Pru p 3 peptides with mannose dendrons as adjuvant⁷ has been shown to protect from anaphylaxis upon allergen exposure, leading to a reduced Th2 response and increased Th1/Treg cells⁷. Interestingly, we observed that different doses of SLIT (5 nM or 2 nM) can lead respectively to either temporary desensitization (animal only tolerates peach for a

¹Allergy Research Group, Research Laboratory, Allergy Unit, Hospital Regional Universitario de Málaga-IBIMA, Instituto de Investigación Biomédica de Málaga-IBIMA, 29009 Málaga, Spain. ²Allergy Clinical Unit, Hospital Regional Universitario de Málaga, Málaga, Spain. ³Department of Molecular Biology and Biochemistry, University of Malaga, Malaga, Spain. ⁴CIBER de Enfermedades Raras, Instituto de Salud Carlos III, Madrid, Spain. ⁵Laboratory of Carbohydrates, Instituto de Investigaciones Químicas (IIQ), CSIC-Universidad de Sevilla, Sevilla, Spain. ⁶Nanostructures for Diagnosing and Treatment of Allergic Diseases Laboratory, Centro Andaluz de Nanomedicina y Biotecnología-BIONAND, Málaga, Spain. ⁷Medicine Department, Universidad de Málaga-UMA, Málaga, Spain. ⁸These authors contributed equally: Rafael Nuñez, Maria Jose Rodriguez, James Richard Perkins and Cristobalina Mayorga. ✉email: lina.mayorga@ibima.eu

short time after finishing treatment), or long-lasting tolerance (protection sustained for a longer period)⁷. This model provides us with a unique opportunity to evaluate the underlying mechanisms and identify biomarkers that discriminate between tolerance and desensitization by measuring changes in gene expression induced in the key cells for the modulation of the immune response, dendritic cells (DCs). We previously demonstrated that DCs showed important changes in cell-surface marker expression following stimulation by Pru p 3 in allergic patients compared to tolerant controls⁸. Multiple studies have demonstrated that these cells are key players in immunomodulation during AIT⁹ promoting tolerance, being involved in allergen transport to submandibular lymph nodes, inducing Tregs and reducing allergy symptoms¹⁰. Our group have demonstrated that the beneficial effects induced by SLIT with Pru p 3 can be orchestrated by DCs, by decreasing costimulatory molecules and migration markers and promoting PD-L1 expression, which is involved in the regulatory response^{6,11}.

Moreover, a previous study of DC gene expression during Pru p 3-induced anaphylaxis¹² showed changes for genes related to signal detection (including *Cd14*), effecting changes (Fos, Fosl2), Th2 responses, mast cell activation, vesicular trafficking and protein secretion, as well as cell recruitment and cytokines, further suggesting various roles for DCs in the allergic response. Interestingly, complement genes related to tolerant responses were downregulated¹². However, few studies have looked at global changes in gene expression during AIT. Recent work looked at the effects of AIT on expression in nasal epithelia alongside associated effects on the microbiome¹³. To our knowledge, no such studies have evaluated the effect of AIT on DCs in terms of gene expression.

Here we use RNA-Sequencing (RNA-Seq) to examine transcriptional changes that occur in lymph node DCs during immunotherapy. This cell-type was chosen due to its potential role in the induction of allergen-induced anaphylaxis described above¹² and in orchestrating the protective effects of AIT. The latter is shown by the aforementioned study from our group showing how targeting DCs in different ways during AIT leads to marked differences in response⁷. This encompasses differences at the immunological level, as shown by differences in levels of Treg cells and regulatory cytokines from both DCs and CD4⁺ T cells, and in terms of outcome for the mouse: the way DCs are targeted can influence whether tolerance is induced or not. The use of a high-throughput approach such as RNA-seq to profile DCs in this context allows us to further explore the involvement of regulatory cytokines in tolerance induction, as well as discovering novel genes and pathways. It will also allow us to further interpret previous results from our group focusing on changes in monocyte-derived dendritic cells in patients following immunotherapy, which involved a reduction of maturation markers, and their role in Th1 and Treg processes⁶.

For this, we used an animal model of food antigen induced-anaphylaxis¹⁴ developed by our group. We use two different concentrations of a SLIT compound that induce different protective responses: one that induces long-term protection (2 nM), and one that induces short-term (5 nM)⁷. RNA-seq was used to measure gene expression, due to its sensitivity to detect relatively small changes in expression¹⁵ and shed light on the dose-induced processes and pathways that produce different protective outcomes.

Results

All groups of mice were treated with different doses of SLIT with D₁ManPru p 3, or PBS, according to the experimental design (Fig. 1A). All mice were then challenged at week 14, one week after their final treatment in order to confirm the immunological response. Only anaphylactic mice (not treated with D₁ManPru p 3) underwent a drop in temperature ($\Delta 6^{\circ}\text{C}$, $P = 0.0156$) and developed severe clinical symptoms (Fig. 1C). Tolerance at 5 weeks was observed in Tolerant/2 nM animals, but not in Desensitized/5 nM animals (data not shown), in line with previous findings⁷. Pru p 3-sIgE and -sIgG1 levels and secreting cells were significantly lower in the Tolerant/2 nM and Desensitized/5 nM mice compared to Anaphylaxis, although values were low in all groups. However, we observed Pru p 3-sIgE in the Antigen-only group to be of similar levels to Anaphylaxis groups. These results are in line with previous studies^{14,16}, and suggest that not only sIgE but also sIgG1 may be required for the development of anaphylaxis symptoms. The mice that developed anaphylactic symptoms (Fig. 1C) also showed a significant change in sIgE levels after the immunization period, with more severe symptoms in those mice with higher levels of sIgE to Pru p 3 (Fig. 1D).

RNA sequencing and read alignment. Of the 20 mice (5 per group), 17 passed quality control criteria, having an average RIN of 8.67 and ~ 33,000,000 reads per sample, of which 96% aligned to the genome, and 84% overlapped with annotated genes.

To assess group separation and discard possible outlier samples, a principal components analysis was conducted (Fig. 2). The different groups show clear separation, except for the two SLIT receiving groups (Tolerant/2 nM and Desensitized/5 nM). Interestingly, the SLIT receiving groups are found together between the Anaphylaxis and Antigen-only group along the first principal component (PC1), which represents almost half of the variance, suggesting some commonality in terms of their gene expression profiles. However, they show some separation along PC2, suggesting that differences exist.

A lower dose of SLIT induces tolerant responses and more significant and larger expression changes.

Given that the principal aim of the study was to look at the effects of SLIT on animals that would react with anaphylaxis to Pru p 3, gene expression for the Tolerant/2 nM, Desensitized/5 nM and Antigen-only groups was compared with Anaphylaxis. The greatest number of DEGs was found for the Antigen-only group (411), as expected given that this group was never capable of developing anaphylaxis upon challenge. This was followed by Tolerant/2 nM (186), with the fewest changes being found for Desensitized/5 nM (119) (Fig. 3A). Full details of the DEGs are shown in Supporting Table 1.

Genes with higher expression in the comparison group are deemed over-expressed (positive log₂FC), genes with higher expression in the Anaphylaxis group under-expressed (negative log₂FC). More genes were detected

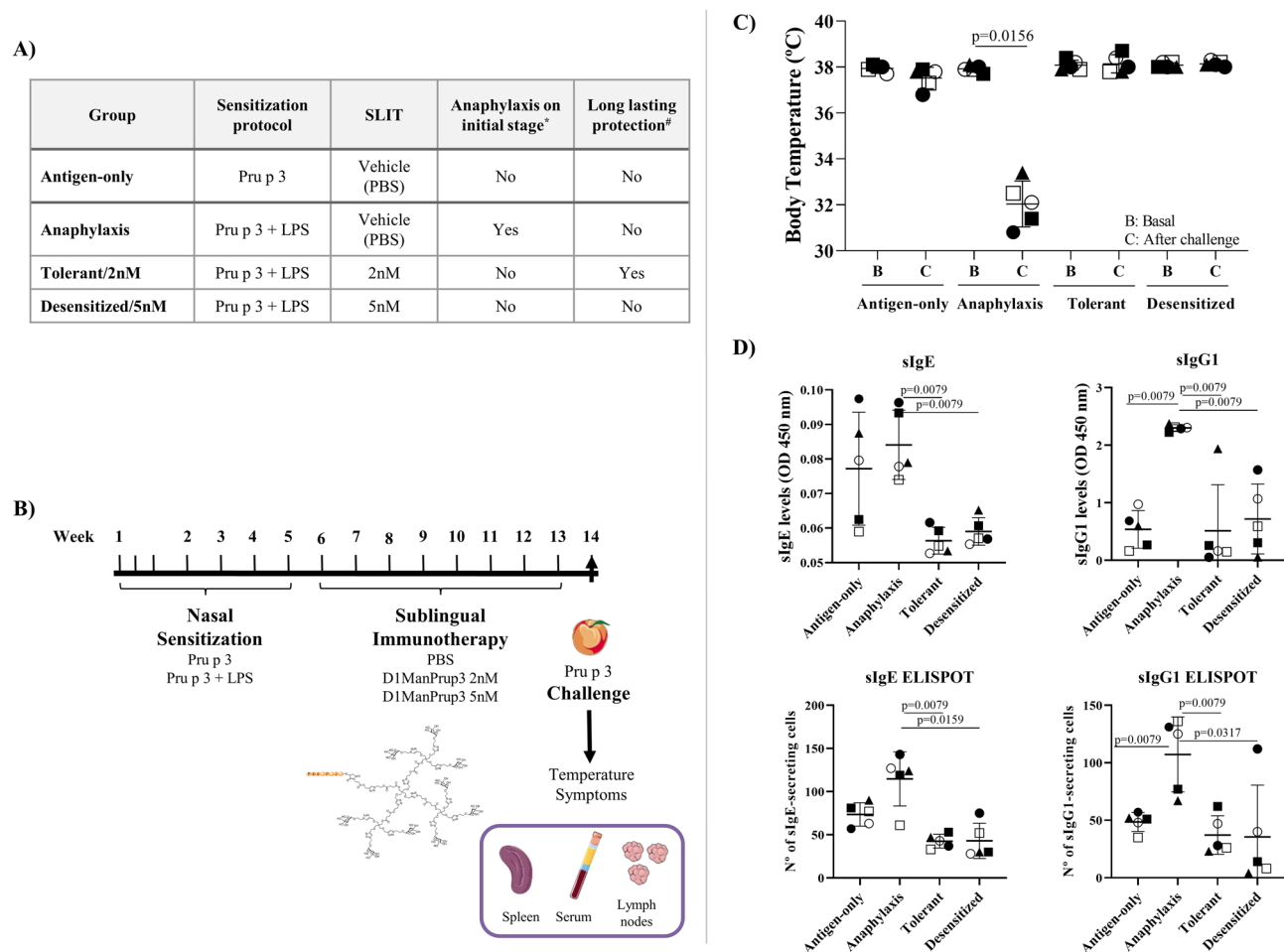


Figure 1. Experimental overview and physiological/immunological changes in the different groups. **(A)** Details of the sensitization and sublingual immunotherapy treatment for the different groups. *Challenge performed 1 week (1w) after the end of SLIT; #Were the challenge to be performed 5 weeks after the end of SLIT, as shown previously. **(B)** Overview of the experimental design in which mice were sensitized with Pru p 3 (Antigen-only) or Pru p 3 + LPS (additional three groups), then underwent sublingual immunotherapy, before being challenged one week after finishing treatment. **(C)** In vivo evaluation of anaphylaxis after SLIT with D₁ManPru3. Dots show decreases in body temperature 30–40 min after challenge with Pru p 3, 1w after ending the SLIT. The individuals used for the subsequent RNA analysis are marked in black. **(D)** In vitro evaluation after SLIT with D₁ManPru3. Bars represent the mean serum level of Pru p 3-sIgE and -sIgG1 by ELISA in different groups (upper part) and the number of Pru p 3-specific IgE and IgG1 secreting cells by ELISPOT assay for each group (lower part). Dots represent individual cases. Significant differences when $P < 0.05$ compared to Anaphylaxis group. The individuals used for the subsequent RNA analysis are marked in black.

as under-expressed in the Antigen-only (362 versus 49), and Tolerant/2 nM comparisons (123 versus 63) and over-expressed in Desensitized/5 nM (62 versus 57) (Fig. 3A,B). DEGs dispersion from the center of the Volcano plots in Fig. 3B also confirms more significant and larger changes for the Antigen-only comparison, followed by Tolerant/2 nM and Desensitized/5 nM.

Additionally, to investigate the DC tolerogenic state for each group, a group of manually curated genes related to tolerance were selected, based on a review of the relevant literature^{17–21}. To illustrate the expression differences of these activation markers we plotted a Log2Fold-Change heatmap (Supporting Fig. 2) and counts per million boxplots (Supporting Fig. 3) for these genes. Most of these genes were not detected as differentially expressed, moreover some were not even expressed, as shown as grey tiles in the heatmap. However, Il12b, Tnf, Xcr1, Ltf, Il1b, Ifngr1, Ifng, Tlr1, Tlr6, Cxcr4, Cebpb, Cd83, Cd274, Cd14, Ccr7, Ccr2 and Ccl22 were differentially expressed in at least one of the groups.

SLIT dosage affects the expression of genes related to anaphylaxis suppression. Table 1 summarizes the top 20 enriched GO terms for each comparison. Terms uniquely enriched for each comparison are highlighted. Only 4 GO terms of the top 20 are shared across all comparisons, these terms were the negative regulation of immune system process, leukocyte cell–cell adhesion, regulation of T cell activation and alpha beta

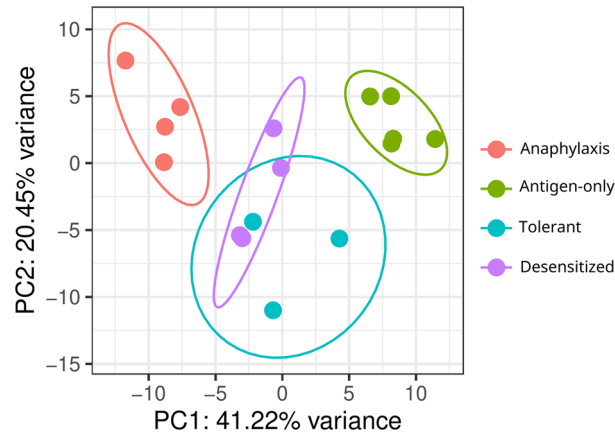


Figure 2. Principal Components Analysis (PCA) representation. Principal component analysis was obtained using the 1000 most variable genes. PC1 and PC2 are depicted.

A

Differentially Expressed Genes	Antigen-only versus Anaphylaxis	Tolerant/2nM versus Anaphylaxis	Desensitized/5nM versus Anaphylaxis
All	411	186	119
Upregulated	49	63	62
Downregulated	362	123	57
Top 20 (by adjusted p-value)	Bhlhe40, Dusp5, Tnfaip3, Nr4a2, Rgs1, Fosl2, Nr4a3, Atf3, Trib1, Mapk11, Ier5l, Rgs2, Runx2, Maff, Junb, Nfil3, Litaf, Vps37b, Gem, Irf2bp2	Stk17b, Gpr171, Vps37b, Fosl2, Tnfaip3, P2ry10, B3gnt7, Cd83, Dusp5, Thbs1, Ets2, Srgn, Rab30, Pde4b, Rps13, Plaur, Cytip, Safb, Mon1b, Fam107b	Mapk11, B3gnt7, Vps37b, Nfkbid, Fam107b, Ifngr1, Tex2, Cytip, Mettl17, Thbs1, Cd83, Rab30, Rnf125, Litaf, Fhod1, Pik3r1, Nr4a3, Fam193b, Traf3ip3, Ldb1

B

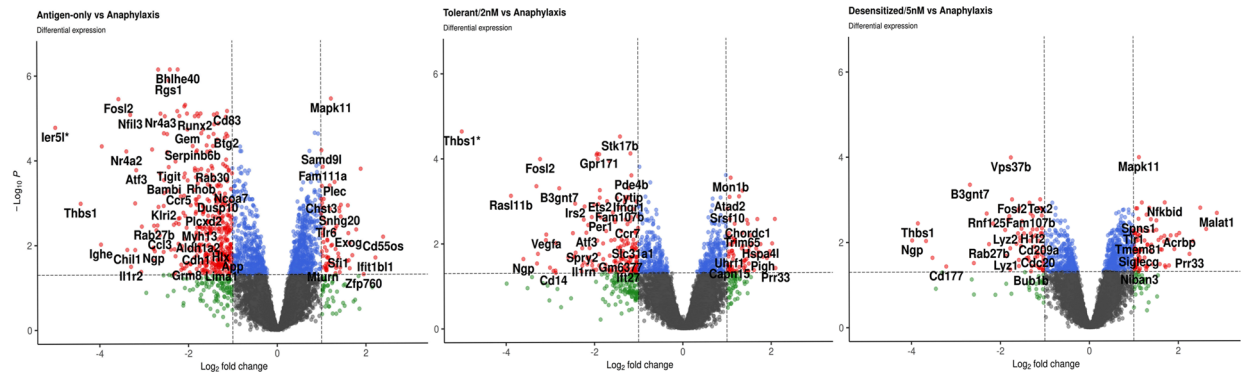


Figure 3. Global changes in gene expression between groups. (A) Table summarizing the number of differentially expressed genes (DEGs) in the different groups, Antigen-only, Tolerant/2 nm and Desensitized/5 nm, compared to the Anaphylaxis animal group (P -value < 0.05 , $\text{abs}(\log_2 \text{fold change}) > 1$). (B) Volcano plots for each comparison, adjusted P -value vs. fold change for the different groups vs. Anaphylaxis. *DEGs with absolute $\log_2 \text{FC} > 6$.

T cell activation. Although the exact GO terms differed between comparisons, they all found enrichment related to immune system processes characterized by DC-related processes.

The Tolerant/2 nM comparison found terms related to glucocorticoid receptor binding, cytokine receptor activity and negative regulation of MAPK cascade. Conversely, the Desensitized/5 nM comparison found terms such as secretory granule, regulation of mononuclear cells proliferation and chronic inflammatory response.

	Antigen-only	Tolerant/2 nM	Desensitized/5 nM
	Term (adjusted <i>P</i> -value mean log ₂ Fold-change)	Term (adjusted <i>P</i> -value mean log ₂ Fold-change)	Term (adjusted <i>P</i> -value mean log ₂ Fold-change)
Immune general	Negative regulation of immune system process (3.75e-13 -1.60)	Negative regulation of immune system process (0.002 -1.88) Regulation of hemopoiesis (0.003 -1.04)	Negative regulation of immune system process (0.002 -0.59) Defense response to Gram-positive bacterium (0.008 -1.42) Chronic inflammatory response (0.01 -1.12) Regulation of hemopoiesis (0.003 -0.25)
Immune cells processes	Regulation of leukocyte differentiation (2.61e-13 -1.48) Lymphocyte differentiation (3.74e-13 -1.29) Leukocyte cell-cell adhesion (2.07e-12 -1.48) Regulation of cell-cell adhesion (3.70e-12 -1.58) Regulation of T cell activation (9.62e-12 -1.43) Positive regulation of cell activation (4.26e-11 -1.52) Negative regulation of leukocyte activation (2.42e-10 -1.46) Leukocyte proliferation (4.64e-09 -1.34) Regulation of leukocyte proliferation (6.29e-09 -1.31) Alpha-beta T cell activation (6.87e-09 -1.40) Myeloid leukocyte activation (6.93e-09 -1.41) Regulation of lymphocyte proliferation (6.93e-09 -1.43) Cell chemotaxis (6.93e-09 -1.65) Lymphocyte proliferation (1.59e-08 -1.42) Immune receptor activity (2.02e-08 -1.50)	Glucocorticoid receptor binding (3.70e-05 -1.67) Regulation of cell-cell adhesion (0.002 -0.89) Regulation of T cell activation (0.002 -0.34) Leukocyte cell-cell adhesion (0.002 -0.41) Alpha-beta T cell activation (0.005 -0.72)	Regulation of lymphocyte proliferation (0.0008 -0.46) Regulation of mononuclear cell proliferation (0.0008 -0.46) Positive regulation of leukocyte activation (0.003 -0.77) Positive regulation of cell activation (0.003 -0.77) Lymphocyte proliferation (0.003 -0.46) Mononuclear cell proliferation (0.003 -0.46) Leukocyte cell-cell adhesion (0.003 -0.70) Regulation of leukocyte cell-cell adhesion (0.009 -0.39) Regulation of T cell activation (0.01 -0.65) Alpha-beta T cell activation (0.01 -0.80)
Cytokines related	Positive regulation of cytokine production (9.44e-14 -1.53) Negative regulation of cytokine production (2.75e-09 -1.56) Cytokine binding (3.40e-08 -1.52)	Cytokine binding (2.58e-06 -1.49) Cytokine receptor activity (1.04e-05 -0.51) C-C chemokine receptor activity (0.002 -0.75) G protein-coupled chemoattractant receptor activity (0.002 -0.75) Chemokine receptor activity (0.002 -0.75) Positive regulation of cytokine production (0.002 -1.57) Negative regulation of cytokine production (0.003 -2.37)	Secretory granule (0.0002 -1.49) Regulation of interleukin-12 production (0.01 -1.45) Interleukin-12 production (0.01 -1.45)
Cellular metabolism & signaling		Negative regulation of phosphorylation (0.002 -1.08) Response to unfolded protein (0.002 -0.66) Negative regulation of transferase activity (0.002 -1.14) Negative regulation of MAPK cascade (0.002 -0.98) Positive regulation of cellular catabolic process (0.002 -0.99) DNA-binding transcription factor binding (0.004 -1.34)	Negative regulation of cysteine-type endopeptidase activity (0.008 -1.80) Negative regulation of hydrolase activity (0.009 -1.67) Positive regulation of tyrosine phosphorylation of STAT protein (0.01 0.74)
Other	Regulation of vasculature development (7.60e-09 -1.83)		

Table 1. Top 20 enriched GO terms for each comparison. Adjusted *P*-value and mean log₂FC for each team are shown. Terms unique for each comparison top 20 enriched terms are in bold.

Supporting Tables 2, 3 and 4 contain full details of gene ontology enrichment. Although different terms were found between the two treated groups, they can potentially lead to the suppression of anaphylaxis through distinct mechanisms, as described in the next section.

Long lasting tolerance involves different mechanisms and signaling pathways compared to short term desensitization. Overlap between DEGs for each group is shown in Fig. 4. Only 29 DEGs showed significant differential expression in all three groups, unsurprising given the differences in terms of symptoms and immunological changes. The overlap between Desensitized/5 nM and Tolerant/2 nM only contained 7 DEGs that were not present in Antigen-only, somewhat unexpected given they both received the same treatment, GDP D₁ManPrup3, albeit in different doses. Lists of DEGs for the different intersections are given in Supporting Table 5.

The 29 common DEGs were used for functional enrichment analysis. Fourteen under-expressed genes showed functional enrichment for the gene ontology terms shown in Fig. 5A. All enriched terms are immune related, with links to DC functions. The differences in logFC between groups for *Il12b*, *Cebpb* or *Ltf*, could underlie different DC behaviors.

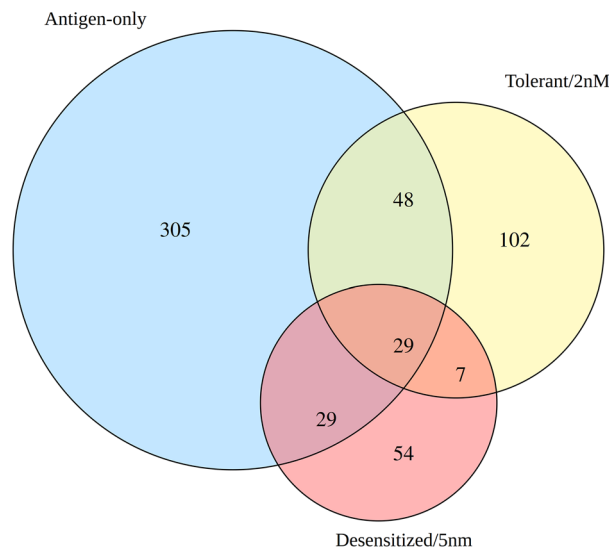


Figure 4. Area proportional Venn Diagram comparing DEGs lists obtained in all three comparisons.

Similar analysis was performed for all Venn diagram regions (Fig. 5 and Supporting Figs. 4–6). The DEGs shared by the Desensitized/5 nM and Tolerant/2 nM comparisons are involved in more general cellular processes and apparently unrelated terms such as fat cell differentiation and toxin transport. These may represent pleiotropic processes that affect the DC transcriptional and cellular context after immunotherapy, affecting their participation in tolerance. The genes changing in Tolerant/2 nM exclusively (Fig. 5C) are related to stress responses, including regulation of response to ROS, metabolic processes such as pyruvate metabolic process, and immune regulation terms such as activation-induced cell death of T cells. Desensitized/5 nM exclusive DEGs (Fig. 5D) also show enrichment for metabolic processes, such as negative regulation of amino acid transport, and immune-related process such as the regulation of immunoglobulin production, implying alterations of DC metabolic state in addition to the expected changes in the immunological machinery, in both experimental groups receiving SLIT. These findings suggest that the different SLIT doses lead to tolerance through different mechanisms and signaling pathways with some shared components.

Discussion

This study offers multiple insights into how AIT exerts its immunological effects. By using AIT models that led to either long-lasting tolerance or transient desensitization, we were able to investigate tolerance response mechanisms⁷. Through the use of a murine model, we could also access lymphatic tissue and thus focus on DCs, key players in the immune response orchestration^{6,10}. In terms of immunological changes, there was variation in the levels of both sIgE and sIgG1 between groups, potentially due to the signals occurring during the presentation of food antigens to T lymphocytes by DCs, inducing differentiation to IL-4 and IL-13 and proliferation of Th2 cells²², which together with the CD40-CD40L interaction with B cells will induce isotype-switching²³.

The patterns of gene expression detected are in keeping with the changes seen at the long-term phenotypic level. The Antigen-only animals, which although sensitized never developed symptoms against Pru p 3, showed the largest number of DEGs when compared with the Anaphylaxis group. Of both treated groups, the Tolerant/2 nM group showed fewer changes in expression, whilst the Desensitized/5 nM group showed the fewest. This could be interpreted as the effects of the AIT wearing off, although it might also be related to the induction of different pathways by different doses of AIT, this is reinforced by the relatively low number of common DEGs detected between Desensitized/5 nM and Tolerant/2 nM, despite both groups receiving the same SLIT molecule and showing similar immunological responses one week after finishing treatment. However, there is a core group of 29 genes that change in all three groups compared to Anaphylaxis. Several down-regulated genes in this group are related to Th1 activity: *Il12b* and *Ifngr1* downregulation increase IL-12 activity and therefore Th1 responses^{24,25}. *Ifngr1* downregulation has also been linked to the absence of DC maturation and proinflammatory cytokines²⁶, as have other downregulated genes such as *Thsb1*²⁷, *Prdm1*²⁸ and *Nr4a3*²⁹. Moreover, two downregulated transcription factors, *Fosl2*³⁰ and *Cebpb*³¹, belonging to the AP-1 and CEBP transcription factor family respectively, are related to proinflammatory pathways. This common differential expression shows absence of anaphylaxis after the challenge. Comparing functional enrichment of the DEGs detected in the Tolerant/2 nM and Desensitized/5 nM comparisons shows differences in DC pathway regulation and immune effector processes related to Pru p 3 tolerance at one week after SLIT treatment.

In the light of the above, Tolerant/2 nM detected DEGs may play a role in long-term protection. This set of DEGs includes under-expressed genes that reinforce DC tolerogenic behaviour, such as typical DC activation markers, *Ccr7*³² and *Cd83*³³, including also *Cxcr4*³⁴, *Cytip*³⁵, *Il6st*³⁶, *Rel*^{37,38}, *Smad7*^{39,40}, *Pde4b*⁴¹, *Cd14*²¹, *Zbtb10*⁴², *Sik1*⁴³ and *Tnfrsf3*^{44,45}. Moreover, multiple over-expressed genes concur with DC tolerogenic behaviour: *Alg3*⁴⁶, *Il2ra*⁴⁷ and *Uhfr1*^{48,49}. Interestingly, the Tolerant/2 nM over-expressed genes include chaperones and

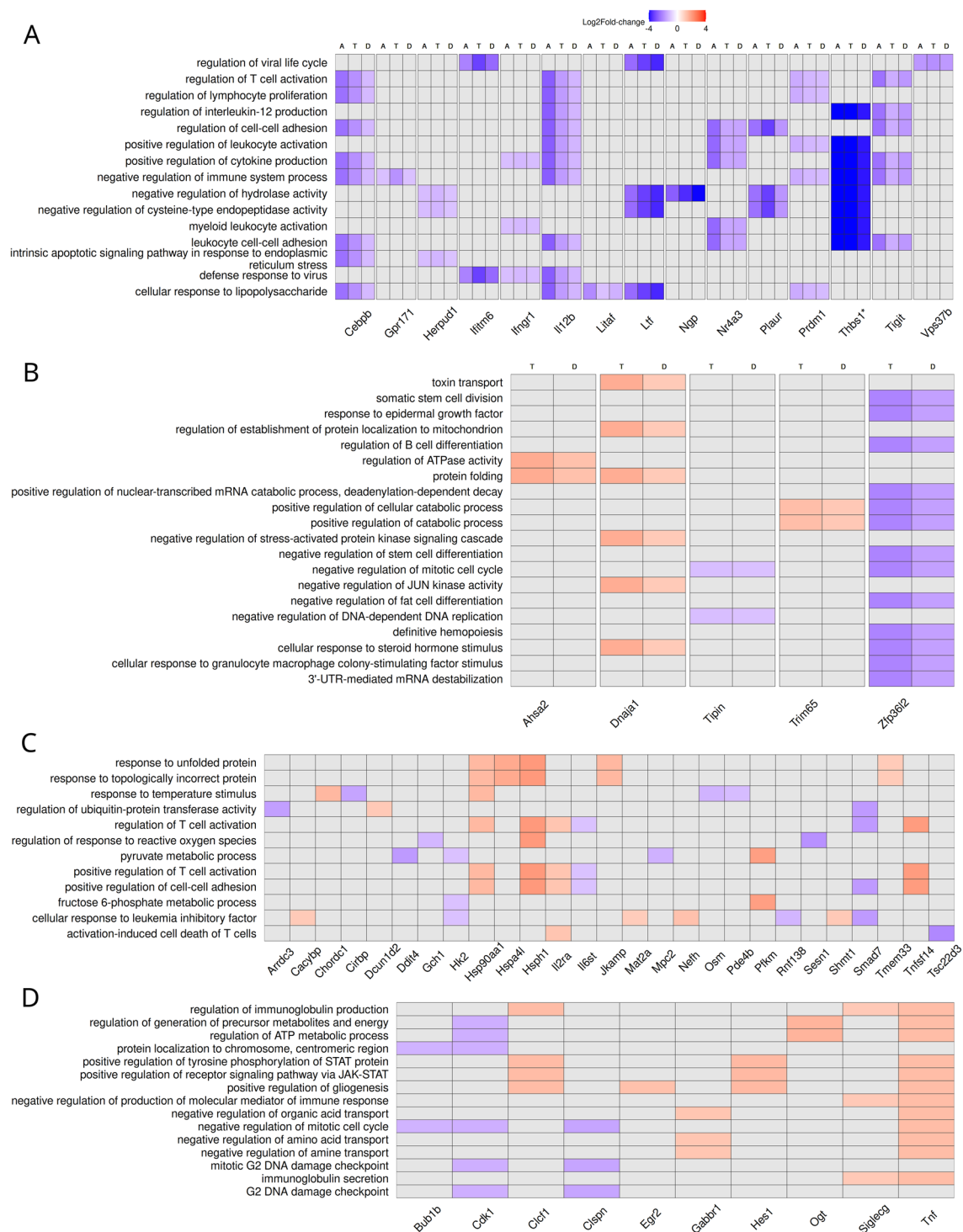


Figure 5. Venn Regions enriched Biological Processes Gene Ontology terms – DEGs heatmap. Heatmaps (Log2FC): (A) Common DEGs (A: Antigen-only, T: Tolerant/2 nM, D: Desensitized/5 nM), (B) Common DEGs for SLIT receiving groups (T: Tolerant/2 nM, D: Desensitized/5 nM), (C) Tolerant/2 nM exclusive DEGs, (D) Desensitized/5 nM exclusive DEGs. * DEGs with absolute Log2FC > 4.

co-chaperones connected to antigen processing and presentation, and eventually to tolerance induction, such as *Hsp119*¹⁹, *Hsp90aa1*⁵⁰ and *Stip1*¹⁹. *Dgcr8*, involved in miRNA production, was also over-expressed, potentially of interest given that these small RNAs have an important role in DC regulation⁵¹.

