

**Effects of Maternal Vitamin and Mineral Supplementation on Neonatal Liver and
Jejunum Transcriptomes and Regulatory Co-expression Networks**

by

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ABSTRACT

Maternal nutrition throughout gestation affects fetal growth and development. The fetal adaptation to conditions in the uterine environment is called fetal programming. These adaptations lead to responsive and adaptive changes in key metabolic organs, such as the jejunum and liver, with effects that persist into adulthood. Although required in small concentrations, vitamins and minerals are essential for physiological, catalytic, and regulatory functions. Cumulative evidence supports their role in fetal programming, influencing performance and health. However, vitamin and mineral supplementation strategies are largely variable among beef producers. The working hypothesis of this dissertation is that maternal vitamin and mineral supplementation throughout gestation would differentially program the jejunal mucosa and liver through changes in the expression of transcription factors and regulatory gene networks involved with immune response, nutrient uptake, and energy metabolism. Therefore, this work aimed to investigate gene regulatory relationships in the neonatal jejunal mucosa and liver to shed light on potential mechanisms by which maternal vitamin and mineral supplementation during gestation influence developmental programming in heifer calves. To this end, jejunal mucosa and liver gene expression was measured with RNA-Seq in newborn calves collected 30 h after birth from dams fed a diet initiated 60 days pre-breeding. Dams were assigned to either a basal diet (CON; $n = 7$) or the basal diet plus 113 g•heifer⁻¹•d⁻¹ of vitamin and mineral supplement (VTM; $n = 7$). No effects were identified in calf morphometrics and organ mass between treatment groups. However, we identified 528 differentially expressed genes in the jejunal mucosa and 630 in the liver between treatment groups. We retrieved 98 and 57 regulatory transcription factors (TFs) in the jejunum and liver through regulatory impact factor analysis, respectively. Over-represented pathways and gene ontology terms in the jejunal mucosa included nutrient transport, lipid metabolism, and immune-related processes. From the liver, significant genes were underlying pathways, such as oxidative phosphorylation, AMPK, PI3K/Akt, and FoxO, which are major regulators of energy homeostasis. In the liver, the maternal diet affected gene connectivity, suggesting a regulatory rewiring of TFs and histone deacetylating genes involved in transcriptional modulation. Our results show that maternal vitamin and mineral supplementation throughout gestation was associated with molecular changes in the neonatal via transcriptomic responses. However, further research is needed to explore whether epigenetic marks are established at birth, persist throughout postnatal

development, and potentially contribute to long-term phenotypic outcomes and transgenerational inheritance.

ARTIFICIAL INTELLIGENCE (AI) USE DISCLOSURE STATEMENT

In the preparation of this thesis, the following Artificial Intelligence (AI) tools were used: ChatGPT and Grammarly. These tools were used primarily to grammar, sentence structure, and overall clarity. The author acknowledges full responsibility for the intellectual content of this work and has ensured that all AI-assisted sections have been reviewed and revised for accuracy and appropriate academic style. All AI-generated content was reviewed and validated for relevance, appropriateness, and accuracy before incorporation into the final document to maintain scholarly integrity of this research.

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INTRODUCTION

Vitamins and minerals are micronutrients required by the body in small amounts to achieve homeostasis and support various physiological processes, such as metabolic regulation, immune function, and modulating gene expression.¹⁻³ Among the nutrients required for adequate livestock growth, development, and health, the availability of vitamins and minerals is often limited by forage quality, thereby necessitating supplementation by beef producers.⁴ However, despite ongoing research into their critical role in fetal development, vitamin and mineral supplementation adoption and strategies are largely variable among producers.⁵⁻⁷

Maternal nutrient requirements vary during gestation due to the increased demand for nutrients to supply the growing fetus.⁸ Previous work from our research group, and others, has shown maternal VTM supplementation during early gestation affects fetal organ mineral concentrations, postnatal body weight growth, as well as hepatic gene expression related to lipid and energy metabolism.^{7,9} These findings show that VTM may serve as a modifier of developmental programming in the fetus. Yet, the effects on the jejunal mucosa and liver, two metabolically active organs with central roles in nutrient absorption, metabolism, and immune response, are largely unexplored.¹⁰⁻¹² Additionally, there is a gap in knowledge regarding the effects of supplementation throughout gestation. The liver and jejunum begin developing early in gestation and are highly sensitive to *in utero* conditions.^{1,12} Therefore, examining these tissues with transcriptomics may provide novel insights into the mechanisms by which maternal nutrition influences offspring physiology and long-term performance.

Based on our previous findings,^{3,13-15} we speculate that strategic supplementation may have a positive effect on offspring growth *in utero* and postnatally. To reflect real-world production systems, we developed a model to test vitamin and mineral effects throughout gestation based on a commercial supplement. This approach not only simplifies implementation for producers but also captures the complex nutrient interactions, both synergistic and antagonistic, that occur when multiple micronutrients are provided together.

We hypothesized that the maternal vitamin and mineral supplementation throughout gestation would differentially program the jejunal mucosa and liver through changes in the expression of regulatory gene networks involved with immune response, nutrient uptake, and energy metabolism, mediated through the regulation of transcription factors and epigenetic genes.

Thus, we investigated the regulatory gene relationships in the neonatal jejunal mucosa and liver to shed light on potential mechanisms by which maternal vitamin and mineral supplementation during gestation influence developmental programming in heifer calves. We identified differentially expressed genes in the jejunal mucosa and liver of newborn calves, along with associated biological processes. Additionally, we reported rewired gene-gene interactions and uncovered regulatory genes that are responsive to maternal nutritional status.

This thesis is organized into three chapters. Based on current knowledge, the **Chapter 1** consists of a literature review, titled “*Maternal nutrition impact on neonatal gut-liver axis programming*,” addressing the following questions: (1) Does maternal vitamin and mineral supplementation during gestation influence fetal development in beef cattle? (2) What are the recent findings and progress on the use of transcriptomics, epigenomics, and systems biology in the research of maternal nutrition during gestation?

The findings from the molecular data analysis carried out through this master’s program comprise chapters 2 and 3 (formatted as research articles), as follows:

Chapter 2: *Early life programming of the neonatal bovine jejunum in response to maternal vitamin and mineral supplementation.* In this study, we implemented a transcriptomic and co-expression approach to identify differentially expressed genes in the jejunal mucosa of neonatal heifers whose dam was supplemented or not with vitamins and minerals throughout gestation. We hypothesized that maternal vitamin and mineral supplementation during gestation would alter the programming of the jejunal mucosa by influencing the expression of regulatory genes related to immune function, nutrient absorption, and metabolic processes.

Chapter 3: *Maternal vitamin and mineral supplementation affected neonatal gene expression and rewired key regulatory genes underlying hepatic metabolism.* In this study, we combined transcriptomic and co-expression frameworks to identify differentially expressed genes and changes in regulatory networks in the liver tissue of neonatal heifers born to dams supplemented with vitamins and minerals during gestation. We hypothesized that maternal vitamin and mineral supplementation throughout pregnancy would modulate hepatic gene expression via transcription factors, thereby modifying regulatory mechanisms, biological processes, and metabolic pathways in the offspring.

Finally, we provided an overview of the results, integrating some key findings and shedding light on future research needs.

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Chapter 1

LITERATURE REVIEW

MATERNAL NUTRITION IMPACT ON NEONATAL GUT-LIVER AXIS PROGRAMMING

ABSTRACT

The concept of fetal programming, coined by Dr. Barker, underlines the significance of environmental factors during gestation on the progeny's health and metabolism trajectory. Gestation is a process of continuous growth and development, where cells differentiate and specialize in forming tissues and organs. This critical period requires adequate nutrition, as macro- and micronutrients play essential roles in supporting the proper growth, development, and function of fetal organs. Among the micronutrients, vitamin and mineral deficiencies can impair intestinal epithelium development and function, reduce nutrient absorption and increase risk of poor growth, metabolic abnormalities, and disease. Similarly, micronutrient deficiencies can disrupt liver development and metabolic function, impairing nutrient processing, and hormone regulation, which may lead to metabolic compromised offspring. Growing evidence has shown phenotypic and molecular effects of maternal nutrition during gestation on fetal development and programming. This review summarizes current findings on the role of maternal nutritional status and the effects on offspring liver and intestine development. Additionally, we address maternal supplementation modulating the hepatic and intestinal transcriptomes and the need for targeted nutritional strategies to support optimal development, gut-liver health, and productivity in cattle. Evidence of altered gene expression and blood metabolite profiles, changes in organ mass, and variable effects on weaning weights and muscle accretion suggest that maternal supplementation plays a role in fetal development and postnatal phenotypes. Altogether, this review indicates that maternal supplementation throughout gestation should not only be a nutritional consideration but a foundational determinant of fetal programming.

1.0. INTRODUCTION

Cattle production is an essential component of global agriculture, with beef cattle contributing significantly to the food supply and rural economies.¹ The demand for efficient production systems requires the effective use of resources. This is particularly relevant in beef production systems, where optimal calf growth, health, and performance are essential for economic viability.¹ Among the factors related to efficient production, developmental processes during gestation and postnatal management have been targeted due to their potential effects on lifelong health and productivity.² Similarly, recent advances in reproductive and molecular technologies have increased our understanding of how maternal inputs during gestation influence the developing fetus.³⁻⁵

Nutrition is among the most important maternal factors.⁶ During gestation, the developing fetus depends on the dam for nutrient supply, which supports organ development, tissue growth, and metabolic programming.⁷ Maternal macro and micronutrients influence processes such as cellular proliferation, vascularization, and enzymatic activity.^{8,9} Nutrient deficiencies or imbalances can alter how resources are allocated among tissues, delay organ maturation, or predispose the offspring to disease.¹⁰ In beef cattle, the importance of adequate nutrition is underscored by research linking poor maternal diets to low birth weights, reduced muscle mass, and compromised immune responses in calves.⁷ These impacts extend beyond birth, with long-term consequences for feed efficiency, carcass traits, and overall animal performance.¹⁰

In the 1990s, human epidemiologist Dr. David Barker conducted research linking fetal-infant growth and cardiovascular disease into adulthood.¹¹ Through these investigations, he hypothesized the importance of maternal diet on the developing fetus, later coining the term “developmental origins of health and diseases (DOHaD),”¹¹ also known as “fetal programming.” The concept of fetal programming discusses the theory of environmental stressors that occur during critical windows of development throughout gestation, which permanently affect the progeny.¹¹ These critical windows refer to a particular phase of fetal development in which an organism’s evolving phenotype is at its most susceptible to influence due to a multitude of environmental factors.¹² Studies involving humans and different animal models support the fetal programming hypothesis, suggesting that the consequences, positive or negative, for the progeny may exceed prior expectations.¹³⁻¹⁷ In beef cattle, low birth weight has been associated to slower

growth rates, decreased mature size, and increased calf deaths.¹⁸ Fluctuations in nutrition throughout gestation can positively or negatively impact the developing offspring, linking to fetal organogenesis, epigenetic modifications, impaired growth, and metabolic functions.^{19–21}

Advances in transcriptomic technologies have deepened our understanding of how maternal nutrition affects fetal development at the molecular level. Studies have shown that nutrient availability can alter gene expression patterns in developing organs like the liver and small intestine.^{22,23} These are complex and tightly regulated systems, where gene expression changes are mediated through epigenetic mechanisms, such as DNA methylation and histone modification, which may permanently influence cell function.²⁴ For example, maternal nutrient restriction in ram lambs has been associated with pancreatic hypermethylation leading to a decrease in gene expression of *OPLAH*, *AGAP2*, and *EVL*.²⁵ *AGAP2* functions as a GTPase-activating protein involved in cell survival signaling, vesicular trafficking, and cytoskeletal organization, suggesting that its repression could disrupt insulin signaling or cellular integrity.²⁶

Despite growing evidence of the importance of maternal nutrition during gestation, gaps remain, particularly in our understanding of how micronutrient supplementation influences fetal organ development at the transcriptomic and epigenetic levels. This review explores current literature on maternal vitamin and mineral supplementation in beef cattle, with a focus on its effects on fetal development and programming of the gut-liver axis. Specifically, it examines the nutritional requirements of the developing fetus, common supplementation strategies used by producers, and the molecular roles of these micronutrients in shaping gene expression and biological pathways involved in organ development. In addition, this review highlights the long-term impacts of maternal nutrition on gut and liver health, including changes in microbial composition and postnatal metabolic efficiency. While the primary emphasis is on cattle, relevant findings from other species are also incorporated to provide broader context. By integrating nutritional physiology, transcriptomics, and systems biology, this review aims to bridge the gap of understanding between existing literature of maternal diet and offspring outcomes, offering insights into how targeted gestational nutrition can shape lifelong productivity and health.

1.1. BEEF CATTLE AND NUTRITIONAL MANAGEMENT

Beef cattle production is a complex system integrating genetics, management, nutrition, and health to optimize production and sustainability. Of these factors, nutrition is among the most critical for supporting physiological functions, optimizing reproductive efficiency, and promoting meat productivity.⁷ Nutrient requirements in beef cattle vary significantly and must be tailored according to physiological state, age, breed, production goals, and environmental conditions.²⁷ NASEM (2016) provides a comprehensive framework for determining energy, protein, mineral, and vitamin requirements for different classes of cattle, including calves, growing steers, breeding cows, and bulls (Table 1.1).²⁷ These nutrient demands shift across the production cycle, specifically to critical time points, such as late gestation and early lactation, when energy and protein needs rise substantially to support fetal growth and milk production.^{7,27}

During early gestation, cows require approximately 55% Total digestible nutrients (TDN) and 7% crude protein (CP), while in late gestation these needs rise to around 60% TDN and 9% CP to support fetal growth and metabolic demands.²⁷ Vitamin A requirements increase to roughly 1,273 IU/lb/d during gestation from the baseline requirement of 900IU/lb/d, while vitamin D and E requirements remain consistent at approximately 14 IU/lb/d and 0.7 IU/lb/d of body weight, respectively.²⁷ The cow's nutritional status during these key phases has implications not only for her growth and performance but also for her offspring's development and long-term productivity.²⁸ Deficiencies in protein or energy during gestation can lead to reduced birth weights, delayed growth rates, compromised immune function, and even impaired organ development in the calf.²⁹ Conversely, excess of certain nutrients can lead to metabolic disorders or reduced feed efficiency. Therefore, balancing diets to meet nutritional requirements is essential. Nutrition strategies, including total mixed rations, supplementation programs, and the strategic use of feed additives, are required to effectively meet the specific goals of each beef cattle production system.¹⁵

Table 1.1. Mineral requirements and maximum tolerable concentrations (dry matter basis).^{a27}

Requirements^b					
Cows					
Mineral	Unit	Growing and Finishing Cattle	Gestating	Early Lactation	Maximum Tolerable Concentration
Calcium	%	See Chapter 19 from ²⁷	-	-	-
Chlorine	%	-	-	-	-
Chromium	mg/kg	-	-	-	1000 ^c
Cobalt	mg/kg	0.15	0.15	0.15	25
Copper	mg/kg	10	10	10	40 ^d
Iodine	mg/kg	0.50	0.50	0.50	50
Iron	mg/kg	50	50	50	500
Magnesium	%	0.10	0.12	0.20	0.4
Manganese	mg/kg	20	40	40	1,000
Molybdenum	mg/kg	-	-	-	5
Nickel	mg/kg	-	-	-	50
Phosphorus	%	See Chapter 19 from ²⁷	-	-	-
Potassium	%	0.60	0.60	0.70	2.00
Selenium	mg/kg	0.10	0.10	0.10	5.00
Sodium	%	0.06-0.08	0.06-0.08	0.1	-
Sulfur	%	0.15	0.15	0.15	0.30-0.50 ^d
Zinc	mg/kg	30	30	30	500

^a Adapted from NRC (1996, 2000).³⁰

^b Dietary mineral requirements can be influenced by dietary antagonists.

^c Highly dependent on source. See *Mineral Tolerance of Animals* (NRC, 2005).³⁰

^d Dependent on animal age, diet type, and dietary antagonists. See *Mineral Tolerance of Animals* (NRC, 2005).³⁰

In the southern United States, beef producers primarily rely on forage-based production systems as the foundation of their nutritional programs.^{31,32} However, when the nutrient demands of the animal exceed what the available forage can provide, due to changes in physiological status, environmental stress, or forage quality, strategic supplementation with macronutrients and micronutrients becomes necessary.³¹ During late gestation, energy supplementation, in the form of grains or by-product feeds, such as dried distillers' grains, supports body condition maintenance and fetal energy demands.⁹ Protein supplementation, often with soybean meal, cottonseed meal, or non-protein nitrogen sources (urea), are essential for rumen microbial efficiency and amino acid availability.³³ The most common energy feeds available to cattle are based on high-starch grains, fibrous byproducts, or fat sources.³⁴ Both energy and protein status influence not only dam productivity but also placental development, fetal growth rate, and colostrum quality.³⁵

Most beef producers routinely incorporate macronutrient supplementation to meet energy and protein needs; however, micronutrient supplementation are often overlooked or inconsistently applied.³⁶ Micronutrients, such as vitamins and minerals, are provided through dietary supplementation or internal biosynthesis.²⁷ While the importance of balanced macronutrient intake cannot be understated, the present review focuses on the role of maternal vitamin and mineral supplementation during gestation, emphasizing on their contribution to fetal development and programming in beef cattle.

Several vitamins and minerals play critical roles supporting cellular function, enzymatic activity, immune response, and developmental processes, particularly during gestation. Among these, vitamin A, vitamin D, vitamin E, copper, selenium, zinc, iron, cobalt and manganese are significant.²⁷ For instance, Zn is a cofactor for enzymatic reactions, including those responsible for DNA synthesis, cell division, and antioxidant defense, making it vital for tissue growth and immune development.³⁷ Zn deficiency during pregnancy has shown to impair placental and fetal growth.³⁷ Similarly, Mn is involved in enzymatic reactions including arginase, glutamine synthetase, pyruvate carboxylase, and Mn superoxide dismutase.³⁸ Aiding in antioxidant support for oxidative damages, urea production, metabolic pathways, glucose metabolism, and cartilage formation.³⁸ Lastly, Co facilitates the production of vitamin B12, supporting methylmalonyl-CoA mutase and methionine synthase activity, enzymes essential for energy metabolism and DNA methylation.³⁹ Low maternal Co intake impaired ruminal vitamin B12 synthesis, disrupting one-carbon metabolism and resulting in altered concentrations of homocysteine, folic acid, vitamin

B12, IGF-1, and glucose, ultimately reducing methylation capacity through impaired conversion of homocysteine to methionine.⁴⁰ While certain nutrients can be synthesized or stored within the body, their physiological functions remain highly dependent on adequate dietary intake.⁸ In contrast, nutrients like iron must be provided through the diet, as the body is unable to synthesize or store sufficient amounts to meet the organism's requirements.⁸ To maintain focus and brevity in this review, the following sections will highlight only a select group of micronutrients and sections focus on how specific micronutrients support maternal physiology and act as molecular signals that shape fetal gene expression and organogenesis, particularly in the liver and small intestine. However, it is important to note that the vitamin and mineral supplement used in our study contains other essential nutrients beyond those discussed here.

1.1.1. Vitamin A

Vitamin A is a fat-soluble micronutrient, which plays a pivotal role in numerous physiological processes, including vision, immune function, epithelial integrity, and cellular differentiation.⁴¹ Biologically active forms of vitamin A, such as retinol, retinal, and retinoic acid, regulate gene expression by interacting with nuclear receptors that control the transcription of genes involved in cell growth and development.⁴¹ The recommended vitamin A intake increases to approximately 1,273 IU/lb during gestation, up from 900 IU/lb during dry periods, reflecting the elevated demands of pregnancy.²⁷ However, the bovine placenta is epitheliochorial,⁴² which presents a greater barrier to transfer nutrients.⁴³ A epitheliochorial placenta is composed of six layers separating the maternal and fetal blood supply, limiting passive diffusion of large molecules, requiring the fetus to depend on active transport and high concentrations of nutrients in the maternal blood for proper exchange.⁴² As a result, fetal vitamin A supply largely depends on maternal hepatic stores and circulating retinol levels that are available to cross the placenta.⁴⁴ However, vitamin A circulates in the maternal blood bound to retinol-binding protein 4 (RBP4), forming a complex that facilitates its delivery to target tissues, including the placenta.⁴⁵ At the maternal-fetal interface, this retinol-RBP4 complex interacts with the STRA6 receptor, which is expressed on placental trophoblasts initiating receptor-mediated transmembrane active transport.⁴⁶ While this mechanism allows for vitamin A transfer, the capacity is relatively limited in bovine compared to more invasive placental types, underscoring the need for adequate maternal vitamin

A status throughout gestation, particularly during periods of rapid fetal growth and organogenesis.⁴⁴

Documented cases of suspected vitamin A deficiency in Alberta beef herds during gestation has supported increasing vitamin A requirements to meet the increased demands of dam and fetal development during pregnancy.⁴⁷ Symptoms of deficiency included night blindness, keratitis, and neurological signs such as incoordination, head extension, and limb rigidity.⁴⁷ Animal model studies have shown that while severe maternal vitamin A deficiency leads to early embryonic death,⁴⁸ subclinical deficiency can cause congenital malformations during fetal development such as malformed eyes, kidneys, and cardiovascular development.^{49,50} Vitamin A supplementation during late gestation enhanced intramuscular adipogenesis in offspring, as evidenced by increased gene expression and protein abundance of key adipogenic markers in neonatal skeletal muscle and greater intramuscular fat accumulation throughout postnatal life, without affecting overall carcass yield or subcutaneous fat deposition.⁵¹ Steers born to dams injected with vitamin A on day 250 of gestation showed increased weaning weight, final body weight, ribeye area, and intramuscular fat content.⁵² However, these effects were not observed in heifers, suggesting a sex-specific response to maternal Vitamin A supplementation.⁵²

1.1.2. Vitamin E

Vitamin E functions as a fat-soluble antioxidant in the body. Its primary biological role is to interrupt lipid peroxidation chain reactions by scavenging lipid peroxyl radicals, thus preserving the structural and functional integrity of cell membranes in polyunsaturated fatty acids.⁵³ In doing so, vitamin E helps maintain membrane fluidity, prevents cellular injury, and supports oxidative balance in tissues undergoing rapid cell growth.⁵³ According to the NASEM (2016), the requirement for vitamin E in gestating beef cattle is 1,000 IU per day.²⁷ Similarly to vitamin A, the limited placental transfer of vitamin E can be attributed to the placenta's restricted capacity to transport fat-soluble vitamin, due to the reliance on facilitated diffusion for their transfer.⁵³ However, no specific active transport mechanism for vitamin E has been identified, resulting in fetal tissue stores of vitamin E are low at birth, making the neonate highly dependent on colostrum intake for adequate antioxidant protection.⁵³ Consequently, fat-soluble vitamins do not reach the

same levels of storage in fetal tissues, underscoring the importance of maternal reserves to support fetal requirements during gestation.⁵³

Supplementing cows with oral vitamin E for calving in late winter resulted in higher serum vitamin E concentrations at and after calving, as well as higher vitamin E concentrations in their calves.⁵⁴ Additionally, winter-born calves from supplemented cows had greater 205-day adjusted weaning weights compared to those from non-supplemented cows.⁵⁴ In early-lambing ewes, intramuscular vitamin E supplementation during late gestation significantly reduced lamb mortality rates (12% vs. 17%) and enhanced total lamb weaning weight per ewe, indicating improved neonatal survival and maternal productivity outcomes.⁵⁵ Beyond its antioxidant role, vitamin E modulates immune function by protecting immune cells from oxidative stress, and by influencing the expression of immune-related genes. In a postnatal study, calves receiving increasing levels of vitamin E exhibited a linear increase ($P = 0.07$) in serum IgG titers 21 days following vaccination with ovalbumin, suggesting that higher vitamin E intake may enhance the humoral immune response in stressed beef calves.⁵⁶

1.1.3. Selenium

Selenium performs various physiological functions in the body in the form of selenoproteins, which are best known for their redox activity and anti-inflammatory properties.⁵⁷ The Se requirement for pregnant beef cows typically ranges from 0.3 to 0.5 mg/kg of dry matter intake (DMI), with increased needs during late gestation due to the developing fetus's demands.²⁷ Selenium is transferred from the dam to the offspring primarily via the placenta during gestation and colostrum following parturition, where it is incorporated into selenoproteins.⁵⁷ The placental transfer of selenium is relatively efficient, with fetal Se concentrations generally reflecting the maternal Se status.⁵⁷

Supranutritional selenium-yeast supplemented during mid and late gestation increased whole-blood Se concentrations at parturition, and higher complement-mediated bacterial killing percentages.⁵⁸ These findings suggests Se supplementation during late gestation may help combat infectious diseases.⁵⁸ Similarly, in sheep the expression of white-blood neutrophil genes involved in innate immunity was altered due to maternal supranational selenium-yeast supplementation.⁵⁹ Selenium deficiency in cattle can result in substantial economic losses by contributing to reduced

reproductive efficiency, higher rates of retained placenta, and an increased incidence of mastitis and metritis.⁶⁰ The addition of Se to the diet altered the expression of a selenoprotein gene, *GPx-1*, in the granulosa cells of large healthy follicles.⁶¹ Authors conclude that selenoproteins have an antioxidant role during the belated follicular development.⁶¹

Similarly, Se is involved in thyroid hormone metabolism, a component of reproductive function and overall metabolic regulation. Selenium facilitates the development of iodothyronine deiodinase enzymes that catalyze the conversion of the prohormone thyroxine (T4) into the metabolically active triiodothyronine (T3).⁶² A diet deficient in Se leads to a decrease in T3 levels and an increase in T4, resulting in a reduced T3/T4 ratio in the blood.⁶² These changes can impact growth rates, as T3 is involved in growth mechanisms.⁶² Deficient calves then supplemented with Se boluses had at least a 20% increase in average daily gain.⁶³ Therefore, Se supplementation reveals it's supporting role in immune function, reproductive health, metabolic regulation, and growth.

1.1.4. Copper

Copper is an essential trace element required as a cofactor for numerous enzymes involved in processes such as red blood cell production, energy metabolism, hormone synthesis, collagen formation, and defense against oxidative stress.⁶⁴ Unlike other animals, ruminants do not have efficient Cu regulatory mechanisms, emphasizing the need for careful monitoring and tailored supplementation strategies.⁶⁴ Beef cattle are recommended approximately 10 mg of Cu per kg of DMI for beef cows, with higher levels (up to 15–20 mg/kg DMI) often used in practice to account for antagonists like sulfur, molybdenum, and iron that impair Cu absorption.²⁷ Copper is actively transported across the bovine placenta via specialized carrier proteins, including CTR1 (copper transporter 1) which facilitate cellular uptake and transplacental movement.⁶⁵ These transporters ensure that copper is delivered to the fetus even against a concentration gradient, supporting enzymatic development and early hepatic storage.⁶⁵ Transfer rates increasing during the final trimester to build fetal liver stores in preparation for birth, as maternal milk contains relatively low concentrations of Cu.⁶⁶

In a two-year study, trace mineral supplementation (Cu, Zn, Mn) improved liver mineral concentrations and pregnancy rates, particularly in the case of artificial insemination (AI)

conception in year 2.⁶⁷ In Cu-deficient beef cattle, subcutaneous Cu injections administered during late gestation significantly elevated both maternal and neonatal serum Cu concentrations, with increased levels persisting in calves through 160 days of age.⁶⁸ Offspring from Cu-supplemented dams exhibited improved early postnatal growth, demonstrated by a higher average daily gain from birth to 75 days ($P = 0.04$) and a tendency toward greater body weight at 75 days ($P = 0.10$), despite no differences in birth weight.⁶⁸ Naylor et al. investigated the effects of Cu supplementation over two years following clinical signs of Cu deficiency.⁶⁹ The authors reported that supplementation with copper ethylenediamine tetraacetate, a synthetic chelated form of Cu, improved growth, with treated calves showing a 2.8% increase in adjusted weaning weights.⁶⁹

1.2. VITAMIN-MINERAL INTERACTION

Vitamins and minerals interact in complex, interdependent ways within the body, often working synergistically to support essential physiological processes such as immune function, reproduction, and antioxidant defense.^{70,71} For example, Se and vitamin E antioxidant functions are interdependent. A diet low in vitamin E may increase the amounts of Se necessary for the prevention of certain anomalies.⁷⁰ However, these nutrients can also antagonize one another when imbalanced. Additionally, excessive dietary Fe can impair Cu and Zn absorption, and high levels of S or Mo can reduce Cu availability, leading to deficiency symptoms despite adequate intake.⁷¹ Therefore, proper formulation of mineral and vitamin supplements is fundamental to avoid negative interactions and ensure optimal health and performance in beef cattle.²⁷

Nutrient interaction is regulated at the molecular level by genes encoding nutrient transporter proteins.⁷² These transmembrane proteins enable cells to transport essential nutrients throughout the cell.⁷² The solute-carrier (*SLC*) superfamily comprises 55 gene families that encode for amino acid, glucose, lipid, minerals and vitamin membrane-bound transporters.⁷³ *SLC19A2* and *SLC19A3*, a thiamine transporter, contribute to the absorption of vitamins from the small intestines.⁷³ Fat-soluble vitamins depend on binding proteins, such as *RBP4* (retinol-binding protein) and *GC* (vitamin D-binding protein), to facilitate transport through the bloodstream.^{45,74} Similarly, members of the *SLC30* (zinc efflux) and *SLC39* (zinc influx) transporter families have been shown in the vectorial transport of zinc across the mammary secretory epithelium.⁷³ Iron uptake is regulated by the transferrin receptor (*TFRC*) and divalent metal transporter 1 (*DMT1*),

both essential for maintaining iron homeostasis in the body.⁷³ Dams supplemented with vitamins and minerals during the first 83 days of gestation exhibited differential expression of *SLC* transporter genes in both the placenta and fetal liver.^{22,75}

Many nutrient transport systems utilize shared binding sites, creating potential for competitive interactions among nutrients with similar chemical structures or ionic charges. This competition can significantly impact nutrient bioavailability, particularly when one mineral is present in excess. Zinc and copper both rely on *DMT1* for cellular uptake; when Zn is supplied in high amounts, it can outcompete Cu, leading to reduced Cu absorption and potential deficiency despite adequate dietary levels.⁷⁶ Similarly, high concentrations of Ca in the diet can impair the absorption of Mg and P by interfering with their transport mechanisms in the intestinal epithelium.⁷⁷ For example, maternal supplementation with a vitamin and mineral mix (containing Ca, P, Na, Mg, K, S, Mn, Co, Cu, Se, and Zn) through day 83 of gestation resulted in elevated concentrations of only Se, Cu, and Co in both maternal and fetal liver tissues.⁷⁸

1.3. MATERNAL SUPPLEMENTATION AND FETAL PROGRAMMING

In the US, forage-based cow-calf systems are prominent to limit feed cost for producers. Forages, such as bermudagrass, bahiagrass, and legumes, like clover and perennial peanut, in the southern US, provide the bulk of a cow's diet.^{32,79} The average mineral composition of typical forages are reported in [Table 1.2](#). However, natural feed sources often vary in nutrient content due to soil composition, forage quality, and seasonal changes, making targeted supplementation necessary to meet the elevated demands of gestation.^{31,32} During periods when forage quality declines, such as in winter or drought conditions, essential nutrients may become insufficient to meet the animal's requirements.³¹ These nutrients are typically provided through free-choice mineral blocks, fortified feed rations, orally or injectable supplements designed for enhanced bioavailability.⁸⁰ Strategic supplementation during this deficit period has been shown to improve fetal mineral status, promote immune function, and enhance postnatal growth trajectories, underscoring the importance of diet formulation in cow-calf production systems.^{15,16,28,81}

Table 1.2. Mineral composition of minerals in various forages.

Mineral composition	Common forages in the Southeast U.S.			
	Bahiagrass	Bermudagrass	Tall Fescue	Annual Ryegrass
Ca, % DM	0.4	0.43	0.38	0.52
P, % DM	0.28	0.21	0.32	0.35
Mg, % DM	0.32	0.17	0.27	0.23
K, % DM	1.6	1.5	2.3	3.6
Fe, % DM	217	115	100	193
S, % DM	0.15	0.33	0.22	0.18
Cu, ppm	8.5	6.3	5	6.8
Zn, ppm	29.4	24.3	17.8	24.9
Mn, ppm	140	839	122	94
Se, ppm	0.09	0.16	0.06	0.1

Table from Mullenix and Greene, which was adapted from Greene et al.^{79,82}

Gestation is a complex process that governs the physiological and metabolic functions essential for fetal development. While much of the research on fetal programming has traditionally emphasized the effects of maternal insults during mid to late gestation, there is increasing recognition of the importance of early gestation in establishing developmental trajectories.²⁹ Although the majority of fetal growth in terms of size occurs during the last third of gestation, the first trimester represents a critical window for key developmental processes, including organogenesis, tissue hyperplasia, and placental formation.⁶ Maternal nutrition during this early period can influence the growth and development of the conceptus through multiple pathways:

directly, by supplying essential nutrients; indirectly, by affecting placental function and nutrient transport capacity; or by modulating epigenetic mechanisms that regulate gene expression throughout development.⁶ Understanding the progression of these developmental processes is necessary when evaluating the effects of maternal nutrition and environmental influences on fetal outcomes.

The maternal nutritional environment is one determinant of fetal growth, development, and long-term productivity in livestock, including beef cattle.^{17,23} Depending on the nutrients provided and stored in the mother, they can influence the synthesis of new tissues, nutrient distribution among tissues, and even boost the fetus's metabolic rate.^{28,81} For the dam, these micronutrients are essential for maintaining physiological functions, which are integral during the increased metabolic demands of pregnancy.^{8,9} In the fetus, vitamins and minerals are indispensable for organogenesis and developing critical physiological systems.^{8,9} Recent studies have highlighted the impact of vitamin and mineral supplementation on beef heifers during gestation affects various aspects of maternal and fetal health.^{17,22,28} Fluctuations in nutrition throughout gestation can have positive or negative impacts on the developing offspring, which are linked to fetal organogenesis, epigenetic modifications, impaired growth, and metabolism functions.¹⁹⁻²¹ However, the understanding of the regulatory mechanisms and long-term consequences are still limited.

Postnatal development and productivity are tied to the intrauterine environment, which encompasses both intrinsic factors, such as placental development and fetal-placental gene expression, and extrinsic factors, including maternal nutrition, climate, and other environmental stressors.⁸³ The placenta, formed early in gestation, serves as the primary interface for fetal nourishment and protection. Placental adaptations to nutritional and environmental changes can modulate fetal development and ultimately influence the expression of genetic potential.⁸³ Maternal chronic energy malnutrition during pregnancy is a leading cause of intrauterine growth retardation (IUGR), which impairs fetal growth and development.⁸⁴ IUGR is more common in litter-bearing species as studies show that nutritional restrictions in IUGR piglets increase susceptibility to gastrointestinal disorders. Additionally, with the rise of advanced reproductive technologies, like embryo transfer and superovulation, the incidence of IUGR in monozygotic animals is increasing.⁸⁴ These findings underscore the need for continued research into the maternal-fetal interface, as cross-species comparisons may offer valuable insights into the

mechanisms by which the maternal environment shapes placental function and fetal development.^{83,84}

A developmental priority during gestation is the simultaneous growth and supply of nutrition to the offspring for fetal organogenesis. The heart, brain, intestine, and liver are among the first organs to develop for the fetus beginning around day 26.⁶ Studies have demonstrated poor maternal nutrition and deficiencies affect tissue development in offspring. A study examining gene expression in the fetal liver, muscle, and cerebrum of developing fetus from nutrient-restricted dams revealed changes in transcriptome abundance that affect tissue metabolism, accretion, and function.⁸⁵ Analyses of liver from fetuses of dams supplemented with vitamins and minerals collected at day 83 of gestation revealed 591 differentially expressed genes, with enriched pathways related to energy metabolism (e.g., PPAR and PI3K-Akt signaling), lipid metabolism, and nutrient transport.⁸⁶ Supranutritional Se supplementation in ewes during early gestation (from 21 days pre-breeding to 64 days post-breeding) influences several fetal developmental parameters, including body weight, heart, lung, spleen, and large intestine mass, total visceral organ mass, and skeletal muscle cell density.⁸⁷ Commercial Supplementation with commercial vitamin and mineral or Cu, Zn, and Mn reported in fetal organ weight, increased concentrations of vitamins in the fetal liver, and variations in expression of nutrient transporter pathways and gene expression in placental tissues.^{67,78}

By late gestation (days 181–280), the fetus undergoes rapid growth and maturation of organ systems, especially the lungs and immune system, in preparation for calving.⁸⁸ The dam's nutritional requirements increase significantly during this period to support fetal development and colostrum production.²⁷ Harvey et al. investigated the effects of supplementing gestating beef cows with either inorganic (sulfate) or organic complexed sources of Co, Cu, Mn, and Z during the last five months of gestation.⁸⁹ While no differences were observed in steer growth performance or carcass traits, heifer progeny from cows receiving organic complexed trace minerals reached puberty 19 days earlier than those from the inorganic group.⁸⁹

A study by Diniz et al. investigated the effects of supranutritional organic Se supplementation during different trimesters of pregnancy on calf muscle development and gene expression.⁹⁰ Results indicated that calves born to cows supplemented during the third trimester exhibited increased whole-blood and muscle Se concentrations at birth.⁹⁰ Moreover, gene expression analysis revealed upregulation of genes associated with muscle function, specifically

myosin and actin filament-related genes, suggesting enhanced muscle development and function.⁹⁰ In pregnant ewe lambs, high dietary Se supplementation influenced maternal and fetal growth differently depending on the timing and extent of nutrient restriction.⁹¹ High Se improved fetal liver and perirenal fat mass under adequate nutrition, while reducing total jejunal cell number and cellular proliferation.⁹¹ These molecular adaptations emphasizing the complex interaction between micronutrient status and maternal nutrition during gestation. These findings reinforce the concept that maternal vitamin and mineral intake during gestation can modulate transcriptomic and epigenetic changes in fetal tissues, leading to altered organ development and postnatal phenotypes.

1.4. SMALL INTESTINE PROGRAMMING AND FUNCTION

Organogenesis of the intestinal epithelium (midgut) arises from the embryonic endoderm, during the first 50 days.²⁹ Development of the small intestine occurs in three stages (1) tissue shaping and cell multiplication, (2) cell specialization, and (3) maturation of both structure and function.⁹² The initial phase formulates the structural and cellular framework that defines the small intestine's future absorptive and digestive capacities.⁹² The growth phase is marked by elongation, differentiation, and expansion of the small intestine. During this time, the *villi* begin to form, enhancing the jejunum's capacity for nutrient absorption.⁹³ Cell differentiation occurs during the 7th week of gestation: enterocytes form primary absorptive cells and goblet cells secrete protective mucus.⁹³ The smooth muscle layers of the jejunum develop during this period, enabling motility for nutrient mixing and transport.⁹⁴ During the final trimester of gestation, the maturation phase of small intestine organogenesis is complete. Between day 115 and 136 of ovine gestation significant increases in intestinal diameter, wall thickness, mucosal thickness, villus height, and crypt depth were observed, dramatically increasing the absorptive surface area.⁹⁵ The maturation phase ensures the jejunum is fully equipped for its role in nutrient absorption and immune defense, which are essential for offspring growth and health following parturition.⁹⁴

The small intestine is a highly specialized structure consisting of the duodenum, jejunum, and ileum, each with specific nutrient breakdown and absorption functions. Bicarbonate-rich secretions from the pancreas and gallbladder supports duodenum digestion by raising neutralizing acidic chyme to raise the pH to support enzymatic activity.⁹⁶ At this stage, the duodenum facilitates the digestion of fats through bile emulsification and contributes to the breakdown of carbohydrates

and proteins via enzymes released from the pancreas.⁹⁶ The jejunum is essential for the absorption of sugars, amino acids, fatty acids, and micronutrients. Structural adaptations, such as villi and microvilli, significantly enhance the surface area for absorption in both the duodenum and jejunum. Maternal nutrition during fetal organ development can lead to long-term changes in the neonatal offspring. For instance, vitamin A supplementation increased the diversity of jejunum microbes, while vitamin A deficiency decreased villus height and villus height/crypt depth ratio.⁹⁷ Finally, the ileum absorbs vitamin B12 and bile acids before entering the large intestine.⁹⁶ The continuous processing and digestion of nutrients depends on the small intestine's function for energy production, metabolism, and growth. Throughout an animal's lifespan, the small intestine exhibits plasticity, continuously adapting to changes in environment and diet.²³ Similarly, gestating sows fed inorganic Zn offspring had an increase in jejunal villus height, duodenal villus width, and ileal villus width.⁹⁸ Increase in villus height and width has been associated with increased nutrient absorption, possibly leading to better feed efficiency.⁹⁸ Mice deficient in Zn during gestation had reduced microbial diversity and increased pathogenic bacteria associated with increased gut permeability and inflammatory responses in the small intestine of their offspring.⁹⁹

1.5. LIVER PROGRAMMING AND FUNCTION

The liver carries out many functions, including metabolism, detoxification, nutrient storage, and immune system regulation.¹⁰⁰ As the largest internal organ, it maintains the body's homeostatic regulation and plays a significant role in metabolic processes throughout life.¹⁰⁰ During early fetal development, the liver is a primary site for hematopoiesis, and contributes significantly to synthesizing proteins and enzymes crucial for the developing organism.¹⁰¹ The liver also governs important metabolic processes such as glycogen storage, lipid metabolism, and protein synthesis.¹⁰² This leads to the liver's development throughout gestation having profound effects on the health and productivity of cattle.²⁹

Malnutrition during critical organ development windows can predispose the offspring to metabolic diseases, liver dysfunction, and poor growth in adulthood.²⁹ Vitamin A promotes cellular differentiation, particularly in the development of organs like the liver and lungs; Increasing maternal vitamin A supplementation in beef cattle during gestation increased the liver retinol concentrations in both dams by day 81 and their calves at 32 days of age, indicating

enhanced vitamin A status from prenatal exposure.¹⁰³ Another study, supplementing beef cattle with vitamins and minerals during the first 83 days of gestation resulted in calves with higher concentrations of Se, Cu, Zn, Mo, and Co in the fetal liver.⁷⁸ Following a similar study design, researchers reported higher body weights during weaning in calves supplemented throughout gestation.²⁸ A study by Syring et al. reported that OCM supplementation, including methionine, choline, folate, and vitamin B12, modulated (1) B12 and folate concentrations in maternal serum (2) folate cycle intermediates in maternal and fetal liver, allantoic fluid (ALF), and amniotic fluid (AMF) and (3) metabolites involved in one-carbon metabolism and related metabolic pathways in maternal and fetal liver, potentially mitigating the adverse effects of maternal nutrient restriction.¹⁰⁴ Altogether, maternal micronutrient status influences hepatic gene expression profiles, providing insight into the molecular pathways that underline fetal liver programming through transcriptomic regulation. These studies underscore the role of micronutrients in fetal liver development and the potential long-term health implications of deficiencies during pregnancy.

1.6. GUT-LIVER AXIS

The digestive process in ruminants begins in the rumen, where fibrous feedstuffs are fermented by microbes into volatile fatty acids (VFAs) (acetate, propionate, and butyrate) along with microbial protein and other metabolites. VFAs are absorbed directly across the rumen wall.⁹⁶ The partially digested moves sequentially through the reticulum, omasum, and abomasum, where further digestion of proteins and nutrients occurs.⁹⁶ Finally, the digesta enters into the small intestine, the jejunum enables nutrient breakdown and absorption to provide energy to the body due to its high metabolic activity and rapid turnover.⁹⁶ The absorbed nutrients and microbial metabolites are then transported via the portal vein to the liver, which serves as a central hub for processing, metabolism, and detoxification before these compounds enter systemic circulation.⁹⁶

The gut-liver axis refers to the bidirectional relationship between the gastrointestinal tract and the liver.¹⁰⁵ This connection involves communication through metabolic, immune, and neural pathways, influenced by dietary, genetic, and environmental factors.¹⁰⁵ This reciprocal interaction is established by the portal vein, which enables transport of gut-derived products directly to the liver, and the liver feedback route of bile and antibody secretion to the intestine.¹⁰⁵ Meanwhile, the liver processes these nutrients, detoxifies harmful substances, and produces bile to aid in further

digestion.¹⁰⁶ Disruptions to the gut-liver axis development, such as maternal high fat diets, lead to alterations in the intestinal barrier, translocation of microbial communities, and the progression of liver disease.¹⁰⁶

The liver serves as the central hub for processing dietary components absorbed in the intestine.⁹⁶ Once nutrients enter the bloodstream via the portal vein, hepatic metabolism regulates energy storage, glucose homeostasis, and lipid synthesis.⁹⁶ Poor maternal nutrition during gestation in fetal calves led to poor liver metabolism and decreased hepatic gene expression in energy metabolism and urea cycle pathways.¹⁰⁷ Proper development during the pre and postnatal period promotes the establishment of normal physiology of the intestinal tract, including permeability, the microbiota and intestinal defenses.¹⁰⁸ The integrity of the intestinal barrier is fundamental for the maintenance of liver homeostasis as increased permeability increases bacterial translocation and liver damage.¹⁰⁹ Loosening of the tight junctions of the enterocyte cells causes leaky gut, aiding in permeability of bacteria into the bloodstream.¹⁰⁹ In rodents, vitamin D3 and calcium influence the immune system response to leaky gut by suppressing inflammatory responses.¹¹⁰

Another interaction of the jejunum-liver axis is the enterohepatic circulation that refers to the constant circulation of metabolites from the intestine to the liver.⁹⁶ The liver produces bile acids to aid in fat digestion in the small intestine, from there it is reabsorbed in the ileum for recycling. However, in the fetus, this cycle is immature, due to the liver not being at full functional capacity.¹¹¹ Therefore, bile acid recycling primarily occurs through the placenta, where the majority of bile acids produced by the developing fetal liver are transferred to the mother's bloodstream for elimination.¹¹¹ Finally, hormonal signaling between the gut and liver regulates various metabolic pathways. Hormones such as glucagon-like peptide-1 (GLP-1) and fibroblast growth factors (FGFs) modulate glucose metabolism, bile acid synthesis, and intestinal maturation.¹¹² Disruptions in these signals between the jejunum and liver can impair fetal liver function, alter gut permeability, and affect postnatal growth and metabolic efficiency.¹¹² Given the close connection between nutrient absorption and metabolic processing within the gut-liver axis, disruptions in fetal intestinal or hepatic gene expression (driven by maternal nutrition) can have compounding effects on energy metabolism, immune function, and postnatal growth efficiency.

1.7. GENOMIC BASIS OF FETAL PROGRAMMING

Emerging transcriptomic studies have revealed fetal hepatic and intestinal tissues are highly sensitive to maternal micronutrient status, showing differential expression in genes related to energy metabolism, oxidative stress, and immune regulation.^{75,113} Moreover, interactions between maternal nutrition and placental function, such as altered expression of nutrient transporters and angiogenic factors, further modulate fetal exposure to critical micronutrients, shaping transcriptomic outcomes in a tissue-specific manner.¹¹⁴ Although these studies have shown a change in the expression profiles, the mechanisms leading to such changes are still being investigated. Minerals contribute to epigenetic regulation, particularly during embryonic development, by serving as cofactors for enzymes involved in DNA methylation, histone modification, and non-coding RNA (ncRNAs).¹¹⁵ Imbalances in mineral levels can lead to epigenetic disturbances that accumulate with age and inherited across generations.¹¹⁵ These epigenetic modifications influence gene expression through gene silencing, histone structure, and mRNA translation.

The most common form of DNA methylation is the transfer of CH₃ on the 5' cytosine residue connecting to guanine, termed CpG sites ('p' representing the phosphodiester bond linking cytosine and guanine). The addition of methyl groups will protrude into the major groove of DNA. Due to this, methylation tends to silence gene expression because the DNA cannot be copied into RNA efficiently.¹¹⁶ Koukoura et al., reported that DNA methylation is crucial for embryonic and fetal development, specifically in organogenesis and emphasizing its role in ensuring proper growth and tissue formation in utero.¹¹⁶ In feed restricted dams during mid-late gestation, their fetuses had higher methylation levels of Insulin Like Growth Factor 2 (*IGF2*) were recorded with decreasing levels of *IGF2* expression.¹¹⁷ This epigenetic modification may impair fetal growth and development, as *IGF2*'s role in regulating nutrient transfer and tissue growth during gestation, suggesting that maternal undernutrition can have long-term consequences on offspring health and performance.¹¹⁷ Additionally, maternal choline supplementation has been observed to increase global DNA methylation in fetal liver, suggesting that maternal intake of methyl-group donors can affect DNA methylation of imprinted genes in the developing fetus.¹¹⁸ Maternal nutrient status can influence methylation patterns, proving that DNA methylation leads to altered gene expression in utero.^{117,118}

MicroRNAs are a type of small ncRNA that regulate gene expression post-transcriptionally by binding to complementary sequences in target messenger RNAs (mRNAs), often leading to mRNA degradation or translational repression.¹¹⁹ MicroRNAs (miRNAs) are highly expressed in fetal liver and have been shown to influence hepatic growth, metabolic function, and nutrient sensing.¹²⁰ Maternal supplementation of choline and docosahexaenoic acid affected the expression of 1 and 6 miRNAs, respectively, in the fetal liver with these changes linked to biological pathways involved in immune function, metabolic regulation, and inflammation.¹²⁰ Vitamins and minerals have been identified as modulators for the expression of miRNAs.¹¹⁹ Specifically, organic trace minerals fed to cows during late gestation altered the expression of inflammation-related miRNAs (miR-155 and miR-125b) in neonatal calves.¹²¹ Indicating maternal nutrition's regulatory role in offspring's immune response through changes in both gene and miRNA expression.¹²¹ Similarly, previous studies suggest that vitamin E regulates gene expression at the post-transcriptional level through miRNA modulation.¹²² Vitamin E deficiency in a rodent model resulted in decreased levels of miR-122 expression relating to lipid metabolism.¹²²

Future research should aim to explore the interplay between epigenetic modifications (DNA methylation, histone modifications, and non-coding RNAs) and how these mechanisms collectively regulate gene expression. Investigating how these epigenetic marks interact and change over time, particularly in response to maternal nutrition or environmental factors, could provide deeper insight into the persistence of gene expression patterns from fetal development through postnatal life. This integrated approach will be essential for identifying long-term effects on animal growth, health, and productivity.

1.8. SYSTEMS BIOLOGY AND REGULATORY MECHANISMS

Systems biology is an interdisciplinary approach that combines biology, computational modeling, and data analysis to understand how different components of a biological system (genes, proteins, and metabolic pathways) interact to influence overall function.¹²³ This framework has advanced our ability to study complex biological processes, such as how maternal supplementation during gestation influences regulatory networks at the molecular level. Through high-throughput omics technologies researchers can integrate multiple data layers to identify regulatory mechanisms that govern gene expression and physiological outcomes in offspring.¹²³ Among the

methods to understand the genetic architecture of complex traits and to infer gene-gene interaction is co-expression network analysis.^{124,125} These approaches are based on guilty by association, which assumes co-expressed genes are functionally related, and underlie the genetic, biochemical, and environmental factors affecting an organism.¹²⁵ These networks help reveal potential functional relationships and regulatory pathways that may not be detectable when analyzing individual datasets in isolation.¹²⁶

A systems-level perspective enables a more comprehensive understanding of the biological effects of maternal nutrition on offspring development. It can also provide a basis to investigate causal relationships of complex-trait architecture and identify key regulatory genes.^{127,128} Co-expression suggests potential coregulation, wherein genes may be regulated by shared transcriptional or epigenetic mechanisms and contribute to common biological pathways.¹²⁵ While co-expression alone does not confirm direct interaction, it serves as a powerful tool for uncovering functionally related gene groups. Focusing on transcriptomics and proteomics, maternal dietary restriction on day 85 of gestation resulted in an up-regulation of genes involved in muscle development factors like *SIX1*, *PAX7*, *CDK4*, *CDK6*, and *BCL-2*, while skeletal muscle markers *MYF5* and *MyoD* were down-regulated in fetus.¹²⁹

Among the available methods, the Partial Correlation and Information Theory (PCIT) offers a framework for constructing these networks by accounting for indirect correlations and eliminating false connections.¹²⁴ PCIT works by evaluating every trio of genes, determining whether the correlation between two genes (e.g., A and B) is direct or merely the result of both being correlated with a third gene (e.g., C).¹²⁵ By filtering out noise and redundant links, PCIT produces a more accurate depiction of the regulatory landscape, allowing for the identification of core modules, densely connected gene clusters, and hub genes, which may serve as regulatory nodes within these modules.¹²⁵ Previous research in our lab has shown that maternal nutrition during early gestation affected significant gene-gene interactions within and across fetal tissues (liver, muscle, and cerebrum).¹⁷ In fetuses from nutrient restricted dams at day 50 of gestation, genes involved with muscle development were often negatively correlated with transcriptional repressors (*ZBTB33* and *ZNF131*), suggesting a suppression of myogenic pathways. Additionally, across all tissues, nutrient-sensing pathways like mTOR, PI3K/Akt, and insulin signaling were differentially regulated, indicating a broad metabolic adaptation to limited maternal resources.¹⁷

Building upon gene interactions, Regulatory Impact Factor (RIF) analysis quantifies the influence of specific regulatory elements on gene expression by evaluating how their co-expression patterns with differentially expressed genes (DEGs) shift between experimental groups.¹²⁶ Rather than identifying regulators based on expression levels, RIF algorithm (RIF1 and RIF2) focuses on how strongly a regulator's expression correlates with the expression of DEGs and whether those relationships differ across conditions.¹²⁶ RIF1 identifies regulators whose connectivity with target genes differs between conditions, while RIF2 highlights transcription factors with the potential to predict changes in target gene expression.¹²⁶ RIF analysis identified transcriptional regulators that may mediate the effects of maternal Se supplementation on skeletal muscle development in calves.⁹⁰ The top 50 RIF1 and RIF2 genes included regulators such as *IGF1*, *INSR*, *PIK3C2B*, and *FOXO3*, which are associated with muscle growth and metabolism.⁹⁰ These genes are involved in pathways like insulin signaling, oxidative phosphorylation, and energy metabolism, suggesting they play a pivotal role in developmental programming influenced by selenium status during gestation.⁹⁰

1.9. CONCLUDING REMARKS AND PERSPECTIVES

By drawing together data on nutrient requirements, transcriptomic regulation, and fetal organogenesis, this review underscores the need to integrate molecular biology with nutritional strategies; ultimately positioning maternal supplementation not just as a management tool, but as a powerful determinant of long-term cattle productivity and health. Maternal vitamin and mineral supplementation during early gestation has been shown to significantly influence the development of fetal organs, including the liver and intestines. These organs are essential for energy metabolism and nutrient absorption. Evidence also suggests that maternal nutrition during critical windows of development can have lasting effects well into adulthood, shaping not only immediate growth outcomes but also long-term metabolic function.²⁸ Evidence of altered gene expression and blood metabolite profiles, changes in organ mass, , and variable effects on weaning weights and muscle accretion suggest that maternal supplementation plays a role in fetal development and postnatal phenotypes.^{16,28,81} Collectively, these findings demonstrate that maternal vitamin and mineral supplementation during gestation has measurable effects on offspring growth, metabolism, and tissue development.

From a livestock production standpoint, the findings summarized in this review highlight the need for precision supplementation strategies that account for the timing, form, and interactions of vitamins and minerals provided during gestation. Future research should aim to identify the critical windows during which specific micronutrients exert the greatest influence on gene expression and consequently organ development. In addition, advancing multi-omics approaches, including epigenomics and metabolomics, will provide a more comprehensive understanding of fetal development regulatory networks. Finally, recognizing the transgenerational implications of fetal programming is essential. Maternal micronutrient status not only affects immediate offspring but may also influence the programming of future generations through germline epigenetic inheritance. Thus, investing maternal nutrition is not merely a short-term intervention but a long-term strategy for improving herd health, productivity, and sustainability.

The literature demonstrates that maternal vitamin and mineral supplementation during gestation should not be a nutritional consideration but a foundational determinant of fetal programming with profound implications for postnatal growth, metabolic health, and long-term productivity in beef cattle. Despite these advances, further investigation is needed to fully understand how maternal nutrition shapes intestinal development and function, both in the short and long-term. Specifically, studies should explore how specific macro and micronutrients contribute to intestinal and liver morphology, immune programming, and nutrient absorption capacity. Additionally, further studies are warranted to understand how to overcome or mitigate potential negative effects of fetal programming and approaches to leverage the benefits of strategic supplementation.

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Chapter 2

EARLY LIFE PROGRAMMING OF THE NEONATAL BOVINE JEJUNUM IN RESPONSE TO MATERNAL VITAMIN AND MINERAL SUPPLEMENTATION¹

ABSTRACT

We investigated the effects of maternal vitamin and mineral (VTM) supplementation throughout gestation on gene expression in the jejunal mucosa of neonatal calves. Crossbred Angus heifers (n = 14) were estrus synchronized, bred to female-sexed semen, and randomly assigned to a basal diet (Control, CON; n = 7) or the basal diet plus VTM supplement (Treatment, VTM; n = 7). After parturition, calves were removed from their dams before suckling, fed colostrum replacer, and euthanized 30 h after the first feeding. A subsample of the mucosa of the mid-jejunum was collected, and total RNA was isolated. Gene expression was measured using RNA-Seq, and differentially expressed genes (DEGs) were identified using DESeq2. We identified 528 DEGs from the jejunal mucosa between the VTM and CON calves ($P \leq 0.05$ and $|\log_2FC| \geq 0.5$). The DEGs were associated with nutrient transport, lipid metabolism, and immune-related biological processes and pathways. Interestingly, genes underlying the complement and coagulation cascades were mostly downregulated in calves born to VTM dams. On the other hand, the cytokine-cytokine receptor interaction KEGG pathway showed most genes upregulated (*LIFR*, *KDR*, *TNFRSF4*, *TNFSF18*, *FLT1*, and *TNFRSF12A*). Our results show that vitamin and mineral supplementation throughout gestation affects genes underlying tissue structure, nutrient transport and metabolism, and immune system pathways in neonates. The implications of such changes and the long-term outcomes on herd health and performance warrant further research.

Keywords: beef cattle; developmental programming; immune system; jejunum; maternal mineral and vitamin supplementation, transcriptome

¹ Craner et al. Early life programming of the neonatal bovine jejunum in response to maternal vitamin and mineral supplementation. *Journal of Developmental Origins of Health and Disease*. DOI: [10.1017/S2040174425000157](https://doi.org/10.1017/S2040174425000157).

2.0. INTRODUCTION

Vitamins and minerals are micronutrients required by the body in small amounts to achieve homeostasis and various physiological processes, such as metabolic regulation, immune function, and modulating gene expression.¹⁻³ The availability of these nutrients is often limited by forage quality, requiring supplementation by beef producers.⁴ However, despite ongoing research into their critical role in fetal development, vitamin and mineral supplementation strategies are largely variable among producers.⁵⁻⁷ Maternal nutrient requirements vary during gestation due to the increased demand for nutrients to supply the growing fetus.⁸ We have shown that supplementation of vitamins and minerals during the periconceptual period to beef heifers through the first 83 days of gestation increased the concentrations of trace minerals in the fetal liver and muscle.^{2,6} Similarly, VTM supplementation to cow-calf pairs grazing native range pastures increased Se, Cu, and Co liver concentrations at pasture removal and weaning for cows and suckling calves compared with the non-supplemented cohort.⁹

Nutritional management during gestation can positively or negatively impact the offspring's development due to the *in utero* programming of organ systems.¹⁰⁻¹² In ruminants, altered small intestinal mass, *villi* morphology, hypertrophy, hyperplasia, vascularity, and gene expression were affected due to maternal overnutrition or nutrient restriction.¹³ Vitamin and mineral supplementation combined with a moderate rate of body weight gain to heifers during early gestation increased the fetal small intestinal weight compared with fetuses from supplemented heifers managed at a low rate of gain.⁶ Furthermore, we have shown that the hepatic expression of energy- and lipid-related genes in these fetuses was differentially programmed.¹⁴ These findings suggest that compensatory mechanisms within the developing fetus may regulate the growth rates of metabolic organs, potentially adapting to adjust energy utilization.⁶ Such adaptations may have lasting implications on the offspring's body composition outcomes due to compromised metabolic programming.^{8,15} Offsprings born to VTM dams from a similar cohort used in the current study were heavier than CON from weaning through 15 months of age. These adaptations were also observed in greater blood glucose at birth and altered feeding behaviors in VTM offspring compared with CON.⁷

We have shown considerable effects on the programming of fetal tissues, metabolism, and placental development in response to maternal nutrition.¹⁶⁻¹⁹ Changes in visceral organs during

pregnancy may have long-lasting effects on the production efficiency of the offspring. Visceral organs, such as the jejunum, begin development by day 26 of gestation¹ and their development and function may also be programmed *in utero*.¹³ The jejunum is the main site of absorption of nutrients²⁰ and has a high metabolic activity and rapid turnover.²¹ Furthermore, the intestinal immune system plays a key role in pathogen recognition and immune response.²² Despite its importance, the role of maternal nutrition in the programming of the offspring jejunum remains largely underexplored.

The observed outcomes of vitamin and mineral supplementation on postnatal growth performance, together with our previous findings under a similar experimental model,^{7,23} led us to investigate the effects of maternal vitamin and mineral supplementation on the gene expression profile of jejunum in neonatal calves. We hypothesized that the maternal vitamin and mineral supplementation throughout gestation would differentially program the jejunal mucosa through changes in the expression of genes involved with immune response, nutrient uptake, and metabolism. Herein, through a transcriptomics approach, we identified differentially expressed genes in the jejunal mucosa of newborn calves, as well as the underlying biological processes affected by maternal vitamin and mineral supplementation. Additionally, we measured gene-gene interactions to uncover regulatory genes in response to maternal diet. Our findings show that the maternal vitamin and mineral supplementation throughout gestation affected genes regulating pathways such as the intestinal immune network for IgA production, cytokine-cytokine receptor interaction, fat digestion and absorption, regulation of immune response, and inflammatory response.

2.1. MATERIAL AND METHODS

2.1.1. Care and use of animals

All animal procedures were approved by the North Dakota State University (NDSU, Fargo, ND, USA) Institutional Animal Care and Use Committee (#A21047).