The DC tolerogenic skew is governed by mTOR signalling, as previously described in several studies^{52,53}. Activation or inhibition can be involved, depending on the cellular context and TLR signals. MTOR activation has been suggested to induce tolerance in lymph node DCs^{52,53}. Tolerant/2 nM differential gene expression presents a collection of genes that are tied to mTOR activation. An up-regulated gene, *Nuak1*, activates mTOR

in response to calcium⁵⁴, and is regulated by *Maf*, which is also over-expressed in Tolerant/2 nM. *Maf* is in turn regulated by mTOR to induce IL-10 production after TLR4 signalling⁵⁵. Furthermore, the over-expressed transcription factor, *Cebpg*, activates mTOR signalling and promotes a tolerogenic state in DCs³¹. Four inhibitors of the mTOR pathway, *Ddit4*⁵⁶, *Pik3ip1*⁵⁷, *Mpc2*⁵⁸ and *Sesn1*⁵⁹, were under-expressed, endorsing increased mTOR activation in Tolerant/2 nM DCs in comparison to Anaphylaxis DCs. That said, other genes were found that may down-regulate mTOR signalling, such as over-expressed *Neil3* that activates the mTOR antagonist p53 pathway^{60,61}, *Arl4d*⁶² and *Gpr68*⁶³, that can negatively regulate PI3K/AKT/mTOR. Furthermore, four mTOR activators, *Slc38a7*, *Dyrk3*, *Irs2* and *Dkge*, were under-expressed.

Also related to mTOR signalling, another Tolerant/2 nM only DEG of interest was *Mat2a*, whose up-regulation is controlled by mTOR⁶⁴; this gene encodes an enzyme with a key role in DNA methylation synthesis S-Adenosyl methionine (SAM). Increased abundance of SAM influences methylation and can attenuate LPS induced inflammation in macrophages⁶⁵. Conversely, *Myc* is detected as under-expressed. *Myc* is an mTOR-regulated transcriptional regulator involved in DC-induced tolerance^{66,67}. We also found over-expression of one of its direct targets, *Shmt1*, which is also over-expressed in dexamethasone-induced tolerogenic DCs (tolDCs)⁶⁷.

Meanwhile, genes changing in Desensitized/5 nM only may lead to short term protection. In this group, most of the detected DEGs are over-expressed, including *Nfkbid*, an inhibitor of NF- κ B, which limits inflammation⁶⁸ and *Tnf*, a mainly proinflammatory cytokine that induces DCs to activate IL-10 secretion by CD4 + T-cells⁶⁹. *Tnf* is regulated, together with IL-6 and IL-1, by mTOR signalling⁵³. Related to this finding, the mTOR-dependant up-regulated transcript, *Malat1*⁷⁰, drives DCs towards a tolerogenic phenotype⁷¹, and is related to milder asthma symptoms⁷². In contrast, *Egr2*, also induced by mTOR and up-regulated⁷³, may underlie the tendency to develop a Th2 allergic response in later weeks in these animals^{74–76}. *Egr2* is closely linked to methylation in immune cells, for example it initiates DNA demethylation in IL-4/GM-CSF-driven monocyte differentiation into DCs⁷⁷. A number of Desensitized/5 nM only over-expressed genes also activate the mTOR signalling pathway. *Zfp692* activates the PI3K/AKT pathway⁷⁸. PI3K/AKT signalling is key to maintaining tolDCs glycolytic regulation⁷⁹, especially in Vitamin D3 induced tolDCs⁸⁰. *Hes1* can activate mTOR via PTENT repression⁸¹. *Mapk11* also activates mTOR⁸² and participates in tolDCs generation⁸³. On the other hand, *Anxa1* down-regulation reduces mTOR/S6 signalling⁸⁴.

Other Desensitized/5 nM only DEGs are downregulated but connected to transitory desensitization. For example, *Camp* encodes an antimicrobial peptide that reduces TLR activation, linked to allergic contact response⁸⁵, and *209a* encodes DC-sign, which is needed for the *Malat1* induced DC tolerogenic phenotype⁷¹. However, *Ahr*, is also downregulated, deficiency of which could promote a Th2 response⁸⁶.

The two SLIT receiving groups only shared 7 DEGs that were not found in the Antigen-only comparison. Of these, an up-regulated co-chaperone stands out: *Ahsa2* encodes a Hsp90 binding and activating co-chaperone⁸⁷. Hsp90 inhibition in DCs leads to decreased maturation, MHCII and costimulatory surface markers, and prevents DCs from presenting antigen to T-cells and IL-12 secretion⁵⁰.

The effects of allergen dosage on DC response have been previously described at the expression and methylation level: increasing doses of OVA leads to increased numbers of changes in both⁸⁸. However, these results have no direct translation to our study, as we are looking at modulatory and tolerogenic expression changes compared to reactive anaphylactic mice. In this study we have shown how different SLIT doses (5 nM or 2 nM), which induce short-term (desensitization) or long-term protection (tolerance) against Pru p 3 in a mouse-model also result in distinct transcriptional panoramas, compared to anaphylactic animals. In both profiles of differential gene expression, several DEGs point to DC tolerogenic behaviour via mTOR activation after TLR4 stimulation, however the vast majority of the leading DEGs involved were specific to each comparison. A multi-faceted tolerance-related pathway such as mTOR has multiple input and output signals, with a plethora of regulating agents involved, so it is not surprising to find it involved in tolerance promotion. Additional studies could examine this further by performing RNA-seq at different time points, both during and after finishing AIT, to be able to capture all transient expression changes and to investigate how mTOR-dependant tolerance is achieved and then retained or lost, based on short- and long-term transcriptional profile divergence. Although DCs are theoretically the only CD11c expressing cells in lymph nodes^{89–91}, further studies using additional markers could be performed to investigate more specific subtypes. Moreover, since differential methylation may be involved in Pru p 3 tolerance, this should be studied further. Here, we found two over-expressed genes with contrasting effects on methylation: For the Desensitized/5 nM comparison, we found DEG *Egr2*, involved in demethylation; conversely, for the Tolerant/2 nM comparison, we found DEG *Mat2a*, which promotes methylation through SAM synthesis. Future studies should focus on long term DNA methylation changes emerging after SLIT, since using expression changes solely, at protein or RNA level, could reduce the time window in which transient changes can be detected. Finally, given that both Desensitized/5 nM and Tolerant/2 nM groups showed similar immunological data upon finishing treatment, these dose-related differentially expressed genes also warrant further investigation in terms of their use as prognostic biomarkers for AIT efficacy, although it must be pointed out that this study was performed using lymph node derived material.

The study has important implication for: (i) Understanding the mechanisms underlying the changes brought about by AIT in general. (ii) Understanding the implication of lymph nodes dendritic cells specifically – something that would not be feasible in human studies, at least on a high-throughput level. (iii) Determining what differentiates successful AIT from unsuccessful at a mechanistic level (iv) Identifying potential biomarkers that might be used prognostically to determine AIT success.

Methods and materials

GDP synthesis. SLIT was administered as GDP, comprising a dendrimer backbone, coupled with mannose and a Pru p 3 peptide, including T and B epitopes⁹². Synthesis and characterization were carried out as described⁷.

Food-antigen induced anaphylaxis model and SLIT experimental design. The aim of the experiment was to profile transcriptional changes occurring during SLIT in mice that would undergo anaphylaxis if exposed to the peach antigen Pru p 3. For this, gene expression in mice that had been given SLIT was compared to gene expression in mice that did not receive SLIT. This comparison was performed for different doses of SLIT capable of inducing long lasting tolerance (Tolerant/2 nM group) and short-term desensitization (Desensitized/5 nM group), respectively⁷. Therefore, three groups of mice that would undergo anaphylaxis if exposed to the peach antigen Pru p 3 were required, two of which would then go on to receive SLIT. As such, three groups of Balb/c mice were sensitized intranasally to peach using Pru p 3 alongside low doses of LPS in order to generate a Th2 response and allergic reaction (Fig. 1B)^{14,93}. For this purpose, mice were anaesthetized with inhaled sevoflurane and sensitized with 20 µg of natural Pru p 3 (Bial Laboratory, Zamudio, Spain) and 20 ng of LPS (InvivoGen, San Diego, CA) with a final volume of 12 µL.

In addition to these three groups, we also included an Antigen-only group, sensitized only to Pru p 3, without LPS. Mice in this group showed no anaphylactic symptoms after challenge with Pru p 3. Gene expression for the animals in this group was also compared to the mice that would undergo anaphylaxis if exposed to the peach antigen Pru p 3 and had not been given SLIT.

Once sensitized, Tolerant and Desensitized mice were treated with 2 or 5 nM of D₁ManPru p 3 respectively via sublingual administration (10 µL), once a week for eight weeks. The same schedule was followed but with 10 µL of PBS in mice from the Anaphylaxis and Antigen-only groups. Mice were anaesthetized to ensure the compound was maintained sublingually. One week after finishing SLIT/PBS, mice were challenged with one intraperitoneal dose of Pru p 3 (100 µg) and 30–40 min after the injection, temperature and behavioral symptoms were measured as described previously (Fig. 1B)⁹⁴. Mice were then sacrificed, lymph nodes were collected aseptically and teased to prepare a cell suspension. DCs were purified by positive selection using CD11c MicroBeads Ultrapure (Miltenyi Biotec, Bergisch Gladbach, Germany). The CD11c+ cell fraction was maintained in RLT Buffer at – 80 °C until use.

Immunological changes. The methods to measure immunological changes were similar to those of our previous studies, in which we developed the anaphylactic and tolerant models^{7,14}. Briefly, Pru p 3-specific serum antibody levels (sIgE and sIgG1) were measured at basal time (day 0) and after Pru p 3-challenge in mice sera by ELISA using 5 µg/mL of Pru p 3 for coating microtiter plates (Corning, Corning, NY). The Pru p 3-specific antibodies were revealed using biotinylated labeled rat anti-mouse IgE or IgG1, (BD Biosciences Pharmingen, San Diego, CA). The ELISA results were expressed as optical density. Statistical analysis was performed by analyzing unrelated samples using the Mann–Whitney U or Kruskal–Wallis tests. *P*-values lower than 0.05 were considered statistically significant.

The number of antibody-secreting cells was measured using ELISpot Multiscreen HTS plates (Millipore, Darmstadt, Germany) coated with Pru p 3 at 5 µg/mL. A total of 1.5×10^5 splenocytes were seeded and incubated for 48 h at 37 °C and with 5% of CO₂. After washing, 50 µL of alkaline phosphatase labeled anti-IgE and -IgG1 and as control -IgM (SouthernBiotech, Birmingham, AL) were added. The number of Ig secreting cells was determined by counting the formed spots using an ELISpot Bioreader(R) 6000 (BioSys, Karben, Germany).

RNA extraction and sequencing. Total RNA was isolated from the CD11c+ cell fraction and purified using the RNeasy Micro Kit following the manufacturer's instructions (Qiagen, Venlo, Netherlands). RNA quality was verified using an Agilent Bioanalyzer, with an RNA integrity number cut-off of 8.

Poly-A enriched sequences were reverse transcribed, fragmented, and amplified using the SMARTer Universal Low RNA Kit (Clontech, Mountain View, CA). Sequencing was performed using HiSeq 4000 (Illumina, San Diego, CA), 100 base pair reads (paired-end).

Bioinformatics analysis. A bioinformatic analysis workflow (Supporting Fig. 1) was created for this purpose and was composed of the steps described below. Sequenced reads were cleaned of low-quality bases, sequencing adapters and low-quality reads based on substandard sequencing tiles. Later, sequenced reads were aligned to the mouse genome (GRCm39) using STAR software (STAR 2.7.8a)⁹⁵. Gene expression was quantified using Ensembl annotation (103) and featureCounts from the Rsubread package⁹⁶. Detection of differentially expressed genes (DEGs) was performed using EdgeR^{97,98}, Limma⁹⁹ and DESeq2¹⁰⁰: a false discovery rate of 0.05 and an absolute base 2 logarithmic fold change (log₂FC) of 1 in all three packages were used to determine significant DEGs. Given that the aim of the study was to investigate changes induced by AIT, the Anaphylaxis group was used as the control for all comparisons, as such positive log₂FC represents higher expression in the Tolerant/2 nM, Desensitized/5 nM or Antigen-only groups; negative log₂FC represent higher expression in the Anaphylaxis group.

The DEGs were used for functional enrichment analysis by detecting overrepresented gene groups amongst the DEGs compared to non-DEGs, using Gene Ontology (GO), (molecular function and biological process) annotation¹⁰¹, performed using clusterProfiler with default parameters¹⁰², and an adjusted *P*-value < 0.05. All software is publicly available.

DEGs detection and functional enrichment was performed using the freely available ExpHunterSuite software package (<https://bioconductor.org/packages/ExpHunterSuite/>)¹⁰³.

Animal experiments. This study was carried out in accordance with the “Guide for the Care and Use of Laboratory Animals” as promulgated by the National Institute of Health and the protocols were approved by the “Animal Experimentation Ethics Committee of BIONAND”, Malaga, Spain (Ref 07/2017). All studies involving animals are reported in accordance with the ARRIVE guidelines for reporting experiments involving animals¹⁰⁴.

Data availability

The data that support the findings of this study are openly available in BioProject (PRJNA805201).

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Author contributions

Conceptualization, R.N., M.J.R., J.R.P. and C.M.. Methodology, M.J.R. and R.N. Software, F.M.J., J.C.C., P.S., R.N. and J.R.P. Formal Analysis, R.N. and M.J.R. Investigation, R.N. and M.J.R. Resources, J.L., J.R., F.P., and F.G. Writing – Original Draft, R.N., M.J.R. and J.R.P. Writing – Review & Editing R.N., M.J.R., J.R.P. and C.M. Visualization, M.J.R. and R.N. Supervision, M.J.T. and C.M. Project Administration, C.M. Funding Acquisition, M.J.T. and C.M.

Competing interests

The authors declare no competing interests.

Additional information

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Correspondence and requests for materials should be addressed to C.M.

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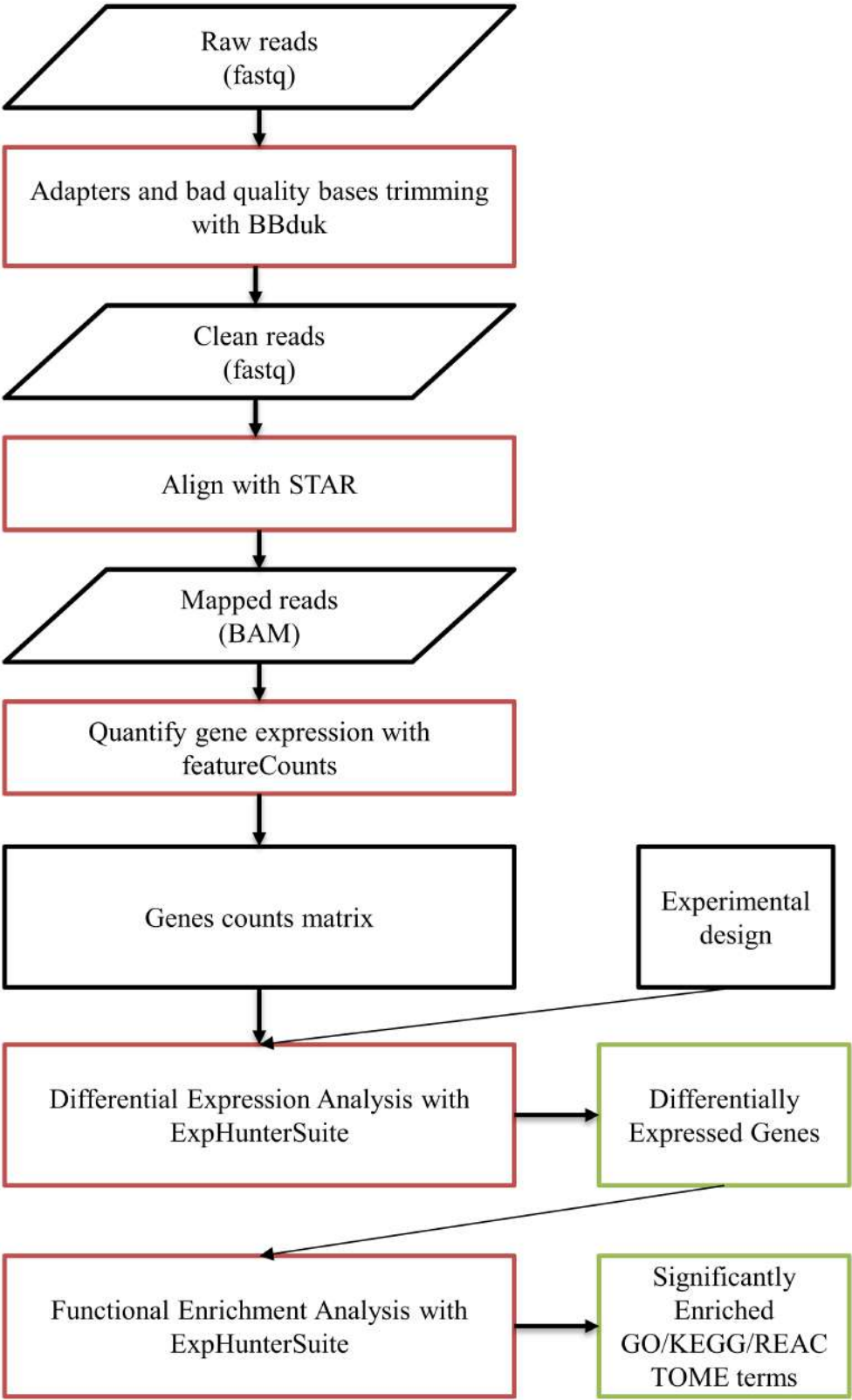
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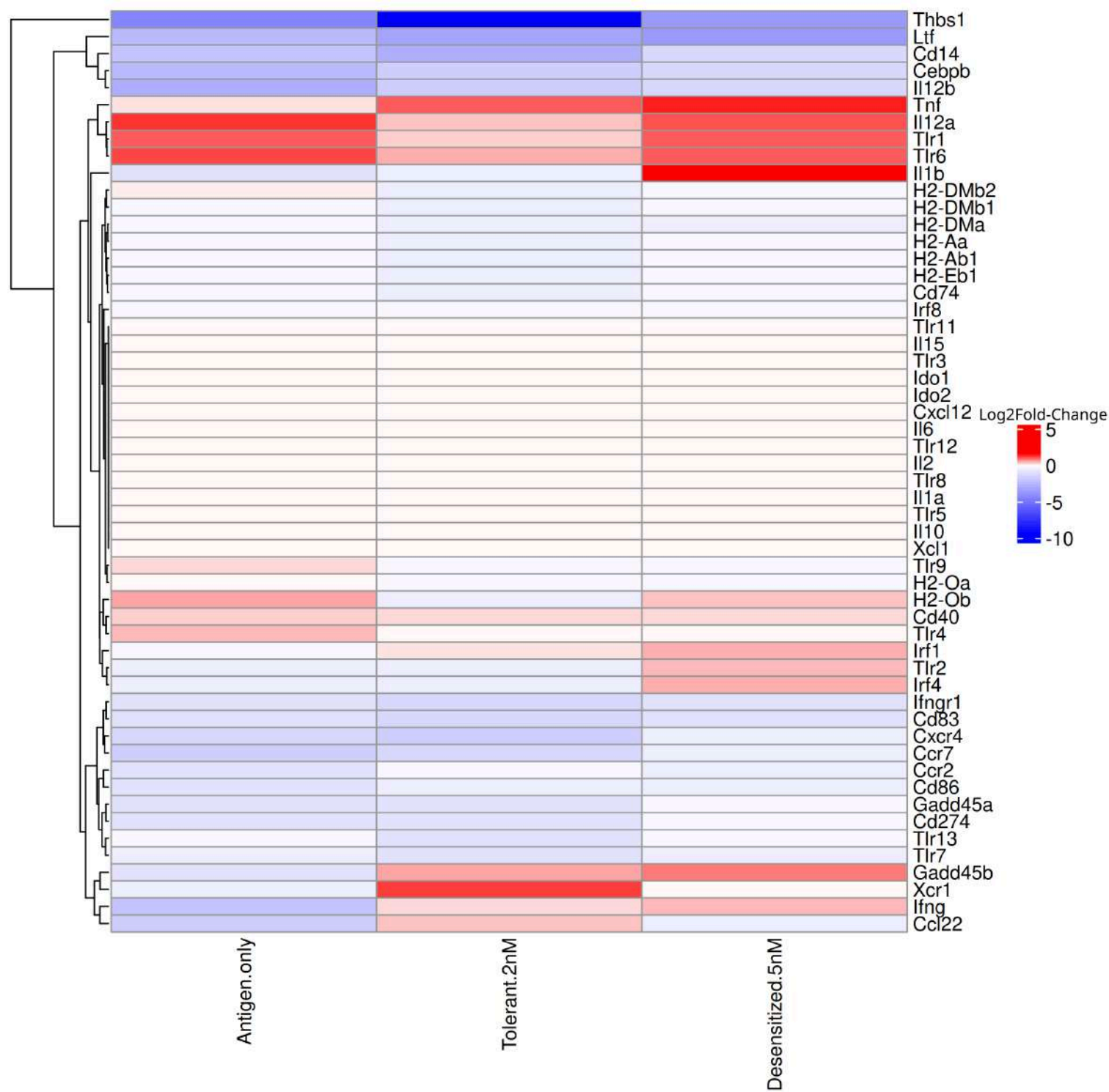
Transcriptional changes in dendritic cells underlying allergen specific induced tolerance in a mouse model.

Rafael Nuñez, MSc^{a,*}, Maria Jose Rodriguez PhD^{a,*}, Francisca Palomares PhD^a, Francisca Gomez MD, PhD^b, Fernando M. Jabato^c, Jose Cordoba-Caballero^c, Pedro Seoane^{c,d}, Jorge Losada^e, Javier Rojo PhD^e, Maria Jose Torres MD, PhD^{a,b,f,g}, James Richard Perkins PhD^{a,c,d#}, Cristobalina Mayorga PhD^{a,b,f#}.

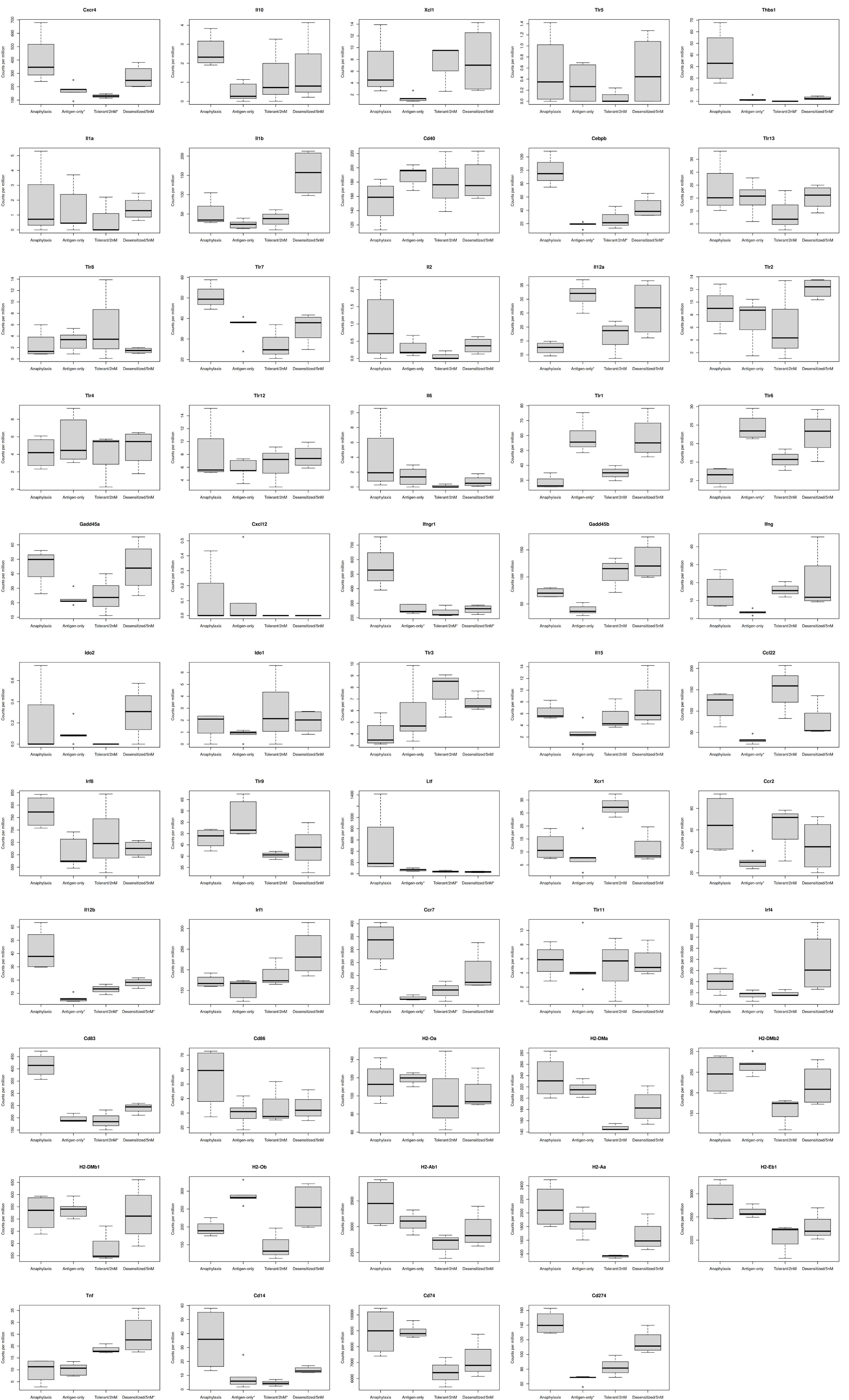
Supporting figure 1. Bioinformatic analysis workflow.



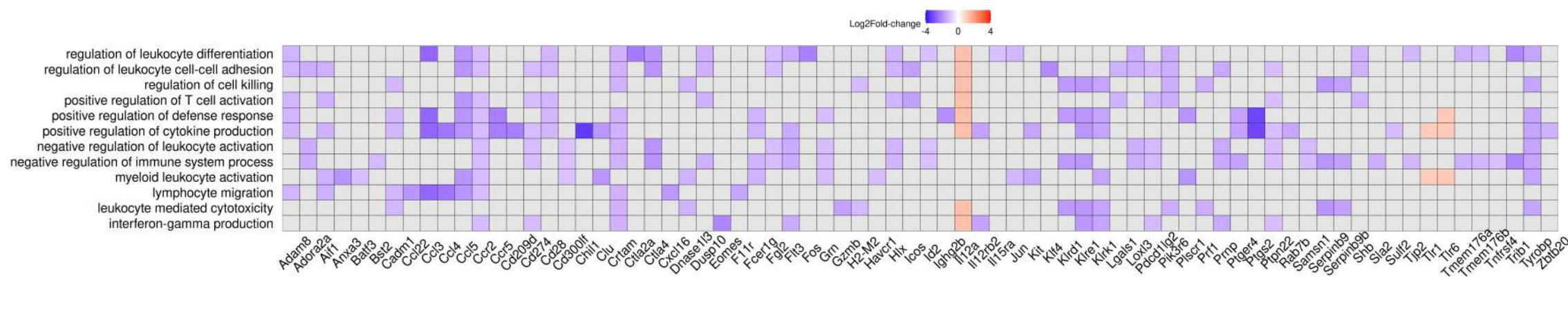
Supporting figure 2. Dendritic cells tolerogenic signature genes Heatmap. Genes for which no expression has been detected have been coloured white.



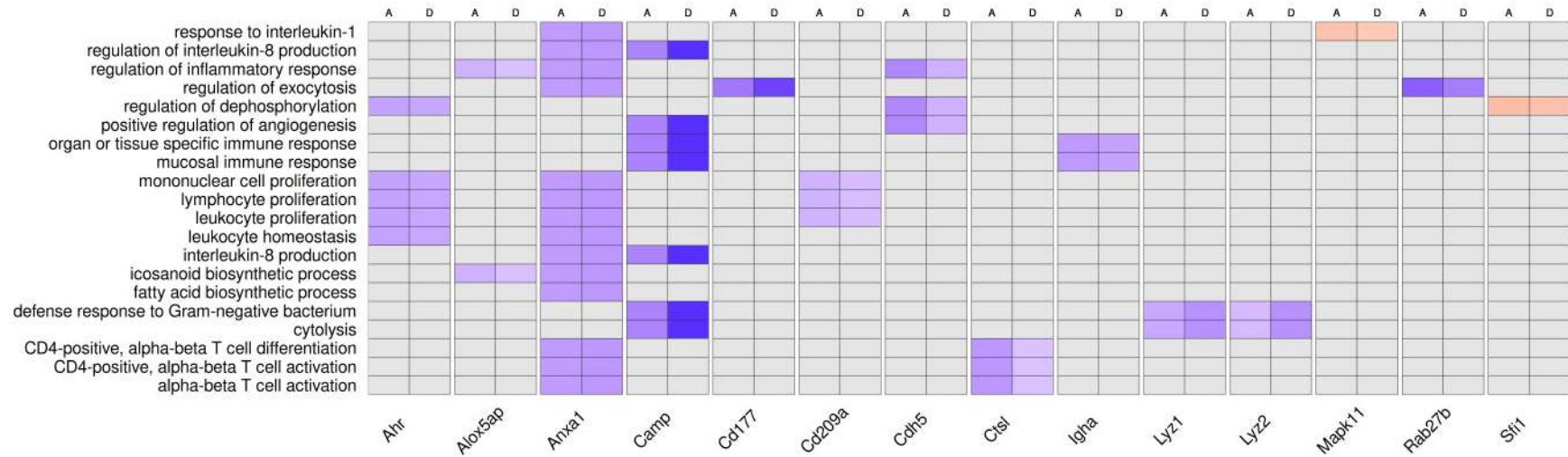
Supporting figure 3. Dendritic cells tolerogenic signature genes counts per million Boxplots. *Differentially expressed for this group against Anaphylaxis.



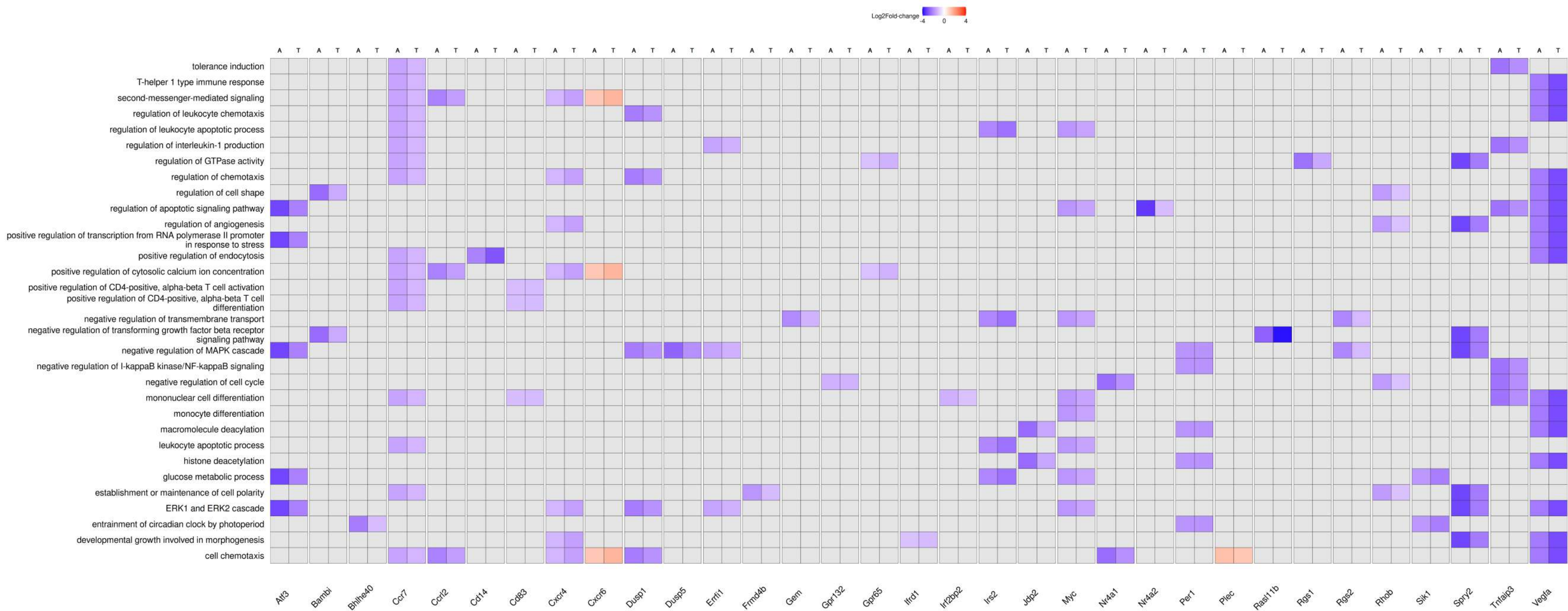
Supporting figure 4. Heatmap (Log2Fold-Change) of Antigen-only exclusive DEGs.



Supporting figure 5. Heatmap (Log2Fold-Change) of Antigen-only and Desensitized/5nM exclusive DEGs.



Supporting figure 6. Heatmap (Log2Fold-Change) of Antigen-only and Tolerant/2nM exclusive DEGs.



Supporting Table 1. Details of all the genes showing differential expression in at least one of the groups compared to Anaphylaxis. Columns show FDR (adjusted p-value) and logFC for all three comparisons.

Supporting Table 1. Full details of genes differentially expressed

	Antigen- only.logFC _DESeq2	Antigen- only.FDR_D ESeq2	Antigen- only.logFC _edgeR	Antigen- only.FDR_e dgeR	Antigen- only.logFC _limma	Antigen- only.FDR_li mma	Tolerant/2nM.lo gFC_DESeq2	Tolerant/2nM. FDR_DESeq2	Tolerant/2nM.l ogFC_edgeR	Tolerant/2nM. FDR_edgeR	Tolerant/2nM.l ogFC_limma	Tolerant/2nM. FDR_limma	Tolerant/2nM.l ogFC_limma	Tolerant/2nM. FDR_limma	Desensitized/5nm. logFC_DESeq2	Desensitized/5nm .FDR_DESeq2	Desensitized/5nm .logFC_edgeR	Desensitized/5n m.FDR_edgeR	Desensitized/5nm .logFC_limma	Desensitized/5n m.FDR_limma
Bhlhe40	-	4.203529577	-	8.739365900	-	7.177607459	-	1.707557783254	-	0.00292425536	-	0.00156156460	-	0.7440710920685	-	0.899576048031	-	0.646656631750		
	2.24565270 440726	42123e-35	2.18531773 211499	07074e-07	2.24304046 340089	11387e-07	1.118737555911 86	43e-06	1.07586906651 009	603383	1.17145650973 35	186529	0.11266054981201 2	42	0.0474121462053 005	029	0.1322911703473 07	067		
Dusp5	-	4.203529577	-	1.133838579	-	7.177607459	-	1.201635133985	-	0.00032328444	-	0.00010298552	-1.0109362650357	0.0002331188905	-	0.012687959963	-	0.006083815144		
	2.68957747 507052	42123e-35	2.63135735 599963	36169e-06	2.67335089 636999	11387e-07	1.874179564357 79	4e-12	1.83356493469 216	869653	2.03416151708 67	23723	-	52145	0.9450142507566 11	3874	1.0095499629453 2	30173		
Tnfaip3	-	7.827942736	-	1.708830898	-	7.177607459	-	1.763695617906	-	0.00027782103	-	7.70744410519	-	0.0009809526742	-	0.024424700105	-	0.010936546633		
	2.40537583 046942	09641e-31	2.34500006 272789	98129e-06	2.45156434 551982	11387e-07	1.918154794665 63	59e-14	1.87445161541 093	2242069	1.98454541491 559	003e-05	0.88188299895206 2	11763	0.8136378605621 55	6658	0.8779795753772 03	0463		
Nr4a2	-	1.420531846	-	1.708830898	-	6.086088137	-	0.011661422233	-	0.04653452360	-	0.02113846591	-	0.8154694121104	-	0.905507924497	-	0.743512952559		
	3.41102325 587139	71476e-26	3.35212896 32568	98129e-06	3.40340431 818612	74125e-05	1.099862179782 62	5764	1.06172784184 242	70281	1.25190475622 768	35404	0.14084415471980 7	89	0.0740428975312 783	013	0.1375757751409 67	927		
Rgs1	-	2.427166777	-	9.352300908	-	1.299564159	-	1.293953014243	-	0.00599515713	-	0.00085447292	-	0.0718430034156	-	0.185804092971	-	0.065706422887		
	2.42694546 172807	66124e-24	2.37033407 309601	1234e-06	2.49240894 384866	38385e-06	1.467496092022 73	18e-06	1.43053474460 152	964875	1.55529893844 422	3213835	0.60152869626272 6	681	0.5375583927623 29	603	0.6018498644435 18	1846		
Fosl2	-	4.024348426	-	6.694324230	-	3.558798935	-	6.973582776017	-	0.00028600444	-	0.00010298552	-	3.0902541152142	-	0.008271831483	-	0.000995685637		
	3.52662503 075087	84994e-24	3.46113068 221637	87399e-06	3.70166887 210295	43243e-06	3.224848008493 78	73e-15	3.17549146318 87	8199555	3.25766629408 14	23723	1.74836600035427	5e-05	1.6799380607217 5	37801	1.7641746471290 6	230599		
Nr4a3	-	2.427166777	-	6.002047287	-	7.866721248	-	2.488339915433	-	0.00516032475	-	0.00313649490	-	5.4556662198412	-	0.003531278743	-	0.001593386390		
	2.65152152 365261	66124e-24	2.58812333 418422	52055e-06	2.60821221 159355	89252e-06	1.556589698365 31	22e-06	1.50729319426 719	995418	1.51388616677 501	323835	1.56204880300271	2e-07	1.4919241241904 9	76803	1.6495586368856 8	86515		
Atf3	-	1.323131369	-	1.708830898	-	0.000168979	-	3.529519312700	-	0.00073125697	-	0.00559538701	0.27266497474218	0.5939733684981	0.3352141713074	0.477077799381	0.3592525089104	0.324388758844		
	3.22202588 397734	52478e-24	3.16355173 180238	98129e-06	3.11524708 90646	337730591	2.225877336220 68	91e-09	2.18203126538 835	7907823	2.12106122724 418	924121	2	63	57	78	51	143		
Trib1	-	3.432151864	-	2.650549526	-	4.913754642	-	0.000287648822	-	0.01132119068	-	0.00436202636	-	0.6458646231091	-	0.778735836692	-	0.544938927636		
	2.07501003 109168	0779e-23	2.01693770 591329	53441e-06	2.08431224 800506	0781e-06	0.998843620444 039	187195	0.95752062870 2062	17053	1.05571134576 998	186917	0.16868915658078	39	0.1063220451581 73	92	0.1610916674732 52	791		
Mapk11	-	1.20750366	1.605125418	1.26531525	1.708830898	1.21176068	3.558798935	0.724401263282	0.76886421104	0.00130869316	0.71992228100	0.00352732904	1.10290385982604	5.3994861405053	1.1673926662803	4.160503891599	1.1045476834066	0.000103247892		
	446113	81645e-22	671725	98129e-06	720342	43243e-06	677	19e-06	4936	300837	7599	278951	2	7e-16	5	09e-05	4	277572		
Ier5l	-	2.249197398	-	7.129838995	-	1.665347885	-	0.000621710566	-	0.01683604122	-	0.02153710727	-	0.0026646434550	-	0.022191523318	-1.812715716125	0.013994910045		
	5.17632649 0504	5592e-22	5.08694896 492987	11092e-06	5.36582013 974314	25562e-05	2.171259047594 07	109268	2.11906819042 554	05771	2.06670906157 184	50291	1.79230207854373	4752	1.7186188578651 7	0815	5182			
Rgs2	-	8.238975771	-	7.129838995	-	5.321498543	-	2.906848791047	-	0.00765555221	-	0.00302029080	-	0.3522977508153	-	0.492666067877	-	0.294489627523		
	2.09487268 784056	0836e-22	2.03041530 431303	11092e-06	2.10602173 431724	21288e-06	1.187238919368 1	77e-05	1.14416037171 806	82854	1.22312819131 291	670695	0.32124698697198 8	97	0.2547387912856 24	02	0.3195578954224 66	661		
Runx2	-	4.626016776	-	5.151550591	-	9.084446670	-	0.062049226869	-	0.11722022215	-	0.07439								

	434262		444117		259365		58		981		8173							
Nr4a1	- 2.53029167 856434	1.662859571 48499e-15	- 2.46627051 513784	2.822919848 14142e-05	- 2.55617662 599251	9.084446670 3e-06	- 1.900242749947 75	1.875901418846 12e-06	- 1.85379662296 102	0.00346960674 980325	- 1.95648194660 627	0.00119091568 208696	0.33006418866535	0.5388654713392 02	0.3948288467126 08	0.421658052278 058	0.2455636711575 9	0.578073147043 615
Cd274	- 1.16467590 382815	6.869256533 79866e-15	- 1.10664726 516704	1.678219365 25709e-05	- 1.15581550 728172	9.487410406 85052e-06	- 0.827022627454 448	1.360974326151 13e-05	- 0.78374864616 4649	0.00403913872 791058	- 0.87010917708 4938	0.00159499969 919324	- 0.35918470548570 8	0.0811809422917 733	- 0.2933405999773 01	0.178984986487 408	- 0.3526557749929 25	0.075656580883 6603
Adora2a	- 1.42873550 489201	3.664909241 08631e-15	- 1.36704989 382015	2.293190452 82027e-05	- 1.42454258 90182	1.411460179 25408e-05	- 0.412418920855 319	0.126717745881 662	- 0.36683111821 9346	0.21434016020 3215	- 0.41898816909 3265	0.11179420750 0327	- 0.58428541906435 4	0.0113278862862 479	- 0.5161567147989 99	0.066256615201 1937	- 0.6015849393101 24	0.016177524450 0567
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Cebpb	- 2.49007279 682423	7.016112366 20508e-15	- 2.42327509 745795	5.581718871 81358e-05	- 2.48849178 960528	2.388763255 07916e-05	- 1.913454996124 39	1.527259477873 17e-06	- 1.85609545428 252	0.00565921462 367517	- 1.97576519966 018	0.00208787985 897363	- 1.23641601931146 4384	0.0018140671786 4384	- 1.1656396277051 0621	0.030653235433 0621	- 1.2110394507926 8	0.007006580756 77624
Serpinb6b	- 1.91426780 780872	3.421165243 69106e-15	- 1.85666625 353948	9.633378171 03851e-05	- 1.90492445 860722	4.591660990 6589e-05	0.066090585640 0008	0.901670621629 132	0.10381835122 7235	0.84702428194 272	- 0.04873649192 201	0.93063000025 142	- 0.60435296587045 3	0.0712886607901 468	- 0.5394002840904 11	0.194495078664 355	- 0.6719285621693 79	0.081792402846 2642
P2ry10	- 1.44812636 706178	2.218748006 93397e-14	- 1.38442756 659116	3.029025772 36286e-05	- 1.42707817 760587	2.388763255 07916e-05	- 1.677758855270 45	3.376234357115 37e-14	- 1.62735456404 601	0.00019334702 4322987	- 1.63553460631 555	0.00011600171 7630597	- 1.09755009472868 7	8.9568664300108 1e-07	- 1.0276197996313 7	0.002946613782 18721	- 1.0585648437595 5	0.002371258641 46425
Ptger4	- 1.60202961 991075	7.428588940 20388e-14	- 1.54226525 493504	3.284031094 12716e-05	- 1.58778715 528189	4.442130727 90652e-05	- 0.778899718543 406	0.007856819590 2368	- 0.73633653394 7089	0.03999894891 43465	- 0.79279504001 2787	0.02773514246 59676	- 0.48241336483772 4	0.1028754064232 7	- 0.4170685715384 8	0.194485146243 693	- 0.4944802400131 33	0.080652086584 9337
Fos	- 2.21022525 029951	3.006196556 90572e-13	- 2.14819033 286739	4.327056673 31822e-05	- 2.21185517 065919	8.959352571 05811e-06	- 0.626413655922 994	0.181394502406 265	- 0.58305630988 1958	0.21074009562 0142	- 0.56626993107 2967	0.16957154678 5984	0.17911470352386 1	0.7497215880583 89	0.2422863662552 74	0.615024748013 074	0.2297082005712 57	0.558478751375 046
Btg2	- 1.15619977 171502	1.530377406 82781e-13	- 1.09496224 892515	4.175088095 94781e-05	- 1.15576520 904074	2.388763255 07916e-05	- 1.004941013435 39	2.056372432287 04e-07	- 0.95879509872 0581	0.00179843306 965406	- 0.98600624555 2993	0.00129617832 470211	- 0.09827069035657 91	0.7326943571918 99	- 0.0329635148446 959	0.915275471696 029	- 0.0834438105786 288	0.734829008925 667
Tigit	- 2.47649942 628895	5.925849304 7312e-14	- 2.40943970 239469	2.888887742 8284e-05	- 2.41290788 138287	0.000143204 313756384	- 1.396426853910 56	0.001267167250 24873	- 1.34925498690 032	0.01862910337 68396	- 1.45534581988 865	0.01187390022 04113	- 1.80636809189418 8	1.9490956369849 3e-06	- 1.7330619584015 8	0.003302519428 03938	- 1.8398370610675 7	0.002460428198 51195
Dusp1	- 2.21608150 785312	9.557325973 78175e-13	- 2.15627109 560543	4.842980907 60151e-05	- 2.33754323 559684	6.883745438 87632e-06	- 1.864063531749 82	1.318903595617 63e-06	- 1.82036808496 768	0.00261959861 36617	- 1.91819216997 033	0.00055936180 3615894	- 0.68638519868361 7	0.1150959749912 63	- 0.6206495072178 46	0.166897833373 43	- 0.6805672960641 69	0.074962480391 5623
Dnajb9	- 1.52551270 049716	1.940311626 93475e-13	- 1.46114316 58606	4.587251721 70281e-05	- 1.51181844 644767	6.110599177 75613e-05	- 0.679760954294 228	0.018878901848 8343	- 0.63569372483 4285	0.06362048710 61107	- 0.72037559589 3963	0.04366506507 97463	0.30741755469605 8	0.3321635056161 8	0.3753995956335 94	0.230582583806 85	0.3226026590887 62	0.251747883330 888
Anxa2	- 1.45883409 810703	3.734050659 0909e-13	- 1.40159020 877489	4.842980907 60151e-05	- 1.44691766 933585	4.591660990 6589e-05	- 0.173998514869 434	0.639229284903 074	- 0.13080389092 066	0.72531056158 5262	- 0.19213665204 0115	0.55479443744 152	- 0.85920413984226 4	0.0004692566547 03453				

Serp in 9	- 1.86493714 997498	1.135988679 43561e-11	- 1.80786465 5915	0.000315649 632438819	- 1.86116188 659509	0.000173274 839355271	- 0.255740532045 136	0.606814543577 459	- 0.21961687367 9663	0.68407430844 3701	- 0.40765141320 0815	0.36366172155 2193	- 0.57869606099084 47	0.1320231723129 47	- 0.5145642627940 49	0.259132027526 375	- 0.6942838491238 92	0.084938695873 6228
Rhob	- 1.75157945 195978	1.060558176 46379e-11	- 1.69153016 757803	0.000254835 44524354	- 1.67325954 669808	0.000288393 904203606	- 1.049729124737 56	0.002149484951 73248	- 1.00996650724 798	0.03362791669 73048	- 1.08512653245 748	0.02581489291 08197	- 0.27008603553874 1	0.5264038481883 53	- 0.2044710532873 46	0.662935324206 282	- 0.2190962827512 02	0.596414645128 905
Eomes	- 2.11391055 706661	1.060558176 46379e-11	- 2.05477057 422693	0.000337117 472269478	- 2.09615923 32739	0.000249011 907834907	- 0.704031642319 161	0.125055436175 859	- 0.65970177075 9401	0.23292000976 6702	- 0.73225835683 4543	0.14191651416 3573	- 0.91589667201436 8	0.0228088485205 67	- 0.8465743534419 08	0.102875276500 257	- 1.0374040407115 2	0.028841464498 8357
Per1	- 1.85995347 955407	2.019754628 78312e-11	- 1.80110638 431625	0.000411922 596400193	- 1.80619718 255283	0.000249011 907834907	- 1.866661306369 29	2.238487909032 09e-08	- 1.82763867177 646	0.00356071687 173101	- 1.86055756640 205	0.00243318673 01368	- 0.55131989916449 86	0.1598955926540 86	- 0.4859121677332 5	0.306967084292 952	- 0.5138761938214 73	0.221750550387 287
Ifngr1	- 1.15054279 127714	1.683468254 54326e-10	- 1.08803277 250188	0.000130660 767420714	- 1.11472723 035826	0.000144477 697006661	- 1.242671241129 67	7.454321032468 63e-09	- 1.19259469386 582	0.00076078803 0789109	- 1.20846988403 168	0.00085447292 3213835	- 1.15929993045657 3e-08	1.8435684311844 3e-08	- 1.0887584268134 5	0.001984537188 94313	- 1.1154538623224 1	0.001593386390 86515
Mxd1	- 1.57471595 27743	4.521091763 93433e-11	- 1.51865917 574936	0.000459669 300313365	- 1.54256149 403637	0.000173274 839355271	- 0.392397286420 277	0.304965018219 067	- 0.35637244029 9756	0.43062557058 3205	- 0.43007530382 3672	0.28788765310 5142	- 0.41882926819555 7	0.2290478308360 88	- 0.3566736137638 53	0.394731261960 48	- 0.4261786639537 2	0.239889724918 2
Bcl2 l 14	- 2.50687866 071527	5.520551580 64058e-11	- 2.45075688 118338	0.000424052 92057341	- 2.45900885 910438	0.000522816 543966231	- 0.989225732402 052	0.069693655588 8348	- 0.96139689901 6041	0.15617337602 9002	- 1.14358729701 901	0.05944014327 52619	- 1.55125463665469 70682	0.0007920273026 70682	- 1.4943567343509 1	0.026172010002 2732	- 1.6107367266242 6	0.009321061950 07179
Fam107 b	- 1.30120381 919502	2.423121619 05468e-10	- 1.24060981 268237	0.000283674 323527972	- 1.23182617 429132	0.000399042 175271125	- 1.463214755202 51	1.649781752779 75e-09	- 1.41601826078 029	0.00108700548 41503	- 1.38565365476 081	0.00144733568 711509	- 1.36517303161753 4	4.8616998507545 4e-09	- 1.2960786891786 4	0.001984537188 94313	- 1.2774722014061 7	0.002132055190 32263
Fam111 a	1.01867101 113871	2.627645541 53013e-09	1.07603991 041342	0.000131749 573750212	1.02537945 171768	0.000144477 697006661	0.400142567849 184	0.108243940131 746	0.44569629935 0245	0.09684655627 39727	0.40987271611 9238	0.13506139802 7262	0.58445881142491 9	0.0061180246179 7047	0.6486736425111 13	0.015218155051 3476	0.5758755639037 84	0.024730675462 9684
Snx18	- 1.22998858 297032	1.735895863 23977e-09	- 1.17049832 163396	0.000269825 042077325	- 1.22225151 165477	0.000123154 206128718	- 0.498457588524 761	0.089159942331 0693	- 0.45377197279 1239	0.15605063840 0093	- 0.50725612172 3877	0.08765204693 37403	- 0.68263253791177 4	0.0067579631807 1093	- 0.6172704763510 01	0.043798412873 9164	- 0.6797712115218 42	0.015093244449 1428
Rab27 b	- 2.87919251 318875	1.349855724 74778e-10	- 2.80357510 517804	0.000218292 784592241	- 2.62250957 465852	0.003458138 45252537	- 1.677510038848 99	0.004526512199 01054	- 1.62028324861 833	0.03616410757 70965	- 1.45980217844 115	0.07347142015 30886	- 2.31600366302349 6e-06	6.7043608306922 6e-06	- 2.2356031987105 06871	0.005196876215 06871	- 2.2037330489387 5	0.011138062915 9527
Jchain	- 1.46415518 656227	1.147649611 65326e-09	- 1.40738451 31685	0.000673979 280564047	- 1.53064925 609401	0.000136713 329093432	- 0.080151645542 3905	0.873955410850 99	- 0.03435073794 99274	0.95457489262 6516	- 0.07514065789 01745	0.87617894767 3196	- 0.75810970925258 4	0.0127735471883 985	- 0.69103711198190 66	0.085787891505 8446	- 0.8022105866728 76	0.029009480796 8121
H1f2	- 1.71210411 747003	3.055997706 68782e-09	- 1.65857485 298348	0.000234709 796054196	- 1.72888335 020504	0.000160133 845113964	- 1.367412224750 77	0.000154973739 138409	- 1.32709183476 196	0.00879967713 021352	- 1.46557200127 808	0.00512203496 682248	- -1.3067512951745 70135	0.0001161202251 70135	- 1.2411827220809 37801	0.008271831483 37801	- 1.2567842137685 6	0.005034184303 44143
Nek6	- 1.78335388 30385	2.414427037 21435e-09	- 1.72504972 530309	0.000305213 729142687	- 1.81939583 370631	0.000168979 337730591	0.388771543190 0.416510196668 632	0.45410936347 7683	- 0.37454991643 0819	0.45410936347 7683	- 0.42593024604 4316	0.28163018309 339	- 0.52227164675447 1	0.2108985862752 92	- 0.4582254812061 42	0.308076570309 357	- 0.6215188925532 46	0.077554101527 3506
Herpud1	- 1.14744452 365341	4.785609198 49125e-09	- 1.09119640 135243	0.000370360 91511065	- 1.17723303 42005	9.626063450 996e-05	- 1.289026337983 38	2.822307210585 62e-08	- 1.24351700172 836	0.00130869316 300837	- 1.26975420789 264	0.00082501656 7990643	- 1.07056152576568 2e-06	1.7129399278820 2e-06	- 1.0067535176637 8	0.003640188343 43927	- 1.0493460698298 5	0.001794843155 36396
Plaur	- 2.50463665 585327	6.833559834 4409e-09	- 2.44332154 380617	0.000394174 519261009	- 2.45114782 136606	6.387343752 63579e-05	- 3.330252794712 5	1.962882122330 71e-11	- 3.27707360143 13	0.00079147952 2458753	- 3.30581933834 458	0.00044634868 6195453	- 1.82691381286693 89231	0.0003836162092 89231	- 1.7580078645776 7885	0.011460503084 7885	- 1.8796139320072 4	0.002964117566 78496
Ccl5	- 1.86629136 915372	6.110856812 49197e-09	- 1.80486683 700442	0.000327009 634147332	- 1.86273114 319221	0.000154004 965575292	- 0.557453215189 819	0.261815299135 447	- 0.51556447685 4361	0.29750911436 6382	- 0.62791789231 7352	0.18280940097 765	- 0.06648564259992 95	0.9159471471978 04	0.0005835272074 0341	0.998615208777 374	- 0.1578537254172 05	0.743126695440 944
Plec	1.28718060 422294	4.249693791 04675e-09	1.34553886 536338	0.000342488 433962586	1.28185374 084663	0.000330753 796265709	1.178780269133 72	1.201550742591 94e-05	1.21915243123 13	0.00367764193 850275	1.09937368602 855	0.00787344899 270234	0.91389362210834 2	0.0004960217270 02311	0.9769552819327 93	0.009500503903 27811	0.9016771799853 06	0.013994910045 5182
Atp1 b 1	- 1.35481295 064161	4.763552595 80291e-09	- 1.29900204 76376	0.000377210 894905221	- 1.32002484 313128	0.000408865 946530728	0.442826860850 898	0.52486940096 874	- 0.25303057558 1374	0.442826860850 874	- 0.27596279494 7439	0.46283870452 0981	- 0.59294817989149 9	0.0490427157832 905	- 0.5283894570931 56	0.125543857093 319	- 0.6113022947539 54	0.065096913797 6316
Id2	- 1.09467837 153571	1.242079729 56864e-08	- 1.03737085 935632	0.000441153 74515351	- 1.11473423 419017	0.000176528 17488279	- 0.453199809804 111	0.100528597303 736	- 0.41157228381 7833	0.17088817408 0287	- 0.48435041727 1094	0.10526930332 4123	- 0.44964493362653 2	0.0803119978431 297	- 0.3842183187631 08	0.174982699734 634	- 0.4775342260594 48	0.075656580883 6603
Srgap3	- 1.37378820 189227	6.731067618 78141e-09	- 1.31667441 041877	0.000368008 206282566	- 1.35116494 596075	0.000394798 765910928	0.276768853564 132	0.481915886962 228	0.31822144429 3286	0.40709934586 9549	0.30518308940 883	0.33122512480 5234	- 0.50023569138777 4	0.1149126436793 49	- 0.4367702025728 42	0.213288344115 012	- 0.5097086110342 79	0.096390966816 9736
Dusp10	- 1.37822951 603171	5.843937544 94089e-09	- 1.31412742 013187	0.000245364 55243111	- 1.30793841 805896	0.000782658 730824735	0.001655041488 0.961257884126 605	0.001655041488 00084	- 0.91058350390 5601	0.01888583328 45946	- 0.89128085378 9257	0.03677761345 32736	- 0.71728295609512 3	0.0151671475634 766	- 0.6453081160194 97	0.057117085106 3383	- 0.6947893931380 12	0.045017611413 9778
1700017B05 Rik	- 1.18068708 384469	2.675427715 2184e-08	- 1.11948196 087076	0.000441153 74515351	- 1.17548617 238295	0.000135526 731385919	1.657562675221 6e-07	1.657562675221 6e-07	- 1.27793414336 23	0.00170654722 198551	- 1.31135848585 798	0.00107839594 793348	- 0.68825752148023 4309	0.0081752284112 4309	- 0.6237436328766 17	0.045332057641 1499	- 0.6767632514802 34	0.014123423809 8208
Gpr171	- 1.09944172 106953	4.487114041 43321e-08	- 1.03654594 561639	0.000363727 997439259	- 1.08818464 561956	0.000168979 337730591	8.937676041191 68e-17	6.27406623717 596e-05	- 1.83853419933 862	6.27406623717 596e-05	- 1.91281466458 522	7.98549596377 835e-05	- 1.09417247484358 e-06	1.2186931731187 e-06	- 1.0261355545845 4	0.002583963532 96751	- 1.0766727320228 1	0.001639553162 81712
Plscr1	- 1.86251218 676696	1.067567222 34582e-08	- 1.80779159 512224	0.000327009 634147332	- 1.81845470 791941	0.000834087 838250891	- 0.946694896259 53	0.032884864829 9121	- 0.90238271937 4262	0.07724584343 50107	- 0.86105718469 4117	0.09134173914 92545	- 0.90526002056331 2	0.0255877665258 174	- 0.8395734305030 55	0.077245206774 7407	- 0.8573317409633 08	0.050537175590 7382
Tyrobp	- 1.56743374 723899	2.264857775 08977e-08	- 1.50540421 223359	0.000494830 830181734	- 1.59028510 673111	0.000369521 62656154	- 0.730205966939 404	0.061737397994 4809	- 0.68415462600 6133	0.12444628738 6291	- 0.71777365477 4291	0.090711						