2.1.2. Animals, housing, and diet

The development of the experimental model and study design were previously reported.^{7,23} In brief, 72 crossbred Angus-based heifers (~ 14 to 15 months of age, initial body weight (BW) = 380.4 ± 50.56 kg; standard deviation) were used to determine the influence of vitamin and mineral supplementation throughout gestation on offspring development. Following a 14 d acclimation to an electronic individual feeding head-gate system, heifers were estrus synchronized using a 7-day Select Synch + CIDR estrus synchronization protocol²⁴ and bred via artificial insemination (AI) using female-sexed semen from a single sire. After AI, heifers were blocked by BW and randomly assigned to receive either a basal diet (control; CON; n = 36) or a basal diet plus a VTM supplement (VTM; n = 36). Heifers pregnant to the first AI were used in a different experiment.⁷ Within their respective treatment groups, heifers not pregnant after the first AI (CON, n = 19; VTM, n = 18) were resynchronized as described above and bred via AI 60 d after the first insemination.²³

Treatments were applied from 60 d pre-breeding through calving. However, the vitamin and mineral supplement provided from pre-breeding to day 239 of gestation was a loose product (Purina Wind and Rain Storm All Season 7.5 Complete, Land O'Lakes, Inc., Arden Hills, MN, USA; [Table 2.1](#)) top-dressed over the basal diet. From day 240 of gestation, the vitamin and mineral supplement was added into the total mixed ration (TMR) for the VTM treatment group. Diet compositions were described elsewhere²³ and are reported in Appendix 1.1. Individual feed deliveries were monitored through a Calan head-gate system and adjusted during gestation to achieve targeted BW gains of 0.45 kg•heifer-1•d-1 through day 200. After that, feed deliveries were altered to allow for *ad libitum* daily intake in preparation for calving.²³ Individual intake from day 240 was monitored via the Insentec feeding system (Hokofarm Group B.V., the Netherlands). At parturition, calves were promptly removed from their dams before suckling and were housed in individual pens. Within 2 h of birth, calves were fed 1.4 L of commercial colostrum replacer (LifeLine Rescue High Level Colostrum Replacer, APC, Ankeny, IA, United States) via an esophageal feeder. At 12 and 24 h after the initial colostrum feeding, calves were fed 2 L of milk replacer (Duralife 20/20 Optimal Non-Medicated Milk Replacer, Fort Worth, TX) using an esophageal feeder. At 30 hours after the initial colostrum feeding, 14 heifer calves (n = 7 per group) were euthanized via captive bolt and exsanguination. Considering the calving window and treatments, we slaughtered the calves born earlier in the season, processing them 30 hours after they were born. Organs were collected, weighed, and a subsample of mid-jejunum was harvested. The sampling location followed the methods described by Trotta et al.²⁵ In brief, the small intestine

was removed at the pyloric and ileocecal junction, representing portions of the duodenum and ileum, respectively. The remainder of the small intestine was measured and cut in half to represent the proximal and distal jejunum. One-meter segments were cut and sampled from the midpoint of the previously cut sections.²⁵ The jejunal mucosa was scraped using a glass microscope slide, snap-frozen on dry ice, and stored at -80°C .

Table 2.1. Nutrient composition of vitamin mineral (VTM) supplement and feed ingredients of basal diets delivered to gestating heifers from breeding through calving.

Item	Assurance levels	
Minerals ¹	Min	Max
Calcium, g/kg of DM	135	162
Phosphorus, g/kg of DM	75	-
Sodium Chloride, g/kg of DM	180	216
Magnesium, g/kg of DM	10	-
Potassium, g/kg of DM	10	-
Manganese, mg/kg of DM	3,600.00	-
Cobalt, mg/kg of DM	12	-
Copper, mg/kg of DM	1,200.00	-
Iodine, mg/kg of DM	60	-
Selenium, mg/kg of DM	27	-
Zinc, mg/kg of DM	3,600.00	-
Vitamins, IU/kg of DM		
A		661,500.00
D		66,150.00
E		661.5

¹Purina® Wind and Rain® Storm® All Season 7.5 Complete Mineral (Land O'Lakes, Inc., Arden Hills, MN); Ingredients: Dicalcium Phosphate, Monocalcium Phosphate, Processed Grain By-Products, Plant Protein Products, Calcium Carbonate, Molasses Products, Salt, Mineral Oil, Potassium Chloride, Magnesium Oxide, Ferric Oxide, Vitamin E Supplement, Vitamin A Supplement, Lignin Sulfonate, Cobalt Carbonate, Manganese Sulfate, Ethylenediamine Dihydroiodide, Zinc Sulfate, Copper Chloride, Vitamin D3 Supplement, Natural and Artificial Flavors, Sodium Selenite.

2.1.3. RNA extraction, library preparation, sequencing, and data processing

Total RNA was extracted from the jejunal mucosa (n = 7, VTM; n = 7, CON) using the RNeasy kit (Qiagen Germantown, MA, USA), followed by on-column DNase treatment, according to the manufacturer's protocol. The integrity and quality (IQ) of the RNA samples were assessed with the Qubit RNA IQ Assay kit (ThermoFisher Scientific) and agarose gel electrophoresis. All samples met the required quantity and quality parameters for library preparation (IQ $\geq$ 8). Strand-specific RNA libraries were prepared using the NEBNext[®] Ultra[™] II Directional RNA Library Prep Kit for Illumina (New England BioLabs[®], Ipswich, MA, USA) with PolyA mRNA enrichment. Paired-end libraries were sequenced on the Illumina[®] NovaSeq 6000 platform, with 150 bp reads, and a 20 M reads/sample depth. Novogene Co., Ltd. (Nanjing, China) performed the library preparation and sequencing.

Raw data quality control was based on filtering out sequencing adaptors and reads with a Phred-Score lower than 30. FastQC v. 0.11.9²⁶ and MultiQC v. 1.10.1²⁷ were used to perform data quality control and read statistics of the raw reads. The reads were mapped to the ARS-UCD1.2. (release109) *Bos taurus* reference genome using the STAR aligner v.2.7.5.²⁸ We counted the mapped reads using the *quantMode GeneCounts* flag from STAR.²⁸ Post-mapping quality control was conducted with MultiQC and edgeR v. 4.0.3.²⁹

2.1.4. Differential expression, regulatory transcription factors, and co-expression network analyses

Genes with zero or low-count expression were filtered out using the *filterByExpr* function from edgeR.²⁹ A principal component analysis was performed using the factextra v1.0.7³⁰ R-package to identify potential batch effects. To identify differentially expressed genes (DEGs), we used DESeq2 v. 1.42.0,³¹ which applies a negative binomial distribution to model the RNA-Seq data. A pairwise comparison was performed between the VTM and CON groups. Genes with a $P \leq 0.05$ and absolute log2 fold change > 0.5 were considered significant. The DEGs were classified as up or downregulated based on the sign of the log2FC in the VTM group. Gene annotation was performed using BiomaRt v. 2.58.2³² based on the bovine ARS-UCD1.2. (release109) reference from the Ensembl database. To visualize the DEGs, a volcano plot was constructed using EnhancedVolcano plot v. 1.20.0 R-package.³³

To identify transcription factors (TFs) modulating the differential expression between VTM and CON groups, we used the regulatory impact factor (RIF) algorithms, RIF1 and RIF2.³⁴ RIF1 assigns a high score to TFs that are most differentially co-expressed with the highly abundant and differentially expressed genes, while RIF2 assigns a high score to TFs whose expression can predict better the abundance of DEGs.^{34,35} To this end, all genes tested for differential expression were normalized using the *VST* function from DESeq2. Then, after mining the AnimalTFDB bovine database v.4.0,⁴⁰ we filtered out those TFs that were not expressed in our dataset. The remaining TFs ($n = 1,445$) were contrasted with the DEG list. The analysis was implemented in FORTRAN 90 based on the source code available from the RIF's main author, as previously described.^{16,34} Key TFs were selected considering either one of the two RIF scores was greater than $|1.96|$ of the standard deviation ($P < 0.05$).^{16,34} The co-expression profile of gene pairs for DEGs and TFs was created based on the partial correlation and information theory (PCIT) algorithm.³⁷ Significantly co-expressed pairs were selected based on a partial correlation value greater than $|0.8|$ ($P \leq 0.05$). Cytoscape v.3.9.0 was used for network visualization.³⁸

2.1.5. Functional over-representation and gene set enrichment analyses

To understand the biological roles of the genes in response to the maternal diet, we used two approaches for functional analysis. First, based on the DEGs identified between VTM and CON groups, we performed an over-representation analysis using ClueGO 2.5.10.³⁹ Redundant terms were grouped based on the kappa score = 0.4.³⁹ The P -value was calculated and corrected with a Bonferroni step-down ($P \leq 0.05$). Over-represented KEGG pathways and Gene Ontology (biological processes) terms were identified and considered significant when $P \leq 0.05$. These analyses were carried out based on the *B. taurus* annotation, and the network visualization was performed on Cytoscape version 3.9.0.³⁸

Second, we used a functional class scoring approach based on the Gene Set Enrichment Analysis (GSEA) method considering on all genes tested for differential expression. This approach was used to identify group of genes (gene sets) acting on common pathways rather than DEGs individually.⁴⁰ The following equation was used to rank the genes: $rank = [sign(log_2FC) \times -log_{10}(p - value)]$.⁴¹ Considering this equation, the sign of the ranking (positive or negative) will be given by the fold-change, whereas the magnitude will be given by the P -value.⁴¹ Thus,

instead of analyzing individual genes, GSEA evaluates whether predefined gene sets from specific pathways or processes are over-represented among the top or bottom of our ranked gene list.^{40,42}

The GSEA analysis was implemented through the WebGestalt (WEB-based Gene Set AnaLysis Toolkit)⁴³ to identify over-represented KEGG pathways at the top or bottom of the ranked list of genes.⁴⁰ Based on the GSEA assumptions, the degree of enrichment is represented by the normalized enrichment score (NES). The NES is the enrichment score for the gene set after it has been normalized across analyzed gene sets. A significant positive NES value indicates that members of the gene set tend to appear at the top of the gene list (positive fold change), while a significant negative NES indicates the opposite.⁴⁰

2.2. RESULTS

2.2.1. VTM supplementation throughout gestation affects maternal and neonatal mineral reserves

The effects of the maternal diet on maternal and neonatal trace mineral concentrations and body weight (BW), blood metabolites, and neonatal organ mass were previously reported.²³ These results are outlined below to give the reader a background and contextualize the current findings. By design, BW for dams was similar ($P \geq 0.25$) throughout gestation (CON = 510.1 ± 57.99 kg, VTM = 528.0 ± 65.86 kg). Likewise, VTM supplementation did not affect maternal BW at calving (CON: 558 ± 49.1 kg; VTM: 534 ± 34.4 kg) nor neonatal BW at birth and 30 h later.²³ Similarly, no differences were observed in the neonatal tissue weights.²³ Except for cobalt, no differences were observed in dam serum trace mineral concentrations at calving. Conversely, calves born to VTM-supplemented dams exhibited greater concentrations of Se and Mo in the liver and Co and Se in the serum 30 h post-calving.²³ Moreover, VTM treatment increased the concentrations of vitamin A in maternal serum and D in the serum of the calf and the dam.

2.2.2. Maternal VTM supplementation affects transcription factor (TF) regulation and gene expression of the jejunal mucosa in newborn calves

The RNA-Seq approach generated, on average, 30.5 M clean reads per sample (ranging from 21.0 to 38.2 M reads per sample). On average, 94.4% of the total reads were uniquely mapped to the reference genome (Appendix 1.2). Following post-mapping quality control (QC) by removing not expressed or lowly expressed genes, 15,043 out of 27,607 genes remained in the 14 samples for differential expression analysis.

Using DESeq2, we identified 528 differentially expressed genes (DEGs) between the VTM and CON treatment groups ($P \leq 0.05$ and $|\text{Log2FC}| > 0.5$; Appendix 1.3). Among them, 231 genes were upregulated, and 297 were downregulated in the VTM neonatal calves (Figure 2.1A). Most genes consisted of protein-coding (94.49%); however, long noncoding (3.2%), microRNAs (0.19%), and others (2.12%) were also identified. DEGs with the most significant P -values were *KCNMB4*, *ODF3L2*, *PTPRNA*, *BTBD19*, *TLE2*, *TMC7*, and *FLT1*. We identified 33 DEGs, which were TFs, including *LBX2*, *ATOH8*, and *ZBTB7C*.

A heat map of the top 20 DEGs is shown in Figure 2.1B. To understand the potential effects of VTM treatments on programming genes involved with nutrient transport, we screened the DEG list to identify nutrient transporter-coding genes from the SLC and ABC families. We retrieved 12 genes from the SLC and two from the ABC families (Figure 2.1C). All these genes were downregulated in the calves born to VTM dams, except for the *SLC25A14* and *SLC22A17*.

Based on the RIF metrics, we identified 98 unique significant TFs out of 1,078 tested as potential regulators of differential gene expression ($P \leq 0.05$). The TFs identified as regulators for the VTM vs. CON groups are reported in Appendix 1.4. These TFs were grouped into 25 families. Among them, the zinc finger C2H2 and homeobox were over-represented by 41 and 12 TFs, respectively (Appendix 1.4). From RIF1, the TFs *NFATC1* ($z\text{-score} = -2.947$) and *ONECUT2* ($z\text{-score} = -2.40$) showed the most extreme negative values, whereas *ZSCAN16* ($z\text{-score} = 5.17$) and *ZNF274* ($z\text{-score} = 4.66$) showed the greatest positive values. Likewise, for RIF2, we found *SMARCA11* ($z\text{-score} = -2.48$) and *MYC* ($z\text{-score} = -2.44$) as the extreme negative and *E2F3* ($z\text{-score} = 3.42$) and *NR2C1* ($z\text{-score} = 3.24$) as the extreme positive.

To identify the co-expression profiles between DEGs and RIF genes (TFs), we used partial correlation and information theory.³⁷ Our network analysis retrieved 43,606 co-expressed pairs ($P \leq 0.05$). To reduce the data dimensionality, we kept 4,783 co-expressed pairs (corresponding to 552 unique genes) with a partial correlation greater than $|0.8|$ ($P \leq 0.05$) (Figure 2.2; Appendix 1.5). Among the pairs, we had 92 TFs, from which 65 were also RIF genes (Appendix 1.5). Based

on the network analysis, *ZNF414*, *ATOH8*, *NR1H3*, *NFATC4*, and *LBX2* were the most connected TFs (degrees ranging from 23 to 49; [Figure 2.2](#)).

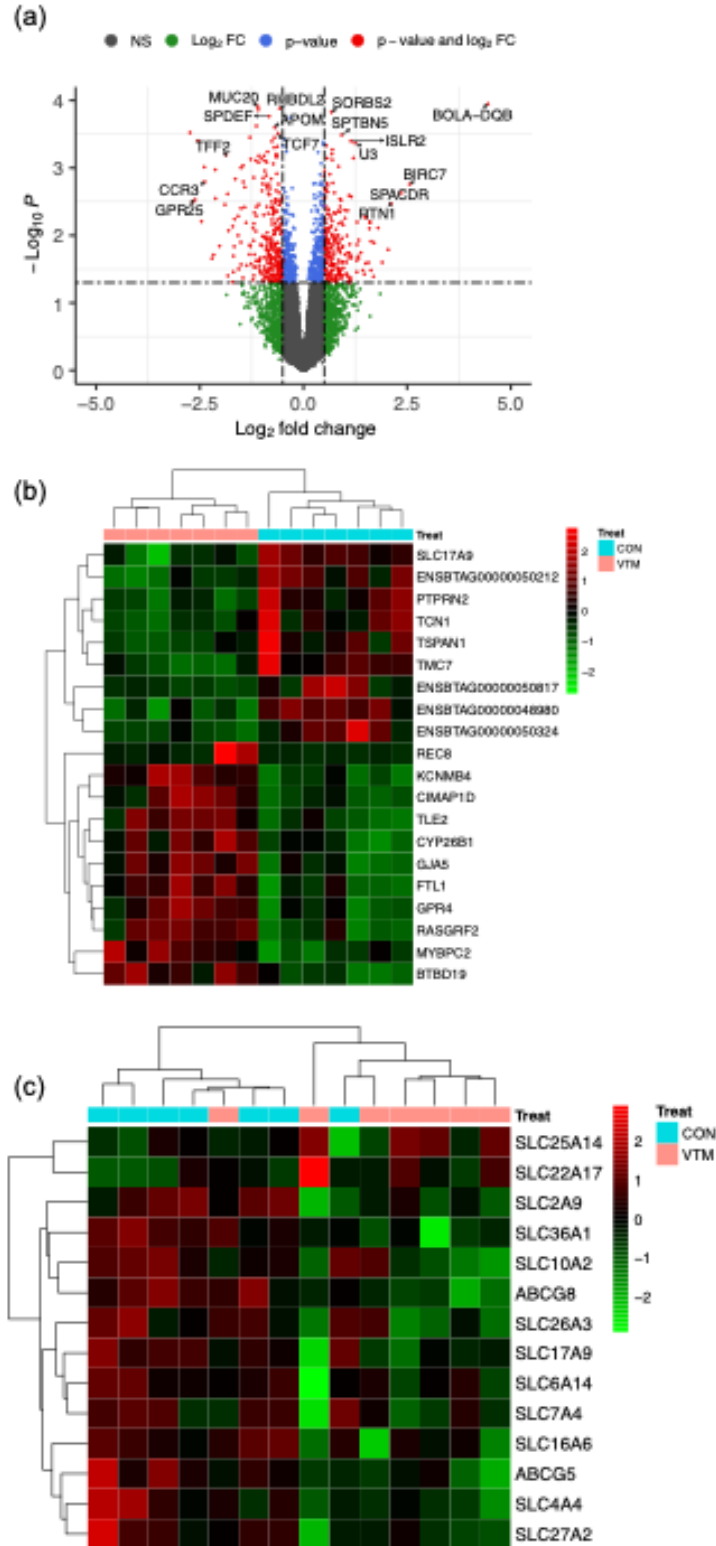


Figure 2.1. Transcriptomic profile of the jejunal mucosa of neonatal beef heifers born from dams receiving or not receiving vitamin and mineral supplementation (VTM or CON) during gestation.

(a) Volcano plot of differentially expressed genes (DEGs) from the jejunal mucosa between VTM vs. CON groups. Each dot represents a gene. The difference in gene expression between the groups is shown as the log₂ fold change (x-axis). The -log (base 10) of the *P*-value is shown on the y-axis. DEGs are color-coded as represented in the legend; **(b)** Heat map of the top 20 DEGs of the jejunal mucosa of neonatal beef heifers between VTM vs. CON groups; **(c)** Heat map of genes from the SLC and ABC transport families identified as DEGs. The heat map colors high and low expression values by red and green, respectively. The expression level of DEGs and groups are color-coded as represented in the legend.

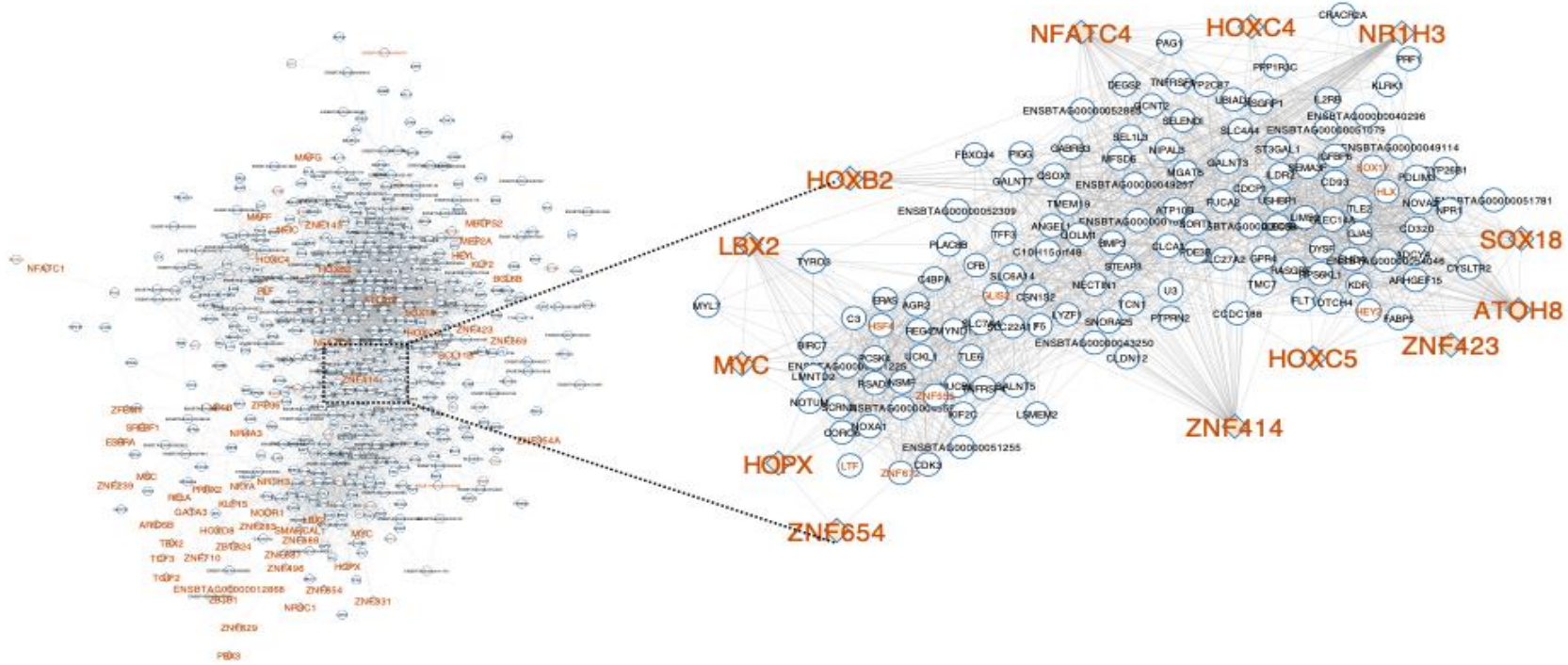


Figure 2.2. Regulatory network of differentially expressed genes (DEGs) from the jejunal mucosa of neonatal beef heifers born from dams receiving or not receiving vitamin and mineral supplementation (VTM or CON) during gestation.

Zoom in on the transcription factors (TFs) with the highest degree and first neighbors. Nodes are DEGs between VTM vs. CON groups and TFs with significant regulatory impact factor (RIF) built through Partial Correlation Information Theory (PCIT). Transcription factors are labeled in orange color and those identified as RIFs are represented by a diamond-colored shape. Significantly co-expressed pairs were selected based on a partial correlation value greater than $|0.8|$ ($P \leq 0.05$). Nodes with few connections not linked to the main network are not shown. Cytoscape v.3.9.0 was used for network visualization.

2.2.3. Maternal VTM supplementation throughout gestation affects genes underlying immune-related pathways in the jejunal mucosa of newborn calves

To identify over-represented pathways and biological processes affected by the DEGs, we performed an over-representation analysis utilizing ClueGO.³⁹ Significant KEGG pathways (Figure 2.3) over-represented by DEGs from the VTM vs. CON groups included glycerolipid, glycerophospholipid, and sphingolipid metabolism, which grouped pathways such as cholesterol metabolism, steroid hormone biosynthesis, and fat digestion and absorption. Pancreatic secretion and cGMP-PKG signaling pathways were grouped with several other pathways, including calcium signaling, insulin secretion, thyroid hormone synthesis, and regulation of lipolysis in adipocytes. KEGG pathways consisting of most downregulated genes in the VTM group were fat digestion and absorption and mucin-type O-glycan biosynthesis.

KEGG pathways and BPs related to immune response and process were over-represented (Figure 2.3). Intestinal immune network for IgA production, cytokine-cytokine receptor interaction, and *Staphylococcus aureus* infection were among the over-represented pathways sharing DEGs. Interestingly, genes underlying the complement and coagulation cascades were mostly downregulated in calves born to VTM dams, including *F5*, *F2*, *SERPINF2*, *SERPINA1*, *C4BPA*, *CD55*, *CFB*, and *C3*. On the other hand, the cytokine-cytokine receptor interaction KEGG pathway showed most genes upregulated in the VTM group (*LIFR*, *KDR*, *TNFRSF4*, *TNFSF18*, *FLT1*, and *TNFRSF12A*). Figure 2.3B shows the over-represented BP, including leukocyte-mediated immunity, leukocyte activation, innate immune response, and defense response ($P \leq 0.05$). Among the underlying genes in most biological processes, we can highlight *HEY2*, *CACNA1G*, *IGFBP2*, *IGFBP6*, *SKAP1*, and *KLRK1*. These results shed light on specific pathways and biological processes likely affected by changes in gene expression influenced by maternal VTM supplementation.

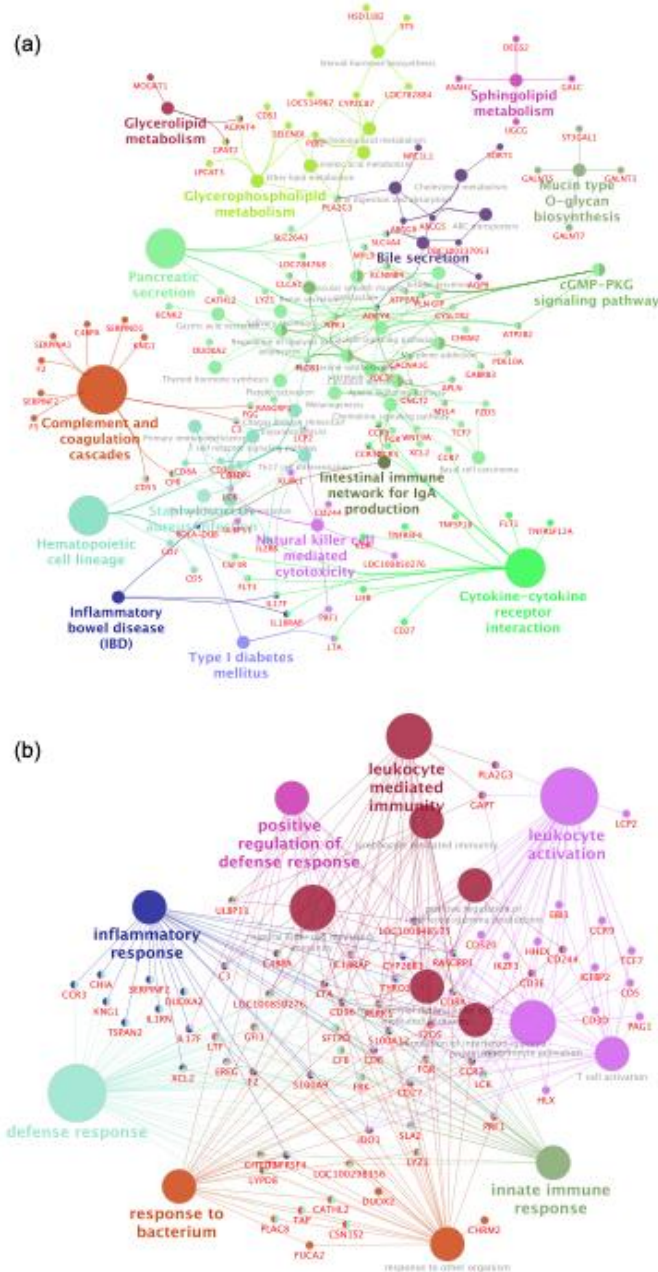


Figure 2.3. Functional over-representation analysis of differentially expressed genes from the jejunal mucosa of neonatal beef heifers born from dams receiving or not receiving vitamin and mineral supplementation (VTM or CON) during gestation.

Network clusters were based on over-represented KEGG pathways (a) and biological processes (b) retrieved from ClueGO. Significant terms were taken when $P \leq 0.05$. Functionally related groups partially overlap and are arbitrarily colored. The node size represents the significance of pathway enrichment.

To provide a more complete view of the pathways affected by the maternal diet, we performed a Gene Set Enrichment (GSEA) analysis on 15,043 expressed genes, which were ranked based on a combination of P-value and log fold-change (*see methods*). We retrieved the top 20 KEGG pathways based on the Normalized Enrichment Score (NES; [Figure 2.4](#)). Top pathways involving upregulated genes in the VTM group included focal adhesion, notch, apelin, and hippo signaling pathways. Additionally, beta-alanine metabolism, cGMP-PKG, Rap1, and MAPK signaling pathways ([Figure 2.4](#)) were over-represented. The *LOC508879*, *AOC2*, *FLT1*, *RASGRF1*, *KCNMB4*, and *TEAD3* genes were commonly identified among the pathways. Pathways over-represented by downregulated genes (negative NES) in the VTM group mainly included those related to immune response, such as complement and coagulation cascades, natural killer cell-mediated cytotoxicity, and primary immunodeficiency. Furthermore, we identified pathways involved with lipid metabolism, fat digestion and absorption, and hormone biosynthesis. All pathways involved significantly downregulated genes in the VTM group, including *LOC615045*, *PLA2G12B*, and *PLA2G3*.

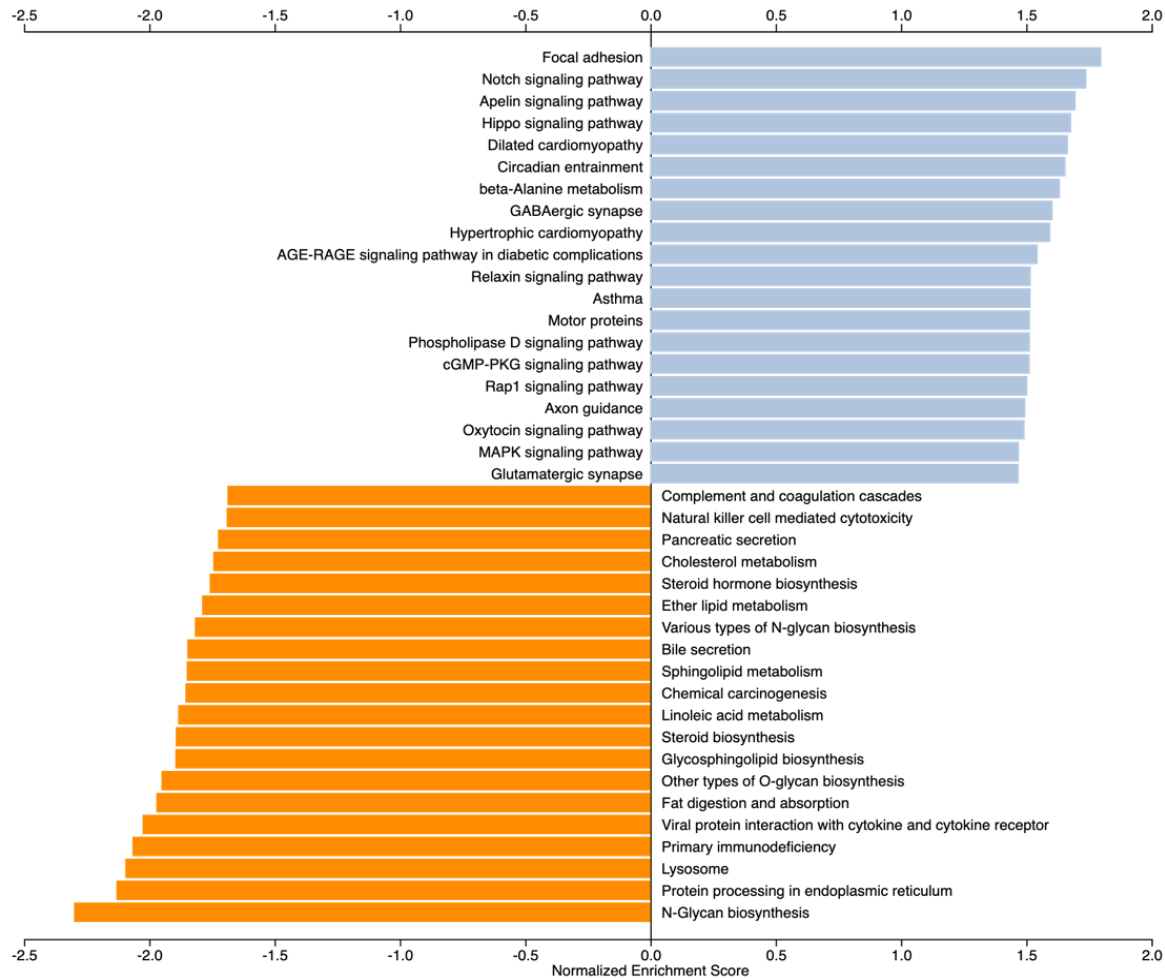


Figure 2.4. Gene Set Enrichment Analysis-based pathway over-representation of expressed genes from the jejunal mucosa of neonatal beef heifers born from dams receiving or not receiving vitamin and mineral supplementation (VTM or CON) during gestation.

The normalized enrichment score (NES) of top enriched (blue bars) and top depleted (orange bars) pathways are based on the comparison of VTM vs. CON calves. Only pathways with a $P \leq 0.01$ and $NES \geq |1.5|$ are shown.

2.3. DISCUSSION

We found that maternal vitamin and mineral supplementation throughout gestation affected the expression of 528 genes associated with key metabolic pathways and immune functions in the jejunal mucosa of 30 h old newborn calves. Likewise, the VTM treatment influenced the concentration of Co, Se, and Zn in the serum and Se concentrations in the liver of the offspring calves, despite the fact that the maternal VTM supplementation did not influence the BW or organ

mass of the calves.²³ The jejunum is a highly plastic tissue that undergoes morphological and physiological changes throughout gestation.^{13,44} Thus, it is expected that it is responsive to changes in nutrient availability. These changes can differentially program tissue function, affecting energy utilization and maintenance requirements later in life.^{15,21} Using the same calves as the ones in the current study, our previous results investigating tissue oxygen consumption indicate an improved mitochondrial function in the small intestine of VTM calves, as evidenced by the greater mitochondrial efficiency of substrate oxidation and ATP production.⁴⁵ Collectively, these findings suggest that the observed transcriptomic changes could influence mitochondrial efficiency or vice versa in response to maternal VTM supplementation.

We have previously shown that maternal vitamin and mineral supplementation combined with the rate of body weight gain (GAIN; moderate (MG) vs. low (LG)) increased the liver mass of heifer fetuses at day 83 of gestation.⁶ Likewise, there was a VTM $\times$ GAIN interaction for fetal small intestinal weight, where fetuses from VTM-MG dams were heavier than those from VTM-LG, with all other treatments being similar.⁶ In a follow-up study with a similar experimental design reported here, we showed that vitamin and mineral supplementation throughout gestation improved the performance of F1 female heifers at weaning and post-weaning development, with a significant impact on BW, feeding behavior, and heifer activity.⁷ Interestingly, calf birth BW and body measurements were not different. However, calves born to VTM supplemented dams were heavier than that of CON dams from weaning through 15 months of age,⁷ suggesting that there might be a lag time from “insult” to observable effect in offspring performance. Additionally, the effects observed may depend on the interaction with other available nutrients and the dam’s nutrient storage, which can buffer the fetus during *in utero* development.⁴⁶

A growing body of evidence has shown that specific vitamins and minerals set up the functioning of the genome through the modulation of mineral and vitamin-dependent genes or as enzymatic cofactors.⁴⁷ Here, we identified 33 TFs differentially expressed due to maternal diet. Interestingly, 19 were upregulated in the VTM group, which suggests a rewiring of gene networks to modulate the transcriptional output.⁴⁸ Our RIF analyses of gene expression retrieved 98 TFs that were differentially co-expressed with DEGs and potential modulators of differential gene expression. *ZNF414*, *HLX*, and *ATOH8* were the most co-expressed TFs in the network. The protein encoded by the *ZNF414* gene has been reported to modulate proliferation, migration, and DNA repair-associated genes.⁴⁹ Similarly, the *HLX* TF is required for the development of the

enteric nervous system (ENS).⁵⁰ Additionally, it plays a key role in visceral organogenesis, including the liver, gall bladder, and gut.⁵¹ The ENS works cooperatively with other cells to control intestinal homeostasis,⁵² which includes nutrient digestion and absorption.⁵³ The changes in nutrient availability may program tissue development *in utero* for postnatal function.¹³ Such changes are likely associated with the increased performance post-weaning, as we observed in the contemporary F1 female heifers under a similar experimental approach.⁷

2.3.1. Maternal VTM supplementation throughout gestation altered genes involved with nutrient transport, lipid metabolism, and metabolic genes

Vitamins and minerals act as essential cofactors for enzymes that regulate lipid metabolism, highlighting their importance in animal physiology.⁵⁴ Here, we identified DEGs involved with nutrient transport and fat and lipid metabolism pathways, which included cholesterol metabolism, steroid hormone biosynthesis, and thyroid hormone synthesis. Genes from the SLC and ABC families were mainly downregulated in the VTM group. Among them, the *SLC26A3* encodes a key transmembrane chloride ions exchanger.⁵⁵ The protein encoded by this gene is localized on the columnar epithelial cells⁵⁶ and was reported as important for maintaining the intestinal epithelial barrier function and integrity.⁵⁷ Decreased expression of *SLC26A3* leads to upregulation of antimicrobial peptide expression, altering the immunity protection in young mice. Among the upregulated SLC gene members, *SLC22A17* has been associated with the metabolism of drugs and nutrients such as vitamins and flavonoids.⁵⁸ The *ABCG5* and *ABCG8* were downregulated in the VTM group. They form an obligate heterodimer that mediates $Mg^{(2+)}$ - and ATP-dependent sterol transport in and out of the enterocytes.⁵⁹

We identified other genes and pathways related to lipid metabolism. The *PLCB1* gene, upregulated in the VTM group, is part of the phospholipase-C family, which requires minerals like calcium and zinc for optimal activity.⁶⁰ The encoded protein is involved with phospholipid hydrolysis and intracellular transduction of extracellular signals.⁶¹ This signaling can influence systemic metabolic processes, given that phospholipase-C activity produces inositol triphosphate (IP3) and diacylglycerol (DAG), molecules that regulate calcium signaling and activate protein kinase C pathways in multiple tissues.⁶² Previous studies have associated the *PLCB1* gene with feed efficiency, growth, and carcass traits in multiple species.^{63–66} In cattle, *PLCB1* was suggested

as a candidate to increase fat thickness and weight gain.⁶⁶ The phospholipase D signaling pathway was also over-represented by genes positively ranked in the jejunum tissue based on the GSEA results (genes upregulated in the VTM group). This pathway is involved in fundamental cellular processes that use phosphatidic acid as a secondary messenger⁶⁷ activating pathways such as mTOR, which controls several processes, including immune response, survival, proliferation, and migration, to maintain cellular homeostasis.⁶⁸ Several pathways underlying fat and lipid metabolism were over-represented by genes negatively ranked within the GSEA analysis (genes downregulated in the VTM group), including fat digestion, absorption, and cholesterol metabolism. From the DEGs acting on these pathways, the *PLA2G3* gene was downregulated in the VTM group. The encoded enzyme hydrolyzes phospholipids to release fatty acids and lysophospholipids.⁶⁹ However, the enzyme PLA2G3 also plays a role in immunity-related processes through lipid mediator effects.⁶⁹ Likewise, we identified the *LPCAT3* downregulated in the VTM group. This gene is regulated by nuclear receptors such as the liver X receptor and peroxisome proliferator-activated receptors and plays an intricate regulatory role in maintaining cellular lipid balance and function.⁷⁰ Modulating lipid metabolism and adipogenesis-related genes could be associated with increased feed efficiency. The observed increased performance of supplemented heifers, particularly the enhanced growth and blood metabolite profiles from weaning through 15 months of age, as reported in Hurlbert et. al.,⁷ may be attributed to the modulation of lipid metabolism and adipogenesis-related genes, which are associated with improved feed efficiency. Using a similar experimental design, we have reported that calves born to VTM-supplemented dams had a higher weaning weight (17.5 kgs) and a greater ribeye area compared with CON calves at 209 days of age.⁷ Therefore, adequate mineral levels throughout gestation are important for the proper functioning of these genes, as well as enhancing overall performance. Further research, however, at different time points is warranted to determine the extent and persistence of any changes observed as a neonate.

Among the DEGs, the cytochrome P450 family was represented by the downregulated genes *CYP3A74* and *CYP2C87*, which are involved with drug metabolism, synthesis of cholesterol, steroids, and other lipids.^{71,72} Furthermore, the *CYP26B1* gene was upregulated in the calves born to VTM dams. The protein encoded by this gene is responsible for retinoic acid (RA) metabolism and homeostasis, intestinal mucosal immune responses, and contributes to vitamin A storage.^{73–75} We found that vitamin A was increased in the supplemented dams when compared with the CON

group at calving, although the calves had similar circulating concentrations of vitamin A at 30 hours after birth.²³ While vitamin A is poorly transferred across the placenta, the colostrum would be the primary source for the calf after birth,⁷⁶ which could elicit different transcriptomic responses. Therefore, further studies should investigate the concentrations of fat-soluble vitamins in the colostrum, their storage in the neonatal liver, and their role in developmental programming.

The insulin-like growth factor (IGF) axis is a complex network involving hormones, receptors, and binding proteins,⁷⁷ which has a key role in growth, metabolism, and intestinal homeostasis.⁷⁸ The IGF axis also mediates growth hormone (GH) actions.⁷⁹ Although no differences were observed in the serum concentrations of GH and IGF-1 in the dams and calves,²³ we identified the *IGFBP2* and *IGFBP6* genes upregulated in the VTM group. The IGF binding proteins (IGFBP) are physiologic regulators of the interaction of IGFs with their receptors within the gastrointestinal tract and liver.⁷⁹ Changes in the expression of IGFBPs can influence IGF activity by altering its bioavailability and interaction with receptors, though this does not directly equate to changes in IGF concentrations.⁷⁹ Additionally, minerals such as Se and Zn were reported as determinants of IGF-1 activity.⁸⁰ Similarly, a relationship between IGF-1 concentrations in serum and vitamin D concentrations has been shown.⁸¹ IGFBP2 has been associated with regulating IGF activity in most tissues and organs. Likewise, it can promote transcriptional activation of target genes and contribute to growth and development.⁷⁹ Among the regulatory activities, IGF-2 interacts with components of the extracellular matrix, cell surface proteoglycans, and integrin receptors to mediate intracellular signaling.^{82,83} Corkins et al. reported that fetal sheep intestinal fibroblasts were responsive to IGF-II with greater proliferation.⁸⁴ The IGF-2 has a role in glucose and lipid metabolism through IGF bioavailability.⁸³ The knockdown of *IGFBP6* leads to impaired lipid metabolism and decreases cholesterol biosynthesis. Furthermore, the encoded protein has been reported as an important factor in the immune and inflammatory responses.^{85,86}

2.3.2. Maternal VTM supplementation throughout gestation downregulate genes involved with immune-related pathways and biological processes in neonatal calves

The intestinal epithelium provides support for nutrients, water uptake, and physical barrier protection.⁸⁷ Furthermore, the intestine represents the largest compartment of the immune system.⁸⁸ Although developmental adaptations during early life coordinate immune function and

development,²² it has been proposed that the immune system can be programmed *in utero*.^{13,44} Carroll et al.⁸⁹ reported that exposure to multiple low doses of LPS endotoxin *in utero* had lasting effects on pro-inflammatory and innate immune responses postnatally. The role and importance of minerals in modulating the functioning of the immune system have been discussed in the literature.^{90,91} The integrity and functioning of the gut barrier rely on multiple interconnected systems, such as a mucous gel layer, IgA, and junctional proteins.^{92,93} We identified focal adhesion, notch, and hippo pathways over-represented by positively ranked genes. These signaling cascades play multiple roles in the maintenance and function of the epithelial cell types.⁸⁷ Differential expression of five genes encoding junction proteins included the claudin (*CLDN2* and *CLDN12*) and connexin (*GJA5*, *GJB3*, and *GJC1*) gene families.

Among the DEGs, the downregulation of *SGPP2* has the potential to positively influence the gut barrier defense.⁹⁴ Studies in knockout mice have shown that *SGPP2* deficiency enhances mucosal barrier integrity and barrier function.⁹⁴ We also identified several upregulated genes encoding structural proteins, cytoskeleton organization, and tissue development (*GAJ5*, *MYL7*, *MYL9*, *MYO5C*, *DNAH9*, *TUBB6*, *TNNT3*, and *MAST1*). Genes positively ranked within the GSEA analysis (genes upregulated in the VTM group) were over-represented in the focal adhesion pathway. These results may suggest the continuous cell turnover, renewal, and differentiation in the intestinal epithelium due to significant changes in enteral nutrition. The *CATHL2* gene was reported to exhibit antimicrobial activity against various pathogens,⁹⁵ and was identified as downregulated in the VTM group. While primarily associated with immune function, peptides like *CATHL2* may indirectly influence gut barrier integrity by modulating the microbiota and defending against pathogenic invasion, possibly impacting aspects of metabolism and feed efficiency indirectly through effects on gut microbiota.⁹⁶ From the same calves used in the current study, we have reported that the offspring microbial community in the rumen (ruminal fluid and tissue-associated microbiota) was affected by the maternal vitamin and mineral supplementation.⁹⁷ Such changes were related to the community structure (ruminal fluid), diversity (ruminal fluid and tissue), and composition, suggesting the role of maternal diet during fetal development on the initial microbial colonization of the neonatal calf gut.⁹⁷ Research using the intestinal epithelial cells from mice reared in the presence or absence of microbiota has shown changes in the host gene transcription. In cattle, host-microbial interactions in the rumen were associated with genes underlying immune system-related biological processes. However, the regulatory mechanism

between this interaction and the role of nutrients remains unclear. Thus, understanding the interplay between maternal nutrition and the offspring's intestinal function provides opportunities to positively program the offspring outcomes.

Neonates are immunocompetent at birth and rely on the passive transfer of immunoglobulins (Ig) from maternal colostrum to acquire protection.²² We identified multiple biological processes associated with the immune system and inflammatory responses, including the intestinal immune network for the IgA production pathway. The IgA antibodies mediate the humoral adaptive immune response at mucosal surfaces, serving as the first line of defense against microorganisms.^{98,99} Overall, the underlying genes acting on immune-related biological processes and pathways were downregulated in the VTM calves, except for those on the cytokine-cytokine receptor interaction pathway, in which six out of eight genes were upregulated. The GSEA analysis showed the same downregulation pattern with the pathways over-represented by negatively ranked genes. We have reported that among 15 tested serum cytokines, the concentration of IP-10 was increased while IL-4 and IL-17A tended to be decreased in VTM calves compared with CON.⁹⁷ Among the interleukin-related genes, we found *IL2RB*, *IL17F*, *IL1RN*, *IL18RAP* downregulated and *ILDR2* upregulated in the VTM group. It is possible that the pro-inflammatory and anti-inflammatory cytokines produced by the intestine would affect their levels in the blood. However, the panel used was limited to only 15 cytokines. Further research is warranted to fully understand the effects of minerals and vitamins on immune response.

The list of upregulated DEGs with regulatory impact effects on differential expression included the *ATOH8* gene. This TF acts in fundamental processes and functions as both a transcriptional activator and a repressor.¹⁰⁰ Additionally, *ATOH8* acts as a regulator of intestinal microfold cells (M cells), which are responsible for immune sensing in response to intestinal pathogens/antigens.¹⁰¹ The M cells are found in the epithelium, covering mucosa-associated lymphoid tissues.¹⁰² In addition to the M cells, the mucosal surface is protected by physical shields composed of mucin and glycocalyx layers and chemical barriers such as antigen-specific IgA.¹⁰³ We identified several chemokines downregulated in the VTM calves, except for the *CCR10*, which was upregulated. The protein encoded by the *CCR10* gene regulates the intestinal IgA response and memory maintenance.¹⁰⁴ Chemokines and chemokine receptors are key players in attracting lymphocytes and leukocytes to lymphoid tissues.¹⁰⁵ We found leukocyte-mediated immunity,

leukocyte activation, and lymphocyte-mediated immunity among the over-represented biological processes.

The immune system is a complex, tightly regulated, cooperative network that requires a balance between positive and negative immune modulators.^{106,107} Nutrients, such as vitamins and minerals, play unique regulatory roles in the programming of the immune system during *in utero* fetal development, with potential effects on the postnatal immune response.⁹⁰ Therefore, the implications of maternal nutrition on turning on or off these genes warrant further investigation.

2.4. CONCLUSIONS

Our results highlight that maternal VTM supplementation throughout gestation can have a significant impact on many important genes associated with tissue structure, nutrient transport, and immune system pathways. Although individual changes in gene expression may not have major phenotypic impacts, our analysis showed changes in several TFs, which can have downstream effects on regulatory pathways. Additionally, our *in-silico* analysis pointed out key transcription factors that are likely modulating the differences in gene expression. While this study provides novel insights into the potential programming of jejunum development at birth, it has some limitations. Our study relied on a single-time-point analysis, which limits the ability to capture the dynamic changes in gene expression. Thus, to provide a comprehensive understanding of gene expression dynamics and interactions, longitudinal studies at multiple pre and postnatal time points are necessary to determine whether the observed gene expression changes persist and lead to lasting physiological effects. Additionally, our study was limited to the jejunal mucosa, and further research is needed to investigate the impact of maternal supplementation on other tissues and organs integral to growth and metabolism. The long-term implications in animal health due to the downregulation of immune-related genes in the supplemented group warrant further research. Likewise, research is needed to determine the mechanisms involved with fetal programming and whether the extensive alterations in immune-associated transcript abundance at the neonatal timepoint are sustained into further postnatal life and culminate into alterations in long-term outcomes on cattle herd health.

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Chapter 3

MATERNAL VITAMIN AND MINERAL SUPPLEMENTATION AFFECTED NEONATAL GENE EXPRESSION AND REWIRED KEY REGULATORY GENES UNDERLYING HEPATIC METABOLISM

ABSTRACT

Pregnancy and early life are sensitive windows of developmental plasticity that shape offspring growth and performance. Herein, we investigated gene regulatory relationships in the neonatal liver to shed light on potential mechanisms by which maternal vitamin and mineral supplementation during gestation influence developmental programming in heifer calves. To this end, liver gene expression was measured with RNA-Seq in newborn calves collected 30 h after birth from dams fed a diet initiated 60 days pre-breeding. Dams were assigned to either a basal diet (CON; $n = 6$) or the basal diet plus $113 \text{ g} \cdot \text{heifer}^{-1} \cdot \text{d}^{-1}$ of vitamin and mineral supplement (VTM; $n = 6$). After data quality control and alignment, we identified 630 DEGs between treatment groups ($P \leq 0.05$ and $|\log_2\text{FC}| > 0.5$) using DESeq2. Significant genes were underlying pathways, such as oxidative phosphorylation, AMPK, PI3K/Akt, and FoxO, which are major regulators of energy homeostasis. To determine regulatory mechanisms underlying DEGs, we integrated RIF and PCIT to identify transcription factors (TFs) and co-expression networks. This approach identified 58 TFs and 435 differentially connected genes ($P \leq 0.05$). Maternal diet affected gene connectivity, suggesting a regulatory rewiring of TFs and histone deacetylating genes involved in transcriptional modulation. Maternal vitamin and mineral supplementation throughout gestation was associated with molecular changes in the neonatal liver via transcriptomic responses. Further research should explore whether epigenetic marks are established at birth, persist throughout postnatal development, and potentially contribute to transgenerational inheritance.

Keywords: beef cattle; liver programming; maternal mineral and vitamin supplementation, oxidative phosphorylation, transcriptome

3.0 INTRODUCTION

Gestation encompasses a synchronized sequence of events essential for developing a growing fetus. This includes intricate processes, such as gastrulation, organogenesis, and cellular growth and differentiation, which ensure the fetus is prepared for life outside the womb.¹ Maternal nutrition is among the major factors critical for the proper development and function of fetal organs.¹ Changes in the maternal environment, including the availability of nutrients, during critical windows of development can contribute to fetal metabolic programming in adulthood and even across generations.² In beef production systems, many commonly grazed forages lack sufficient levels of essential vitamins and minerals to meet the ruminant maintenance and production requirements.³ These micronutrients are essential for key metabolic processes such as energy metabolism, DNA synthesis, and gene expression regulation.⁴ Additionally, growing evidence has shown their role in programming key biological processes during embryonic and fetal development.⁵⁻⁸ Despite the evidence of its benefits, the adoption of vitamin and mineral supplementation strategies remains inconsistent and limited among cattle producers, with practices varying widely based on region, resources, and management priorities.^{6,9}

We have reported that vitamin and mineral supplementation during early gestation affects the dam's metabolism and the available nutrients for fetal development. Changes were observed in placental development and the expression of angiogenic factors, energy metabolism, and nutrient transport-related genes at day 83 of gestation.^{10,11} Likewise, amino acid, carbohydrate, and energy profiles in the maternal serum and allantoic fluid, and fetal liver were affected.^{5,12,13} In a more comprehensive study, we reported that vitamin and mineral supplementation from 60 days pre-breeding or breeding through calving did not affect calf morphometrics or organ weights at birth.^{7,8} However, not only the concentration of trace minerals (Se, Cu, Zn, and Co) in the calf liver at birth were affected but also those born from VTM dams were heavier than CON from weaning through 15 months of age.⁷ Altogether, these results suggest that nutrient imbalances induce responsive and adaptive changes in fetal organ development.¹⁴

The liver is formed during early gestation and is central to metabolic processes and energy homeostasis.¹⁵ Changes in visceral organs during pregnancy can impact the metabolic efficiency and health of offspring. In previous research, fetuses from supplemented dams during the first 83 days of gestation resulted in calves with higher concentrations of Se, Cu, Zn, Mo, and Co in the

fetal liver.¹² Additionally, maternal supplementation resulted in greater fetal liver weights and changes in the hepatic lipidome, metabolome, and transcriptome of energy- and lipid-related genes.^{6,16,17} Despite these findings, the mechanisms by which vitamin and mineral supplementation affect liver development and programming are unknown. Furthermore, it is important to establish the immediate and long-term effects of supplementation on fetal development and calf performance.

Building on our previous research at day 83 of gestation and the gap in knowledge related to the hepatic transcriptome at birth, we hypothesized that supplementing dams with vitamins and minerals pre-breeding through gestation alters physiological and transcriptomic responses in neonatal calves. Thus, our objective was to identify differentially expressed genes in the neonatal liver and the underlying biological processes involved with hepatic metabolism and function. Furthermore, we analyzed gene-gene interactions to identify regulatory genes responsive to maternal diet. Our results show that maternal vitamin and mineral supplementation throughout gestation was associated with molecular changes in the neonatal liver, manifested in the transcriptomic profiles and rewiring of transcriptional networks.

3.1 MATERIAL AND METHODS

3.1.1 Care and use of animals

All animal procedures were approved by the North Dakota State University (NDSU, Fargo, ND, USA) Institutional Animal Care and Use Committee (#A21047).

3.1.2 Animals, housing, and diet

The experimental model and study design were reported elsewhere.^{7,8} In brief, the study utilized 72 crossbred Angus-based heifers (aged 14 to 15 months, with an initial body weight of 380.4 ± 50.56 kg) to investigate the impact of vitamin and mineral supplementation throughout gestation on offspring development. Following a 14-day acclimation to an electronic individual feeding head-gate system, heifers were estrus synchronized through a 7-day Select Synch + CIDR estrus synchronization protocol,¹⁸ followed by artificial insemination (AI) with female-sexed

semen from a single sire. Post-AI, heifers were blocked by BW and randomly assigned to receive either a basal diet (control; CON; n = 36) or a basal diet plus a vitamin and mineral supplement (VTM; n = 36). Heifers pregnant to the first AI were used in a different experiment.⁷ Within their respective treatment groups, heifers not pregnant after the first AI (CON, n = 19; VTM, n = 18) were resynchronized as described above and bred via AI 60 days after the first insemination and used for the current study.⁸

Vitamin and mineral supplementation began 60 days prior to breeding and continued through calving. From the start of treatment until day 239 of gestation, the VTM group received a loose-form supplement (Purina Wind and Rain Storm All Season 7.5 Complete, Land O'Lakes, Inc., Arden Hills, MN, USA; Appendix 3.1; Table 2.1) that was top-dressed onto their basal diet. Beginning on day 240, the supplement was incorporated directly into the total mixed ration (TMR) for animals in the VTM treatment. Detailed diet compositions are available in Appendix 3.1 and have been previously described.⁷ Feed intake was individually monitored using a Calan head-gate system, and rations were adjusted throughout pregnancy to support a target average daily gain of 0.45 kg per heifer through day 200. Beyond that point, feed was provided *ad libitum* to accommodate increased demands leading up to parturition. From day 240 onward, individual feed intake was recorded using the Insentec feeding system (Hokofarm Group B.V., the Netherlands). At birth, calves were immediately separated from their dams before suckling and housed individually. Within two hours of delivery, each calf received 1.4 liters of commercial colostrum replacer (LifeLine Rescue High Level Colostrum Replacer, APC, Ankeny, IA, USA) administered via the esophageal feeder. Follow-up feedings of 2 liters of milk replacer (Duralife 20/20 Optimal Non-Medicated Milk Replacer, Fort Worth, TX) were given at 12 and 24 hours after the initial colostrum supplement using the same method. At 30 hours post-colostrum, 14 heifer calves (n = 7 per treatment group) were humanely euthanized via captive bolt followed by exsanguination. Organs were collected, weighed, and samples from the caudal to the mid-line position of the liver tissue were obtained, snap-frozen on dry ice, and stored at -80 °C.

3.1.3 RNA extraction, library preparation, sequencing, and data processing

Liver tissue samples from 14 calves (n = 7 per group) were used for total RNA extraction, which was carried out using the RNeasy Kit (Qiagen, Germantown, MA, USA) in conjunction

with an on-column DNase digestion step, as per the manufacturer's guidelines. The integrity and quality (IQ) of the RNA samples were assessed with the Qubit RNA IQ Assay kit (ThermoFisher Scientific) and agarose gel electrophoresis. All samples passed quality control thresholds for downstream processing. Strand-specific libraries were then constructed using the NEBNext® Ultra™ II Directional RNA Library Prep Kit for Illumina (New England BioLabs®, Ipswich, MA, USA). Sequencing was performed by Novogene Co., Ltd. (Nanjing, China) on the Illumina® NovaSeq 6000 platform, generating 150 bp paired-end reads with an average sequencing depth of 20 million reads per sample. Adapters and low-quality reads (Phred-Score < 30) were filtered out. FastQc v. 0.11.9¹⁹ and MultiQC v. 1.10.1²⁰ were used for data quality control and read statistics evaluation. Quality parameters included average read length, adapter content, over-represented sequences, and per-base sequence quality scores. Reads were mapped to the *Bos taurus* reference genome ARS-UCD1.2 (release109) using STAR aligner v.2.7.5²¹. Post-mapping quality control was also performed using MultiQC. Following quality control, samples with low unique mapping rates (% unique Aligned ≤ 80%) were removed from subsequent analyses.

3.1.4 Differential expression analysis

We used the *filterByExpr* function from edgeR v. 3.36.0²² to remove genes that were either not expressed or lowly expressed. Next, potential batch effects were investigated based on a principal component analysis performed using the factoextra v1.0.7²² R-package. Differentially expressed genes (DEGs) between the VTM and CON groups were identified using DESeq2 v. 1.34.0²³. Genes with a $P \leq 0.05$ and $|\log_2 \text{fold change}| \geq 0.5$ were considered significant. The DEGs were classified as up or downregulated based on the sign of the log2FC in the VTM treatment group and were annotated using BiomaRt v. 2.50.1.²⁴

3.1.5 Co-expression and regulatory network analyses

We used the *filterByExpr* function from edgeR v. 3.36.0²² to remove genes that were either not expressed or lowly expressed. Next, potential batch effects were investigated based on a principal component analysis performed using the factoextra v1.0.7²² R-package. Differentially

expressed genes (DEGs) between the VTM and CON groups were identified using DESeq2 v. 1.34.0²³. Genes with a $P \leq 0.05$ and $|\log_2 \text{fold change}| \geq 0.5$ were considered significant. The DEGs were classified as up or downregulated based on the sign of the $\log_2FC$ in the VTM treatment group and were annotated using BiomaRt v. 2.50.1.²⁴

3.1.6 Functional over-representation and gene set enrichment analyses

To explore the effects of maternal diet on pathways and biological processes, we adopted two complementary approaches. First, we carried out an over-representation analysis using the DEGs only. To this end, we used ShinyGO 0.80³² and ClueGo tools,³³ which integrate annotations and pathways from multiple databases. Significance was determined based on $P \leq 0.05$.

For the second approach, we identified gene sets that share common biological pathways, considering the collective effect of genes within a pathway, not just individual gene changes.³⁴ To this end, we performed the Gene Set Enrichment Analysis (GSEA),³⁴ considering all expressed genes kept after data quality control. The DESeqResults object from DESeq2 analysis was used to rank the genes, according to the equation: $rank = [sign(\log_2FC) \times -\log_{10}(p - value)]$. The sign of the ranking (positive or negative) was based on the fold-change, while the magnitude was defined by the p-value.³⁵

The ranked gene list was used to categorize genes into KEGG pathways on the WebGestalt (WEB-based Gene SeT AnaLysis Toolkit).³⁶ Based on the GSEA assumptions, the degree of enrichment is represented by the normalized enrichment score (NES). The NES is the enrichment score for the gene set after it has been normalized across analyzed gene sets. A significant positive NES value indicates that members of the gene set tend to appear at the top of the gene list (positive fold change), while a significant negative NES indicates the opposite.³⁴

3.2 RESULTS

3.2.1 Impact of VTM supplementation on maternal and fetal phenotypes

The experimental model and phenotypic results from this study were previously published.⁸ To provide context for the current molecular analyses, key findings were summarized here. No significant differences were observed for heifer BW throughout gestation (CON: 510.1 ± 57.99 kg; VTM: 528.0 ± 65.86 kg; $P \geq 0.25$), as well as at calving.⁸ Similarly, VTM supplementation did not affect calf weights at calving or 30 hours after.⁸ No effects were identified in calf morphometrics and organ mass between treatment groups.⁸ Regarding trace mineral status, dam serum concentrations at calving were similar across treatments, except for Co.⁸ Calves born to VTM supplemented dams had higher concentrations of Se and Mo in the liver and Co and Se in the serum at 30 hours of age.⁸

3.2.2 Maternal supplementation alters neonatal liver gene expression and transcription factor rewiring

The liver transcriptome profiles of neonatal heifer calves, taken 30 hours after birth, were examined to determine differences based on maternal diets (VTM or CON) during gestation. Two samples were excluded from the study due to their low alignment scores (below 80%). On average, 21.6 M clean reads per sample were produced through RNA-Sequencing, with a range of 20.0 to 23.8 M reads per sample. An average of 94.2% of the total reads were uniquely mapped to the reference genome (Appendix 3.2). After post-mapping quality control, 13,295 out of 27,607 genes remained in the 12 samples (n = 6 per group) for differential expression analysis.