Spty2d1	- 1.15981216 200695	6.818625409 48335e-08	- 1.09871895 956252	0.000623916 767556555	- 1.17104486 910107	0.000280194 755870619	- 0.765593944183 114	0.007262348451 20251	- 0.71916058094 1236	0.03999894891 43465	- 0.75236487171 4835	0.02775541042 48715	- 0.22043330143714 88	0.5207627752718 88	- 0.1552163274145 93	0.662894858297 566	- 0.2471681382679 19	0.370075513258 532
Gfod1	- 1.52193795 016539	7.471244988 91526e-08	- 1.46107795 006887	0.000609922 738864101	- 1.51818620 582081	0.000402158 238899232	- 0.714702465613 975	0.068387925543 8233	- 0.66936542484 6324	0.13131829178 0868	- 0.68625933765 4867	0.09134173914 92545	- 0.47154596253203 6	0.2244824347563 1	- 0.4078443354706 4	0.332199390111 813	- 0.4452278612770 01	0.170046469998 783
Fgl2	- 1.13213747 076313	1.033812501 60927e-07	- 1.07661387 012986	0.000643691 34854488	- 1.13361044 037545	0.000311616 929743483	- 0.543699247496 775	0.067013850498 2106	- 0.50167993791 933	0.12977888486 3354	- 0.53621753572 8055	0.08274920093 27586	- 0.47958096789440 5	0.0873630145114 663	- 0.4159233000571 56	0.179270207389 431	- 0.4763061924142 5	0.075561071125 3508
Gas7	- 1.69659183 106574	4.096821653 0538e-08	- 1.64225573 392853	0.000525007 723830849	- 1.64351056 398423	0.001256670 85243776	- 0.406715954734 856	0.415083234725 843	- 0.36772192672 9375	0.47600297799 2287	- 0.46072018565 6026	0.33198182739 6764	- 0.63032575737160 8	0.1284880290026 38	- 0.5703427832893 39	0.209282240959 411	- 0.5725886014019 62	0.161254722707 397
Klf4	- 2.01776476 594576	2.166068864 65922e-07	- 1.95129004 891551	0.000498785 842181648	- 2.05158886 030354	0.000296027 358746958	- 0.499645200885 347	0.432836760797 495	- 0.46308719353 9115	0.42233064122 1017	- 0.64038951022 3027	0.18547231382 05	0.33107911400453 9	0.6048246358694 66	0.3968022237727 09	0.463920563907 482	0.3478864215368 53	0.401323442847 635
Emb	- 1.40705307 524396	8.329654425 95649e-08	- 1.34277074 053798	0.000764246 064811074	- 1.34098239 848486	0.001080634 97675159	- 0.503121384787 6	0.198616691544 077	- 0.45194941093 3041	0.28605968232 8374	- 0.45326678800 1889	0.27951485832 1168	- 0.93869639628182 1	0.0029268443186 2967	- 0.8666668277157 07	0.033201645167 6374	- 0.9318400594002 82	0.023306869953 5049
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Frm4b	- 1.85202965 751387	1.149587541 59642e-07	- 1.78475984 641136	0.000675658 039198376	- 1.81942693 875171	0.001022595 85486623	- 1.184991615965 66	0.009880829220 45156	- 1.12999802877 719	0.04803661947 5974	- 1.15868782717 607	0.04642840187 89028	- 0.60362145699251 5	0.2100377917182 45	- 0.5311492382598 96	0.302370662363 704	- 0.6236478907978 73	0.143302844855 995
Siglech	- 1.62094301 869445	7.003212052 33502e-07	- 1.56498825 211399	0.000525007 723830849	- 1.56804895 841129	0.000226626 37400054	0.043367076430 8872	0.949345716686 345	0.08443890829 60203	0.87756874616 9473	0.01924683182 84024	0.97205618355 6957	- 0.75994073344399 2	0.0173097025589 32	- 0.6972319472678 38	0.101622757705 863	- 0.7452566319451 55	0.054159213042 9092
Hhex	1.15497787 33446	3.820529916 02291e-07	1.21234112 16221	0.000673979 280564047	1.21603516 394972	0.000402158 238899232	0.893430346207 06	0.002183190563 06104	0.93683448752 9105	0.01577454988 68776	0.96322054171 1164	0.01340529518 74248	0.91233768877746 5	0.0006630029649 31381	0.9758094157685 85	0.009382018806 77654	0.9808143782880 37	0.007006580756 77624
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Samsn1	- 1.19093348 014852	2.085938988 71809e-07	- 1.13649578 512373	0.001131191 79910181	- 1.17315075 866299	0.000613307 144351515	- 0.196720032095 834	0.628145946395 767	- 0.15923909378 3759	0.70539710457 3377	- 0.26047547921 2887	0.48406301615 7129	- 0.73351847787970 8	0.0093322776598 8472	- 0.6697857379725 43	0.060543852173 206	- 0.7787773957017 37	0.023753002215 8686
Plcxd2	- 1.70132947 103876	1.567190471 08848e-07	- 1.63471744 754022	0.000615150 934812872	- 1.61728857 684244	0.001652683 59421697	- 1.972164126299 18	2.816972814096 8e-07	- 1.92033455355 763	0.00206145389 29574	- 1.89191147103 172	0.00858700275 306178	- 1.20267318939307 4	0.0016537465540 4251	- 1.1296582456075 4423	0.020469627379 4423	- 1.2173420315186 4	0.016563289173 3874
Bag3	- 1.38836518 404252	3.383548759 00265e-07	- 1.32663708 319817	0.000778167 219591534	- 1.39869873 519463	0.000836920 215495676	0.221307915961 799	0.640344254576 993	0.55364676344 7438	0.26480011340 3659	0.11665151721 8822	0.78767887156 4803	- 0.57332001079099 8	0.1096425357942 18	- 0.5059648596995 8	0.194395362626 552	- 0.6210072404770 56	0.080651616962 6725
Myh13	- 1.79165583 74915	1.185518209 73763e-07	- 1.73593519 519719	0.000609922 738864101	- 1.70815007 48096	0.003703930 48447722	0.518967118953 812	0.303688528265 182	0.55443681602 7423	0.27562537493 009	0.48578651798 3172	0.27865367682 6458	- 0.93470292002349 4	0.0239266547398 099	- 0.8741992390907 69	0.072136582191 8845	- 0.8805130408544 55	0.072579549284 6912
Irs2	- 2.08116693 163289	2.121286274 51161e-06	- 2.02422781 031611	0.000729183 563526702	- 2.10662506 889685	0.000203826 203819212	- 2.356665021841 81	6.869735999898 85e-06	- 2.33130296692 165	0.00296831691 924805	- 2.59528984540 159	0.00115504083 990569	- 0.71905281337203 2	0.2413937310709 34	- 0.6538097547720 58	0.253148352505 856	- 0.8746671991325 62	0.053695599465 2746
Trp53inp2	- 2.36103912 113579	1.410322689 02261e-07	- 2.29893712 741745	0.000731115 734607341	- 2.30681626 875663	0.003284934 22285501	- 1.932939107922 78	0.000564202886 842262	- 1.88922741714 067	0.01675779317 56727	- 1.84451512965 543	0.03320078303 95922	- 0.82830904505722 39	0.1667452388425 39	- 0.7647925115500 55	0.234757998812 364	- 0.8898338147774 6	0.123925767546 52
Csrnp1	- 1.22113185 555848	5.131632212 56295e-07	- 1.15906771 755682	0.001131191 79910181	- 1.20873315 69878	0.000762656 679315343	- 1.072576832619 63	0.000391349141 80367	- 1.02060087008 654	0.01534862209 24168	- 1.05318330263 204	0.01316088486 63991	- 0.13680212161685 2	0.7485540243611 49	- 0.0693115767699 346	0.882768304846 599	- 0.1388731658693 82	0.689391397373 187
Sla2	- 1.39800728 514759	6.708635186 46039e-07	- 1.33714371 182585	0.000910271 799687227	- 1.38156514 694759	0.000817285 76184155	- 0.306778500971 474	0.506518391401 112	- 0.26188814689 3774	0.57406807152 287	- 0.30703210876 3496	0.43053644306 7035	- 0.98426271460756 4	0.0029268443186 2967	- 0.9167085731091 59	0.027900641825 7681	- 1.0323879806774 6	0.011033972389 0773
Rilpl2	- 1.07030349 448946	8.521104595 81161e-07	- 1.00907201 771563	0.000918427 747060252	- 1.05794883 129356	0.000878755 110595172	- 0.506925181158 504	0.096301286945 0433	- 0.46210740928 9017	0.15266996805 7494	- 0.53325205265 1981	0.10485692502 5944	- 0.23062191643207 5	0.4938918469538 17	- 0.1633339931541 67	0.626819901187 592	- 0.2470540826619 27	0.386554235644 695
Hmgn3	- 1.07337250 286311	9.476008929 80742e-07	- 1.01575476 966814	0.000864615 37382731	- 1.06660582 181423	0.000955668 940442291	0.407887851441 829	0.202122828825 356	0.44694007097 237	0.15736582153 032	0.27721912337 8626	0.36200707426 8851	- 0.45670115755630 6	0.1144200084724 73	- 0.3922091928439 06	0.195699799818 648	- 0.4788585178378 87	0.096390966816 9736
Ptprs	- 1.41499563 350963	4.897077531 07851e-07	- 1.36152738 032265	0.001104165 04748258	- 1.34918417 714003	0.002137000 83679591	0.153133476251 94	0.773483438426 553	0.18882624869 7756	0.70518477499 3674	0.19969393184 9856	0.65253918553 3322	- 0.60471707185653 4	0.1028754064232 7	- 0.5451807062567 01	0.190097427380 602	- 0.5818766503852 95	0.130859069779 177
Tlr1	1.00294213 535061	1.930993703 59524e-06	1.06253794 340612	0.000675658 039198376	1.00026439 992526	0.001035342 14468113	0.260998314881 076	0.453225517512 703	0.30495122589 8593	0.35947697416 7655	0.25290338803 8116	0.50479730453 9784	0.98808357308443 1	3.6579187958637 7e-05	1.0526588291072 3	0.003531278743 76803	0.9597605514771 15	0.005253714759 03645
Cox6a2	- 2.10198239 982565	5.504495889 65333e-07	- 2.04226831 511342	0.001213155 14305105	- 2.05561106 078341	0.002031835 10198348	- 0.748903519353 822	0.226734807635 319	- 0.70454876760 0555	0.29899198590 8399	- 0.93356250082 6977	0.12958928636 5432	- 1.10889063795974 151	0.0337893664007 151	- 1.0453407939709 5	0.039586198738 6598	- 1.039505997909 1	0.039505997909 0889
Chl1	- 3.08802311 847715	3.324240859 9664e-07	- 3.01217720 583095	0.001221454 38223325	- 3.03282011 942695	0.003618782 83912766	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dhrs3	- 1.71529292 00357	8.481894248 81735e-07	- 1.64738712 158103	0.001002526 43326734	- 1.63490694 188116	0.001835373 962												

	1.98178000 973873	82065e-06	1.91994567 225689	513338999	1.91930107 553173	82852142	0.588404709064 345	157	0.53999236997 7425	6111	0.56465839575 7986	1738	0.64537645891459 1	64	0.5741901539991 83	931	0.7666442676701 39	249
Prdm1	-	4.679156256 17073e-06	-	0.001818864 82902598	-	0.000226626 1.52144747 37400054	-	0.001492545156 03019	-	0.02252685944 82433	-	0.00998977766 545106	-	0.0010168687291 5241	-	0.018719708421 0407	-	0.005034184303 44143
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Klrd1	-	6.708635186 46039e-07	-	0.001370179 44603946	-	0.003671254 73557739	-	0.579332038498 612	-	0.64544739627 9827	-	0.57819340503 6165	-	0.8378249541621 31	-	0.922637706968 48	-	0.666595573810 664
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Cdh5	-	6.824680351 24355e-07	-	0.001334001 68219321	-	0.003875612 0838036	-	0.981241757184 748	-	0.01354701561 00718	-	0.98826528102 8821	-	0.0074655685570 3682	-	0.047291338055 3374	-	0.027355284354 4206
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Siah2	-	1.735206394 1293e-06	-	0.001178884 87680253	-	0.001740746 1.30557492 57514443	-	0.770469984147 495	-	0.82296920810 4857	-	0.43043036011 4226	-	0.01645722682175 82	0.9785149363777 86	0.0818656145009 69	0.872344174923 303	0.0472501436986 747
H1f0	-	3.364499958 52174e-06	-	0.001293968 40292783	-	0.000834087 838250891	-	0.536989985032 451	-	0.59100391555 2755	-	0.41053614871 0705	-	0.1014389564463 66	-	0.176381677571 477	-	0.040180722922 7631
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Kit	-	2.005338487 27783e-06	-	0.001996419 29105398	-	0.000912575 227475701	-	0.204368280820 352	-	0.29241193175 2813	-	0.19393124218 496	-	0.0083115460195 1255	-	0.055180127154 629	-	0.017013802377 9642
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Dstn	-	2.691377907 27861e-06	-	0.001638960 71159957	-	0.001084623 23484265	-	0.207235520821 913	-	0.28020600998 1891	-	0.22604519135 2898	-	0.0167743705634 141	-	0.068746836044 8994	-	0.036437279058 2743
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Prr5l	-	1.300044520 95092e-06	-	0.001249227 00188721	-	0.003646584 45293795	-	0.921863275869 943	-	0.96940191631 2636	-	0.01859032640 04597	-	0.5792895581864 22	-	0.658740299336 241	-	0.674701129562 028
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Shprh	1.37151017 461958	3.364499958 52174e-06	1.42670340 691468	0.001370179 44603946	1.43478609 777421	0.001346420 670796	1.098573844376 52	0.003611418907 65094	1.13935978517 914	0.02093749737 54576	1.18558195518 005	0.02385019182 2023	1.05324420431201 946	0.0024489374796 946	1.1126721377417 5159	0.017030009077 37	1.1468862180424 3874	0.016563289173 3874
	-	3.901126580 20642e-07	-	0.002438522 72536463	-	0.006944063 30032287	-	0.085443346516 0505	-	0.11657603640 869	-	0.03024321641 56656	-	0.3081313109869 79	-	0.328692818601 31	-	0.203827536214 766
Slc49a4	-	6.701104494 69487e-06	-	0.001841952 27249874	-	0.000588939 093220215	-	0.001813258361 1707	-	0.02232603040 76448	-	0.01409185034 2075	-	0.0765916470057 401	-	0.152086836763 429	-	0.055336813971 1203
	1.29984105 452178	69487e-06	1.24434852 240641	0.001841952 27249874	1.33800098 483272	093220215	1.133819767097 67	0.001813258361 1707	1.09156251903 054	0.02232603040 76448	1.12542494794 741	0.01409185034 2075	0.65064011367156 6	0.0765916470057 401	0.5873905226386 4	0.152086836763 429	0.6422142445761 72	0.055336813971 1203
Cpne2	-	8.377453615 83231e-07	-	0.001812279 02899556	-	0.005459696 88150763	-	0.985262847105 204	-	0.02145749761 71574	-	0.09421174263 08793	-	0.2827782785829 45	-	0.391700396394 012	-	0.348785274819 73
	1.76311131 444746	83231e-07	1.71126003 944078	0.001812279 02899556	1.66882156 61267	88150763	0.014003965104 5223	0.985262847105 204	0.02145749761 71574	0.09421174263 08793	0.09421174263 08793	0.88952079216 4197	0.54540905472024 1	0.2827782785829 45	0.4900313155576 78	0.391700396394 012	0.4787332448389 23	0.348785274819 73
Snhg20	1.38890513 068665	4.821164151 42783e-06	1.44696239 478805	0.001076473 58237651	1.40209236 92693	0.001622794 64103504	0.264174575669 919	0.620279035357 305	0.30905433186 4091	0.53544602677 4889	0.32688780304 1583	0.57933363234 0654	1.21294628985724 02311	0.0004960217270 8	1.2771546880669 37801	0.008271831483 2	1.2486018534909 07179	0.009321061950 962
	-	1.052399272 4245e-06	-	0.002066342 89276405	-	0.003875612 0838036	-	0.448459276351 929	-	0.377967079016 733	-	0.43412054141 6615	-	0.60564610774 16	-	0.600564610774 447	-	0.414648326399 962
Socs3	-	5.363403799 16864e-06	-	0.001131191 79910181	-	0.001720546 6628859	-	0.214716909730 821	-	0.21348272357 5583	-	0.08233654855 78746	-	0.7881747940725 75	-	0.839142812081 786	-	0.561522422627 099
	2.13065409 521888	16864e-06	2.06387446 480641	0.001131191 79910181	2.12583023 541183	6628859	0.857233206944 848	0.214716909730 821	0.81816495799 5642	0.21348272357 5583	1.14107444697 526	0.08233654855 78746	0.22560526198697 6	0.7881747940725 75	0.1538740153781 38	0.839142812081 786	0.3240561269593 72	0.561522422627 099
Ets2	-	4.366231200 49465e-06	-	0.001870384 84721339	-	0.001524640 81471051	-	2.276997288105 61e-12	-	0.00028600444 8199555	-	0.00084150567 9690564	-	0.0157051797304 704	-	0.067156631764 8455	-	0.036217965712 668
	1.12501251 488422	49465e-06	1.06367634 478366	0.001870384 84721339	1.08435811 296477	81471051	1.911989751944 51	2.276997288105 61e-12	1.85861831618 135	0.00028600444 81								

	1.59006197 950493	01515e-05	1.52588812 543389	15415706	1.56435054 857272	215495676	0.451131068025 166	184	0.40215083399 9559	7373	0.42674828251 5643	2742	0.63832792076806 5	73	0.5671496066938 44	198	0.7726287643978 14	7452
Dgcr8	1.03086872 833184	1.641759914 16329e-05	1.08295365 010783	0.001362468 49480111	1.07310180 747373	0.001327540 88610033	1.085405607644 81	0.000168034901 561783	1.12170221019 127	0.00577631018 880274	1.00980137895 703	0.01067590397 01533	0.93472557815748 6	0.0006804809225 4543	0.9953466862533 69	0.008271831483 37801	0.9801721327715 18	0.007573230000 38996
Ahr	- 1.63484836 275487	1.103818534 93287e-05	- 1.56936244 03804	0.002178848 91503066	- 1.61508669 178517	0.001364857 22713076	- 0.941196763397 549	0.060705009492 2119	- 0.88844843220 7995	0.12037203257 4454	0.07655055776 -	- 0.91202455094 8266	- 0.07655055776 4864	0.0004404493679 -	- 1.4195211170441 3	0.013291094754 0386	- 1.6481164572819 7	0.004833750848 72292
Mmp25	- 1.81749112 315599	2.110383680 34081e-06	- 1.76390762 462517	0.001715507 26532126	- 1.64390216 829204	0.009692226 46313837	- 0.230800177265 979	0.742493089539 858	- 0.19951900265 0067	0.77717051813 5349	- 0.12969700325 1528	- 0.85916872172 075	- 1.06787135239055 233	0.0232606451992 233	- 1.0114506317126 8	0.079896780454 2738	- 0.9796079507840 64	0.089856001924 514
ENSMUSG0 0000086825	1.75000714 219868	3.172432533 32242e-06	1.80630328 52784	0.002612893 01779279	1.80966734 673423	0.004381627 24909791	1.253702549460 36	0.010357549024 7985	1.29743942062 332	0.04559923940 64165	1.34757257014 967	0.06839206158 19224	1.95598767634191 38	2.1487209453601 6e-06	2.0157330263937 58782	0.004859820281 3	1.9223769163980 3	0.007006580756 77624
Plk2	- 2.65228971 219202	1.701554366 0722e-05	- 2.58600607 571606	0.001727696 96207115	- 2.76492792 674025	0.001245592 56032476	- 1.736575971972 71	0.034898750959 3051	- 1.71437218529 466	0.06151887329 11837	0.02346542339 71623	- 0.02346542339 71623	- 0.47082416660686 38	0.6490682786954 38	- 0.4076694844401 84	0.648088542073 08	- 0.4979158417975 15	0.362771920897 365
9930111J21R ik2	1.40575929 68374	5.586707355 63499e-06	1.45796206 856746	0.003099890 4182555	1.46102627 802023	0.002163411 54077216	0.801256487034 823	0.057891169766 0336	0.83759934539 1645	0.10915262907 7672	0.21612422377 5514	0.74359176642166 8	0.0603984607148 03	0.8039141951423 37	0.107189360859 804	0.6967345982536 41	0.156599894818 302	
Fscn1	- 1.88362208 03581	3.751275423 97207e-05	- 1.82716814 865276	0.002179123 21210125	- 1.86331917 803814	0.000501133 63554286	0.040219603058 7216	0.965275712465 365	0.07578178419 38705	0.92799413412 0108	0.01784448343 18112	0.97965224571 6782	- 0.35837777379725 3	0.6298512662178 18	- 0.2959498516325 87	0.657072824726 129	- 0.4817290891468 27	0.334799571211 05
Anxa3	- 1.88676270 779138	2.228377554 01141e-06	- 1.83363488 357796	0.002951270 73303588	- 1.79902812 236588	0.007095766 3265185	- 0.185289098290 879	0.807870898804 764	- 0.15083999649 0206	0.85390926858 4883	- 0.27855808959 9658	- 0.68639462853 9068	- 0.41244806836748 1	0.5032846867630 68	- 0.3543479777255 32	0.609789556806 109	- 0.5715647188776 32	0.302031470812 064
Cd63	- 1.56956929 233509	8.637351022 85375e-06	- 1.51424514 93483	0.002075795 15358269	- 1.52295826 775347	0.002812976 40167746	- 0.563469867725 182	0.283363855147 402	- 0.52284548564 9336	0.34919899619 216	- 0.56284048632 9442	- 0.26418033438 5923	- 0.43219398007786 7	0.3998888806596 4	- 0.3704985185111 68	0.490674923727 475	- 0.6027416161539 26	0.155078462167 48
Zmynd15	- 1.84307593 257912	2.953238983 393e-06	- 1.78417174 409973	0.003466310 37364173	- 1.81208680 070664	0.004999154 75003416	- 0.020679481979 4312	0.980345573761 504	0.01154241551 5326	0.98986558820 229	- 0.22053317813 6633	0.74074348503 3994	-0.4698374529597 65	0.4241531719870 65	- 0.4100188175291 81	0.544832933099 507	- 0.6517750372962 69	0.221750550387 287
Ctla2b	- 2.62818692 176118	6.935890856 64228e-06	- 2.55632701 861708	0.002349537 98098262	- 2.88549115 52388	0.003407425 9573505	- 0.615018547430 693	0.511961087065 91	- 0.57320255231 3396	0.54397034432 6632	- 0.71966676673 7897	0.33615813308 7765	- 0.66779216679828 3	0.4316945001804 38	- 0.5972729508139 31	0.482895632738 2	- 0.8486419343347 01	0.197708097327 137
Tmem176a	- 1.35524254 463765	8.820379445 14881e-06	- 1.29778380 306661	0.002559051 98292606	- 1.31795869 666424	0.002936056 85837103	0.285526053932 046	0.577297887937 366	0.31960290698 1146	0.52894105462 3109	0.14088770244 5853	0.77430249551 4571	- 0.32670596998404 8	0.4810614872696 14	- 0.2645810976723 14	0.592823214768 65	- 0.4281682568684 92	0.270286499754 698
Gm4874	- 1.26221089 988947	1.321085033 40771e-05	- 1.19966168 787624	0.001849841 01139331	- 1.22656147 357057	0.002743959 36574862	- 0.109152787242 764	0.843437014499 715	- 0.05898105917 54663	0.91330555695 3846	- 0.09431269932 89235	0.84966619402 506	- 1.02169877015189 9478	0.0023688674143 9478	- 0.9498297884494 67	0.022091455850 2971	- 0.9986301979267 27	0.019563811709 2137
Jun	- 1.26175954 296918	3.871914668 55149e-05	- 1.20176148 913643	0.001874308 24707099	- 1.21979998 514292	0.000940220 910900205	- 0.063689207229 069	0.900031219267 568	- 0.02171445779 35003	0.97071028334 936	- 0.00690033465 303682	0.98827203565 7099	0.46600423644237 6	0.1529301895635 61	0.5299283929800 32	0.177688401270 921	0.5441645122354 19	0.115744969336 681
Nudt17	- 1.62290896 140941	6.170831699 08461e-06	- 1.55922452 998705	0.002288845 4350398	- 1.62327961 904599	0.005004447 59591743	0.756202287381 817	0.127951011964 627	0.79241399121 9768	0.14637333373 7761	0.58179036524 756	0.20319926001 6617	- 0.30545126844685 5	0.5916437422608 61	- 0.2418968072761 18	0.686409777525 536	- 0.4058482913737 1	0.403719894959 93
Mreg	- 1.28725191 302766	1.124167792 61242e-05	- 1.22799184 568344	0.002751594 70979964	- 1.29472253 640057	0.002328431 71292822	0.152569370513 706	0.780132856837 469	0.18863272852 0202	0.71459102284 9921	0.01577049624 99904	0.97587048748 4014	- 0.05571918639708 42	0.9195266765658 49	0.0080457216953 8474	0.990101350400 389	- 0.1364696791642 58	0.740876963217 67
Pdzd4	- 1.61247250 902997	6.667482141 89132e-06	- 1.55811987 966728	0.002118421 47930892	- 1.57614617 004498	0.005584135 12373769	0.178232565991 77	0.790511459848 783	0.21519238009 9115	0.73261746213 0143	0.10009076730 4043	0.87449453285 4801	- 0.92595006701697 5	0.0369499434122 657	- 0.8658907538941 25	0.099528137980 0046	- 0.9407414035525 05	0.072321705040 8768
Ccl22	- 1.85129755 486958	3.175794627 53629e-05	- 1.79571355 051665	0.001671859 03479853	- 1.82035026 756502	0.001637618 02092519	0.357357374641 475	0.642156304291 091	0.38979401452 8025	0.54315902186 236	0.27180595307 7172	0.62898399802 6957	- 0.67828679365120 2	0.2769362117693 94	- 0.6187051611226 78	0.280531174447 999	- 0.7906989919108 62	0.108564208468 796
Glrx	- 1.10791847 174982	2.141357398 52354e-05	- 1.04705341 066219	0.002198047 3741783	- 1.10398304 162108	0.002031835 10198348	- 0.210391715323 036	0.636415425787 099	- 0.16418695991 3513	0.70492902465 9364	- 0.27121506541 5383	0.46726755968 6081	- 0.49189886872183 21	0.1503951857295 21	- 0.4223389092061 34	0.238429898393 884	- 0.5448253645213 88	0.096390966816 9736
Peli2	- 2.18202282 577111	1.698515529 55042e-05	- 2.11534024 077481	0.002904739 44212945	- 2.27605109 808069	0.002299997 98182933	- 0.482939159458 114	0.561578622598 9	- 0.45064602602 5318	0.58773861769 9647	- 0.73335253905 9008	0.23646793740 3551	- 1.15192835360047 678	0.0683065644141 678	- 1.0860063993417 837	0.122247145458 837	- 1.3158749977013 2	0.035702684164 4685
Atp2b4	- 1.07322225 014986	1.977181354 73612e-05	- 1.01724564 973021	0.002840319 54605135	- 1.07916607 940832	0.002023934 99193686	0.277677549607 409	0.495939948470 728	0.31710823547 4371	0.42117769118 5687	0.26617340936 5645	0.43172874326 6992	- 0.44306732773982 1	0.1886636591484 66	- 0.3803857893675 9	0.292201076464 056	- 0.4742828517260 81	0.134352547736 943
Ifrd1	- 1.06968724 12899	2.104649747 29376e-05	- 1.01201886 908646	0.002179906 7033093	- 1.04857884 82028	0.002500352 4474261	- 1.175338171656 93	0.000110150327 722219	- 1.12929843851 565	0.00762387399 151509	- 1.13787789766 234	0.01263709235 64494	- 0.43920324905098 4	0.1911901309499 47	- 0.3717779126646 54	0.285349489195 283	- 0.4475255246996 76	0.156803355399 406
Tbc1d4	- 1.71653930 344325	3.444033477 3131e-05	- 1.66502422 746435	0.002051903 11393164	- 1.60561959 553026	0.001637618 02092519	- 0.534218880718 296	0.414664031356 781	- 0.50261210363 4593	0.40552861756 916	- 0.49067081957 0788	0.34905043366 4693	- 0.69486649903248 3	0.2205767909151 49	- 0.6363685303709 4	0.247808167981 978	- 0.6990640116116 37	0.132315454360 187
Cd209a	- 1.29899088 091639	2.638311040 32938e-05	- 1.24294192 286401	0.002612893 01779279	- 1.30393651 473527	0.001720546 6628859	- 0.410042907357 917	0.393472668186 691	- 0.36792975558 9879	0.44965405923 7431	- 0.42533954695 3587	0.30552505522 5064	- 1.14703595023677 5309	0.0011850887256 5309	- 1.0837369445156 5	0.018177828129 6368	- 1.1648616298047 5	0.009321061950 07179
Exog	1.59567807 716233	1.244214274 82108e-05	1.65054659 880812	0.001874308 24707099	1.58853844 293879	0.005343556 8765641	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aif1	- 1.33814262 119814	2.999396477 16769e-05	- 1.27928222 922263	0.002850782 60013578	- 1.40035425 998821	0.001528153 64729295	0.018521605019 0389	0.977767823770 427	0.05906292404 93295	0.92688615725 8045	- 0.06964351045 26532	0.88938932776 4938	- 0.34480774454224 5	0.4694708270402 3	- 0.2791532323043 74	0.569614182470 303	- 0.3651431485056 85	0.317337343305 714
Grasp	- 1.68732371 076755	3.609111733 97598e-05	- 1.62769101 476															

Sh3bp4	- 1.53381780 729487	1.452091208 96102e-05	- 1.47630470 427199	0.003257764 90998035	- 1.51802980 708581	0.004999154 75003416	0.216196988506 869	0.735497358785 061	0.25084395159 0325	0.68483133006 2833	0.15119208285 8025	0.79713449664 9282	- 0.43476527591581 6	0.3980123366490 33	- 0.3748184668094 92	0.501830891714 966	- 0.4819655871495 96	0.298441241706 697
Alox5ap	- 1.31743202 895972	2.187431536 99527e-05	- 1.26187055 282645	0.005141971 87644287	- 1.32155812 077499	0.002229831 2054306	- 0.718583995573 194	0.092144585466 518	- 0.67734439722 4432	0.18434858758 861	- 0.77656704801 2455	0.09874912690 07575	- 1.10786210915218	0.0021894222011 1783	- 1.0474731933760 9	0.035763726773 699	- 1.0510004076432 2	0.019563811709 2137
Ccl3	- 2.67541520 41637	2.206454949 6191e-05	- 2.61039075 556377	0.002041050 89758268	- 2.63728767 906314	0.005788542 27501271	- 1.571764478376 69	0.067091701180 3252	- 1.51223929504 922	0.09953995217 04522	- 1.52711566154 221	0.10269986557 2565	- 0.22634765437396 2	0.8443266189077 32	- 0.1585483621264 14	0.882917825541 877	- 0.1795531969919 67	0.801369694955 509
Epha2	- 2.27078443 165812	1.281444811 87009e-05	- 2.21938962 017406	0.002325388 71458567	- 2.16749243 578353	0.009264900 96969248	- 1.291993587297 04	0.063906180703 6538	- 1.25061203423 245	0.11306023621 6745	- 1.33087679319 803	0.11701216536 4211	NA	NA	NA	NA	NA	NA
Gm12185	1.32101473 216093	2.724031638 42649e-05	1.37470085 642779	0.002951270 73303588	1.34726589 594753	0.003587148 19282462	0.537926398516 273	0.247353316921 475	0.57715769753 2882	0.24950427617 3592	0.51735913260 0626	0.36971720295 2474	0.96213337556496 7	0.0106576788820 831	1.0213968401839 6	0.037069249340 5793	0.8485630728145 23	0.082220886815 2441
F11r	- 1.53521326 242558	3.195396281 92919e-05	- 1.47352387 094361	0.003822235 92087131	- 1.55403655 32752	0.002753038 36835099	- 0.498031429125 598	0.372544761927 829	- 0.45301147344 2345	0.41725459637 8502	- 0.51953535544 3013	0.28179548531 4553	- 0.52107452909090 4	0.2979121524775 96	- 0.4533302874147 75	0.360699897983 746	- 0.5926551982824 97	0.150340518707 004
Rbpms	- 1.50979326 71917	2.606309255 90689e-05	- 1.44636080 697118	0.002968786 84597315	- 1.50656131 158629	0.004551022 63821353	0.269701604504 502	0.654234746070 102	0.31421024645 002	0.57451521779 1693	0.22190571957 1198	0.65629580061 5398	- 0.45552178491849 9	0.3650775771032 54	- 0.3887534770764 23	0.435983068835 044	- 0.5229632330500 55	0.234689536165 079
Tlr6	1.08269213 901151	5.879664609 01183e-05	1.13746780 088313	0.002066342 89276405	1.10999501 305454	0.003114978 38904992	0.444799321178 697	0.266357374465 813	0.48690442783 1492	0.22257994845 1672	0.42487899713 4478	0.35523063384 8285	0.96536998011983 7	0.0017223883097 9833	1.0289423858992 3	0.011410225949 9935	0.9309567097956 55	0.020167754778 8638
Clec12a	- 1.16145236 026489	3.152583761 41123e-05	- 1.10627281 747247	0.003986668 10412281	- 1.14329964 804456	0.003111980 39752625	- 0.251513293660 304	0.594156558438 067	- 0.21022372139 256	0.66467420643 6835	- 0.28856378614 3534	0.49540919596 9484	-1.0621160551691 62346	0.0009404209297 62346	- 0.9996827182876 73	0.020373025513 2842	- 1.0560736310207 6	0.012974115096 4912
Marcks1	- 1.05882704 881299	1.660839650 77449e-05	- 1.00501676 673332	0.006154160 96254756	- 1.02082786 582148	0.003940896 28358324	0.155472322082 329	0.729955821962 158	0.19203067590 7299	0.67746671753 0847	0.11575878850 9037	0.81557993881 6072	0.03776829520172 25	0.9392964698199 64	0.1002177141890 22	0.835823920792 553	0.0142776094566 142	0.973413047387 774
Man1c1	- 1.33310175 688378	3.175794627 53629e-05	- 1.27454062 025905	0.003257764 90998035	- 1.31017176 242435	0.004010250 77591437	0.264647328779 142	0.626862254548 429	0.30869628334 0429	0.55346360724 0946	0.26823534608 4166	0.54692309126 8502	- 0.74310861816026 6	0.0648924344252 302	- 0.6776260061790 45	0.135347709986 024	- 0.8317733519662 83	0.056911195718 3086
Gnb4	- 1.39337090 213131	3.955219187 48889e-05	- 1.33658006 752698	0.003405913 34551374	- 1.40786953 060741	0.003206393 35557757	- 0.222799025499 584	0.711607085921 891	- 0.18477425383 107	0.75453250441 0938	- 0.28689729383 2851	0.55528010360 0107	- 0.32898119923919 8	0.5263025559806 87	- 0.2655954342667 97	0.616471470129 926	- 0.4218075762968 41	0.298299725917 708
Jaml	- 1.18424760 305411	3.340294450 33168e-05	- 1.12977592 974611	0.003320843 83501411	- 1.15207873 104151	0.003958965 01399789	- 0.195081091382 054	0.701304337352 514	- 0.15668353729 1122	0.75395974449 398	- 0.22336261804 9933	0.61894036157 5321	- 0.77134341812281 8	0.0260764552416 14	- 0.7091584417157 49	0.083582997890 7259	- 0.8031413614616 07	0.044274573899 7502
Havcr1	- 1.15918189 905985	2.615612057 17858e-05	- 1.10729086 317623	0.002639273 22751753	- 1.08043353 689635	0.007473468 8490224	0.376585430787 368	0.374931778835 199	0.41373360231 4361	0.31714136641 4665	0.39610646064 3589	0.30552505522 5064	- 0.98145053293378 9	0.0020772886249 6727	- 0.9219916035865 04	0.022419514072 983	- 0.8812901278102 61	0.038256508707 0335
Cd55os	2.29116577 740787	2.360360551 75749e-05	2.34239563 978558	0.003549647 26950426	2.55272565 711756	0.006530960 47053452	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ttc39a	- 1.75994513 15884	1.439728113 66174e-05	- 1.70570521 084179	0.003637398 61348277	- 1.70635008 266265	0.013485328 6680636	0.117244212856 187	0.885961896808 331	0.14848676460 1571	0.85041496996 5809	- 0.05472560265 06003	0.94589462490 1144	- 0.21368558898570 7	0.7588100856708 77	- 0.1548315785616 68	0.837859652495 916	- 0.2436788470752 06	0.693877644530 193
Nrgn	- 1.20820714 637606	5.149577204 89714e-05	- 1.14900130 733715	0.003096704 71340002	- 1.15492364 92481	0.004495935 21535025	- 0.521876989792 412	0.226734807635 319	- 0.47514010846 0401	0.28431831676 5764	- 0.51870493478 9732	0.23570917091 1849	- 0.86411341102475 5	0.0150088604156 968	- 0.7970805582930 87	0.056677734001 4509	- 0.7948457807657 77	0.046424432731 2094
Gdf11	1.03127626 843934	8.680308009 76175e-05	1.08895273 995218	0.003544666 878199	1.06284098 735494	0.002372818 06127253	0.421676934667 872	0.280127656057 462	0.47084549850 274	0.24954087601 0025	0.45844589907 4397	0.27263139351 3047	0.56002113859611 8	0.0980723744743 434	0.6226545992295 2	0.106492804399 64	0.6144922982837 75	0.089856001924 514
Basp1	- 1.59160387 098353	9.396924628 8363e-05	- 1.54069844 667255	0.002751594 70979964	- 1.52907480 409678	0.002866349 24444731	0.070213408789 7263	0.933922652323 785	0.10300540707 3277	0.88067673665 4694	0.01841329231 85071	0.97851812774 3334	- 0.43605377085308 3	0.4786420284881 96	- 0.3775238142973 51	0.503439073549 538	- 0.4936166999998 53	0.302013639382 116
Cadm1	- 1.24070893 702558	7.125120969 63784e-05	- 1.18561492 167039	0.004901076 85421013	- 1.26658382 788624	0.002229528 13378759	- 0.416280303270 865	0.390444274486 351	- 0.37611775650 7533	0.45850393520 0679	- 0.38484671679 0736	0.36330234408 0049	- 0.67087835587497 5	0.0924839183936 005	- 0.6089935840690 2	0.176398081777 934	- 0.7207140614188 53	0.061706732294 9439
Fmnl2	- 1.58352725 212695	1.374582258 97127e-05	- 1.53352861 024151	0.005878006 48527032	- 1.46784839 892928	0.009784526 99190465	- 0.415863637048 301	0.482080957063 414	- 0.38162880871 5602	0.57583144446 7327	- 0.31378694308 6123	0.62040581991 7556	-0.3379590413719 94	0.5557404441969 94	- 0.2821556914297 6	0.671351589770 406	- 0.3246825318423 23	0.544938927636 791
Kmt2a	1.03953423 547998	4.024093694 03911e-05	1.09686877 264141	0.005171488 9575987	1.04348195 019871	0.004114329 34893085	0.0784734023430 121	0.017390196251 0572	0.82630331631 0444	0.05717951911 49631	0.72749303616 8844	0.08269549070 28555	0.79879163047497 6	0.0084021142380 3725	0.8626576645832 15	0.040308404167 2386	0.7756480878660 28	0.046938566312 0546
Ptpn22	- 1.12112616 651663	2.809210059 28112e-05	- 1.06078249 127469	0.007034404 00449493	- 1.08836192 07186	0.004668765 76899879	- 0.962232313849 638	0.004663231719 95158	- 0.91787092964 7339	0.05055032254 77341	- 0.90876349993 8474	0.04737900905 25925	- 0.84559446427070 4	0.0083115460195 1255	- 0.7768476322459 77	0.070988323894 6723	- 0.8078577304087 97	0.048415155884 3864
Mpeg1	- 1.27103717 559599	0.000210092 987527463	- 1.21767982 386381	0.003797643 4133112	- 1.27191114 074304	0.001181659 65951825	- 0.556173770196 824	0.270008144466 693	- 0.51310395611 4597	0.28071287762 9542	- 0.57561843139 7495	0.17208460666 3463	- 0.72245956225275 9	0.1008986664328 56	- 0.6611903258650 72	0.134875481433 061	- 0.6960081060050 4	0.073747598410 8781
Zfp7	1.01788291 107748	8.915033287 40858e-05	1.07858461 610454	0.002075795 15358269	1.00750219 937387	0.005148120 12687161	1.185641967345 85	0.000115191682 243726	1.23026440062 24	0.00461070053 916201	1.15579243491 057	0.00865630073 70959	0.84076345243511 6	0.0054409240035 8014	0.9033472285030 49	0.016587617776 1412	0.8451703310821 3	0.030080491341 9632
Cd209d	- 2.15139625 519299	7.015659819 94355e-05	- 2.08579978 802505	0.004823456 32209665	- 2.39099112 462584	0.003140966 55878796	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Slfn8	1.30429777 84908	8.852983079 34745e-05	1.36254790 145829	0.002954303 56050291	1.29690934 803974	0.004126082 94378162	0.958343488714 148	0.027077157555 3155	0.99550329344 9812	0.04921771160 17334	0.73437372308 1346	0.16701086745 952	0.90484192112340 5	0.0239907372384 571	0.9682177713418 96	0.043933963734 6893	0.8883796452940 98	0.065706422887 1846
Syt13	- 2.16103338 328008	2.999396477 16769e-05	- 2.09062584 335327	0.003499313 03592157	- 2.15461410 851696	0.010590698 0656213	- 1.229668301422 82	0.137208847537 9513	- 0.137208847537 4669	0.078415837537 9513	- 1.23819506810 79	0.13692318782 7533	- 0.17944357522915					

	065082		476931		013236						01454				86			
Atp1a3	-	7.450851084	-	0.005204218	-	0.004010250	-	0.780703449529	-	0.84613939097	-	0.86496861255	-	0.0882871917685	-	0.176188233591	-	0.121401982151
	1.13549131 208792	04256e-05	1.07728011 505048	94221554	1.12941743 428074	77591437	0.146908927446 897	234	0.10499939805 0622	1612	0.08593573735 0359	3886	0.62170424315233 4	269	0.5604319990601 76	068	0.5684286843107 27	965
Insl6	-	9.900320722	-	0.005272722	-	0.003395996	-	0.124409449006	-	0.19556991233	-	0.10384796579	-	0.0745127460043	-	0.153155227614	-	0.061420604757
	1.12248182 931686	40516e-05	1.06841822 800331	86959051	1.10873019 612343	25783488	0.605143303304 488	988	0.56142866191 7662	0087	0.66197276962 7991	7458	0.63659348538332 1	034	0.5709167084948 55	835	0.6604320427961 8	1168
Ppfia4	-	6.559668669	-	0.004255420	-	0.006469181	-	0.744735299108	-	0.79234720356	-	0.69029270650	-	0.0248456039839	-	0.079896780454	-	0.058741505320
	1.30922227 637433	64526e-05	1.25497704 902053	11475559	1.25552575 224617	03177725	0.193032900933 864	816	0.15377478092 5323	5788	0.21045583496 7758	7411	0.88658923727059 -	519	0.8260432879463 36	2738	0.8523631102457 13	6507
Ccr9	-	5.149577204	-	0.004873282	-	0.007345484	-	0.503939372831	-	0.57534295614	-	0.56171506897	-	0.0718430034156	-	0.155247785486	-	0.110846619372
	1.36490688 526709	89714e-05	1.31152211 742728	59229524	1.30332747 55181	8577788	0.364299599670 659	146	0.32273927280 2821	0921	0.31261172868 8553	8803	0.76454081625036 5	681	0.7030508609284 3	684	0.7296045033067 02	179
Gria3	-	3.185485778	-	0.003096704	-	0.019694160	-	0.174926374907	-	0.838676136283	-	0.90186369092	-	NA	-	NA	-	NA
	1.91397768 395972	09399e-05	1.86050398 496637	71340002	1.81090077 845748	278593	0.174926374907 631	814	0.20702397595 2791	079224967372 0355	0.10246471948 2142	395	NA	NA	NA	NA	NA	NA
Klrk1	-	2.532632622	-	0.007504489	-	0.010406595	-	0.760308591227	-	0.77411933655	-	0.72500698069	-	0.7893985039176	-	0.839243227971	-	0.573006369848
	1.60294764 302594	93687e-05	1.54213691 384251	66101928	1.54390616 506878	2551167	0.260564284867 909	024	0.21733478755 2675	1645	0.24198823614 5367	8915	0.21908677559589 3	11	0.1545626318699 75	946	0.3196113359874 49	996
Il12a	1.27674830 547824	0.000143576 51826384	1.32913521 313148	0.003248771 30648564	1.27099291 758141	0.005017531 91818622	0.358475124483 686	0.509951393966 219	0.39489012884 3005	0.44944609148 121	0.17579448483 4808	0.80840958646 8872	1.03378288450279 -	0.0084021142380 3725	1.0955508045812 7296	0.023627632575 62	0.9983199501559 62	0.039535584782 6052
	ENSMUSG0 0000087060	0.000120808 319020751	1.68043008 304878	87644287	0.005141971 87644287	0.003780119 20431213	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ccl4	-	3.748834545	-	0.005044500	-	0.012676735	-	0.222482612831	-	0.29181371956	-	0.14420261919	-	0.9306820362588	-	0.979234500104	-	0.802527223384
	2.37915874 507638	56456e-05	2.31116439 587428	83405178	2.47504194 718106	6387299	1.012046809889 16	271	0.97831081879 0261	9158	1.34333702975 512	1458	0.09662015936518 73	48	0.0292562151821 403	492	0.1951892376756 49	798
Prnp	-	0.000126782	-	0.004932441	-	0.004087435	-	0.045295168869	-	0.09603136244	-	0.04807809874	-	0.2108946050352	-	0.290178135321	-	0.082533864913
	1.48190933 866472	590809089	1.42253924 632117	86888045	1.45550656 210059	46447173	1.017491458252 01	7263	0.97737788721 0566	74263	1.14458736812 834	14121	0.63990345174112 -	35	0.5735823599889 75	102	0.7946012187025 94	9974
Chdh	-	4.993128004	-	0.004621454	-	0.011149441	-	0.057765963911	-	0.940209392210	-	0.84966619402	-	0.0365608681889	-	0.102610021797	-	0.050604159649
	1.51864601 207252	26512e-05	1.46646822 616388	30836201	1.41970571 191165	5211245	0.057765963911 9471	481	0.09441000379 41211	52	0.12459686260 0827	506	0.95926446089049 5	293	0.9000699102048 9	838	1.0942668485994 -	2442
Pik3r6	-	0.000121644	-	0.005581334	-	0.004087435	-	0.392597186301	-	0.42526595646	-	0.23596709787	-	NA	-	NA	-	NA
	1.40316542 976832	437474757	1.34427935 499687	22325328	1.42039812 424074	46447173	0.471140902959 252	836	0.42422190223 7414	6902	0.56375202146 0426	9186	NA	NA	NA	NA	NA	NA
Sertad1	-	8.393163216	-	0.004358951	-	0.007859481	-	0.068445842129	-	0.12590893590	-	0.15807718016	-	0.06909830029080	-	0.9014002025431	-	0.1505546573938
	1.20095640 881262	54647e-05	1.13195026 687713	74232881	1.16135364 86708	18789451	0.746216196435 616	2109	0.69625622854 4287	4475	0.68009851324 4802	2688	74	81	18	99	56	848
Tbc1d8	-	0.000141805	-	0.004018204	-	0.005262097	-	0.131748324187	-	0.22352218570	-	0.71017557163	-	0.6708947449761	-	0.714201310743	-	0.693146985112
	1.55333520 729723	703052761	1.50024574 069045	14791866	1.43477065 455672	63415555	0.1317483											

Palm	- 1.09932189 739869	0.000200837 229414744	- 1.04463220 900781	0.005833824 07449106	- 1.02645791 692046	0.009654084 41077984	- 0.248299573084 996	0.614576811776 348	- 0.20953263146 7053	0.66827334528 3901	- 0.19194889732 152	0.68411448272 7949	- 0.96193699350235 8	0.0047212632470 9153	- 0.9035888674073 21	0.033144497603 7381	- 0.8827196825698 93	0.036217965712 668
Gpr65	- 1.07144273 636291	0.000345660 262193752	- 1.00929250 514636	0.007632546 73281152	- 1.07474345 720467	0.004511632 78639712	- 1.330381752808 02	0.000170231810 065701	- 1.28175647177 576	0.01005306590 25368	- 1.35464213281 438	0.01095490859 706	- 0.89905313046183 3	0.0099639343016 4051	- 0.8279693869699 08	0.048746101267 2929	- 0.9124189949405 29	0.023969412485 0124
Ngp	- 3.04792116 842629	0.000129385 259456121	- 3.01265066 220347	0.008116609 33259695	- 2.28530925 189522	0.012168936 6004148	- 3.841627959918 37	4.516651367878 84e-05	- 3.81411441185 389	0.01858277757 53221	- 3.15597960022 915	0.02300853425 77865	- 4.28275195403292 915	6.8354933105571 5e-07	- 4.2327244070149 915	0.008157777628 38474	- 3.4256668497609 1	0.009051066207 42008
Igkv8-30	- 1.23205455 148443	0.000239234 298622465	- 1.17537840 02616	0.013508261 2030099	- 1.27513754 456037	0.004024379 85678596	- 0.188023086009 369	0.755956725444 839	- 0.13974775013 1315	0.83410263800 364	- 0.19203736976 3505	0.71473657835 2379	- 0.71907454882648 5	0.0903299817738 636	- 0.6516426706047 41	0.209129361996 107	- 0.8286522503319 02	0.058204494111 6967
Klra7	- 2.77667639 08853	0.000179296 816459652	- 2.68471675 673236	0.006734736 47145142	- 2.89150917 107837	0.011427460 9321933	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dnajb4	- 1.09371347 987809	0.000210357 760810709	- 1.03876747 710207	0.006320717 68223431	- 1.03144473 946937	0.010763065 3199345	- 0.571938961812 843	0.164653312877 736	- 0.52908142884 4631	0.22894078260 6587	- 0.58328648901 1622	0.19994001742 8141	- 0.09114082029138 13	0.8639849789895 86	- 0.0294640219888 18	0.958925809744 713	- 0.0220322004648 455	0.962388691491 902
Hs3st1	- 1.75278773 13857	0.001580878 78672978	- 1.69123196 330987	0.008698343 27874961	- 1.97008936 359489	0.001114681 10568619	- 2.522419686049 52	8.538543654100 17e-05	- 2.46891859860 905	0.00717976638 997489	- 2.45193556843 219	0.00571403299 705752	- 2.19575375090261 905	0.0003031803330 46978	- 2.1237949320924 5	0.008960770944 55241	- 2.1681644377778 6	0.003658390968 19856
Il1r2	- 3.36123319 352434	5.879664609 01183e-05	- 3.29838282 494514	0.008166747 0481865	- 3.21271177 49002	0.032062753 5312718	- 2.550066173668 4	0.017008351748 9357	- 2.46505473727 307	0.08607200188 6295	- 3.60136103506 605	0.04894713669 14699	NA	NA	NA	NA	NA	NA
D11Wsu47e	1.02222762 917678	0.000490738 28463728	1.08177722 821151	0.004377388 1673312	1.04761129 536926	0.008628518 35263256	0.786723469499 86	0.038067002825 5372	0.83279836706 3004	0.05118174183 72117	0.84659510751 7114	0.07026991303 07406	0.96736980293767 9	0.0033476075143 0712	1.0322673839268 5	0.014222463938 3495	1.0210689278923 4	0.017490328847 5954
Hlx	- 1.29103081 101005	0.000244685 921451531	- 1.23227785 615594	0.006654306 85354208	- 1.27578244 1154	0.011476607 8461825	- 0.073392237476 0957	0.917605473349 281	- 0.03467815044 9345	0.96253392757 4941	- 0.10267897621 2363	0.86827902905 6309	- 0.05568755769345 16	0.9330230643791 31	0.0068730774659 0032	0.991709916053 324	- 0.1712122058677 73	0.722659370516 3
Il12rb2	- 1.60584813 482509	0.000342229 296427887	- 1.54506017 717142	0.007512249 60804149	- 1.59507960 000145	0.007546888 46737107	- 0.470789589369 033	0.504903683916 716	- 0.43141152609 6327	0.54769603671 3125	- 0.66589627247 658	0.25922633050 7705	- 0.68786381237369 6	0.2478152942430 34	- 0.6204786700032 74	0.320187555459 664	- 0.8548483492016 81	0.109511550476 197
Fabp5	- 1.06728586 561598	0.000299455 38725386	- 1.01352741 57345	0.007149135 54651359	- 1.03810445 530867	0.009512902 75386434	- 0.855260601457 626	0.021754756275 9803	0.89344805021 9154	0.04157603080 9157	0.84021878926 6398	0.02773514246 59676	- 0.34620588490379 8	0.4133210248130 42	- 0.2834286008573 37	0.517425082322 992	- 0.4063659669258 71	0.287322330507 626
Epsti1	- 1.20483114 111525	0.000797416 177213634	- 1.15156995 778003	0.006654306 85354208	- 1.17035616 30129	0.003875612 0838036	0.072375143574 5265	0.920581824070 295	0.10694588877 6981	0.85472529196 4856	- 0.01051725261 23837	0.98620937014 665	- 0.18603250249956 9	0.7578727703002 3	- 0.1233687231127 45	0.824143846688 636	- 0.2248930873920 84	0.618574352042 52
Tspan3	- 1.53483426 784458	0.000815642 27690017	- 1.47796649 11047	0.005669884 7999255	- 1.48349430 938981	0.004718651 12760224	- 0.077169324980 7923	0.933870963813 679	- 0.04795270165 15824	0.95559135897 2648	- 0.22842604320 3343	0.70922789451 4271	- 0.28299914696036 83	0.7067419991428 83	- 0.2226646750176 37	0.734872285707 172	- 0.3536661666787 48	0.483767978289 106
Fosb	- 2.12911716 453508	0.000856628 642410652	- 2.06214767 856199	0.010920877 1617732	- 2.45498203 471137	0.002357359 40471891	0.351283841902 845	0.757474678327 364	0.38388575774 3914	0.70037246728 4978	0.24953512676 007	0.73576655275 4279	1.68413646460435 897	0.0260403675247 897	1.7454947808741 2	0.050683955762 7486	1.6484293673786 2	0.007260890610 74744
Igha	- 1.86310387 910589	0.000275555 764650425	- 1.80148330 095511	0.008116609 33259695	- 1.59596956 061195	0.010051991 0942612	- 0.202604750649 119	0.834213798553 321	- 0.15743683127 1657	0.86316978464 481	0.04933763777 93323	0.95726487028 2747	- 1.64279620453188 9	0.0060166703254 7097	- 1.5733718668809 4	0.039254970213 9373	- 1.5273808143560 2	0.026244765932 8138
Rasip1	- 1.61024001 96681	0.000237869 102141912	- 1.54381818 921889	0.005659618 32299351	- 1.51957709 119693	0.016929116 9886089	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1700025G04 Rik	- 1.46165166 676055	0.000288350 180724417	- 1.39794971 557957	0.006687639 62045129	- 1.43868057 010949	0.011998855 904816	- 0.079677710910 6244	0.921799927744 69	- 0.03041856414 65018	0.97071028334 936	- 0.09660566915 98413	0.88819192331 466	- 0.44401997389689 1	0.4444598799015 1	- 0.3726573014233 3	0.530408868528 338	- 0.5930844812712 79	0.245008685260 958
Eno3	- 1.06504449 206717	0.000210357 760810709	- 1.00696399 92391	0.007649207 70459561	- 1.04669036 211204	0.015519976 61344	0.595417971789 457	0.128288408900 275	0.63166021570 4955	0.13783785085 0225	0.38877618663 9557	0.38062980692 0722	0.05616353252964 6	0.9151523815481 81	0.1203692368029 79	0.806845330355 522	- 0.0041665466704 1861	0.992974183379 758
Ighj1	- 1.47850303 742253	0.000299455 38725386	- 1.41893672 355297	0.007281660 74737805	- 1.37852018 991075	0.011580443 0130947	- 0.301503492297 42	0.658111482317 494	- 0.25865236348 4991	0.68407430844 3701	- 0.27321601953 3553	0.63641318449 7177	NA	NA	NA	NA	NA	NA
Scin	- 1.65602818 13386	0.000240764 788968668	- 1.60259913 441645	0.007198885 55784092	- 1.59207569 578747	0.017025334 2700428	0.028973047939 9247	0.974526020103 657	0.06287764220 02426	0.94826277886 7156	- 0.04200694075 73114	0.95748963427 2801	- 0.19309044053072 2	0.8046132030765 05	- 0.1339109349134 67	0.870711406270 818	- 0.4378533284088 47	0.446439102772 867
Tmem150c	- 1.52728057 487853	0.000259884 789845115	- 1.47187147 386596	0.007085013 66422966	- 1.47017183 486915	0.016103955 8215779	- 0.265694188367 101	0.715995303017 258	- 0.22432818069 7385	0.75530117297 0668	- 0.28521755116 6197	0.67093604845 8067	- 0.16634613862854 2	0.8172621167317 04	- 0.1054527520134 9	0.891669690437 658	- 0.3098292338803 38	0.575363246405 132
Ltf	- 2.80772646 754777	0.000228160 654528222	- 2.76988943 669052	0.009308561 06206629	- 2.08601198 657193	0.014344109 4120014	- 3.562914797253 5	7.793928157525 09e-05	0.01942738587 72079	- 2.80018735084 057	- 0.02933598674 70452	- 3.92708002372655 4	- 1.7030237382670 8e-06	- 3.8781902152457 4	- 0.008271831483 37801	- 3.1999395020320 2	- 0.009321061950 07179	0.009321061950 07179
Klrb1f	- 1.38521116 33482	0.000200407 882065939	- 1.32282423 127212	0.006734736 47145142	- 1.27844922 660777	0.023018047 175563	- 0.307639347263 596	0.621476521139 679	- 0.26411740659 9528	0.67299873977 0068	- 0.28794021469 6803	0.65724443822 644	- 0.15792013468914 87	0.8077848837498 87	- 0.0896988666984 012	0.896033254857 874	- 0.1417040166791 89	0.807204670204 084
Palld	- 1.35725995 949512	0.000299455 38725386	- 1.29933811 191109	0.007512249 60804149	- 1.30266813 284049	0.014344109 4120014	0.425579558993 573	0.458022703932 433	0.46596000451 4216	0.39680830914 3573	0.44497526034 1684	0.34032967868 6309	NA	NA	NA	NA	NA	NA
ENSMUSG0 0000107872	- 1.68236151 095369	0.000144484 872131532	- 1.62131462 285275	0.007868752 8760644	- 1.53384564 341682	0.029861260 6818476	- 0.056966548893 3233	0.948636487236 207	- 0.01651333488 58027	0.98716155760 3721	- 0.08853021637 98602	0.92007865985 2302	- 0.45162209620278 11	0.4942716343453 11	- 0.3851831660646 23	0.592866687557 955	- 0.4458854724973 12	0.495617318188 896
Heatr9	- 1.28877726 418281	0.000298377 734430276	- 1.23569277 823115	0.006734736 47145142	- 1.26450962 020272	0.016925176 285641	- 0.019473183962 3907	0.977962871897 515	0.01889870374 3618	0.97979813830 3763	- 0.08786159978 3352	0.89275205981 1434	0.32492382224783 3	0.5362159974380 35	0.3869594011697 26	0.427851521664 269	0.2943816030829 25	0.508534795864 125
Cables1	- 2.41875072 448336	0.000156417 214883639	- 2.34084922 606443	0.005452394 81192287	- 2.11640397 641542	0.044315093 2687591	- 1.490874475464 35	0.079431638839 0542	- 1.44941954022 079	0.11954727037 1625	- 1.28511100283 504	0.235						

Sfi1	1.35989369793882	0.000389491314094724	1.4124537633575	0.00664842113040577	1.37286465130514	0.0162387905801429	1.1824386972968	0.0142189765341452	1.21502022835775	0.0399781043679533	1.12943544976268	0.0913417391492545	1.28341883445917264	0.00317661455427264	1.34111094974266	0.0197108872211615	1.22351586688371	0.0447788061930473
Tmppe	1.30261397731075	0.00052753254799087	1.35823671963721	0.00723181306300844	1.30881238431677	0.0126449460745021	1.40322657428738	0.00188978315885347	1.4407763238052	0.0153486220924168	1.47167139996567	0.0157856621201605	1.36732496057739	0.00101686872915241	1.42611604056874	0.0110458299950798	1.41128133078195	0.0117465005322007
Klrb1a	-	0.000196703743905487	-	0.006831507	-	0.036520961	-	0.335937274851	-	0.39685588337	-	0.42635189257	-	0.8354907826404	-	0.899343291473	-	0.841020162994
	1.89479360765186		1.83273397909484	79396539	1.70328174992453	7534089	0.723567030435736	017	0.675701988717362	7487	0.674896114404288	796	0.185583469301902	52	0.117929744632814	177	0.152281369732724	71
Pls3	-	0.000790937525921508	-	0.0109213044115088	-	0.00653096047053452	-	0.488523616685384	-	0.546699294570273	-	0.375385183855166	-	0.262877300096581	-	0.354770482284872	-	0.0867964777491087
Pdxk	-	0.000370010121754108594123	-	0.0103094015345444	-	0.017012583536674	-	0.00416861048837472	-	0.0384410040806681	-	0.0606821962835477	-	0.00650284284733504	-	0.0460638339567121	-	0.0469462095710456
Laptm4b	-	0.00028948462926413	-	0.00826198698005733	-	0.0283528502949412	0.445227054200502	0.479286881369574	0.472872349898816	0.454329545251682	0.290084634492987	0.641560404899948	-	0.683981838095664	-	0.758756501719156	-	0.65789909822558
Arhgef10l	-	0.000523143694308202	-	0.00906010814390769	-	0.0145830705070256	-	0.999786915057498	0.0420007440164431	0.959342456847713	-	0.796920471767276	-	0.329466070162372	-	0.41012451663925	-	0.272662299976662
Cxcr4	-	0.001687895128669483801374	-	0.00839845727698544	-	0.0049847273819326	-	0.000509166017650362	-	0.0095390040022465	-	0.00851576833975158	-	0.233862412779495	-	0.253077509043353	-	0.196520820501286
Dmrta1	-	0.000523143694308202	-	0.00998395805253311	-	0.0138448372228722	-	0.0280945190636139	-	0.0744994053522871	-	0.0211384659135404	NA	NA	NA	NA	NA	NA
Xkrx	1.10609993532596	0.00111168876688231	1.16167031542896	0.00863264395873153	1.13945410925077	0.00758313363390801	NA	NA	NA	NA	NA	NA	0.664176378308035	0.119276672399093	0.724719177231645	0.119600697645457	0.728703635847716	0.103368624141227
Il15ra	-	0.0006150721.09481366435475	0.00615072535435887	0.00859475169815223	0.0148454581.06073592536187	0.0148454581199427	-	0.978261384235702	0.0196425366485869	0.977151407746554	-	0.827822318513158	0.0337573136971505	0.957204462200966	0.0961595489857979	0.863090861742602	0.00346229855715487	0.993311711733261
Stap2	-	0.000693589142547658	-	0.0160369887382978	-	0.00708912940620372	-	0.457821634142461	-	0.532456952870625	-	0.170111752706325	-	0.758810085670877	-	0.8210141612373	-	0.381312512844868
Tnfrsf9	-	0.000665655516629512	-	0.0109592889304637	-	0.0111711131.14526238684835	0.0240263029817201	0.970894615695564	0.0630801996135091	0.924799373788486	-	0.91907342846232	-	0.521742559391639	-	0.617287254280538	-	0.277767544764108
Pmepa1	-	0.000722243128144727299848	-	0.010888514622585	-	0.0107050820854816	-	0.140207476440998	-	0.208046332335359	-	0.182085025784465	-	0.0567003153145149	-	0.123523764163384	-	0.0484405370063484
Ighg2b	-	0.000371273182651918	-	0.00862294794005553	-	0.0280504630361148	-	0.630210818342729	-	0.641046968130767	-	0.944281158870328	-	0.0938197314261342	-	0.145025998868171	-	0.207830952702895
Coro2a	-	0.00069719164664234964166	-	0.0137904691876379	-	0.0097701241722403	0.322399758031476	0.69669576270978	0.355381277274391	0.662430321641101	0.208303603175985	0.760013461457831	0.0516334148678984	0.956981403120788	0.112211643147494	0.900946933868135	-	0.995531421228426
Cdkn1a	-	0.000410051264370362	-	0.00842006605790433	-	0.0295776060870866	0.579770857783002	0.391504433656864	0.610953077306759	0.362952037183822	0.319881508280707	0.637494755322156	0.260006293506361	0.722183743138787	0.319325866961141	0.640936633670818	0.313208617480315	0.5994626235545
B3galnt1	-	0.000868185818477836	-	0.0112065697128045	-	0.0121780256900324	-	0.0696331057547758	-	0.109152629077672	-	0.0409974110929067	NA	NA	NA	NA	NA	NA
Eno2	-	0.00054099564206331	-	0.00999856822727384	-	0.0219268059214746	0.031481580262725	0.972220942311153	0.0671551086241102	0.945636025563417	0.0180319509915881	0.982483394905436	-	0.908354481187724	-	0.967321178036833	-	0.867906212974531
Zfp882	1.21861910758948	0.0012022841288552	1.28075418829154	0.00991845708580238	1.23615706911773	0.0100519910942612	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Maged1	-	0.0008874971.13475345785714	0.0088749774616901	0.0121419902523307	0.0118527571.11912074390253	0.0118527579936529	0.000959933897360996	0.9991049015002	0.0410242418112929	0.954373046741328	0.00369746151460095	0.993870056837843	-	0.132932221693873	-	0.215302523821866	-	0.0890441401031178
Tnfsf12	-	0.000760977295530518	-	0.0103419272987679	-	0.0173523953736081	-	0.911207207526181	-	0.947052602246831	-	0.941728047849832	NA	NA	NA	NA	NA	NA
Upb1	-	0.000815642177391594058502	-	0.0139442948380235	-	0.0139721170471235	-	0.315286466830105	-	0.396804957225619	-	0.221555261968455	-	0.119335386501816	-	0.199696655444222	-	0.138215289549622
Sema4c	-	0.000906977117187713	-	0.0128303787046969	-	0.0154487055392317	-	0.604537713874041	-	0.396804957225619	-	0.221555261968455	-	0.119335386501816	-	0.199696655444222	-	0.138215289549622
Dapk2	-	0.000504151127731648	-	0.009293185168362969729422	-	0.038740538163801698343837	0.117028024497576	0.904351305006813	0.150044932740461	0.865634855837405	0.00128301445965108	0.998663776757896	NA	NA	NA	NA	NA	NA
Strip2	-	0.000450613169497793670586	-	0.0158089761442511	-	0.0264082201120163	-	0.939518429686817	-	0.964112856329413	-	0.787678871564803	-	0.853351519954868	-	0.916007156332835	-	0.848116878415031
Parp11	1.01336929687012	0.00137214221564945	1.07353884767563	0.00756396243603009	1.01490002242911	0.0182304758347688	1.37540364646524	0.00015342570710491	1.41753031982786	0.00595254201893344	1.30626014455796	0.0117433883103347	1.140102021368613747	0.00102105648293747	1.20443217403738	0.0097975948913897	1.14060569372283	0.015615863626166
Cd300lf	-	0.0010774911.0566879784904	0.00107749173739208	0.0161661669749625	-	0.0113590255862099	-	0.0636830154395587	-	0.13580965761257	-	0.109403623649178	0.0291976507311793	0.964531128797426	0.0918010348341322	0.877676543617382	-	0.989744440986673
Itgax	-	0.00284365577445068	-	0.017796186038713	-	0.004171917162303755369537	-	0.442826860850898	-	0.464941687425684	-	0.288080099484374	-	0.623712461906136	-	0.671886717570836	-	0.429206458952655
Lima1	-	0.000517470187956626	-	0.0144313573333112	-	0.0326639015608921	0.0921942300329588	0.901373229134279	0.126918251712629	0.861340668280757	0.230640046997846	0.716195475193773	-	0.712988112861361	-	0.803165567413656	-	0.816464373145828
Mfge8	-	0.000817689128070399990437	-	0.0144313573333112	-	0.020834928693795	0.588091596185319	0.280650990328808	0.62097981300974	0.28369974508069	0.155098520481641	0.813514289121518	-	0.0374772117796575	-	0.108449597248141	-	0.066575546495337