Differential expression by use of negative binomial generalized linear models on DESeq2 identified 630 DEGs between the VTM and CON treatment groups ($P \leq 0.05$ and $|\log_2\text{FC}| > 0.5$). Of these, 160 genes were upregulated and 470 were downregulated in the VTM neonatal calves (Figure 3.1). Most DEGs consisted of protein-coding genes (94.1%); however, long non-coding and small non-coding RNAs were also identified (Appendix 3.3). The top five DEGs with the most significant P-values included *ROBO4*, *CCNI*, *DCN*, *DPT*, and *TTC38*. Among the DEGs, we identified 36 TFs, including *CREB3L1*, *STAT5A*, and *FOS*.

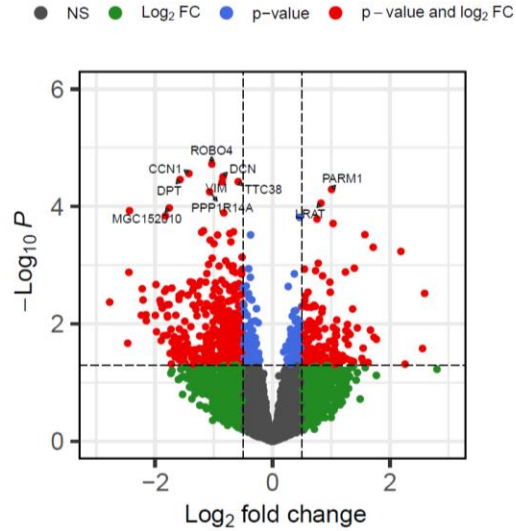


Figure 3.1. Volcano plot of differentially expressed genes from the liver tissue of neonatal beef heifers born from dams receiving or not receiving vitamin and mineral supplementation (VTM or CON) throughout gestation.

Each dot represents a specific gene. The difference in gene expression between the VTM and CON groups is shown as the log2 fold change (x-axis). The $-\log$ (base 10) of the P is shown on the y-axis. DEGs are color-coded as represented in the legend.

We used the RIF metrics to identify TFs potentially modulating the expression of DEGs. We identified 58 significant TFs ($P \leq 0.05$; RIF1 = 55; RIF2 = 3) out of 962 tested as potential regulators. These TFs were classified into 19 families, with the zinc finger C2H2 and homeobox families being over-represented. The TFs *ZNF133* ($z\text{-score} = 3.98$), *GRHL2* ($z\text{-score} = 3.61$), *NFIC* ($z\text{-score} = 3.3$), *FOXQ1* ($z\text{-score} = 3.15$), and *MKX* ($z\text{-score} = 3.09$) showed the most extreme scores for RIF1. For RIF2, the list included *CIZ1* ($z\text{-score} = 2.106$), *HSF1* ($z\text{-score} = 2.01$), and *MTA1* ($z\text{-score} = 1.96$). A list of all RIF1 and RIF2 significant TFs is presented in Appendix 3.4. Herein, genes encoding TFs, identified as key regulators based on the RIF score, will be called TFs throughout the text.

We conducted a network analysis based on the PCIT approach²⁹ to explore the co-expression patterns between genes and identify the most rewired ones between the groups in response to maternal diet. The networks from the CON and VTM groups resulted in 2,717,766 and 2,440,509 gene pairs, respectively. To reduce the data dimensionality, we kept only co-expressed pairs with DEGs or RIF genes and a partial correlation greater than $|0.9|$ ($P \leq 0.05$). The CON network resulted in 302,398 gene pairs (12,787 unique genes), while for the VTM, we identified

196,459 gene pairs (13,238 unique genes). However, only 12,725 genes were shared between both networks, and 516 were unique to the VTM network. By contrasting the connectivity between the groups, we found 435 differentially connected (DK) genes ($P \leq 0.05$; Appendix 3.5). Although the VTM group showed an increase in the number of unique genes within the network, the number of connections was reduced, and 274 genes lost connectivity in the subnetwork based on a correlation greater than $|0.9|$ (Figure 3.2). Among the 43 TFs differentially connected, 26 TFs gained connectivity in the VTM network, whereas 17 TFs lost connectivity. The TFs with the highest *DK*, included *ZNF200* ($z\text{-score} = 7.9$), *ZNF397* ($z\text{-score} = 7.1$), and *ZFP62* ($z\text{-score} = 7.0$), while the DEGs also differentially connected were *HDAC7* ($z\text{-score} = 9.9$), *NOTCH4* ($z\text{-score} = 9.9$), and *TYRO3* ($z\text{-score} = 9.8$) (Figure 3.2).

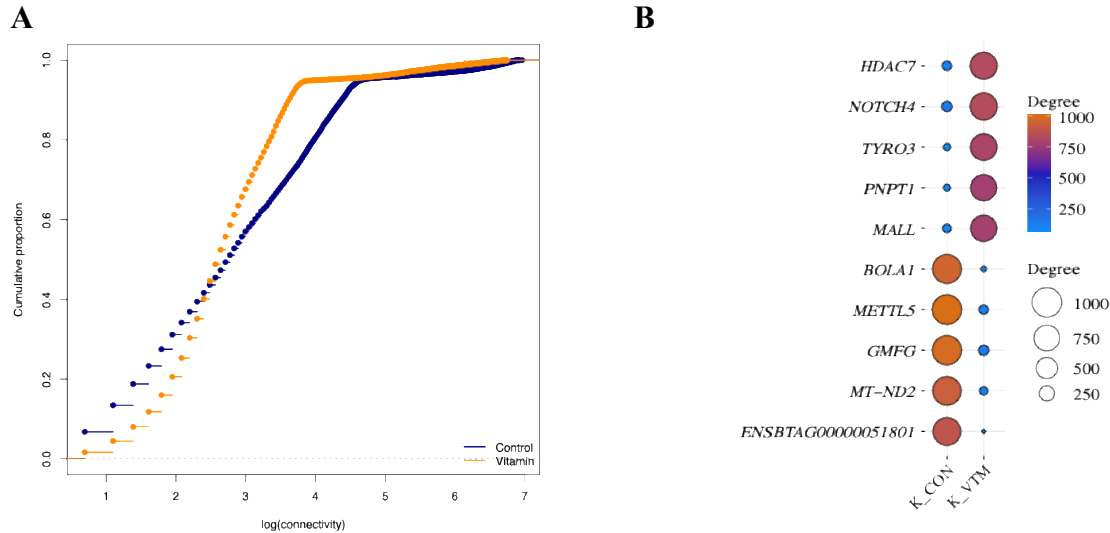


Figure 3.2. Network topology of co-expressed genes from the liver tissue of neonatal beef heifers born from dams receiving or not receiving vitamin and mineral supplementation (VTM or CON) throughout gestation.

A: Cumulative distribution functions of the gene connectivity; **B:** Balloon plot showing the five highest and lowest ranked differentially expressed and connected (DK) genes. The name of each gene is shown on the y-axis, and the connectivity for CON and VTM groups is shown on the x-axis. The size and color of the balloon refer to the total number of connected genes in each group.

3.2.3 Differentially expressed genes were involved with oxidative phosphorylation, vitamin digestion and absorption, and metabolism

A two-tiered approach was taken to identify BP and KEGG pathways related to changes in gene expression. First, the over-representation analysis of DEGs retrieved the top 20 BPs and 20 KEGG pathways (Figure 3.3A; Appendix 3.6). KEGG pathways included oxidative phosphorylation, non-alcoholic fatty liver disease, PI3K-Akt signaling pathway, and metabolic pathways (Figure 3.3A). Shared genes within the pathways were in the COX protein complex family (*COX1*, *COX2*, *COX3*), NADH-ubiquinone oxidoreductase chain (*ND1*, *ND2*, *ND3*, *ND4*, *ND4L*, *ND5*, *ND6*), and the NADH dehydrogenase [ubiquinone] 1 alpha subcomplex (*NDUFA2*, *NDUFA3*, *NDUFA8*, *NDUFA11*, *NDUFA4L2*). Additionally, over-represented pathways from the ClueGo analysis (Figure 3.3C; Appendix 3.6) included FoxO signaling, TGF-beta signaling, and complement and coagulation cascades (Group P-value ≤ 0.05). Significant BPs retrieved from ShinyGO were related to the mitochondrial respiratory chain, metabolic processes, and signal transduction (Figure 3.3B). Furthermore, BPs related to tissue structure and development included

collagen biosynthetic processes and collagen metabolic processes. Among the underlying genes shared across BPs, we can highlight *BMP4*, *COL1A1*, *F2R*, *RCN3*, *CREB3L1*, and *TGFB3*.

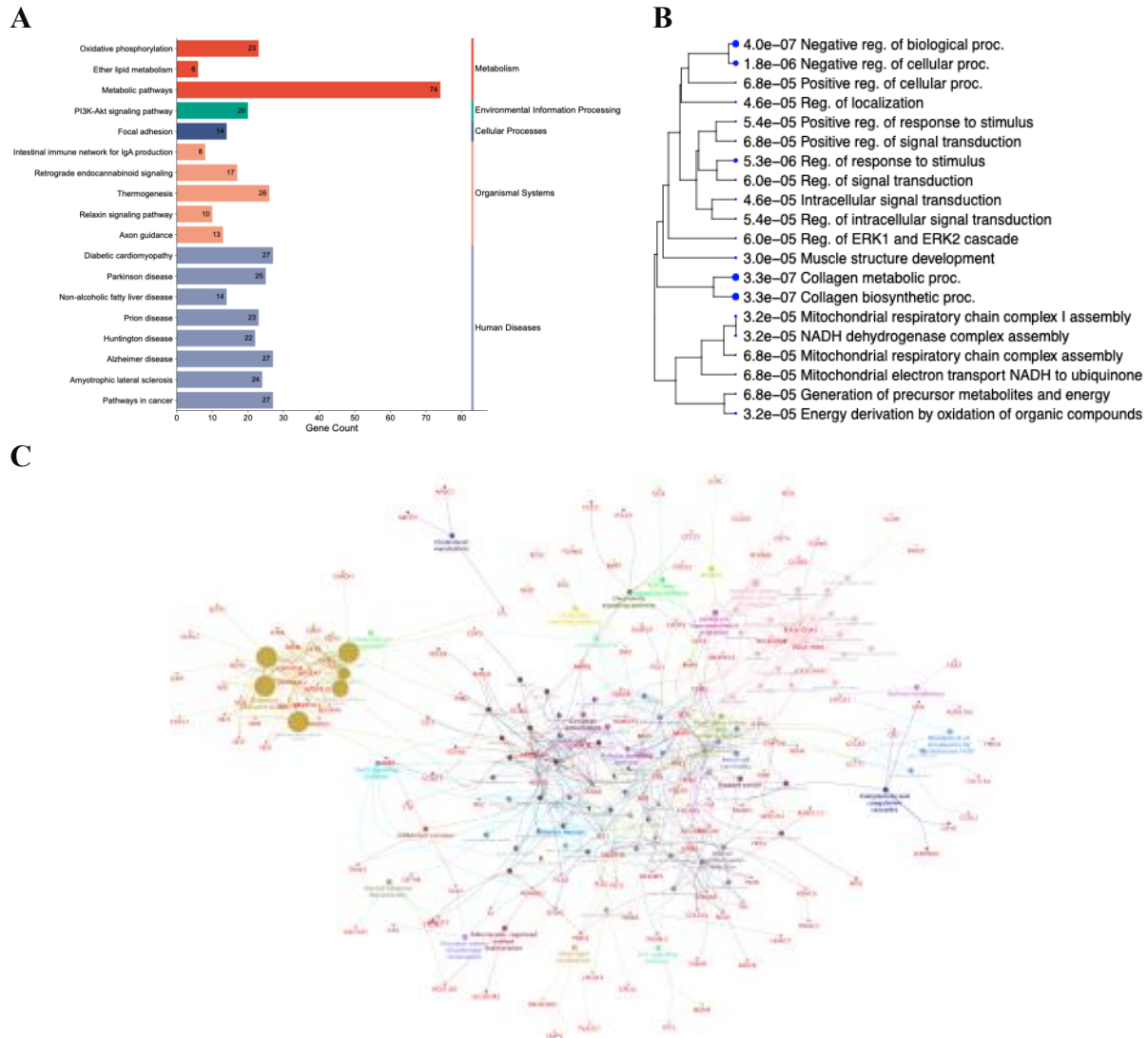


Figure 3.3. Over-representation analysis of differentially expressed genes from the liver tissue of neonatal beef heifers born from dams receiving or not receiving vitamin and mineral supplementation (VTM or CON) throughout gestation.

A: Enrichment category plot of classified KEGG pathways based on the DEGs list. The plot was created using SRplot.³⁷ The pathways were further classified into five major groups: metabolism, environmental information processing, cellular processes, organismal systems, and human diseases; **B:** Hierarchical clustering of over-represented biological processes (BPs). The BPs are hierarchically arranged based on functional similarity. The bigger the dot, the more significant the term is ($FDR \leq 0.05$); **C:** Network clusters based on over-represented KEGG pathways. Functionally related groups partially overlap and are arbitrarily colored. The node size represents the significance of pathway enrichment. Significant terms were taken when the Group P-value ≤ 0.05 .

To gain a more comprehensive understanding of the pathways influenced by the maternal diet, we conducted a GSEA analysis on 13,295 expressed genes. After ranking all the genes, we retrieved the top 20 KEGG pathways based on the enrichment score ($|NES| \geq 1.5$). The top pathways involving positively ranked genes included beta-alanine metabolism, vitamin digestion and absorption (Figure 3.4). *ALDH7A1*, *SLC19A3*, *LMBRD1*, *JARID2*, *ACVR1B*, *PNPO*, *TRADD*, and *TBKI* were underlying the over-represented pathways. Conversely, the top identified pathways underlying the negatively ranked genes included ribosome and oxidative phosphorylation, over-represented by downregulated DEGs from the COX protein complex, NADH-ubiquinone oxidoreductase chain, and the NADH dehydrogenase [ubiquinone] 1 alpha subcomplex. Shared pathways between GSEA and KEGG analyses identified with ClueGO and ShinyGO were intestinal immune network for IgA production, retrograde endocannabinoid signaling, and oxidative phosphorylation.

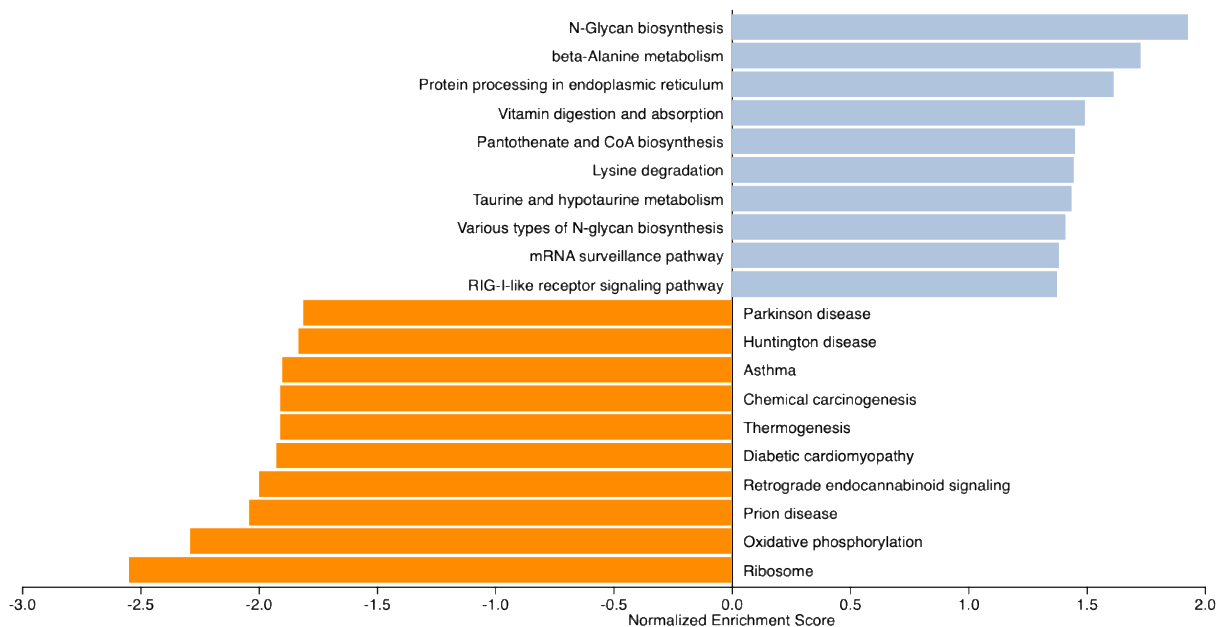


Figure 3.4. GSEA-based pathway over-representation analysis of expressed genes from the liver of neonatal beef heifers born from dams receiving or not receiving vitamin and mineral supplementation (VTM or CON) during gestation.

The normalized enrichment score (NES) of top enriched (blue bars) and top depleted (orange bars) pathways are based on the ranked genes from the comparison of VTM vs. CON calves. Only pathways with a $P \leq 0.1$ and $NES \geq |1.5|$ are shown.

3.3 DISCUSSION

We investigated the effects of maternal vitamin and mineral supplementation throughout pregnancy on the gene expression of neonatal liver tissue. Our results show that vitamin and mineral supplementation affected the expression profile of genes playing key roles in liver metabolism and function. Furthermore, we shed light on the regulatory interplay between genes and TFs and their rewiring, leading to differences in the transcriptional regulation between VTM and CON groups.

Our previous findings provided strong evidence that maternal vitamin and mineral supplementation from the periconceptual period to day 83 of gestation affected maternal and fetal development.^{5,6,11,17} We have reported greater hepatic concentrations of Se, Cu, Mn, and Co and amino acids in allantoic fluid from the VTM group.¹³ Fetuses from VTM dams had heavier livers and altered metabolome and transcriptome, which was over-represented by lipid and metabolism-related processes.^{5,6,17} In the current study, where supplementation extended throughout gestation, we did not identify any treatment effect on BW at calving or organ mass.⁸ These differences may be due to fetal developmental plasticity and maternal buffer effects, where compensatory mechanisms may normalize growth trajectories throughout gestation.³⁸ On the other hand, the concentration of key trace minerals in the serum (Co, Se, and Zn) and liver (Se) of the calves was affected by the maternal diet.⁸ In a similar study with a different cohort, we reported that F1 female heifers born to VTM dams were significantly heavier from weaning through 15 months of age, although no differences in birth weight were observed.⁷ While phenotypic effects may be timing, duration, and nutrient-dependent, our results suggest molecular programming with phenotypic responses that may be delayed or only emerge later in life.

3.3.1 Maternal vitamin and mineral supplementation affected neonatal gene expression and rewired key regulatory genes underlying hepatic metabolism

Vitamins and minerals are key structural or co-factor components of catalytic enzymes and TFs.³⁹ Additionally, they can modulate the genome through nutrient response elements and epigenetic mechanisms.⁴⁰ Imbalances in nutrient availability during key developmental windows

may induce responsive and adaptive changes in development through TFs modulating differential gene expression.¹⁴ We identified 36 TFs among the 630 DEGs between the VTM and CON groups. Key TFs involved with liver metabolism included *STAT5A* and *CREB3L1* genes. The *STAT5A*, which was downregulated in the VTM group, is a transcriptional activator of metabolic genes associated with physiological processes such as body growth, lipid, bile acid, and steroid metabolism.⁴¹ *STAT5A* activation in the liver is a key pathway in response to GH signaling, which in turn activates the transcription of the *IGF1* gene.⁴¹ The concentration of GH metabolites tended to be significantly higher in the serum of dams from the VTM group.⁸ For the calves, the serum concentration of GH and IGF1 metabolites were not significantly different between groups,⁸ however, the *IGF1* gene was upregulated in the calves born from VTM dams. Minerals, such as Mg, Se, and Zn, have been associated with IGF1 levels.⁴² We have shown that fetuses born to VTM supplemented dams during the first trimester of gestation had higher concentrations of Se in the liver.⁸ The modulation and bioavailability of IGF1 are complex due to their interplay with insulin-like growth factor binding proteins (IGFBPs) and IGF1 receptors (IGF-1R).⁴³ In the current study, we identified the *IGFBP7* and *IGFBP6* genes downregulated in the VTM group, which may suggest reduced inhibition of IGF1 activity.⁴³

The *CREB3L1* gene is a TF activator involved in endoplasmic reticulum stress response and secretory pathway regulation.⁴⁴ As a nutrient-responsive TF, CREB3L1 interacts with PPAR alpha and FOXO1 to regulate energy homeostasis via lipid and glucose metabolism.^{44,45} PPAR protein plays an adaptive role in tissue development in response to nutrient availability by forming transcriptional complexes with nuclear receptors that activate fatty acid oxidation and insulin secretion genes.^{14,46} We identified the *IRS2* and *BMP7* genes upregulated, and the *BMP4* downregulated in the VTM group. *IRS2* is associated with insulin signaling pathways and serves as an adapter protein that activates insulin and *IGF1* receptors to downstream signaling molecules, such as PI3K and Akt.⁴⁷ The *BMP7* regulates insulin sensitivity by inhibiting MAPKs,⁴⁸ whereas *BMP4* promotes hepatic glycogen accumulation.⁴⁹ The *IGF1* and *CREB3L1* genes, among other DEGs, were over-represented in nutrient-sensing signaling pathways such as PI3K-Akt, AMPK, and FoxO. These pathways are interconnected and play a role in energy homeostasis.^{50,51}

The regulatory role of the genes was perturbed due to maternal diet, as evidenced by the 435 differentially connected genes. The TFs identified as RIFs were rewired, and most gained connections (n = 26), indicating that they differentially modulated gene transcription between the

groups. The top four TFs that gained connections in the network from the VTM group were members of the zinc finger protein family (*KLF16*, *ZFP62*, *ZNF397*, and *ZNF200*). This gene family plays key roles in tissue homeostasis and has been associated with pathological conditions related to liver disease in humans.⁵² The regulatory mechanisms and specific role of these TFs, however, are to be elucidated. On the other hand, they interact with modified histones, suggesting a role in epigenetic regulation. Ocampo et al. reported that Zn status alters chromatin accessibility, affecting distal regulatory regions and promoters.⁵³ *In vitro* studies with murine cells have shown epigenetic modulation of proinflammatory genes through histone acetylation in response to selenite supplementation.⁵⁴ Histone deacetylation modulates gene expression by removing acetyl groups from histones and TFs, leading to transcriptional repression.⁵⁵ We identified *HDAC4*, *HDAC6*, and *HDAC7* genes, which are histone deacetylating genes, among the DEGs. While the first was upregulated, the *HDAC6* and *HDAC7* were downregulated in the VTM group. Decreased *HDAC4* has been associated with decreased proinflammatory gene expression, insulin resistance, and obesity.⁵⁶ Interestingly, both *HDAC6* and *HDAC7* were more connected to the VTM group, suggesting increased chromatin accessibility for transcription. Epigenetic mechanisms, such as DNA methylation and histone methylation and acetylation, are affected by mineral imbalances.⁴ We have shown that fetuses from VTM supplemented dams at day 83 of gestation had 60% hypermethylated cytosines in the liver, potentially regulating 739 nearby genes.⁵⁷ Biological processes affected by these genes included the transport of ions and tissue structure development.⁵⁷ Collectively, these findings suggest changes in genes underlying tissue structure and function through epigenetic mechanisms, which may contribute to offspring metabolic programming.⁵⁸

3.3.2 Vitamin digestion and absorption pathway is over-represented by positively ranked genes

Serum concentrations of vitamin D were increased in supplemented dams and their calves, whereas vitamin A concentrations were increased only in the dams compared to the CON counterparts.⁸ However, vitamin A is poorly transferred across the placenta, which may have limited its availability to the developing fetus.⁵⁹ Despite that, we identified the *LRAT* gene upregulated in the calves from the VTM group. The protein coded by *LRAT* is an essential component of vitamin A metabolism.⁶⁰ Retinoic acid and calcitriol influence gene expression by

direct interaction with regulatory elements.⁶¹ The nuclear receptors RAR and RXR are activated by retinoic acid via binding to retinoic acid response elements, which induce or repress transcription of targeted genes.^{39,40} Harris et al. reported that administering vitamin A at birth increased weaning weight and enhanced marbling fat development in Angus steers.⁶² On the other hand, vitamin A administration to pregnant Nellore cows at 250 days of gestation positively impacted average daily gain before weaning and final BW in the finishing phase in steers.⁶³ Besides *LRAT*, the *SLC19A2*, *SLC19A3*, *ABCC1*, *LMBRD1*, and *BTBD* genes were over-represented in the vitamin digestion and absorption pathway retrieved from the GSEA analysis. These genes were positively ranked, which suggests they were upregulated in a coordinated way. *SLC19A2* and *SLC19A3* codes a thiamine and pyridoxine transmembrane transporter (vitamins B1 and B6),⁶⁴ whereas the *BTBD* gene codes for biotinidase, which recycles biotin (vitamin B7). These proteins serve as enzymatic co-factors in energy metabolism. For example, biotin acts as a co-factor of gluconeogenic enzymes pyruvate carboxylase (PC) and propionyl-coenzyme A carboxylase (PCC).⁶⁵

Genes (*PANK1*, *PANK3*, *VNN2*, *ENPPI*, *CSAD*, and *PPCS*) associated with vitamin B5 were positively ranked in our GSEA analysis and underlie the pantothenate and CoA biosynthesis pathway. The *PANK* genes are members of the pantothenate kinase family, which are key regulatory enzymes in the biosynthesis of coenzyme A (CoA).⁶⁶ The *PANK1* gene, which was upregulated in the VTM group, together with *PANK3*, catalyzes the first committed step and controls the overall rate of CoA biosynthesis.⁶⁷ In the same pathway, the gene *PPCS* catalyzes the second step in the biosynthesis of CoA.⁶⁸ B vitamins are usually not supplemented in beef production systems, as ruminal microbes provide a substantial supply of most water-soluble vitamins.⁶⁹ On the other hand, trace minerals play key roles in the synthesis of B vitamins by acting as co-factors for microbial enzymes.⁷⁰ Among the minerals, Co is used for the synthesis of vitamin B12.⁷⁰ The protein coded by the gene *LMBRD1*, associated with the vitamin digestion and absorption pathway, mediates the transport and metabolism of vitamin B12, which is important for the metabolism of branched-chain amino acids and odd chain fatty acids.^{71,72} We have reported increased hepatic storage of Co throughout gestation, and VTM supplemented dams had greater Co concentration in total colostrum.⁷ In the current study, VTM supplemented dams and their calves had greater Co concentrations in the serum at calving.⁸ As neonatal calves do not have a functional rumen and established microbial community, they rely on placental and colostrum

transfer of B vitamins to meet their requirements.⁷³ Duplessis and Girard reported that maternal biotin, folic acid, and vitamin B12 supplementation 26 days before calving increased dam plasma and colostrum vitamin and calf plasma folate concentrations.⁷³ These findings indicate that maternal VTM supplementation positively affects vitamin-related metabolic pathways in the calf, potentially supporting early postnatal requirements.

3.3.3 The oxidative phosphorylation pathway was over-represented by downregulated genes in the liver of calves born to VTM supplemented dams

Oxidative phosphorylation (OXPHOS) is the primary pathway by which cells generate ATP from the breakdown of carbohydrates and fats to provide cellular energy.⁷⁴ This process takes place in the mitochondria through a series of redox reactions that drive the electron transport chain and ATP synthase activity.⁷⁵ We identified 23 DEGs that were all downregulated in the liver of VTM supplemented calves and associated with the OXPHOS KEGG pathway. Curiously, all of them lost connectivity within the VTM network group. In the same pathway, additional 34 genes were negatively ranked within the GSEA analysis. Among them were genes that are part of the NADH dehydrogenase (ubiquinone) complex I gene family. These genes regulate mitochondrial complex I activity by transferring electrons from NADH to the respiratory chain.⁷⁶ Also part of complex I assembly, we identified the mitochondrial genes *MT-ND6*, *MT-ND4L*, *MT-ND3*, *MT-ND2*, and *MT-ND4*. Micronutrients play a critical role in mitochondrial function, particularly in energy metabolism and ATP production, as many serve as essential co-factors. Notably, 11 of the 12 minerals required for human health are directly involved in mitochondrial metabolic processes.⁷⁷ Iron and Cu are frequently used as cofactors for enzymes and oxygen-carrying proteins that take advantage of their propensity to gain and lose single electrons, therefore, playing dominant roles in mitochondrial metabolism.⁷⁸ Iron is an essential component of iron-sulfur (Fe-S) clusters that facilitate electron transfer within NADH:ubiquinone oxidoreductase (Complex I), while copper participates in cytochrome c oxidase activity at Complex IV.⁷⁸ The availability of trace minerals influences the assembly, stability, and activity of the electron transport chain.⁷⁸ However, the excess availability of redox-active cofactors may contribute to the downregulation of genes involved in the electron transport chain as a regulatory mechanism to mitigate the potential overproduction of reactive oxygen species, which are closely associated with

mitochondrial Complex I activity.⁷⁹ Therefore, the observed downregulation of Complex I genes despite increased mineral availability may reflect a feedback or adaptive response to maintain mitochondrial redox homeostasis under enhanced micronutrient conditions.

The hepatic mitochondrial function was previously assessed via high-resolution respirometry using the same cohort of calves. No significant differences were observed in LEAK and OXPHOS respiration parameters between treatments, whereas there was a significant increase in residual oxygen consumption (ROX) and a trend for increased electron transport system capacity (E) in the VTM group.⁸⁰ Despite unchanged whole-tissue OXPHOS function at the neonatal stage, transcriptomic alterations imply a modification in the ATP production and functional reprogramming of mitochondrial pathways in VTM calves. These changes may be related to a compensatory activation, such as beta-oxidation, to be used as the main energy source.⁸⁰ In mice, the loss of mitochondrial complex I has been shown not to impair the liver's ability to maintain metabolically functional mitochondria.⁸¹ Although not over-represented in the OXPHOS pathway, we identified the *MTAI* gene as significantly less connected in the VTM group. This gene has been reported as a component of the deacetylation complex.⁸² Additionally, it has been identified as an ATP synthase modulator, driving mitochondrial bioenergetic metabolism reprogramming to facilitate the growth and liver metastasis of colon cancer.⁸³ While these findings may reflect early-life adaptations that could influence energy metabolism, further studies are needed to determine potential regulatory mechanisms and functional metabolic outcomes.

These results corroborate our previous findings in the jejunal mucosa of the same calves. We have reported changes in the expression of nutrient transporter-related genes, metabolism, tissue structure, and immune function.⁸⁴ However, the results should be interpreted considering the limited sample size used for gene expression analysis. Additionally, our study was restricted to a single time point and employed only transcriptomic profiling in both tissues, which does not fully capture the complexity of regulatory mechanisms underlying tissue programming. While the expression of a single gene is unlikely to drive a complete physiological shift, the differential expression patterns and regulatory network rewiring observed within key metabolic pathways suggest potential functional adaptations in response to maternal vitamin and mineral supplementation. Longitudinal studies encompassing various prenatal and postnatal stages would

provide a more comprehensive understanding of the long-term implications of short-term feeding decisions. In a similar study using a different cohort, we reported that F1 heifers born to VTM dams have enhanced post-weaning development⁷, suggesting that programming effects may remain latent. Further research should explore whether epigenetic marks are established at birth, persist throughout postnatal development, and potentially contribute to transgenerational inheritance.

3.4 CONCLUSION

Our findings support the hypothesis that maternal vitamin and mineral supplementation throughout gestation is associated with molecular changes in the neonatal liver via transcriptomic responses. We identified differences in the wiring of key TFs involved with liver function and metabolism. Overall, networks from the VTM group were rewired and lost connections, although most TFs increased their connectivity. In particular, VTM supplementation led to differential regulation of histone deacetylating genes (*HDAC4*, *HDAC6*, and *HDAC7*). Further research, however, is warranted to determine the role of epigenetics and chromatin remodeling in response to maternal nutrition. Moreover, the over-representation of nutrient-sensing signaling pathways, such as AMPK, FoxO, and PI3K/Akt, shed light on their crosstalk with vitamins and minerals and their role in liver programming. Future research is still needed to translate vitamin and mineral supplementation strategies for cow-calf producers to leverage the potential benefits of fetal programming. Further investigation is warranted to determine long-term consequences and potential intergenerational effects on offspring performance.

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4.0 CONCLUDING REMARKS

Proper nutrition is important throughout life to support growth and metabolism. This is particularly essential during gestation as the developing fetus relies on the maternal uterine environment to provide the required nutrients. Additionally, pregnancy and early life are sensitive windows of developmental plasticity that can impact fetal physiology and metabolism with long-term effects into adulthood. Using a bovine model, we have demonstrated that maternal vitamin and mineral supplementation 60 days pre-breeding throughout gestation was associated with molecular changes in the neonatal jejunal mucosa and liver via transcriptomic responses. While calf morphometrics and organ mass were not affected by dams' treatment, calves born to supplemented heifers had higher concentrations of Se and Mo in the liver and Co and Se in the serum at 30 hours of age.¹ Our findings and growing evidence from other studies provide evidence that vitamins and minerals contribute to fetal programming.²⁻⁴ The results reported in this dissertation demonstrate molecular changes in the neonatal jejunal mucosa and liver through transcriptomic responses. Future research should explore the role of epigenetics and chromatin remodeling in response to maternal nutrition.

Based on RNA sequencing, we identified 528 and 630 differentially expressed genes in the jejunum and liver tissues, respectively. Interestingly, 23 DEGs were shared between the tissues. Additionally, our results suggest a regulatory rewiring of transcription factors and histone deacetylating genes involved in transcriptional modulation. Among them, *HDAC4*, *HDAC6*, and *HDAC7* play an epigenetic role through changes in DNA architecture. Chromatin remodeling from histone acetyltransferase or demethylase allows DNA access to regulatory transcription proteins and modulates gene expression.⁵ Multiple chromatin-modifying enzymes depend on specific vitamins and minerals as essential co-factors to facilitate their activity.⁶ These changes may have implications for the programming of tissue function.

Significant genes were underlying nutrient-sensing pathways and major regulators of energy homeostasis. We identified DEGs in both tissues acting in the insulin-like growth factor (IGF) axis. Minerals, such as Mg, Se, and Zn, have been associated with IGF1 levels.⁷ Although no differences were observed in the serum concentrations of GH and IGF1 in the dams and calves,¹ we identified the *IGFBP2* and *IGFBP6* genes upregulated in the VTM group in the jejunum. In the liver, the *IGF1* and *STAT5A* genes were up and downregulated, respectively, in the calves born

from VTM dams. STAT5A activation in the liver is a key pathway in response to GH signaling, which in turn activates the transcription of the *IGF1* gene.⁸ The PCIT analysis identified 68 and 23 genes co-expressed with *GHR*, selected based on a partial correlation value greater than $|0.95|$ ($P \leq 0.05$), in the jejunal mucosa and liver. GH acts directly on hepatocytes through the GHR to modulate the production and function of IGF1, which, together with insulin, supports the metabolic regulation of multiple tissues.⁹ In the intestine, GHR has been associated with the absorption of nutrients, glucose homeostasis, and maintaining the intestinal barrier.¹⁰

The implications and underlying mechanisms for the findings reported here warrant further investigation. Due to the limitations of our experimental design, we cannot determine causality or whether the observed transcriptomic changes result in phenotypic outcomes. However, the differential expression patterns and regulatory network rewiring observed within key metabolic pathways suggest potential functional adaptations in response to maternal diet. Likewise, it would be important to determine whether, how, and to what extent offspring inherit epigenetic marks and the long-term consequences on their performance. Longitudinal studies encompassing various prenatal and postnatal stages would provide a more comprehensive understanding of the long-term implications of short-term feeding decisions. Understanding the crosstalk between vitamins and minerals with developmental programming will allow the development of management strategies for cow-calf producers to leverage the potential benefits of fetal programming.

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THESIS TITLE:

Effects of Maternal Vitamin and Mineral Supplementation on Neonatal Liver and Jejunum Transcriptomes and Regulatory Co-expression Networks

by Audrey James Craner

APPENDIX

Appendix 2.1. Nutrient composition of vitamin mineral (VTM) supplement and feed ingredients of basal diets delivered to gestating heifers from breeding through calving, as well as composition of commercial colostrum replacer fed to neonatal calves within 2 h of birth ¹ ; company guaranteed analysis, and mineral requirements based on NASEM.	3
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Appendix 2.1. Nutrient composition of vitamin mineral (VTM) supplement and feed ingredients of basal diets delivered to gestating heifers from breeding through calving, as well as, composition of commercial colostrum replacer fed to neonatal calves within 2 h of birth¹; company guaranteed analysis, and mineral requirements based on NASEM.

Item	Assurance levels	
Minerals¹	Min	Max
Calcium, g/kg of DM	135	162
Phosphorus, g/kg of DM	75	-
Sodium Chloride, g/kg of DM	180	216
Magnesium, g/kg of DM	10	-
Potassium, g/kg of DM	10	-
Manganese, mg/kg of DM	3,600.00	-
Cobalt, mg/kg of DM	12	-
Copper, mg/kg of DM	1,200.00	-
Iodine, mg/kg of DM	60	-
Selenium, mg/kg of DM	27	-
Zinc, mg/kg of DM	3,600.00	-
Vitamins, IU/kg of DM		
A		661,500.00
D		66,150.00
E		661.5

¹Purina® Wind and Rain® Storm® All Season 7.5 Complete Mineral (Land O'Lakes, Inc., Arden Hills, MN); Ingredients: Dicalcium Phosphate, Monocalcium Phosphate, Processed Grain By-Products, Plant Protein Products, Calcium Carbonate, Molasses Products, Salt, Mineral Oil, Potassium Chloride, Magnesium Oxide, Ferric Oxide, Vitamin E Supplement, Vitamin A Supplement, Lignin Sulfonate, Cobalt Carbonate, Manganese Sulfate, Ethylenediamine Dihydroiodide, Zinc Sulfate, Copper Chloride, Vitamin D3 Supplement, Natural and Artificial Flavors, Sodium Selenite.

	Diet 1	Diet 2	Diet 3 ²
Ingredients, % DM			
Corn Silage	37	25	25
Prairie Hay	53	-	-
Millet Hay	-	66	-
Alfalfa	-	-	66
DDGS	10	9	4
Premix ²	-	-	5
Chemical composition, % DM			
Dry Matter	53	58.2	62.1
Ash	11.3	10.1	9.77
Crude Protein	10.5	10.4	17.3
Acid Detergent Fiber	32.7	36.1	35.7
Neutral Detergent Fiber	56.9	62.5	48.6
Ether Extract	2.12	2.03	1.46
Mineral composition			
Ca, % DM	0.58	0.39	1.23
P, % DM	0.28	0.28	0.44
Co, mg/kg DM	<1.00	<1.00	<1.00
Cu, mg/kg DM	4.4	3.9	10.1
Mn, mg/kg DM	72.6	55.1	69.1
Mo, mg/kg DM	2.3	0.7	0.7
Se, mg/kg DM	0.28	0.17	0.2
Zn, mg/kg DM	20.8	22.8	86.7

Nutrient analysis was conducted for diets provided from 60 d pre-breeding to d 200 of pregnancy (diet 1), d 201 to d 238 of pregnancy (diet 2), and from d 239 of pregnancy to calving (diet 3). Feed deliveries of diet 1 were adjusted to target $0.45 \text{ kg} \cdot \text{heifer}^{-1} \cdot \text{d}^{-1}$ gain while diets 2 and 3 were fed for *ad libitum* consumption.

Premix was provided in the TMR for both CON and VTM diets, and if indicated by treatment the vitamin and mineral supplement was added to the ground corn-based premix. The premix was comprised of ground corn, urea, limestone, dicalcium phosphate, and monensin.

Item	Assurance Levels	
	Min	Max
Crude protein, %	47	
Crude fat, %	15	
Crude fiber, %		0.25
ADF, %		1
Ca, %	0.4	0.9
P, %	0.3	
Salt, %	2	2.5
Na, %	0.6	1.1
K, %	0.2	
Se, ppm	0.3	
Vitamin A, IU/kg	11,023	
Globulin,%	30	

All calves from CON and VTM treatments received the same colostrum replacement product within 2 h of birth.

LifeLine Rescue High Level Colostrum Replacer (APC, Ankeny, IA, USA); ingredients: bovine serum globulin, animal and vegetable fat (preserved with BHA and BHT), dried whey protein concentrate, lactose, dextrose, calcium carbonate, glycine, salt, fructose, lecithin, canola oil, potassium chloride, magnesium sulfate, choline chloride, polyoxyethylene glycol 400 (mono and dioleates), natural and artificial flavors, vitamin E supplement, silicon dioxide, zinc proteinate, dicalcium phosphate, ferrous sulfate, manganese proteinate, vitamin A acetate, brewer's dried yeast, iron proteinate, ascorbic acid, D-calcium pantothenate, vitamin B12 supplement, vitamin D3 supplement, niacinamide, sodium selenite, riboflavin, biotin, pyridoxine hydrochloride, thiamin mononitrate, folic acid, calcium iodate, and menadione sodium bisulfite complex (source of vitamin K3 activity).

Mineral Requirements and Maximum Tolerable Concentrations (Dry Matter Basis)^a

Requirement^b			
Mineral	Unit	Cows Gestating	Maximum Tolerable Concentration
Calcium	%	-	-
Chlorine	%	-	-
Chromium	mg/kg	-	1000 ^c
Cobalt	mg/kg	0.15	25
Copper	mg/kg	10	40 ^d
Iodine	mg/kg	0.50	50
Iron	mg/kg	50	500
Magnesium	%	0.12	0.4
Manganese	mg/kg	40	1,000
Molybdenum	mg/kg	-	5
Nickel	mg/kg	-	50
Phosphorus	%	-	-
Potassium	%	0.60	2.00
Selenium	mg/kg	0.10	5.00
Sodium	%	0.06-0.08	-
Sulfur	%	0.15	0.30-0.50 ^d
Zinc	mg/kg	30	500

^a Adapted from NRC (1996, 2000)

^b Dietary mineral requirements can be influenced by dietary antagonists

^c Highly dependent on source. See *Mineral Tolerance of Animals* (NRC, 2005)

^d Dependent on animal age, diet type, and dietary antagonists. See *Mineral Tolerance of Animals* (NRC, 2005).

Appendix 2.2. Summary of RNA integrity and quality (IQ), RNA sequencing, mapping statistics, and treatments.

Sample ID	IQ	M Seqs	% Aligned	M Aligned	Group
J12V	8.9	28.5	93.50%	26.7	VTM
J18V	8.5	38.2	93.80%	35.8	VTM
J24V	8.7	33.4	92.80%	31	VTM
J30V	9.7	31.1	95.10%	29.6	VTM
J36V	9.6	32.5	95.10%	30.9	VTM
J42V	9.1	26.9	95.10%	31.6	VTM
J6V	8.9	21	93.80%	19.7	VTM
J15C	8.2	31.2	92.90%	29	CON
J21C	8.6	38.1	95%	36.2	CON
J27C	8.6	26.8	95.10%	25.5	CON
J33C	9.6	22.9	95.00%	21.8	CON
J39C	9.0	21.5	95.00%	20.4	CON
J3C	9.0	33.2	94.70%	32.6	CON
J9C	9.2	34.4	94.40%	32.5	CON
Average		30.5	94.40%	28.8	

Appendix 2.3. Differentially expressed genes in the jejunum tissue of neonatal beef heifers born from dams receiving or not receiving vitamin–mineral supplementation (VTM or CON) during gestation.

Ensembl ID	Gene Name	baseMean	log2 FoldChange	lfcSE	stat	pvalue	Status	Is TF?	IS RIF?
ENSBTAG00000000016	<i>LTA</i>	24.618	-0.7921	0.3819	-2.0741	0.04	Down	NO	NO
ENSBTAG000000000144	<i>ENSBTAG000000000144</i>	696.635	-0.7554	0.2613	-2.8908	0.00	Down	NO	NO
ENSBTAG000000000185	<i>SLC6A14</i>	859.847	-0.7466	0.3483	-2.1437	0.03	Down	NO	NO
ENSBTAG000000000259	<i>CHIA</i>	26.749	-1.5045	0.6804	-2.2113	0.03	Down	NO	NO
ENSBTAG000000000295	<i>CLHC1</i>	161.519	0.5199	0.2075	2.5062	0.01	Up	NO	NO
ENSBTAG000000000478	<i>LSMEM2</i>	35.108	1.3294	0.5795	2.2941	0.02	Up	NO	NO
ENSBTAG000000000620	<i>MCMD2</i>	12.162	-1.4595	0.7198	-2.0278	0.04	Down	NO	NO
ENSBTAG000000000641	<i>SKAP1</i>	256.004	-0.6582	0.2146	-3.0667	0.00	Down	NO	NO
ENSBTAG000000000782	<i>KDR</i>	10018.801	0.5009	0.1558	3.2147	0.00	Up	NO	NO
ENSBTAG000000000835	<i>BCAS1</i>	184.543	-0.6774	0.2274	-2.9787	0.00	Down	NO	NO
ENSBTAG000000000932	<i>NOBOX</i>	13.501	1.1225	0.5566	2.0165	0.04	Up	YES	NO
ENSBTAG000000016602	<i>LBX2</i>	266.678	0.9981	0.4264	2.3409	0.02	Up	YES	YES
ENSBTAG000000001008	<i>PRF1</i>	93.593	-0.8858	0.3862	-2.2934	0.02	Down	NO	NO
ENSBTAG000000001068	<i>ZCWPW1</i>	25.331	0.8453	0.3723	2.2707	0.02	Up	NO	NO
ENSBTAG000000001078	<i>SRL</i>	40.361	1.1546	0.3843	3.0041	0.00	Up	NO	NO
ENSBTAG000000001120	<i>CORO6</i>	126.977	0.9637	0.4451	2.1650	0.03	Up	NO	NO
ENSBTAG000000001124	<i>GALC</i>	452.953	-0.6492	0.3018	-2.1512	0.03	Down	NO	NO
ENSBTAG000000001136	<i>ELAPOR1</i>	118.309	-0.8870	0.2652	-3.3452	0.00	Down	NO	NO

Ensembl ID	Gene Name	baseMean	log2 FoldChange	lfcSE	stat	pvalue	Status	Is TF?	IS RIF?
ENSBTAG000000001152	<i>TLE6</i>	113.460	0.8465	0.3911	2.1644	0.03	Up	NO	NO
ENSBTAG000000001153	<i>TLE2</i>	565.947	0.6725	0.1496	4.4947	0.00	Up	NO	NO
ENSBTAG000000001156	<i>ST3GAL1</i>	917.684	-0.6005	0.2542	-2.3621	0.02	Down	NO	NO
ENSBTAG000000014593	<i>ENSBTAG000000014593</i>	27.221	0.8042	0.4097	1.9628	0.05	Up	YES	NO
ENSBTAG000000001305	<i>ATP2B2</i>	33.642	1.2924	0.5244	2.4645	0.01	Up	NO	NO
ENSBTAG000000001338	<i>CCR3</i>	23.798	-2.3839	0.7559	-3.1538	0.00	Down	NO	NO
ENSBTAG000000001359	<i>B3GNT7</i>	65.680	-0.7764	0.3180	-2.4418	0.01	Down	NO	NO
ENSBTAG000000001599	<i>SV2A</i>	51.173	-0.5921	0.2873	-2.0606	0.04	Down	NO	NO
ENSBTAG000000001694	<i>TYRO3</i>	158.905	0.7913	0.3939	2.0088	0.04	Up	NO	NO
ENSBTAG000000001752	<i>FUCA2</i>	628.740	-0.6804	0.2315	-2.9388	0.00	Down	NO	NO
ENSBTAG000000001785	<i>TGM3</i>	205.001	-1.0361	0.4898	-2.1154	0.03	Down	NO	NO
ENSBTAG000000001806	<i>IQCD</i>	104.386	0.5312	0.2553	2.0809	0.04	Up	NO	NO
ENSBTAG000000001828	<i>SCRN2</i>	2424.183	0.7475	0.3750	1.9935	0.05	Up	NO	NO
ENSBTAG000000001829	<i>SLC17A9</i>	589.260	-0.6242	0.1562	-3.9959	0.00	Down	NO	NO
ENSBTAG000000001836	<i>ENSBTAG000000001836</i>	29.594	-2.6748	0.9068	-2.9496	0.00	Down	NO	NO
ENSBTAG000000002015	<i>RPS6KA6</i>	126.895	0.5116	0.2398	2.1332	0.03	Up	NO	NO
ENSBTAG000000002066	<i>MYL7</i>	212.820	1.6294	0.6506	2.5044	0.01	Up	NO	NO
ENSBTAG000000002117	<i>KIF18A</i>	96.951	-0.5748	0.2931	-1.9613	0.05	Down	NO	NO
ENSBTAG000000002135	<i>CD69</i>	67.463	-0.8516	0.3653	-2.3311	0.02	Down	NO	NO
ENSBTAG000000002299	<i>SEL1L3</i>	974.869	-0.5682	0.2050	-2.7718	0.01	Down	NO	NO

Ensembl ID	Gene Name	baseMean	log2 FoldChange	lfcSE	stat	pvalue	Status	Is TF?	IS RIF?
ENSBTAG00000002305	<i>PCSK4</i>	383.915	0.7424	0.3120	2.3798	0.02	Up	NO	NO
ENSBTAG00000002348	<i>SLC4A4</i>	397.816	-0.9874	0.3150	-3.1346	0.00	Down	NO	NO
ENSBTAG00000002596	<i>VSTM1</i>	36.845	-0.8760	0.3358	-2.6090	0.01	Down	NO	NO
ENSBTAG00000002661	<i>ISLR2</i>	466.160	1.1445	0.3234	3.5396	0.00	Up	NO	NO
ENSBTAG00000002705	<i>REC8</i>	91.369	3.6177	0.9121	3.9664	0.00	Up	NO	NO
ENSBTAG00000002853	<i>HRC</i>	44.333	0.8867	0.3058	2.8993	0.00	Up	NO	NO
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	71.685	-1.0772	0.3164	-3.4043	0.00	Down	NO	NO
ENSBTAG000000013306	<i>ZBTB7C</i>	46.239	0.7491	0.2974	2.5188	0.01	Up	YES	NO
ENSBTAG00000002937	<i>ADGRE3</i>	219.416	-0.7576	0.3123	-2.4256	0.02	Down	NO	NO
ENSBTAG00000002951	<i>CD244</i>	249.692	-0.7263	0.2577	-2.8186	0.00	Down	NO	NO
ENSBTAG00000003074	<i>SLC16A6</i>	71.634	-0.8086	0.3457	-2.3388	0.02	Down	NO	NO
ENSBTAG00000003169	<i>FBXO24</i>	62.711	0.6853	0.3290	2.0833	0.04	Up	NO	NO
ENSBTAG00000003403	<i>PADI2</i>	40.306	-1.0684	0.4751	-2.2489	0.02	Down	NO	NO
ENSBTAG00000003408	<i>ENSBTAG00000003408</i>	45.173	0.8341	0.4009	2.0807	0.04	Up	NO	NO
ENSBTAG00000003455	<i>ANKRD6</i>	55.769	0.5825	0.2801	2.0798	0.04	Up	NO	NO
ENSBTAG000000054074	<i>ENSBTAG000000054074</i>	28.992	0.7270	0.3310	2.1962	0.03	Up	YES	NO
ENSBTAG00000003526	<i>SYNE3</i>	510.108	-0.6289	0.1803	-3.4881	0.00	Down	NO	NO
ENSBTAG00000003529	<i>ENSBTAG00000003529</i>	190.042	-0.9730	0.4863	-2.0009	0.05	Down	NO	NO
ENSBTAG00000003580	<i>PSD</i>	320.404	0.6365	0.2622	2.4278	0.02	Up	NO	NO
ENSBTAG00000003684	<i>LRFN5</i>	49.885	-0.7823	0.3965	-1.9732	0.05	Down	NO	NO

Ensembl ID	Gene Name	baseMean	log2 FoldChange	lfcSE	stat	pvalue	Status	Is TF?	IS RIF?
ENSBTAG00000003743	<i>ENSBTAG00000003743</i>	19.809	1.3824	0.5845	2.3652	0.02	Up	NO	NO
ENSBTAG00000003749	<i>KCNMB4</i>	230.870	0.7212	0.1530	4.7138	0.00	Up	NO	NO
ENSBTAG00000003763	<i>MYO5C</i>	225.999	-0.6515	0.2196	-2.9664	0.00	Down	NO	NO
ENSBTAG00000003923	<i>GPBAR1</i>	171.152	0.5300	0.2365	2.2412	0.03	Up	NO	NO
ENSBTAG00000004036	<i>GJC1</i>	218.197	0.5163	0.2082	2.4796	0.01	Up	NO	NO
ENSBTAG00000004110	<i>ENSBTAG00000004110</i>	30.747	-0.7997	0.3167	-2.5250	0.01	Down	NO	NO
ENSBTAG00000004207	<i>CD93</i>	5309.555	0.5072	0.1701	2.9818	0.00	Up	NO	NO
ENSBTAG00000004273	<i>CST7</i>	143.461	-0.5520	0.2469	-2.2360	0.03	Down	NO	NO
ENSBTAG00000004292	<i>CRMP1</i>	17.889	1.3130	0.5668	2.3165	0.02	Up	NO	NO
ENSBTAG00000004303	<i>SLC27A2</i>	517.620	-0.8288	0.2651	-3.1271	0.00	Down	NO	NO
ENSBTAG00000004403	<i>CD320</i>	2370.498	0.5251	0.2118	2.4794	0.01	Up	NO	NO
ENSBTAG00000004407	<i>KCNK2</i>	24.199	1.0833	0.5476	1.9784	0.05	Up	NO	NO
ENSBTAG00000004558	<i>C10H15orf48</i>	378.523	-0.8225	0.2719	-3.0245	0.00	Down	NO	NO
ENSBTAG000000054162	<i>HOXB8</i>	83.700	0.7183	0.3354	2.1415	0.03	Up	YES	NO
ENSBTAG00000004685	<i>SRGAP3</i>	48.276	0.5341	0.2097	2.5466	0.01	Up	NO	NO
ENSBTAG00000004797	<i>TRMT44</i>	1257.261	0.6086	0.2980	2.0419	0.04	Up	NO	NO
ENSBTAG00000004911	<i>BIRC7</i>	157.371	2.5608	0.8181	3.1302	0.00	Up	NO	NO
ENSBTAG00000004917	<i>KLRK1</i>	66.349	-0.8198	0.3687	-2.2235	0.03	Down	NO	NO
ENSBTAG00000004921	<i>ENSBTAG00000004921</i>	15.100	1.4316	0.6712	2.1328	0.03	Up	NO	NO
ENSBTAG00000004945	<i>BBS7</i>	78.260	0.5935	0.3013	1.9698	0.05	Up	NO	NO

Ensembl ID	Gene Name	baseMean	log2 FoldChange	lfcSE	stat	pvalue	Status	Is TF?	IS RIF?
ENSBTAG00000004958	<i>PTPRN2</i>	275.459	-1.0853	0.2360	-4.5984	0.00	Down	NO	NO
ENSBTAG00000005005	<i>CSN1S2</i>	701.394	0.8562	0.3460	2.4747	0.01	Up	NO	NO
ENSBTAG00000005045	<i>GIP</i>	1249.269	-0.9117	0.2333	-3.9086	0.00	Down	NO	NO
ENSBTAG00000005078	<i>UCHL1</i>	242.785	0.8790	0.4205	2.0904	0.04	Up	NO	NO
ENSBTAG00000005122	<i>KNG1</i>	671.958	-0.8928	0.3521	-2.5353	0.01	Down	NO	NO
ENSBTAG00000005170	<i>ADGRG5</i>	176.994	0.8438	0.2555	3.3025	0.00	Up	NO	NO
ENSBTAG00000005218	<i>PDE3B</i>	183.688	-0.5468	0.2511	-2.1774	0.03	Down	NO	NO
ENSBTAG00000005261	<i>ENSBTAG00000005261</i>	13836.127	-0.6316	0.2218	-2.8474	0.00	Down	NO	NO
ENSBTAG00000005305	<i>NTS</i>	1118.719	-0.7304	0.3558	-2.0528	0.04	Down	NO	NO
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	2442.579	0.5869	0.2320	2.5298	0.01	Up	NO	NO
ENSBTAG00000005596	<i>IGFBP2</i>	335.853	0.6961	0.2068	3.3666	0.00	Up	NO	NO
ENSBTAG00000005685	<i>HSD11B2</i>	55.536	-1.0541	0.4961	-2.1247	0.03	Down	NO	NO
ENSBTAG00000005699	<i>SCML4</i>	148.058	-0.6129	0.2466	-2.4857	0.01	Down	NO	NO
ENSBTAG00000046984	<i>ZNF672</i>	188.473	0.7017	0.2859	2.4541	0.01	Up	YES	NO
ENSBTAG00000005762	<i>LYNX1</i>	49.571	1.1142	0.4512	2.4694	0.01	Up	NO	NO
ENSBTAG00000000919	<i>HEY2</i>	124.259	0.6930	0.2530	2.7392	0.01	Up	YES	NO
ENSBTAG00000005925	<i>SLC10A2</i>	374.078	-0.6994	0.1959	-3.5701	0.00	Down	NO	NO
ENSBTAG00000005964	<i>PIGG</i>	159.009	-0.5426	0.2433	-2.2296	0.03	Down	NO	NO
ENSBTAG00000006080	<i>MAST1</i>	38.797	0.9049	0.4223	2.1427	0.03	Up	NO	NO
ENSBTAG00000006130	<i>CLEC14A</i>	2465.047	0.5129	0.1963	2.6131	0.01	Up	NO	NO

Ensembl ID	Gene Name	baseMean	log2 FoldChange	lfcSE	stat	pvalue	Status	Is TF?	IS RIF?
ENSBTAG00000006234	<i>NPR1</i>	607.196	0.5190	0.2322	2.2356	0.03	Up	NO	NO
ENSBTAG00000006262	<i>LIMS2</i>	1364.339	0.5766	0.2046	2.8182	0.00	Up	NO	NO
ENSBTAG00000006282	<i>POU2AF1</i>	15.503	-1.1972	0.5809	-2.0609	0.04	Down	NO	NO
ENSBTAG00000006452	<i>CD3D</i>	449.090	-0.9723	0.3047	-3.1907	0.00	Down	NO	NO
ENSBTAG00000006453	<i>CD3G</i>	238.140	-0.8022	0.3284	-2.4427	0.01	Down	NO	NO
ENSBTAG00000006505	<i>SI00A9</i>	679.062	-0.9371	0.3675	-2.5495	0.01	Down	NO	NO
ENSBTAG00000006541	<i>ATP2A1</i>	40.851	0.7969	0.3950	2.0173	0.04	Up	NO	NO
ENSBTAG00000006688	<i>RPS6KL1</i>	244.387	0.5355	0.2228	2.4041	0.02	Up	NO	NO
ENSBTAG00000006720	<i>GJA5</i>	760.300	0.7681	0.1809	4.2463	0.00	Up	NO	NO
ENSBTAG00000006745	<i>FGG</i>	374.088	-0.6680	0.3364	-1.9861	0.05	Down	NO	NO
ENSBTAG00000006779	<i>LDHD</i>	1047.060	0.6696	0.3141	2.1316	0.03	Up	NO	NO
ENSBTAG00000006790	<i>SPTBN5</i>	119.350	0.9227	0.2567	3.5940	0.00	Up	NO	NO
ENSBTAG00000006792	<i>EHD4</i>	3320.471	0.5523	0.1578	3.5002	0.00	Up	NO	NO
ENSBTAG00000006984	<i>CD55</i>	127.905	-0.5280	0.2665	-1.9816	0.05	Down	NO	NO
ENSBTAG00000007068	<i>SH3BGR</i>	388.227	0.8045	0.3127	2.5724	0.01	Up	NO	NO
ENSBTAG00000007111	<i>STEAP3</i>	1479.170	-0.5175	0.1730	-2.9914	0.00	Down	NO	NO
ENSBTAG00000007148	<i>F2</i>	20.477	0.9035	0.4378	2.0635	0.04	Up	NO	NO
ENSBTAG00000007492	<i>ADAMTSL2</i>	201.398	0.5717	0.2269	2.5196	0.01	Up	NO	NO
ENSBTAG00000007665	<i>NPR3</i>	308.477	0.7449	0.2447	3.0446	0.00	Up	NO	NO
ENSBTAG00000007668	<i>AGPAT4</i>	58.474	0.5996	0.3027	1.9811	0.05	Up	NO	NO

Ensembl ID	Gene Name	baseMean	log2 FoldChange	lfcSE	stat	pvalue	Status	Is TF?	IS RIF?
ENSBTAG00000005748	<i>SOX17</i>	434.154	0.6829	0.1996	3.4216	0.00	Up	YES	NO
ENSBTAG00000007719	<i>MFSD6</i>	205.988	-0.5312	0.2221	-2.3915	0.02	Down	NO	NO
ENSBTAG00000007758	<i>PDE10A</i>	42.544	0.5939	0.2847	2.0862	0.04	Up	NO	NO
ENSBTAG00000007837	<i>SELENOI</i>	255.925	-0.5063	0.2484	-2.0381	0.04	Down	NO	NO
ENSBTAG00000007901	<i>ADGRE1</i>	53.402	-1.0513	0.4584	-2.2932	0.02	Down	NO	NO
ENSBTAG00000008023	<i>RHBDL2</i>	776.474	-0.5732	0.1499	-3.8234	0.00	Down	NO	NO
ENSBTAG00000008101	<i>PCSK5</i>	1704.452	-0.6119	0.2744	-2.2295	0.03	Down	NO	NO
ENSBTAG00000008161	<i>CLCA1</i>	2447.349	-1.6455	0.5169	-3.1834	0.00	Down	NO	NO
ENSBTAG00000008253	<i>EXPH5</i>	104.403	-0.8868	0.4364	-2.0320	0.04	Down	NO	NO
ENSBTAG00000008332	<i>ENPEP</i>	5442.895	-0.7126	0.3450	-2.0656	0.04	Down	NO	NO
ENSBTAG00000008338	<i>PLCB1</i>	404.145	0.5099	0.1927	2.6465	0.01	Up	NO	NO
ENSBTAG00000008397	<i>ZNF555</i>	229.689	0.6797	0.3048	2.2302	0.03	Up	YES	NO
ENSBTAG00000008431	<i>MOGAT1</i>	49.363	-0.7688	0.3556	-2.1618	0.03	Down	NO	NO
ENSBTAG00000008493	<i>AQP3</i>	273.521	-0.7345	0.3196	-2.2982	0.02	Down	NO	NO
ENSBTAG00000008793	<i>RNASE1</i>	48.562	-0.9087	0.4422	-2.0549	0.04	Down	NO	NO
ENSBTAG00000008833	<i>APOM</i>	154.937	-0.6895	0.1884	-3.6605	0.00	Down	NO	NO
ENSBTAG00000008849	<i>SORT1</i>	1395.066	-0.7057	0.2027	-3.4821	0.00	Down	NO	NO
ENSBTAG00000008851	<i>ENSBTAG00000008851</i>	69.223	-0.9429	0.4323	-2.1812	0.03	Down	NO	NO
ENSBTAG00000008906	<i>PCP2</i>	11.014	1.7021	0.6848	2.4857	0.01	Up	NO	NO
ENSBTAG00000008996	<i>SFII</i>	242.953	0.5495	0.2155	2.5491	0.01	Up	NO	NO

Ensembl ID	Gene Name	baseMean	log2 FoldChange	lfcSE	stat	pvalue	Status	Is TF?	IS RIF?
ENSBTAG00000009112	<i>TRAM2</i>	229.993	-0.5993	0.1913	-3.1317	0.00	Down	NO	NO
ENSBTAG00000009145	<i>SLC7A4</i>	62.404	-1.3830	0.5083	-2.7208	0.01	Down	NO	NO
ENSBTAG00000003514	<i>HSF4</i>	438.249	0.6445	0.2600	2.4789	0.01	Up	YES	NO
ENSBTAG00000009294	<i>DEGS2</i>	479.507	-0.5435	0.2274	-2.3895	0.02	Down	NO	NO
ENSBTAG00000009348	<i>OIT3</i>	371.070	0.5227	0.2346	2.2279	0.03	Up	NO	NO
ENSBTAG00000009381	<i>LCP2</i>	604.160	-0.5736	0.1966	-2.9181	0.00	Down	NO	NO
ENSBTAG00000009423	<i>NIPALI</i>	151.215	-0.6979	0.2696	-2.5881	0.01	Down	NO	NO
ENSBTAG00000014560	<i>HLX</i>	617.602	0.6328	0.1960	3.2289	0.00	Up	YES	NO
ENSBTAG00000009835	<i>CACNA1G</i>	211.360	1.0733	0.5235	2.0504	0.04	Up	NO	NO
ENSBTAG00000009876	<i>C4BPA</i>	1016.036	-0.7072	0.3490	-2.0264	0.04	Down	NO	NO
ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	327.535	-0.6788	0.2750	-2.4678	0.01	Down	NO	NO
ENSBTAG00000010068	<i>REEP2</i>	56.376	0.8784	0.3092	2.8406	0.00	Up	NO	NO
ENSBTAG00000010178	<i>PTPRD</i>	401.032	-0.5849	0.2733	-2.1402	0.03	Down	NO	NO
ENSBTAG00000010273	<i>EREG</i>	115.145	-0.7909	0.3182	-2.4851	0.01	Down	NO	NO
ENSBTAG00000010278	<i>STPG1</i>	38.563	-0.7926	0.3421	-2.3169	0.02	Down	NO	NO
ENSBTAG00000010352	<i>KCNK16</i>	86.362	0.8417	0.3269	2.5749	0.01	Up	NO	NO
ENSBTAG00000010363	<i>LSM11</i>	37.335	-0.7930	0.3586	-2.2116	0.03	Down	NO	NO
ENSBTAG00000010423	<i>LIFR</i>	70.324	0.9548	0.3541	2.6963	0.01	Up	NO	NO
ENSBTAG00000010452	<i>PODXL</i>	1033.372	0.5318	0.1729	3.0757	0.00	Up	NO	NO
ENSBTAG00000010457	<i>NUAK1</i>	133.865	0.6027	0.2432	2.4780	0.01	Up	NO	NO

Ensembl ID	Gene Name	baseMean	log2 FoldChange	lfcSE	stat	pvalue	Status	Is TF?	IS RIF?
ENSBTAG00000010462	<i>ROBO2</i>	77.941	-0.7169	0.3442	-2.0828	0.04	Down	NO	NO
ENSBTAG00000010509	<i>CDK3</i>	989.894	0.8036	0.3888	2.0668	0.04	Up	NO	NO
ENSBTAG00000010555	<i>LSMEM1</i>	20.315	0.8704	0.4106	2.1200	0.03	Up	NO	NO
ENSBTAG00000024000	<i>ATOH8</i>	1028.017	0.6068	0.2417	2.5105	0.01	Up	YES	YES
ENSBTAG00000011010	<i>PRND</i>	30.968	1.0496	0.4082	2.5711	0.01	Up	NO	NO
ENSBTAG00000011037	<i>RBPMS2</i>	595.131	0.6747	0.2786	2.4219	0.02	Up	NO	NO
ENSBTAG00000011050	<i>PLPP6</i>	105.968	-0.6095	0.2841	-2.1453	0.03	Down	NO	NO
ENSBTAG00000011063	<i>CTSO</i>	183.745	-0.6830	0.2611	-2.6163	0.01	Down	NO	NO
ENSBTAG00000011170	<i>JAKMIP1</i>	24.851	-1.6911	0.7282	-2.3222	0.02	Down	NO	NO
ENSBTAG00000011305	<i>ENSBTAG00000011305</i>	11.289	-2.1701	0.9282	-2.3379	0.02	Down	NO	NO
ENSBTAG00000011359	<i>CD7</i>	684.512	-0.5471	0.2665	-2.0533	0.04	Down	NO	NO
ENSBTAG00000011451	<i>RTN1</i>	33.715	2.1126	0.7211	2.9295	0.00	Up	NO	NO
ENSBTAG00000011470	<i>ENSBTAG00000011470</i>	14.129	1.5659	0.7002	2.2364	0.03	Up	NO	NO
ENSBTAG00000011473	<i>MYL9</i>	8455.974	0.7096	0.2783	2.5498	0.01	Up	NO	NO
ENSBTAG00000011515	<i>SELL</i>	444.456	-0.7004	0.2466	-2.8408	0.00	Down	NO	NO
ENSBTAG00000011558	<i>GPAT2</i>	90.990	0.9875	0.3452	2.8611	0.00	Up	NO	NO
ENSBTAG00000011738	<i>TFR2</i>	63.400	0.7358	0.3316	2.2186	0.03	Up	NO	NO
ENSBTAG00000011784	<i>FGR</i>	783.478	-0.6549	0.1926	-3.3993	0.00	Down	NO	NO
ENSBTAG00000011941	<i>LYZ1</i>	2250.547	-1.8272	0.6028	-3.0309	0.00	Down	NO	NO
ENSBTAG00000011962	<i>PLA2G3</i>	44.852	-1.2903	0.3613	-3.5718	0.00	Down	NO	NO

Ensembl ID	Gene Name	baseMean	log2 FoldChange	lfcSE	stat	pvalue	Status	Is TF?	IS RIF?
ENSBTAG00000011970	<i>FNIP2</i>	504.851	0.6069	0.2313	2.6239	0.01	Up	NO	NO
ENSBTAG00000012052	<i>PADI4</i>	113.923	-0.8656	0.2515	-3.4421	0.00	Down	NO	NO
ENSBTAG00000012054	<i>ENSBTAG00000012054</i>	208.654	1.4750	0.5298	2.7842	0.01	Up	NO	NO
ENSBTAG00000012082	<i>TNFRSF12A</i>	221.868	0.5373	0.2051	2.6197	0.01	Up	NO	NO
ENSBTAG00000012121	<i>NOXAI</i>	2721.445	0.7498	0.3658	2.0497	0.04	Up	NO	NO
ENSBTAG00000012212	<i>CYP26B1</i>	1656.656	0.8753	0.2222	3.9389	0.00	Up	NO	NO
ENSBTAG00000012252	<i>MOCOS</i>	103.938	-0.5551	0.2556	-2.1719	0.03	Down	NO	NO
ENSBTAG00000012272	<i>TMEM19</i>	555.695	-0.5152	0.2261	-2.2790	0.02	Down	NO	NO
ENSBTAG00000005871	<i>MECOM</i>	322.800	0.6026	0.2101	2.8685	0.00	Up	YES	NO
ENSBTAG00000020601	<i>ZNF366</i>	564.281	0.5450	0.2273	2.3973	0.02	Up	YES	NO
ENSBTAG00000012482	<i>CDCP1</i>	267.946	-0.7278	0.2186	-3.3290	0.00	Down	NO	NO
ENSBTAG00000012584	<i>GJB3</i>	66.800	-1.3034	0.5565	-2.3420	0.02	Down	NO	NO
ENSBTAG00000012638	<i>SI00A12</i>	1002.973	-0.7950	0.3505	-2.2680	0.02	Down	NO	NO
ENSBTAG00000012695	<i>LCK</i>	549.179	-0.6323	0.2388	-2.6477	0.01	Down	NO	NO
ENSBTAG00000012708	<i>SERPINI1</i>	41.602	-0.8085	0.3977	-2.0330	0.04	Down	NO	NO
ENSBTAG00000012729	<i>ARHGEF9</i>	209.670	0.5701	0.1686	3.3817	0.00	Up	NO	NO
ENSBTAG00000012829	<i>EBI3</i>	97.335	0.6449	0.2775	2.3238	0.02	Up	NO	NO
ENSBTAG00000012931	<i>PLN</i>	117.873	0.8125	0.3747	2.1685	0.03	Up	NO	NO
ENSBTAG00000012954	<i>ERAS</i>	171.522	1.0882	0.4734	2.2989	0.02	Up	NO	NO
ENSBTAG00000012963	<i>VILL</i>	157.091	0.8166	0.3299	2.4754	0.01	Up	NO	NO

Ensembl ID	Gene Name	baseMean	log2 FoldChange	lfcSE	stat	pvalue	Status	Is TF?	IS RIF?
ENSBTAG00000013027	<i>CCK</i>	623.744	-0.7824	0.3490	-2.2415	0.02	Down	NO	NO
ENSBTAG00000013048	<i>NIPAL3</i>	192.410	-0.6337	0.2302	-2.7524	0.01	Down	NO	NO
ENSBTAG00000013127	<i>LPCAT3</i>	1600.194	-0.5215	0.1997	-2.6117	0.01	Down	NO	NO
ENSBTAG00000013157	<i>NOVA2</i>	323.727	0.5497	0.2065	2.6614	0.01	Up	NO	NO
ENSBTAG00000013283	<i>PRR19</i>	36.564	0.8324	0.3892	2.1386	0.03	Up	NO	NO
ENSBTAG00000013290	<i>DYSF</i>	3295.879	0.5764	0.1851	3.1148	0.00	Up	NO	NO
ENSBTAG00000014217	<i>HHEX</i>	311.876	0.5416	0.1990	2.7220	0.01	Up	YES	NO
ENSBTAG00000013320	<i>TSPAN1</i>	229.951	-1.7167	0.4265	-4.0250	0.00	Down	NO	NO
ENSBTAG00000013334	<i>CSF3R</i>	269.366	-0.8833	0.3050	-2.8962	0.00	Down	NO	NO
ENSBTAG00000013345	<i>ENSBTAG00000013345</i>	13.654	-1.5775	0.6125	-2.5754	0.01	Down	NO	NO
ENSBTAG00000013417	<i>GLYCAM1</i>	117.579	0.8287	0.3408	2.4319	0.02	Up	NO	NO
ENSBTAG00000013422	<i>GABRB3</i>	13.581	-1.5755	0.5638	-2.7944	0.01	Down	NO	NO
ENSBTAG00000013578	<i>CHI3L2</i>	91.381	-1.4177	0.4572	-3.1008	0.00	Down	NO	NO
ENSBTAG00000013662	<i>COL8A1</i>	74.005	-0.8194	0.4161	-1.9691	0.05	Down	NO	NO
ENSBTAG00000013730	<i>CD5</i>	61.392	-1.0285	0.4174	-2.4642	0.01	Down	NO	NO
ENSBTAG00000013957	<i>GALNT3</i>	854.670	-0.5790	0.1984	-2.9183	0.00	Down	NO	NO
ENSBTAG00000013973	<i>SERPIND1</i>	15.595	1.1051	0.4681	2.3606	0.02	Up	NO	NO
ENSBTAG00000014014	<i>UBIAD1</i>	91.469	-0.5294	0.2207	-2.3990	0.02	Down	NO	NO
ENSBTAG00000014026	<i>PAG1</i>	312.975	-0.5511	0.2085	-2.6436	0.01	Down	NO	NO
ENSBTAG00000014088	<i>MBNL3</i>	23.738	0.8799	0.4258	2.0664	0.04	Up	NO	NO

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ENSBTAG00000014100	<i>BALAP3</i>	53.241	0.6545	0.2892	2.2632	0.02	Up	NO	NO
ENSBTAG00000014191	<i>QSOX1</i>	7174.181	-0.6471	0.1905	-3.3968	0.00	Down	NO	NO
ENSBTAG00000037508	<i>EBF1</i>	95.625	0.5316	0.2566	2.0719	0.04	Up	YES	NO
ENSBTAG00000014441	<i>CD96</i>	397.901	-0.6616	0.2666	-2.4817	0.01	Down	NO	NO
ENSBTAG00000014459	<i>MAP6D1</i>	71.078	0.6739	0.2511	2.6843	0.01	Up	NO	NO
ENSBTAG00000012463	<i>ZMAT3</i>	51.026	0.5247	0.2665	1.9690	0.05	Up	YES	NO
ENSBTAG00000009199	<i>GLIS2</i>	1220.544	0.5079	0.2456	2.0681	0.04	Up	YES	NO
ENSBTAG00000014674	<i>CHRM2</i>	41.106	0.9583	0.4272	2.2434	0.02	Up	NO	NO
ENSBTAG00000014713	<i>RARRES1</i>	6272.951	-0.5898	0.2900	-2.0337	0.04	Down	NO	NO
ENSBTAG00000014725	<i>CD27</i>	30.546	-0.9152	0.4268	-2.1443	0.03	Down	NO	NO
ENSBTAG00000014831	<i>PPP1R3C</i>	244.756	0.5854	0.2456	2.3833	0.02	Up	NO	NO
ENSBTAG00000014912	<i>FMOD</i>	158.659	1.1261	0.5726	1.9667	0.05	Up	NO	NO
ENSBTAG00000015080	<i>PHACTR3</i>	25.048	1.0371	0.4969	2.0872	0.04	Up	NO	NO
ENSBTAG00000015108	<i>USHBP1</i>	734.637	0.5686	0.1810	3.1413	0.00	Up	NO	NO
ENSBTAG00000015133	<i>CCR7</i>	26.545	-1.2061	0.4801	-2.5120	0.01	Down	NO	NO
ENSBTAG00000015170	<i>LCT</i>	18035.737	-0.8007	0.3704	-2.1617	0.03	Down	NO	NO
ENSBTAG00000015226	<i>BRSK1</i>	73.714	0.6496	0.2800	2.3202	0.02	Up	NO	NO
ENSBTAG00000015280	<i>KIF2C</i>	280.608	-0.7352	0.3333	-2.2059	0.03	Down	NO	NO
ENSBTAG00000015288	<i>BEST4</i>	1094.740	0.7070	0.3542	1.9959	0.05	Up	NO	NO
ENSBTAG00000015369	<i>MLLT11</i>	170.053	0.7362	0.3154	2.3340	0.02	Up	NO	NO

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ENSBTAG00000015511	<i>FADS3</i>	354.256	0.5240	0.2106	2.4884	0.01	Up	NO	NO
ENSBTAG00000015547	<i>SLC26A3</i>	496.858	-0.9376	0.3659	-2.5627	0.01	Down	NO	NO
ENSBTAG00000015550	<i>MLN</i>	60.157	-0.7258	0.2509	-2.8932	0.00	Down	NO	NO
ENSBTAG00000015592	<i>GPR84</i>	44.513	-1.0059	0.4104	-2.4510	0.01	Down	NO	NO
ENSBTAG00000015635	<i>TNFRSF4</i>	369.428	1.0014	0.3613	2.7716	0.01	Up	NO	NO
ENSBTAG00000015710	<i>CD3E</i>	1226.926	-0.7614	0.2152	-3.5382	0.00	Down	NO	NO
ENSBTAG00000015778	<i>SASS6</i>	172.411	-0.5386	0.2562	-2.1021	0.04	Down	NO	NO
ENSBTAG00000015798	<i>UCKL1</i>	1704.192	0.6236	0.3170	1.9675	0.05	Up	NO	NO
ENSBTAG00000015915	<i>SBSN</i>	264.547	-2.0257	0.8274	-2.4484	0.01	Down	NO	NO
ENSBTAG00000015939	<i>NECTIN1</i>	799.697	-0.5189	0.2537	-2.0450	0.04	Down	NO	NO
ENSBTAG00000015961	<i>TSPAN2</i>	123.539	0.6822	0.3110	2.1932	0.03	Up	NO	NO
ENSBTAG00000016073	<i>UGCG</i>	327.525	-0.5695	0.2371	-2.4024	0.02	Down	NO	NO
ENSBTAG00000016094	<i>SLC36A1</i>	102.634	-0.6265	0.2989	-2.0959	0.04	Down	NO	NO
ENSBTAG00000016124	<i>PACSIN1</i>	15.136	-2.1300	0.6508	-3.2729	0.00	Down	NO	NO
ENSBTAG00000016204	<i>C1RL</i>	174.969	-1.0622	0.4863	-2.1840	0.03	Down	NO	NO
ENSBTAG00000016234	<i>DUOX2</i>	42.888	-1.5055	0.4572	-3.2926	0.00	Down	NO	NO
ENSBTAG00000016239	<i>DUOX2</i>	35.071	-1.1947	0.5478	-2.1810	0.03	Down	NO	NO
ENSBTAG00000016263	<i>SLC25A14</i>	68.691	0.6644	0.3282	2.0244	0.04	Up	NO	NO
ENSBTAG00000016343	<i>KCNIP2</i>	15.120	1.3309	0.5284	2.5189	0.01	Up	NO	NO
ENSBTAG00000016345	<i>IL2RB</i>	424.136	-0.8966	0.2787	-3.2170	0.00	Down	NO	NO

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ENSBTAG00000016365	<i>ABCG5</i>	132.092	-0.7659	0.2595	-2.9519	0.00	Down	NO	NO
ENSBTAG00000016366	<i>ABCG8</i>	293.080	-0.6551	0.1915	-3.4215	0.00	Down	NO	NO
ENSBTAG00000016444	<i>RETREG1</i>	49.713	-0.7743	0.3928	-1.9713	0.05	Down	NO	NO
ENSBTAG00000016467	<i>SLC22A17</i>	679.525	0.5536	0.2284	2.4234	0.02	Up	NO	NO
ENSBTAG00000016486	<i>SORBS2</i>	894.721	0.6732	0.1775	3.7925	0.00	Up	NO	NO
ENSBTAG00000016505	<i>TMC7</i>	118.553	-0.9240	0.2123	-4.3527	0.00	Down	NO	NO
ENSBTAG00000012449	<i>AFF3</i>	113.875	-0.5830	0.2522	-2.3115	0.02	Down	YES	NO
ENSBTAG00000016713	<i>TMEM30B</i>	807.713	-0.7189	0.2781	-2.5852	0.01	Down	NO	NO
ENSBTAG00000001002	<i>TCF7</i>	300.165	-0.6144	0.1703	-3.6076	0.00	Down	YES	NO
ENSBTAG00000016723	<i>GFII</i>	120.869	-0.6369	0.2384	-2.6713	0.01	Down	YES	NO
ENSBTAG00000016765	<i>SPACDR</i>	11.191	2.3600	0.7759	3.0416	0.00	Up	NO	NO
ENSBTAG00000016770	<i>GAPT</i>	86.083	-0.9325	0.2859	-3.2616	0.00	Down	NO	NO
ENSBTAG00000016835	<i>IL17F</i>	22.720	-1.6939	0.8031	-2.1092	0.03	Down	NO	NO
ENSBTAG00000016841	<i>ATP10B</i>	284.794	-0.9312	0.2772	-3.3592	0.00	Down	NO	NO
ENSBTAG00000016845	<i>GALNT7</i>	1028.967	-0.5225	0.1920	-2.7215	0.01	Down	NO	NO
ENSBTAG00000016877	<i>PLA2G2C</i>	14.461	-1.5618	0.7259	-2.1515	0.03	Down	NO	NO
ENSBTAG00000016915	<i>FLT1</i>	3700.325	0.6169	0.1420	4.3450	0.00	Up	NO	NO
ENSBTAG00000016924	<i>CAP2</i>	25.033	1.1576	0.5034	2.2996	0.02	Up	NO	NO
ENSBTAG00000017138	<i>TMEM71</i>	37.445	-1.1487	0.4377	-2.6246	0.01	Down	NO	NO
ENSBTAG00000017183	<i>PDLIM3</i>	2161.664	0.7728	0.2738	2.8223	0.00	Up	NO	NO

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ENSBTAG000000017280	<i>C3</i>	30348.936	-0.7231	0.3648	-1.9820	0.05	Down	NO	NO
ENSBTAG000000017376	<i>GALNT5</i>	64.289	-1.1491	0.5285	-2.1742	0.03	Down	NO	NO
ENSBTAG000000017430	<i>PNCK</i>	92.043	1.0994	0.3647	3.0145	0.00	Up	NO	NO
ENSBTAG000000017442	<i>CDO1</i>	62.059	0.9046	0.3050	2.9665	0.00	Up	NO	NO
ENSBTAG000000017468	<i>NUCB2</i>	1060.271	-0.6792	0.2504	-2.7127	0.01	Down	NO	NO
ENSBTAG000000017508	<i>CYSLTR2</i>	372.672	0.5302	0.2478	2.1394	0.03	Up	NO	NO
ENSBTAG000000017642	<i>BMP3</i>	854.827	-0.8291	0.3560	-2.3290	0.02	Down	NO	NO
ENSBTAG000000017722	<i>F5</i>	571.254	-0.7579	0.3158	-2.3995	0.02	Down	NO	NO
ENSBTAG000000017863	<i>SRGN</i>	1679.835	-0.5780	0.2581	-2.2395	0.03	Down	NO	NO
ENSBTAG000000017969	<i>CA4</i>	52.916	-0.8091	0.4045	-2.0000	0.05	Down	NO	NO
ENSBTAG000000018123	<i>FBLN5</i>	388.312	0.5684	0.2827	2.0108	0.04	Up	NO	NO
ENSBTAG000000018143	<i>C16H1orf116</i>	945.366	-0.5874	0.1928	-3.0463	0.00	Down	NO	NO
ENSBTAG000000018189	<i>CSTB</i>	352.066	-0.5566	0.2147	-2.5925	0.01	Down	NO	NO
ENSBTAG000000018307	<i>SEMA3F</i>	4209.540	0.5087	0.1647	3.0892	0.00	Up	NO	NO
ENSBTAG000000018316	<i>ZMYND15</i>	367.738	0.6311	0.2246	2.8101	0.00	Up	NO	NO
ENSBTAG000000018331	<i>CLEC3B</i>	4961.309	0.6963	0.2011	3.4618	0.00	Up	NO	NO
ENSBTAG000000018367	<i>CD6</i>	99.328	-0.6733	0.3270	-2.0588	0.04	Down	NO	NO
ENSBTAG000000018398	<i>GPR4</i>	460.036	0.7906	0.2004	3.9459	0.00	Up	NO	NO
ENSBTAG000000018413	<i>TENT5B</i>	108.175	0.8848	0.3739	2.3664	0.02	Up	NO	NO
ENSBTAG000000018419	<i>ADCY4</i>	516.198	0.5358	0.2185	2.4524	0.01	Up	NO	NO

Ensembl ID	Gene Name	baseMean	log2 FoldChange	lfcSE	stat	pvalue	Status	Is TF?	IS RIF?
ENSBTAG00000018540	<i>NOX4</i>	49.171	1.1419	0.4911	2.3253	0.02	Up	NO	NO
ENSBTAG00000018572	<i>FLT3</i>	117.265	0.7483	0.2937	2.5477	0.01	Up	NO	NO
ENSBTAG00000018669	<i>PLB1</i>	1781.123	-1.2162	0.4571	-2.6606	0.01	Down	NO	NO
ENSBTAG00000018744	<i>MGAT5</i>	707.396	-0.8087	0.2620	-3.0862	0.00	Down	NO	NO
ENSBTAG00000018753	<i>TMEM163</i>	71.920	0.8448	0.2962	2.8522	0.00	Up	NO	NO
ENSBTAG00000018843	<i>SERPINA1</i>	16.498	-2.3955	0.7264	-3.2979	0.00	Down	NO	NO
ENSBTAG00000018940	<i>CRACR2A</i>	93.507	-0.7551	0.2793	-2.7037	0.01	Down	NO	NO
ENSBTAG00000019095	<i>CCR10</i>	25.583	1.0697	0.4527	2.3630	0.02	Up	NO	NO
ENSBTAG00000019129	<i>BTD</i>	630.947	-0.5922	0.2541	-2.3307	0.02	Down	NO	NO
ENSBTAG00000019454	<i>ANGEL1</i>	90.833	-0.6006	0.2787	-2.1551	0.03	Down	NO	NO
ENSBTAG00000019486	<i>CLDN12</i>	193.118	-0.5522	0.2573	-2.1459	0.03	Down	NO	NO
ENSBTAG00000019497	<i>ILDR2</i>	80.455	0.8829	0.2963	2.9799	0.00	Up	NO	NO
ENSBTAG00000019587	<i>PII5</i>	16.953	-2.2036	0.9620	-2.2907	0.02	Down	NO	NO
ENSBTAG00000019665	<i>IL1RN</i>	259.496	-1.1496	0.3421	-3.3604	0.00	Down	NO	NO
ENSBTAG00000019900	<i>LNPEP</i>	156.818	-0.6162	0.2767	-2.2271	0.03	Down	NO	NO
ENSBTAG00000019940	<i>RASGRF1</i>	46.113	2.0410	0.8498	2.4017	0.02	Up	NO	NO
ENSBTAG00000019993	<i>APLN</i>	87.324	0.5159	0.2128	2.4246	0.02	Up	NO	NO
ENSBTAG00000020018	<i>FRK</i>	551.425	-0.6595	0.2876	-2.2931	0.02	Down	NO	NO
ENSBTAG00000020080	<i>MYBPC2</i>	211.359	0.8531	0.2057	4.1473	0.00	Up	NO	NO
ENSBTAG00000020142	<i>LMBRD2</i>	71.046	-0.6951	0.2919	-2.3815	0.02	Down	NO	NO

Ensembl ID	Gene Name	baseMean	log2 FoldChange	lfcSE	stat	pvalue	Status	Is TF?	IS RIF?
ENSBTAG000000020184	<i>AQP8</i>	49.123	1.6928	0.8279	2.0447	0.04	Up	NO	NO
ENSBTAG000000004602	<i>PITX1</i>	201.358	-0.6485	0.2758	-2.3509	0.02	Down	YES	NO
ENSBTAG000000020267	<i>WNT9A</i>	13.231	-1.8071	0.6864	-2.6326	0.01	Down	NO	NO
ENSBTAG000000020273	<i>YOD1</i>	31.380	-0.8621	0.4079	-2.1132	0.03	Down	NO	NO
ENSBTAG000000020350	<i>DUSP2</i>	108.905	-0.6419	0.2857	-2.2468	0.02	Down	NO	NO
ENSBTAG000000020448	<i>ENSBTAG000000020448</i>	83.436	-0.6011	0.2490	-2.4142	0.02	Down	NO	NO
ENSBTAG000000020543	<i>UPK1A</i>	25.526	1.0378	0.5017	2.0685	0.04	Up	NO	NO
ENSBTAG000000020580	<i>TCN1</i>	465.576	-1.1901	0.3003	-3.9636	0.00	Down	NO	NO
ENSBTAG000000020592	<i>OTOS</i>	151.279	0.9413	0.3872	2.4309	0.02	Up	NO	NO
ENSBTAG000000025659	<i>ZNF618</i>	52.526	-0.6488	0.3259	-1.9905	0.05	Down	YES	NO
ENSBTAG000000020602	<i>IDO1</i>	63.208	-1.4573	0.4399	-3.3132	0.00	Down	NO	NO
ENSBTAG000000020688	<i>ARHGEF15</i>	746.928	0.5212	0.1884	2.7672	0.01	Up	NO	NO
ENSBTAG000000020789	<i>STS</i>	24.834	1.0394	0.4638	2.2408	0.03	Up	NO	NO
ENSBTAG000000020859	<i>SERPINF2</i>	168.192	-0.9009	0.2884	-3.1240	0.00	Down	NO	NO
ENSBTAG000000020954	<i>TRIM7</i>	113.601	0.5461	0.2352	2.3219	0.02	Up	NO	NO
ENSBTAG000000020957	<i>FZD5</i>	670.874	-0.5919	0.2568	-2.3046	0.02	Down	NO	NO
ENSBTAG000000021077	<i>BOLA-DQB</i>	345.407	4.4522	1.1535	3.8598	0.00	Up	NO	NO
ENSBTAG000000021141	<i>CD8A</i>	62.620	-1.0547	0.4641	-2.2729	0.02	Down	NO	NO
ENSBTAG000000021276	<i>TFF3</i>	7612.058	-0.8455	0.2784	-3.0363	0.00	Down	NO	NO
ENSBTAG000000021303	<i>RSAD1</i>	497.962	0.5595	0.2387	2.3436	0.02	Up	NO	NO

Ensembl ID	Gene Name	baseMean	log2 FoldChange	lfcSE	stat	pvalue	Status	Is TF?	IS RIF?
ENSBTAG000000021322	<i>TM4SF20</i>	3803.780	-0.5381	0.2612	-2.0602	0.04	Down	NO	NO
ENSBTAG000000021368	<i>ENSBTAG000000021368</i>	59.572	-1.1785	0.4160	-2.8329	0.00	Down	NO	NO
ENSBTAG000000021407	<i>CASP16</i>	39.140	-1.8210	0.8850	-2.0578	0.04	Down	NO	NO
ENSBTAG000000021422	<i>PDZD4</i>	52.583	0.6425	0.2706	2.3744	0.02	Up	NO	NO
ENSBTAG000000021437	<i>GPR174</i>	25.506	-0.8311	0.3920	-2.1200	0.03	Down	NO	NO
ENSBTAG000000021467	<i>IGFBP6</i>	1993.020	0.5246	0.2441	2.1488	0.03	Up	NO	NO
ENSBTAG000000021501	<i>ENSBTAG000000021501</i>	39.322	-2.5407	0.7172	-3.5427	0.00	Down	NO	NO
ENSBTAG000000021516	<i>GSTA1</i>	475.566	-0.9563	0.4145	-2.3071	0.02	Down	NO	NO
ENSBTAG000000021517	<i>TMEM216</i>	30.246	0.8589	0.3841	2.2358	0.03	Up	NO	NO
ENSBTAG000000021557	<i>FUT2</i>	513.092	-0.6501	0.2448	-2.6553	0.01	Down	NO	NO
ENSBTAG000000021587	<i>SMPDL3A</i>	911.349	-0.5353	0.2584	-2.0718	0.04	Down	NO	NO
ENSBTAG000000021673	<i>NDC80</i>	187.831	-0.5005	0.2220	-2.2542	0.02	Down	NO	NO
ENSBTAG000000021872	<i>RASGRP1</i>	96.198	-0.6399	0.2920	-2.1918	0.03	Down	NO	NO
ENSBTAG000000021916	<i>MYL4</i>	184.464	0.6355	0.2383	2.6667	0.01	Up	NO	NO
ENSBTAG000000021941	<i>DPP6</i>	17.502	1.1069	0.5629	1.9665	0.05	Up	NO	NO
ENSBTAG00000002895	<i>ATOH1</i>	331.161	-0.7193	0.2728	-2.6366	0.01	Down	YES	NO
ENSBTAG000000022158	<i>TNNT3</i>	18.308	0.9358	0.4162	2.2482	0.02	Up	NO	NO
ENSBTAG000000022509	<i>DNAH9</i>	12.405	1.9010	0.8490	2.2392	0.03	Up	NO	NO
ENSBTAG000000022715	<i>ENSBTAG000000022715</i>	49079.180	-0.5283	0.2464	-2.1436	0.03	Down	NO	NO
ENSBTAG000000022861	<i>KLRJ1</i>	824.439	-0.9708	0.2480	-3.9154	0.00	Down	NO	NO

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ENSBTAG00000023207	<i>FAM3D</i>	196.905	-1.0837	0.3243	-3.3418	0.00	Down	NO	NO
ENSBTAG00000023736	<i>CDC42EP3</i>	724.913	0.5108	0.1760	2.9019	0.00	Up	NO	NO
ENSBTAG00000016741	<i>TOX2</i>	46.155	-0.7835	0.3440	-2.2773	0.02	Down	YES	NO
ENSBTAG00000024406	<i>AGR2</i>	7823.819	-1.0001	0.3263	-3.0650	0.00	Down	NO	NO
ENSBTAG00000024852	<i>CATHL2</i>	18.333	-2.4602	0.8987	-2.7375	0.01	Down	NO	NO
ENSBTAG00000025005	<i>METTL7A</i>	324.581	-0.5482	0.2377	-2.3064	0.02	Down	NO	NO
ENSBTAG00000025021	<i>FMN2</i>	151.612	-0.8551	0.3577	-2.3902	0.02	Down	NO	NO
ENSBTAG00000025345	<i>ARL10</i>	52.461	0.7395	0.2963	2.4955	0.01	Up	NO	NO
ENSBTAG00000025424	<i>NOTCH4</i>	1534.549	0.5381	0.1858	2.8966	0.00	Up	NO	NO
ENSBTAG00000021993	<i>SPDEF</i>	947.348	-0.8297	0.2208	-3.7575	0.00	Down	YES	NO
ENSBTAG00000025853	<i>HOMER1</i>	141.806	-0.5248	0.2365	-2.2196	0.03	Down	NO	NO
ENSBTAG00000026236	<i>AZGP1</i>	248.165	-0.7431	0.3740	-1.9868	0.05	Down	NO	NO
ENSBTAG00000028359	<i>U3</i>	52.728	1.2475	0.3542	3.5224	0.00	Up	NO	NO
ENSBTAG00000029897	<i>MIR21</i>	47.476	0.5917	0.2581	2.2923	0.02	Up	NO	NO
ENSBTAG00000030247	<i>NSMF</i>	4781.980	0.6312	0.3185	1.9818	0.05	Up	NO	NO
ENSBTAG00000030259	<i>RASGRF2</i>	259.799	0.6941	0.1715	4.0466	0.00	Up	NO	NO
ENSBTAG00000030369	<i>IFFO1</i>	402.659	0.5331	0.1739	3.0651	0.00	Up	NO	NO
ENSBTAG00000030426	<i>ENSBTAG00000030426</i>	16.017	-2.7350	0.7567	-3.6144	0.00	Down	NO	NO
ENSBTAG00000030671	<i>HOOK1</i>	362.447	-0.5452	0.2019	-2.7008	0.01	Down	NO	NO
ENSBTAG00000030711	<i>LYPD8</i>	2986.064	-0.6091	0.2538	-2.3997	0.02	Down	NO	NO

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ENSBTAG00000030757	<i>ELFN1</i>	110.323	-0.8448	0.3561	-2.3725	0.02	Down	NO	NO
ENSBTAG00000030814	<i>TFF2</i>	840.460	-1.8669	0.5467	-3.4150	0.00	Down	NO	NO
ENSBTAG00000030921	<i>FAM3B</i>	69.101	-0.7738	0.3125	-2.4763	0.01	Down	NO	NO
ENSBTAG00000031348	<i>CCR9</i>	283.467	-0.8802	0.2846	-3.0926	0.00	Down	NO	NO
ENSBTAG00000031569	<i>GOLM1</i>	1313.994	-0.5696	0.2133	-2.6707	0.01	Down	NO	NO
ENSBTAG00000031696	<i>ANKRD44</i>	88.032	-0.5345	0.2468	-2.1656	0.03	Down	NO	NO
ENSBTAG00000031750	<i>PLAC8B</i>	2168.998	0.5091	0.1562	3.2599	0.00	Up	NO	NO
ENSBTAG00000031814	<i>SDS</i>	885.527	-0.7724	0.2673	-2.8900	0.00	Down	NO	NO
ENSBTAG00000032193	<i>REG4</i>	11483.587	-0.7920	0.3475	-2.2792	0.02	Down	NO	NO
ENSBTAG00000032819	<i>MUC20</i>	70.653	-1.1006	0.2865	-3.8413	0.00	Down	NO	NO
ENSBTAG00000033351	<i>PACRGL</i>	60.345	-0.5539	0.2515	-2.2021	0.03	Down	NO	NO
ENSBTAG00000033748	<i>IL18RAP</i>	18.195	-0.9656	0.4882	-1.9777	0.05	Down	NO	NO
ENSBTAG00000001292	<i>LTF</i>	223.256	-0.8801	0.3475	-2.5324	0.01	Down	YES	NO
ENSBTAG00000034138	<i>ENSBTAG00000034138</i>	53.387	0.8462	0.3986	2.1227	0.03	Up	NO	NO
ENSBTAG00000034368	<i>PRSS33</i>	13.958	1.2851	0.6092	2.1093	0.03	Up	NO	NO
ENSBTAG00000034393	<i>FAM149A</i>	178.127	0.5313	0.2344	2.2666	0.02	Up	NO	NO
ENSBTAG00000034939	<i>BTNL2</i>	8409.385	-0.7274	0.2543	-2.8600	0.00	Down	NO	NO
ENSBTAG00000035081	<i>SERINC2</i>	516.995	-0.5311	0.1788	-2.9702	0.00	Down	NO	NO
ENSBTAG00000036154	<i>TARP</i>	35.669	-0.8947	0.4245	-2.1074	0.04	Down	NO	NO
ENSBTAG00000054665	<i>NKX6-2</i>	37.163	-0.9314	0.4391	-2.1212	0.03	Down	YES	NO

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ENSBTAG00000037651	<i>SI00A2</i>	678.336	-0.6986	0.3035	-2.3017	0.02	Down	NO	NO
ENSBTAG00000037795	<i>CYP2C87</i>	103.700	-0.6801	0.3426	-1.9853	0.05	Down	NO	NO
ENSBTAG00000037902	<i>FAM229A</i>	70.601	1.2077	0.3570	3.3827	0.00	Up	NO	NO
ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	266.881	-0.7974	0.3857	-2.0673	0.04	Down	NO	NO
ENSBTAG00000038112	<i>ENSBTAG00000038112</i>	109.465	-0.8686	0.3484	-2.4930	0.01	Down	NO	NO
ENSBTAG00000038700	<i>FAM124B</i>	94.766	0.7366	0.2598	2.8348	0.00	Up	NO	NO
ENSBTAG00000039050	<i>P2RY2</i>	80.417	0.6466	0.3071	2.1054	0.04	Up	NO	NO
ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	29.101	-1.2911	0.5250	-2.4593	0.01	Down	NO	NO
ENSBTAG00000039197	<i>SLC2A9</i>	79.401	-0.7647	0.3098	-2.4684	0.01	Down	NO	NO
ENSBTAG00000039326	<i>GCNT2</i>	275.905	-0.7525	0.2991	-2.5159	0.01	Down	NO	NO
ENSBTAG00000039372	<i>ODF3L2</i>	99.393	1.3361	0.2847	4.6933	0.00	Up	NO	NO
ENSBTAG00000039413	<i>ENSBTAG00000039413</i>	10.908	-1.2657	0.5697	-2.2216	0.03	Down	NO	NO
ENSBTAG00000039477	<i>TPBG</i>	110.006	0.7457	0.3369	2.2131	0.03	Up	NO	NO
ENSBTAG00000039509	<i>GPRC5A</i>	27.580	-1.0790	0.3695	-2.9199	0.00	Down	NO	NO
ENSBTAG00000039529	<i>BTBD19</i>	200.659	0.7652	0.1683	4.5465	0.00	Up	NO	NO
ENSBTAG00000039728	<i>ENSBTAG00000039728</i>	253.316	0.5738	0.2577	2.2263	0.03	Up	NO	NO
ENSBTAG00000040296	<i>GPR21</i>	95.599	0.6772	0.3074	2.2033	0.03	Up	NO	NO
ENSBTAG00000040518	<i>ENSBTAG00000040518</i>	85.230	-1.3711	0.6239	-2.1977	0.03	Down	NO	NO
ENSBTAG00000040607	<i>SLA2</i>	284.743	-0.7418	0.2638	-2.8124	0.00	Down	NO	NO
ENSBTAG00000042471	<i>SNORA25</i>	35.947	0.6792	0.3372	2.0143	0.04	Up	NO	NO

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ENSBTAG00000042600	<i>SNORD94</i>	12.882	1.4972	0.6727	2.2257	0.03	Up	NO	NO
ENSBTAG00000043250	<i>7SK</i>	1312.122	0.8631	0.3430	2.5160	0.01	Up	NO	NO
ENSBTAG00000043983	<i>LRRC19</i>	112.867	-0.8000	0.4039	-1.9808	0.05	Down	NO	NO
ENSBTAG00000043993	<i>CIH21orf62</i>	33.542	0.8714	0.4115	2.1173	0.03	Up	NO	NO
ENSBTAG00000044010	<i>EMB</i>	69.848	-0.8504	0.4203	-2.0233	0.04	Down	NO	NO
ENSBTAG00000044017	<i>MSRB3</i>	352.023	0.5811	0.1905	3.0506	0.00	Up	NO	NO
ENSBTAG00000044146	<i>NPCIL1</i>	265.146	-0.8080	0.3167	-2.5516	0.01	Down	NO	NO
ENSBTAG00000045578	<i>AGR3</i>	253.486	-0.6433	0.1990	-3.2330	0.00	Down	NO	NO
ENSBTAG00000045588	<i>ENSBTAG00000045588</i>	52.706	0.7820	0.2960	2.6422	0.01	Up	NO	NO
ENSBTAG00000045596	<i>ENSBTAG00000045596</i>	125.601	0.5298	0.2275	2.3294	0.02	Up	NO	NO
ENSBTAG00000045689	<i>ENSBTAG00000045689</i>	85.733	-0.5810	0.2619	-2.2180	0.03	Down	NO	NO
ENSBTAG00000045751	<i>ENSBTAG00000045751</i>	190.859	-0.6789	0.2815	-2.4115	0.02	Down	NO	NO
ENSBTAG00000045787	<i>CDS1</i>	297.588	-0.5962	0.2702	-2.2065	0.03	Down	NO	NO
ENSBTAG00000045905	<i>PCDH15</i>	44.466	0.9112	0.4519	2.0165	0.04	Up	NO	NO
ENSBTAG00000045925	<i>CITED1</i>	30.548	0.7818	0.3946	1.9811	0.05	Up	NO	NO
ENSBTAG00000046158	<i>CFB</i>	23230.016	-0.5827	0.1969	-2.9585	0.00	Down	NO	NO
ENSBTAG00000046268	<i>ENSBTAG00000046268</i>	56.609	-1.1345	0.3088	-3.6733	0.00	Down	NO	NO
ENSBTAG00000046291	<i>FAM83E</i>	225.510	-0.5281	0.2457	-2.1492	0.03	Down	NO	NO
ENSBTAG00000046337	<i>TUBB6</i>	1409.485	0.6059	0.2556	2.3708	0.02	Up	NO	NO
ENSBTAG00000046421	<i>SFTPD</i>	301.574	-0.6963	0.3150	-2.2106	0.03	Down	NO	NO

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ENSBTAG00000046622	<i>Metazoa_SRP</i>	36.643	1.4747	0.7098	2.0777	0.04	Up	NO	NO
ENSBTAG00000046649	<i>SGPP2</i>	74.029	-0.7810	0.2453	-3.1843	0.00	Down	NO	NO
ENSBTAG00000020191	<i>FEV</i>	55.713	-0.9586	0.3414	-2.8083	0.00	Down	YES	NO
ENSBTAG00000047088	<i>ENSBTAG00000047088</i>	317.487	-1.0136	0.3001	-3.3778	0.00	Down	NO	NO
ENSBTAG00000047274	<i>KIF21B</i>	369.846	-0.5306	0.2476	-2.1427	0.03	Down	NO	NO
ENSBTAG00000047325	<i>GNGT2</i>	35.770	0.6979	0.3052	2.2865	0.02	Up	NO	NO
ENSBTAG00000047330	<i>FABP5</i>	4575.397	0.6808	0.2640	2.5789	0.01	Up	NO	NO
ENSBTAG00000047412	<i>TNFSF18</i>	20.483	1.5987	0.5871	2.7229	0.01	Up	NO	NO
ENSBTAG00000047605	<i>ENSBTAG00000047605</i>	366.931	0.7896	0.3879	2.0356	0.04	Up	NO	NO
ENSBTAG00000047626	<i>CCDC188</i>	143.695	0.9203	0.3375	2.7269	0.01	Up	NO	NO
ENSBTAG00000047700	<i>ENSBTAG00000047700</i>	40.003	-1.7095	0.8683	-1.9689	0.05	Down	NO	NO
ENSBTAG00000047713	<i>LMNTD2</i>	321.829	1.8010	0.6763	2.6631	0.01	Up	NO	NO
ENSBTAG00000048049	<i>ENSBTAG00000048049</i>	80.262	-1.1340	0.3917	-2.8952	0.00	Down	NO	NO
ENSBTAG00000048125	<i>ENTPD2</i>	113.355	-0.6431	0.3188	-2.0171	0.04	Down	NO	NO
ENSBTAG00000048171	<i>TAP</i>	78.183	-1.8951	0.6493	-2.9186	0.00	Down	NO	NO
ENSBTAG00000048246	<i>DPP4</i>	2644.860	-0.6270	0.3020	-2.0762	0.04	Down	NO	NO
ENSBTAG00000048257	<i>ENSBTAG00000048257</i>	222.510	-0.6531	0.2976	-2.1946	0.03	Down	NO	NO
ENSBTAG00000048353	<i>ENSBTAG00000048353</i>	38.057	-1.5105	0.6057	-2.4938	0.01	Down	NO	NO
ENSBTAG00000048400	<i>ENSBTAG00000048400</i>	22.109	-1.4488	0.4594	-3.1538	0.00	Down	NO	NO
ENSBTAG00000048550	<i>GCSAM</i>	101.769	-0.6878	0.2802	-2.4546	0.01	Down	NO	NO

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ENSBTAG00000048587	<i>ENSBTAG00000048587</i>	16.757	-1.2780	0.5226	-2.4454	0.01	Down	NO	NO
ENSBTAG00000048736	<i>ENSBTAG00000048736</i>	12.339	1.2940	0.4743	2.7282	0.01	Up	NO	NO
ENSBTAG00000048873	<i>ENSBTAG00000048873</i>	31.951	-1.2726	0.3773	-3.3726	0.00	Down	NO	NO
ENSBTAG00000048918	<i>ENSBTAG00000048918</i>	91.219	0.8611	0.3568	2.4134	0.02	Up	NO	NO
ENSBTAG00000048980	<i>ENSBTAG00000048980</i>	322.502	-0.8879	0.1873	-4.7416	0.00	Down	NO	NO
ENSBTAG00000049058	<i>INHBB</i>	479.894	0.7074	0.2251	3.1427	0.00	Up	NO	NO
ENSBTAG00000049108	<i>TRATI</i>	94.007	-1.1363	0.4062	-2.7975	0.01	Down	NO	NO
ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	270.375	0.8568	0.3158	2.7128	0.01	Up	NO	NO
ENSBTAG00000049217	<i>ENSBTAG00000049217</i>	43.345	0.7824	0.3096	2.5270	0.01	Up	NO	NO
ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	31.689	-1.7047	0.6358	-2.6810	0.01	Down	NO	NO
ENSBTAG00000049271	<i>ENSBTAG00000049271</i>	12.645	1.6010	0.5864	2.7304	0.01	Up	NO	NO
ENSBTAG00000049346	<i>ENSBTAG00000049346</i>	169.864	-0.5696	0.2831	-2.0120	0.04	Down	NO	NO
ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	375.572	0.5914	0.2232	2.6491	0.01	Up	NO	NO
ENSBTAG00000049383	<i>LSAMP</i>	14.618	1.6298	0.7642	2.1329	0.03	Up	NO	NO
ENSBTAG00000049386	<i>ENSBTAG00000049386</i>	17.672	-1.1805	0.5043	-2.3411	0.02	Down	NO	NO
ENSBTAG00000049806	<i>ENSBTAG00000049806</i>	11.233	-1.0938	0.4847	-2.2566	0.02	Down	NO	NO
ENSBTAG00000049942	<i>ENSBTAG00000049942</i>	22.629	-1.6685	0.6832	-2.4423	0.01	Down	NO	NO
ENSBTAG00000050189	<i>ENSBTAG00000050189</i>	95.159	-0.8622	0.3590	-2.4014	0.02	Down	NO	NO
ENSBTAG00000050197	<i>GPR15LG</i>	387.607	-0.5026	0.2212	-2.2722	0.02	Down	NO	NO
ENSBTAG00000050212	<i>ENSBTAG00000050212</i>	23840.226	-0.9593	0.2127	-4.5090	0.00	Down	NO	NO

Ensembl ID	Gene Name	baseMean	log2 FoldChange	lfcSE	stat	pvalue	Status	Is TF?	IS RIF?
ENSBTAG00000050324	<i>ENSBTAG00000050324</i>	56.272	-1.3455	0.3287	-4.0928	0.00	Down	NO	NO
ENSBTAG00000050388	<i>KRBA2</i>	83.795	0.5407	0.2514	2.1504	0.03	Up	NO	NO
ENSBTAG00000050443	<i>ENSBTAG00000050443</i>	22.965	0.9409	0.4570	2.0587	0.04	Up	NO	NO
ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	2200.375	-1.4185	0.4906	-2.8912	0.00	Down	NO	NO
ENSBTAG00000050809	<i>GIPC3</i>	80.465	0.6195	0.2676	2.3152	0.02	Up	NO	NO
ENSBTAG00000050817	<i>ENSBTAG00000050817</i>	63.634	-2.3794	0.5485	-4.3377	0.00	Down	NO	NO
ENSBTAG00000050852	<i>CXCL9</i>	36.997	-1.1436	0.5065	-2.2578	0.02	Down	NO	NO
ENSBTAG00000051079	<i>TMSB4</i>	265.472	0.6000	0.2099	2.8594	0.00	Up	NO	NO
ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	270.166	0.6369	0.2901	2.1955	0.03	Up	NO	NO
ENSBTAG00000051248	<i>ENSBTAG00000051248</i>	77.421	0.6321	0.3051	2.0715	0.04	Up	NO	NO
ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	61.070	1.5155	0.5444	2.7837	0.01	Up	NO	NO
ENSBTAG00000051588	<i>ENSBTAG00000051588</i>	138.515	-0.8505	0.3012	-2.8236	0.00	Down	NO	NO
ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	1845.181	-0.8266	0.3839	-2.1531	0.03	Down	NO	NO
ENSBTAG00000051781	<i>ENSBTAG00000051781</i>	128.951	0.6927	0.2673	2.5910	0.01	Up	NO	NO
ENSBTAG00000051810	<i>ENSBTAG00000051810</i>	20.019	0.9483	0.3882	2.4429	0.01	Up	NO	NO
ENSBTAG00000051851	<i>ENSBTAG00000051851</i>	28.972	-0.9016	0.3747	-2.4063	0.02	Down	NO	NO
ENSBTAG00000051896	<i>ENSBTAG00000051896</i>	530.415	-0.7614	0.2764	-2.7548	0.01	Down	NO	NO
ENSBTAG00000052140	<i>AIF1L</i>	62.811	0.9334	0.3678	2.5375	0.01	Up	NO	NO
ENSBTAG00000052290	<i>ENSBTAG00000052290</i>	18.321	1.1276	0.5570	2.0242	0.04	Up	NO	NO
ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	5627.735	-1.6589	0.6004	-2.7627	0.01	Down	NO	NO

Ensembl ID	Gene Name	baseMean	log2 FoldChange	lfcSE	stat	pvalue	Status	Is TF?	IS RIF?
ENSBTAG00000052397	<i>ENSBTAG00000052397</i>	769.233	-0.6792	0.2996	-2.2672	0.02	Down	NO	NO
ENSBTAG00000052499	<i>RNF39</i>	27.172	-0.8798	0.3928	-2.2399	0.03	Down	NO	NO
ENSBTAG00000052510	<i>CCL26</i>	555.736	-0.6012	0.2523	-2.3828	0.02	Down	NO	NO
ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	662.909	-0.5600	0.2650	-2.1129	0.03	Down	NO	NO
ENSBTAG00000052665	<i>CYP3A74</i>	339.359	-1.1962	0.4411	-2.7120	0.01	Down	NO	NO
ENSBTAG00000052822	<i>C3H1orf162</i>	95.369	-0.8952	0.3665	-2.4426	0.01	Down	NO	NO
ENSBTAG00000052863	<i>ENSBTAG00000052863</i>	13.544	1.2832	0.5667	2.2645	0.02	Up	NO	NO
ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	32.434	-2.1260	0.7124	-2.9845	0.00	Down	NO	NO
ENSBTAG00000052983	<i>ARMCX4</i>	164.853	0.5223	0.1743	2.9967	0.00	Up	NO	NO
ENSBTAG00000053048	<i>ENSBTAG00000053048</i>	43.822	0.5634	0.2794	2.0166	0.04	Up	NO	NO
ENSBTAG00000053073	<i>ENSBTAG00000053073</i>	99.437	0.6628	0.2387	2.7762	0.01	Up	NO	NO
ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	570.644	-1.1999	0.3755	-3.1957	0.00	Down	NO	NO
ENSBTAG00000053558	<i>NOTUM</i>	455.224	0.8597	0.3586	2.3974	0.02	Up	NO	NO
ENSBTAG00000053563	<i>ENSBTAG00000053563</i>	77.454	-1.0911	0.2861	-3.8130	0.00	Down	NO	NO
ENSBTAG00000053649	<i>CCL5</i>	1373.107	-0.5316	0.2701	-1.9685	0.05	Down	NO	NO
ENSBTAG00000053928	<i>GPR25</i>	15.330	-2.6161	0.8805	-2.9712	0.00	Down	NO	NO
ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	59.624	1.0645	0.3725	2.8575	0.00	Up	NO	NO
ENSBTAG00000011003	<i>IKZF3</i>	59.729	-0.9928	0.3873	-2.5636	0.01	Down	YES	NO
ENSBTAG00000034090	<i>ENSBTAG00000034090</i>	11.551	-1.2170	0.6081	-2.0014	0.05	Down	YES	NO
ENSBTAG00000054229	<i>C2CD3</i>	21.304	-0.9449	0.4607	-2.0510	0.04	Down	NO	NO

Ensembl ID	Gene Name	baseMean	log2 FoldChange	lfcSE	stat	pvalue	Status	Is TF?	IS RIF?
ENSBTAG00000054525	<i>ENSBTAG00000054525</i>	216.333	-0.6502	0.2756	-2.3588	0.02	Down	NO	NO
ENSBTAG00000054543	<i>ENSBTAG00000054543</i>	31.408	0.7260	0.3280	2.2132	0.03	Up	NO	NO
ENSBTAG00000054558	<i>ENSBTAG00000054558</i>	14.324	-1.0160	0.4874	-2.0844	0.04	Down	NO	NO
ENSBTAG00000007678	<i>MKX</i>	16.314	-1.5077	0.5232	-2.8816	0.00	Down	YES	NO
ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	16.370	1.5909	0.5989	2.6565	0.01	Up	NO	NO
ENSBTAG00000054797	<i>ENSBTAG00000054797</i>	57.610	-0.5961	0.2983	-1.9981	0.05	Down	NO	NO
ENSBTAG00000055095	<i>ENSBTAG00000055095</i>	182.812	0.5455	0.2105	2.5911	0.01	Up	NO	NO
ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	1604.600	-0.7061	0.2474	-2.8535	0.00	Down	NO	NO
ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	234.884	-0.9515	0.2796	-3.4038	0.00	Down	NO	NO
ENSBTAG00000055282	<i>CLDN2</i>	3104.430	-0.5541	0.2710	-2.0451	0.04	Down	NO	NO

Appendix 2.4. Transcription factors identified as putative regulators of differentially expressed genes in the jejunum tissue of neonatal beef heifers born from dams receiving or not receiving vitamin–mineral supplementation (VTM or CON) during gestation by Regulatory Impact Factor measures (RIF1 and RIF2).

Ensembl ID	Gene.Name	Gene.Biotype	RIF1	RIF2	Family
ENSBTAG00000003843	<i>SMARCA1</i>	protein coding	-0.28035	-2.48187	Others
ENSBTAG00000008409	<i>MYC</i>	protein coding	-1.38939	-2.44051	bHLH
ENSBTAG00000019357	<i>ZNF688</i>	protein coding	-1.07128	-2.30683	zf-C2H2
ENSBTAG00000010681	<i>NR1H3</i>	protein coding	-0.95899	-2.15861	THR-like
ENSBTAG00000013271	<i>NCOR1</i>	protein coding	1.18145	-2.15544	MYB
ENSBTAG00000008573	<i>ZFP36</i>	protein coding	1.01663	-2.10052	zf-CCCH
ENSBTAG00000023675	<i>ZNF654</i>	protein coding	-0.50558	-2.09191	zf-C2H2
ENSBTAG00000019695	<i>RLF</i>	protein coding	-0.50597	-2.0839	zf-C2H2
ENSBTAG00000012436	<i>HES7</i>	protein coding	0.55408	-2.0615	bHLH
ENSBTAG00000016602	<i>LBX2</i>	protein coding	-1.43548	-2.05759	Homeobox
ENSBTAG00000012522	<i>ZNF283</i>	protein coding	1.42774	-2.05298	zf-C2H2
ENSBTAG00000000040	<i>MAFG</i>	protein coding	-0.35747	-1.99691	TF bZIP
ENSBTAG00000002333	<i>HOPX</i>	protein coding	-0.91493	-1.98018	Homeobox
ENSBTAG00000011928	<i>ZBTB20</i>	protein coding	-0.21305	-1.97817	ZBTB
ENSBTAG00000008645	<i>ESRRA</i>	protein coding	0.8489	-1.97019	ESR-like
ENSBTAG00000012868		protein coding	0.45781	-1.96961	zf-C2H2
ENSBTAG00000009905	<i>NFYA</i>	protein coding	1.70892	-1.96636	NF-YA
ENSBTAG00000008313	<i>KLF15</i>	protein coding	2.06351	-1.44863	zf-C2H2
ENSBTAG00000004710	<i>HNF1B</i>	protein coding	1.96963	-1.17499	Homeobox
ENSBTAG00000007318	<i>ZNF687</i>	protein coding	2.30492	-1.02151	zf-C2H2
ENSBTAG00000001864	<i>NR4A3</i>	protein coding	2.73477	-0.79389	NGFIB-like
ENSBTAG000000039581	<i>NA</i>	NA	1.99769	-0.74393	Homeobox
ENSBTAG00000002936	<i>PRRX2</i>	protein coding	2.92337	-0.60509	Homeobox
ENSBTAG00000017243	<i>GATA3</i>	protein coding	2.44518	-0.57082	zf-GATA
ENSBTAG000000054572	<i>PEG3</i>	protein coding	3.69553	-0.46315	zf-C2H2
ENSBTAG000000040551	<i>ZBTB1</i>	protein coding	2.24758	-0.36319	ZBTB
ENSBTAG000000052632	<i>TGIF2</i>	protein coding	3.20933	-0.33588	Homeobox
ENSBTAG00000019001	<i>PRDM10</i>	protein coding	2.29732	-0.32795	zf-C2H2
ENSBTAG000000030403	<i>FIZ1</i>	protein coding	2.35729	-0.26111	zf-C2H2
ENSBTAG00000007884	<i>SREBF1</i>	protein coding	2.16939	-0.21418	bHLH
ENSBTAG00000016513	<i>ZNF331</i>	protein coding	-2.00687	-0.21294	zf-C2H2
ENSBTAG00000015766	<i>ZFPM1</i>	protein coding	3.1888	-0.21143	zf-C2H2
ENSBTAG00000011162	<i>ZKSCAN2</i>	protein coding	3.36702	-0.21066	zf-C2H2
ENSBTAG00000019472	<i>NR3C1</i>	protein coding	3.57968	-0.09245	ESR-like
ENSBTAG00000013895	<i>RELA</i>	protein coding	2.27683	-0.08995	RHD
ENSBTAG000000026307	<i>ZNF629</i>	protein coding	3.47964	-0.06261	zf-C2H2
ENSBTAG00000010113	<i>ZBTB24</i>	protein coding	3.35141	0.02285	ZBTB
ENSBTAG00000014278	<i>TBX2</i>	protein coding	2.02386	0.02511	T-box
ENSBTAG00000019039	<i>NA</i>	NA	1.97974	0.25054	zf-C2H2
ENSBTAG00000004104	<i>RUNX2</i>	protein coding	2.06853	0.3682	Runt
ENSBTAG000000049845	<i>HOXD8</i>	protein coding	2.0431	0.38696	Homeobox
ENSBTAG00000010533	<i>HMGXB4</i>	protein coding	-2.29591	0.39933	HMG
ENSBTAG000000031873	<i>ZSCAN16</i>	protein coding	5.17701	0.45276	zf-C2H2
ENSBTAG00000019174	<i>ZNF710</i>	protein coding	3.13051	0.49484	zf-C2H2

Ensembl ID	Gene.Name	Gene.Biotype	RIF1	RIF2	Family
ENSBTAG00000021435	<i>MAFF</i>	protein coding	3.1839	0.69512	TF bZIP
ENSBTAG00000013460	<i>ZBTB11</i>	protein coding	2.83897	0.76583	ZBTB
ENSBTAG00000005404	<i>MSC</i>	protein coding	3.35081	0.76993	bHLH
ENSBTAG00000051333	<i>ARID5B</i>	protein coding	3.39673	0.7907	ARID
ENSBTAG00000015321	<i>TRERF1</i>	protein coding	2.49653	0.83564	zf-C2H2
ENSBTAG00000008695	<i>TCF3</i>	protein coding	2.2158	0.83994	bHLH
ENSBTAG00000013314	<i>PBX3</i>	protein coding	2.8934	0.86939	Homeobox
ENSBTAG00000000656	<i>NFATC1</i>	protein coding	-2.49706	0.9158	RHD
ENSBTAG00000010291	<i>RBAK</i>	protein coding	2.26864	1.06001	zf-C2H2
ENSBTAG00000014768	<i>ZNF786</i>	protein coding	2.38154	1.4216	zf-C2H2
ENSBTAG00000038869		protein coding	2.18147	1.44593	zf-C2H2
ENSBTAG00000009889	<i>ZNF181</i>	protein coding	3.05341	1.4672	zf-C2H2
ENSBTAG00000019785	<i>CIC</i>	protein coding	-1.96647	1.46806	HMG
ENSBTAG00000016074	<i>ZNF143</i>	protein coding	2.20175	1.48945	zf-C2H2
ENSBTAG00000013353	<i>ZNF274</i>	protein coding	4.66997	1.65566	zf-C2H2
ENSBTAG00000049098	<i>ZNF496</i>	protein coding	2.06018	1.70692	zf-C2H2
ENSBTAG00000000533	<i>ZNF684</i>	protein coding	-2.38791	1.83857	zf-C2H2
ENSBTAG00000022819	<i>ONECUT2</i>	protein coding	-2.40639	1.9321	CUT
ENSBTAG00000021742	<i>ZNF568</i>	protein coding	3.17782	1.9344	zf-C2H2
ENSBTAG00000009979	<i>HOXB2</i>	protein coding	-0.29122	1.9767	Homeobox
ENSBTAG00000008520	<i>NFIC</i>	protein coding	-0.26953	1.97822	CTF NFI
ENSBTAG00000005916	<i>ADNP2</i>	protein coding	-0.3243	1.98609	Homeobox
ENSBTAG00000007660	<i>ZNF414</i>	protein coding	-1.11505	1.99563	Others
ENSBTAG00000032187	<i>ZNF697</i>	protein coding	-1.28589	2.00664	zf-C2H2
ENSBTAG00000055110	NA	NA	-0.0784	2.03666	E2F
ENSBTAG00000037882	<i>ZNF584</i>	protein coding	-1.91469	2.08068	zf-C2H2
ENSBTAG00000011662	<i>SOX18</i>	protein coding	-0.24667	2.09454	HMG
ENSBTAG00000052504	<i>KLF2</i>	protein coding	0.19762	2.14896	zf-C2H2
ENSBTAG00000008333	<i>ETV4</i>	protein coding	2.37326	2.15728	ETS
ENSBTAG00000006428	<i>ZNF354A</i>	protein coding	0.04812	2.16828	zf-C2H2
ENSBTAG00000019844	<i>ZNF467</i>	protein coding	-0.87839	2.16984	zf-C2H2
ENSBTAG00000013142	<i>MYNN</i>	protein coding	-1.58207	2.21248	ZBTB
ENSBTAG00000017397	<i>ZNF423</i>	protein coding	-0.11103	2.22278	zf-C2H2
ENSBTAG00000051292		protein coding	-0.93231	2.22315	zf-C2H2
ENSBTAG00000005240	NA	NA	-0.48706	2.22771	zf-C2H2
ENSBTAG00000010649	<i>MEF2A</i>	protein coding	0.36616	2.23313	SRF
ENSBTAG00000004939	<i>ZNF569</i>	protein coding	-0.01169	2.26614	zf-C2H2
ENSBTAG00000024603	<i>NCOR2</i>	protein coding	-0.223	2.28512	MYB
ENSBTAG00000008688	<i>HEYL</i>	protein coding	-0.57311	2.30131	bHLH
ENSBTAG00000009634	<i>HOXC5</i>	protein coding	0.17922	2.30294	Homeobox
ENSBTAG00000020289	<i>ZNF214</i>	protein coding	-2.04667	2.31081	zf-C2H2
ENSBTAG00000048788	NA	NA	-0.7906	2.42833	zf-C2H2
ENSBTAG00000003304	<i>HOXC4</i>	protein coding	0.07222	2.49024	Homeobox
ENSBTAG00000009961	<i>E4F1</i>	protein coding	0.47224	2.50111	zf-C2H2
ENSBTAG00000024000	<i>ATOH8</i>	protein coding	-0.20626	2.52575	bHLH
ENSBTAG00000019310	<i>FO XK1</i>	protein coding	0.17355	2.53674	Fork head
ENSBTAG00000020854	<i>BCL6B</i>	protein coding	-0.10484	2.53692	ZBTB
ENSBTAG00000018019	<i>BCL11B</i>	protein coding	-0.81187	2.59058	zf-C2H2

Ensembl ID	Gene.Name	Gene.Biotype	RIF1	RIF2	Family
ENSBTAG00000018229	<i>NFIX</i>	protein coding	-0.36922	2.73071	CTF NFI
ENSBTAG00000008183	<i>MBTPS2</i>	protein coding	-0.89932	2.83599	zf-C2H2
ENSBTAG00000006366	<i>NFATC4</i>	protein coding	-0.44851	2.89005	RHD
ENSBTAG00000000507	<i>NR4A1</i>	protein coding	0.80089	2.948	NGFIB-like
ENSBTAG00000017729	<i>NR2C1</i>	protein coding	-0.51681	3.2415	RXR-like
ENSBTAG00000021045	<i>E2F3</i>	protein coding	2.00243	3.42355	E2F

Appendix 2.5. Pair-wise gene correlation of jejunum differentially expressed genes and key transcription factors of neonatal beef heifers born from dams receiving or not receiving vitamin–mineral supplementation (VTM or CON) during gestation retrieved from PCIT analysis. ($|r| > 0.8$, $p < 0.05$).