Ugt1a7c	- 1.77803466 797297	0.001400844 87266778	- 1.71026049 951051	0.016064030 7032691	- 1.78241316 922572	0.011476607 8461825	- 1.402365536594 87	0.049284350559 9057	- 1.33117013553 828	0.10336349213 4094	- 1.68918547754 468	0.06399354181 518	- 0.56692475727188 1	0.4734819740034 81	- 0.4963602099901 33	0.525457455482 362	- 0.5938228934932 17	0.332724062567 811
Lyz1	- 1.53775195 749997	0.000741571 942088551	- 1.48036685 032755	0.010309401 5345444	- 1.40328858 547137	0.034279129 3534177	0.334346967108 906	0.657621971024 979	0.37038162194 0218	0.60353206084 0417	0.33696049893 8362	0.59852644239 4484	- 1.93608550118642	0.0001113404468 42104	- 1.8734674290180 5	0.008271831483 37801	- 1.8137270167755 8	0.021097631128 2157
Crtam	- 1.37924545 570256	0.000792142 051636077	- 1.32651748 376075	0.010045653 2772056	- 1.23104966 514877	0.033599970 5356039	0.232706278875 525	0.744888674194 147	0.27516625541 6679	0.67631072969 8147	0.41236341151 6175	0.45895924628 4623	- 0.41595746010222 3	0.4839298780380 49	- 0.3525776645500 37	0.560127230185 316	- 0.3588524397464 2	0.515930261444 621
Rhoc	- 1.77829529 19471	0.000885672 186398468	- 1.71668463 012439	0.010888514 622585	- 1.74143811 20883	0.030940409 7777033	0.906286747183 94	0.212203134717 568	0.93390463849 4765	0.20032009084 3929	0.26995221928 6283	0.72206835593 9411	NA	NA	NA	NA	NA	NA
Arhgap28	- 1.47178161 057585	0.000960646 590434084	- 1.41533463 738647	0.013240147 5917592	- 1.47639207 837578	0.024288259 1500052	0.220456116568 824	0.780646238299 242	0.25161168891 0995	0.73850933144 2512	- 0.18319158038 9755	0.81229570770 037	- 0.30701125130176 5	0.6590164158781 94	- 0.2451351116633 69	0.733747654083 562	- 0.4669930767552 15	0.428699483282 572
Ifitm6	- 2.28710232 542846	0.000763385 820812633	- 2.24302398 540536	0.014134316 4627232	- 1.94636344 045227	0.028810195 6120599	- 3.123373918728 67	9.169996781479 32e-05	- 3.05678312464 859	0.01544633787 39369	- 3.64419312382 996	0.01743793618 74671	- 2.74357256122042	0.0002317036029 17219	- 2.6860298826433 9	0.014101828400 8989	- 2.3516555375952 5	0.030930276082 5675
ENSMUSG0 0000095200	- 1.06550766 547168	0.001744367 52224415	- 1.01045841 481031	0.018508353 8764463	- 1.03183243 564595	0.009635045 34934042	- 0.750694573523 307	0.092144585466 518	- 0.71172494722 0146	0.162426669970 7764	- 0.77882176613 2213	0.09452346616 99804	- 1.30766473412049	0.0004219774733 38921	- 1.2436730824374 1	0.014869226409 3131	- 1.3858101766419 7	0.006248282362 91838
Rtl8c	- 1.27248080 173839	0.001787431 31053341	- 1.20741502 315383	0.018031735 6063225	- 1.31566639 083573	0.009784526 99190465	- 0.054461345256 7471	0.944752073218 15	- 0.00437675583 911618	0.99561632218 5165	- 0.02496421445 43022	0.96889534604 8455	- 0.68230286776839 7	0.1829605289208 23	- 0.6124622785144 22	0.252940112844 4	- 0.7411249585682 47	0.109678286537 317
Pfkfb3	- 1.19048433 238288	0.003792026 72975857	- 1.13625333 793237	0.011685308 7915599	- 1.12676915 572965	0.007139601 11357622	0.001691381255 49746	0.998638246692 943	0.03466387419 66944	0.96230077705 2772	0.01012821723 01076	0.98696571597 7297	- 0.18195397903731 8	0.7934379687246 94	- 0.1220938991227 13	0.841044431685 756	- 0.1958363874426 37	0.681426848878 359
Adamts14	- 1.45692869 659494	0.000578094 205030769	- 1.39613699 575333	0.020422891 5735425	- 1.45598310 552414	0.026830294 21574	- 0.048400204087 0019	0.962799767969 992	- 0.00621592236 773607	0.99458682052 6896	- 0.14665436478 2067	0.86018638609 2133	0.25707450657914 9	0.7691730062143 42	0.3219269820113 35	0.663875915523 219	0.1532165389419 49	0.813521354071 54
AI467606	- 1.06450581 717434	0.002893110 10688256	- 1.11670486 588603	0.013886919 9449606	- 1.23379114 451732	0.007933059 38065881	0.965150189256 619	0.030878714608 0657	1.00748089663 895	0.05330755325 51058	- 1.17905180165 602	0.03656055120 48669	0.62261193510155 3	0.1665638404780 13	0.6835577816597 79	0.162906720657 545	0.8099530995918 87	0.104256917445 024
Obscn	- 1.49265682 067235	0.001213339 5336947	- 1.43455574 038156	0.013252655 958697	- 1.46896505 074679	0.020339084 4062468	0.298537793988 035	0.701024459713 662	0.34597415215 6176	0.62751855426 1658	0.22651994240 3987	0.73561044708 0078	NA	NA	NA	NA	NA	NA
Slc9a3r2	- 1.23244686 975427	0.001088062 35015916	- 1.17684485 140069	0.012041445 1078053	- 1.22956522 84226	0.025497992 7034338	0.656868378856 477	0.203826946537 776	0.69447729504 3886	0.19037055856 3505	0.52506253721 8294	0.29083255173 7145	- 0.37924530873203 2	0.4875034164246 1	- 0.3160318529765 62	0.571696269877 621	- 0.4071986911204 5	0.430971328308 308
Samd3	- 1.39297245 996221	0.001007438 87551081	- 1.32866512 936234	0.015818144 930323	- 1.33727344 310954	0.022255783 2672052	- 0.234007850516 911	0.753470794288 044	- 0.18448837240 9003	0.80988349315 7942	- 0.17829501929 6438	0.80993853836 0219	- 0.19697400803191 8	0.7838911073450 54	- 0.1313946048478 15	0.865421758895 182	- 0.1761762259936 75	0.765389976516 891
Gng12	- 1.23816714 804689	0.001555985 32744131	- 1.17747052 891444	0.015003248 8315969	- 1.23698993 786591	0.015847007 0587525	- 0.546113785354 747	0.334096626692 246	- 0.50578385801 4539	0.39191418765 3577	- 0.59417187580 0697	0.28008620988 1903	- 0.36613045271773 1	0.5218755688587 41	- 0.3039910801058 12	0.601808250212 954	- 0.3455878356488 28	0.472377850664 852
Slc2a6	- 1.11493377 77331	0.001377659 0176373	- 1.05681097 916766	0.013545263 9480027	- 1.07935089 448096	0.021098240 3818756	0.204597928521 585	0.733006620226 91	0.24413017478 2148	0.65911690225 8322	0.15696312774 5768	0.77559166834 8481	- 0.05002524721357 44	0.9392407015027 54	0.0142940943798 034	0.982868479935 305	- 0.0579888716304 457	0.911840233025 313
Cd177	- 2.53376861 624381	0.001005400 66047798	- 2.49325443 051943	0.008288673 48889874	- 1.95947862 786249	0.049163189 4006436	- 3.350359307367 09	0.000224771582 316625	- 3.29320418143 382	0.01303235057 56666	- 2.84425379709 036	0.08545800036 38557	- 3.45404144901268	3.9373907932608 7e-05	- 3.4016295399340 6	0.007761355335 48196	- 2.7893897778836 2	0.037045512875 0621
Dyrk3	- 1.87675760 717959	0.001493198 72554307	- 1.81846631 32337	0.024852431 46643	- 1.89996572 406153	0.012075370 2907693	- 2.410043743879 6	0.000534685335 719834	- 2.33170920285 564	0.02524343632 33612	- 3.85652880283 048	0.00978763766 536479	-1.0580337307528 37	0.1510681016548 37	- 0.9926103102942 79	0.234827942677 807	- 1.0079549576115 7	0.199712666809 513
Zc3h12c	- 1.22575489 558524	0.001531212 87116697	- 1.17033013 611991	0.017571306 1591177	- 1.19707721 998255	0.016673347 4483664	- 0.217839484893 795	0.746706726648 594	- 0.18704043491 3486	0.78218922710 8815	- 0.43586874427 1187	0.42443192913 5986	- 0.46840558882546 8	0.3807839145738 15	- 0.4055016494156 48	0.480805782319 14	- 0.5059578187040 47	0.287893942893 931
Myom1	- 1.98162001 206334	0.001318052 21609686	- 1.92647662 367436	0.012550767 8718825	- 1.93065284 627839	0.027992146 1548721	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anxa1	- 1.87377966 092282	0.001274144 3088203	- 1.83035030 307246	0.013782747 988037	- 1.42611722 119342	0.026740798 2193012	- 1.537248826884 1	0.040312840563 6257	- 1.50634342809 033	0.09029810347 93485	- 1.17489019464 983	0.13348195214 7349	- 1.94772133275231	0.0029756820564 2148	- 1.8957516631461 5	0.028796829638 2632	- 1.4791806831739 1	0.043917034865 8273
Plxdc1	- 1.38387953 386531	0.002014346 38466887	- 1.32055583 555099	0.017771653 6637906	- 1.41785459 427203	0.013441819 3362435	0.079252457371 4419	0.926859120729 869	0.11920488486 6081	0.87509007827 8252	0.01573975139 7734	0.98183909608 1323	NA	NA	NA	NA	NA	NA
B3gnt8	- 1.19146366 596456	0.003215581 18928132	- 1.24934949 2097	0.014376230 2578506	- 241103	0.010470098 0429014	0.200972168064 496	0.780122480485 448	0.25096337155 0262	0.70619712213 0576	0.27152846660 974	0.71004939938 6129	0.49487587544821 4	0.3710322911696 14	0.5563849596029 54	0.319775117143 343	0.4618741002016 16	0.407871588252 496
Srxn1	- 1.33479548 822779	0.002104163 94862667	- 1.28172034 154146	0.016868084 3448356	- 1.38527058 579665	0.015639622 948752	0.390359328247 99	0.563461406658 022	0.42400425075 4293	0.51177167690 2767	0.22858876944 9191	0.69275508348 3182	- 0.13783379621478	0.8516759775906 41	- 0.0772139559563 914	0.917285583347 869	- 0.1454125380991 75	0.794589391486 762
Rab7b	- 1.47713935 47767	0.001944563 71087783	- 1.41430641 60086	0.021393956 9655473	- 1.60874344 399086	0.013429611 455716	0.160484259712 542	0.856284630369 655	0.20328844198 9889	0.81142839378 0193	0.13577420937 8294	0.85138910739 7631	- 0.74016413237432	0.2294618240128 74	- 0.6722270363284 09	0.330751748428 653	- 0.8295420293787 92	0.157092996769 518
Adam8	- 1.31533893 011358	0.003339668 00158869	- 1.26384695 607684	0.012270831 4638107	- 1.23768915 039949	0.013691065 277304	- 0.105823116069 717	0.903130029119 121	- 0.07400666388 16636	0.92254726750 1945	- 0.06311081816 49807	0.92809751681 1666	- 0.10730908274312 1	0.8933825743501 11	- 0.0496404444306 152	0.947966332242 965	- 0.0919031968153 247	0.869125880345 664
Slc7a11	- 1.07839828 988752	0.002012170 47853174	- 1.02164261 804338	0.017748764 9067322	- 1.06899071 502757	0.017268595 9302165	- 0.084911143106 3148	0.900031219267 568	- 0.04307910956 39592	0.95151253296 1315	- 0.06096544468 01867	0.91907342846 232	- 0.18991373165632 5	0.7335084911271 71	- 0.1235030576470 68	0.830620643902 788	- 0.3362461903101 16	0.424781359080 238
Rab26	- 1.66808675 259611	0.001133097 35963615	- 1.61076137 368597	0.011725020 7233363	- 1.60305015 832244	0.046979966 5271426	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Id3	- 1.09047710 246994	0.003871477 79293315	- 1.15094777 336171	0.0														

	1.40546209 929819	0401597	1.34142130 395939	621274	1.39878766 460561	7655516	489	188	3971	8574	3309	8983	0.08069647339328 36	65	0.0125080191165 854	783	0.1047110580943 86	467
Arhgef40	-	0.002772456 43121779	-	0.013306425 621274	-	0.023936101 8268205	0.205757559498 059	0.834213798553 321	0.23459783855 1406	0.77717051813 5349	0.23615068918 1587	0.74411612514 1696	-	0.7422847034045 61	-	0.771061157689 552	-	0.625081813668 477
	1.61239216 933575		1.55711169 999487		1.50735117 78242								0.28834824389286 2		0.2331285711159 66		0.3115754847344 35	
Adat1	1.61616789 333183	0.002546563 449883	1.66486860 013968	0.015772277 3210707	1.57576509 831853	0.023399198 2838952	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Smim3	-	0.002866438 26051202	-	0.020857531 4386643	-	0.016030202 9570764	-	0.097033119939 7327	-	0.15212415216 4677	-	0.14802531483 0987	-	0.0776322367485 03	-	0.135481932568 879	-	0.075630003502 3848
	1.15867304 997621		1.09875916 40568		1.13461748 194594		0.838141299934 062		0.78916353465 8895		0.78280745193 3772		0.81942698572527 7		0.7515191693303 45		0.8371164019662 34	
Ighj3	-	0.002445876 96361803	-	0.020380379 9862369	-	0.019234788 8949642	-	0.842978994057 625	-	0.88859400390 9195	-	0.95262600071 8368	-	0.0033400501767 2601	-	0.026861834137 238	-	0.022963629200 6764
	1.16732289 125797		1.11183872 410954		1.12655925 855045		0.137375155457 966		0.09582041816 50928		0.03753525466 90533		1.24966977460301 2601		1.1856536112777 5		1.2126672543521 8	
Stk32c	-	0.002258253 23387681	-	0.017739702 8579971	-	0.024795603 4026489	-	0.492620561508 685	-	0.52320504871 4656	-	0.38838778683 7837	NA	NA	NA	NA	NA	NA
	1.65368317 153912		1.58954979 293953		1.69946285 131288		0.567916352469 005		0.52801394395 6174		0.66235439060 5516							
Tmbim1	-	0.003131748 38030689	-	0.021952297 0865145	-	0.015323739 3132371	-	0.587679764071 414	-	0.62146933215 5159	-	0.42650520601 5418	NA	NA	NA	NA	NA	NA
	1.25109872 31737		1.18888121 758737		1.25102712 263823		0.359898333371 531		0.31655061423 4566		0.43125388567 1313							
Asph	-	0.004099570 92644175	-	0.021901140 804179	-	0.012342305 2851024	-	0.820985465470 716	-	0.86833312305 9486	-	0.78789059666 3163	-	0.1923716919515 6	-	0.270864641347 474	-	0.161069700571 351
	1.08746202 963048		1.03412135 271339		1.16438978 063999		0.154072622882 935		0.10862715305 1667		0.15642724095 285		0.61968932863344 7		0.5539750683933 45		0.6182733225785 85	
Ighe	-	0.009826048 16238861	-	0.013252655 958697	-	0.009545976 16458863	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	3.84189727 930805		3.79110687 996035		4.26673696 987306													
Wdcp	1.60827636 733243	0.003857463 77492893	1.65610994 62017	0.019210243 7182932	1.83553106 465667	0.017748152 7692009	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Insm1	-	0.002701835 83751278	-	0.018796035 3437691	-	0.029043783 3009546	0.611209416668 204	0.280317785092 256	0.65624800911 6741	0.24637624074 8803	0.52865195673 9429	0.30482589995 7182	0.36552233422532 3	0.5362159974380 35	0.4330206896996 99	0.432093566200 601	0.2414690760703 26	0.635077334992 522
	1.23888294 187827		1.17629178 105338		1.25814153 570699													
Coq10b	-	0.019484581 6531494	-	0.026580125 9052917	-	0.002970425 64487324	-	0.032070119225 5931	-	0.05253795102 19477	-	0.00830379343 178575	-	0.2667750126100 49	-	0.222290755975 899	-	0.082980243865 4505
	2.24272398 127306		2.16825375 042187		2.39751733 406251		2.506988705315 38		2.40771328206 607		4.36715792762 344		1.35400797237544 344		1.2836472487355 5		1.3369944292310 1	
Mycl	-	0.005661654 46113693	-	0.029690986 8586502	-	0.009264900 96969248	0.142137424759 352	0.859582659673 207	0.18458067945 6854	0.80489362721 7937	0.10725197711 7242	0.86251889318 1915	-	0.3269095221060 61	-	0.408747289405 381	-	0.160924151698 02
	1.21912356 978975		1.16156022 937493		1.36728885 110827								0.57406662432397 2		0.5102225193515 03		0.6650548612120 45	
Avpi1	-	0.002813506 39366088	-	0.019764271 7044128	-	0.029684232 1304192	-	0.467722760194 934	-	0.51683529762 0421	-	0.59031354894 8248	-	0.7368185620709 5	-	0.805741307888 763	-	0.624669717797 973
	1.35030049 482471		1.29245786 158761		1.28426516 002169		0.496919351315 263		0.44914048294 9172		0.36449451257 5776		0.24185677867432 1		0.1766025976352 77		0.2789619751456 54	
Ptprf	-	0.004068864 99541319	-	0.024254662 6475979	-	0.018230475 8347688	0.168621973795 933	0.802911790355 791	0.20961745128 6695	0.72859647872 1705	0.06619976336 94834	0.91159849162 3973	NA	NA	NA	NA	NA	NA
5730409E04 Rik	-	0.003564942 92009874	-	0.023503672 4959241	-	0.022004383 5326129	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	1.13693629 172831		1.07012351 789249		1.11604796 185609		</											

Lgals1	- 1.35836776 4219	0.007068339 82671505	- 1.29852332 115409	0.021212785 9288308	- 1.25636521 264146	0.028592916 5653269	0.166840868679 945	0.857270550827 729	0.21258124564 7417	0.77948694472 6586	0.23169673329 7515	0.73704296691 0361	- 0.45311588827114 6	0.5386952230355 06	- 0.3851461007470 7	0.569708241591 579	- 0.6183277901283 23	0.281182930975 5
P2ry14	- 2.05307745 39942	0.004384416 69426712	- 2.00082697 402196	0.038671951 6330419	- 2.04298696 256716	0.026612970 4797845	- 1.758069554470 06	0.149571809759 629	- 1.68466418907 065	0.14637333373 7761	- 3.42286335813 17	0.04554591331 97927	- 1.06250822629738 8	0.3998084354879 8	- 1.0061543683022 5	0.343636021131 999	- 1.0141269604658 1	0.264206022213 242
Pdcd1lg2	- 1.20883129 429352	0.006294480 87342782	- 1.14125922 969257	0.032196723 3451127	- 1.17984915 343451	0.022307223 1620282	- 0.691857670716 358	0.252911462243 972	0.30787775228 7073	- 0.72690467036 1523	0.22474298745 0069	- 0.79357838446430 9	0.1386081130614 69	- 0.7232031336808 25	0.196645603797 421	- 0.7528344508386 08	0.132519643933 559	
Zfp324	1.45493712 006122	0.013527116 4811334	0.038202288 912455	0.038202288 9120511	1.95328843 844878	0.009097961 57168972	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Kifc3	- 1.09065318 25489	0.007040513 26579639	- 1.03371526 2233	0.032144378 0906595	- 1.11846949 378375	0.022156479 5797524	0.007597311121 92893	0.992434868470 945	0.05066849771 84475	0.94899447190 1732	0.01599129115 03985	0.97969666065 3879	- 0.41530008760207 3	0.4534788615589 05	- 0.3521461327637 91	0.521690603748 814	- 0.3906472433457 64	0.402523888415 536
Cd14	- 2.05004615 201975	0.014056889 8930898	- 1.99090048 834609	0.029724974 9888637	- 2.39495641 342365	0.012579096 2578883	- 3.004522170353 07	0.001843075088 12541	- 2.93427675877 553	0.02296935700 50341	- 2.83373324162 183	0.04415393684 749	- 1.43917380505706 47	0.1574811357348 47	- 1.3731419276955 6	0.178537533461 92	- 1.2449881905601 602	0.116464448332 602
Pla2g4f	- 1.58134067 714063	0.004845769 00653509	- 1.51917897 348553	0.027430782 2956054	- 1.60133514 896129	0.040174726 8781525	0.030312569963 3836	0.977767823770 427	0.06606280370 78223	0.95228249382 5649	- 0.04400955388 2287	0.96375993523 4916	NA	NA	NA	NA	NA	NA
Cpq	- 1.16725544 220692	0.008052620 60730498	- 1.10509388 108446	0.038202288 9120511	- 1.26463203 554202	0.017448476 9952837	0.082562779416 2094	0.921364745931 358	0.12423294913 8114	0.86827085687 6433	0.08063982767 78474	0.90236184174 3903	- 0.44362835546138 4	0.4625386464352 63	- 0.3785544234400 11	0.535742123427 315	- 0.5035543867021 4	0.299844707150 844
Pik3cb	- 1.07608307 070908	0.008598164 88638721	- 1.01434098 975405	0.038333558 5446413	- 1.16537833 127877	0.017883872 2551379	- 0.222298614146 299	0.748128917285 134	- 0.17958262497 5379	0.79631844516 9926	- 0.21741842660 5804	0.71222026259 624	- 0.28614529483408 4	0.6403713185219 25	- 0.2227157446913 37	0.726027886514 748	- 0.3687419618887 01	0.435483817767 735
2200002D01 Rik	- 1.62452986 12867	0.005350629 8991126	- 1.56495704 959801	0.028592821 3102164	- 1.62384877 585154	0.040600178 2780473	- 0.026306868417 6132	0.981344430276 997	0.02747608015 82626	0.98137775774 201	- 0.08308690607 69357	0.93391935878 8956	NA	NA	NA	NA	NA	NA
Bbc3	- 1.18877020 93805	0.009992527 09076655	- 1.12658788 305799	0.038118153 6670625	- 1.31357801 856626	0.016690445 7857899	- 0.690587460300 329	0.272325736809 167	- 0.64594051947 2801	0.33661139891 0492	- 0.75749272028 7001	0.21142750089 2047	- 0.46188270135554 9	0.4683118875932 84	- 0.3931822717933 65	0.549454040600 751	- 0.5878333809685 3	0.249021298258 314
Fndc5	- 1.28197573 195345	0.009119708 1537811	- 1.22631230 436793	0.034248779 3042432	- 1.34702141 091176	0.021232102 0728175	0.232782092020 383	0.779459765263 883	0.26770814108 9088	0.72239525510 0507	0.13041352056 6495	0.84945608088 8124	NA	NA	NA	NA	NA	NA
Adam23	- 1.17129556 180152	0.015835071 289892	- 1.11394421 853924	0.030083008 6353313	- 1.20126435 693264	0.014478864 6977032	0.129133545888 23	0.886346265624 896	0.16102202633 6989	0.82477637072 7615	0.05424080113 21023	0.93574983485 8659	- 0.20559473731905 1	0.7956873064243 07	- 0.1447911959841 18	0.838887170695 593	- 0.2670804602572 38	0.597392002033 831
Cfap126	- 1.33759736 284591	0.006309530 57339154	- 1.26889111 610365	0.025977608 9370918	- 1.22468847 295776	0.042715341 8239365	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ccr2	- 1.16565533 716043	0.004103333 96394733	- 1.11211402 293802	0.043852130 5881802	- 1.09588875 385254	0.043647748 822754	- 0.162944460671 641	0.825536434448 78	- 0.11764548415 2379	0.88497241935 072	- 0.08252047778 837	0.91617128633 446	- 0.59652506404575 5	0.2608439421635 18	- 0.5365695142053 62	0.405598290264 214	- 0.6912284327269 73	0.217351801500 141
Cttnbp2nl	- 1.39950783 873405	0.004945261 0187276	- 1.34288926 105691	0.036656683 3206568	- 1.40885309 679344	0.044211138 6131611	0.265409636135 612	0.754981161278 191	0.29525605454 1144	0.73142565195 7846	0.10719016638 5681	0.89862655149 1742	0.10722715271372 4	0.9014002025431 81	0.1656882743287 36	0.854663800239 109	- 0.0822602829292 229	0.913217953357 598
Rnd3	- 1.12745253 998684	0.008668538 19359588	- 1.07304966 990282	0.041702467 5745202	- 1.12552111 166851	0.022414451 4485798	- 0.735448581575 377	0.201997792314 098	- 0.68755971838 8301	0.28698430181 1403	- 0.79736580565 7358	0.18463784499 6997	- 0.49756028461833 9	0.3876010453943 07	- 0.4366799807402 92	0.487552479505 663	- 0.5401113609705 31	0.264414062203 894
Zfp748	1.05254921 920617	0.017651894 2603644	1.10872982 47309	0.040025111 0826795	1.08516011 065448	0.011524746 0257577	- 0.612185960259 173	0.326560315643 374	- 0.55390643242 106	0.41133356081 5524	- 0.74200064111 9215	0.30199523535 5384	0.33722602878193 6	0.6008368028784 12	0.4021583473334 68	0.530868298684 158	0.3853681174301 73	0.463330704912 201
Tnfrsf4	- 1.10377535 079817	0.005409452 75697467	- 1.04133337 147626	0.040014891 6828321	- 1.04956640 159554	0.038914660 1861479	0.302352705873 723	0.633960070267 847	0.34795214732 9636	0.59479427836 3936	0.24609024262 8752	0.67577513243 9381	- 0.14818639312862 4	0.8238155642836 19	- 0.0781114921037 464	0.916166889072 253	- 0.3733379113287 79	0.471706293457 559
Lyz2	- 1.27353496 974795	0.009576497 02524855	- 1.22172337 952366	0.033759302 6591819	- 1.05854998 288727	0.026722579 2893725	- 0.842272546967 932	0.204458470362 34	- 0.80303544764 8063	0.24849658495 9181	- 0.65557705383 5755	0.25293025002 4567	- 1.96897097208981 05203	0.0001456929187 05203	- 1.9105996090156 4	0.010167072172 4138	- 1.7817637009433 8	0.005179681186 1878
Camp	- 2.23020185 292124	0.012941135 4941832	- 2.18802390 567279	0.022288220 327762	- 1.94671632 798272	0.035008311 8721452	- 3.406550409283 25	0.000888585241 082444	0.01626543634 71408	0.06122127570 71408	- 3.49966378705 965	0.06122127570 42653	- 3.67595316023568 4	9.4496607605093 5e-05	- 3.6168585193127 4	0.007761355335 48196	- 3.2795308783718 4	0.023152815524 319
Rasal2	- 1.31768554 337654	0.008428148 91881342	- 1.25346052 116353	0.035632798 60833	- 1.34452587 743876	0.033731115 7655516	- 0.041774442534 5219	0.963762738302 943	0.00278568348 817414	0.99770284083 8366	0.01374224061 34929	0.98651484680 0589	NA	NA	NA	NA	NA	NA
Batf3	- 1.07586679 626236	0.011248927 2697328	- 1.01459011 783163	0.040369788 8292702	- 1.16980553 083232	0.022366390 6057767	0.204172728163 941	0.776719315976 751	0.24519820830 9484	0.71413531397 8795	0.10612464345 2643	0.86743424073 4449	- 0.01404978508318 96	0.9878725683443 87	0.0514088708151 854	0.946672901113 133	- 0.1872271457616 96	0.717517615818 998
Gm12253	- 1.99800489 554227	0.007542828 91849581	- 1.94110959 133157	0.030044373 5088275	- 1.91482901 335438	0.048291508 365209	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Adnp	1.30962312 180736	0.010876249 0086321	1.36422532 204676	0.029586163 8899296	1.32494809 467781	0.035063821 8328958	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ccnj	1.14756130 74928	0.013625899 2660562	1.20664697 296879	0.031680967 822264	1.18076839 218248	0.026434459 0373635	NA	NA	NA	NA	NA	NA	0.94880124570629 8	0.0804775370384 958	1.0106755527233 65	0.100837989064 65	0.9924088171841 77	0.083907346492 5427
Zbtb20	- 1.36136557 982012	0.008830120 61282925	- 1.30838851 428063	0.033221837 0247458	- 1.22640961 655701	0.044306546 6359265	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Shb	- 1.32290537 964296	0.010881291 5354986	- 1.27153280 91447	0.033813440 6552121	- 1.35636566 949606	0.036025789 2606259	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Exo5	1.06762099 021734	0.014436679 9313542	1.11823045 129075	0.034273976 3398484	1.14685926 107042	0.028050463 0361148	1.087337005620 42	0.040294450793 1485	1.12851949845 35	0.06139138063 07561	1.18631004297 55861	0.05424877797 55861	NA	NA	NA	NA	NA	NA
Itga5	- 1.08182563 365997	0.012481209 8783924	- 1.02046281 280891	0.045145851 4028226	- 1.07901685 157904	0.025454535 7345188	- 0.359436935030 603	0.588336184493 792	- 0.31379538316 1954	0.63180503055 254	- 0.44749006899 5593	0.41952398508 3866	- 0.72338456140149 8	0.1655547519807 49	- 0.6565947768072 48	0.227669982479 008	- 0.7893685185237 39	0.100214042476 384
Prf1	- 1.42175268	0.015374675 4990301	- 1.36405520	0.032203361 6028379	- 1.36826364	0.029577606 0870866	- 0.460702597488	0.618168353888 822	- 0.40711487013	0.62659432481 1275	- 0.49477812712	0.50228699137 7018	- 0.30169698730798	0.7438246736120 44	- 0.2334664705174	0.780680174164 99	- 0.4764	

	34755		287504		220719		414		8614		3497		5		48		27	
Icos	- 1.68783013 740168	0.013620641 8558666	- 1.61782201 231217	0.031360647 6995839	- 1.59750019 343872	0.036897520 83363	- 0.421255171212 721	0.710130941070 315	- 0.35896619558 1525	0.72239525510 0507	- 0.83194992765 6923	0.32996272725 2541	- 1.17260348966128 1	0.1612807070899 1	- 1.0993202308800 1	0.191847287779 818	- 1.3045849407147 1	0.095343993956 1535
Prr7	- 1.10935894 14118	0.010130143 6765776	- 1.04430895 353731	0.034432773 2043391	- 1.09243723 199201	0.048733557 9574125	- 0.075664361284 5394	0.925564275034 058	- 0.02699471126 2335	0.97536141129 3156	- 0.23491604283 9242	0.72799178286 0839	- 0.09030846979344 26	0.9019200734274 49	- 0.0192693849213 065	0.979234500104 492	- 0.0048299495116 2833	0.993267223565 753
Enpp5	- 1.32742633 307028	0.016321855 0143478	- 1.26295950 58035	0.047934133 7686174	- 1.41559675 908613	0.022496671 8400617	- 0.251147258496 66	0.787850468477 945	- 0.20754288584 2709	0.81142839378 0193	- 0.40528373109 0492	0.54701770770 825	- 1.27771002305125 1	0.0393152631777 537	- 1.2116541738801 1	0.079654640863 2799	- 1.3845174235155 1	0.036671475851 6166
Amer1	1.06151628 993767	0.021274023 3316432	1.11361874 680973	0.045360325 275453	1.16859026 922645	0.018999031 4344763	NA	NA	NA	NA	NA	NA	0.97890133881272 6	0.0617370463995 623	1.0376961806738 428	0.079896780454 2738	1.0779649823156 5	0.043591206317 1557
Ptgs2	- 2.90533885 174013	0.040215410 3068289	- 2.84406133 088126	0.036790674 0787724	- 3.83684485 753259	0.012902606 2518667	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ly6a	- 1.68195444 427542	0.010429166 3266006	- 1.62129816 277912	0.043968481 9121301	- 1.71895950 023764	0.044123703 6003036	- 0.119760098739 453	0.922442601334 878	- 0.08500233904 71951	0.94914259398 4235	- 0.73369613512 0525	0.41327445915 0737	- 0.80970284843921 73	0.3470758444918 73	- 0.7462899733338 48	0.416696305273 428	- 1.2705743717351 7	0.124863896264 888
Sestd1	- 1.15539505 369917	0.014577451 3013914	- 1.09560865 054922	0.047245300 1172216	- 1.20856782 324109	0.029508377 2709541	0.192846169285 828	0.811413252540 274	0.23213283456 9053	0.74963493061 4835	0.10913386464 6304	0.87187416431 5238	NA	NA	NA	NA	NA	NA
Spry1	- 1.29285587 78249	0.017688106 700613	- 1.23268687 479686	0.048777782 4206263	- 1.37672542 514498	0.027024815 6013024	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Art4	1.40769807 04988	0.020163763 760051	1.45364790 872017	0.049177517 2269051	1.86885766 396376	0.024288259 1500052	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Klri1	- 1.08367351 621122	0.012575135 5691723	- 1.02235818 340972	0.045145851 4028226	- 1.12236287 983338	0.045952549 4742945	0.293826998457 864	0.672320253621 593	0.34405535838 493	0.60441037332 4731	0.27635721045 4967	0.65629580061 5398	0.29880613434632 94	0.6401650206961 94	0.3635906362962 1	0.557023304260 903	0.2607834975666 4	0.619561958099 866
Cbarp	- 1.12231906 005071	0.015939412 9308369	- 1.05564545 815893	0.049177517 2269051	- 1.15795104 002035	0.034098976 4296978	- 0.396087141173 603	0.576507541123 194	- 0.35418179409 1808	0.61433701793 1677	- 0.69039501222 2954	0.26285980212 7827	- 0.41900955794442 3	0.5187754338986 33	- 0.3489479332171 24	0.587661888156 135	- 0.4107568031617 51	0.441118020808 732
Hspbap1	1.13105641 155894	0.022729209 8332731	1.18311318 765769	0.049128993 4642974	1.44287644 396119	0.027223719 9468097	1.0406040815340 69	0.014850330838 0268	1.44086012877 977	0.04027078616 33759	1.65200361276 705	0.03062839127 10493	1.14047931734968 554	0.0391337831500 554	1.1988917437034 2	0.066485350281 3999	1.4435183903825 6	0.037247688248 7234
Gzmb	- 1.62299949 783965	0.030417624 3653113	- 1.56637030 360046	0.049850815 1331209	- 1.63226584 368099	0.022907315 7539047	- 0.677475238955 928	0.546661571526 239	- 0.63339048000 8277	0.53990451274 5289	- 0.66057071827 5423	0.39173569217 3278	- 0.58854983818285 1	0.5822678006924 447	- 0.5172697323439 75	0.600564610774 447	- 1.0473564358729 7	0.134352547736 943
Acrbp	1.26450615 383981	0.018232770 7243806	1.326686850 951002	0.041744820 1952228	1.36235879 677942	0.046910672 8192579	NA	NA	NA	NA	NA	NA	1.9610034216933 2	0.0003627591178 75429	2.0244329094796 2	0.009678476432 7275	2.0982363017883 9	0.006248282362 91838
Cmpk2	1.09183947 872777	0.024954649 5021609	1.14806050 18323	0.045712859 4761753	1.12709528 023443	0.040084460 1312282	1.154764224170 6	0.048766331389 9451	1.18436934566 762	0.07627184549 07668	0.85089138863 9925	0.19394096651 4316	0.74024214729929 6	0.2129768804686 31	0.8006222324747 23	0.205569608053 434	0.6771709204841 79	0.270044334729 11
ENSMUSG0 0000106617	1.06218312 802312	0.024997937 7717142	1.11908695 988316	0.047495540 4900317	1.13502932 137008	0.039480007 3740702	NA	NA	NA	NA	NA	NA	1.57312378903559 2115	0.0012355126492 3	1.6347509532465 6258	0.011944128636 7	1.6439985639295 1854	0.007953742875 1854
Adcy6	- 1.25441377 739555	0.028655777 192953	- 1.19533351 177071	0.044101519 8023257	- 1.22072245 991416	0.049163189 4006436	0.525178061857 024	0.540888298604 55	0.55805998814 3192	0.44480146691 0194	0.36543690447 3209	0.58368345647 7362	0.03866296552136 92	0.9724190634083 04	0.0971755652516 252	0.911178041086 946	- 0.1612536609301 26	0.812590385367 088
Crem	- 1.74529753 933259	0.040470947 5942242	- 1.67520978 989959	0.045909372 3497499	- 1.55489341 244967	0.038562173 4130529	- 1.786133067521 83	0.088487313327 5896	- 1.69918154049 607	0.10400685565 3442	- 2.39953723337 691	0.07994601595 76357	- 1.26604341667859 34	0.2223651983553 34	- 1.1917903748473 5	0.207021641793 46	- 1.0870266258721 5	0.166314081544 868
Stk17b	- 0.86987264 8790632	6.151116688 80383e-09	- 0.81197178 9415442	0.000302654 145897327	- 0.87608226 2443167	0.000157588 183718101	- 1.420190557649 1	7.790453680758 97e-17	- 1.37471457922 875	6.27406623717 596e-05	- 1.42652018622 512	3.07470296277 028e-05	- 0.77385484911549 3	- 7.5499047792126 e-06	- 0.7073616213290 95	0.004128488503 60005	- 0.7877705848690 47	0.002307347633 12951
Pde4b	- 0.53264899 9440891	0.001274144 3088203	- 0.47765247 6081334	0.016879183 4926725	- 0.52962264 5560476	0.007859481 18789451	- 1.171270678000 02	3.104316833352 49e-11	- 1.12777547788 342	0.00028600444 8199555	- 1.15943271140 818	0.00025240087 8849504	- 0.44905682839276 5	0.0213174558737 766	- 0.3846416869843 64	0.085061436609 5862	- 0.4608937700092 8	0.034608901800 0659
Mon1b	0.66966534 8060673	2.905847729 70752e-05	0.72862001 1123244	0.001218666 28697694	0.68339729 9114223	0.001886754 18150331	1.079682361160 15	1.285175330062 39e-09	1.12292408668 814	0.00027782103 2242069	1.08477318220 355	0.00029166325 8763326	0.48565731837999 6	0.0117118935261 58	0.5498622130818 63	0.019752405293 6041	0.5097772538883 05	0.027534322999 5296
Atad2	0.60523158 0514788	0.000364239 35159829	0.66087816 3568374	0.002650630 91090716	0.61060508 562985	0.006030805 04907398	1.106289557192 9	1.03082269597 47e-08	1.10994226873 765	0.00028600444 8199555	1.03082269597 459	0.00082501656 7990643	0.52558359662829 1	0.0081633434388 9054	0.5899575343686 39	0.014450335886 0383	0.5309448060080 51	0.030058776712 5882
Ncbp2	0.54322937 878539	0.023979914 1787167	0.60195584 9291955	0.028781698 1477375	0.53535286 8422925	0.056831287 6540574	1.353393433377 21	2.523078021705 32e-08	1.39658997655 137	0.00050827064 7533525	1.32981211945 04	0.00058820668 4426498	0.43578240210586 9	0.1257269636995 74	0.4993314761527 63	0.102875276500 257	0.4463655716605 42	0.147283976007 627
Luc7l3	0.87414371 971399	9.852776602 38554e-06	0.93288445 3206027	0.001689500 86154073	0.86170793 8542958	0.002031086 53263051	1.271751965714 41	1.911385359989 84e-08	1.31392270365 891	0.00076078803 0789109	1.26648067634 805	0.00080129373 156616	0.74583832116142 5	0.0012665631868 6906	0.8083395481518 96	0.011823342370 0172	0.7655565411082 47	0.012596114856 9437
Cirbp	- 0.88647987 2123734	0.000652745 893061344	- 0.82393188 8813414	0.009266880 50480075	- 0.86172390 9927923	0.008203082 02532589	- 1.584365419926 42	2.822307210585 62e-08	- 1.53688175926 502	0.00117238426 905499	- 1.59925046550 572	0.00188400605 432494	- 0.72372291475066 4	0.0173194241482 942	- 0.6518786096949 01	0.064199753863 2149	- 0.6890222762794 16	0.045329385948 0686
Scd1	- 0.06755211 66777352	0.845344372 410808	- 0.00949885 170460931	0.977976156 949205	- 0.04996019 24018965	0.878202472 623	- 1.274346786522 87	1.419682539805 2e-07	- 1.22799290009 515	0.00248559870 310276	- 1.25725507741 042	0.00153755086 762597	- 0.68742569915387 8	0.0062378481308 418	- 0.6222532441971 94	0.050683955762 7486	- 0.7305176197527 36	0.022487266769 8344
Chordc1	0.52188682 6795038	0.098354738 6226131	0.57947613 332266	0.096817563 7598388	0.52402488 2301184	0.154771219 34595	1.505012909544 55	1.238384368491 45e-06	1.54235151361 788	0.00202244079 079011	1.39544387556 162	0.00352732904 278951	0.95585084573442 8	0.0022943974656 5749	1.0206619559622 8	0.014908726449 9678	0.8891695184158 51	0.031514317274 6719
Trim65	0.88212360 9380275	0.000743704 75797819	0.94149572 0449987	0.004763427 16628252	0.89129937 5692998	0.012644946 0745021	1.387659552618 11	1.799190209319 34e-06	1.42945516006 845	0.00130869316 300837	1.23253704141 526	0.00585680190 21961	1.11655941640246 526	8.6879311589982 6e-05	1.1825540809549 7	0.004015761142 85457	1.1255100173352 2	0.007006580756 77624
Trmt1l	0.82097668 908591	6.232316927 1621e-05	0.87834222 0471976	0.001676415 85670076	0.82247233 1492507	0.002866349 24444731	1.072046830646 39	6.869735999898 85e-06	1.11317193120 91	0.00179843306 965406	1.04368255738 427	0.00274888839 778775	0.83350980789468 4	0.0003126521180 63915	0.8958761051044 09	0.005431406224 0811		

Hsp90aa1	- 0.02273461 87225326	0.970465920 787521	0.03659295 8064703	0.935215191 867631	- 0.01983376 45357844	0.964230106 473556	1.471271554693 68	0.000200381847 747944	1.51482534479 722	0.00292728930 850382	1.39236662678 011	0.00289476305 165842	0.44861514888913	0.3430761424683	0.5151838914885 94	0.204691549299 85	0.3584940008771 36	0.347506319281 56
Dnaja1	0.57640094 9760449	0.219140858 867611	0.63996038 7668791	0.126468772 809885	0.57117037 2018686	0.153013390 50479	1.699508849082 58	0.000216249463 775292	1.74514499793 044	0.00335723332 659133	1.64483907850 008	0.00275639919 608607	1.1287282665896 156	0.0137594730605 156	1.1957915692758 4	0.018938333327 7912	1.0086515672647 8	0.028423253284 4265
Ahsa2	0.484000554 4457741	0.300556023 574779	0.54567246 7271796	0.257772300 032097	0.46171246 2738459	0.428475742 840813	1.795001558019 85	2.891396517678 02e-05	1.83056446108 486	0.00515754769 079651	1.54310581717 164	0.01642786041 01439	1.30561316388342 3858	0.0019444493690 1123	1.3710649929445 8	0.016679114832 2282	1.2182308647409 9	0.038767300305 7251
Hsph1	0.29983954 6182961	0.658985680 684644	0.36032490 569698	0.540453883 023755	0.33141068 3538136	0.531922606 282107	2.100037172563 82	0.000167162712 02077	2.14191312962 813	0.00717976638 997489	2.03617490036 294	0.00274753073 103107	1.22991939011122 712	0.0310941722737 712	1.2979937199273 7	0.050683955762 7486	1.0395200615298 6	0.060796577270 7054
Ndufab1	- 0.25436389 176578	0.561692507 283037	0.19648261 4158644	0.655074091 671886	- 0.26987697 391006	0.399008239 526939	- 1.532097863434 55	6.888378714218 97e-05	- 1.48739221719 659	0.00855251471 412606	- 1.59287159779 964	0.00819541138 826455	- 0.16713295603374 7	0.7552791810737 82	- 0.1022590980276 12	- 0.862639261595 654	- 0.2052197307331 12	- 0.584762524200 188
Cacybp	0.19515013 646758	0.554362425 264127	0.25531083 9504205	0.417516190 652517	0.21225245 3114686	0.506658857 660674	1.088221788159 42	0.000127658374 155549	1.13371242893 138	0.00635633829 528364	1.07950592156 962	0.007362224063 7	0.44100023698428 15	0.1614532810629 93	0.5084532742766 93	0.140242405970 852	0.3898299172502 89	0.241022433676 662
Slc35c1	0.79149433 1166843	0.004807582 05208196	0.85438667 8401476	0.013180356 8799367	0.81191483 7078535	0.018800823 8307408	1.202913532694 72	0.000143162394 201969	1.24470271812 736	0.00549333371 889183	1.13435207801 371	0.00954164352 112136	0.52920277468042 9	0.1257707294636 71	0.5953830364910 48	0.108540292098 998	0.5637222481762 69	0.131573582622 053
Mat2a	0.88110476 0950295	0.000143376 809307855	0.94449239 6826044	0.002390240 67965189	0.95608901 7833802	0.002697010 20682828	1.016347726105 99	0.000237189558 781814	1.06589354139 471	0.00558627618 344427	1.08487023491 069	0.00586600070 59689	0.95168750499757 6	0.0002539472467 19706	1.0211193550223 4	0.005196876215 06871	1.0352126653058 7	0.005516192536 60457
Mideas	- 0.45358613 3502463	0.093118084 2538805	- 0.39368983 6777589	0.193267086 398653	- 0.40342630 3397139	0.169829759 120529	- 1.110016228038 57	7.257084803629 14e-05	- 1.05984405403 913	0.01083813584 58504	- 1.06653951610 31	0.01037790679 01569	- 0.70127012477953 5	0.0121321864516 944	- 0.6351683845478 32	0.070691599204 8993	- 0.6848173006449 68	0.045985350321 2013
Manea	- 0.57288502 8870572	0.045993719 2639399	- 0.51239341 7034198	0.095817270 7584294	- 0.56577407 943287	0.029043783 3009546	- 1.115275407300 75	0.000323417017 313881	- 1.07165125519 27	0.01132119068 17053	- 1.30477732542 045	0.00245753982 576456	- 0.49417824227509 8	0.1374959492539 23	- 0.4285058341368 23	0.224777992273 303	- 0.4787975431125 5	0.088035964915 9379
Zfp873	0.74832688 2555261	0.060825246 1850914	0.80525407 3886657	0.069942857 4159422	0.81877357 275456	0.078671566 1842164	1.530926852116 51	0.000220812127 960876	1.57256103931 835	0.00690230065 309973	1.51446316922 87	0.00662577343 258658	NA	NA	NA	NA	NA	NA
Gm8369	- 0.14786134 6356307	0.738531035 051645	- 0.09312701 03621738	0.834131867 389798	- 0.16711397 8070841	0.588763884 474378	- 1.354469721293 15	0.000128632788 589147	- 1.30433325201 774	0.00989848894 610223	- 1.37466620035 866	0.00880787020 273633	- 0.44727623152131 2	0.2657335440046 31	- 0.3824603896741 96	0.371348627659 849	- 0.4518546770109 28	0.172251408005 514
Gm6377	- 1.04800833 381916	0.000574724 946596847	- 0.98384038 2931851	0.011480339 8743958	- 1.04821200 625263	0.015845269 4501517	- 1.422416466180 34	6.531346355728 78e-05	- 1.37626085253 931	0.00860887550 536039	- 1.41545795977 842	0.02214765245 0418	0.45865702126581 9	0.2579524330032 11	0.5246444786181 59	0.213877398523 302	0.4079528577771 92	0.281082980317 165
Zfp3612	- 1.16186764 132881	0.030101970 5006016	- 1.10303594 762903	0.071739455 0842909	- 1.44996250 122352	0.008722447 95051443	- 2.143715021005 89	0.000237189558 781814	- 2.09717720574 8	0.01787134935 72142	- 2.16118672014 549	0.00369015503 765397	- 1.65535930902015 0712	0.0033476075143 0712	- 1.5878815314072 7	0.034753975658 4768	- 1.6541454218494 1	0.010936546633 0463
Gpcpd1	- 0.66776111 1710725	0.013968672 2048213	- 0.60795700 0838072	0.060924153 9332438	- 0.60769632 4920402	0.059385228 77683	- 1.160260066562 97	0.000113584542 580438	- 1.11646130253 209	0.01213600544 97932	0.01263709235 1.13460657502 751	- 64494	0.01263709235 0.46524616974207 7	0.1612873053020 14	- 0.3976001509854 43	0.285349489195 283	- 0.4250534684959 76	0.231899821256 256
Gpr68	- 0.23276407 2731332	0.674144775 996086	- 0.17168850 6819957	0.750790768 963639	- 0.20980688 9126248	0.729504737 794014	1.627891273779 25	0.000237189558 781814	1.66558587639 612	0.00717976638 997489	1.45510939557 917	0.01031336599 07063	0.19026993394830 6	0.7703310357262 29	0.2552920240672 88	0.671886717570 836	0.1258558404167 67	0.846869314508 219
Gypc	- 0.75804497 8180076	0.013527116 4811334	- 0.69740302 4681646	0.049599163 5218992	- 0.74067723 7433705	0.014749293 223348	- 1.275763536387 53	0.000197002739 898611	- 1.22504939970 728	0.01139343069 40083	- 1.27908176486 307	0.00823136455 23111	- 0.86023687386558 4	0.0104207063225 97	- 0.7929341361256 27	0.054381868249 5159	- 0.8854435990559 89	0.014957298615 1689
Zyg11b	- 0.25535275 026988	0.430257566 937525	- 0.19660708 0209095	0.541930665 163805	- 0.21949397 4678705	0.453530468 768648	- 1.123968290837 28	0.000140969757 723496	- 1.07520510302 561	0.00962647731 921708	- 1.07907323665 985	0.01432881642 28532	- 0.58822442338725 2	0.0548799036877 243	- 0.5227807804081 6	0.129430076662 525	- 0.5518909342762 35	0.092162478322 3366
ENSMUSG0 0000104291	NA	NA	NA	NA	NA	NA	2.083100421250 19	0.000201582729 872137	2.11510561560 331	0.00767764780 306778	1.73754016700 338	0.01963605088 81233	2.45881687779177 8e-06	1.1948487853441 9	2.5235095759946 9	0.002628162102 12776	2.5224570415376 2	0.001593386390 86515
Pfkm	NA	NA	NA	NA	NA	NA	2.072230901018 27	0.000382499569 351684	2.09993787295 257	0.00765555221 82854	1.74930209092 302	0.01578566212 01605	NA	NA	NA	NA	NA	NA
Cebpg	0.89012319 6232135	0.002221422 99180099	0.94986972 1537951	0.009632666 38316584	0.89879012 3840194	0.015246775 9498978	1.155109238423 52	0.000621710566 109268	1.19925528932 97	0.00871010947 035655	1.21172132929 753717	0.00864498434 753717	0.80607065461374 1	0.0156679331942 956	0.8702031308778 52	0.032932461193 4557	0.8727532953417 5	0.031516344666 5958
Pigh	1.03694608 933561	0.035079031 3360388	1.09555893 512248	0.053096797 5564442	1.06311910 594949	0.091337700 6310028	1.887614908287 91	0.000316391970 75557	1.92231473792 574	0.00747961087 325573	1.64127260356 299	0.02113846591 35404	NA	NA	NA	NA	NA	NA
Dcun1d2	0.41920026 2870828	0.219839311 439881	0.47697443 9701262	0.155892544 040823	0.44914060 0024957	0.195041085 42676	1.160617407591 68	0.000458567207 695343	1.20139639729 433	0.00727476289 902964	1.01167032739 636	0.01524009229 29212	0.38935920435901 5	0.3184093920269 39	0.4534784531658 58	0.237312307191 166	0.4182123458602 48	0.264559389489 911
Rnf138	- 0.70168314 9933751	0.033489597 2427898	- 0.64094334 6149469	0.081851900 7475981	- 0.70301594 8769661	0.027066165 1128556	- 1.272673502208 28	0.000428953600 064667	- 1.21655740148 215	0.01510689199 02517	- 1.29973491272 579	0.01035983100 4158	- 0.72778840337401 7	0.0486272809039 517	- 0.6577885736020 49	0.117926825953 696	- 0.7062038270516 67	0.046315976702 677
Abhd4	- 0.74897019 4251907	0.004659302 31148728	- 0.68964588 2493694	0.030905208 7015357	- 0.74942266 8481052	0.010479189 3230011	- 1.084068834350 19	0.000399341607 011865	- 1.04130588395 32	0.01471255464 11502	- 1.06269372837 037	0.01281687350 72873	- 0.32459386026788 7	0.3618397539160 81	- 0.2582575413484 95	0.501830891714 966	- 0.3176335881546 89	0.277876190394 97
Sesn1	- 0.53130865 8322481	0.356697673 065113	- 0.47730182 9631215	0.375293496 480221	- 0.61099045 5800881	0.210003957 760036	- 1.927128296116 03	0.000390856909 172313	- 1.88404068830 444	0.01341223671 74272	- 1.86374435114 691	0.01786050336 16744	- 0.94786011344533 2	0.1028317102904 02	- 0.8826375434333 78	0.147711045986 719	- 1.0074225786432 3	0.074336738054 8611
Ai504432	0.39207415 2262385	0.249833094 899683	0.44867874 2625062	0.191319095 156235	0.42412950 6916758	0.246520140 469436	1.119701099178 31	0.000694377241 903065	1.15829485322 985	0.00953900400 22465	1.06310952662 5	0.01524009229 29212	1.03501675345312 6	0.0008392602563 81443	1.0973638786511 6	0.009500503903 27811	1.0509167624461 9	0.009531955795 50411
Tipin	- 0.53292768 1062273	0.087886990 624278	- 0.47578415 6221551	0.157501457 403436	- 0.53801007 0115175	0.040875657 9119045	- 1.115107213411 75	0.000809191424 353343	- 1.06646736567 394	0.01862910337 68396	- 1.15137518762 045	0.00823136455 23111	- 1.08329108210838 10562	0.0004091894789 10562	- 1.0167154818852 9	0.0139422		

	0.849610329963943	88030093	0.792257597316536	6918693	0.801315154902265	5334945	1.08641844987682	477825	1.03934846628926	31373	1.00854735371532	69317	0.528980572618951	14	0.463931128573029	814	0.548063971481243	48
Mns1	0.2937500068157	0.570553141052453	0.344351278511308	0.470575604051835	0.308270060014889	0.585197813832455	1.41679026788519	0.00166622640891895	1.45454408864327	0.0130323505756666	1.32169021486901	0.0256727317391519	0.222235812483308	0.719721585537913	0.285481895368906	0.617140512128821	0.261552988303262	0.682559756286907
Dgke	-	0.173194010472799	-	0.232142074400673	-	0.182499817384117	-	0.001266006039-	-	0.02093749737-	-	0.02645088982-	-	0.0519127695507-	-	0.114045062936-	-	0.069332973354-
	0.629865799283311			0.569702525193829	0.565611170788219	384117	1.54052006720474	41506	1.48715205746565	54576	1.60803282827318	07444	0.926037465690273	452	0.858138488334558	036	0.925509848483332	4506
Nanos1	NA	NA	NA	NA	NA	NA	1.33163208597732	0.00378509164798807	1.38042273786364	0.0151035822942411	1.31071061849459	0.0134020732110321	NA	NA	NA	NA	NA	NA
Fam219a	-	0.0769172173149395	-	0.159164052574128	-	0.0938788729019053	-	0.00155862419871757	-	0.0194273858772079	-	0.0254310766249173	-	0.705437052886954	-	0.804654431349027	-	0.676028473160385
Ftsj1	0.587334063134923	0.0632344041374935	0.648435542233547	0.0767519843093897	0.605233406482722	0.0960306716447006	1.02612778904924	0.00276807271396726	1.07096597815218	0.0186291033768396	1.05532645097616	0.0160023803304602	0.65503576060544968	0.0564330258578968	0.721962193656508	0.0709883238946723	0.681791048198435	0.0756565808836603
Mpc2	-	0.282844225649986	-	0.372127359028347	-	0.188605272808849	-	0.00162869621263215	-	0.0252520301853721	-	0.0211384659135404	-	0.475787809261908	-	0.587661888156135	-	0.28156807556996
Uhrf1	-	0.782323448083234	-	0.867677309129988	-	0.869333034937426	-	0.00339811935176515	-	0.0184231577840521	-	0.0179113122298576	-	0.214560952327402	-	0.311143474865581	-	0.316833654573436
Gch1	-	0.0228283229751969	-	0.0556841606752821	-	0.0408968823394532	-	0.00206860108700169	-	0.0215659313904703	-	0.0280994642513428	-	0.00841809023430484	-	0.0403957798280408	-	0.0274838753680132
Fam167a	-	0.366520466807726	-	0.453837713246414	-	0.309280891736983	-	0.00167316483317468	-	0.0248555678832892	-	0.0303189469315461	-	0.0520854216970165	-	0.122107657539683	-	0.0451835564518103
ENSMUSG0000098715	0.138846455970085	0.822718902534627	0.201585128608862	0.707220991336862	0.196592616886188	0.665902219656975	-	0.00188978315885347	-	0.0195272520831373	-	0.0371511373082462	NA	NA	NA	NA	NA	NA
Shmt1	0.0779446266996292	0.881936831685641	0.132393112512562	0.771850091737061	0.15745671121129	0.724057681771261	1.07220432914656	0.006422611888768	1.11517964085944	0.0221838095581644	1.17567542628515	0.0109909137046451	0.102279216615334	0.857511781438698	0.167178256388445	0.745910554197763	0.177120906624857	0.714035340008104
Slc38a7	0.0630635742995889	0.885897089074691	0.124208976227327	0.753523793157999	0.0802535639763205	0.816885442686626	-	0.00191291348077731	-	0.0252520301853721	-	0.0348666327416725	0.250609482663032	0.529272864100179	0.318852735349557	0.423569240028153	0.268971629172829	0.407310216582687
ENSMUSG0000070667	-	0.496950436254187	-	0.598674752396322	-	0.387334614613009	-	0.00276807271396726	-	0.029428355825665	-	0.0210397086487602	-	0.225320556767139	-	0.339638102716568	-	0.189879112327768
Ska2	0.706054372658908	0.149410893097429	0.763379315440071	0.139559083866949	0.62248554183981	0.2429388443712	1.44790672033064	0.00417868921426244	1.48775584799298	0.0163399127586467	1.32071713934322	0.0258148929108197	NA	NA	NA	NA	NA	NA
Zfp658	0.15318341824007	0.822718902534627	0.208979452898384	0.735370313817605	0.291163390721636	0.648225000535218	1.45883613723885	0.00559823886892979	1.49285326977352	0.0247574068985899	1.53650460649163	0.0152799538030447	0.684476563298502	0.226635725510249	0.744010565220239	0.212138902223272	0.818419569903387	0.152692444642682
Ift27	-	0.970465920787521	0.037833654724384	0.941403952625152	0.0101012714505415	0.98364397366481	-	0.0027380390469013	-	0.0237682650709855	-	0.0383991418500548	-	0.800701609930576	-	0.895634658376577	-	0.768612299636788
Gm15326	-	0.439293423017252	-	0.515727516436719	-	0.330725060586771	-	0.0037075595831773	-	0.026299809661773	-	0.0256727317391519	-	0.358494712729983	-	0.418817792208063	-	0.220317490870698
Adam15	-	0.0234033343385406	-	0.068692684767738	-	0.0279996748341016	-	0.0032257295412921	-	0.0277481345979805	-	0.0280709904169317	-	0.104867837240755	-	0.174520722810797	-	0.0711818169624133
P2ry10b	0.112154499429104	0.90046938946849	0.172798285325322	0.851561837287676	0.119095000434732	0.86955963349706	-	0.00286772992853434	-	0.0450789341974821	-	0.0200320801214772	NA	NA	NA	NA	NA	NA
Ehbp1	-	0.839051709753973	-	0.933101023423558	-	0.855147336951819	-	0.0027380390469013	-	0.0252520301853721	-	0.0393667372160238	-	0.793856609312339	-	0.900946769852686	-	0.648314924001158
Osm	-	0.104105786001593	-	0.175240558071241	-	0.102524555826949	-	0.00311582646369327	-	0.0248308771913783	-	0.0357307046082928	-	0.1425160980605689	-	0.1699297846656692	-	0.703028015571146
Il18r1	0.0772682176311097	0.881936831685641	0.137210930563093	0.788047158378341	0.148576136392445	0.759249901306816	1.11056844317846	0.00464579462628729	1.16092138619618	0.0332436280638742	1.20216349024717	0.0196208295134203	0.417067525644631	0.352137086396882	0.483487710216732	0.336280921021979	0.504091643872638	0.267240758376388
Ifih1	0.0358633978034681	0.951826501627514	0.0869729884089295	0.86639871324135	0.077078717597953	0.878202472623	1.11926182412364	0.00695113517098024	1.15555839449887	0.0250654623029296	1.13360654748237	0.0175125791960032	0.3682449676672523	0.450003732143723	0.428668435337947	0.372111007109131	0.289694855200396	0.539380366362146
Ilzf2	NA	NA	NA	NA	NA	NA	1.92447444573402	0.00561290794151222	1.96491691206123	0.0247574068985899	1.83912922289997	0.0227438363476107	NA	NA	NA	NA	NA	NA
Gbp7	0.692119675880979	0.0451437092579062	0.749185908900599	0.0585522505787118	0.690659401489165	0.10643603169169	1.11531418573782	0.00377460684249604	1.1596089321971	0.0195272520831373	1.0473925163047	0.0448373578541601	0.949858405890778	0.00897935176083796	1.01427349898215	0.0277739395691325	0.889941715360659	0.0571723747929817
Zcchc18	-	0.256442907136363	-	0.32829169594951	-	0.147269505420595	-	0.00352041341078444	-	0.0275338466099966	-	0.0365605512048669	-	0.00674947128824237	-	0.0395083789807301	-	0.025930666010788
Decr2	-	0.383312970717016	-	0.45151128413957	-	0.42986860306172	-	0.00316628092408549	-	0.0259454425404164	-	0.0432288927246901	NA	NA	NA	NA	NA	NA
Ighv14-4	-	0.0610824438187232	-	0.117518669092811	-	0.212288678174549	-	0.00256235700408724	-	0.0394021556698672	-	0.0368578718169805	NA	NA	NA	NA	NA	NA
Cmc1	-	0.0488682510442021	-	0.116328057473149	-	0.0344816505370019	-	0.00601049208266529	-	0.0392435857032424	-	0.0172519986740459	-	0.701546793433826	-	0.789292313575664	-	0.569405823419817
Epb4114aos	-	0.265280213579771	-	0.320347392613766	-	0.238764951375555	-	0.00392865602288945	-	0.0252520301853721	-	0.0427503630324673	-	0.634242726692554	-	0.702250807561804	-	0.561839514020647
Stk38l	-	0.449989001156199	-	0.524342056922494	-	0.319847741302288	-	0.00493733934238073	-	0.0392827034782329	-	0.0234760364074715	-	0.498865620264949	-	0.596887681314119	-	0.366244359851648
Jkamp	NA	NA	NA	NA	NA	NA	1.5485355014622	0.00576753519278455	1.57967896976501	0.0225576325387899	1.31146520126512	0.0455459133197927	NA	NA	NA	NA	NA	NA
Arl4d	-	0.893002309	-	0.944936200	-	0.14660109	-	0.009880829220	-	1.65232205084	-	0.01946307274	NA	NA	NA	NA	NA	NA