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000000016	<i>LTA</i>	ENSBTAG00000018753	<i>TMEM163</i>	-0.87889	NEG
ENSBTAG00000000016	<i>LTA</i>	ENSBTAG00000019665	<i>IL1RN</i>	0.80338	POS
ENSBTAG00000000016	<i>LTA</i>	ENSBTAG00000038700	<i>FAM124B</i>	-0.82337	NEG
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000000641	<i>SKAP1</i>	0.81809	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000001002	<i>TCF7</i>	0.84665	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	0.8038	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000003455	<i>ANKRD6</i>	-0.80843	NEG
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000004273	<i>ENSBTAG00000004273</i>	0.83833	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000006452	<i>CD3D</i>	0.87396	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000006453	<i>CD3G</i>	0.85595	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000009381	<i>LCP2</i>	0.9147	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	0.93099	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000011003	<i>IKZF3</i>	0.8706	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000011359	<i>CD7</i>	0.89659	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000011784	<i>FGR</i>	0.88143	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000012695	<i>LCK</i>	0.97311	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000013306	<i>ZBTB7C</i>	-0.83419	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000014441	<i>CD96</i>	0.89287	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000015710	<i>CD3E</i>	0.92747	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000016345	<i>IL2RB</i>	0.90358	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000018367	<i>CD6</i>	0.80412	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000022861	<i>KLRJ1</i>	0.85704	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000031348	<i>CCR9</i>	0.93028	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000040607	<i>SLA2</i>	0.84151	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000048873	<i>ENSBTAG00000048873</i>	0.80628	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000049108	<i>TRAT1</i>	0.80919	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000053649	<i>ENSBTAG00000053649</i>	0.90544	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.94033	POS
ENSBTAG00000000144	<i>ENSBTAG00000000144</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.84227	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000000478	<i>LSMEM2</i>	-0.80793	NEG
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000001152	<i>TLE6</i>	-0.82177	NEG
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000001829	<i>SLC17A9</i>	0.81633	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000003169	<i>FBXO24</i>	-0.8197	NEG
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000003580	<i>PSD</i>	-0.81736	NEG
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000004558	<i>C10H15orf48</i>	0.88921	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000005005	<i>CSN1S2</i>	-0.87302	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000005964	<i>PIGG</i>	0.8182	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000007111	<i>STEAP3</i>	0.87514	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000007719	<i>MFSD6</i>	0.84822	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000008161	<i>CLCA1</i>	0.80989	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000008397	<i>ZNF555</i>	-0.83637	NEG
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000009145	<i>SLC7A4</i>	0.86343	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000009199	<i>GLIS2</i>	-0.85331	NEG
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000009876	<i>C4BPA</i>	0.93374	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000010462	<i>ROBO2</i>	0.84827	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000011941	<i>LYZF1</i>	0.88078	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000013417	<i>ENSBTAG00000013417</i>	-0.84572	NEG
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.8046	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000015939	<i>NECTIN1</i>	0.91417	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000016467	<i>SLC22A17</i>	-0.96613	NEG
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.86512	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000017280	<i>C3</i>	0.81107	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000017376	<i>GALNT5</i>	0.85559	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000017642	<i>BMP3</i>	0.86196	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000017722	<i>F5</i>	0.86387	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000018316	<i>ZMYND15</i>	-0.85884	NEG
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000019454	<i>ANGEL1</i>	0.84224	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000019486	<i>CLDN12</i>	0.85535	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000020543	<i>UPK1A</i>	-0.80696	NEG
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000020580	<i>TCN1</i>	0.81734	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000020859	<i>SERPINF2</i>	0.81416	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000021276	<i>TFF3</i>	0.80238	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000028359	<i>U3</i>	-0.87375	NEG
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.89091	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000032193	<i>REG4</i>	0.82363	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000033351	<i>PACRGL</i>	0.88501	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000039413	<i>ENSBTAG00000039413</i>	0.87151	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000042471	<i>SNORA25</i>	-0.82458	NEG
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	-0.84997	NEG
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000046158	<i>CFB</i>	0.8527	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	-0.85077	NEG
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000052290	<i>ENSBTAG00000052290</i>	-0.83177	NEG
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	0.863	POS
ENSBTAG00000000185	<i>SLC6A14</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.88583	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000000259	<i>CHIA</i>	ENSBTAG00000005699	<i>SCML4</i>	0.824	POS
ENSBTAG00000000259	<i>CHIA</i>	ENSBTAG00000012052	<i>PADI4</i>	0.80713	POS
ENSBTAG00000000295	<i>CLHC1</i>	ENSBTAG00000003514	<i>HSF4</i>	0.84088	POS
ENSBTAG00000000295	<i>CLHC1</i>	ENSBTAG00000006505	<i>S100A9</i>	-0.818	NEG
ENSBTAG00000000295	<i>CLHC1</i>	ENSBTAG00000007901	<i>ENSBTAG00000007901</i>	-0.88262	NEG
ENSBTAG00000000295	<i>CLHC1</i>	ENSBTAG00000016343	<i>KCNIP2</i>	0.81659	POS
ENSBTAG00000000295	<i>CLHC1</i>	ENSBTAG00000020350	<i>DUSP2</i>	-0.84177	NEG
ENSBTAG00000000295	<i>CLHC1</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	-0.81571	NEG
ENSBTAG00000000295	<i>CLHC1</i>	ENSBTAG00000048049	<i>ENSBTAG00000048049</i>	-0.86958	NEG
ENSBTAG00000000478	<i>LSMEM2</i>	ENSBTAG00000004797	<i>TRMT44</i>	0.86028	POS
ENSBTAG00000000478	<i>LSMEM2</i>	ENSBTAG00000009145	<i>SLC7A4</i>	-0.80969	NEG
ENSBTAG00000000478	<i>LSMEM2</i>	ENSBTAG00000009199	<i>GLIS2</i>	0.81761	POS
ENSBTAG00000000478	<i>LSMEM2</i>	ENSBTAG00000009876	<i>C4BPA</i>	-0.86004	NEG
ENSBTAG00000000478	<i>LSMEM2</i>	ENSBTAG00000010462	<i>ROBO2</i>	-0.85052	NEG
ENSBTAG00000000478	<i>LSMEM2</i>	ENSBTAG00000010509	<i>CDK3</i>	0.86461	POS
ENSBTAG00000000478	<i>LSMEM2</i>	ENSBTAG00000013417	<i>ENSBTAG00000013417</i>	0.81466	POS
ENSBTAG00000000478	<i>LSMEM2</i>	ENSBTAG00000015280	<i>KIF2C</i>	-0.8968	NEG
ENSBTAG00000000478	<i>LSMEM2</i>	ENSBTAG00000015288	<i>BEST4</i>	0.85732	POS
ENSBTAG00000000478	<i>LSMEM2</i>	ENSBTAG00000015798	<i>UCKL1</i>	0.81837	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000000478	<i>LSMEM2</i>	ENSBTAG00000015939	<i>NECTIN1</i>	-0.81058	NEG
ENSBTAG00000000478	<i>LSMEM2</i>	ENSBTAG00000016467	<i>SLC22A17</i>	0.82948	POS
ENSBTAG00000000478	<i>LSMEM2</i>	ENSBTAG00000017376	<i>GALNT5</i>	-0.84714	NEG
ENSBTAG00000000478	<i>LSMEM2</i>	ENSBTAG00000017722	<i>F5</i>	-0.89121	NEG
ENSBTAG00000000478	<i>LSMEM2</i>	ENSBTAG00000030247	<i>NSMF</i>	0.80724	POS
ENSBTAG00000000478	<i>LSMEM2</i>	ENSBTAG00000032193	<i>REG4</i>	-0.80166	NEG
ENSBTAG00000000478	<i>LSMEM2</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	0.83713	POS
ENSBTAG00000000478	<i>LSMEM2</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.86863	POS
ENSBTAG00000000620	<i>MCMD2</i>	ENSBTAG00000010178	<i>PTPRD</i>	0.81529	POS
ENSBTAG00000000620	<i>MCMD2</i>	ENSBTAG00000044017	<i>MSRB3</i>	-0.82257	NEG
ENSBTAG00000000620	<i>MCMD2</i>	ENSBTAG00000045689	<i>ENSBTAG00000045689</i>	0.87233	POS
ENSBTAG00000000641	<i>SKAPI</i>	ENSBTAG00000003455	<i>ANKRD6</i>	-0.83322	NEG
ENSBTAG00000000641	<i>SKAPI</i>	ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	0.80467	POS
ENSBTAG00000000641	<i>SKAPI</i>	ENSBTAG00000011359	<i>CD7</i>	0.80877	POS
ENSBTAG00000000641	<i>SKAPI</i>	ENSBTAG00000012695	<i>LCK</i>	0.81918	POS
ENSBTAG00000000641	<i>SKAPI</i>	ENSBTAG00000013306	<i>ZBTB7C</i>	-0.81076	NEG
ENSBTAG00000000641	<i>SKAPI</i>	ENSBTAG00000037508	<i>EBF1</i>	-0.85029	NEG
ENSBTAG00000000641	<i>SKAPI</i>	ENSBTAG00000053649	<i>ENSBTAG00000053649</i>	0.8696	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000000919	<i>HEY2</i>	0.81319	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000001078	<i>SRL</i>	0.80276	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000001153	<i>TLE2</i>	0.88554	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000001156	<i>ST3GAL1</i>	-0.83565	NEG
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000004207	<i>CD93</i>	0.95985	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000004403	<i>CD320</i>	0.91771	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	0.91833	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000005748	<i>SOX17</i>	0.89924	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000006130	<i>CLEC14A</i>	0.93268	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000006234	<i>NPR1</i>	0.89728	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000006262	<i>LIMS2</i>	0.88435	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000006688	<i>RPS6KL1</i>	0.8037	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000006720	<i>GJA5</i>	0.86345	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000006792	<i>EHD4</i>	0.93426	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000008338	<i>PLCB1</i>	0.82508	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000012212	<i>CYP26B1</i>	0.86252	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000012482	<i>CDCPI</i>	-0.83819	NEG
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000013157	<i>NOVA2</i>	0.90778	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000013290	<i>DYSF</i>	0.91234	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000014560	<i>HLX</i>	0.8639	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000015108	<i>USHBP1</i>	0.93345	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000016094	<i>SLC36A1</i>	-0.83084	NEG
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000016486	<i>SORBS2</i>	0.80567	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000016505	<i>TMC7</i>	-0.90323	NEG
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000016915	<i>FLT1</i>	0.90802	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000017183	<i>PDLIM3</i>	0.90161	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000017508	<i>CYSLTR2</i>	0.8859	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.91625	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.95721	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000018398	<i>GPR4</i>	0.90253	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000018419	<i>ADCY4</i>	0.82114	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000019497	<i>ILDR2</i>	0.8707	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.90651	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.93585	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.83225	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.91765	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.8873	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.82656	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	0.82376	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000047088	<i>ENSBTAG00000047088</i>	-0.85116	NEG
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000047330	<i>FABP5</i>	0.85487	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.86869	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.85103	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.85574	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000010649	<i>MEF2A</i>	0.80537	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000011662	<i>SOX18</i>	0.84217	POS
ENSBTAG00000000782	<i>KDR</i>	ENSBTAG00000017397	<i>ZNF423</i>	0.84181	POS
ENSBTAG00000000835	<i>BCAS1</i>	ENSBTAG00000004958	<i>PTPRN2</i>	0.81037	POS
ENSBTAG00000000835	<i>BCAS1</i>	ENSBTAG00000016915	<i>FLT1</i>	-0.85139	NEG
ENSBTAG00000000835	<i>BCAS1</i>	ENSBTAG00000030259	<i>RASGRF2</i>	-0.83307	NEG
ENSBTAG00000000835	<i>BCAS1</i>	ENSBTAG00000046649	<i>SGPP2</i>	0.81427	POS
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000001338	<i>CCR3</i>	-0.81572	NEG
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000004207	<i>CD93</i>	0.82739	POS
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000004403	<i>CD320</i>	0.80001	POS
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	0.81652	POS
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000005748	<i>SOX17</i>	0.81282	POS
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000006130	<i>CLEC14A</i>	0.82924	POS
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000006262	<i>LIMS2</i>	0.88677	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000006688	<i>RPS6KL1</i>	0.84152	POS
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000006792	<i>EHD4</i>	0.84631	POS
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000011010	<i>PRND</i>	0.80064	POS
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000012482	<i>CDCP1</i>	-0.82367	NEG
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000014560	<i>HLX</i>	0.89331	POS
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000015108	<i>USHBP1</i>	0.80003	POS
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000020592	<i>OTOS</i>	0.91776	POS
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.8246	POS
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.81599	POS
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000039197	<i>SLC2A9</i>	-0.83449	NEG
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	0.83914	POS
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.89477	POS
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000051810	<i>ENSBTAG00000051810</i>	0.9159	POS
ENSBTAG00000000919	<i>HEY2</i>	ENSBTAG00000009634	<i>HOXC5</i>	0.80003	POS
ENSBTAG00000001002	<i>TCF7</i>	ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	0.84616	POS
ENSBTAG00000001002	<i>TCF7</i>	ENSBTAG00000003403	<i>PADI2</i>	0.83715	POS
ENSBTAG00000001002	<i>TCF7</i>	ENSBTAG00000009381	<i>LCP2</i>	0.91252	POS
ENSBTAG00000001002	<i>TCF7</i>	ENSBTAG00000011784	<i>FGR</i>	0.86643	POS
ENSBTAG00000001002	<i>TCF7</i>	ENSBTAG00000012695	<i>LCK</i>	0.89291	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001002	<i>TCF7</i>	ENSBTAG00000014014	<i>UBIAD1</i>	0.81094	POS
ENSBTAG00000001002	<i>TCF7</i>	ENSBTAG00000014441	<i>CD96</i>	0.82306	POS
ENSBTAG00000001002	<i>TCF7</i>	ENSBTAG00000016345	<i>IL2RB</i>	0.91054	POS
ENSBTAG00000001002	<i>TCF7</i>	ENSBTAG00000018940	<i>CRACR2A</i>	0.86923	POS
ENSBTAG00000001002	<i>TCF7</i>	ENSBTAG00000019900	<i>LNPEP</i>	0.82974	POS
ENSBTAG00000001002	<i>TCF7</i>	ENSBTAG00000031348	<i>CCR9</i>	0.8851	POS
ENSBTAG00000001002	<i>TCF7</i>	ENSBTAG00000040607	<i>SLA2</i>	0.83745	POS
ENSBTAG00000001002	<i>TCF7</i>	ENSBTAG00000048550	<i>GCSAM</i>	0.81493	POS
ENSBTAG00000001002	<i>TCF7</i>	ENSBTAG00000048873	<i>ENSBTAG00000048873</i>	0.82031	POS
ENSBTAG00000001002	<i>TCF7</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	-0.80563	NEG
ENSBTAG00000001002	<i>TCF7</i>	ENSBTAG00000050324	<i>ENSBTAG00000050324</i>	0.80177	POS
ENSBTAG00000001002	<i>TCF7</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.80943	POS
ENSBTAG00000001008	<i>PRF1</i>	ENSBTAG00000005078	<i>UCHL1</i>	-0.828	NEG
ENSBTAG00000001008	<i>PRF1</i>	ENSBTAG00000009381	<i>LCP2</i>	0.82687	POS
ENSBTAG00000001008	<i>PRF1</i>	ENSBTAG00000011003	<i>IKZF3</i>	0.85312	POS
ENSBTAG00000001008	<i>PRF1</i>	ENSBTAG00000012695	<i>LCK</i>	0.81085	POS
ENSBTAG00000001008	<i>PRF1</i>	ENSBTAG00000014560	<i>HLX</i>	-0.8176	NEG
ENSBTAG00000001008	<i>PRF1</i>	ENSBTAG00000016073	<i>UGCG</i>	0.81068	POS
ENSBTAG00000001008	<i>PRF1</i>	ENSBTAG00000016345	<i>IL2RB</i>	0.87721	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001008	<i>PRFI</i>	ENSBTAG00000018307	<i>SEMA3F</i>	-0.82339	NEG
ENSBTAG00000001008	<i>PRFI</i>	ENSBTAG00000018367	<i>CD6</i>	0.81023	POS
ENSBTAG00000001008	<i>PRFI</i>	ENSBTAG00000031348	<i>CCR9</i>	0.80144	POS
ENSBTAG00000001008	<i>PRFI</i>	ENSBTAG00000040607	<i>SLA2</i>	0.81939	POS
ENSBTAG00000001008	<i>PRFI</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	-0.8035	NEG
ENSBTAG00000001008	<i>PRFI</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.82915	POS
ENSBTAG00000001008	<i>PRFI</i>	ENSBTAG00000003304	<i>HOXC4</i>	-0.80436	NEG
ENSBTAG00000001008	<i>PRFI</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.84728	NEG
ENSBTAG00000001008	<i>PRFI</i>	ENSBTAG00000008520	<i>NFIC</i>	-0.80228	NEG
ENSBTAG00000001078	<i>SRL</i>	ENSBTAG00000004303	<i>SLC27A2</i>	-0.83431	NEG
ENSBTAG00000001078	<i>SRL</i>	ENSBTAG00000007111	<i>STEAP3</i>	-0.81815	NEG
ENSBTAG00000001078	<i>SRL</i>	ENSBTAG00000014459	<i>MAP6D1</i>	0.85209	POS
ENSBTAG00000001078	<i>SRL</i>	ENSBTAG00000016505	<i>TMC7</i>	-0.94222	NEG
ENSBTAG00000001078	<i>SRL</i>	ENSBTAG00000016915	<i>FLT1</i>	0.81419	POS
ENSBTAG00000001078	<i>SRL</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.80138	POS
ENSBTAG00000001078	<i>SRL</i>	ENSBTAG00000018398	<i>GPR4</i>	0.82584	POS
ENSBTAG00000001078	<i>SRL</i>	ENSBTAG00000021501	<i>ENSBTAG00000021501</i>	-0.81436	NEG
ENSBTAG00000001078	<i>SRL</i>	ENSBTAG00000030814	<i>TFF2</i>	-0.82178	NEG
ENSBTAG00000001078	<i>SRL</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	0.80968	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000001828	<i>SCRN2</i>	0.89286	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000002305	<i>PCSK4</i>	0.87759	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000003514	<i>HSF4</i>	0.86347	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000004911	<i>BIRC7</i>	0.82198	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000008397	<i>ZNF555</i>	0.88043	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000008996	<i>SFII</i>	0.82158	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000009199	<i>GLIS2</i>	0.80198	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000009876	<i>C4BPA</i>	-0.87645	NEG
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000010509	<i>CDK3</i>	0.87528	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000012121	<i>NOXA1</i>	0.9225	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000012954	<i>ERAS</i>	0.93138	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000015288	<i>BEST4</i>	0.8138	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000015635	<i>TNFRSF4</i>	0.87013	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000015798	<i>UCKL1</i>	0.91037	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000016602	<i>LBX2</i>	0.80793	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000017280	<i>C3</i>	-0.87553	NEG
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000019940	<i>RASGRF1</i>	0.92238	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000020184	<i>AQP8</i>	0.84233	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000021303	<i>RSAD1</i>	0.84151	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000024406	<i>AGR2</i>	-0.80094	NEG
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000030247	<i>NSMF</i>	0.9246	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000032193	<i>REG4</i>	-0.89055	NEG
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000046984	<i>ZNF672</i>	0.80253	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000047713	<i>LMNTD2</i>	0.87563	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	0.85996	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	0.83435	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000053558	<i>NOTUM</i>	0.86289	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000002936	<i>PRRX2</i>	-0.83099	NEG
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000003843	<i>SMARCAL1</i>	0.90706	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000007318	<i>ZNF687</i>	0.81419	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000008313	<i>KLF15</i>	-0.89622	NEG
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000009905	<i>NFYA</i>	0.8467	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.82862	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000012522	<i>ZNF283</i>	0.83518	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000013271	<i>NCOR1</i>	0.8842	POS
ENSBTAG00000001120	<i>CORO6</i>	ENSBTAG00000019174	<i>ZNF710</i>	0.8017	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000001156	<i>ST3GAL1</i>	0.80846	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000001752	<i>FUCA2</i>	0.85325	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000002299	<i>SEL1L3</i>	0.81947	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000006745	<i>FGG</i>	0.81294	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000007837	<i>SELENOI</i>	0.81588	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000008101	<i>PCSK5</i>	0.93351	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000008332	<i>ENPEP</i>	0.85153	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000008493	<i>AQP3</i>	0.89599	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000008849	<i>SORT1</i>	0.81837	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000009294	<i>DEGS2</i>	0.88181	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000009423	<i>NIPALI</i>	0.8886	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000010178	<i>PTPRD</i>	0.80833	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000011050	<i>PLPP6</i>	0.84555	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000011063	<i>CTSO</i>	0.85364	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000012082	<i>TNFRSF12A</i>	-0.87758	NEG
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000013957	<i>GALNT3</i>	0.80088	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000014713	<i>RARRES1</i>	0.86142	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000014831	<i>PPP1R3C</i>	-0.80538	NEG
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000015170	<i>LCT</i>	0.93852	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000015511	<i>FADS3</i>	-0.86026	NEG
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000015961	<i>TSPAN2</i>	-0.83237	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000016234	<i>DUOX2</i>	0.84213	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.84262	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000019129	<i>BTBD</i>	0.81799	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000020018	<i>FRK</i>	0.82765	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.8754	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.86524	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.89737	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.90418	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000043983	<i>LRRIC19</i>	0.92551	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.9085	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000045787	<i>CDS1</i>	0.88684	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000048246	<i>DPP4</i>	0.9213	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	0.86378	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.89445	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	0.84123	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.90601	POS
ENSBTAG00000001124	<i>GALC</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.88092	POS
ENSBTAG00000001136	<i>ELAPOR1</i>	ENSBTAG00000001829	<i>SLC17A9</i>	0.80328	POS
ENSBTAG00000001136	<i>ELAPOR1</i>	ENSBTAG00000004558	<i>C10H15orf48</i>	0.82411	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001136	<i>ELAPOR1</i>	ENSBTAG00000004958	<i>PTPRN2</i>	0.8312	POS
ENSBTAG00000001136	<i>ELAPOR1</i>	ENSBTAG00000008023	<i>RHBDL2</i>	0.89078	POS
ENSBTAG00000001136	<i>ELAPOR1</i>	ENSBTAG00000011962	<i>PLA2G3</i>	0.92933	POS
ENSBTAG00000001136	<i>ELAPOR1</i>	ENSBTAG00000011970	<i>FNIP2</i>	-0.8039	NEG
ENSBTAG00000001136	<i>ELAPOR1</i>	ENSBTAG00000014459	<i>MAP6D1</i>	-0.83983	NEG
ENSBTAG00000001136	<i>ELAPOR1</i>	ENSBTAG00000016343	<i>KCNIP2</i>	-0.82947	NEG
ENSBTAG00000001136	<i>ELAPOR1</i>	ENSBTAG00000034939	<i>BTNL2</i>	0.8495	POS
ENSBTAG00000001136	<i>ELAPOR1</i>	ENSBTAG00000035081	<i>SERINC2</i>	0.86767	POS
ENSBTAG00000001136	<i>ELAPOR1</i>	ENSBTAG00000046158	<i>CFB</i>	0.80916	POS
ENSBTAG00000001136	<i>ELAPOR1</i>	ENSBTAG00000046649	<i>SGPP2</i>	0.84144	POS
ENSBTAG00000001136	<i>ELAPOR1</i>	ENSBTAG00000048125	<i>ENTPD2</i>	0.82573	POS
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000001828	<i>SCRN2</i>	0.81169	POS
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000003514	<i>HSF4</i>	0.81042	POS
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000005005	<i>CSN1S2</i>	0.84885	POS
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000008397	<i>ZNF555</i>	0.86008	POS
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000009145	<i>SLC7A4</i>	-0.80486	NEG
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000009199	<i>GLIS2</i>	0.87412	POS
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000009876	<i>C4BPA</i>	-0.85926	NEG
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000010509	<i>CDK3</i>	0.85592	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000012121	<i>NOXA1</i>	0.83924	POS
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000012954	<i>ERAS</i>	0.84675	POS
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000015288	<i>BEST4</i>	0.85027	POS
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000015635	<i>TNFRSF4</i>	0.88449	POS
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000015798	<i>UCKL1</i>	0.8685	POS
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000015939	<i>NECTIN1</i>	-0.82926	NEG
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000016467	<i>SLC22A17</i>	0.85969	POS
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000016602	<i>LBX2</i>	0.80345	POS
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000017376	<i>GALNT5</i>	-0.853	NEG
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000017722	<i>F5</i>	-0.82675	NEG
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000021276	<i>TFF3</i>	-0.83097	NEG
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000030247	<i>NSMF</i>	0.83848	POS
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000032193	<i>REG4</i>	-0.87036	NEG
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000042471	<i>SNORA25</i>	0.83558	POS
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	0.84308	POS
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	0.81907	POS
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000054543	<i>ENSBTAG00000054543</i>	0.82717	POS
ENSBTAG00000001152	<i>TLE6</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.84314	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000003749	<i>KCNMB4</i>	0.81183	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000004207	<i>CD93</i>	0.83358	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000005596	<i>IGFBP2</i>	0.91881	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000006130	<i>CLEC14A</i>	0.82211	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000006234	<i>NPR1</i>	0.82378	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000006262	<i>LIMS2</i>	0.81722	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000006720	<i>GJA5</i>	0.8554	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000006792	<i>EHD4</i>	0.8371	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000012212	<i>CYP26B1</i>	0.87745	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000013290	<i>DYSF</i>	0.84683	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000015108	<i>USHBP1</i>	0.88281	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000016486	<i>SORBS2</i>	0.83719	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000016505	<i>TMC7</i>	-0.89875	NEG
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000016915	<i>FLT1</i>	0.88678	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000017183	<i>PDLIM3</i>	0.82252	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.81726	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.91645	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000018398	<i>GPR4</i>	0.85173	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000019497	<i>ILDR2</i>	0.86325	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.82632	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG000000021467	<i>IGFBP6</i>	0.85392	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG000000024000	<i>ATOH8</i>	0.85924	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG000000025424	<i>NOTCH4</i>	0.81486	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG000000030259	<i>RASGRF2</i>	0.8636	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG000000039372	<i>CIMAP1D</i>	0.82791	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG000000047088	<i>ENSBTAG000000047088</i>	-0.89659	NEG
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG000000047330	<i>FABP5</i>	0.83819	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG000000048736	<i>ENSBTAG000000048736</i>	0.80026	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG000000049114	<i>ENSBTAG000000049114</i>	0.82345	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG000000049377	<i>ENSBTAG000000049377</i>	0.81686	POS
ENSBTAG00000001153	<i>TLE2</i>	ENSBTAG000000054046	<i>ENSBTAG000000054046</i>	0.90766	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG000000001752	<i>FUCA2</i>	0.89815	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG000000002348	<i>SLC4A4</i>	0.85721	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG000000004207	<i>CD93</i>	-0.83224	NEG
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG000000004403	<i>CD320</i>	-0.82893	NEG
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG000000005078	<i>UCHL1</i>	-0.8084	NEG
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG000000005448	<i>ENSBTAG000000005448</i>	-0.85682	NEG
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG000000006130	<i>CLEC14A</i>	-0.80161	NEG
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG000000006262	<i>LIMS2</i>	-0.89535	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000006792	<i>EHD4</i>	-0.80426	NEG
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000007837	<i>SELENOI</i>	0.80204	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000008101	<i>PCSK5</i>	0.90939	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000008332	<i>ENPEP</i>	0.80619	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000008338	<i>PLCB1</i>	-0.8135	NEG
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000008849	<i>SORT1</i>	0.80227	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000009294	<i>DEGS2</i>	0.81977	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000010178	<i>PTPRD</i>	0.80323	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000011037	<i>RBPM52</i>	-0.85851	NEG
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000011050	<i>PLPP6</i>	0.88065	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000011473	<i>MYL9</i>	-0.86216	NEG
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000012482	<i>CDCP1</i>	0.86217	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000013290	<i>DYSF</i>	-0.86597	NEG
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000013957	<i>GALNT3</i>	0.82855	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000015170	<i>LCT</i>	0.88445	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000015961	<i>TSPAN2</i>	-0.91444	NEG
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000016073	<i>UGCG</i>	0.82154	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000016365	<i>ABCG5</i>	0.8791	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.87849	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000016505	<i>TMC7</i>	0.82745	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000018307	<i>SEMA3F</i>	-0.86358	NEG
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000018331	<i>CLEC3B</i>	-0.8642	NEG
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000018398	<i>GPR4</i>	-0.85003	NEG
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.89782	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000020018	<i>FRK</i>	0.83214	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000020273	<i>YOD1</i>	0.85201	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000021467	<i>IGFBP6</i>	-0.87518	NEG
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.81898	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.90142	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000024000	<i>ATOH8</i>	-0.80331	NEG
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000034393	<i>FAM149A</i>	-0.83559	NEG
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.90128	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.90567	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.83981	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.8814	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.8193	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000045787	<i>CDS1</i>	0.89095	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000047088	<i>ENSBTAG00000047088</i>	0.81126	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000048246	<i>DPP4</i>	0.82831	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	-0.8075	NEG
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	0.83319	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.89881	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.8258	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.90141	POS
ENSBTAG00000001156	<i>ST3GAL1</i>	ENSBTAG00000003304	<i>HOXC4</i>	-0.83047	NEG
ENSBTAG00000001292	<i>LTF</i>	ENSBTAG00000002117	<i>KIF18A</i>	0.86564	POS
ENSBTAG00000001292	<i>LTF</i>	ENSBTAG00000003514	<i>HSF4</i>	-0.84333	NEG
ENSBTAG00000001292	<i>LTF</i>	ENSBTAG00000004911	<i>BIRC7</i>	-0.82499	NEG
ENSBTAG00000001292	<i>LTF</i>	ENSBTAG00000017468	<i>NUCB2</i>	0.80704	POS
ENSBTAG00000001292	<i>LTF</i>	ENSBTAG00000018316	<i>ZMYND15</i>	-0.82756	NEG
ENSBTAG00000001292	<i>LTF</i>	ENSBTAG00000026236	<i>AZGP1</i>	0.80111	POS
ENSBTAG00000001292	<i>LTF</i>	ENSBTAG00000030757	<i>ELFN1</i>	0.85593	POS
ENSBTAG00000001292	<i>LTF</i>	ENSBTAG00000032193	<i>REG4</i>	0.80149	POS
ENSBTAG00000001292	<i>LTF</i>	ENSBTAG00000045596	<i>ENSBTAG00000045596</i>	-0.82757	NEG
ENSBTAG00000001292	<i>LTF</i>	ENSBTAG00000053558	<i>NOTUM</i>	-0.80115	NEG
ENSBTAG00000001292	<i>LTF</i>	ENSBTAG00000010681	<i>NR1H3</i>	-0.82252	NEG
ENSBTAG00000001338	<i>CCR3</i>	ENSBTAG00000002937	<i>ADGRE3</i>	0.8312	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001338	<i>CCR3</i>	ENSBTAG000000011515	<i>SELL</i>	0.83308	POS
ENSBTAG00000001338	<i>CCR3</i>	ENSBTAG000000013048	<i>NIPAL3</i>	0.81538	POS
ENSBTAG00000001338	<i>CCR3</i>	ENSBTAG000000017442	<i>CDO1</i>	-0.83366	NEG
ENSBTAG00000001338	<i>CCR3</i>	ENSBTAG000000039197	<i>SLC2A9</i>	0.8906	POS
ENSBTAG00000001359	<i>B3GNT7</i>	ENSBTAG000000005748	<i>SOX17</i>	-0.82131	NEG
ENSBTAG00000001359	<i>B3GNT7</i>	ENSBTAG000000006790	<i>SPTBN5</i>	-0.82524	NEG
ENSBTAG00000001359	<i>B3GNT7</i>	ENSBTAG000000010278	<i>STPG1</i>	0.82195	POS
ENSBTAG00000001359	<i>B3GNT7</i>	ENSBTAG000000013157	<i>NOVA2</i>	-0.83053	NEG
ENSBTAG00000001359	<i>B3GNT7</i>	ENSBTAG000000016765	<i>SPACDR</i>	-0.93033	NEG
ENSBTAG00000001359	<i>B3GNT7</i>	ENSBTAG000000020688	<i>ARHGEF15</i>	-0.81821	NEG
ENSBTAG00000001359	<i>B3GNT7</i>	ENSBTAG000000009634	<i>HOXC5</i>	-0.80898	NEG
ENSBTAG00000001694	<i>TYRO3</i>	ENSBTAG000000002066	<i>MYL7</i>	0.86974	POS
ENSBTAG00000001694	<i>TYRO3</i>	ENSBTAG000000002305	<i>PCSK4</i>	0.83079	POS
ENSBTAG00000001694	<i>TYRO3</i>	ENSBTAG000000003514	<i>HSF4</i>	0.81577	POS
ENSBTAG00000001694	<i>TYRO3</i>	ENSBTAG000000004911	<i>BIRC7</i>	0.90056	POS
ENSBTAG00000001694	<i>TYRO3</i>	ENSBTAG000000009876	<i>C4BPA</i>	-0.83649	NEG
ENSBTAG00000001694	<i>TYRO3</i>	ENSBTAG000000012054	<i>ALDH3B2</i>	0.81404	POS
ENSBTAG00000001694	<i>TYRO3</i>	ENSBTAG000000012463	<i>ZMAT3</i>	0.83743	POS
ENSBTAG00000001694	<i>TYRO3</i>	ENSBTAG000000012954	<i>ERAS</i>	0.81743	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001694	<i>TYRO3</i>	ENSBTAG00000016602	<i>LBX2</i>	0.81406	POS
ENSBTAG00000001694	<i>TYRO3</i>	ENSBTAG00000017280	<i>C3</i>	-0.83198	NEG
ENSBTAG00000001694	<i>TYRO3</i>	ENSBTAG00000020184	<i>AQP8</i>	0.91424	POS
ENSBTAG00000001694	<i>TYRO3</i>	ENSBTAG00000046158	<i>CFB</i>	-0.81019	NEG
ENSBTAG00000001694	<i>TYRO3</i>	ENSBTAG00000047713	<i>LMNTD2</i>	0.80929	POS
ENSBTAG00000001694	<i>TYRO3</i>	ENSBTAG00000052290	<i>ENSBTAG00000052290</i>	0.81959	POS
ENSBTAG00000001694	<i>TYRO3</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.80344	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000002299	<i>SEL1L3</i>	0.88566	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000002348	<i>SLC4A4</i>	0.84893	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000003526	<i>SYNE3</i>	0.85909	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000003749	<i>KCNMB4</i>	-0.86331	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000004207	<i>CD93</i>	-0.80073	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000004303	<i>SLC27A2</i>	0.84925	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000005305	<i>NTS</i>	0.8153	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	-0.86535	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000006262	<i>LIMS2</i>	-0.88184	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000006720	<i>GJA5</i>	-0.82411	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000006745	<i>FGG</i>	0.80599	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000006792	<i>EHD4</i>	-0.85909	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000007111	<i>STEAP3</i>	0.82217	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000007837	<i>SELENOI</i>	0.89958	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000008101	<i>PCSK5</i>	0.88996	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000008332	<i>ENPEP</i>	0.92068	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000008338	<i>PLCB1</i>	-0.82155	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000008493	<i>AQP3</i>	0.84615	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000008849	<i>SORT1</i>	0.89578	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000009294	<i>DEGS2</i>	0.93571	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000011050	<i>PLPP6</i>	0.82115	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000011063	<i>CTSO</i>	0.93429	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000011473	<i>MYL9</i>	-0.81625	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000012082	<i>TNFRSF12A</i>	-0.88456	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000012482	<i>CDCPI</i>	0.8342	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000013127	<i>LPCAT3</i>	0.88954	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000013290	<i>DYSF</i>	-0.90598	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000013957	<i>GALNT3</i>	0.95488	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.85182	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000014713	<i>RARRES1</i>	0.88159	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000015170	<i>LCT</i>	0.89491	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000015961	<i>TSPAN2</i>	-0.86811	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000016365	<i>ABCG5</i>	0.87866	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.93555	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000016505	<i>TMC7</i>	0.84155	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.91166	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000016924	<i>CAP2</i>	-0.87116	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000018307	<i>SEMA3F</i>	-0.86116	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000018331	<i>CLEC3B</i>	-0.85144	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000018398	<i>GPR4</i>	-0.9119	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.89917	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000019129	<i>BTD</i>	0.91961	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000020018	<i>FRK</i>	0.87083	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000020273	<i>YOD1</i>	0.86872	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000020957	<i>FZD5</i>	0.85954	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000021322	<i>TM4SF20</i>	0.84335	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.87384	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.92056	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000021916	<i>MYL4</i>	-0.83606	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.81394	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.88036	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000030259	<i>RASGRF2</i>	-0.83024	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000030814	<i>TFF2</i>	0.86714	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.84209	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.90244	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.87671	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	-0.81726	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.85334	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000044146	<i>NPC1L1</i>	0.85632	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000045787	<i>CDS1</i>	0.88484	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000048246	<i>DPP4</i>	0.90627	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	-0.83638	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.92359	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	-0.86749	NEG
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.94544	POS
ENSBTAG00000001752	<i>FUCA2</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.82065	NEG
ENSBTAG00000001785	<i>TGM3</i>	ENSBTAG00000006505	<i>S100A9</i>	0.83746	POS
ENSBTAG00000001785	<i>TGM3</i>	ENSBTAG00000007901	<i>ENSBTAG00000007901</i>	0.81392	POS
ENSBTAG00000001785	<i>TGM3</i>	ENSBTAG00000019665	<i>IL1RN</i>	0.86405	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001806	<i>IQCD</i>	ENSBTAG00000007068	<i>SH3BGR</i>	0.8345	POS
ENSBTAG00000001806	<i>IQCD</i>	ENSBTAG00000010555	<i>ENSBTAG00000010555</i>	0.8446	POS
ENSBTAG00000001806	<i>IQCD</i>	ENSBTAG00000014217	<i>HHEX</i>	0.82556	POS
ENSBTAG00000001806	<i>IQCD</i>	ENSBTAG00000018413	<i>TENT5B</i>	0.86795	POS
ENSBTAG00000001806	<i>IQCD</i>	ENSBTAG00000021322	<i>TM4SF20</i>	-0.8057	NEG
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000002305	<i>PCSK4</i>	0.8931	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000003514	<i>HSF4</i>	0.82576	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000006541	<i>ATP2A1</i>	0.87511	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000008397	<i>ZNF555</i>	0.89031	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000009835	<i>CACNA1G</i>	0.85214	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000009876	<i>C4BPA</i>	-0.81603	NEG
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000010509	<i>CDK3</i>	0.92787	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000012121	<i>NOXA1</i>	0.95389	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000012954	<i>ERAS</i>	0.91372	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000015288	<i>BEST4</i>	0.84773	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000015635	<i>TNFRSF4</i>	0.89965	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000015798	<i>UCKL1</i>	0.95176	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000016602	<i>LBX2</i>	0.81676	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000017280	<i>C3</i>	-0.83459	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000017468	<i>NUCB2</i>	-0.80381	NEG
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000020184	<i>AQP8</i>	0.82064	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000021303	<i>RSAD1</i>	0.84277	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000030247	<i>NSMF</i>	0.9695	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000032193	<i>REG4</i>	-0.86472	NEG
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000047713	<i>LMNTD2</i>	0.92851	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	0.86173	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	0.82822	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000053558	<i>NOTUM</i>	0.84002	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000002333	<i>HOPX</i>	-0.8003	NEG
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000003843	<i>SMARCA1</i>	0.82242	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000008313	<i>KLF15</i>	-0.8199	NEG
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000008573	<i>ZFP36</i>	0.8063	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.87606	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000012522	<i>ZNF283</i>	0.81427	POS
ENSBTAG00000001828	<i>SCRN2</i>	ENSBTAG00000013271	<i>NCOR1</i>	0.81791	POS
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000004558	<i>C10H15orf48</i>	0.94102	POS
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000007111	<i>STEAP3</i>	0.81565	POS
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000009145	<i>SLC7A4</i>	0.84244	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000009876	<i>C4BPA</i>	0.82273	POS
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000010462	<i>ROBO2</i>	0.80503	POS
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000011941	<i>LYZF1</i>	0.86388	POS
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000012708	<i>SERPINI1</i>	0.81813	POS
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000013320	<i>TSPAN1</i>	0.83445	POS
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000014459	<i>MAP6D1</i>	-0.81601	NEG
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000014593	<i>ENSBTAG00000014593</i>	-0.8053	NEG
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000016467	<i>SLC22A17</i>	-0.81064	NEG
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000017376	<i>GALNT5</i>	0.81947	POS
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000018316	<i>ZMYND15</i>	-0.8205	NEG
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000019486	<i>CLDN12</i>	0.81038	POS
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000020859	<i>SERPINF2</i>	0.83991	POS
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000024852	<i>ENSBTAG00000024852</i>	0.83417	POS
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000033351	<i>PACRGL</i>	0.81131	POS
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000037902	<i>FAM229A</i>	-0.83589	NEG
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	0.84991	POS
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000046158	<i>CFB</i>	0.81128	POS
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000048980	<i>ENSBTAG00000048980</i>	0.80231	POS
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG00000050212	<i>MUC2</i>	0.8302	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG000000052309	<i>ENSBTAG000000052309</i>	0.83771	POS
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG000000052510	<i>CCL26</i>	0.80063	POS
ENSBTAG00000001829	<i>SLC17A9</i>	ENSBTAG000000054229	<i>ENSBTAG000000054229</i>	0.8436	POS
ENSBTAG00000001836	<i>ENSBTAG00000001836</i>	ENSBTAG00000005261	<i>FCGBP</i>	0.82949	POS
ENSBTAG00000001836	<i>ENSBTAG00000001836</i>	ENSBTAG00000005685	<i>HSD11B2</i>	0.81181	POS
ENSBTAG00000001836	<i>ENSBTAG00000001836</i>	ENSBTAG000000030921	<i>FAM3B</i>	0.80974	POS
ENSBTAG00000001836	<i>ENSBTAG00000001836</i>	ENSBTAG000000051851	<i>ENSBTAG000000051851</i>	0.91718	POS
ENSBTAG00000002015	<i>RPS6KA6</i>	ENSBTAG000000006541	<i>ATP2A1</i>	0.867	POS
ENSBTAG00000002015	<i>RPS6KA6</i>	ENSBTAG000000048049	<i>ENSBTAG000000048049</i>	-0.87323	NEG
ENSBTAG00000002066	<i>MYL7</i>	ENSBTAG000000004911	<i>BIRC7</i>	0.9293	POS
ENSBTAG00000002066	<i>MYL7</i>	ENSBTAG000000008996	<i>SF11</i>	0.80469	POS
ENSBTAG00000002066	<i>MYL7</i>	ENSBTAG000000012054	<i>ALDH3B2</i>	0.92016	POS
ENSBTAG00000002066	<i>MYL7</i>	ENSBTAG000000016602	<i>LBX2</i>	0.80059	POS
ENSBTAG00000002066	<i>MYL7</i>	ENSBTAG000000017280	<i>C3</i>	-0.87167	NEG
ENSBTAG00000002066	<i>MYL7</i>	ENSBTAG000000020184	<i>AQP8</i>	0.82746	POS
ENSBTAG00000002066	<i>MYL7</i>	ENSBTAG000000047713	<i>LMNTD2</i>	0.81206	POS
ENSBTAG00000002066	<i>MYL7</i>	ENSBTAG000000048125	<i>ENTPD2</i>	-0.80065	NEG
ENSBTAG00000002066	<i>MYL7</i>	ENSBTAG000000003843	<i>SMARCA1</i>	0.80533	POS
ENSBTAG00000002066	<i>MYL7</i>	ENSBTAG000000016513	<i>ZNF331</i>	0.82878	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000002117	<i>KIF18A</i>	ENSBTAG00000004911	<i>BIRC7</i>	-0.80558	NEG
ENSBTAG00000002117	<i>KIF18A</i>	ENSBTAG00000004921	<i>ENSBTAG00000004921</i>	-0.88595	NEG
ENSBTAG00000002117	<i>KIF18A</i>	ENSBTAG00000006282	<i>POU2AF1</i>	0.81417	POS
ENSBTAG00000002117	<i>KIF18A</i>	ENSBTAG00000013730	<i>CD5</i>	0.84096	POS
ENSBTAG00000002117	<i>KIF18A</i>	ENSBTAG00000030757	<i>ELFN1</i>	0.85653	POS
ENSBTAG00000002117	<i>KIF18A</i>	ENSBTAG00000045596	<i>ENSBTAG00000045596</i>	-0.88473	NEG
ENSBTAG00000002117	<i>KIF18A</i>	ENSBTAG00000046158	<i>CFB</i>	0.80855	POS
ENSBTAG00000002135	<i>CD69</i>	ENSBTAG00000002661	<i>ISLR2</i>	-0.87252	NEG
ENSBTAG00000002135	<i>CD69</i>	ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	0.87946	POS
ENSBTAG00000002135	<i>CD69</i>	ENSBTAG00000002951	<i>CD244</i>	0.81922	POS
ENSBTAG00000002135	<i>CD69</i>	ENSBTAG00000005748	<i>SOX17</i>	-0.85193	NEG
ENSBTAG00000002135	<i>CD69</i>	ENSBTAG00000006234	<i>NPR1</i>	-0.80027	NEG
ENSBTAG00000002135	<i>CD69</i>	ENSBTAG00000009348	<i>OIT3</i>	-0.81287	NEG
ENSBTAG00000002135	<i>CD69</i>	ENSBTAG00000014560	<i>HLX</i>	-0.83754	NEG
ENSBTAG00000002135	<i>CD69</i>	ENSBTAG00000037508	<i>EBF1</i>	-0.85865	NEG
ENSBTAG00000002135	<i>CD69</i>	ENSBTAG00000046268	<i>ENSBTAG00000046268</i>	0.86942	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000002348	<i>SLC4A4</i>	0.82458	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000003526	<i>SYNE3</i>	0.81201	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000003749	<i>KCNMB4</i>	-0.85828	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000004303	<i>SLC27A2</i>	0.87482	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000004558	<i>C10H15orf48</i>	0.82632	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000007111	<i>STEAP3</i>	0.83397	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000007719	<i>MFSD6</i>	0.81702	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000007837	<i>SELENOI</i>	0.91622	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000008101	<i>PCSK5</i>	0.81208	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000008431	<i>ENSBTAG00000008431</i>	0.85905	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000008493	<i>AQP3</i>	0.80535	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000008849	<i>SORT1</i>	0.89213	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000009294	<i>DEGS2</i>	0.94778	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000009423	<i>NIPAL1</i>	0.8417	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000011063	<i>CTSO</i>	0.89424	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000012082	<i>TNFRSF12A</i>	-0.89763	NEG
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000013127	<i>LPCAT3</i>	0.80002	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000013320	<i>TSPAN1</i>	0.82194	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000013422	<i>GABRB3</i>	0.81947	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000013957	<i>GALNT3</i>	0.92011	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000014026	<i>PAG1</i>	0.83168	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.95003	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000014713	<i>RARRES1</i>	0.89291	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000015170	<i>LCT</i>	0.8613	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000016365	<i>ABCG5</i>	0.80549	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.92525	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.90989	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000017642	<i>BMP3</i>	0.80901	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.89771	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000019129	<i>BTD</i>	0.91123	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000020957	<i>FZD5</i>	0.86458	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000021501	<i>ENSBTAG00000021501</i>	0.82173	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.83288	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.82727	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000022509	<i>DNAH9</i>	-0.83198	NEG
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.88691	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.8526	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000030814	<i>TFF2</i>	0.85261	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.88796	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000034939	<i>BTNL2</i>	0.80987	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.85584	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG000000037969	<i>ENSBTAG000000037969</i>	0.84975	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG000000039326	<i>GCNT2</i>	0.91359	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG000000043983	<i>LRRC19</i>	0.81575	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG000000045787	<i>CDS1</i>	0.82202	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG000000048246	<i>DPP4</i>	0.82647	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG000000051726	<i>ENSBTAG000000051726</i>	0.80407	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG000000052309	<i>ENSBTAG000000052309</i>	0.86317	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG000000052885	<i>ENSBTAG000000052885</i>	0.82691	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG000000053545	<i>ENSBTAG000000053545</i>	0.82676	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG000000054738	<i>ENSBTAG000000054738</i>	-0.86494	NEG
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG000000055095	<i>ENSBTAG000000055095</i>	-0.82115	NEG
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG000000055282	<i>CLDN2</i>	0.85129	POS
ENSBTAG00000002299	<i>SEL1L3</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.90382	NEG
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000003514	<i>HSF4</i>	0.86237	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000004797	<i>TRMT44</i>	0.80336	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000004911	<i>BIRC7</i>	0.8512	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000008397	<i>ZNF555</i>	0.96257	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000009145	<i>SLC7A4</i>	-0.86286	NEG
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000009199	<i>GLIS2</i>	0.8473	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000009876	<i>C4BPA</i>	-0.87075	NEG
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000010509	<i>CDK3</i>	0.89818	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000012121	<i>NOXA1</i>	0.9258	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000012954	<i>ERAS</i>	0.89716	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000012963	<i>VILL</i>	0.83452	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000015635	<i>TNFRSF4</i>	0.86376	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000015798	<i>UCKL1</i>	0.91355	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000016467	<i>SLC22A17</i>	0.81624	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000016602	<i>LBX2</i>	0.80259	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000017280	<i>C3</i>	-0.89229	NEG
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000017376	<i>GALNT5</i>	-0.81631	NEG
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000017468	<i>NUCB2</i>	-0.89345	NEG
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000020184	<i>AQP8</i>	0.87117	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000020543	<i>UPK1A</i>	0.80397	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000021303	<i>RSAD1</i>	0.88739	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000024406	<i>AGR2</i>	-0.87706	NEG
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000030247	<i>NSMF</i>	0.91951	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000032193	<i>REG4</i>	-0.94293	NEG
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000046158	<i>CFB</i>	-0.82391	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG000000046984	<i>ZNF672</i>	0.81362	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG000000047713	<i>LMNTD2</i>	0.90223	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG000000051225	<i>ENSBTAG000000051225</i>	0.92069	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG000000051255	<i>ENSBTAG000000051255</i>	0.81153	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG000000053558	<i>NOTUM</i>	0.88234	POS
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG00000008409	<i>MYC</i>	-0.8273	NEG
ENSBTAG00000002305	<i>PCSK4</i>	ENSBTAG000000010681	<i>NR1H3</i>	0.89144	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG000000003526	<i>SYNE3</i>	0.83354	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG000000003749	<i>KCNMB4</i>	-0.80407	NEG
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG000000004207	<i>CD93</i>	-0.82148	NEG
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG000000004303	<i>SLC27A2</i>	0.85	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG000000005448	<i>ENSBTAG000000005448</i>	-0.81223	NEG
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG000000006262	<i>LIMS2</i>	-0.84876	NEG
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG000000007111	<i>STEAP3</i>	0.80352	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG000000007719	<i>MFSD6</i>	0.88474	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG000000007837	<i>SELENOI</i>	0.80192	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG000000008101	<i>PCSK5</i>	0.86172	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG000000008849	<i>SORT1</i>	0.80637	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG000000009294	<i>DEGS2</i>	0.83901	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000011050	<i>PLPP6</i>	0.85847	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000011473	<i>MYL9</i>	-0.82963	NEG
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000012482	<i>CDCPI</i>	0.85212	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000013290	<i>DYSF</i>	-0.83782	NEG
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000013957	<i>GALNT3</i>	0.82635	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000014026	<i>PAG1</i>	0.88796	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.83574	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000015108	<i>USHBP1</i>	-0.82242	NEG
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000015170	<i>LCT</i>	0.80937	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000015511	<i>FADS3</i>	-0.81972	NEG
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000016073	<i>UGCG</i>	0.8223	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000016234	<i>DUOX2</i>	0.84774	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.85448	NEG
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000016505	<i>TMC7</i>	0.81441	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.85548	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000016841	<i>ATP10B</i>	0.90363	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000018307	<i>SEMA3F</i>	-0.89868	NEG
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000018331	<i>CLEC3B</i>	-0.89978	NEG
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000018398	<i>GPR4</i>	-0.82636	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.89651	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000019129	<i>BTD</i>	0.81873	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000020273	<i>YOD1</i>	0.8735	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000020957	<i>FZD5</i>	0.80328	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000021467	<i>IGFBP6</i>	-0.9	NEG
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000021872	<i>RASGRP1</i>	0.88346	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.80279	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000024000	<i>ATOH8</i>	-0.81952	NEG
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000030671	<i>HOOK1</i>	0.8715	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000030921	<i>FAM3B</i>	0.80482	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.87373	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.8479	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.90623	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.8209	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000045787	<i>CDS1</i>	0.81478	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	-0.88782	NEG
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	0.85279	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.87901	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.85953	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG000000055282	<i>CLDN2</i>	0.81205	POS
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000003304	<i>HOXC4</i>	-0.81723	NEG
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.86542	NEG
ENSBTAG00000002348	<i>SLC4A4</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.83616	NEG
ENSBTAG00000002596	<i>VSTM1</i>	ENSBTAG000000052822	<i>ENSBTAG000000052822</i>	0.84077	POS
ENSBTAG00000002661	<i>ISLR2</i>	ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	-0.84305	NEG
ENSBTAG00000002661	<i>ISLR2</i>	ENSBTAG00000003455	<i>ANKRD6</i>	0.85595	POS
ENSBTAG00000002661	<i>ISLR2</i>	ENSBTAG00000004403	<i>CD320</i>	0.80694	POS
ENSBTAG00000002661	<i>ISLR2</i>	ENSBTAG00000004917	<i>KLRK1</i>	-0.81884	NEG
ENSBTAG00000002661	<i>ISLR2</i>	ENSBTAG00000005871	<i>MECOM</i>	0.84072	POS
ENSBTAG00000002661	<i>ISLR2</i>	ENSBTAG00000006234	<i>NPR1</i>	0.84991	POS
ENSBTAG00000002661	<i>ISLR2</i>	ENSBTAG00000007668	<i>AGPAT4</i>	0.82381	POS
ENSBTAG00000002661	<i>ISLR2</i>	ENSBTAG00000007758	<i>PDE10A</i>	0.80898	POS
ENSBTAG00000002661	<i>ISLR2</i>	ENSBTAG00000008338	<i>PLCB1</i>	0.86099	POS
ENSBTAG00000002661	<i>ISLR2</i>	ENSBTAG00000012212	<i>CYP26B1</i>	0.80315	POS
ENSBTAG00000002661	<i>ISLR2</i>	ENSBTAG00000014100	<i>BALAP3</i>	0.84045	POS
ENSBTAG00000002661	<i>ISLR2</i>	ENSBTAG00000014560	<i>HLX</i>	0.81457	POS
ENSBTAG00000002661	<i>ISLR2</i>	ENSBTAG00000016915	<i>FLT1</i>	0.80944	POS
ENSBTAG00000002661	<i>ISLR2</i>	ENSBTAG00000018123	<i>FBLN5</i>	0.81372	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000002661	<i>ISLR2</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.89047	POS
ENSBTAG00000002661	<i>ISLR2</i>	ENSBTAG00000037508	<i>EBF1</i>	0.87554	POS
ENSBTAG00000002661	<i>ISLR2</i>	ENSBTAG00000051781	<i>ENSBTAG00000051781</i>	0.81148	POS
ENSBTAG00000002661	<i>ISLR2</i>	ENSBTAG00000052140	<i>ENSBTAG00000052140</i>	0.83811	POS
ENSBTAG00000002853	<i>HRC</i>	ENSBTAG00000024852	<i>ENSBTAG00000024852</i>	-0.8841	NEG
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000002951	<i>CD244</i>	0.8233	POS
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000003403	<i>PADI2</i>	0.85168	POS
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000003455	<i>ANKRD6</i>	-0.82097	NEG
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000005748	<i>SOX17</i>	-0.88341	NEG
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000006234	<i>NPR1</i>	-0.82372	NEG
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000006720	<i>GJA5</i>	-0.82191	NEG
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000006792	<i>EHD4</i>	-0.83044	NEG
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000009381	<i>LCP2</i>	0.80365	POS
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000012212	<i>CYP26B1</i>	-0.85369	NEG
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000012695	<i>LCK</i>	0.83373	POS
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000013157	<i>NOVA2</i>	-0.84672	NEG
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000014560	<i>HLX</i>	-0.8925	NEG
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000016345	<i>IL2RB</i>	0.82634	POS
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000016915	<i>FLT1</i>	-0.81945	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000018307	<i>SEMA3F</i>	-0.80277	NEG
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000018367	<i>CD6</i>	0.80679	POS
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000018940	<i>CRACR2A</i>	0.81505	POS
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	-0.86221	NEG
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	-0.84531	NEG
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000031348	<i>CCR9</i>	0.87904	POS
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000037508	<i>EBF1</i>	-0.84449	NEG
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000040607	<i>SLA2</i>	0.8285	POS
ENSBTAG00000002859	<i>ENSBTAG00000002859</i>	ENSBTAG00000051781	<i>ENSBTAG00000051781</i>	-0.8565	NEG
ENSBTAG00000002895	<i>ATOH1</i>	ENSBTAG00000008023	<i>RHBDL2</i>	0.83412	POS
ENSBTAG00000002895	<i>ATOH1</i>	ENSBTAG00000011962	<i>PLA2G3</i>	0.80807	POS
ENSBTAG00000002937	<i>ADGRE3</i>	ENSBTAG00000002951	<i>CD244</i>	0.82642	POS
ENSBTAG00000002937	<i>ADGRE3</i>	ENSBTAG00000011515	<i>SELL</i>	0.80027	POS
ENSBTAG00000002937	<i>ADGRE3</i>	ENSBTAG00000012052	<i>PADI4</i>	0.81778	POS
ENSBTAG00000002937	<i>ADGRE3</i>	ENSBTAG00000015592	<i>GPR84</i>	0.80215	POS
ENSBTAG00000002937	<i>ADGRE3</i>	ENSBTAG00000017863	<i>SRGN</i>	0.83543	POS
ENSBTAG00000002937	<i>ADGRE3</i>	ENSBTAG00000036154	<i>ENSBTAG00000036154</i>	0.80897	POS
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000003403	<i>PADI2</i>	0.83125	POS
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000005748	<i>SOX17</i>	-0.83921	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000006452	<i>CD3D</i>	0.80507	POS
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000009348	<i>OIT3</i>	-0.87049	NEG
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000009381	<i>LCP2</i>	0.843	POS
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	0.83925	POS
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000011515	<i>SELL</i>	0.81569	POS
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000011784	<i>FGR</i>	0.829	POS
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000014441	<i>CD96</i>	0.87082	POS
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000014560	<i>HLX</i>	-0.91723	NEG
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000015710	<i>CD3E</i>	0.82269	POS
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000016345	<i>IL2RB</i>	0.89238	POS
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000018367	<i>CD6</i>	0.89341	POS
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000018940	<i>CRACR2A</i>	0.8096	POS
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000031348	<i>CCR9</i>	0.88481	POS
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000031696	<i>ANKRD44</i>	0.80206	POS
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000036154	<i>ENSBTAG00000036154</i>	0.86368	POS
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000039477	<i>TPBG</i>	-0.86878	NEG
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000048873	<i>ENSBTAG00000048873</i>	0.81101	POS
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.89741	POS