	0.113456018820175	851462	0.055158696902176	526002	9794488	326116	43	45156	435	63066	066	78607						
Dst	0.809152547864283	0.0725049704319367	0.861434372792448	0.095906471070483	0.854976836165894	0.115541364259452	1.3353195256655	0.00733017427207809	1.3734135423531	0.0317350109293401	1.41443266488615	0.0287084770759859	1.08870135579647366	0.02181224003517	1.14614709358107	0.0544731277564185	1.10045936409443	0.0582044941116967
Maf	0.125675120138836	0.800133724655499	0.188547251241461	0.665414994111285	0.134173798278336	0.788023502290588	1.05024415540376	0.00771799054379177	1.09825748079986	0.0256033060375861	1.02323802189045	0.0373943837840022	0.439500677369356	0.318379955736014	0.507897404217772	0.2579957024068	0.38121785062178	0.414648326399962
Igkv14-100	-	0.367829552240729	-	0.45109638889519966	-	0.747377223784191	1.55911100123413	0.0117644523916641	1.59932830089841	0.0486426551176381	1.84711798097243	0.0135253051969111	NA	NA	NA	NA	NA	NA
Mgat4a	-	0.302542232649213	-	0.374441787707836	-	0.247169143455934	-	0.00615303617061255	-	0.0354903135068567	-	0.0401753652368965	-	0.517159423305151	-	0.616339244816556	-	0.312584340853193
Tmem29	-	0.3443352922419	-	0.467786687310373	-	0.318702342811894	-	0.00600513303329133	-	0.0360837806564407	-	0.0408945447887409	-	0.978514936377786	-	0.932566752543388	-	0.985236586878926
Ndufc1	-	0.754501354972561	-	0.866400160596005	-	0.679432974960101	-	0.00619062441688026	-	0.0398912419196628	-	0.0366722722676089	-	0.535671355082647	-	0.661301572477372	-	0.430300684035691
Zfp933	0.53505563151987	0.253392011042603	0.591992831179207	0.211519220452537	0.549957799436587	0.280860157959904	1.23981767561846	0.00872352367602304	1.27772071839396	0.0277694249269893	1.15557795051827	0.0448560231037199	NA	NA	NA	NA	NA	NA
Arc	-	0.0350679245038609	-	0.0898476881382081	-	0.100341223892686	1.16957022523125	0.00845998555260691	1.20967071460011	0.0303347571762221	1.01814887773608	0.0430737562044397	0.451578095131682	0.370410516961299	0.519079467282372	0.313760774098552	0.395589806920312	0.413012021549748
Tmem33	0.184813304361807	0.715781747235449	0.250059141734047	0.579563275174579	0.216633085877333	0.658429109473387	1.08308637971883	0.0117262661122804	1.12807362477999	0.0301288210893993	1.03844675300024	0.0406146936680316	0.565640826529741	0.211702401548717	0.63384376543225	0.180419561974061	0.588447411564587	0.206394383865439
Mrps6	-	0.970465920787521	0.03399005104620112	0.950352949295629	-	0.979127982116882	1.10673093622062	0.0133405711202156	1.15550391220418	0.0301288210893993	1.09480432718928	0.0366722722676089	0.344293890229214	0.524051866419145	0.413143687407274	0.41187811338948	0.297830959423216	0.576525317412301
Il2ra	0.234039925058261	0.665828897177507	0.28957967573324	0.586755193991263	0.260429980595734	0.636922747417626	1.23578115963476	0.00818805872942577	1.27467704293662	0.0377832211942704	1.12858158169545	0.0490073405319887	0.229405626233503	0.710871602909537	0.292166646051992	0.642249595570079	0.0262959117104656	0.96872372713865
Pik3ip1	-	0.101851402016878	-	0.181617680252631	-	0.0771040836753913	-	0.00731452277853452	-	0.0479495424858402	-	0.0432522828301804	-	0.0560746838621437	-	0.140234490237987	-	0.0547718221144886
Ddit4	-	0.786837930489359	-	0.812529396091605	-	0.33583423570163	-	0.0122567740431554	-	0.0409312034393995	-	0.0317624581223904	-	0.0274801539598385	-	0.059592842306098	-	0.0124366016985227
ENSMUSG0000103290	NA	NA	NA	NA	NA	NA	1.64625486020841	0.0127860662374225	1.68719279243476	0.0301288210893993	1.51974934655058	0.0436696374757208	NA	NA	NA	NA	NA	NA
Mrps16	-	0.856547398666563	-	0.944023476819596	-	0.864663698134799	-	0.010338745886897	-	0.041576030809157	-	0.039579210998714	-	0.772692460052522	-	0.869307801619787	-	0.644473339618221
ENSMUSG0000099681	-	0.381727807817971	-	0.459164377782337	-	0.405456931520362	-	0.0115494030253763	-	0.0428924017549992	-	0.0366722722676089	NA	NA	NA	NA	NA	NA
Ptov1	-	0.442239220680783	-	0.510650470697834	-	0.511180790491141	1.02042340366658	0.0149272138786616	1.05774441400837	0.0359853687298146	1.00520273590689	0.0353828500220038	0.474002924992238	0.301480588396841	0.533329835139666	0.250346299395606	0.511940839967008	0.238158743213073
Arrdc3	-	0.686008491643441	-	0.69019977347422	-	0.436047416110573	-	0.0121433213331377	-	0.0357104500411651	-	0.0462926701259006	-	0.599853455408498	-	0.617140512128821	-	0.45824301877039
Nefh	0.0584659332397557	0.935817204317127	0.115933702849721	0.857465866293446	0.160210074315797	0.806169421153671	1.27024568987588	0.0149272138786616	1.31143933316826	0.039014260345439	1.27413119602891	0.0368578718169805	NA	NA	NA	NA	NA	NA
Neil3	NA	NA	NA	NA	NA	NA	1.40704092769691	0.0231957116935739	1.43732816014175	0.0406847488467685	1.50539852937036	0.03850191822023	NA	NA	NA	NA	NA	NA
Hk2	-	0.0406752625265617	-	0.0958810770880867	-	0.0448358987892124	-	0.0130920378105147	-	0.049541846105827	-	0.0430737562044397	-	0.0839618165818453	-	0.149093683857237	-	0.0733290090649336
Nuak1	NA	NA	NA	NA	NA	NA	1.3663337578631	0.0200880944575261	1.3999357946637	0.0455992394064165	1.48043102924273	0.0353828500220038	0.782365862212723	0.199642023375884	0.838964826664804	0.193596674729876	0.875239075320066	0.171376235637882
G2e3	1.02932554375755	0.048209606070145	1.07853556797946	0.0714874168301967	1.11739228140395	0.0623469572349746	1.32691433790782	0.0278814317010594	1.36484544297532	0.049541846105827	1.45796984786889	0.0382360785218511	NA	NA	NA	NA	NA	NA
Alg3	NA	NA	NA	NA	NA	NA	1.44198487483681	0.0307496206872024	1.47801454287158	0.0496525493257198	1.54291075629161	0.0456591647811323	NA	NA	NA	NA	NA	NA
Mboat1	NA	NA	NA	NA	NA	NA	1.38579625261395	0.0345775281503496	1.43404699137797	0.0473539259910935	1.41092563156959	0.0443960614659237	NA	NA	NA	NA	NA	NA
Nfkbid	-	0.363889701652917	-	0.494642599731458	-	0.429983041910891	0.240751710560037	0.596816606150471	0.279722181176506	0.547890648013765	0.197581426826594	0.702300026833413	1.700244678477015e-09	2.42611643647517	1.76231395990927	0.00198453718894313	1.64518030690441	0.00119575545770063
Mettl17	0.74593941880214	0.00029945538725386	0.803960546908804	0.00337447105612909	0.756116777454041	0.00642256641743711	0.576234981566082	0.032645533076402	0.618985479842806	0.0465694050931804	0.583794899242787	0.0770542194542083	1.15649873074049	9.7590494081326e-08	1.21848013041209	0.00198453718894313	1.18891962766568	0.00119575545770063
Fhod1	0.762904010066788	6.52049207221243e-05	0.817905043704107	0.00189709736172447	0.781529383820345	0.00286634924444731	0.641263069682303	0.00875052715924407	0.681912447009121	0.0230242855139389	0.648362103274454	0.0401753652368965	1.02807081485313	6.83549331055715e-07	1.09034164372565e-07	0.00198453718894313	1.049574261240181712	0.00163955316281712
Fam193b	0.499329130975086	0.0753846609004681	0.555816804442689	0.08765643235679	0.536606259626971	0.0827310537365758	0.515400247546155	0.131429815547822	0.553336052296459	0.152124152164677	0.553819827615117	0.143831147845117	1.3151350627362	7.83196890822637e-07	1.37591453763388	0.00258396353296751	1.37260073369786	0.00159338639086515
Slc38a2	0.208703019143072	0.440894702384948	0.267722227717431	0.297506104671146	0.211553250297506104	0.40931385202773	0.421150157802712	0.137858560452183	0.460999484850886	0.128264796734063	0.38801864986767	0.196827560446388	1.061020283601017	1.12429025358937	1.06350055915591	0.00198453718894313	1.06350055915591	0.00163955316281712
Spns1	0.534115687252233	0.0247620523967987	0.593223210649395	0.0322962499390788	0.537200175017372	0.0644870985123671	0.697205995793885	0.0116370967172272	0.74401484967592	0.0299729734355016	0.667678924343182	0.0602444979369605	1.09400973061703	1.94909563698493e-06	1.16039896960508	0.00250337348097098	1.08244399870433	0.0028869794282333
Malat1	0.642106319342744	0.381374082321961	0.695340870596801	0.356028658043133	0.849274950800005	0.221553667210378	1.4079144869832	0.0656238886272543	1.44086762528727	0.111142614310651	1.61783845784906	0.0537090520338129	2.86734963056057	3.22008256335508e-06	2.92752950058492	0.00778494899030259	2.82766660279602	0.00211800845496579
Clcf1	0.718856979090521	0.019464511510356	0.779714206727252	0.032747147983711	0.725739929132999	0.0496494932556648	0.291580078130428	0.530850553063401	0.336438681770084	0.45911126243569	0.311003138962103	0.541700598566407	1.36577482392073	8.52503762546451e-06	1.42927926151982	0.00324340696680267	1.37433171256764	0.00296411756678496
Aldh1b1	-	0.00704051326579639	-	0.032955331833043	-	0.0131765867835818	-	0.693429823489684	-	0.749634930614835	-	0.421579712518614	-	1.04709622195678e-05	-	0.00401576114285457	-	0.00322858031623783
Egr2	-	0.0469302428241345	-	0.100728970877856	-	0.105556286964934	-	0.938027004776248	0.00101879092659958	0.998432214745866	-	0.923655475851989	1.27143828088363	2.97406601415563e-05	1.33558174226288	0.00364018834343927	1.27396783184678	0.00230734763312951

Hes1	- 0.19172916 6261672	0.692676258 246483	- 0.12999309 4372826	0.785280778 565534	- 0.17989106 6972382	0.748215156 448011	0.115937195532 417	0.856201380941 068	0.16131828526 6793	0.77612774787 656	0.15107449654 3349	0.83646408685 9177	1.42997702270948	7.2904060025014 6e-05	1.4939069145638 1	0.004834927418 92895	1.4169583810991 2	0.005516192536 60457
Cdca3	- 0.60847712 0702893	0.123846095 898074	- 0.55426448 1344598	0.187075227 710474	- 0.60474789 0632216	0.106762137 642868	- 0.076397694644 364	0.912318686961 015	- 0.03337036820 95924	0.96286696027 0064	- 0.02935329308 88008	0.95919984560 7871	- 1.47533045230068	0.0001152028430 77483	- 1.4084735371574 6	0.008365519050 62161	- 1.5066150110496 5	0.006261982633 05467
ENSMUSG0 0000097347	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.53971712505452	0.0001183776059 43353	2.5895952095598 7	0.010537268705 0837	2.7716931215507 7	0.005034184303 44143
Lgals4	0.16579782 9748914	0.774196317 454819	0.22631409 0128602	0.664305922 754991	0.20984291 9646457	0.694059756 121017	NA	NA	NA	NA	NA	NA	1.46797878018047	0.0003170894466 31751	1.5315293550159 4	0.007865679426 76087	1.5425913263730 5	0.003150102588 88397
Clspn	- 0.84698466 2833181	0.035067924 5038609	- 0.79430589 0279943	0.077050343 6848617	- 0.85648120 6346573	0.050036962 3731073	0.397657273979 49	0.493150185517 321	0.43665608494 5351	0.44066352248 4948	0.25872341171 8897	0.60832747655 1678	- 1.52429843008836	0.0001955974056 02391	- 1.4592987689354 8	0.010134129840 8906	- 1.6804977116405 8	0.007806403029 34154
Gbp9	0.47653071 6543285	0.098103215 8093056	0.53304017 3321007	0.098895379 8791169	0.50716496 8512126	0.101732162 170019	0.604387701320 927	0.071840425263 3266	0.64116358282 764	0.09669008036 7187	0.61648196340 113	0.10502566006 2379	1.01265081700103	0.0003008400457 74651	1.0729593677371 5	0.008469732457 1238	1.0346294568942 4	0.006248282362 91838
Chkb	0.16436625 2543495	0.687597624 47758	0.22060170 3736295	0.561674757 873287	0.18377388 3370353	0.631507951 348805	0.131994432075 15	0.800180376259 569	0.17279849325 4285	0.72421545485 8148	0.18356064684 8821	0.71422246543 4382	1.11170467399696	0.0003627591178 75429	1.1730472519473 4	0.008622724010 59574	1.1595561381275 4	0.005179681186 1878
Siglecg	0.69327268 8189605	0.016487965 5289721	0.75329732 9917343	0.045842195 8296486	0.68479861 9817034	0.061094927 1251872	0.401274204556 291	0.317708924987 297	0.44423529393 5004	0.32480362262 954	0.39306785175 4323	0.39476192822 8528	1.14234221506131	0.0001456929187 05203	1.2062951681931 2	0.009710241068 81258	1.0072576502177 0171	0.017625524915 0171
Tmem81	0.74243416 9448179	0.012503502 1696867	0.80142771 6144783	0.034220915 1606546	0.74155213 9046797	0.048471333 4070701	NA	NA	NA	NA	NA	NA	1.08575530994128	0.0003627591178 75429	1.1519455094112 4	0.008157777628 38474	1.0699316443250 7	0.009051066207 42008
Gabbr1	0.19482136 3586811	0.654633887 821603	0.24948899 802849	0.549698596 588456	0.24707699 6170036	0.531808313 261855	- 0.126393565516 18	0.826158704817 449	- 0.08041116856 85029	0.89232419461 1341	- 0.05365426721 92133	0.93432630440 978	1.17133337681067	0.0005376304347 85758	1.2314796682688 5	0.010833967177 2526	1.1953035405668 4	0.005516192536 60457
Gm16861	0.68276963 6853984	0.199927344 23232	0.74534128 3068307	0.177383625 351528	0.72716465 0546474	0.247595934 219075	NA	NA	NA	NA	NA	NA	1.67540778149817	0.0005627726434 28655	1.7408506572614 4	0.008271831483 37801	1.6418366253901 6	0.009915650872 21837
Psd	0.08511375 03783782	0.855058057 913781	0.14411430 2422797	0.722210913 53121	0.09434497 59710434	0.830334728 793392	0.875947891074 16	0.015824704116 2837	0.91551735452 8988	0.03665417647 40173	0.86578307024 0474	0.04345490863 94805	1.05484118401131	0.0010210564829 3747	1.1170490159731 4138	0.010167072172 4138	1.0730619067421 2	0.007573230000 38996
Mapk1ip1	0.53197514 966919	0.127458610 94255	0.58706241 2225838	0.120945671 600115	0.55188870 0654839	0.103404501 702809	- 0.225123078446 602	0.667191049320 391	- 0.18084785407 1475	0.73156069610 134	- 0.22508089229 0357	0.68735934169 5282	1.07248333632376	0.0014203917386 3435	1.1346584654517 5	0.012819123977 5675	1.0886247328527 3	0.006650497374 49153
Ppp4r11-ps	0.43553494 4419085	0.268151259 902848	0.49387588 3750135	0.201558341 305734	0.44338332 5602495	0.337294231 653903	0.850234001013 657	0.038982894384 6188	0.89037277004 0663	0.05501663239 77712	0.77242921244 3966	0.14259305533 0873	1.19073891050316	0.0007664340914 93766	1.2554184872558 2	0.008965345656 45015	1.0576051410077 8	0.027864779371 4065
Slc2a4rg-ps	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.89330309106947	0.0011239779041 5135	1.9523458009872 1	0.011928159568 0136	1.9014129994657 4	0.014840297251 5475
Ccnl2	0.58540052 6539913	0.194154590 950542	0.64111716 8019833	0.139700015 954312	0.67420982 7179116	0.085994250 6079494	0.388566410460 051	0.523402693490 277	0.42216961949 0805	0.43689136390 5045	0.45770004452 9695	0.35514438988 6817	1.28037509432386	0.0029897718360 5762	1.3401298739205 4	0.013193210080 1433	1.3632406535151 7	0.005516192536 60457
Cdc20	- 0.37228073 8745061	0.353948472 276347	- 0.31595871 928263	0.434269114 841785	- 0.30632291 0265503	0.418310336 713988	0.489824653261 938	0.284429810204 798	0.53231333496 0287	0.25514934507 9589	0.58471129242 2611	0.14646918268 1546	- 1.18264477362846	0.0010168687291 5241	- 1.1176171015703 4	0.018266258970 5256	- 1.1621948573775 5	0.018322507116 9006
Tarbp1	0.92817574 1494477	0.021579980 2126243	0.98246109 2386245	0.045429939 8059161	0.97633186 4853217	0.037374753 7456701	NA	NA	NA	NA	NA	NA	1.28403629620786	0.0022551065092 4187	1.3444909451888 4	0.014222463938 3495	1.2997066404761 6	0.011585426015 1011
Dennd6b	0.82570492 4477926	0.053144928 8105089	0.88585428 0176715	0.060364791 1564462	0.85113305 4840427	0.062434332 426799	0.500905151339 276	0.394397698401 839	0.53919501300 4603	0.34956449125 4757	0.21990545495 8489	0.75307011094 4844	1.28489097681874	0.0030887636886 0062	1.3515652856289 3	0.015401707635 7948	1.3061885122205 8	0.011746500532 2007
Mir5125	0.31652929 083125	0.649044269 606489	0.37971608 5191462	0.559275828 383285	0.26280022 8000245	0.725238940 695751	NA	NA	NA	NA	NA	NA	1.59176427592892	0.0034632596900 6819	1.6541679263896 4	0.018297824815 6148	1.5771047077872 3	0.015070659015 4617
Xist	1.07092585 485128	0.086909991 5138688	1.12439755 028858	0.094561366 6937342	1.27924141 651501	0.028297292 4842781	0.600827573247 25	0.496362213025 707	0.63472721701 3966	0.44135217050 296	0.80965795909 5763	0.25663297577 7417	1.78046494722682	0.0053363683352 8199	1.8390793341228 5	0.025612681511 2586	1.8844161879145 7	0.007099194638 82484
Bub1b	- 0.63410323 157471	0.140214070 984882	- 0.58938939 898535	0.203733174 082524	- 0.54259897 0318579	0.277145903 345386	0.824493946865 755	0.091869490766 7648	0.85992938210 9738	0.11895408912 0868	0.89035270042 914	0.08058101757 06325	-1.3612331418489	0.0010324443533 8609	- 1.3013501159556 1	0.020897579872 5339	- 1.2632532167255 6	0.048433186693 3418
Ttlb3	0.48548382 409376	0.213298934 909144	0.54604453 9353108	0.192830510 099074	0.51178408 4414044	0.221706731 819131	NA	NA	NA	NA	NA	NA	1.02956886721705	0.0045057213093 0647	1.0948044837923 1	0.016563929590 9766	1.0565307506718 1	0.015129193585 3212
1700029J07R ik	1.37228441 401462	0.059017500 0631895	1.42020039 663714	0.102296162 85539	2.13004247 527004	0.036025789 2606259	NA	NA	NA	NA	NA	NA	2.06696658147204	0.0055242603960 2677	2.1163996058822 4	0.032186965880 781	2.8130619845486 7	0.009614868789 11595
Cdk1	- 0.98560909 7915389	0.029089330 3534384	- 0.92538862 5772328	0.072390609 7687373	- 1.06713299 260039	0.037963729 4831339	0.435809901225 402	0.501862626359 56	0.47571989894 7182	0.44474599478 1763	0.32057717567 1125	0.54563072388 0408	- 1.38956730801757	0.0034643219206 5684	- 1.3232698363380 7	0.025563567526 4584	- 1.3883828371434 9	0.022947712909 9289
Ankrd13d	1.22091958 452176	0.035951384 9767132	1.26460073 662059	0.066227013 1072117	1.68677784 504997	0.020057978 6536246	NA	NA	NA	NA	NA	NA	1.61087034588207	0.0084180902343 0484	1.6614765002253 2	0.030655902395 6361	2.0792289105442 7	0.009051066207 42008
4930426D05 Rik	1.17913713 639828	0.032968803 6115202	1.23645415 802235	0.062013059 9399368	1.34781453 890874	0.073796617 5144727	NA	NA	NA	NA	NA	NA	1.69328198091421	0.0031496830390 8584	1.7527718459785 6	0.023832734428 5147	1.6659785601906 5	0.036217965712 668
H2-T-ps	0.51939122 9429446	0.224533234 895287	0.58335310 2215712	0.181172997 23124	0.56530293 3536845	0.195719437 987152	0.281415922563 883	0.58961159092 6219	0.25976443822 1079	0.41547506508 7752	0.45712618366 0312	1.08492281723789	0.0075780221312 7876	1.1505757820219 4	0.024623140416 1631	1.1673002532228 5	0.015093244449 1428	
Neat1	0.25459022 4857292	0.543679616 672635	0.31202686 8528804	0.482273931 606215	0.34272645 7279173	0.392943923 536323	- 0.075829818765 4632	0.902565219152 485	- 0.03205137438 74687	0.96457634409 8888	0.04456304596 66628	0.94701743453 8753	1.00183975617678	0.0049551735284 6891	1.0636531369349 7	0.035246273337 4478	1.0692808429359 8	0.016234558165 3897
Ogt	1.07757804 228704	0.052502816 2125069	1.13020077 571759	0.064273455 3554378	1.27366037 942696	0.019830541 1871964	0.796726600305 341	0.277421820676 629	0.82520516109 9605	0.25022956890 5552	0.95118819828 1579	0.14502878936 7374	1.48033671228538	0.0122834774740 494	1.5349292075883 5	0.033961175878 255	1.6659551251532 5	0.009051066207 42008
Tnf	0.01636746 55388383	0.983589447 683513	0.07273242 0070026	0.913126295 310703	0.28714279 2054793	0.681642397 803968	0.899770265757 153	0.116040956047 083	0.93627089510 4665	0.13800683612 0218	1.14088898357 345	0.0938						

979128393																		
Zfp182	0.46153939 5125578	0.337891387 50163	0.51743070 4170449	0.276652068 88735	0.46894276 396732	0.299610114 340089	NA	NA	NA	NA	NA	NA	1.06491110172728	0.0167122006450 081	1.1291630356506 4	0.036588483497 3035	1.0043632253484 3	0.034041602789 7206
Ppox	0.21074551 9546574	0.686474669 234134	0.27011234 0565734	0.573478562 564497	0.24257370 8722369	0.625425425 111436	- 0.114658471289 397	0.869205505522 859	- 0.06984673739 46253	0.92199715082 2499	- 0.02882220359 89299	0.97073856500 2847	1.00732324097128	0.0167033700409 17	1.0708310121475 5	0.039494228590 6176	1.0104389334059	0.033108294203 474
Mturn	1.02476668 701514	0.008211554 54100489	1.08310367 040349	0.020259050 9052069	0.99803090 7917585	0.034279129 3534177	NA	NA	NA	NA	NA	NA	1.01549428463064	0.0186632409819 4	1.0836177553622 2	0.035763726773 699	1.0480953678565 1	0.039130481954 2501
Tepsin	0.67993913 6652324	0.124944373 065836	0.73688473 9546124	0.116600133 365407	0.70948594 0431471	0.141767866 430371	1.302803464181 75	0.005699460518 44347	1.33472316077 957	0.02302428551 39389	0.97139399214 9803	0.08269549070 28555	1.04521658690106	0.0204394534849 908	1.1080039003807 9	0.040395779828 0408	1.0679375630921 2	0.039292096744 1445
Zfp606	0.92552224 481426	0.040304477 952674	0.97871500 8198522	0.062226698 9402224	0.94943723 8748919	0.074834267 0066143	NA	NA	NA	NA	NA	NA	1.10802594340552	0.0220696079189 329	1.1673383899580 9	0.042432967107 8232	1.1552710061015 9	0.042245405138 2794

Supporting Table 2. GO functional enrichment for Antigen-only comparison. Columns show FDR and annotated enriching DEGs. (Attached csv)

Supporting Table 3. GO functional enrichment for Tolerant/2nM comparison. Columns show FDR and annotated enriching DEGs. (Attached csv)

Supporting Table 4. GO functional enrichment for Desensitized/5nM comparison. Columns show FDR and annotated enriching DEGs. (Attached csv)

Supporting Table 5. Differentially expressed genes shaping each Venn diagram region.

Antigen-only	Tolerant/2nM	Desensitized/5nM	DEGs
TRUE	TRUE	TRUE	Fosl2, Nr4a3, Ier5l, Nfil3, Litaf, Vps37b, B3gnt7, Il12b, Cebpb, P2ry10, Tigit, Rab30, Klrc1, Thbs1, Ifngr1, Fam107b, H1f2, Herpud1, Plaur, Gpr171, Plcx2, Prdm1, Shprh, Ngp, Hs3st1, Ltf, Tmppe, Parp11, Ifitm6
FALSE	TRUE	TRUE	Trim65, Dnaja1, Ahsa2, Zfp36l2, ENSMUSG00000104291, AI504432, Tipin
TRUE	FALSE	TRUE	Mapk11, Tex2, Ctsl, ENSMUSG00000105160, Bcl2l14, Rab27b, Rell1, Dntt, ENSMUSG00000108292, Cdh5, Snhg20, Rnf125, Ahr, ENSMUSG00000086825, Cd209a, Alox5ap, Lmna, Igha, Sfi1, Pdxk, Lyz1, ENSMUSG00000095200, Cd177, Anxa1, Ighj3, Lyz2, Camp, Acrbp, ENSMUSG00000106617
FALSE	FALSE	TRUE	Nfkbid, Mettl17, Rhod1, Fam193b, Slc38a2, Spns1, Malat1, Clcf1, Aldh1b1, Egr2, Hes1, Cdca3, ENSMUSG00000097347, Lgals4, Clspn, Gbp9, Chkb, Siglec, Tmem81, Gabbr1, Gm16861, Psd, Mapk1ip1, Ppp4r1l-ps, Slc2a4rg-ps, Ccnl2, Cdc20, Tarbp1, Dennd6b, Mir5125, Xist, Bub1b, Ttl13, 1700029J07Rik, Cdk1, Ankrd13d, 4930426D05Rik, H2-T-ps, Neat1, Ogt, Tnf, Ss18l1, Zfp692, Pclaf, Pr33, Leng8, Zfp605, B3gntl1, Clk1, Zfp182, Ppox, Mturn, Tepsin, Zfp606
TRUE	TRUE	FALSE	Bhlhe40, Dusp5, Tnfaip3, Nr4a2, Rgs1, Atf3, Rgs2, Maff, Gem, Irf2bp2, Cd83, Cytip, Nr4a1, Klfb, Dusp1, Gpr132, Myc, Ccr7, Bambi, Jdp2, Rhob, Per1, Plec, 1700017B05Rik, Spry2, Fmnd4b, Irs2, Trp53inp2, Csmpl, Dhrr3, Ccrl2, Slc49a4, Ets2, Sik1, Dgcr8, Ifrd1, Grasp, Zfp7, Errfi1, Rasl11b, Zbtb10, Vegfa, Gpr65, Cxcr4, Dyrk3, Cxcr6, Cd14, Hspbp1
FALSE	TRUE	FALSE	Stk17b, Pde4b, Mon1b, Atad2, Ncbp2, Luc7l3, Cirbp, Scd1, Chordc1, Trmt1l, Smad7, Stip1, Hspa4l, Slc31a1, Tsc22d3, Hsp90aa1, Hsph1, Ndufab1, Cacybp, Slc35c1, Mat2a, Mideas, Manea, Zfp873, Gm8369, Gm6377, Gpcpd1, Gpr68, Gypc, Zyg11b, Pfkml, Cebpg, Pigh, Dcun1d2, Rnf138, Abhd4, Sesn1, Klhl25, Rel, Tgfb3, Dad1, Smim7, Tnfsf14, Il6st, Mns1, Dgke, Nanos1, Fam219a, Ftsj1, Mpc2, Uhrf1, Gch1, Fam167a, ENSMUSG00000098715, Shmt1, Slc38a7, ENSMUSG00000070667, Ska2, Zfp658, Ift27, Gm15326, Adam15, P2ry10b, Ehbp1, Osm, Il18r1, Ifih1, Ikzf2, Gbp7, Zcchc18, Decr2, Ighv14-4, Cmc1, Epb41l4aos, Stk38l, Jkamp, Arl4d, Dst, Maf, Igkv14-100, Mgat4a, Tmem29, Ndufc1, Zfp933, Arc, Tmem33, Mrps6, Il2ra, Pik3ip1, Ddit4, ENSMUSG00000103290, Mrps16, ENSMUSG00000099681, Ptov1, Arrdc3, Nefh, Neil3, Hk2, Nuak1, G2e3, Alg3, Mboat1
TRUE	FALSE	FALSE	Trib1, Runx2, Junb, Pmaip1, Ppp1r15a, Cd69, Cd274, Adora2a, Serpinb6b, Ptger4, Fos, Btg2, Dnajb9, Anxa2, Gm, Ctla2a, Ccr5, Klri2, Ptp4a1, Serpinb9, Eomes, Mxd1, Fam111a, Snx18, Jchain, Nek6, Ccl5, Atp1b1, Id2, Srgap3, Dusp10, Plscr1, Tyrobp, S100a6, Spty2d1, Gfod1, Fgl2, Gas7, Klfb, Emb, AW112010, Siglech, Hhex, Ncoa7, Samsn1, Bag3, Myh13, Sla2, Rilpl2, Hmgn3, Ptprrs, Tlr1, Cox6a2,

Chl1, Tgif1, Cd79b, Itm2c, Cd7, Mrgpre, ENSMUSG00000053541, Klrd1, Siah2, H1f0, Kit, Clu, Dstn, Cxcl16, Prr5l, Aldh1a2, Cpne2, Lad1, Socs3, Dnase1l3, Chn2, ENSMUSG00000081662, Flt3, Dnah8, Cdh1, Arpin, Il2rb, Mmp25, Plk2, 9930111J21Rik2, Fscn1, Anxa3, Cd63, Zmynd15, Ctla2b, Tmem176a, Gm4874, Jun, Nudt17, Mreg, Pdzd4, Ccl22, Glrx, Peli2, Atp2b4, Tbc1d4, Exog, Aif1, Tjp2, Tmem176b, Klre1, Sh3bp4, Ccl3, EphA2, Gm12185, F11r, Rbpms, Tlr6, Clec12a, Marcksl1, Man1c1, Gnb4, Jaml, Havcr1, Cd55os, Ttc39a, Nrgn, Gdf11, Basp1, Cadm1, Fmn12, Kmt2a, Ptpn22, Mpeg1, Cd209d, Slfn8, Sytl3, Bst2, Chil1, Vwa5a, Atp1a3, Insl6, Ppfia4, Ccr9, Gria3, Klrk1, Il12a, ENSMUSG00000087060, Ccl4, Pmp, Chdh, Pik3r6, Sertad1, Tbc1d8, D16Ert472e, Cd28, Grm8, Fcer1g, Phactr2, Cacnb3, Ctla4, Osbpl3, Frmd4a, Olfm1, Sulf2, Palm, Igkv8-30, Klra7, Dnajb4, Il1r2, D11Wsu47e, Hlx, Il12rb2, Fabp5, Epsti1, Tspan3, Fosb, Rasip1, 1700025G04Rik, Eno3, Ighj1, Scin, Tmem150c, Klr1b1f, Palld, ENSMUSG00000107872, Heatr9, Cables1, Pxdc1, Lrp8, Klr1b1a, Pls3, Laptm4b, Arhgef10l, Dmrta1, Xkrx, Il15ra, Stap2, Tnfrsf9, Pmepa1, Ighg2b, Coro2a, Cdkn1a, B3galnt1, Eno2, Zfp882, Maged1, Tnfsf12, Upb1, Sema4c, Dapk2, Strip2, Cd300lf, Itgax, Lima1, Mfge8, Ugt1a7c, Crtam, Rhoc, Arhgap28, Rtl8c, Pfkfb3, Adamts14, AI467606, Obscn, Slc9a3r2, Samd3, Gng12, Slc2a6, Zc3h12c, Myom1, Plxdc1, B3gnt8, Srxn1, Rab7b, Adam8, Slc7a11, Rab26, Id3, Trim13, H2bc8, Arhgef40, Adat1, Smim3, Stk32c, Tmbim1, Asph, Ighe, Wdcp, Insm1, Coq10b, Mycl, Avpi1, Ptprf, 5730409E04Rik, Emilin2, Zfhx3, H2-M2, Klk4, Bend4, Ildr1, Dnah2, Ifitm2, Eepd1, Ifit1b1l1, Il3ra, Loxl3, Serpinb9b, Gpr157, Lgals1, P2ry14, Pdcd1lg2, Zfp324, Kifc3, Pla2g4f, Cpq, Pik3cb, 2200002D01Rik, Bbc3, Fndc5, Adam23, Cfap126, Ccr2, Ctnbp2nl, Rnd3, Zfp748, Tnfrsf4, Rasal2, Batf3, Gm12253, Adnp, Ccnj, Zbtb20, Shb, Exo5, Itga5, Prf1, Icos, Prr7, Enpp5, Amer1, Ptgs2, Ly6a, Sestd1, Spry1, Art4, Klri1, Cbarp, Gzmb, Cmpk2, Adcy6, Crem