ENSBTAG00000002951	<i>CD244</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.90127	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000003074	<i>SLC16A6</i>	ENSBTAG00000006452	<i>CD3D</i>	0.82052	POS
ENSBTAG00000003074	<i>SLC16A6</i>	ENSBTAG00000010068	<i>REEP2</i>	-0.81498	NEG
ENSBTAG00000003074	<i>SLC16A6</i>	ENSBTAG00000016345	<i>IL2RB</i>	0.80334	POS
ENSBTAG00000003074	<i>SLC16A6</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	0.80873	POS
ENSBTAG00000003074	<i>SLC16A6</i>	ENSBTAG00000053928	<i>GPR25</i>	0.80322	POS
ENSBTAG00000003169	<i>FBXO24</i>	ENSBTAG00000014191	<i>QSOX1</i>	-0.83063	NEG
ENSBTAG00000003169	<i>FBXO24</i>	ENSBTAG00000015939	<i>NECTIN1</i>	-0.82486	NEG
ENSBTAG00000003169	<i>FBXO24</i>	ENSBTAG00000016845	<i>GALNT7</i>	-0.88917	NEG
ENSBTAG00000003169	<i>FBXO24</i>	ENSBTAG00000020543	<i>UPK1A</i>	0.80222	POS
ENSBTAG00000003169	<i>FBXO24</i>	ENSBTAG00000020859	<i>SERPINF2</i>	-0.80434	NEG
ENSBTAG00000003169	<i>FBXO24</i>	ENSBTAG00000021276	<i>TFF3</i>	-0.80568	NEG
ENSBTAG00000003169	<i>FBXO24</i>	ENSBTAG00000033351	<i>PACRGL</i>	-0.8172	NEG
ENSBTAG00000003169	<i>FBXO24</i>	ENSBTAG00000046158	<i>CFB</i>	-0.82844	NEG
ENSBTAG00000003169	<i>FBXO24</i>	ENSBTAG00000007660	<i>ZNF414</i>	0.80108	POS
ENSBTAG00000003403	<i>PADI2</i>	ENSBTAG00000009381	<i>LCP2</i>	0.81249	POS
ENSBTAG00000003403	<i>PADI2</i>	ENSBTAG00000014014	<i>UBIAD1</i>	0.80109	POS
ENSBTAG00000003403	<i>PADI2</i>	ENSBTAG00000018753	<i>TMEM163</i>	-0.80598	NEG
ENSBTAG00000003403	<i>PADI2</i>	ENSBTAG00000018940	<i>CRACR2A</i>	0.8507	POS
ENSBTAG00000003403	<i>PADI2</i>	ENSBTAG00000031348	<i>CCR9</i>	0.80431	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000003408	<i>ENSBTAG00000003408</i>	ENSBTAG00000003526	<i>SYNE3</i>	-0.81886	NEG
ENSBTAG00000003408	<i>ENSBTAG00000003408</i>	ENSBTAG00000007068	<i>SH3BGR</i>	0.80661	POS
ENSBTAG00000003408	<i>ENSBTAG00000003408</i>	ENSBTAG00000013973	<i>SERPIND1</i>	0.86877	POS
ENSBTAG00000003408	<i>ENSBTAG00000003408</i>	ENSBTAG00000021322	<i>TM4SF20</i>	-0.81977	NEG
ENSBTAG00000003455	<i>ANKRD6</i>	ENSBTAG00000012695	<i>LCK</i>	-0.82174	NEG
ENSBTAG00000003455	<i>ANKRD6</i>	ENSBTAG00000014100	<i>BALAP3</i>	0.80837	POS
ENSBTAG00000003455	<i>ANKRD6</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.8022	POS
ENSBTAG00000003455	<i>ANKRD6</i>	ENSBTAG00000037508	<i>EBF1</i>	0.90185	POS
ENSBTAG00000003455	<i>ANKRD6</i>	ENSBTAG00000053649	<i>ENSBTAG00000053649</i>	-0.82682	NEG
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000004797	<i>TRMT44</i>	0.81861	POS
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000004911	<i>BIRC7</i>	0.87257	POS
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000006282	<i>POU2AF1</i>	-0.81854	NEG
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000008397	<i>ZNF555</i>	0.86333	POS
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000008996	<i>SF11</i>	0.81403	POS
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000009145	<i>SLC7A4</i>	-0.82974	NEG
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000009199	<i>GLIS2</i>	0.81908	POS
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000009876	<i>C4BPA</i>	-0.91129	NEG
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000010509	<i>CDK3</i>	0.86397	POS
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000012121	<i>NOXA1</i>	0.85395	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000012638	<i>SI00A12</i>	-0.82994	NEG
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000012954	<i>ERAS</i>	0.92833	POS
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000015280	<i>KIF2C</i>	-0.83271	NEG
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000015798	<i>UCKL1</i>	0.88098	POS
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000016467	<i>SLC22A17</i>	0.83536	POS
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000016602	<i>LBX2</i>	0.86869	POS
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000017280	<i>C3</i>	-0.85388	NEG
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000018316	<i>ZMYND15</i>	0.87411	POS
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000020184	<i>AQP8</i>	0.83141	POS
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000021303	<i>RSAD1</i>	0.8406	POS
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000030247	<i>NSMF</i>	0.86247	POS
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000032193	<i>REG4</i>	-0.88704	NEG
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000047713	<i>LMNTD2</i>	0.89914	POS
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000053558	<i>NOTUM</i>	0.94769	POS
ENSBTAG00000003514	<i>HSF4</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.8675	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000003749	<i>KCNMB4</i>	-0.86213	NEG
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000003763	<i>MYO5C</i>	0.82024	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000004303	<i>SLC27A2</i>	0.81103	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000004558	<i>C10H15orf48</i>	0.8325	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000007719	<i>MFSD6</i>	0.85788	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000008101	<i>PCSK5</i>	0.80456	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000008849	<i>SORT1</i>	0.84181	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000009294	<i>DEGS2</i>	0.86544	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000009423	<i>NIPAL1</i>	0.80289	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000013127	<i>LPCAT3</i>	0.85878	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000013957	<i>GALNT3</i>	0.81811	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000014026	<i>PAG1</i>	0.80841	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.83659	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000016073	<i>UGCG</i>	0.85867	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000016365	<i>ABCG5</i>	0.80468	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.85487	NEG
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.91918	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000016841	<i>ATP10B</i>	0.80826	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000018398	<i>GPR4</i>	-0.80746	NEG
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.86549	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000019129	<i>BTD</i>	0.83625	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000019486	<i>CLDN12</i>	0.82219	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000020018	<i>FRK</i>	0.86396	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000020957	<i>FZD5</i>	0.90935	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.83824	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.82747	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.84226	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	-0.82872	NEG
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000044146	<i>NPC1L1</i>	0.83743	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000045787	<i>CDS1</i>	0.80413	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	-0.81175	NEG
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000052665	<i>CYP3A74</i>	0.82889	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.80933	POS
ENSBTAG00000003526	<i>SYNE3</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.81113	POS
ENSBTAG00000003529	<i>ENSBTAG00000003529</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.83371	POS
ENSBTAG00000003529	<i>ENSBTAG00000003529</i>	ENSBTAG00000021435	<i>MAFF</i>	-0.86736	NEG
ENSBTAG00000003580	<i>PSD</i>	ENSBTAG00000007719	<i>MFSD6</i>	-0.83917	NEG
ENSBTAG00000003580	<i>PSD</i>	ENSBTAG00000009145	<i>SLC7A4</i>	-0.80493	NEG
ENSBTAG00000003580	<i>PSD</i>	ENSBTAG00000009199	<i>GLIS2</i>	0.80647	POS
ENSBTAG00000003580	<i>PSD</i>	ENSBTAG00000016467	<i>SLC22A17</i>	0.87398	POS
ENSBTAG00000003580	<i>PSD</i>	ENSBTAG00000017430	<i>PNCK</i>	0.81571	POS
ENSBTAG00000003580	<i>PSD</i>	ENSBTAG00000030369	<i>IFFO1</i>	0.82288	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000003580	<i>PSD</i>	ENSBTAG000000031569	<i>GOLM1</i>	-0.81023	NEG
ENSBTAG00000003580	<i>PSD</i>	ENSBTAG000000046158	<i>CFB</i>	-0.81165	NEG
ENSBTAG00000003580	<i>PSD</i>	ENSBTAG000000049257	<i>ENSBTAG000000049257</i>	-0.86385	NEG
ENSBTAG00000003580	<i>PSD</i>	ENSBTAG000000052290	<i>ENSBTAG000000052290</i>	0.81311	POS
ENSBTAG00000003743	<i>ENSBTAG00000003743</i>	ENSBTAG000000011470	<i>ENSBTAG000000011470</i>	0.87022	POS
ENSBTAG00000003743	<i>ENSBTAG00000003743</i>	ENSBTAG000000020859	<i>SERPINF2</i>	-0.80748	NEG
ENSBTAG00000003743	<i>ENSBTAG00000003743</i>	ENSBTAG000000052510	<i>CCL26</i>	-0.80639	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG000000004303	<i>SLC27A2</i>	-0.86179	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG000000004958	<i>PTPRN2</i>	-0.83535	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG000000005045	<i>GIP</i>	-0.86775	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG000000005925	<i>SLC10A2</i>	-0.82471	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG000000006720	<i>GJA5</i>	0.83999	POS
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG000000006792	<i>EHD4</i>	0.82652	POS
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG000000007111	<i>STEAP3</i>	-0.8475	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG000000007678	<i>MKX</i>	-0.81304	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG000000007837	<i>SELENOI</i>	-0.80792	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG000000008431	<i>ENSBTAG000000008431</i>	-0.84631	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG000000008849	<i>SORT1</i>	-0.92061	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG000000009294	<i>DEGS2</i>	-0.81085	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000011010	<i>PRND</i>	0.81027	POS
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000011063	<i>CTSO</i>	-0.8503	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000011962	<i>PLA2G3</i>	-0.80271	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000012482	<i>CDCP1</i>	-0.81928	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000012729	<i>ARHGEF9</i>	0.80431	POS
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000013127	<i>LPCAT3</i>	-0.84558	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000013290	<i>DYSF</i>	0.86684	POS
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000013422	<i>GABRB3</i>	-0.82933	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000013957	<i>GALNT3</i>	-0.86994	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000014191	<i>QSOX1</i>	-0.90378	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000015915	<i>SBSN</i>	-0.81517	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000016486	<i>SORBS2</i>	0.89147	POS
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000016505	<i>TMC7</i>	-0.85713	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	-0.87538	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000016841	<i>ATP10B</i>	-0.80324	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000016845	<i>GALNT7</i>	-0.84495	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000016915	<i>FLT1</i>	0.90009	POS
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.86773	POS
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.8012	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000018398	<i>GPR4</i>	0.91525	POS
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000018419	<i>ADCY4</i>	0.8057	POS
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000018744	<i>MGAT5</i>	-0.8175	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000018843	<i>SERPINA1</i>	-0.85707	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000019129	<i>BTD</i>	-0.85788	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000021368	<i>ENSBTAG00000021368</i>	-0.82226	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	-0.81155	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.82381	POS
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.90703	POS
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000031569	<i>GOLM1</i>	-0.82049	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000034939	<i>BTNL2</i>	-0.83452	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000035081	<i>SERINC2</i>	-0.8353	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	-0.81567	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	0.90212	POS
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000044146	<i>NPC1L1</i>	-0.812	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000046158	<i>CFB</i>	-0.80952	NEG
ENSBTAG00000003749	<i>KCNMB4</i>	ENSBTAG00000053928	<i>GPR25</i>	-0.8049	NEG
ENSBTAG00000003763	<i>MYO5C</i>	ENSBTAG00000004958	<i>PTPRN2</i>	0.82759	POS
ENSBTAG00000003763	<i>MYO5C</i>	ENSBTAG00000007719	<i>MFSD6</i>	0.83528	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000003763	<i>MYO5C</i>	ENSBTAG00000011962	<i>PLA2G3</i>	0.80863	POS
ENSBTAG00000003763	<i>MYO5C</i>	ENSBTAG00000015778	<i>SASS6</i>	0.82107	POS
ENSBTAG00000003763	<i>MYO5C</i>	ENSBTAG00000016841	<i>ATP10B</i>	0.84516	POS
ENSBTAG00000003763	<i>MYO5C</i>	ENSBTAG00000030671	<i>HOOK1</i>	0.85025	POS
ENSBTAG00000003763	<i>MYO5C</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.80863	POS
ENSBTAG00000004036	<i>ENSBTAG00000004036</i>	ENSBTAG00000006720	<i>GJA5</i>	0.84936	POS
ENSBTAG00000004036	<i>ENSBTAG00000004036</i>	ENSBTAG00000006745	<i>FGG</i>	-0.83758	NEG
ENSBTAG00000004036	<i>ENSBTAG00000004036</i>	ENSBTAG00000010352	<i>KCNK16</i>	0.81844	POS
ENSBTAG00000004036	<i>ENSBTAG00000004036</i>	ENSBTAG00000015511	<i>FADS3</i>	0.88463	POS
ENSBTAG00000004036	<i>ENSBTAG00000004036</i>	ENSBTAG00000030671	<i>HOOK1</i>	-0.85653	NEG
ENSBTAG00000004036	<i>ENSBTAG00000004036</i>	ENSBTAG00000046337	<i>TUBB6</i>	0.87504	POS
ENSBTAG00000004036	<i>ENSBTAG00000004036</i>	ENSBTAG00000008688	<i>HEYL</i>	0.81968	POS
ENSBTAG00000004110	<i>ENSBTAG00000004110</i>	ENSBTAG00000005871	<i>MECOM</i>	-0.82503	NEG
ENSBTAG00000004110	<i>ENSBTAG00000004110</i>	ENSBTAG00000011558	<i>GPAT2</i>	-0.8529	NEG
ENSBTAG00000004110	<i>ENSBTAG00000004110</i>	ENSBTAG00000012212	<i>CYP26B1</i>	-0.82881	NEG
ENSBTAG00000004110	<i>ENSBTAG00000004110</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	-0.84393	NEG
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000004403	<i>CD320</i>	0.87173	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	0.95003	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000005748	<i>SOX17</i>	0.91298	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000006130	<i>CLEC14A</i>	0.97023	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000006234	<i>NPR1</i>	0.87203	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000006262	<i>LIMS2</i>	0.93922	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000006688	<i>RPS6KL1</i>	0.81344	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000006720	<i>GJA5</i>	0.85865	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000006790	<i>SPTBN5</i>	0.83173	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000006792	<i>EHD4</i>	0.91609	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000007111	<i>STEAP3</i>	-0.80065	NEG
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000008161	<i>CLCA1</i>	-0.81977	NEG
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000008849	<i>SORT1</i>	-0.83072	NEG
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000011010	<i>PRND</i>	0.81054	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000012212	<i>CYP26B1</i>	0.84378	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000012482	<i>CDCPI</i>	-0.87714	NEG
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000013157	<i>NOVA2</i>	0.92541	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000013290	<i>DYSF</i>	0.93773	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000014560	<i>HLX</i>	0.90824	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000014831	<i>PPP1R3C</i>	0.83546	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000015108	<i>USHBP1</i>	0.95205	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000016094	<i>SLC36A1</i>	-0.85361	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000016486	<i>SORBS2</i>	0.80874	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000016505	<i>TMC7</i>	-0.8495	NEG
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000016841	<i>ATP10B</i>	-0.84098	NEG
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000016915	<i>FLT1</i>	0.88137	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000017183	<i>PDLIM3</i>	0.8597	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000017508	<i>CYSLTR2</i>	0.84349	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.94197	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.95207	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000018398	<i>GPR4</i>	0.91121	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000018419	<i>ADCY4</i>	0.86768	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000018744	<i>MGAT5</i>	-0.81907	NEG
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000019497	<i>ILDR2</i>	0.8962	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.8946	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.93152	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000021872	<i>RASGRP1</i>	-0.83784	NEG
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.81278	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.94486	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.92124	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.84931	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	0.81761	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	0.86918	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.90856	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000050189	<i>ENSBTAG00000050189</i>	-0.81797	NEG
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.89322	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.85899	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000006366	<i>NFATC4</i>	0.88065	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000008688	<i>HEYL</i>	0.82207	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000009979	<i>HOXB2</i>	0.83587	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000011662	<i>SOX18</i>	0.86803	POS
ENSBTAG00000004207	<i>CD93</i>	ENSBTAG00000017397	<i>ZNF423</i>	0.84484	POS
ENSBTAG00000004273	<i>ENSBTAG00000004273</i>	ENSBTAG00000006452	<i>CD3D</i>	0.84087	POS
ENSBTAG00000004273	<i>ENSBTAG00000004273</i>	ENSBTAG00000006453	<i>CD3G</i>	0.85028	POS
ENSBTAG00000004273	<i>ENSBTAG00000004273</i>	ENSBTAG00000009381	<i>LCP2</i>	0.84259	POS
ENSBTAG00000004273	<i>ENSBTAG00000004273</i>	ENSBTAG00000011003	<i>IKZF3</i>	0.89586	POS
ENSBTAG00000004273	<i>ENSBTAG00000004273</i>	ENSBTAG00000011784	<i>FGR</i>	0.81022	POS
ENSBTAG00000004273	<i>ENSBTAG00000004273</i>	ENSBTAG00000012695	<i>LCK</i>	0.85792	POS
ENSBTAG00000004273	<i>ENSBTAG00000004273</i>	ENSBTAG00000014441	<i>CD96</i>	0.87451	POS
ENSBTAG00000004273	<i>ENSBTAG00000004273</i>	ENSBTAG00000015710	<i>CD3E</i>	0.8404	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000004273	<i>ENSBTAG00000004273</i>	ENSBTAG00000016345	<i>IL2RB</i>	0.83554	POS
ENSBTAG00000004273	<i>ENSBTAG00000004273</i>	ENSBTAG00000053563	<i>ENSBTAG00000053563</i>	0.80447	POS
ENSBTAG00000004292	<i>CRMP1</i>	ENSBTAG00000005762	<i>LYNX1</i>	0.80964	POS
ENSBTAG00000004292	<i>CRMP1</i>	ENSBTAG00000007068	<i>SH3BGR</i>	0.8005	POS
ENSBTAG00000004292	<i>CRMP1</i>	ENSBTAG00000011473	<i>MYL9</i>	0.82783	POS
ENSBTAG00000004292	<i>CRMP1</i>	ENSBTAG00000013973	<i>SERPIND1</i>	0.87433	POS
ENSBTAG00000004292	<i>CRMP1</i>	ENSBTAG00000014912	<i>FMOD</i>	0.81585	POS
ENSBTAG00000004292	<i>CRMP1</i>	ENSBTAG00000018413	<i>TENT5B</i>	0.80346	POS
ENSBTAG00000004292	<i>CRMP1</i>	ENSBTAG00000021322	<i>TM4SF20</i>	-0.85807	NEG
ENSBTAG00000004292	<i>CRMP1</i>	ENSBTAG00000044017	<i>MSRB3</i>	0.80459	POS
ENSBTAG00000004292	<i>CRMP1</i>	ENSBTAG00000049386	<i>ENSBTAG00000049386</i>	-0.80105	NEG
ENSBTAG00000004292	<i>CRMP1</i>	ENSBTAG00000051248	<i>ENSBTAG00000051248</i>	0.81213	POS
ENSBTAG00000004292	<i>CRMP1</i>	ENSBTAG00000052140	<i>ENSBTAG00000052140</i>	0.83651	POS
ENSBTAG00000004292	<i>CRMP1</i>	ENSBTAG00000019695	<i>RLF</i>	-0.83612	NEG
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000004558	<i>C10H15orf48</i>	0.83689	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000004958	<i>PTPRN2</i>	0.82996	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	-0.86669	NEG
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000007111	<i>STEAP3</i>	0.94607	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000007719	<i>MFSD6</i>	0.85628	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000007837	<i>SELENOI</i>	0.86647	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000008161	<i>CLCA1</i>	0.9373	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000008849	<i>SORT1</i>	0.88156	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000009294	<i>DEGS2</i>	0.80517	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000011063	<i>CTSO</i>	0.82897	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000012272	<i>TMEM19</i>	0.8584	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000012482	<i>CDCP1</i>	0.89284	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000013290	<i>DYSF</i>	-0.83037	NEG
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000013422	<i>GABRB3</i>	0.80801	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000013957	<i>GALNT3</i>	0.85355	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.91226	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000015170	<i>LCT</i>	0.80928	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000015939	<i>NECTIN1</i>	0.83798	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000016505	<i>TMC7</i>	0.8363	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.90726	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000016841	<i>ATP10B</i>	0.86272	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.89329	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000016915	<i>FLT1</i>	-0.80153	NEG
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000017642	<i>BMP3</i>	0.85156	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000018307	<i>SEMA3F</i>	-0.86017	NEG
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000018331	<i>CLEC3B</i>	-0.81931	NEG
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000018398	<i>GPR4</i>	-0.85856	NEG
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.87848	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000018843	<i>SERPINA1</i>	0.85782	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000020273	<i>YOD1</i>	0.85293	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000020580	<i>TCN1</i>	0.82836	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000021501	<i>ENSBTAG00000021501</i>	0.82104	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.91669	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000034939	<i>BTNL2</i>	0.81564	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.85891	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.82473	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.82934	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	-0.80189	NEG
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.81195	POS
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.84528	NEG
ENSBTAG00000004303	<i>SLC27A2</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.91971	NEG
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000004917	<i>KLRK1</i>	-0.80575	NEG
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	0.84914	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000005748	<i>SOX17</i>	0.82713	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000006130	<i>CLEC14A</i>	0.86799	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000006234	<i>NPR1</i>	0.85911	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000006262	<i>LIMS2</i>	0.8712	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000006720	<i>GJA5</i>	0.80732	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000006792	<i>EHD4</i>	0.89206	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000008338	<i>PLCB1</i>	0.8105	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000011473	<i>MYL9</i>	0.82471	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000012482	<i>CDCP1</i>	-0.81932	NEG
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000013157	<i>NOVA2</i>	0.89563	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000013290	<i>DYSF</i>	0.82318	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000014560	<i>HLX</i>	0.82976	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000015108	<i>USHBP1</i>	0.83557	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000017183	<i>PDLIM3</i>	0.95884	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000017508	<i>CYSLTR2</i>	0.82271	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000018123	<i>FBLN5</i>	0.83252	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.85602	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.86351	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000018398	<i>GPR4</i>	0.80365	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000020273	<i>YOD1</i>	-0.82888	NEG
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000020592	<i>OTOS</i>	0.8264	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.8694	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.88385	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.84347	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.85535	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000047088	<i>ENSBTAG00000047088</i>	-0.8261	NEG
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000047330	<i>FABP5</i>	0.86854	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.827	POS
ENSBTAG00000004403	<i>CD320</i>	ENSBTAG00000009979	<i>HOXB2</i>	0.85378	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000007111	<i>STEAP3</i>	0.89446	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000009145	<i>SLC7A4</i>	0.86654	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000009199	<i>GLIS2</i>	-0.81531	NEG
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000009876	<i>C4BPA</i>	0.84884	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000011941	<i>LYZF1</i>	0.89281	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000011962	<i>PLA2G3</i>	0.80674	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000013320	<i>TSPAN1</i>	0.84998	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.87325	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000014459	<i>MAP6D1</i>	-0.88841	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000016467	<i>SLC22A17</i>	-0.90239	NEG
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.84855	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.8519	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000017376	<i>GALNT5</i>	0.8198	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000018316	<i>ZMYND15</i>	-0.83042	NEG
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000019486	<i>CLDN12</i>	0.85633	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000020859	<i>SERPINF2</i>	0.8217	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000020957	<i>FZD5</i>	0.83367	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.86094	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000033351	<i>PACRGL</i>	0.87541	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000034939	<i>BTNL2</i>	0.81823	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000037902	<i>FAM229A</i>	-0.80639	NEG
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000046158	<i>CFB</i>	0.89859	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000048125	<i>ENTPD2</i>	0.8125	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000048257	<i>CYP4F8</i>	0.82429	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	0.92214	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000052510	<i>CCL26</i>	0.80843	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.81078	POS
ENSBTAG00000004558	<i>C10H15orf48</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.83608	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000004685	<i>SRGAP3</i>	ENSBTAG00000004958	<i>PTPRN2</i>	-0.85954	NEG
ENSBTAG00000004685	<i>SRGAP3</i>	ENSBTAG00000005748	<i>SOX17</i>	0.82648	POS
ENSBTAG00000004685	<i>SRGAP3</i>	ENSBTAG00000006688	<i>RPS6KL1</i>	0.80987	POS
ENSBTAG00000004685	<i>SRGAP3</i>	ENSBTAG00000010278	<i>STPG1</i>	-0.83264	NEG
ENSBTAG00000004685	<i>SRGAP3</i>	ENSBTAG00000016765	<i>SPACDR</i>	0.82357	POS
ENSBTAG00000004685	<i>SRGAP3</i>	ENSBTAG00000032819	<i>MUC20</i>	-0.80105	NEG
ENSBTAG00000004685	<i>SRGAP3</i>	ENSBTAG00000039529	<i>BTBD19</i>	0.80613	POS
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000005005	<i>CSNIS2</i>	0.80525	POS
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000005218	<i>PDE3B</i>	-0.8188	NEG
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000008397	<i>ZNF555</i>	0.8327	POS
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000009199	<i>GLIS2</i>	0.93467	POS
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000009876	<i>C4BPA</i>	-0.83733	NEG
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000010462	<i>ROBO2</i>	-0.83859	NEG
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000010509	<i>CDK3</i>	0.89416	POS
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000012121	<i>NOXA1</i>	0.87375	POS
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000012272	<i>TMEM19</i>	-0.8042	NEG
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000012954	<i>ERAS</i>	0.88128	POS
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000015280	<i>KIF2C</i>	-0.8661	NEG
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000015288	<i>BEST4</i>	0.86225	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000015635	<i>TNFRSF4</i>	0.82735	POS
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000015798	<i>UCKL1</i>	0.91133	POS
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000015939	<i>NECTIN1</i>	-0.84471	NEG
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000016467	<i>SLC22A17</i>	0.81297	POS
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000017722	<i>F5</i>	-0.83546	NEG
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000017863	<i>SRGN</i>	-0.87603	NEG
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000019454	<i>ANGEL1</i>	-0.82515	NEG
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000020350	<i>DUSP2</i>	-0.85881	NEG
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000030247	<i>NSMF</i>	0.89184	POS
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000031569	<i>GOLM1</i>	-0.85397	NEG
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000032193	<i>REG4</i>	-0.80452	NEG
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000042471	<i>SNORA25</i>	0.85345	POS
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	0.86355	POS
ENSBTAG00000004797	<i>TRMT44</i>	ENSBTAG00000001864	<i>NR4A3</i>	-0.80025	NEG
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000008397	<i>ZNF555</i>	0.82787	POS
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000008996	<i>SFII</i>	0.87564	POS
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000009876	<i>C4BPA</i>	-0.84466	NEG
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000012054	<i>ALDH3B2</i>	0.92396	POS
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000012121	<i>NOXA1</i>	0.80078	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000012954	<i>ERAS</i>	0.85322	POS
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000015798	<i>UCKL1</i>	0.80952	POS
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000016602	<i>LBX2</i>	0.80449	POS
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000017280	<i>C3</i>	-0.88876	NEG
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000017468	<i>NUCB2</i>	-0.82196	NEG
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000018316	<i>ZMYND15</i>	0.8503	POS
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000019940	<i>RASGRF1</i>	0.83049	POS
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000020184	<i>AQP8</i>	0.89084	POS
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000021303	<i>RSAD1</i>	0.80769	POS
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000024406	<i>AGR2</i>	-0.83824	NEG
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000030757	<i>ELFN1</i>	-0.84009	NEG
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000032193	<i>REG4</i>	-0.87429	NEG
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000046158	<i>CFB</i>	-0.82942	NEG
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000046984	<i>ZNF672</i>	0.82392	POS
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000047713	<i>LMNTD2</i>	0.88719	POS
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000048125	<i>ENTPD2</i>	-0.82838	NEG
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000053558	<i>NOTUM</i>	0.81756	POS
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000003843	<i>SMARCA1</i>	0.80502	POS
ENSBTAG00000004911	<i>BIRC7</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.80351	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000004917	<i>KLRK1</i>	ENSBTAG00000005748	<i>SOX17</i>	-0.80018	NEG
ENSBTAG00000004917	<i>KLRK1</i>	ENSBTAG00000006130	<i>CLEC14A</i>	-0.82271	NEG
ENSBTAG00000004917	<i>KLRK1</i>	ENSBTAG00000009348	<i>OIT3</i>	-0.82255	NEG
ENSBTAG00000004917	<i>KLRK1</i>	ENSBTAG00000014014	<i>UBIAD1</i>	0.80837	POS
ENSBTAG00000004917	<i>KLRK1</i>	ENSBTAG00000015108	<i>USHBP1</i>	-0.85558	NEG
ENSBTAG00000004917	<i>KLRK1</i>	ENSBTAG00000017183	<i>PDLIM3</i>	-0.82136	NEG
ENSBTAG00000004917	<i>KLRK1</i>	ENSBTAG00000018940	<i>CRACR2A</i>	0.84402	POS
ENSBTAG00000004917	<i>KLRK1</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.81127	NEG
ENSBTAG00000004917	<i>KLRK1</i>	ENSBTAG00000009979	<i>HOXB2</i>	-0.85129	NEG
ENSBTAG00000004921	<i>ENSBTAG00000004921</i>	ENSBTAG00000018843	<i>SERPINA1</i>	-0.82112	NEG
ENSBTAG00000004921	<i>ENSBTAG00000004921</i>	ENSBTAG00000030757	<i>ELFN1</i>	-0.82028	NEG
ENSBTAG00000004921	<i>ENSBTAG00000004921</i>	ENSBTAG00000035081	<i>SERINC2</i>	-0.87655	NEG
ENSBTAG00000004945	<i>BBS7</i>	ENSBTAG00000012272	<i>TMEM19</i>	-0.8055	NEG
ENSBTAG00000004945	<i>BBS7</i>	ENSBTAG00000016204	<i>C1RL</i>	-0.81175	NEG
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000007111	<i>STEAP3</i>	0.87953	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000007758	<i>PDE10A</i>	-0.82025	NEG
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000008023	<i>RHBDL2</i>	0.87548	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000008161	<i>CLCA1</i>	0.87984	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000009145	<i>SLC7A4</i>	0.81919	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000011941	<i>LYZF1</i>	0.82703	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000011962	<i>PLA2G3</i>	0.87581	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000014014	<i>UBIAD1</i>	0.83093	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000015108	<i>USHBP1</i>	-0.81566	NEG
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000016343	<i>KCNIP2</i>	-0.80665	NEG
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000016841	<i>ATP10B</i>	0.86475	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000016915	<i>FLT1</i>	-0.85529	NEG
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000017376	<i>GALNT5</i>	0.84157	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000017468	<i>NUCB2</i>	0.82661	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000017642	<i>BMP3</i>	0.80159	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000017722	<i>F5</i>	0.84067	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000018843	<i>SERPINA1</i>	0.80534	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000019497	<i>ILDR2</i>	-0.80561	NEG
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000020191	<i>FEV</i>	0.83165	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000020580	<i>TCN1</i>	0.89925	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000020859	<i>SERPINF2</i>	0.83794	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000021276	<i>TFF3</i>	0.80199	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000028359	<i>U3</i>	-0.84136	NEG
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.80558	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG000000031750	<i>PLAC8B</i>	-0.80832	NEG
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG000000034939	<i>BTNL2</i>	0.80398	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG000000046649	<i>SGPP2</i>	0.8198	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG000000048257	<i>CYP4F8</i>	0.82311	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG000000053928	<i>GPR25</i>	0.80032	POS
ENSBTAG00000004958	<i>PTPRN2</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.85381	NEG
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000005218	<i>PDE3B</i>	-0.81166	NEG
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000005964	<i>PIGG</i>	-0.80355	NEG
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000007111	<i>STEAP3</i>	-0.86767	NEG
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000008161	<i>CLCA1</i>	-0.88249	NEG
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000009199	<i>GLIS2</i>	0.83379	POS
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000010462	<i>ROBO2</i>	-0.84129	NEG
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000011941	<i>LYZF1</i>	-0.83778	NEG
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000012272	<i>TMEM19</i>	-0.90607	NEG
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000013417	<i>ENSBTAG00000013417</i>	0.90271	POS
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000015635	<i>TNFRSF4</i>	0.82545	POS
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000015939	<i>NECTIN1</i>	-0.93505	NEG
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000016204	<i>C1RL</i>	-0.83907	NEG
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000016467	<i>SLC22A17</i>	0.84975	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000017642	<i>BMP3</i>	-0.89205	NEG
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000017722	<i>F5</i>	-0.81885	NEG
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000019454	<i>ANGEL1</i>	-0.83636	NEG
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000020580	<i>TCN1</i>	-0.82535	NEG
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000020859	<i>SERPINF2</i>	-0.81397	NEG
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000021276	<i>TFF3</i>	-0.86079	NEG
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000028359	<i>U3</i>	0.86961	POS
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000031569	<i>GOLM1</i>	-0.86946	NEG
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000039413	<i>ENSBTAG00000039413</i>	-0.84923	NEG
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000042471	<i>SNORA25</i>	0.94668	POS
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	0.97492	POS
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	0.9629	POS
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000051810	<i>ENSBTAG00000051810</i>	0.81579	POS
ENSBTAG00000005005	<i>CSNIS2</i>	ENSBTAG00000007660	<i>ZNF414</i>	0.85499	POS
ENSBTAG00000005045	<i>GIP</i>	ENSBTAG00000005925	<i>SLC10A2</i>	0.85189	POS
ENSBTAG00000005045	<i>GIP</i>	ENSBTAG00000008849	<i>SORT1</i>	0.81591	POS
ENSBTAG00000005045	<i>GIP</i>	ENSBTAG00000011010	<i>PRND</i>	-0.84526	NEG
ENSBTAG00000005045	<i>GIP</i>	ENSBTAG00000016505	<i>TMC7</i>	0.84828	POS
ENSBTAG00000005045	<i>GIP</i>	ENSBTAG00000016915	<i>FLT1</i>	-0.83791	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000005045	<i>GIP</i>	ENSBTAG00000018398	<i>GPR4</i>	-0.8201	NEG
ENSBTAG00000005045	<i>GIP</i>	ENSBTAG00000018419	<i>ADCY4</i>	-0.80162	NEG
ENSBTAG00000005045	<i>GIP</i>	ENSBTAG00000020267	<i>WNT9A</i>	0.81984	POS
ENSBTAG00000005045	<i>GIP</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	-0.87295	NEG
ENSBTAG00000005045	<i>GIP</i>	ENSBTAG00000039509	<i>GPRC5A</i>	0.86228	POS
ENSBTAG00000005078	<i>UCHL1</i>	ENSBTAG00000006262	<i>LIMS2</i>	0.80509	POS
ENSBTAG00000005078	<i>UCHL1</i>	ENSBTAG00000007068	<i>SH3BGR</i>	0.84979	POS
ENSBTAG00000005078	<i>UCHL1</i>	ENSBTAG00000011037	<i>RBPM52</i>	0.94062	POS
ENSBTAG00000005078	<i>UCHL1</i>	ENSBTAG00000011473	<i>MYL9</i>	0.88892	POS
ENSBTAG00000005078	<i>UCHL1</i>	ENSBTAG00000012931	<i>PLN</i>	0.85213	POS
ENSBTAG00000005078	<i>UCHL1</i>	ENSBTAG00000014026	<i>PAG1</i>	-0.8189	NEG
ENSBTAG00000005078	<i>UCHL1</i>	ENSBTAG00000016073	<i>UGCG</i>	-0.85771	NEG
ENSBTAG00000005078	<i>UCHL1</i>	ENSBTAG00000018123	<i>FBLN5</i>	0.80245	POS
ENSBTAG00000005078	<i>UCHL1</i>	ENSBTAG00000034393	<i>FAM149A</i>	0.85179	POS
ENSBTAG00000005078	<i>UCHL1</i>	ENSBTAG00000046337	<i>TUBB6</i>	0.81483	POS
ENSBTAG00000005078	<i>UCHL1</i>	ENSBTAG00000051781	<i>ENSBTAG00000051781</i>	0.80188	POS
ENSBTAG00000005078	<i>UCHL1</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	-0.81358	NEG
ENSBTAG00000005078	<i>UCHL1</i>	ENSBTAG00000003304	<i>HOXC4</i>	0.84313	POS
ENSBTAG00000005078	<i>UCHL1</i>	ENSBTAG00000009979	<i>HOXB2</i>	0.82032	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000005122	<i>KNG1</i>	ENSBTAG00000018669	<i>PLB1</i>	0.82634	POS
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000005964	<i>PIGG</i>	0.82436	POS
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000006130	<i>CLEC14A</i>	-0.81249	NEG
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000006790	<i>SPTBN5</i>	-0.8012	NEG
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000007111	<i>STEAP3</i>	0.82367	POS
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000007719	<i>MFSD6</i>	0.8139	POS
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000008161	<i>CLCA1</i>	0.80305	POS
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000009112	<i>TRAM2</i>	0.80777	POS
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000010462	<i>ROBO2</i>	0.87717	POS
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000012272	<i>TMEM19</i>	0.85446	POS
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000013048	<i>NIPAL3</i>	0.83322	POS
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000015108	<i>USHBP1</i>	-0.80834	NEG
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000016204	<i>C1RL</i>	0.83502	POS
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000016841	<i>ATP10B</i>	0.87745	POS
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000017642	<i>BMP3</i>	0.81789	POS
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000017722	<i>F5</i>	0.81514	POS
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000017863	<i>SRGN</i>	0.81299	POS
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000019454	<i>ANGEL1</i>	0.85511	POS
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000019497	<i>ILDR2</i>	-0.8747	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000028359	<i>U3</i>	-0.86267	NEG
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.85698	POS
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	-0.84322	NEG
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000049942	<i>ENSBTAG00000049942</i>	0.80961	POS
ENSBTAG00000005218	<i>PDE3B</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.80314	NEG
ENSBTAG00000005261	<i>FCGBP</i>	ENSBTAG00000005685	<i>HSD11B2</i>	0.9236	POS
ENSBTAG00000005261	<i>FCGBP</i>	ENSBTAG00000007758	<i>PDE10A</i>	-0.80868	NEG
ENSBTAG00000005261	<i>FCGBP</i>	ENSBTAG00000008161	<i>CLCA1</i>	0.84529	POS
ENSBTAG00000005261	<i>FCGBP</i>	ENSBTAG00000020191	<i>FEV</i>	0.85517	POS
ENSBTAG00000005261	<i>FCGBP</i>	ENSBTAG00000020580	<i>TCN1</i>	0.85016	POS
ENSBTAG00000005261	<i>FCGBP</i>	ENSBTAG00000030711	<i>LYPD8</i>	0.8483	POS
ENSBTAG00000005261	<i>FCGBP</i>	ENSBTAG00000051851	<i>ENSBTAG00000051851</i>	0.83557	POS
ENSBTAG00000005305	<i>NTS</i>	ENSBTAG00000012729	<i>ARHGEF9</i>	-0.87278	NEG
ENSBTAG00000005305	<i>NTS</i>	ENSBTAG00000013027	<i>ENSBTAG00000013027</i>	0.81002	POS
ENSBTAG00000005305	<i>NTS</i>	ENSBTAG00000013127	<i>LPCAT3</i>	0.81019	POS
ENSBTAG00000005305	<i>NTS</i>	ENSBTAG00000014217	<i>HHEX</i>	-0.8159	NEG
ENSBTAG00000005305	<i>NTS</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.81724	NEG
ENSBTAG00000005305	<i>NTS</i>	ENSBTAG00000019129	<i>BTD</i>	0.84142	POS
ENSBTAG00000005305	<i>NTS</i>	ENSBTAG00000021916	<i>MYL4</i>	-0.86408	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000005305	<i>NTS</i>	ENSBTAG000000049058	<i>INHBB</i>	-0.80659	NEG
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000005748	<i>SOX17</i>	0.81162	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000006130	<i>CLEC14A</i>	0.94122	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000006262	<i>LIMS2</i>	0.94144	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000006790	<i>SPTBN5</i>	0.86504	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000006792	<i>EHD4</i>	0.89667	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000007111	<i>STEAP3</i>	-0.87527	NEG
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000007837	<i>SELENOI</i>	-0.82459	NEG
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000008161	<i>CLCA1</i>	-0.86866	NEG
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000008849	<i>SORT1</i>	-0.86083	NEG
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000011063	<i>CTSO</i>	-0.84759	NEG
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000012272	<i>TMEM19</i>	-0.81702	NEG
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000012482	<i>CDCPI</i>	-0.86536	NEG
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000013157	<i>NOVA2</i>	0.85181	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000013290	<i>DYSF</i>	0.91838	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000013957	<i>GALNT3</i>	-0.80968	NEG
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000014560	<i>HLX</i>	0.8134	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000014831	<i>PPP1R3C</i>	0.83947	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000015108	<i>USHBP1</i>	0.92086	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000016486	<i>SORBS2</i>	0.81246	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000016505	<i>TMC7</i>	-0.84214	NEG
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000016841	<i>ATP10B</i>	-0.80841	NEG
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000016915	<i>FLT1</i>	0.82464	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000017183	<i>PDLIM3</i>	0.84893	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000017642	<i>BMP3</i>	-0.8262	NEG
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.89099	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.92743	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000018398	<i>GPR4</i>	0.89901	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000018419	<i>ADCY4</i>	0.81962	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000018744	<i>MGAT5</i>	-0.8337	NEG
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000019497	<i>ILDR2</i>	0.86021	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000020273	<i>YOD1</i>	-0.82254	NEG
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.83479	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.90167	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000021872	<i>RASGRP1</i>	-0.81112	NEG
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.92714	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.89147	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.81207	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	-0.80661	NEG
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	0.82864	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000047626	<i>CCDC188</i>	0.82617	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.85008	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	0.80214	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.81116	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000006366	<i>NFATC4</i>	0.81552	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000007660	<i>ZNF414</i>	0.82451	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000011662	<i>SOX18</i>	0.87613	POS
ENSBTAG00000005448	<i>ENSBTAG00000005448</i>	ENSBTAG00000017397	<i>ZNF423</i>	0.89512	POS
ENSBTAG00000005596	<i>IGFBP2</i>	ENSBTAG00000006720	<i>GJA5</i>	0.82658	POS
ENSBTAG00000005596	<i>IGFBP2</i>	ENSBTAG00000012212	<i>CYP26B1</i>	0.84814	POS
ENSBTAG00000005596	<i>IGFBP2</i>	ENSBTAG00000016915	<i>FLT1</i>	0.80795	POS
ENSBTAG00000005596	<i>IGFBP2</i>	ENSBTAG00000018143	<i>C16H1orf116</i>	-0.84506	NEG
ENSBTAG00000005596	<i>IGFBP2</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.80496	POS
ENSBTAG00000005596	<i>IGFBP2</i>	ENSBTAG00000030671	<i>HOOK1</i>	-0.84738	NEG
ENSBTAG00000005596	<i>IGFBP2</i>	ENSBTAG00000045588	<i>ENSBTAG00000045588</i>	0.85217	POS
ENSBTAG00000005596	<i>IGFBP2</i>	ENSBTAG00000048736	<i>ENSBTAG00000048736</i>	0.80669	POS
ENSBTAG00000005596	<i>IGFBP2</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.84018	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000005685	<i>HSD11B2</i>	ENSBTAG00000007758	<i>PDE10A</i>	-0.80287	NEG
ENSBTAG00000005685	<i>HSD11B2</i>	ENSBTAG000000030711	<i>LYPD8</i>	0.80366	POS
ENSBTAG00000005685	<i>HSD11B2</i>	ENSBTAG000000051851	<i>ENSBTAG000000051851</i>	0.84534	POS
ENSBTAG00000005699	<i>SCML4</i>	ENSBTAG000000012449	<i>AFF3</i>	0.88925	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG000000006130	<i>CLEC14A</i>	0.91252	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG000000006234	<i>NPR1</i>	0.85397	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG000000006262	<i>LIMS2</i>	0.80046	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG000000006688	<i>RPS6KL1</i>	0.83913	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG000000006720	<i>GJA5</i>	0.8341	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG000000006792	<i>EHD4</i>	0.86946	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG000000012212	<i>CYP26B1</i>	0.88988	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG000000013157	<i>NOVA2</i>	0.92304	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG000000013290	<i>DYSF</i>	0.82738	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG000000014014	<i>UBIAD1</i>	-0.81031	NEG
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG000000014560	<i>HLX</i>	0.93572	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG000000015108	<i>USHBP1</i>	0.88659	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG000000016345	<i>IL2RB</i>	-0.8263	NEG
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG000000016765	<i>SPACDR</i>	0.83601	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG000000016915	<i>FLT1</i>	0.85692	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000017183	<i>PDLIM3</i>	0.84608	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.83607	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.82361	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000018398	<i>GPR4</i>	0.81097	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000018419	<i>ADCY4</i>	0.80565	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000019497	<i>ILDR2</i>	0.86387	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.88941	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.85402	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.88048	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.81125	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000031348	<i>CCR9</i>	-0.81601	NEG
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	0.80627	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000046268	<i>ENSBTAG00000046268</i>	-0.80135	NEG
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000048550	<i>GCSAM</i>	-0.84379	NEG
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.8814	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.83123	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.84747	POS
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	-0.8282	NEG
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000006366	<i>NFATC4</i>	0.80791	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000005748	<i>SOX17</i>	ENSBTAG00000011662	<i>SOX18</i>	0.81327	POS
ENSBTAG00000005762	<i>LYNXI</i>	ENSBTAG00000011451	<i>RTN1</i>	0.80304	POS
ENSBTAG00000005762	<i>LYNXI</i>	ENSBTAG00000034393	<i>FAM149A</i>	0.82804	POS
ENSBTAG00000005762	<i>LYNXI</i>	ENSBTAG00000054162	<i>HOXB8</i>	0.89413	POS
ENSBTAG00000005762	<i>LYNXI</i>	ENSBTAG00000019695	<i>RLF</i>	-0.83861	NEG
ENSBTAG00000005871	<i>MECOM</i>	ENSBTAG00000006234	<i>NPRI</i>	0.87024	POS
ENSBTAG00000005871	<i>MECOM</i>	ENSBTAG00000006720	<i>GJA5</i>	0.80265	POS
ENSBTAG00000005871	<i>MECOM</i>	ENSBTAG00000010452	<i>PODXL</i>	0.81954	POS
ENSBTAG00000005871	<i>MECOM</i>	ENSBTAG00000012212	<i>CYP26B1</i>	0.86197	POS
ENSBTAG00000005871	<i>MECOM</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.80277	POS
ENSBTAG00000005871	<i>MECOM</i>	ENSBTAG00000052140	<i>ENSBTAG00000052140</i>	0.81486	POS
ENSBTAG00000005925	<i>SLC10A2</i>	ENSBTAG00000012729	<i>ARHGEF9</i>	-0.91413	NEG
ENSBTAG00000005925	<i>SLC10A2</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.86198	NEG
ENSBTAG00000005925	<i>SLC10A2</i>	ENSBTAG00000016505	<i>TMC7</i>	0.81841	POS
ENSBTAG00000005925	<i>SLC10A2</i>	ENSBTAG00000021437	<i>ENSBTAG00000021437</i>	0.90175	POS
ENSBTAG00000005925	<i>SLC10A2</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	-0.81802	NEG
ENSBTAG00000005964	<i>PIGG</i>	ENSBTAG00000007719	<i>MFSD6</i>	0.81314	POS
ENSBTAG00000005964	<i>PIGG</i>	ENSBTAG00000009112	<i>TRAM2</i>	0.81418	POS
ENSBTAG00000005964	<i>PIGG</i>	ENSBTAG00000012272	<i>TMEM19</i>	0.82844	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000005964	<i>PIGG</i>	ENSBTAG00000013048	<i>NIPAL3</i>	0.80061	POS
ENSBTAG00000005964	<i>PIGG</i>	ENSBTAG00000016841	<i>ATP10B</i>	0.81643	POS
ENSBTAG00000005964	<i>PIGG</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.83174	POS
ENSBTAG00000005964	<i>PIGG</i>	ENSBTAG00000017642	<i>BMP3</i>	0.81724	POS
ENSBTAG00000005964	<i>PIGG</i>	ENSBTAG00000019454	<i>ANGEL1</i>	0.80724	POS
ENSBTAG00000005964	<i>PIGG</i>	ENSBTAG00000021501	<i>ENSBTAG00000021501</i>	0.82997	POS
ENSBTAG00000005964	<i>PIGG</i>	ENSBTAG00000028359	<i>U3</i>	-0.8471	NEG
ENSBTAG00000005964	<i>PIGG</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.8331	POS
ENSBTAG00000005964	<i>PIGG</i>	ENSBTAG00000039413	<i>ENSBTAG00000039413</i>	0.83164	POS
ENSBTAG00000005964	<i>PIGG</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.83114	POS
ENSBTAG00000005964	<i>PIGG</i>	ENSBTAG00000055095	<i>ENSBTAG00000055095</i>	-0.82726	NEG
ENSBTAG00000005964	<i>PIGG</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.84233	NEG
ENSBTAG00000006080	<i>MAST1</i>	ENSBTAG00000048587	<i>ENSBTAG00000048587</i>	-0.84674	NEG
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000006234	<i>NPR1</i>	0.85874	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000006262	<i>LIMS2</i>	0.93223	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000006688	<i>RPS6KL1</i>	0.83216	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000006790	<i>SPTBN5</i>	0.82926	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000006792	<i>EHD4</i>	0.85604	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000007111	<i>STEAP3</i>	-0.81135	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000008161	<i>CLCA1</i>	-0.81711	NEG
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000011010	<i>PRND</i>	0.81313	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000012212	<i>CYP26B1</i>	0.81332	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000012482	<i>CDCP1</i>	-0.82869	NEG
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000013157	<i>NOVA2</i>	0.87465	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000013290	<i>DYSF</i>	0.89243	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000014560	<i>HLX</i>	0.91328	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000015108	<i>USHBP1</i>	0.97032	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000016094	<i>SLC36A1</i>	-0.82777	NEG
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000016505	<i>TMC7</i>	-0.81701	NEG
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000016841	<i>ATP10B</i>	-0.83169	NEG
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000016915	<i>FLT1</i>	0.8223	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000017183	<i>PDLIM3</i>	0.89809	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.88094	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.92952	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000018398	<i>GPR4</i>	0.85668	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000018419	<i>ADCY4</i>	0.83106	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000019497	<i>ILDR2</i>	0.93192	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.85607	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG000000021467	<i>IGFBP6</i>	0.92565	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG000000021872	<i>RASGRP1</i>	-0.83506	NEG
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG000000024000	<i>ATOH8</i>	0.9531	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG000000025424	<i>NOTCH4</i>	0.89786	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG000000030259	<i>RASGRF2</i>	0.8027	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG000000040296	<i>ENSBTAG000000040296</i>	0.88234	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG000000047330	<i>FABP5</i>	0.84492	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG000000049114	<i>ENSBTAG000000049114</i>	0.91451	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG000000051079	<i>ENSBTAG000000051079</i>	0.863	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG000000054046	<i>ENSBTAG000000054046</i>	0.87133	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000006366	<i>NFATC4</i>	0.873	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG00000009979	<i>HOXB2</i>	0.86452	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG000000011662	<i>SOX18</i>	0.92787	POS
ENSBTAG00000006130	<i>CLEC14A</i>	ENSBTAG000000017397	<i>ZNF423</i>	0.82117	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000006262	<i>LIMS2</i>	0.81466	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000006720	<i>GJA5</i>	0.84472	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000006792	<i>EHD4</i>	0.86984	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000008338	<i>PLCB1</i>	0.87131	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG000000012212	<i>CYP26B1</i>	0.92142	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000013157	<i>NOVA2</i>	0.84551	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000013290	<i>DYSF</i>	0.85966	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000014560	<i>HLX</i>	0.86037	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000015108	<i>USHBP1</i>	0.8457	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000016915	<i>FLT1</i>	0.85951	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000017183	<i>PDLIM3</i>	0.83984	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000017508	<i>CYSLTR2</i>	0.88828	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.85943	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.82368	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000018398	<i>GPR4</i>	0.81558	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000018419	<i>ADCY4</i>	0.81873	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.91191	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.88396	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.86803	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.89745	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.86178	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000037508	<i>EBF1</i>	0.81332	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000047330	<i>FABP5</i>	0.82208	POS
ENSBTAG00000006234	<i>NPRI</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.87385	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000006234	<i>NPR1</i>	ENSBTAG00000051781	<i>ENSBTAG00000051781</i>	0.83293	POS
ENSBTAG00000006234	<i>NPR1</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.89499	POS
ENSBTAG00000006234	<i>NPR1</i>	ENSBTAG00000008688	<i>HEYL</i>	0.8031	POS
ENSBTAG00000006234	<i>NPR1</i>	ENSBTAG00000009979	<i>HOXB2</i>	0.82256	POS
ENSBTAG00000006234	<i>NPR1</i>	ENSBTAG00000011662	<i>SOX18</i>	0.82271	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000006720	<i>GJA5</i>	0.8019	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000006790	<i>SPTBN5</i>	0.82289	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000006792	<i>EHD4</i>	0.88656	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000008338	<i>PLCB1</i>	0.83015	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000008849	<i>SORT1</i>	-0.84772	NEG
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000011010	<i>PRND</i>	0.83599	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000011037	<i>RBPM2</i>	0.86148	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000011473	<i>MYL9</i>	0.81444	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000012482	<i>CDCP1</i>	-0.89265	NEG
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000013048	<i>NIPAL3</i>	-0.814	NEG
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000013157	<i>NOVA2</i>	0.82308	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000013290	<i>DYSF</i>	0.91343	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000013957	<i>GALNT3</i>	-0.83928	NEG
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000014560	<i>HLX</i>	0.88726	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000014831	<i>PPP1R3C</i>	0.88729	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000015108	<i>USHBP1</i>	0.91183	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000016486	<i>SORBS2</i>	0.88523	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000016505	<i>TMC7</i>	-0.82272	NEG
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000016915	<i>FLT1</i>	0.8014	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000017183	<i>PDLIM3</i>	0.86139	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.89718	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.91792	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000018398	<i>GPR4</i>	0.88225	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000018744	<i>MGAT5</i>	-0.82856	NEG
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000019497	<i>ILDR2</i>	0.8283	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000020273	<i>YOD1</i>	-0.81718	NEG
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.84174	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.90689	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000021872	<i>RASGRP1</i>	-0.84688	NEG
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.93518	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.85131	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000037795	<i>CYP2C87</i>	-0.82115	NEG
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	-0.83719	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	0.81317	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	0.90221	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000047088	<i>ENSBTAG00000047088</i>	-0.80384	NEG
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000047330	<i>FABP5</i>	0.80917	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.8536	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	0.83738	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.86971	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.82353	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000003304	<i>HOXC4</i>	0.833	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000006366	<i>NFATC4</i>	0.84095	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000007660	<i>ZNF414</i>	0.80797	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000009634	<i>HOXC5</i>	0.80599	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000009979	<i>HOXB2</i>	0.85114	POS
ENSBTAG00000006262	<i>LIMS2</i>	ENSBTAG00000011662	<i>SOX18</i>	0.81836	POS
ENSBTAG00000006282	<i>POU2AF1</i>	ENSBTAG00000013730	<i>CD5</i>	0.83449	POS
ENSBTAG00000006282	<i>POU2AF1</i>	ENSBTAG00000016770	<i>GAPT</i>	0.8611	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000006453	<i>CD3G</i>	0.89411	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000009381	<i>LCP2</i>	0.87151	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	0.8365	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000011003	<i>IKZF3</i>	0.90264	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000011359	<i>CD7</i>	0.81932	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000011515	<i>SELL</i>	0.85153	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000011784	<i>FGR</i>	0.86873	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000012695	<i>LCK</i>	0.84777	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000014441	<i>CD96</i>	0.91865	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000015710	<i>CD3E</i>	0.91447	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000016345	<i>IL2RB</i>	0.9028	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000016835	<i>IL17F</i>	0.80072	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000017442	<i>CDO1</i>	-0.86666	NEG
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000018367	<i>CD6</i>	0.82414	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000019900	<i>LNPEP</i>	0.81328	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000020142	<i>LMBRD2</i>	0.83139	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000022861	<i>KLRJ1</i>	0.8669	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000031348	<i>CCR9</i>	0.90551	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000040607	<i>SLA2</i>	0.90288	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000048550	<i>GCSAM</i>	0.83182	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000049108	<i>TRAT1</i>	0.87405	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	0.89978	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.90019	POS
ENSBTAG00000006452	<i>CD3D</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.86155	POS
ENSBTAG00000006453	<i>CD3G</i>	ENSBTAG00000009381	<i>LCP2</i>	0.86305	POS
ENSBTAG00000006453	<i>CD3G</i>	ENSBTAG00000011003	<i>IKZF3</i>	0.88919	POS
ENSBTAG00000006453	<i>CD3G</i>	ENSBTAG00000011515	<i>SELL</i>	0.90279	POS
ENSBTAG00000006453	<i>CD3G</i>	ENSBTAG00000011784	<i>FGR</i>	0.84488	POS
ENSBTAG00000006453	<i>CD3G</i>	ENSBTAG00000012695	<i>LCK</i>	0.80932	POS
ENSBTAG00000006453	<i>CD3G</i>	ENSBTAG00000014441	<i>CD96</i>	0.94918	POS
ENSBTAG00000006453	<i>CD3G</i>	ENSBTAG00000015710	<i>CD3E</i>	0.91231	POS
ENSBTAG00000006453	<i>CD3G</i>	ENSBTAG00000016345	<i>IL2RB</i>	0.89147	POS
ENSBTAG00000006453	<i>CD3G</i>	ENSBTAG00000016835	<i>IL17F</i>	0.83352	POS
ENSBTAG00000006453	<i>CD3G</i>	ENSBTAG00000019900	<i>LNPEP</i>	0.85831	POS
ENSBTAG00000006453	<i>CD3G</i>	ENSBTAG00000022861	<i>KLRJ1</i>	0.81284	POS
ENSBTAG00000006453	<i>CD3G</i>	ENSBTAG00000031348	<i>CCR9</i>	0.83905	POS
ENSBTAG00000006453	<i>CD3G</i>	ENSBTAG00000040607	<i>SLA2</i>	0.81927	POS
ENSBTAG00000006453	<i>CD3G</i>	ENSBTAG00000049108	<i>TRAF1</i>	0.91224	POS
ENSBTAG00000006453	<i>CD3G</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	0.89756	POS
ENSBTAG00000006453	<i>CD3G</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.89552	POS
ENSBTAG00000006453	<i>CD3G</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.87993	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000006505	<i>S100A9</i>	ENSBTAG00000007901	<i>ENSBTAG00000007901</i>	0.82916	POS
ENSBTAG00000006505	<i>S100A9</i>	ENSBTAG00000012638	<i>S100A12</i>	0.91876	POS
ENSBTAG00000006505	<i>S100A9</i>	ENSBTAG00000013334	<i>CSF3R</i>	0.87554	POS
ENSBTAG00000006505	<i>S100A9</i>	ENSBTAG00000031814	<i>SDS</i>	0.94961	POS
ENSBTAG00000006541	<i>ATP2A1</i>	ENSBTAG00000009835	<i>CACNA1G</i>	0.82992	POS
ENSBTAG00000006541	<i>ATP2A1</i>	ENSBTAG00000010509	<i>CDK3</i>	0.8005	POS
ENSBTAG00000006541	<i>ATP2A1</i>	ENSBTAG00000015635	<i>TNFRSF4</i>	0.80585	POS
ENSBTAG00000006541	<i>ATP2A1</i>	ENSBTAG00000015798	<i>UCKL1</i>	0.80206	POS
ENSBTAG00000006541	<i>ATP2A1</i>	ENSBTAG00000030247	<i>NSMF</i>	0.81652	POS
ENSBTAG00000006541	<i>ATP2A1</i>	ENSBTAG00000032193	<i>REG4</i>	-0.80156	NEG
ENSBTAG00000006688	<i>RPS6KL1</i>	ENSBTAG00000008161	<i>CLCA1</i>	-0.82694	NEG
ENSBTAG00000006688	<i>RPS6KL1</i>	ENSBTAG00000014560	<i>HLX</i>	0.82446	POS
ENSBTAG00000006688	<i>RPS6KL1</i>	ENSBTAG00000017183	<i>PDLIM3</i>	0.81794	POS
ENSBTAG00000006688	<i>RPS6KL1</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.84327	POS
ENSBTAG00000006688	<i>RPS6KL1</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.8192	POS
ENSBTAG00000006688	<i>RPS6KL1</i>	ENSBTAG00000047330	<i>FABP5</i>	0.80972	POS
ENSBTAG00000006688	<i>RPS6KL1</i>	ENSBTAG00000047626	<i>CCDC188</i>	0.82372	POS
ENSBTAG00000006688	<i>RPS6KL1</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.83927	POS
ENSBTAG00000006688	<i>RPS6KL1</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.8025	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000006688	<i>RPS6KLI</i>	ENSBTAG00000011662	<i>SOX18</i>	0.81309	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000006792	<i>EHD4</i>	0.90298	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000008338	<i>PLCB1</i>	0.80762	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000012212	<i>CYP26B1</i>	0.88143	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000013157	<i>NOVA2</i>	0.86708	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000013290	<i>DYSF</i>	0.93563	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000013957	<i>GALNT3</i>	-0.80586	NEG
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000014560	<i>HLX</i>	0.82329	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000016365	<i>ABCG5</i>	-0.81421	NEG
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000016486	<i>SORBS2</i>	0.83275	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000016505	<i>TMC7</i>	-0.81733	NEG
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000016915	<i>FLT1</i>	0.89574	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.91661	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.83828	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000018398	<i>GPR4</i>	0.92915	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000018419	<i>ADCY4</i>	0.85108	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.85379	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.80316	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000021916	<i>MYL4</i>	0.90445	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.82127	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.82534	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.90907	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.91254	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000030671	<i>HOOK1</i>	-0.80092	NEG
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.90035	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000051781	<i>ENSBTAG00000051781</i>	0.80247	POS
ENSBTAG00000006720	<i>GJA5</i>	ENSBTAG00000008688	<i>HEYL</i>	0.86897	POS
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000008101	<i>PCSK5</i>	0.84354	POS
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000008332	<i>ENPEP</i>	0.8063	POS
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000008338	<i>PLCB1</i>	-0.82468	NEG
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000008493	<i>AQP3</i>	0.83021	POS
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000010178	<i>PTPRD</i>	0.86003	POS
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000013027	<i>ENSBTAG00000013027</i>	0.86856	POS
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000014713	<i>RARRES1</i>	0.83949	POS
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000015511	<i>FADS3</i>	-0.8808	NEG
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.82445	NEG
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000019129	<i>BTD</i>	0.84515	POS
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000020018	<i>FRK</i>	0.86819	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.82621	POS
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.88696	POS
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.82013	POS
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.81199	POS
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000044146	<i>NPC1L1</i>	0.88739	POS
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000045787	<i>CDS1</i>	0.91843	POS
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000046337	<i>TUBB6</i>	-0.90958	NEG
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000048246	<i>DPP4</i>	0.91153	POS
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000050809	<i>GIPC3</i>	-0.8636	NEG
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.90511	POS
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	0.81082	POS
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000052665	<i>CYP3A74</i>	0.85496	POS
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.82679	POS
ENSBTAG00000006745	<i>FGG</i>	ENSBTAG00000008688	<i>HEYL</i>	-0.84308	NEG
ENSBTAG00000006779	<i>LDHD</i>	ENSBTAG00000011738	<i>TFR2</i>	0.83652	POS
ENSBTAG00000006779	<i>LDHD</i>	ENSBTAG00000019472	<i>NR3C1</i>	-0.81601	NEG
ENSBTAG00000006790	<i>SPTBN5</i>	ENSBTAG00000007111	<i>STEAP3</i>	-0.85303	NEG
ENSBTAG00000006790	<i>SPTBN5</i>	ENSBTAG00000008849	<i>SORT1</i>	-0.83209	NEG
ENSBTAG00000006790	<i>SPTBN5</i>	ENSBTAG00000014831	<i>PPP1R3C</i>	0.82401	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000006790	<i>SPTBN5</i>	ENSBTAG00000015108	<i>USHBP1</i>	0.86275	POS
ENSBTAG00000006790	<i>SPTBN5</i>	ENSBTAG00000015280	<i>KIF2C</i>	-0.82128	NEG
ENSBTAG00000006790	<i>SPTBN5</i>	ENSBTAG00000016204	<i>C1RL</i>	-0.80853	NEG
ENSBTAG00000006790	<i>SPTBN5</i>	ENSBTAG00000017642	<i>BMP3</i>	-0.81783	NEG
ENSBTAG00000006790	<i>SPTBN5</i>	ENSBTAG00000017722	<i>F5</i>	-0.80911	NEG
ENSBTAG00000006790	<i>SPTBN5</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.80918	POS
ENSBTAG00000006790	<i>SPTBN5</i>	ENSBTAG00000019497	<i>ILDR2</i>	0.85368	POS
ENSBTAG00000006790	<i>SPTBN5</i>	ENSBTAG00000020859	<i>SERPINF2</i>	-0.81236	NEG
ENSBTAG00000006790	<i>SPTBN5</i>	ENSBTAG00000028359	<i>U3</i>	0.81236	POS
ENSBTAG00000006790	<i>SPTBN5</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.84107	POS
ENSBTAG00000006790	<i>SPTBN5</i>	ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	0.80725	POS
ENSBTAG00000006790	<i>SPTBN5</i>	ENSBTAG00000048257	<i>CYP4F8</i>	-0.81824	NEG
ENSBTAG00000006790	<i>SPTBN5</i>	ENSBTAG00000050189	<i>ENSBTAG00000050189</i>	-0.83909	NEG
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000008161	<i>CLCA1</i>	-0.80143	NEG
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000008338	<i>PLCB1</i>	0.88006	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000011010	<i>PRND</i>	0.80049	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000011063	<i>CTSO</i>	-0.8328	NEG
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000012212	<i>CYP26B1</i>	0.82087	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000012482	<i>CDCP1</i>	-0.86398	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000013157	<i>NOVA2</i>	0.90526	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000013290	<i>DYSF</i>	0.93239	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000013957	<i>GALNT3</i>	-0.83213	NEG
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000014560	<i>HLX</i>	0.86884	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000015108	<i>USHBP1</i>	0.84445	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000016366	<i>ABCG8</i>	-0.80583	NEG
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000016486	<i>SORBS2</i>	0.86362	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000016505	<i>TMC7</i>	-0.88466	NEG
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000016915	<i>FLT1</i>	0.93875	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000017183	<i>PDLIM3</i>	0.86112	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000017508	<i>CYSLTR2</i>	0.83753	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.93044	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.88305	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000018398	<i>GPR4</i>	0.9389	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000018419	<i>ADCY4</i>	0.84266	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.94867	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.84286	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000021916	<i>MYL4</i>	0.82413	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.82323	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.89711	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.9149	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.86549	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	0.8241	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000039509	<i>GPRC5A</i>	-0.81253	NEG
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000047626	<i>CCDC188</i>	0.80976	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000049058	<i>INHBB</i>	0.80025	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.85919	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.81383	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000051781	<i>ENSBTAG00000051781</i>	0.82642	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.83251	POS
ENSBTAG00000006792	<i>EHD4</i>	ENSBTAG00000017397	<i>ZNF423</i>	0.83811	POS
ENSBTAG00000006984	<i>CD55</i>	ENSBTAG00000012252	<i>MOCOS</i>	0.80925	POS
ENSBTAG00000006984	<i>CD55</i>	ENSBTAG00000013334	<i>CSF3R</i>	0.8047	POS
ENSBTAG00000007068	<i>SH3BGR</i>	ENSBTAG00000011037	<i>RBPM52</i>	0.86244	POS
ENSBTAG00000007068	<i>SH3BGR</i>	ENSBTAG00000011473	<i>MYL9</i>	0.92392	POS
ENSBTAG00000007068	<i>SH3BGR</i>	ENSBTAG00000012931	<i>PLN</i>	0.88302	POS
ENSBTAG00000007068	<i>SH3BGR</i>	ENSBTAG00000013973	<i>SERPIND1</i>	0.80649	POS
ENSBTAG00000007068	<i>SH3BGR</i>	ENSBTAG00000014912	<i>FMOD</i>	0.87175	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000007068	<i>SH3BGR</i>	ENSBTAG00000015369	<i>MLLT11</i>	0.87771	POS
ENSBTAG00000007068	<i>SH3BGR</i>	ENSBTAG00000016486	<i>SORBS2</i>	0.82855	POS
ENSBTAG00000007068	<i>SH3BGR</i>	ENSBTAG00000018413	<i>TENT5B</i>	0.81486	POS
ENSBTAG00000007068	<i>SH3BGR</i>	ENSBTAG00000021322	<i>TM4SF20</i>	-0.8178	NEG
ENSBTAG00000007068	<i>SH3BGR</i>	ENSBTAG00000025345	<i>ARL10</i>	0.81482	POS
ENSBTAG00000007068	<i>SH3BGR</i>	ENSBTAG00000030671	<i>HOOK1</i>	-0.81867	NEG
ENSBTAG00000007068	<i>SH3BGR</i>	ENSBTAG00000034393	<i>FAM149A</i>	0.86798	POS
ENSBTAG00000007068	<i>SH3BGR</i>	ENSBTAG00000045925	<i>CITED1</i>	0.81153	POS
ENSBTAG00000007068	<i>SH3BGR</i>	ENSBTAG00000046337	<i>TUBB6</i>	0.83498	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000007719	<i>MFSD6</i>	0.86542	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000007837	<i>SELENOI</i>	0.80642	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000008161	<i>CLCA1</i>	0.95061	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000008849	<i>SORT1</i>	0.85881	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000009145	<i>SLC7A4</i>	0.82489	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000009199	<i>GLIS2</i>	-0.86287	NEG
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000011063	<i>CTSO</i>	0.83218	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000011941	<i>LYZF1</i>	0.87811	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000012272	<i>TMEM19</i>	0.86955	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000012482	<i>CDCPI</i>	0.80891	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000013290	<i>DYSF</i>	-0.82541	NEG
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000013957	<i>GALNT3</i>	0.8247	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.89784	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000014459	<i>MAP6D1</i>	-0.82597	NEG
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000015108	<i>USHBP1</i>	-0.82971	NEG
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000015939	<i>NECTIN1</i>	0.92056	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000016467	<i>SLC22A17</i>	-0.86042	NEG
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000016505	<i>TMC7</i>	0.81495	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.86193	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000016841	<i>ATP10B</i>	0.87851	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.88713	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000016915	<i>FLT1</i>	-0.80057	NEG
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000017642	<i>BMP3</i>	0.91955	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000017722	<i>F5</i>	0.81641	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000018307	<i>SEMA3F</i>	-0.80638	NEG
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000018331	<i>CLEC3B</i>	-0.83014	NEG
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000018398	<i>GPR4</i>	-0.8368	NEG
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.81501	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000019497	<i>ILDR2</i>	-0.83764	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000020273	<i>YOD1</i>	0.80352	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000020580	<i>TCN1</i>	0.86388	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000020859	<i>SERPINF2</i>	0.85227	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000021276	<i>TFF3</i>	0.86746	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000025424	<i>NOTCH4</i>	-0.83391	NEG
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000028359	<i>U3</i>	-0.86804	NEG
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000030259	<i>RASGRF2</i>	-0.81431	NEG
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.93181	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000034939	<i>BTNL2</i>	0.82847	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000042471	<i>SNORA25</i>	-0.8513	NEG
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	-0.84873	NEG
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000046158	<i>CFB</i>	0.81913	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	-0.8068	NEG
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000047626	<i>CCDC188</i>	-0.83604	NEG
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000048257	<i>CYP4F8</i>	0.90167	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	0.82518	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.80815	POS
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.81648	NEG
ENSBTAG00000007111	<i>STEAP3</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.93567	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000007148	<i>F2</i>	ENSBTAG00000015778	<i>SASS6</i>	-0.9083	NEG
ENSBTAG00000007148	<i>F2</i>	ENSBTAG00000048736	<i>ENSBTAG00000048736</i>	0.85512	POS
ENSBTAG00000007492	<i>ADAMTSL2</i>	ENSBTAG00000049271	<i>ENSBTAG00000049271</i>	0.85329	POS
ENSBTAG00000007665	<i>NPR3</i>	ENSBTAG00000010452	<i>PODXL</i>	0.84021	POS
ENSBTAG00000007665	<i>NPR3</i>	ENSBTAG00000012729	<i>ARHGEF9</i>	0.8119	POS
ENSBTAG00000007665	<i>NPR3</i>	ENSBTAG00000014217	<i>HHEX</i>	0.82232	POS
ENSBTAG00000007665	<i>NPR3</i>	ENSBTAG00000014674	<i>CHRM2</i>	0.80332	POS
ENSBTAG00000007665	<i>NPR3</i>	ENSBTAG00000015226	<i>BRSK1</i>	0.82081	POS
ENSBTAG00000007665	<i>NPR3</i>	ENSBTAG00000020601	<i>ZNF366</i>	0.81232	POS
ENSBTAG00000007665	<i>NPR3</i>	ENSBTAG00000052397	<i>ENSBTAG00000052397</i>	-0.8418	NEG
ENSBTAG00000007665	<i>NPR3</i>	ENSBTAG00000054558	<i>ENSBTAG00000054558</i>	-0.84679	NEG
ENSBTAG00000007668	<i>AGPAT4</i>	ENSBTAG00000014100	<i>BALAP3</i>	0.85218	POS
ENSBTAG00000007668	<i>AGPAT4</i>	ENSBTAG00000018940	<i>CRACR2A</i>	-0.83609	NEG
ENSBTAG00000007678	<i>MKX</i>	ENSBTAG00000008996	<i>SF11</i>	-0.81946	NEG
ENSBTAG00000007678	<i>MKX</i>	ENSBTAG00000016770	<i>GAPT</i>	0.89683	POS
ENSBTAG00000007678	<i>MKX</i>	ENSBTAG00000020350	<i>DUSP2</i>	0.80162	POS
ENSBTAG00000007678	<i>MKX</i>	ENSBTAG00000022509	<i>DNAH9</i>	-0.83344	NEG
ENSBTAG00000007678	<i>MKX</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.82087	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000008161	<i>CLCA1</i>	0.83116	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000008849	<i>SORT1</i>	0.8046	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000009112	<i>TRAM2</i>	0.81369	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000012272	<i>TMEM19</i>	0.80647	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000012482	<i>CDCP1</i>	0.82011	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000013048	<i>NIPAL3</i>	0.82793	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000013422	<i>GABRB3</i>	0.85301	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000013957	<i>GALNT3</i>	0.81317	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000014026	<i>PAG1</i>	0.80062	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.83376	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000015778	<i>SASS6</i>	0.80223	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000015939	<i>NECTIN1</i>	0.8349	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000016467	<i>SLC22A17</i>	-0.8107	NEG
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.88804	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000016841	<i>ATP10B</i>	0.94773	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.85251	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000017642	<i>BMP3</i>	0.89085	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000017722	<i>F5</i>	0.82195	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.88587	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000019454	<i>ANGEL1</i>	0.8633	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000020273	<i>YOD1</i>	0.88338	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000020957	<i>FZD5</i>	0.80895	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000021872	<i>RASGRP1</i>	0.8065	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000028359	<i>U3</i>	-0.89871	NEG
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.91583	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.82129	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.88066	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	0.85922	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	-0.87629	NEG
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.86883	POS
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.8607	NEG
ENSBTAG00000007719	<i>MFSD6</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.89601	NEG
ENSBTAG00000007758	<i>PDE10A</i>	ENSBTAG00000016915	<i>FLT1</i>	0.85932	POS
ENSBTAG00000007758	<i>PDE10A</i>	ENSBTAG00000046649	<i>SGPP2</i>	-0.85041	NEG
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000008101	<i>PCSK5</i>	0.82082	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000008493	<i>AQP3</i>	0.81696	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000008849	<i>SORT1</i>	0.8461	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000009294	<i>DEGS2</i>	0.87985	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000011063	<i>CTSO</i>	0.94988	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000013290	<i>DYSF</i>	-0.87238	NEG
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000013957	<i>GALNT3</i>	0.92844	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.8299	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000014713	<i>RARRES1</i>	0.87	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000015170	<i>LCT</i>	0.8919	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.89233	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000018307	<i>SEMA3F</i>	-0.84454	NEG
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000018398	<i>GPR4</i>	-0.83093	NEG
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.89296	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000019129	<i>BTD</i>	0.88017	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000020273	<i>YOD1</i>	0.86177	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.86874	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000022509	<i>DNAH9</i>	-0.84465	NEG
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.80426	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000030814	<i>TFF2</i>	0.81138	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.8237	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.85125	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.87697	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000044146	<i>NPC1L1</i>	0.81048	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000045787	<i>CDS1</i>	0.86527	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000048246	<i>DPP4</i>	0.84258	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.85066	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	-0.86972	NEG
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.84844	POS
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.80886	NEG
ENSBTAG00000007837	<i>SELENOI</i>	ENSBTAG00000020854	<i>BCL6B</i>	-0.80534	NEG
ENSBTAG00000007901	<i>ENSBTAG00000007901</i>	ENSBTAG00000048049	<i>ENSBTAG00000048049</i>	0.80424	POS
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG00000009145	<i>SLC7A4</i>	0.8604	POS
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG00000011941	<i>LYZF1</i>	0.81746	POS
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG00000011962	<i>PLA2G3</i>	0.92925	POS
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG00000011970	<i>FNIP2</i>	-0.86933	NEG
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG00000014459	<i>MAP6DI</i>	-0.80561	NEG
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG00000016343	<i>KCNIP2</i>	-0.81858	NEG
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG00000017376	<i>GALNT5</i>	0.8501	POS
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG00000017468	<i>NUCB2</i>	0.87168	POS
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG00000018316	<i>ZMYND15</i>	-0.82522	NEG
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG00000020080	<i>MYBPC2</i>	-0.87271	NEG
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG00000020191	<i>FEV</i>	0.80047	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG000000021276	<i>TFF3</i>	0.80573	POS
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG000000023207	<i>FAM3D</i>	0.81439	POS
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG000000024406	<i>AGR2</i>	0.86794	POS
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG000000032193	<i>REG4</i>	0.83757	POS
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG000000034939	<i>BTNL2</i>	0.80626	POS
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG000000035081	<i>SERINC2</i>	0.81816	POS
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG000000046158	<i>CFB</i>	0.83383	POS
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG000000048125	<i>ENTPD2</i>	0.86839	POS
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG000000050212	<i>MUC2</i>	0.90602	POS
ENSBTAG00000008023	<i>RHBDL2</i>	ENSBTAG000000054525	<i>ENSBTAG000000054525</i>	0.8738	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000008332	<i>ENPEP</i>	0.87676	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000008493	<i>AQP3</i>	0.81784	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000009294	<i>DEGS2</i>	0.90635	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000009423	<i>NIPAL1</i>	0.84741	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000010178	<i>PTPRD</i>	0.89395	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000011050	<i>PLPP6</i>	0.88731	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000011063	<i>CTSO</i>	0.82561	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000011473	<i>MYL9</i>	-0.86588	NEG
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000012082	<i>TNFRSF12A</i>	-0.86923	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000013957	<i>GALNT3</i>	0.84351	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000014026	<i>PAG1</i>	0.80487	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000014713	<i>RARRES1</i>	0.86455	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000015170	<i>LCT</i>	0.9575	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000015511	<i>FADS3</i>	-0.81586	NEG
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000015961	<i>TSPAN2</i>	-0.93731	NEG
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000016234	<i>DUOX2</i>	0.83875	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000016365	<i>ABCG5</i>	0.8056	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.83839	NEG
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.84833	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.89765	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000019129	<i>BTD</i>	0.8405	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000020018	<i>FRK</i>	0.92102	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000020273	<i>YOD1</i>	0.85067	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000020957	<i>FZD5</i>	0.8277	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000021322	<i>TM4SF20</i>	0.84446	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.86373	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.88204	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.84639	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000025005	<i>TMT1A</i>	0.85772	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000037795	<i>CYP2C87</i>	0.83154	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000037969	<i>ENSBTAG000000037969</i>	0.90909	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000039326	<i>GCNT2</i>	0.93724	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000043983	<i>LRRC19</i>	0.93055	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000044017	<i>MSRB3</i>	-0.81413	NEG
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000044146	<i>NPC1L1</i>	0.91205	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000045751	<i>ENSBTAG000000045751</i>	0.85181	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000045787	<i>CDS1</i>	0.93895	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000046337	<i>TUBB6</i>	-0.84751	NEG
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000048246	<i>DPP4</i>	0.94001	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000049377	<i>ENSBTAG000000049377</i>	-0.85804	NEG
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000050618	<i>ENSBTAG000000050618</i>	0.89067	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000051726	<i>ENSBTAG000000051726</i>	0.9271	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000052585	<i>ENSBTAG000000052585</i>	0.90632	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000052665	<i>CYP3A74</i>	0.81699	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000053545	<i>ENSBTAG000000053545</i>	0.91676	POS
ENSBTAG00000008101	<i>PCSK5</i>	ENSBTAG000000055282	<i>CLDN2</i>	0.94261	POS
ENSBTAG00000008161	<i>CLCA1</i>	ENSBTAG000000009199	<i>GLIS2</i>	-0.80202	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000008161	<i>CLCAI</i>	ENSBTAG00000011941	<i>LYZF1</i>	0.84081	POS
ENSBTAG00000008161	<i>CLCAI</i>	ENSBTAG00000012272	<i>TMEM19</i>	0.92943	POS
ENSBTAG00000008161	<i>CLCAI</i>	ENSBTAG00000012482	<i>CDCPI</i>	0.86018	POS
ENSBTAG00000008161	<i>CLCAI</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.83394	POS
ENSBTAG00000008161	<i>CLCAI</i>	ENSBTAG00000015108	<i>USHBP1</i>	-0.80119	NEG
ENSBTAG00000008161	<i>CLCAI</i>	ENSBTAG00000015939	<i>NECTIN1</i>	0.91542	POS
ENSBTAG00000008161	<i>CLCAI</i>	ENSBTAG00000016841	<i>ATP10B</i>	0.85261	POS
ENSBTAG00000008161	<i>CLCAI</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.84367	POS
ENSBTAG00000008161	<i>CLCAI</i>	ENSBTAG00000017642	<i>BMP3</i>	0.9133	POS
ENSBTAG00000008161	<i>CLCAI</i>	ENSBTAG00000018307	<i>SEMA3F</i>	-0.82139	NEG
ENSBTAG00000008161	<i>CLCAI</i>	ENSBTAG00000018331	<i>CLEC3B</i>	-0.81737	NEG
ENSBTAG00000008161	<i>CLCAI</i>	ENSBTAG00000020273	<i>YOD1</i>	0.8246	POS
ENSBTAG00000008161	<i>CLCAI</i>	ENSBTAG00000020580	<i>TCN1</i>	0.91253	POS
ENSBTAG00000008161	<i>CLCAI</i>	ENSBTAG00000020859	<i>SERPINF2</i>	0.83775	POS
ENSBTAG00000008161	<i>CLCAI</i>	ENSBTAG00000021276	<i>TFF3</i>	0.87508	POS
ENSBTAG00000008161	<i>CLCAI</i>	ENSBTAG00000025424	<i>NOTCH4</i>	-0.80219	NEG
ENSBTAG00000008161	<i>CLCAI</i>	ENSBTAG00000028359	<i>U3</i>	-0.82412	NEG
ENSBTAG00000008161	<i>CLCAI</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.90063	POS
ENSBTAG00000008161	<i>CLCAI</i>	ENSBTAG00000042471	<i>SNORA25</i>	-0.85838	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000008161	<i>CLCA1</i>	ENSBTAG000000043250	<i>ENSBTAG000000043250</i>	-0.87852	NEG
ENSBTAG00000008161	<i>CLCA1</i>	ENSBTAG000000047626	<i>CCDC188</i>	-0.80643	NEG
ENSBTAG00000008161	<i>CLCA1</i>	ENSBTAG000000048257	<i>CYP4F8</i>	0.81128	POS
ENSBTAG00000008161	<i>CLCA1</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.85631	NEG
ENSBTAG00000008161	<i>CLCA1</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.90285	NEG
ENSBTAG00000008253	<i>ENSBTAG00000008253</i>	ENSBTAG000000010178	<i>PTPRD</i>	0.81406	POS
ENSBTAG00000008253	<i>ENSBTAG00000008253</i>	ENSBTAG000000015511	<i>FADS3</i>	-0.80761	NEG
ENSBTAG00000008253	<i>ENSBTAG00000008253</i>	ENSBTAG000000025021	<i>ENSBTAG000000025021</i>	0.87925	POS
ENSBTAG00000008253	<i>ENSBTAG00000008253</i>	ENSBTAG000000044017	<i>MSRB3</i>	-0.83142	NEG
ENSBTAG00000008253	<i>ENSBTAG00000008253</i>	ENSBTAG000000046337	<i>TUBB6</i>	-0.82924	NEG
ENSBTAG00000008253	<i>ENSBTAG00000008253</i>	ENSBTAG000000004710	<i>HNF1B</i>	0.80784	POS
ENSBTAG00000008253	<i>ENSBTAG00000008253</i>	ENSBTAG000000021435	<i>MAFF</i>	-0.86653	NEG
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG000000008338	<i>PLCB1</i>	-0.80259	NEG
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG000000008493	<i>AQP3</i>	0.82026	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG000000009294	<i>DEGS2</i>	0.90338	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG000000010178	<i>PTPRD</i>	0.85348	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG000000011050	<i>PLPP6</i>	0.82737	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG000000011473	<i>MYL9</i>	-0.82775	NEG
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG000000012082	<i>TNFRSF12A</i>	-0.85117	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000013127	<i>LPCAT3</i>	0.81074	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000013957	<i>GALNT3</i>	0.84127	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000014713	<i>RARRES1</i>	0.89347	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000015170	<i>LCT</i>	0.83798	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000015961	<i>TSPAN2</i>	-0.88892	NEG
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000016366	<i>ABCG8</i>	0.8022	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.89557	NEG
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.80052	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000016924	<i>CAP2</i>	-0.90412	NEG
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000019129	<i>BTD</i>	0.87303	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000020018	<i>FRK</i>	0.89655	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000020957	<i>FZD5</i>	0.82617	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000021322	<i>TM4SF20</i>	0.92367	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.90472	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.89659	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.8236	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.91184	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.83894	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.83212	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000044017	<i>MSRB3</i>	-0.86216	NEG
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.83223	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000045787	<i>CDS1</i>	0.83798	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000046337	<i>TUBB6</i>	-0.82213	NEG
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000048246	<i>DPP4</i>	0.94262	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.92045	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	0.83657	POS
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	-0.80279	NEG
ENSBTAG00000008332	<i>ENPEP</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.95454	POS
ENSBTAG00000008338	<i>PLCBI</i>	ENSBTAG00000011010	<i>PRND</i>	0.85776	POS
ENSBTAG00000008338	<i>PLCBI</i>	ENSBTAG00000011037	<i>RBPM2</i>	0.8388	POS
ENSBTAG00000008338	<i>PLCBI</i>	ENSBTAG00000011050	<i>PLPP6</i>	-0.8058	NEG
ENSBTAG00000008338	<i>PLCBI</i>	ENSBTAG00000012729	<i>ARHGEF9</i>	0.83747	POS
ENSBTAG00000008338	<i>PLCBI</i>	ENSBTAG00000013027	<i>ENSBTAG00000013027</i>	-0.89334	NEG
ENSBTAG00000008338	<i>PLCBI</i>	ENSBTAG00000013290	<i>DYSF</i>	0.8453	POS
ENSBTAG00000008338	<i>PLCBI</i>	ENSBTAG00000016486	<i>SORBS2</i>	0.93404	POS
ENSBTAG00000008338	<i>PLCBI</i>	ENSBTAG00000016505	<i>TMC7</i>	-0.81277	NEG
ENSBTAG00000008338	<i>PLCBI</i>	ENSBTAG00000016915	<i>FLT1</i>	0.86261	POS
ENSBTAG00000008338	<i>PLCBI</i>	ENSBTAG00000017508	<i>CYSLTR2</i>	0.8105	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000008338	<i>PLCB1</i>	ENSBTAG00000018123	<i>FBLN5</i>	0.84454	POS
ENSBTAG00000008338	<i>PLCB1</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.85915	POS
ENSBTAG00000008338	<i>PLCB1</i>	ENSBTAG00000018398	<i>GPR4</i>	0.87622	POS
ENSBTAG00000008338	<i>PLCB1</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.80203	POS
ENSBTAG00000008338	<i>PLCB1</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	-0.8477	NEG
ENSBTAG00000008338	<i>PLCB1</i>	ENSBTAG00000021916	<i>MYL4</i>	0.81145	POS
ENSBTAG00000008338	<i>PLCB1</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.87233	POS
ENSBTAG00000008338	<i>PLCB1</i>	ENSBTAG00000037508	<i>EBF1</i>	0.81853	POS
ENSBTAG00000008338	<i>PLCB1</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	0.88221	POS
ENSBTAG00000008338	<i>PLCB1</i>	ENSBTAG00000046337	<i>TUBB6</i>	0.80036	POS
ENSBTAG00000008338	<i>PLCB1</i>	ENSBTAG00000050809	<i>GIPC3</i>	0.80991	POS
ENSBTAG00000008338	<i>PLCB1</i>	ENSBTAG00000051781	<i>ENSBTAG00000051781</i>	0.80528	POS
ENSBTAG00000008338	<i>PLCB1</i>	ENSBTAG00000052140	<i>ENSBTAG00000052140</i>	0.85359	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000009145	<i>SLC7A4</i>	-0.88805	NEG
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000009199	<i>GLIS2</i>	0.86838	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000009876	<i>C4BPA</i>	-0.9173	NEG
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000010462	<i>ROBO2</i>	-0.8069	NEG
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000010509	<i>CDK3</i>	0.89423	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000012121	<i>NOXA1</i>	0.92496	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000012954	<i>ERAS</i>	0.93449	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000015280	<i>KIF2C</i>	-0.8322	NEG
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000015288	<i>BEST4</i>	0.80069	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000015635	<i>TNFRSF4</i>	0.9223	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000015798	<i>UCKL1</i>	0.93729	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000016467	<i>SLC22A17</i>	0.86061	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000016602	<i>LBX2</i>	0.85844	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000017280	<i>C3</i>	-0.91236	NEG
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000017376	<i>GALNT5</i>	-0.89058	NEG
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000017468	<i>NUCB2</i>	-0.9207	NEG
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000017722	<i>F5</i>	-0.84213	NEG
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000018316	<i>ZMYND15</i>	0.8294	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000020859	<i>SERPINF2</i>	-0.81883	NEG
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000021303	<i>RSAD1</i>	0.9438	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000024406	<i>AGR2</i>	-0.88475	NEG
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000030247	<i>NSMF</i>	0.93141	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000031750	<i>PLAC8B</i>	0.80539	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000032193	<i>REG4</i>	-0.95954	NEG
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	-0.81411	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG000000046158	<i>CFB</i>	-0.81699	NEG
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG000000046984	<i>ZNF672</i>	0.857	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG000000047713	<i>LMNTD2</i>	0.91053	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG000000048125	<i>ENTPD2</i>	-0.80959	NEG
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG000000051225	<i>ENSBTAG000000051225</i>	0.90826	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG000000051255	<i>ENSBTAG000000051255</i>	0.85937	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG000000053558	<i>NOTUM</i>	0.88829	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG000000003843	<i>SMARCA1</i>	0.81289	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG000000008409	<i>MYC</i>	-0.90162	NEG
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG000000010681	<i>NR1H3</i>	0.92479	POS
ENSBTAG00000008397	<i>ZNF555</i>	ENSBTAG000000019357	<i>ZNF688</i>	0.80206	POS
ENSBTAG00000008431	<i>ENSBTAG00000008431</i>	ENSBTAG000000008849	<i>SORT1</i>	0.89144	POS
ENSBTAG00000008431	<i>ENSBTAG00000008431</i>	ENSBTAG000000013422	<i>GABRB3</i>	0.85919	POS
ENSBTAG00000008431	<i>ENSBTAG00000008431</i>	ENSBTAG000000014191	<i>QSOX1</i>	0.86368	POS
ENSBTAG00000008431	<i>ENSBTAG00000008431</i>	ENSBTAG000000016713	<i>ENSBTAG000000016713</i>	0.84688	POS
ENSBTAG00000008431	<i>ENSBTAG00000008431</i>	ENSBTAG000000016845	<i>GALNT7</i>	0.89818	POS
ENSBTAG00000008431	<i>ENSBTAG00000008431</i>	ENSBTAG000000019129	<i>BTD</i>	0.84006	POS
ENSBTAG00000008431	<i>ENSBTAG00000008431</i>	ENSBTAG000000031569	<i>GOLM1</i>	0.84506	POS
ENSBTAG00000008431	<i>ENSBTAG00000008431</i>	ENSBTAG000000034939	<i>BTNL2</i>	0.82596	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000008431	<i>ENSBTAG00000008431</i>	ENSBTAG00000037902	<i>FAM229A</i>	-0.81404	NEG
ENSBTAG00000008431	<i>ENSBTAG00000008431</i>	ENSBTAG00000046158	<i>CFB</i>	0.82613	POS
ENSBTAG00000008431	<i>ENSBTAG00000008431</i>	ENSBTAG00000055095	<i>ENSBTAG00000055095</i>	-0.81161	NEG
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000008849	<i>SORT1</i>	0.81562	POS
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000009294	<i>DEGS2</i>	0.85798	POS
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000011063	<i>CTSO</i>	0.8648	POS
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000014713	<i>RARRES1</i>	0.88047	POS
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000015170	<i>LCT</i>	0.84798	POS
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000016366	<i>ABCG8</i>	0.8192	POS
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.8028	POS
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000019129	<i>BTD</i>	0.8553	POS
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000020018	<i>FRK</i>	0.84398	POS
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.80251	POS
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.9016	POS
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.81096	POS
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000030814	<i>TFF2</i>	0.84573	POS
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.82166	POS
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000043983	<i>LRRIC19</i>	0.8399	POS
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.85762	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000045787	<i>CDS1</i>	0.86706	POS
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000048246	<i>DPP4</i>	0.85948	POS
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000050809	<i>GIPC3</i>	-0.84573	NEG
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.9206	POS
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000052665	<i>CYP3A74</i>	0.83943	POS
ENSBTAG00000008493	<i>AQP3</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.8306	POS
ENSBTAG00000008833	<i>APOM</i>	ENSBTAG00000016770	<i>GAPT</i>	0.82855	POS
ENSBTAG00000008833	<i>APOM</i>	ENSBTAG00000020080	<i>MYBPC2</i>	-0.82146	NEG
ENSBTAG00000008833	<i>APOM</i>	ENSBTAG00000020859	<i>SERPINF2</i>	0.80609	POS
ENSBTAG00000008833	<i>APOM</i>	ENSBTAG00000023207	<i>FAM3D</i>	0.80238	POS
ENSBTAG00000008833	<i>APOM</i>	ENSBTAG00000024406	<i>AGR2</i>	0.80317	POS
ENSBTAG00000008833	<i>APOM</i>	ENSBTAG00000032819	<i>MUC20</i>	0.84892	POS
ENSBTAG00000008833	<i>APOM</i>	ENSBTAG00000045578	<i>AGR3</i>	0.81335	POS
ENSBTAG00000008833	<i>APOM</i>	ENSBTAG00000050212	<i>MUC2</i>	0.81532	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000009294	<i>DEGS2</i>	0.85029	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000009423	<i>NIPAL1</i>	0.83895	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000011063	<i>CTSO</i>	0.86931	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000012272	<i>TMEM19</i>	0.81171	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000012482	<i>CDCP1</i>	0.84943	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000013048	<i>NIPAL3</i>	0.83837	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000013127	<i>LPCAT3</i>	0.82808	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000013290	<i>DYSF</i>	-0.86444	NEG
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000013422	<i>GABRB3</i>	0.85117	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000013957	<i>GALNT3</i>	0.86515	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.90373	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000015108	<i>USHBP1</i>	-0.80621	NEG
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000015170	<i>LCT</i>	0.84595	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.87411	NEG
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000016505	<i>TMC7</i>	0.83104	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.90088	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000016841	<i>ATP10B</i>	0.82607	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.88935	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000018307	<i>SEMA3F</i>	-0.83448	NEG
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000018331	<i>CLEC3B</i>	-0.83436	NEG
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000018398	<i>GPR4</i>	-0.89165	NEG
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.89901	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000019129	<i>BTD</i>	0.85686	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000020142	<i>LMBRD2</i>	0.83699	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.83361	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000030259	<i>RASGRF2</i>	-0.83039	NEG
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.88917	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000037902	<i>FAM229A</i>	-0.80755	NEG
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.91548	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.84939	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	-0.86412	NEG
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.82418	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000044146	<i>NPC1L1</i>	0.84004	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000045787	<i>CDS1</i>	0.82799	POS
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000055095	<i>ENSBTAG00000055095</i>	-0.84133	NEG
ENSBTAG00000008849	<i>SORT1</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.86207	NEG
ENSBTAG00000008851	<i>ENSBTAG00000008851</i>	ENSBTAG00000012638	<i>SI00A12</i>	0.81954	POS
ENSBTAG00000008851	<i>ENSBTAG00000008851</i>	ENSBTAG00000031814	<i>SDS</i>	0.87647	POS
ENSBTAG00000008851	<i>ENSBTAG00000008851</i>	ENSBTAG00000047325	<i>ENSBTAG00000047325</i>	-0.84492	NEG
ENSBTAG00000008906	<i>PCP2</i>	ENSBTAG00000016343	<i>KCNIP2</i>	0.84195	POS
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000009199	<i>GLIS2</i>	0.82992	POS
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000009876	<i>C4BPA</i>	-0.86402	NEG
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000012054	<i>ALDH3B2</i>	0.85615	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000012954	<i>ERAS</i>	0.82725	POS
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000015635	<i>TNFRSF4</i>	0.81408	POS
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000015798	<i>UCKL1</i>	0.81555	POS
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000016770	<i>GAPT</i>	-0.867	NEG
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000017280	<i>C3</i>	-0.85152	NEG
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000017468	<i>NUCB2</i>	-0.81518	NEG
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000018316	<i>ZMYND15</i>	0.82249	POS
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000019940	<i>RASGRF1</i>	0.85727	POS
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000021276	<i>TFF3</i>	-0.82362	NEG
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000024406	<i>AGR2</i>	-0.87124	NEG
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000030247	<i>NSMF</i>	0.80723	POS
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000032193	<i>REG4</i>	-0.87925	NEG
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000033351	<i>PACRGL</i>	-0.80595	NEG
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000046158	<i>CFB</i>	-0.82891	NEG
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000046984	<i>ZNF672</i>	0.87157	POS
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000047713	<i>LMNTD2</i>	0.82661	POS
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000054229	<i>ENSBTAG00000054229</i>	-0.86268	NEG
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000003843	<i>SMARCA1</i>	0.80655	POS
ENSBTAG00000008996	<i>SFII</i>	ENSBTAG00000007318	<i>ZNF687</i>	0.80818	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000009112	<i>TRAM2</i>	ENSBTAG00000013048	<i>NIPAL3</i>	0.83151	POS
ENSBTAG00000009112	<i>TRAM2</i>	ENSBTAG00000016234	<i>DUOX2</i>	0.88368	POS
ENSBTAG00000009112	<i>TRAM2</i>	ENSBTAG00000016841	<i>ATP10B</i>	0.85909	POS
ENSBTAG00000009112	<i>TRAM2</i>	ENSBTAG00000018331	<i>CLEC3B</i>	-0.80741	NEG
ENSBTAG00000009112	<i>TRAM2</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.82919	POS
ENSBTAG00000009112	<i>TRAM2</i>	ENSBTAG00000020954	<i>TRIM7</i>	-0.82535	NEG
ENSBTAG00000009112	<i>TRAM2</i>	ENSBTAG00000028359	<i>U3</i>	-0.81077	NEG
ENSBTAG00000009112	<i>TRAM2</i>	ENSBTAG00000050189	<i>ENSBTAG00000050189</i>	0.80647	POS
ENSBTAG00000009112	<i>TRAM2</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.83509	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000009199	<i>GLIS2</i>	-0.8281	NEG
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000009876	<i>C4BPA</i>	0.88764	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000011170	<i>JAKMIP1</i>	0.8335	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000011941	<i>LYZF1</i>	0.90501	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000011962	<i>PLA2G3</i>	0.81669	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000011970	<i>FNIP2</i>	-0.80101	NEG
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000012954	<i>ERAS</i>	-0.80398	NEG
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000014459	<i>MAP6D1</i>	-0.83746	NEG
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000015280	<i>KIF2C</i>	0.82762	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000015635	<i>TNFRSF4</i>	-0.8035	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000016343	<i>KCNIP2</i>	-0.88045	NEG
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000016467	<i>SLC22A17</i>	-0.91048	NEG
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000017376	<i>GALNT5</i>	0.93899	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000017468	<i>NUCB2</i>	0.90295	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000017722	<i>F5</i>	0.84474	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000018316	<i>ZMYND15</i>	-0.86776	NEG
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000020859	<i>SERPINF2</i>	0.87622	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000021276	<i>TFF3</i>	0.83763	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000021303	<i>RSAD1</i>	-0.88167	NEG
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000023207	<i>FAM3D</i>	0.82853	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000024406	<i>AGR2</i>	0.92153	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000030369	<i>IFFO1</i>	-0.80456	NEG
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000030757	<i>ELFN1</i>	0.8215	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000031750	<i>PLAC8B</i>	-0.80663	NEG
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000032193	<i>REG4</i>	0.93128	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000033351	<i>PACRGL</i>	0.80263	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	0.88268	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000039413	<i>ENSBTAG00000039413</i>	0.80048	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000045596	<i>ENSBTAG00000045596</i>	-0.80801	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000046158	<i>CFB</i>	0.89681	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000046984	<i>ZNF672</i>	-0.81657	NEG
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000048257	<i>CYP4F8</i>	0.83995	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000050212	<i>MUC2</i>	0.85085	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	0.8392	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000052510	<i>CCL26</i>	0.84762	POS
ENSBTAG00000009145	<i>SLC7A4</i>	ENSBTAG00000010681	<i>NR1H3</i>	-0.87245	NEG
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000009876	<i>C4BPA</i>	-0.88219	NEG
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000010509	<i>CDK3</i>	0.87286	POS
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000012121	<i>NOXA1</i>	0.86734	POS
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000012272	<i>TMEM19</i>	-0.82752	NEG
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000012954	<i>ERAS</i>	0.88132	POS
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000015635	<i>TNFRSF4</i>	0.85625	POS
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000015798	<i>UCKL1</i>	0.91121	POS
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000015939	<i>NECTIN1</i>	-0.88822	NEG
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000016467	<i>SLC22A17</i>	0.90012	POS
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000016845	<i>GALNT7</i>	-0.83155	NEG
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000017376	<i>GALNT5</i>	-0.81075	NEG
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000017642	<i>BMP3</i>	-0.82876	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000017722	<i>F5</i>	-0.81315	NEG
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000021276	<i>TFF3</i>	-0.86448	NEG
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000024406	<i>AGR2</i>	-0.80972	NEG
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000030247	<i>NSMF</i>	0.87298	POS
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000031569	<i>GOLM1</i>	-0.92345	NEG
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000032193	<i>REG4</i>	-0.88913	NEG
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000042471	<i>SNORA25</i>	0.86039	POS
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	0.86684	POS
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000046158	<i>CFB</i>	-0.86177	NEG
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	-0.81376	NEG
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000007660	<i>ZNF414</i>	0.84192	POS
ENSBTAG00000009199	<i>GLIS2</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.82097	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000009423	<i>NIPALI</i>	0.85526	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000010178	<i>PTPRD</i>	0.82358	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000011050	<i>PLPP6</i>	0.83865	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000011063	<i>CTSO</i>	0.88525	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000012082	<i>TNFRSF12A</i>	-0.92749	NEG
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000013127	<i>LPCAT3</i>	0.82814	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000013320	<i>TSPAN1</i>	0.81318	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000013957	<i>GALNT3</i>	0.90641	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000014026	<i>PAG1</i>	0.84137	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.88733	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000014713	<i>RARRES1</i>	0.95185	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000015170	<i>LCT</i>	0.89728	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000015961	<i>TSPAN2</i>	-0.81714	NEG
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000016365	<i>ABCG5</i>	0.86099	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.84992	NEG
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.92449	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.8072	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000016924	<i>CAP2</i>	-0.80084	NEG
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000018669	<i>PLB1</i>	0.83429	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.89607	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000019129	<i>BTBD</i>	0.94608	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000020018	<i>FRK</i>	0.92781	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000020957	<i>FZD5</i>	0.93392	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000021322	<i>TM4SF20</i>	0.86679	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.91531	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.89439	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.91967	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.92611	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000030814	<i>TFF2</i>	0.84773	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.86442	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.88556	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.92659	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.87402	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000044146	<i>NPCILI</i>	0.87972	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000045787	<i>CDSI</i>	0.87867	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000048246	<i>DPP4</i>	0.9295	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.89854	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000052665	<i>CYP3A74</i>	0.81591	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.81941	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.8372	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	-0.86228	NEG
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.94371	POS
ENSBTAG00000009294	<i>DEGS2</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.81617	NEG
ENSBTAG00000009348	<i>OIT3</i>	ENSBTAG00000012052	<i>PADI4</i>	-0.82301	NEG
ENSBTAG00000009348	<i>OIT3</i>	ENSBTAG00000014560	<i>HLX</i>	0.81208	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000009348	<i>OIT3</i>	ENSBTAG00000039477	<i>TPBG</i>	0.82169	POS
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	0.81265	POS
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000011003	<i>IKZF3</i>	0.85293	POS
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000011359	<i>CD7</i>	0.81371	POS
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000011784	<i>FGR</i>	0.93052	POS
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000012695	<i>LCK</i>	0.93109	POS
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000014441	<i>CD96</i>	0.89534	POS
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000014560	<i>HLX</i>	-0.83714	NEG
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000015710	<i>CD3E</i>	0.84568	POS
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000016345	<i>IL2RB</i>	0.92897	POS
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000018367	<i>CD6</i>	0.80736	POS
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000019900	<i>LNPEP</i>	0.87323	POS
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000031348	<i>CCR9</i>	0.93006	POS
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000039477	<i>TPBG</i>	-0.85209	NEG
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000040607	<i>SLA2</i>	0.85771	POS
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000048550	<i>GCSAM</i>	0.82877	POS
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000048873	<i>ENSBTAG00000048873</i>	0.82203	POS
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000049108	<i>TRAT1</i>	0.84815	POS
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	-0.81354	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000050324	<i>ENSBTAG00000050324</i>	0.82384	POS
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000053649	<i>ENSBTAG00000053649</i>	0.80063	POS
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.88023	POS
ENSBTAG00000009381	<i>LCP2</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.83499	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000011050	<i>PLPP6</i>	0.82425	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000012082	<i>TNFRSF12A</i>	-0.86953	NEG
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000013048	<i>NIPAL3</i>	0.83994	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000013422	<i>GABRB3</i>	0.86235	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000014026	<i>PAG1</i>	0.83811	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.85186	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000015170	<i>LCT</i>	0.85572	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000016234	<i>DUOX2</i>	0.84223	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.83837	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.86222	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000018669	<i>PLB1</i>	0.80924	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.83417	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.8021	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.85944	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.92004	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.85602	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.84614	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000048246	<i>DPP4</i>	0.80096	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	0.87735	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.82375	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.93355	POS
ENSBTAG00000009423	<i>NIPAL1</i>	ENSBTAG00000055095	<i>ENSBTAG00000055095</i>	-0.87442	NEG
ENSBTAG00000009832	<i>NOBOX</i>	ENSBTAG00000010278	<i>STPG1</i>	-0.80428	NEG
ENSBTAG00000009832	<i>NOBOX</i>	ENSBTAG00000048550	<i>GCSAM</i>	-0.82803	NEG
ENSBTAG00000009832	<i>NOBOX</i>	ENSBTAG00000050443	<i>ENSBTAG00000050443</i>	0.85504	POS
ENSBTAG00000009835	<i>CACNA1G</i>	ENSBTAG00000010509	<i>CDK3</i>	0.81803	POS
ENSBTAG00000009835	<i>CACNA1G</i>	ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	0.80124	POS
ENSBTAG00000009835	<i>CACNA1G</i>	ENSBTAG00000017243	<i>GATA3</i>	-0.80578	NEG
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000010462	<i>ROBO2</i>	0.86143	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000010509	<i>CDK3</i>	-0.84294	NEG
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000011941	<i>LYZF1</i>	0.83809	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000012121	<i>NOXA1</i>	-0.85302	NEG
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000012638	<i>SI00A12</i>	0.84171	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000012954	<i>ERAS</i>	-0.90844	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000015280	<i>KIF2C</i>	0.82776	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000015635	<i>TNFRSF4</i>	-0.86012	NEG
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000015798	<i>UCKL1</i>	-0.91415	NEG
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000015939	<i>NECTIN1</i>	0.82443	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000016467	<i>SLC22A17</i>	-0.92858	NEG
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000016602	<i>LBX2</i>	-0.82512	NEG
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.81192	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000017280	<i>C3</i>	0.92478	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000017376	<i>GALNT5</i>	0.90382	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000017468	<i>NUCB2</i>	0.88385	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000017722	<i>F5</i>	0.87544	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000018316	<i>ZMYND15</i>	-0.90994	NEG
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000018540	<i>NOX4</i>	-0.82093	NEG
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000019940	<i>RASGRF1</i>	-0.84187	NEG
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000020859	<i>SERPINF2</i>	0.83554	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000021276	<i>TFF3</i>	0.80879	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000021303	<i>RSAD1</i>	-0.89194	NEG
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000024406	<i>AGR2</i>	0.86034	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG00000030247	<i>NSMF</i>	-0.88614	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG000000031569	<i>GOLM1</i>	0.84128	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG000000032193	<i>REG4</i>	0.93063	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG000000033351	<i>PACRGL</i>	0.85445	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG000000039196	<i>ENSBTAG000000039196</i>	0.81682	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG000000039413	<i>ENSBTAG000000039413</i>	0.83299	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG000000043250	<i>ENSBTAG000000043250</i>	-0.81594	NEG
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG000000045596	<i>ENSBTAG000000045596</i>	-0.81241	NEG
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG000000046158	<i>CFB</i>	0.87492	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG000000047713	<i>LMNTD2</i>	-0.85321	NEG
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG000000051225	<i>ENSBTAG000000051225</i>	-0.83386	NEG
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG000000051255	<i>ENSBTAG000000051255</i>	-0.81317	NEG
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG000000052290	<i>ENSBTAG000000052290</i>	-0.83692	NEG
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG000000052309	<i>ENSBTAG000000052309</i>	0.80731	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG000000053558	<i>NOTUM</i>	-0.87314	NEG
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG000000054229	<i>ENSBTAG000000054229</i>	0.81318	POS
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG000000054543	<i>ENSBTAG000000054543</i>	-0.81385	NEG
ENSBTAG00000009876	<i>C4BPA</i>	ENSBTAG000000010681	<i>NR1H3</i>	-0.93275	NEG
ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	ENSBTAG000000011359	<i>CD7</i>	0.90011	POS
ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	ENSBTAG000000011784	<i>FGR</i>	0.80548	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	ENSBTAG00000012695	<i>LCK</i>	0.88038	POS
ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	ENSBTAG00000014441	<i>CD96</i>	0.84566	POS
ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	ENSBTAG00000015710	<i>CD3E</i>	0.88248	POS
ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	ENSBTAG00000016345	<i>IL2RB</i>	0.84151	POS
ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	ENSBTAG00000017442	<i>CDO1</i>	-0.81638	NEG
ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	ENSBTAG00000018367	<i>CD6</i>	0.82407	POS
ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	ENSBTAG00000022861	<i>KLRJ1</i>	0.82799	POS
ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	ENSBTAG00000031348	<i>CCR9</i>	0.91284	POS
ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	ENSBTAG00000036154	<i>ENSBTAG00000036154</i>	0.80755	POS
ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	ENSBTAG00000037508	<i>EBF1</i>	-0.8222	NEG
ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	ENSBTAG00000053649	<i>ENSBTAG00000053649</i>	0.88957	POS
ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.94048	POS
ENSBTAG00000009943	<i>ENSBTAG00000009943</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.88736	POS
ENSBTAG00000010068	<i>REEP2</i>	ENSBTAG00000011473	<i>MYL9</i>	0.81974	POS
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000011050	<i>PLPP6</i>	0.80533	POS
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000011473	<i>MYL9</i>	-0.86373	NEG
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000013973	<i>SERPIND1</i>	-0.82955	NEG
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000015961	<i>TSPAN2</i>	-0.84062	NEG
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000016073	<i>UGCG</i>	0.85447	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000016365	<i>ABCG5</i>	0.82653	POS
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000020018	<i>FRK</i>	0.92755	POS
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000021322	<i>TM4SF20</i>	0.86159	POS
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.839	POS
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000037651	<i>SI00A2</i>	0.82053	POS
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.86851	POS
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000044017	<i>MSRB3</i>	-0.8652	NEG
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.87705	POS
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000045751	<i>ENSBTAG00000045751</i>	0.81585	POS
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000045787	<i>CDS1</i>	0.85722	POS
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000046337	<i>TUBB6</i>	-0.89525	NEG
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000048246	<i>DPP4</i>	0.88485	POS
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.8674	POS
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	0.89714	POS
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000052665	<i>CYP3A74</i>	0.88012	POS
ENSBTAG00000010178	<i>PTPRD</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.84149	POS
ENSBTAG00000010273	<i>EREG</i>	ENSBTAG00000011359	<i>CD7</i>	0.81295	POS
ENSBTAG00000010278	<i>STPG1</i>	ENSBTAG00000016765	<i>SPACDR</i>	-0.89547	NEG
ENSBTAG00000010278	<i>STPG1</i>	ENSBTAG00000039529	<i>BTBD19</i>	-0.84853	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000010278	<i>STPG1</i>	ENSBTAG00000049942	<i>ENSBTAG00000049942</i>	0.82809	POS
ENSBTAG00000010278	<i>STPG1</i>	ENSBTAG00000050443	<i>ENSBTAG00000050443</i>	-0.81151	NEG
ENSBTAG00000010352	<i>KCNK16</i>	ENSBTAG00000037651	<i>SI00A2</i>	-0.80408	NEG
ENSBTAG00000010423	<i>LIFR</i>	ENSBTAG00000039509	<i>GPRC5A</i>	-0.81362	NEG
ENSBTAG00000010423	<i>LIFR</i>	ENSBTAG00000049058	<i>INHBB</i>	0.80138	POS
ENSBTAG00000010423	<i>LIFR</i>	ENSBTAG00000050197	<i>GPR15LG</i>	-0.80476	NEG
ENSBTAG00000010452	<i>PODXL</i>	ENSBTAG00000052983	<i>ARMCX4</i>	0.81379	POS
ENSBTAG00000010457	<i>NUAK1</i>	ENSBTAG00000020601	<i>ZNF366</i>	0.88744	POS
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000012121	<i>NOXA1</i>	-0.8033	NEG
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000013417	<i>ENSBTAG00000013417</i>	-0.86075	NEG
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000015280	<i>KIF2C</i>	0.92836	POS
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000015288	<i>BEST4</i>	-0.82013	NEG
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000015635	<i>TNFRSF4</i>	-0.83343	NEG
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000016204	<i>C1RL</i>	0.80877	POS
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000016467	<i>SLC22A17</i>	-0.82021	NEG
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000017280	<i>C3</i>	0.83905	POS
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000017722	<i>F5</i>	0.91531	POS
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000017863	<i>SRGN</i>	0.82846	POS
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000019454	<i>ANGEL1</i>	0.89779	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000020859	<i>SERPINF2</i>	0.80672	POS
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000021303	<i>RSAD1</i>	-0.82187	NEG
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000028359	<i>U3</i>	-0.88361	NEG
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000030247	<i>NSMF</i>	-0.80851	NEG
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.80262	POS
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000031750	<i>PLAC8B</i>	-0.84626	NEG
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000037902	<i>FAM229A</i>	-0.83166	NEG
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	0.88404	POS
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000039413	<i>ENSBTAG00000039413</i>	0.83258	POS
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	-0.85037	NEG
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	-0.85284	NEG
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000049942	<i>ENSBTAG00000049942</i>	0.83034	POS
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	-0.89094	NEG
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	-0.87629	NEG
ENSBTAG00000010462	<i>ROBO2</i>	ENSBTAG00000054543	<i>ENSBTAG00000054543</i>	-0.84586	NEG
ENSBTAG00000010509	<i>CDK3</i>	ENSBTAG00000012121	<i>NOXA1</i>	0.93695	POS
ENSBTAG00000010509	<i>CDK3</i>	ENSBTAG00000012954	<i>ERAS</i>	0.90949	POS
ENSBTAG00000010509	<i>CDK3</i>	ENSBTAG00000015280	<i>KIF2C</i>	-0.85442	NEG
ENSBTAG00000010509	<i>CDK3</i>	ENSBTAG00000015288	<i>BEST4</i>	0.89777	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000010509	<i>CDK3</i>	ENSBTAG00000015635	<i>TNFRSF4</i>	0.87857	POS
ENSBTAG00000010509	<i>CDK3</i>	ENSBTAG00000015798	<i>UCKL1</i>	0.94727	POS
ENSBTAG00000010509	<i>CDK3</i>	ENSBTAG00000017468	<i>NUCB2</i>	-0.81272	NEG
ENSBTAG00000010509	<i>CDK3</i>	ENSBTAG00000021303	<i>RSAD1</i>	0.82634	POS
ENSBTAG00000010509	<i>CDK3</i>	ENSBTAG00000021673	<i>NDC80</i>	-0.84316	NEG
ENSBTAG00000010509	<i>CDK3</i>	ENSBTAG00000024406	<i>AGR2</i>	-0.83457	NEG
ENSBTAG00000010509	<i>CDK3</i>	ENSBTAG00000030247	<i>NSMF</i>	0.95853	POS
ENSBTAG00000010509	<i>CDK3</i>	ENSBTAG00000032193	<i>REG4</i>	-0.90889	NEG
ENSBTAG00000010509	<i>CDK3</i>	ENSBTAG00000047713	<i>LMNTD2</i>	0.90389	POS
ENSBTAG00000010509	<i>CDK3</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	0.84843	POS
ENSBTAG00000010509	<i>CDK3</i>	ENSBTAG00000053558	<i>NOTUM</i>	0.81829	POS
ENSBTAG00000010509	<i>CDK3</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.89808	POS
ENSBTAG00000010555	<i>ENSBTAG00000010555</i>	ENSBTAG00000018143	<i>C16H1orf116</i>	-0.82682	NEG
ENSBTAG00000011003	<i>IKZF3</i>	ENSBTAG00000011359	<i>CD7</i>	0.83973	POS
ENSBTAG00000011003	<i>IKZF3</i>	ENSBTAG00000011784	<i>FGR</i>	0.80866	POS
ENSBTAG00000011003	<i>IKZF3</i>	ENSBTAG00000012695	<i>LCK</i>	0.87147	POS
ENSBTAG00000011003	<i>IKZF3</i>	ENSBTAG00000012931	<i>PLN</i>	-0.80022	NEG
ENSBTAG00000011003	<i>IKZF3</i>	ENSBTAG00000014441	<i>CD96</i>	0.8796	POS
ENSBTAG00000011003	<i>IKZF3</i>	ENSBTAG00000015710	<i>CD3E</i>	0.8539	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000011003	<i>IKZF3</i>	ENSBTAG00000016345	<i>IL2RB</i>	0.87872	POS
ENSBTAG00000011003	<i>IKZF3</i>	ENSBTAG00000022861	<i>KLRJ1</i>	0.80023	POS
ENSBTAG00000011003	<i>IKZF3</i>	ENSBTAG00000040607	<i>SLA2</i>	0.8158	POS
ENSBTAG00000011003	<i>IKZF3</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	0.82872	POS
ENSBTAG00000011003	<i>IKZF3</i>	ENSBTAG00000053563	<i>ENSBTAG00000053563</i>	0.81974	POS
ENSBTAG00000011003	<i>IKZF3</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.85203	POS
ENSBTAG00000011010	<i>PRND</i>	ENSBTAG00000012482	<i>CDCP1</i>	-0.81811	NEG
ENSBTAG00000011010	<i>PRND</i>	ENSBTAG00000013127	<i>LPCAT3</i>	-0.85199	NEG
ENSBTAG00000011010	<i>PRND</i>	ENSBTAG00000013290	<i>DYSF</i>	0.84259	POS
ENSBTAG00000011010	<i>PRND</i>	ENSBTAG00000014560	<i>HLX</i>	0.84527	POS
ENSBTAG00000011010	<i>PRND</i>	ENSBTAG00000015108	<i>USHBP1</i>	0.85018	POS
ENSBTAG00000011010	<i>PRND</i>	ENSBTAG00000016486	<i>SORBS2</i>	0.87553	POS
ENSBTAG00000011010	<i>PRND</i>	ENSBTAG00000016915	<i>FLT1</i>	0.81996	POS
ENSBTAG00000011010	<i>PRND</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.83305	POS
ENSBTAG00000011010	<i>PRND</i>	ENSBTAG00000018398	<i>GPR4</i>	0.84857	POS
ENSBTAG00000011010	<i>PRND</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.80409	POS
ENSBTAG00000011010	<i>PRND</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	0.90963	POS
ENSBTAG00000011037	<i>RBPM2</i>	ENSBTAG00000011359	<i>CD7</i>	-0.82265	NEG
ENSBTAG00000011037	<i>RBPM2</i>	ENSBTAG00000011473	<i>MYL9</i>	0.91708	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000011037	<i>RBPM2</i>	ENSBTAG00000012931	<i>PLN</i>	0.86505	POS
ENSBTAG00000011037	<i>RBPM2</i>	ENSBTAG00000015369	<i>MLL1</i>	0.82522	POS
ENSBTAG00000011037	<i>RBPM2</i>	ENSBTAG00000016073	<i>UGCG</i>	-0.83389	NEG
ENSBTAG00000011037	<i>RBPM2</i>	ENSBTAG00000016486	<i>SORBS2</i>	0.84289	POS
ENSBTAG00000011037	<i>RBPM2</i>	ENSBTAG00000018123	<i>FBLN5</i>	0.81936	POS
ENSBTAG00000011037	<i>RBPM2</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.86073	POS
ENSBTAG00000011037	<i>RBPM2</i>	ENSBTAG00000034393	<i>FAM149A</i>	0.92282	POS
ENSBTAG00000011037	<i>RBPM2</i>	ENSBTAG00000043983	<i>LRRC19</i>	-0.82583	NEG
ENSBTAG00000011037	<i>RBPM2</i>	ENSBTAG00000046337	<i>TUBB6</i>	0.86986	POS
ENSBTAG00000011037	<i>RBPM2</i>	ENSBTAG00000051781	<i>ENSBTAG00000051781</i>	0.83514	POS
ENSBTAG00000011037	<i>RBPM2</i>	ENSBTAG00000009979	<i>HOXB2</i>	0.82826	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000011305	<i>ENSBTAG00000011305</i>	0.81643	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000014026	<i>PAG1</i>	0.81551	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000014713	<i>RARRES1</i>	0.81583	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000015170	<i>LCT</i>	0.85271	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000015961	<i>TSPAN2</i>	-0.85316	NEG
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000016073	<i>UGCG</i>	0.8088	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000016234	<i>DUOX2</i>	0.82803	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.88176	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000016505	<i>TMC7</i>	0.83724	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.80829	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000019129	<i>BTB</i>	0.81623	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000020018	<i>FRK</i>	0.86535	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000021437	<i>ENSBTAG00000021437</i>	0.80709	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.90762	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.89596	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.8053	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.80607	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.82785	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.8951	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.82251	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	-0.83992	NEG
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.83831	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000044017	<i>MSRB3</i>	-0.82142	NEG
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.87734	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000045787	<i>CDS1</i>	0.86258	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000048246	<i>DPP4</i>	0.85779	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	0.82851	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.84702	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	0.84657	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.85156	POS
ENSBTAG00000011050	<i>PLPP6</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.88025	POS
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000012082	<i>TNFRSF12A</i>	-0.84838	NEG
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000013290	<i>DYSF</i>	-0.88857	NEG
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000013957	<i>GALNT3</i>	0.91606	POS
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.83722	POS
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000014713	<i>RARRES1</i>	0.85898	POS
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000015170	<i>LCT</i>	0.86915	POS
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000015511	<i>FADS3</i>	-0.8085	NEG
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.80989	NEG
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.87342	POS
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000018307	<i>SEMA3F</i>	-0.82902	NEG
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000018331	<i>CLEC3B</i>	-0.84787	NEG
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000018398	<i>GPR4</i>	-0.86461	NEG
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.87773	POS
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000019129	<i>BTD</i>	0.8854	POS
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000020273	<i>YOD1</i>	0.83158	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.85271	POS
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000022509	<i>DNAH9</i>	-0.82712	NEG
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.8535	POS
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000025424	<i>NOTCH4</i>	-0.81187	NEG
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000030259	<i>RASGRF2</i>	-0.81144	NEG
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000030814	<i>TFF2</i>	0.87525	POS
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000034939	<i>BTNL2</i>	0.80125	POS
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000037902	<i>FAM229A</i>	-0.81299	NEG
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.81372	POS
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.84645	POS
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.82009	POS
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000045787	<i>CDS1</i>	0.82864	POS
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000048246	<i>DPP4</i>	0.83919	POS
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.85001	POS
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	-0.91253	NEG
ENSBTAG00000011063	<i>CTSO</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.84093	POS
ENSBTAG00000011170	<i>JAKMIP1</i>	ENSBTAG00000013283	<i>PRR19</i>	-0.81086	NEG
ENSBTAG00000011170	<i>JAKMIP1</i>	ENSBTAG00000015280	<i>KIF2C</i>	0.80144	POS
ENSBTAG00000011170	<i>JAKMIP1</i>	ENSBTAG00000016343	<i>KCNIP2</i>	-0.88708	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000011170	<i>JAKMIP1</i>	ENSBTAG00000017376	<i>GALNT5</i>	0.81178	POS
ENSBTAG00000011170	<i>JAKMIP1</i>	ENSBTAG00000021673	<i>NDC80</i>	0.87995	POS
ENSBTAG00000011170	<i>JAKMIP1</i>	ENSBTAG00000024406	<i>AGR2</i>	0.81584	POS
ENSBTAG00000011170	<i>JAKMIP1</i>	ENSBTAG00000052983	<i>ARMCX4</i>	-0.8816	NEG
ENSBTAG00000011305	<i>ENSBTAG00000011305</i>	ENSBTAG00000016073	<i>UGCG</i>	0.84471	POS
ENSBTAG00000011305	<i>ENSBTAG00000011305</i>	ENSBTAG00000020018	<i>FRK</i>	0.80519	POS
ENSBTAG00000011305	<i>ENSBTAG00000011305</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.81563	POS
ENSBTAG00000011305	<i>ENSBTAG00000011305</i>	ENSBTAG00000035081	<i>SERINC2</i>	0.80498	POS
ENSBTAG00000011305	<i>ENSBTAG00000011305</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	-0.80277	NEG
ENSBTAG00000011305	<i>ENSBTAG00000011305</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.84028	POS
ENSBTAG00000011305	<i>ENSBTAG00000011305</i>	ENSBTAG00000045787	<i>CDS1</i>	0.80147	POS
ENSBTAG00000011305	<i>ENSBTAG00000011305</i>	ENSBTAG00000054162	<i>HOXB8</i>	-0.83076	NEG
ENSBTAG00000011359	<i>CD7</i>	ENSBTAG00000012695	<i>LCK</i>	0.85105	POS
ENSBTAG00000011359	<i>CD7</i>	ENSBTAG00000012931	<i>PLN</i>	-0.9032	NEG
ENSBTAG00000011359	<i>CD7</i>	ENSBTAG00000013306	<i>ZBTB7C</i>	-0.87834	NEG
ENSBTAG00000011359	<i>CD7</i>	ENSBTAG00000022861	<i>KLRJ1</i>	0.80896	POS
ENSBTAG00000011359	<i>CD7</i>	ENSBTAG00000031348	<i>CCR9</i>	0.81565	POS
ENSBTAG00000011359	<i>CD7</i>	ENSBTAG00000053649	<i>ENSBTAG00000053649</i>	0.82759	POS
ENSBTAG00000011359	<i>CD7</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.87526	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000011451	<i>RTN1</i>	ENSBTAG00000018123	<i>FBLN5</i>	0.82052	POS
ENSBTAG00000011451	<i>RTN1</i>	ENSBTAG00000018413	<i>TENT5B</i>	0.83905	POS
ENSBTAG00000011451	<i>RTN1</i>	ENSBTAG00000051248	<i>ENSBTAG00000051248</i>	0.81969	POS
ENSBTAG00000011470	<i>ENSBTAG00000011470</i>	ENSBTAG00000017430	<i>PNCK</i>	0.81273	POS
ENSBTAG00000011473	<i>MYL9</i>	ENSBTAG00000014912	<i>FMOD</i>	0.80498	POS
ENSBTAG00000011473	<i>MYL9</i>	ENSBTAG00000015369	<i>MLLT11</i>	0.8056	POS
ENSBTAG00000011473	<i>MYL9</i>	ENSBTAG00000015961	<i>TSPAN2</i>	0.84375	POS
ENSBTAG00000011473	<i>MYL9</i>	ENSBTAG00000016073	<i>UGCG</i>	-0.80017	NEG
ENSBTAG00000011473	<i>MYL9</i>	ENSBTAG00000016486	<i>SORBS2</i>	0.84004	POS
ENSBTAG00000011473	<i>MYL9</i>	ENSBTAG00000018123	<i>FBLN5</i>	0.83216	POS
ENSBTAG00000011473	<i>MYL9</i>	ENSBTAG00000020273	<i>YOD1</i>	-0.82657	NEG
ENSBTAG00000011473	<i>MYL9</i>	ENSBTAG00000021322	<i>TM4SF20</i>	-0.86573	NEG
ENSBTAG00000011473	<i>MYL9</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.8209	POS
ENSBTAG00000011473	<i>MYL9</i>	ENSBTAG00000034393	<i>FAM149A</i>	0.90124	POS
ENSBTAG00000011473	<i>MYL9</i>	ENSBTAG00000043983	<i>LRRC19</i>	-0.81494	NEG
ENSBTAG00000011473	<i>MYL9</i>	ENSBTAG00000044017	<i>MSRB3</i>	0.83516	POS
ENSBTAG00000011473	<i>MYL9</i>	ENSBTAG00000046337	<i>TUBB6</i>	0.91549	POS
ENSBTAG00000011473	<i>MYL9</i>	ENSBTAG00000048246	<i>DPP4</i>	-0.82121	NEG
ENSBTAG00000011473	<i>MYL9</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	0.82413	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000011473	<i>MYL9</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	-0.80151	NEG
ENSBTAG00000011473	<i>MYL9</i>	ENSBTAG00000055282	<i>CLDN2</i>	-0.8455	NEG
ENSBTAG00000011515	<i>SELL</i>	ENSBTAG00000014441	<i>CD96</i>	0.85301	POS
ENSBTAG00000011515	<i>SELL</i>	ENSBTAG00000015710	<i>CD3E</i>	0.83332	POS
ENSBTAG00000011515	<i>SELL</i>	ENSBTAG00000016835	<i>IL17F</i>	0.86098	POS
ENSBTAG00000011515	<i>SELL</i>	ENSBTAG00000017442	<i>CDO1</i>	-0.80623	NEG
ENSBTAG00000011515	<i>SELL</i>	ENSBTAG00000017863	<i>SRGN</i>	0.91249	POS
ENSBTAG00000011515	<i>SELL</i>	ENSBTAG00000020350	<i>DUSP2</i>	0.80608	POS
ENSBTAG00000011515	<i>SELL</i>	ENSBTAG00000031696	<i>ANKRD44</i>	0.80423	POS
ENSBTAG00000011515	<i>SELL</i>	ENSBTAG00000039197	<i>SLC2A9</i>	0.86708	POS
ENSBTAG00000011515	<i>SELL</i>	ENSBTAG00000049108	<i>TRAT1</i>	0.84084	POS
ENSBTAG00000011515	<i>SELL</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	0.88307	POS
ENSBTAG00000011515	<i>SELL</i>	ENSBTAG00000050324	<i>ENSBTAG00000050324</i>	0.83026	POS
ENSBTAG00000011515	<i>SELL</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.88876	POS
ENSBTAG00000011738	<i>TFR2</i>	ENSBTAG00000046984	<i>ZNF672</i>	0.83077	POS
ENSBTAG00000011738	<i>TFR2</i>	ENSBTAG00000047713	<i>LMNTD2</i>	0.83136	POS
ENSBTAG00000011738	<i>TFR2</i>	ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	0.80706	POS
ENSBTAG00000011784	<i>FGR</i>	ENSBTAG00000012695	<i>LCK</i>	0.87932	POS
ENSBTAG00000011784	<i>FGR</i>	ENSBTAG00000014441	<i>CD96</i>	0.87129	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000011784	<i>FGR</i>	ENSBTAG00000015710	<i>CD3E</i>	0.88215	POS
ENSBTAG00000011784	<i>FGR</i>	ENSBTAG00000016345	<i>IL2RB</i>	0.84642	POS
ENSBTAG00000011784	<i>FGR</i>	ENSBTAG00000019900	<i>LNPEP</i>	0.82743	POS
ENSBTAG00000011784	<i>FGR</i>	ENSBTAG00000022861	<i>KLRJ1</i>	0.84174	POS
ENSBTAG00000011784	<i>FGR</i>	ENSBTAG00000031348	<i>CCR9</i>	0.87347	POS
ENSBTAG00000011784	<i>FGR</i>	ENSBTAG00000040607	<i>SLA2</i>	0.84062	POS
ENSBTAG00000011784	<i>FGR</i>	ENSBTAG00000048873	<i>ENSBTAG00000048873</i>	0.82908	POS
ENSBTAG00000011784	<i>FGR</i>	ENSBTAG00000050324	<i>ENSBTAG00000050324</i>	0.91106	POS
ENSBTAG00000011784	<i>FGR</i>	ENSBTAG00000053563	<i>ENSBTAG00000053563</i>	0.81836	POS
ENSBTAG00000011784	<i>FGR</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.85227	POS
ENSBTAG00000011784	<i>FGR</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.83633	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000013417	<i>ENSBTAG00000013417</i>	-0.80545	NEG
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.82522	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000015547	<i>SLC26A3</i>	0.8178	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000015939	<i>NECTIN1</i>	0.82543	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000016467	<i>SLC22A17</i>	-0.8769	NEG
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.80075	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000017376	<i>GALNT5</i>	0.86576	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000017468	<i>NUCB2</i>	0.82826	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000017642	<i>BMP3</i>	0.8381	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000017722	<i>F5</i>	0.80599	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000018316	<i>ZMYND15</i>	-0.80591	NEG
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000020580	<i>TCN1</i>	0.84057	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000020859	<i>SERPINF2</i>	0.93233	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000021276	<i>TFF3</i>	0.88765	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000021303	<i>RSAD1</i>	-0.80747	NEG
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000023207	<i>FAM3D</i>	0.87344	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000024406	<i>AGR2</i>	0.81251	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000028359	<i>U3</i>	-0.84159	NEG
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000030711	<i>LYPD8</i>	0.84725	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.81564	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000032193	<i>REG4</i>	0.81962	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	0.82996	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000039413	<i>ENSBTAG00000039413</i>	0.87124	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000042471	<i>SNORA25</i>	-0.80401	NEG
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000045578	<i>AGR3</i>	0.83064	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000048125	<i>ENTPD2</i>	0.83861	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000048257	<i>CYP4F8</i>	0.85753	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000050212	<i>MUC2</i>	0.88593	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	0.91464	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000052510	<i>CCL26</i>	0.85872	POS
ENSBTAG00000011941	<i>LYZF1</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.82372	NEG
ENSBTAG00000011962	<i>PLA2G3</i>	ENSBTAG00000011970	<i>FNIP2</i>	-0.82077	NEG
ENSBTAG00000011962	<i>PLA2G3</i>	ENSBTAG00000014459	<i>MAP6D1</i>	-0.86778	NEG
ENSBTAG00000011962	<i>PLA2G3</i>	ENSBTAG00000016343	<i>KCNIP2</i>	-0.86819	NEG
ENSBTAG00000011962	<i>PLA2G3</i>	ENSBTAG00000017376	<i>GALNT5</i>	0.81075	POS
ENSBTAG00000011962	<i>PLA2G3</i>	ENSBTAG00000020191	<i>FEV</i>	0.8356	POS
ENSBTAG00000011962	<i>PLA2G3</i>	ENSBTAG00000030921	<i>FAM3B</i>	0.83029	POS
ENSBTAG00000011962	<i>PLA2G3</i>	ENSBTAG00000034939	<i>BTNL2</i>	0.81235	POS
ENSBTAG00000011962	<i>PLA2G3</i>	ENSBTAG00000035081	<i>SERINC2</i>	0.80768	POS
ENSBTAG00000011962	<i>PLA2G3</i>	ENSBTAG00000046158	<i>CFB</i>	0.80645	POS
ENSBTAG00000011962	<i>PLA2G3</i>	ENSBTAG00000050212	<i>MUC2</i>	0.83169	POS
ENSBTAG00000011970	<i>FNIP2</i>	ENSBTAG00000014459	<i>MAP6D1</i>	0.82093	POS
ENSBTAG00000011970	<i>FNIP2</i>	ENSBTAG00000023207	<i>FAM3D</i>	-0.80194	NEG
ENSBTAG00000011970	<i>FNIP2</i>	ENSBTAG00000024406	<i>AGR2</i>	-0.86706	NEG
ENSBTAG00000011970	<i>FNIP2</i>	ENSBTAG00000032193	<i>REG4</i>	-0.83151	NEG
ENSBTAG00000011970	<i>FNIP2</i>	ENSBTAG00000034138	<i>ENSBTAG00000034138</i>	0.81156	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000011970	<i>FNIP2</i>	ENSBTAG00000046984	<i>ZNF672</i>	0.86284	POS
ENSBTAG00000011970	<i>FNIP2</i>	ENSBTAG00000050212	<i>MUC2</i>	-0.82954	NEG
ENSBTAG00000011970	<i>FNIP2</i>	ENSBTAG00000052510	<i>CCL26</i>	-0.83572	NEG
ENSBTAG00000011970	<i>FNIP2</i>	ENSBTAG00000054525	<i>ENSBTAG00000054525</i>	-0.82891	NEG
ENSBTAG00000012052	<i>PADI4</i>	ENSBTAG00000024852	<i>ENSBTAG00000024852</i>	0.8113	POS
ENSBTAG00000012052	<i>PADI4</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	0.82013	POS
ENSBTAG00000012052	<i>PADI4</i>	ENSBTAG00000053928	<i>GPR25</i>	0.83268	POS
ENSBTAG00000012054	<i>ALDH3B2</i>	ENSBTAG00000017280	<i>C3</i>	-0.84211	NEG
ENSBTAG00000012054	<i>ALDH3B2</i>	ENSBTAG00000019940	<i>RASGRF1</i>	0.84309	POS
ENSBTAG00000012054	<i>ALDH3B2</i>	ENSBTAG00000020184	<i>AQP8</i>	0.80502	POS
ENSBTAG00000012054	<i>ALDH3B2</i>	ENSBTAG00000054229	<i>ENSBTAG00000054229</i>	-0.85313	NEG
ENSBTAG00000012054	<i>ALDH3B2</i>	ENSBTAG00000016513	<i>ZNF331</i>	0.8347	POS
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000013957	<i>GALNT3</i>	-0.88935	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000014026	<i>PAG1</i>	-0.81711	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000014191	<i>QSOX1</i>	-0.83882	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000014713	<i>RARRES1</i>	-0.82035	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000014831	<i>PPP1R3C</i>	0.80531	POS
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000015170	<i>LCT</i>	-0.83834	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000015511	<i>FADS3</i>	0.81032	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	-0.83931	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000016924	<i>CAP2</i>	0.80027	POS
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000018744	<i>MGAT5</i>	-0.83983	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000019129	<i>BTD</i>	-0.83276	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000020018	<i>FRK</i>	-0.80298	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000020957	<i>FZD5</i>	-0.86656	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000021322	<i>TM4SF20</i>	-0.85072	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000022509	<i>DNAH9</i>	0.80988	POS
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	-0.89514	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000025005	<i>TMT1A</i>	-0.88084	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000037795	<i>CYP2C87</i>	-0.80518	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000039326	<i>GCNT2</i>	-0.90917	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000043983	<i>LRRC19</i>	-0.86862	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000048246	<i>DPP4</i>	-0.84711	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	-0.8311	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	-0.80861	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	-0.88223	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000055282	<i>CLDN2</i>	-0.86477	NEG
ENSBTAG00000012082	<i>TNFRSF12A</i>	ENSBTAG00000007660	<i>ZNF414</i>	0.80678	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000012954	<i>ERAS</i>	0.95434	POS
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000015280	<i>KIF2C</i>	-0.81515	NEG
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000015288	<i>BEST4</i>	0.88313	POS
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000015635	<i>TNFRSF4</i>	0.92518	POS
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000015798	<i>UCKL1</i>	0.96758	POS
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000016602	<i>LBX2</i>	0.86556	POS
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000017280	<i>C3</i>	-0.86286	NEG
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000017468	<i>NUCB2</i>	-0.8039	NEG
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000017863	<i>SRGN</i>	-0.80269	NEG
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000020184	<i>AQP8</i>	0.84082	POS
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000021303	<i>RSAD1</i>	0.85712	POS
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000030247	<i>NSMF</i>	0.98555	POS
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000032193	<i>REG4</i>	-0.88396	NEG
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000047713	<i>LMNTD2</i>	0.93854	POS
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	0.91301	POS
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	0.82631	POS
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000053558	<i>NOTUM</i>	0.86625	POS
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000003843	<i>SMARCA1</i>	0.86715	POS
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000007318	<i>ZNF687</i>	0.82645	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.87225	POS
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000012522	<i>ZNF283</i>	0.86803	POS
ENSBTAG00000012121	<i>NOXA1</i>	ENSBTAG00000013271	<i>NCOR1</i>	0.82963	POS
ENSBTAG00000012212	<i>CYP26B1</i>	ENSBTAG00000013157	<i>NOVA2</i>	0.81418	POS
ENSBTAG00000012212	<i>CYP26B1</i>	ENSBTAG00000013290	<i>DYSF</i>	0.82626	POS
ENSBTAG00000012212	<i>CYP26B1</i>	ENSBTAG00000014560	<i>HLX</i>	0.86897	POS
ENSBTAG00000012212	<i>CYP26B1</i>	ENSBTAG00000015108	<i>USHBP1</i>	0.82588	POS
ENSBTAG00000012212	<i>CYP26B1</i>	ENSBTAG00000016915	<i>FLT1</i>	0.84861	POS
ENSBTAG00000012212	<i>CYP26B1</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.80146	POS
ENSBTAG00000012212	<i>CYP26B1</i>	ENSBTAG00000018419	<i>ADCY4</i>	0.81245	POS
ENSBTAG00000012212	<i>CYP26B1</i>	ENSBTAG00000019497	<i>ILDR2</i>	0.81189	POS
ENSBTAG00000012212	<i>CYP26B1</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.86207	POS
ENSBTAG00000012212	<i>CYP26B1</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.82164	POS
ENSBTAG00000012212	<i>CYP26B1</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.82822	POS
ENSBTAG00000012212	<i>CYP26B1</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.84077	POS
ENSBTAG00000012212	<i>CYP26B1</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.80965	POS
ENSBTAG00000012212	<i>CYP26B1</i>	ENSBTAG00000039529	<i>BTBD19</i>	0.8293	POS
ENSBTAG00000012212	<i>CYP26B1</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.84174	POS
ENSBTAG00000012212	<i>CYP26B1</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.90379	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000012272	<i>TMEM19</i>	ENSBTAG00000013422	<i>GABRB3</i>	0.82286	POS
ENSBTAG00000012272	<i>TMEM19</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.8005	POS
ENSBTAG00000012272	<i>TMEM19</i>	ENSBTAG00000015939	<i>NECTIN1</i>	0.91456	POS
ENSBTAG00000012272	<i>TMEM19</i>	ENSBTAG00000016204	<i>C1RL</i>	0.87402	POS
ENSBTAG00000012272	<i>TMEM19</i>	ENSBTAG00000016841	<i>ATP10B</i>	0.8208	POS
ENSBTAG00000012272	<i>TMEM19</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.88036	POS
ENSBTAG00000012272	<i>TMEM19</i>	ENSBTAG00000017642	<i>BMP3</i>	0.91655	POS
ENSBTAG00000012272	<i>TMEM19</i>	ENSBTAG00000019454	<i>ANGEL1</i>	0.8661	POS
ENSBTAG00000012272	<i>TMEM19</i>	ENSBTAG00000020580	<i>TCN1</i>	0.81538	POS
ENSBTAG00000012272	<i>TMEM19</i>	ENSBTAG00000021276	<i>TFF3</i>	0.83259	POS
ENSBTAG00000012272	<i>TMEM19</i>	ENSBTAG00000028359	<i>U3</i>	-0.80305	NEG
ENSBTAG00000012272	<i>TMEM19</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.92938	POS
ENSBTAG00000012272	<i>TMEM19</i>	ENSBTAG00000042471	<i>SNORA25</i>	-0.85553	NEG
ENSBTAG00000012272	<i>TMEM19</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	-0.92608	NEG
ENSBTAG00000012272	<i>TMEM19</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	-0.85906	NEG
ENSBTAG00000012272	<i>TMEM19</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.88723	NEG
ENSBTAG00000012449	<i>AFF3</i>	ENSBTAG00000053928	<i>GPR25</i>	0.81125	POS
ENSBTAG00000012463	<i>ZMAT3</i>	ENSBTAG00000020184	<i>AQP8</i>	0.8179	POS
ENSBTAG00000012463	<i>ZMAT3</i>	ENSBTAG00000021303	<i>RSAD1</i>	0.83183	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000012463	<i>ZMAT3</i>	ENSBTAG00000030757	<i>ELFN1</i>	-0.85115	NEG
ENSBTAG00000012463	<i>ZMAT3</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	-0.80335	NEG
ENSBTAG00000012463	<i>ZMAT3</i>	ENSBTAG00000048980	<i>ENSBTAG00000048980</i>	-0.82133	NEG
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000013048	<i>NIPAL3</i>	0.85031	POS
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000013290	<i>DYSF</i>	-0.83603	NEG
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000013422	<i>GABRB3</i>	0.81964	POS
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000013957	<i>GALNT3</i>	0.84189	POS
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000014026	<i>PAG1</i>	0.80471	POS
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.81785	POS
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000014560	<i>HLX</i>	-0.82977	NEG
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000015108	<i>USHBP1</i>	-0.83776	NEG
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000015170	<i>LCT</i>	0.80057	POS
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.86199	NEG
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000016505	<i>TMC7</i>	0.8288	POS
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.80258	POS
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000016841	<i>ATP10B</i>	0.80784	POS
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000016915	<i>FLT1</i>	-0.82536	NEG
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000018307	<i>SEMA3F</i>	-0.91398	NEG
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000018331	<i>CLEC3B</i>	-0.84901	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000018398	<i>GPR4</i>	-0.85441	NEG
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.83748	POS
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000020273	<i>YOD1</i>	0.85851	POS
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000021467	<i>IGFBP6</i>	-0.81153	NEG
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000022509	<i>DNAH9</i>	-0.81326	NEG
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	-0.81027	NEG
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.80481	POS
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.84836	POS
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.86197	POS
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.83776	POS
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	-0.85667	NEG
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	-0.8004	NEG
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	0.82751	POS
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	-0.84119	NEG
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000053073	<i>ENSBTAG00000053073</i>	-0.87082	NEG
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.80747	POS
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000003304	<i>HOXC4</i>	-0.80731	NEG
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.90845	NEG
ENSBTAG00000012482	<i>CDCP1</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.82622	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000012638	<i>S100A12</i>	ENSBTAG00000013334	<i>CSF3R</i>	0.81122	POS
ENSBTAG00000012638	<i>S100A12</i>	ENSBTAG00000017280	<i>C3</i>	0.85815	POS
ENSBTAG00000012638	<i>S100A12</i>	ENSBTAG00000018316	<i>ZMYND15</i>	-0.83027	NEG
ENSBTAG00000012638	<i>S100A12</i>	ENSBTAG00000018540	<i>NOX4</i>	-0.81894	NEG
ENSBTAG00000012638	<i>S100A12</i>	ENSBTAG00000021303	<i>RSAD1</i>	-0.80275	NEG
ENSBTAG00000012638	<i>S100A12</i>	ENSBTAG00000031814	<i>SDS</i>	0.94506	POS
ENSBTAG00000012638	<i>S100A12</i>	ENSBTAG00000052290	<i>ENSBTAG00000052290</i>	-0.86301	NEG
ENSBTAG00000012638	<i>S100A12</i>	ENSBTAG00000053558	<i>NOTUM</i>	-0.86106	NEG
ENSBTAG00000012638	<i>S100A12</i>	ENSBTAG00000008313	<i>KLF15</i>	0.81979	POS
ENSBTAG00000012695	<i>LCK</i>	ENSBTAG00000014441	<i>CD96</i>	0.87435	POS
ENSBTAG00000012695	<i>LCK</i>	ENSBTAG00000015710	<i>CD3E</i>	0.86838	POS
ENSBTAG00000012695	<i>LCK</i>	ENSBTAG00000016345	<i>IL2RB</i>	0.92488	POS
ENSBTAG00000012695	<i>LCK</i>	ENSBTAG00000018367	<i>CD6</i>	0.80946	POS
ENSBTAG00000012695	<i>LCK</i>	ENSBTAG00000031348	<i>CCR9</i>	0.91521	POS
ENSBTAG00000012695	<i>LCK</i>	ENSBTAG00000040607	<i>SLA2</i>	0.86176	POS
ENSBTAG00000012695	<i>LCK</i>	ENSBTAG00000053649	<i>ENSBTAG00000053649</i>	0.92521	POS
ENSBTAG00000012695	<i>LCK</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.90914	POS
ENSBTAG00000012708	<i>SERPINI1</i>	ENSBTAG00000048257	<i>CYP4F8</i>	0.808	POS
ENSBTAG00000012708	<i>SERPINI1</i>	ENSBTAG00000049217	<i>ENSBTAG00000049217</i>	-0.82592	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000012729	<i>ARHGEF9</i>	ENSBTAG00000012931	<i>PLN</i>	0.80683	POS
ENSBTAG00000012729	<i>ARHGEF9</i>	ENSBTAG00000014217	<i>HHEX</i>	0.88293	POS
ENSBTAG00000012729	<i>ARHGEF9</i>	ENSBTAG00000016486	<i>SORBS2</i>	0.89117	POS
ENSBTAG00000012729	<i>ARHGEF9</i>	ENSBTAG00000016505	<i>TMC7</i>	-0.82141	NEG
ENSBTAG00000012729	<i>ARHGEF9</i>	ENSBTAG00000018398	<i>GPR4</i>	0.83374	POS
ENSBTAG00000012729	<i>ARHGEF9</i>	ENSBTAG00000021368	<i>ENSBTAG00000021368</i>	-0.83331	NEG
ENSBTAG00000012729	<i>ARHGEF9</i>	ENSBTAG00000021437	<i>ENSBTAG00000021437</i>	-0.91743	NEG
ENSBTAG00000012729	<i>ARHGEF9</i>	ENSBTAG00000021916	<i>MYL4</i>	0.80263	POS
ENSBTAG00000012729	<i>ARHGEF9</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.81954	POS
ENSBTAG00000012729	<i>ARHGEF9</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	0.85205	POS
ENSBTAG00000012729	<i>ARHGEF9</i>	ENSBTAG00000046649	<i>SGPP2</i>	-0.84677	NEG
ENSBTAG00000012931	<i>PLN</i>	ENSBTAG00000013027	<i>ENSBTAG00000013027</i>	-0.81508	NEG
ENSBTAG00000012931	<i>PLN</i>	ENSBTAG00000013127	<i>LPCAT3</i>	-0.81009	NEG
ENSBTAG00000012931	<i>PLN</i>	ENSBTAG00000014217	<i>HHEX</i>	0.81515	POS
ENSBTAG00000012931	<i>PLN</i>	ENSBTAG00000015369	<i>MLLT11</i>	0.80104	POS
ENSBTAG00000012931	<i>PLN</i>	ENSBTAG00000016073	<i>UGCG</i>	-0.84774	NEG
ENSBTAG00000012931	<i>PLN</i>	ENSBTAG00000016486	<i>SORBS2</i>	0.81823	POS
ENSBTAG00000012931	<i>PLN</i>	ENSBTAG00000034393	<i>FAM149A</i>	0.81867	POS
ENSBTAG00000012931	<i>PLN</i>	ENSBTAG00000045925	<i>CITED1</i>	0.8472	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000012931	<i>PLN</i>	ENSBTAG00000000040	<i>MAFG</i>	-0.80443	NEG
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000015280	<i>KIF2C</i>	-0.82803	NEG
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000015288	<i>BEST4</i>	0.86443	POS
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000015635	<i>TNFRSF4</i>	0.90203	POS
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000015798	<i>UCKL1</i>	0.97079	POS
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000016467	<i>SLC22A17</i>	0.838	POS
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000016602	<i>LBX2</i>	0.91304	POS
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000017280	<i>C3</i>	-0.86103	NEG
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000017468	<i>NUCB2</i>	-0.8061	NEG
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000017863	<i>SRGN</i>	-0.80033	NEG
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000018316	<i>ZMYND15</i>	0.80339	POS
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000019940	<i>RASGRF1</i>	0.84474	POS
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000020184	<i>AQP8</i>	0.8388	POS
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000021303	<i>RSAD1</i>	0.9047	POS
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000024406	<i>AGR2</i>	-0.81554	NEG
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000030247	<i>NSMF</i>	0.95775	POS
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000032193	<i>REG4</i>	-0.91397	NEG
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000046984	<i>ZNF672</i>	0.80164	POS
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000047713	<i>LMNTD2</i>	0.94056	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	0.84522	POS
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000053558	<i>NOTUM</i>	0.90139	POS
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000003843	<i>SMARCA1</i>	0.91648	POS
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000007318	<i>ZNF687</i>	0.82899	POS
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000008313	<i>KLF15</i>	-0.85841	NEG
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000008409	<i>MYC</i>	-0.82844	NEG
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.88647	POS
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000012522	<i>ZNF283</i>	0.81966	POS
ENSBTAG00000012954	<i>ERAS</i>	ENSBTAG00000013271	<i>NCOR1</i>	0.84047	POS
ENSBTAG00000012963	<i>VILL</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	0.84795	POS
ENSBTAG00000013027	<i>ENSBTAG00000013027</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.83514	NEG
ENSBTAG00000013027	<i>ENSBTAG00000013027</i>	ENSBTAG00000018398	<i>GPR4</i>	-0.83437	NEG
ENSBTAG00000013027	<i>ENSBTAG00000013027</i>	ENSBTAG00000021368	<i>ENSBTAG00000021368</i>	0.81914	POS
ENSBTAG00000013027	<i>ENSBTAG00000013027</i>	ENSBTAG00000021516	<i>ENSBTAG00000021516</i>	0.83155	POS
ENSBTAG00000013027	<i>ENSBTAG00000013027</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.83753	POS
ENSBTAG00000013027	<i>ENSBTAG00000013027</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	-0.82451	NEG
ENSBTAG00000013027	<i>ENSBTAG00000013027</i>	ENSBTAG00000050809	<i>GIPC3</i>	-0.84598	NEG
ENSBTAG00000013048	<i>NIPAL3</i>	ENSBTAG00000014831	<i>PPP1R3C</i>	-0.81466	NEG
ENSBTAG00000013048	<i>NIPAL3</i>	ENSBTAG00000017642	<i>BMP3</i>	0.80234	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000013048	<i>NIPAL3</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.80076	POS
ENSBTAG00000013048	<i>NIPAL3</i>	ENSBTAG00000019454	<i>ANGEL1</i>	0.89478	POS
ENSBTAG00000013048	<i>NIPAL3</i>	ENSBTAG00000021517	<i>TMEM216</i>	-0.80555	NEG
ENSBTAG00000013048	<i>NIPAL3</i>	ENSBTAG00000028359	<i>U3</i>	-0.83204	NEG
ENSBTAG00000013048	<i>NIPAL3</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.81334	POS
ENSBTAG00000013048	<i>NIPAL3</i>	ENSBTAG00000055095	<i>ENSBTAG00000055095</i>	-0.82015	NEG
ENSBTAG00000013048	<i>NIPAL3</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.82567	NEG
ENSBTAG00000013127	<i>LPCAT3</i>	ENSBTAG00000013290	<i>DYSF</i>	-0.85867	NEG
ENSBTAG00000013127	<i>LPCAT3</i>	ENSBTAG00000013957	<i>GALNT3</i>	0.89944	POS
ENSBTAG00000013127	<i>LPCAT3</i>	ENSBTAG00000014713	<i>RARRES1</i>	0.80511	POS
ENSBTAG00000013127	<i>LPCAT3</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.90764	NEG
ENSBTAG00000013127	<i>LPCAT3</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.86925	POS
ENSBTAG00000013127	<i>LPCAT3</i>	ENSBTAG00000016924	<i>CAP2</i>	-0.85054	NEG
ENSBTAG00000013127	<i>LPCAT3</i>	ENSBTAG00000018307	<i>SEMA3F</i>	-0.80165	NEG
ENSBTAG00000013127	<i>LPCAT3</i>	ENSBTAG00000018398	<i>GPR4</i>	-0.8491	NEG
ENSBTAG00000013127	<i>LPCAT3</i>	ENSBTAG00000019129	<i>BTD</i>	0.9171	POS
ENSBTAG00000013127	<i>LPCAT3</i>	ENSBTAG00000020018	<i>FRK</i>	0.82636	POS
ENSBTAG00000013127	<i>LPCAT3</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.82784	POS
ENSBTAG00000013127	<i>LPCAT3</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.82324	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000013127	<i>LPCAT3</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.84952	POS
ENSBTAG00000013127	<i>LPCAT3</i>	ENSBTAG00000039372	<i>CIMAPID</i>	-0.81764	NEG
ENSBTAG00000013127	<i>LPCAT3</i>	ENSBTAG00000045787	<i>CDS1</i>	0.86423	POS
ENSBTAG00000013127	<i>LPCAT3</i>	ENSBTAG00000048246	<i>DPP4</i>	0.81802	POS
ENSBTAG00000013127	<i>LPCAT3</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.84927	POS
ENSBTAG00000013127	<i>LPCAT3</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.85056	POS
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000013290	<i>DYSF</i>	0.85906	POS
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000014560	<i>HLX</i>	0.83996	POS
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000015108	<i>USHBP1</i>	0.84427	POS
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000016915	<i>FLT1</i>	0.85244	POS
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000017183	<i>PDLIM3</i>	0.85547	POS
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000017508	<i>CYSLTR2</i>	0.80819	POS
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.8864	POS
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.85049	POS
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000018398	<i>GPR4</i>	0.83539	POS
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.90195	POS
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.82869	POS
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.84946	POS
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.86953	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.83298	POS
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000031348	<i>CCR9</i>	-0.80885	NEG
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000048550	<i>GCSAM</i>	-0.80856	NEG
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.88717	POS
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000050189	<i>ENSBTAG00000050189</i>	-0.81314	NEG
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000009979	<i>HOXB2</i>	0.80755	POS
ENSBTAG00000013157	<i>NOVA2</i>	ENSBTAG00000017397	<i>ZNF423</i>	0.80652	POS
ENSBTAG00000013283	<i>PRR19</i>	ENSBTAG00000013345	<i>ENSBTAG00000013345</i>	-0.80079	NEG
ENSBTAG00000013283	<i>PRR19</i>	ENSBTAG00000016263	<i>SLC25A14</i>	0.86702	POS
ENSBTAG00000013283	<i>PRR19</i>	ENSBTAG00000048400	<i>ENSBTAG00000048400</i>	-0.83676	NEG
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000013957	<i>GALNT3</i>	-0.88745	NEG
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000014560	<i>HLX</i>	0.84681	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000015108	<i>USHBP1</i>	0.88412	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000016365	<i>ABCG5</i>	-0.81905	NEG
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000016486	<i>SORBS2</i>	0.88492	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000016505	<i>TMC7</i>	-0.85787	NEG
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000016841	<i>ATP10B</i>	-0.80935	NEG
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000016915	<i>FLT1</i>	0.89554	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.95933	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.91382	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000018398	<i>GPR4</i>	0.96902	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000018419	<i>ADCY4</i>	0.92252	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000018744	<i>MGAT5</i>	-0.86553	NEG
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000019129	<i>BTD</i>	-0.82151	NEG
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000019497	<i>ILDR2</i>	0.85725	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000020273	<i>YOD1</i>	-0.83646	NEG
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.87296	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.8995	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	-0.82986	NEG
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000021916	<i>MYL4</i>	0.8696	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.92273	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.96177	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.90044	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	-0.82069	NEG
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	0.83468	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	0.8435	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000045787	<i>CDS1</i>	-0.83033	NEG
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000049058	<i>INHBB</i>	0.80902	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.90962	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.84364	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	-0.8179	NEG
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.83877	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000006366	<i>NFATC4</i>	0.80077	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000008688	<i>HEYL</i>	0.88561	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000017397	<i>ZNF423</i>	0.84728	POS
ENSBTAG00000013290	<i>DYSF</i>	ENSBTAG00000052504	<i>KLF2</i>	0.81371	POS
ENSBTAG00000013306	<i>ZBTB7C</i>	ENSBTAG00000014217	<i>HHEX</i>	0.84199	POS
ENSBTAG00000013306	<i>ZBTB7C</i>	ENSBTAG00000017442	<i>CDO1</i>	0.82681	POS
ENSBTAG00000013306	<i>ZBTB7C</i>	ENSBTAG00000021916	<i>MYL4</i>	0.81859	POS
ENSBTAG00000013306	<i>ZBTB7C</i>	ENSBTAG00000022861	<i>KLRJ1</i>	-0.8644	NEG
ENSBTAG00000013320	<i>TSPAN1</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.81876	POS
ENSBTAG00000013320	<i>TSPAN1</i>	ENSBTAG00000018669	<i>PLB1</i>	0.86298	POS
ENSBTAG00000013320	<i>TSPAN1</i>	ENSBTAG00000020957	<i>FZD5</i>	0.8234	POS
ENSBTAG00000013320	<i>TSPAN1</i>	ENSBTAG00000021501	<i>ENSBTAG00000021501</i>	0.85498	POS
ENSBTAG00000013320	<i>TSPAN1</i>	ENSBTAG00000030814	<i>TFF2</i>	0.81015	POS
ENSBTAG00000013320	<i>TSPAN1</i>	ENSBTAG00000030921	<i>FAM3B</i>	0.80033	POS
ENSBTAG00000013320	<i>TSPAN1</i>	ENSBTAG00000034939	<i>BTNL2</i>	0.80393	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000013320	<i>TSPAN1</i>	ENSBTAG00000046421	<i>SFTPD</i>	0.85265	POS
ENSBTAG00000013320	<i>TSPAN1</i>	ENSBTAG00000050212	<i>MUC2</i>	0.83778	POS
ENSBTAG00000013320	<i>TSPAN1</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	0.89522	POS
ENSBTAG00000013320	<i>TSPAN1</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.85011	POS
ENSBTAG00000013320	<i>TSPAN1</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	-0.80313	NEG
ENSBTAG00000013334	<i>CSF3R</i>	ENSBTAG00000019454	<i>ANGEL1</i>	0.81924	POS
ENSBTAG00000013334	<i>CSF3R</i>	ENSBTAG00000031814	<i>SDS</i>	0.90222	POS
ENSBTAG00000013334	<i>CSF3R</i>	ENSBTAG00000051810	<i>ENSBTAG00000051810</i>	-0.82608	NEG
ENSBTAG00000013334	<i>CSF3R</i>	ENSBTAG00000052822	<i>ENSBTAG00000052822</i>	0.82963	POS
ENSBTAG00000013345	<i>ENSBTAG00000013345</i>	ENSBTAG00000048400	<i>ENSBTAG00000048400</i>	0.80688	POS
ENSBTAG00000013417	<i>ENSBTAG00000013417</i>	ENSBTAG00000015939	<i>NECTIN1</i>	-0.81542	NEG
ENSBTAG00000013417	<i>ENSBTAG00000013417</i>	ENSBTAG00000016467	<i>SLC22A17</i>	0.80851	POS
ENSBTAG00000013417	<i>ENSBTAG00000013417</i>	ENSBTAG00000017722	<i>F5</i>	-0.81561	NEG
ENSBTAG00000013417	<i>ENSBTAG00000013417</i>	ENSBTAG00000028359	<i>U3</i>	0.81845	POS
ENSBTAG00000013417	<i>ENSBTAG00000013417</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	-0.80665	NEG
ENSBTAG00000013417	<i>ENSBTAG00000013417</i>	ENSBTAG00000039413	<i>ENSBTAG00000039413</i>	-0.80481	NEG
ENSBTAG00000013417	<i>ENSBTAG00000013417</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	0.83719	POS
ENSBTAG00000013417	<i>ENSBTAG00000013417</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	0.93598	POS
ENSBTAG00000013422	<i>GABRB3</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.86119	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000013422	<i>GABRB3</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.83195	POS
ENSBTAG00000013422	<i>GABRB3</i>	ENSBTAG00000016841	<i>ATP10B</i>	0.83746	POS
ENSBTAG00000013422	<i>GABRB3</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.92089	POS
ENSBTAG00000013422	<i>GABRB3</i>	ENSBTAG00000017642	<i>BMP3</i>	0.80507	POS
ENSBTAG00000013422	<i>GABRB3</i>	ENSBTAG00000019454	<i>ANGEL1</i>	0.80861	POS
ENSBTAG00000013422	<i>GABRB3</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.88889	POS
ENSBTAG00000013422	<i>GABRB3</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.83786	POS
ENSBTAG00000013422	<i>GABRB3</i>	ENSBTAG00000042600	<i>SNORD94</i>	-0.86447	NEG
ENSBTAG00000013422	<i>GABRB3</i>	ENSBTAG00000046158	<i>CFB</i>	0.81203	POS
ENSBTAG00000013422	<i>GABRB3</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	0.82847	POS
ENSBTAG00000013422	<i>GABRB3</i>	ENSBTAG00000053073	<i>ENSBTAG00000053073</i>	-0.80062	NEG
ENSBTAG00000013422	<i>GABRB3</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.82664	POS
ENSBTAG00000013422	<i>GABRB3</i>	ENSBTAG00000055095	<i>ENSBTAG00000055095</i>	-0.8665	NEG
ENSBTAG00000013422	<i>GABRB3</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.81156	NEG
ENSBTAG00000013422	<i>GABRB3</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.83737	NEG
ENSBTAG00000013578	<i>CHI3L2</i>	ENSBTAG00000018669	<i>PLB1</i>	0.82018	POS
ENSBTAG00000013578	<i>CHI3L2</i>	ENSBTAG00000021501	<i>ENSBTAG00000021501</i>	0.83818	POS
ENSBTAG00000013578	<i>CHI3L2</i>	ENSBTAG00000049806	<i>ENSBTAG00000049806</i>	0.80569	POS
ENSBTAG00000013662	<i>COL8A1</i>	ENSBTAG00000024603	<i>NCOR2</i>	-0.82234	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000013730	<i>CD5</i>	ENSBTAG00000015280	<i>KIF2C</i>	0.80135	POS
ENSBTAG00000013730	<i>CD5</i>	ENSBTAG00000016770	<i>GAPT</i>	0.81962	POS
ENSBTAG00000013730	<i>CD5</i>	ENSBTAG00000017863	<i>SRGN</i>	0.81911	POS
ENSBTAG00000013730	<i>CD5</i>	ENSBTAG00000020350	<i>DUSP2</i>	0.80119	POS
ENSBTAG00000013730	<i>CD5</i>	ENSBTAG00000029897	<i>MIR21</i>	-0.82961	NEG
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.8718	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000014713	<i>RARRES1</i>	0.86218	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000015170	<i>LCT</i>	0.87763	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000016365	<i>ABCG5</i>	0.82535	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.88367	NEG
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.91769	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.81689	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000016924	<i>CAP2</i>	-0.84253	NEG
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000018307	<i>SEMA3F</i>	-0.86139	NEG
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000018398	<i>GPR4</i>	-0.8565	NEG
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.86795	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000019129	<i>BTD</i>	0.9044	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000020018	<i>FRK</i>	0.80191	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000020273	<i>YOD1</i>	0.89416	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000020957	<i>FZD5</i>	0.84163	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000021322	<i>TM4SF20</i>	0.80792	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.8255	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.85461	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000022509	<i>DNAH9</i>	-0.86673	NEG
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.83385	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.83776	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000030814	<i>TFF2</i>	0.83234	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.83217	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.81883	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.86532	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.88723	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.82881	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000045787	<i>CDS1</i>	0.86472	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000048246	<i>DPP4</i>	0.87124	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.86995	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	-0.87321	NEG
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.90504	POS
ENSBTAG00000013957	<i>GALNT3</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.85083	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000013973	<i>SERPIND1</i>	ENSBTAG00000020018	<i>FRK</i>	-0.81144	NEG
ENSBTAG00000013973	<i>SERPIND1</i>	ENSBTAG00000021322	<i>TM4SF20</i>	-0.88923	NEG
ENSBTAG00000013973	<i>SERPIND1</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	-0.83261	NEG
ENSBTAG00000013973	<i>SERPIND1</i>	ENSBTAG00000037651	<i>SI00A2</i>	-0.84744	NEG
ENSBTAG00000013973	<i>SERPIND1</i>	ENSBTAG00000045925	<i>CITED1</i>	0.80237	POS
ENSBTAG00000013973	<i>SERPIND1</i>	ENSBTAG00000049383	<i>LSAMP</i>	0.83286	POS
ENSBTAG00000014014	<i>UBIAD1</i>	ENSBTAG00000016345	<i>IL2RB</i>	0.83223	POS
ENSBTAG00000014014	<i>UBIAD1</i>	ENSBTAG00000018940	<i>CRACR2A</i>	0.91898	POS
ENSBTAG00000014014	<i>UBIAD1</i>	ENSBTAG00000046649	<i>SGPP2</i>	0.8069	POS
ENSBTAG00000014014	<i>UBIAD1</i>	ENSBTAG00000053928	<i>GPR25</i>	0.81629	POS
ENSBTAG00000014014	<i>UBIAD1</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.88433	NEG
ENSBTAG00000014026	<i>PAG1</i>	ENSBTAG00000014191	<i>QSOX1</i>	0.80847	POS
ENSBTAG00000014026	<i>PAG1</i>	ENSBTAG00000016073	<i>UGCG</i>	0.89599	POS
ENSBTAG00000014026	<i>PAG1</i>	ENSBTAG00000016365	<i>ABCG5</i>	0.82221	POS
ENSBTAG00000014026	<i>PAG1</i>	ENSBTAG00000018669	<i>PLB1</i>	0.80831	POS
ENSBTAG00000014026	<i>PAG1</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.86498	POS
ENSBTAG00000014026	<i>PAG1</i>	ENSBTAG00000021872	<i>RASGRP1</i>	0.87006	POS
ENSBTAG00000014026	<i>PAG1</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.89452	POS
ENSBTAG00000014026	<i>PAG1</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.82628	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000014026	<i>PAG1</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.88789	POS
ENSBTAG00000014026	<i>PAG1</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.85355	POS
ENSBTAG00000014026	<i>PAG1</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	0.87716	POS
ENSBTAG00000014026	<i>PAG1</i>	ENSBTAG00000051851	<i>ENSBTAG00000051851</i>	0.81389	POS
ENSBTAG00000014026	<i>PAG1</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.81857	POS
ENSBTAG00000014026	<i>PAG1</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.88404	POS
ENSBTAG00000014026	<i>PAG1</i>	ENSBTAG00000003304	<i>HOXC4</i>	-0.8092	NEG
ENSBTAG00000014026	<i>PAG1</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.80586	NEG
ENSBTAG00000014100	<i>BAIAP3</i>	ENSBTAG00000018940	<i>CRACR2A</i>	-0.81583	NEG
ENSBTAG00000014100	<i>BAIAP3</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.81629	POS
ENSBTAG00000014100	<i>BAIAP3</i>	ENSBTAG00000051781	<i>ENSBTAG00000051781</i>	0.82039	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000014713	<i>RARRES1</i>	0.82074	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000015939	<i>NECTIN1</i>	0.82364	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.81455	NEG
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.91822	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000016841	<i>ATP10B</i>	0.80883	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.95834	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000017642	<i>BMP3</i>	0.86689	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.8316	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000019129	<i>BTD</i>	0.85679	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000020957	<i>FZD5</i>	0.82426	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000021276	<i>TFF3</i>	0.81299	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000021501	<i>ENSBTAG00000021501</i>	0.82028	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.8091	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.83451	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.81894	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000030921	<i>FAM3B</i>	0.80819	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.90708	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000034939	<i>BTNL2</i>	0.8695	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.81753	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.81648	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.86349	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000045578	<i>AGR3</i>	0.8198	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000046158	<i>CFB</i>	0.8761	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000046649	<i>SGPP2</i>	0.82487	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	0.87661	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.85493	POS
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	-0.8239	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000055095	<i>ENSBTAG00000055095</i>	-0.83183	NEG
ENSBTAG00000014191	<i>QSOX1</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.93048	NEG
ENSBTAG00000014217	<i>HHEX</i>	ENSBTAG00000015915	<i>SBSN</i>	-0.80641	NEG
ENSBTAG00000014217	<i>HHEX</i>	ENSBTAG00000016366	<i>ABCG8</i>	-0.83196	NEG
ENSBTAG00000014217	<i>HHEX</i>	ENSBTAG00000037651	<i>SI00A2</i>	-0.80648	NEG
ENSBTAG00000014217	<i>HHEX</i>	ENSBTAG00000051248	<i>ENSBTAG00000051248</i>	0.80103	POS
ENSBTAG00000014441	<i>CD96</i>	ENSBTAG00000015710	<i>CD3E</i>	0.92611	POS
ENSBTAG00000014441	<i>CD96</i>	ENSBTAG00000016345	<i>IL2RB</i>	0.94382	POS
ENSBTAG00000014441	<i>CD96</i>	ENSBTAG00000018367	<i>CD6</i>	0.84896	POS
ENSBTAG00000014441	<i>CD96</i>	ENSBTAG00000019900	<i>LNPEP</i>	0.87068	POS
ENSBTAG00000014441	<i>CD96</i>	ENSBTAG00000031348	<i>CCR9</i>	0.89399	POS
ENSBTAG00000014441	<i>CD96</i>	ENSBTAG00000039477	<i>TPBG</i>	-0.82989	NEG
ENSBTAG00000014441	<i>CD96</i>	ENSBTAG00000040607	<i>SLA2</i>	0.86269	POS
ENSBTAG00000014441	<i>CD96</i>	ENSBTAG00000044010	<i>EMB</i>	0.83741	POS
ENSBTAG00000014441	<i>CD96</i>	ENSBTAG00000048550	<i>GCSAM</i>	0.83733	POS
ENSBTAG00000014441	<i>CD96</i>	ENSBTAG00000048873	<i>ENSBTAG00000048873</i>	0.80668	POS
ENSBTAG00000014441	<i>CD96</i>	ENSBTAG00000049108	<i>TRAT1</i>	0.83987	POS
ENSBTAG00000014441	<i>CD96</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	0.85994	POS
ENSBTAG00000014441	<i>CD96</i>	ENSBTAG00000053928	<i>GPR25</i>	0.80109	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000014441	<i>CD96</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.91249	POS
ENSBTAG00000014441	<i>CD96</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.89397	POS
ENSBTAG00000014459	<i>MAP6D1</i>	ENSBTAG00000016343	<i>KCNIP2</i>	0.82395	POS
ENSBTAG00000014459	<i>MAP6D1</i>	ENSBTAG00000033351	<i>PACRGL</i>	-0.81844	NEG
ENSBTAG00000014459	<i>MAP6D1</i>	ENSBTAG00000046158	<i>CFB</i>	-0.85453	NEG
ENSBTAG00000014459	<i>MAP6D1</i>	ENSBTAG00000049058	<i>INHBB</i>	0.80393	POS
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000015108	<i>USHBP1</i>	0.86706	POS
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000016345	<i>IL2RB</i>	-0.86026	NEG
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000016915	<i>FLT1</i>	0.81312	POS
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000017183	<i>PDLIM3</i>	0.8349	POS
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.85236	POS
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.81239	POS
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000018367	<i>CD6</i>	-0.81571	NEG
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000018398	<i>GPR4</i>	0.82465	POS
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000018940	<i>CRACR2A</i>	-0.80637	NEG
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000019497	<i>ILDR2</i>	0.81301	POS
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.87359	POS
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.80077	POS
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.81877	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.87995	POS
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.85788	POS
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000031348	<i>CCR9</i>	-0.87878	NEG
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	0.85379	POS
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.8605	POS
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.88796	POS
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000051781	<i>ENSBTAG00000051781</i>	0.84466	POS
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.8477	POS
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	-0.84741	NEG
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	-0.87244	NEG
ENSBTAG00000014560	<i>HLX</i>	ENSBTAG0000006366	<i>NFATC4</i>	0.84008	POS
ENSBTAG00000014674	<i>CHRM2</i>	ENSBTAG00000044017	<i>MSRB3</i>	0.87143	POS
ENSBTAG00000014674	<i>CHRM2</i>	ENSBTAG00000047412	<i>TNFSF18</i>	0.85905	POS
ENSBTAG00000014674	<i>CHRM2</i>	ENSBTAG00000052140	<i>ENSBTAG00000052140</i>	0.86204	POS
ENSBTAG00000014674	<i>CHRM2</i>	ENSBTAG00000054558	<i>ENSBTAG00000054558</i>	-0.81622	NEG
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000015170	<i>LCT</i>	0.8925	POS
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000016365	<i>ABCG5</i>	0.81178	POS
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.81425	NEG
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.87938	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000019129	<i>BTD</i>	0.94482	POS
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000020018	<i>FRK</i>	0.92144	POS
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000020957	<i>FZD5</i>	0.85357	POS
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000021322	<i>TM4SF20</i>	0.81297	POS
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.93753	POS
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.91647	POS
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.8781	POS
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.92385	POS
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000030814	<i>TFF2</i>	0.82074	POS
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.85447	POS
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.84881	POS
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000043983	<i>LRRIC19</i>	0.81073	POS
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.88183	POS
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000045787	<i>CDS1</i>	0.89525	POS
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000048246	<i>DPP4</i>	0.94966	POS
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.91296	POS
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000052665	<i>CYP3A74</i>	0.81516	POS
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	-0.89443	NEG
ENSBTAG00000014713	<i>RARRES1</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.93043	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000014725	<i>CD27</i>	ENSBTAG00000053928	<i>GPR25</i>	0.82331	POS
ENSBTAG00000014831	<i>PPP1R3C</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.85069	POS
ENSBTAG00000014831	<i>PPP1R3C</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.80135	POS
ENSBTAG00000014831	<i>PPP1R3C</i>	ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	0.83868	POS
ENSBTAG00000014831	<i>PPP1R3C</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	0.80591	POS
ENSBTAG00000014831	<i>PPP1R3C</i>	ENSBTAG00000050189	<i>ENSBTAG00000050189</i>	-0.86592	NEG
ENSBTAG00000014831	<i>PPP1R3C</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.81309	POS
ENSBTAG00000014912	<i>FMOD</i>	ENSBTAG00000019695	<i>RLF</i>	-0.84779	NEG
ENSBTAG00000015080	<i>PHACTR3</i>	ENSBTAG00000053073	<i>ENSBTAG00000053073</i>	0.80317	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000016094	<i>SLC36A1</i>	-0.84693	NEG
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000016486	<i>SORBS2</i>	0.81166	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000016505	<i>TMC7</i>	-0.85029	NEG
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000016841	<i>ATP10B</i>	-0.85932	NEG
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000016915	<i>FLT1</i>	0.86655	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000017183	<i>PDLIM3</i>	0.86103	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.88212	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.94146	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000018398	<i>GPR4</i>	0.87434	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000019497	<i>ILDR2</i>	0.94932	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.8118	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.91865	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000021872	<i>RASGRP1</i>	-0.80754	NEG
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.91228	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.86794	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000028359	<i>U3</i>	0.80601	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.85706	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	0.85529	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	0.86914	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000047088	<i>ENSBTAG00000047088</i>	-0.80594	NEG
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000047330	<i>FABP5</i>	0.81124	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.88717	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	0.85105	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.82528	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.86406	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000006366	<i>NFATC4</i>	0.86242	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000009979	<i>HOXB2</i>	0.81094	POS
ENSBTAG00000015108	<i>USHBP1</i>	ENSBTAG00000011662	<i>SOX18</i>	0.87883	POS
ENSBTAG00000015133	<i>CCR7</i>	ENSBTAG00000016073	<i>UGCG</i>	0.82236	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000015133	<i>CCR7</i>	ENSBTAG00000020142	<i>LMBRD2</i>	0.80475	POS
ENSBTAG00000015133	<i>CCR7</i>	ENSBTAG00000044146	<i>NPC1L1</i>	0.80253	POS
ENSBTAG00000015133	<i>CCR7</i>	ENSBTAG00000051896	<i>ENSBTAG00000051896</i>	0.82339	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000015961	<i>TSPAN2</i>	-0.89245	NEG
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.82131	NEG
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	0.89614	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.90101	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000019129	<i>BTD</i>	0.85154	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000020018	<i>FRK</i>	0.86212	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000020273	<i>YOD1</i>	0.845	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.85037	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.90617	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000022509	<i>DNAH9</i>	-0.81059	NEG
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.81101	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.85311	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000030814	<i>TFF2</i>	0.81352	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.81276	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.94242	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.933	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.91266	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.90288	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000045787	<i>CDS1</i>	0.94503	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000048246	<i>DPP4</i>	0.924	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	-0.81043	NEG
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	0.86406	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.92285	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	0.82743	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.88476	POS
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	-0.81017	NEG
ENSBTAG00000015170	<i>LCT</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.93512	POS
ENSBTAG00000015226	<i>BRSK1</i>	ENSBTAG00000054558	<i>ENSBTAG00000054558</i>	-0.90423	NEG
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000015288	<i>BEST4</i>	-0.87842	NEG
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000015635	<i>TNFRSF4</i>	-0.8389	NEG
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000015798	<i>UCKL1</i>	-0.82446	NEG
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000016343	<i>KCNIP2</i>	-0.80349	NEG
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000017376	<i>GALNT5</i>	0.83911	POS
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000017468	<i>NUCB2</i>	0.8225	POS
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000017722	<i>F5</i>	0.9152	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000017863	<i>SRGN</i>	0.85234	POS
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000020350	<i>DUSP2</i>	0.85803	POS
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000021303	<i>RSAD1</i>	-0.87392	NEG
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000021673	<i>NDC80</i>	0.83493	POS
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000030247	<i>NSMF</i>	-0.83483	NEG
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000031750	<i>PLAC8B</i>	-0.84832	NEG
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000032193	<i>REG4</i>	0.8051	POS
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	0.90606	POS
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000047713	<i>LMNTD2</i>	-0.84186	NEG
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000050388	<i>KRBA2</i>	-0.83996	NEG
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	-0.84074	NEG
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	-0.83923	NEG
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000053558	<i>NOTUM</i>	-0.81179	NEG
ENSBTAG00000015280	<i>KIF2C</i>	ENSBTAG00000010681	<i>NR1H3</i>	-0.83873	NEG
ENSBTAG00000015288	<i>BEST4</i>	ENSBTAG00000015635	<i>TNFRSF4</i>	0.89931	POS
ENSBTAG00000015288	<i>BEST4</i>	ENSBTAG00000015798	<i>UCKL1</i>	0.8764	POS
ENSBTAG00000015288	<i>BEST4</i>	ENSBTAG00000017722	<i>F5</i>	-0.80087	NEG
ENSBTAG00000015288	<i>BEST4</i>	ENSBTAG00000030247	<i>NSMF</i>	0.89726	POS
ENSBTAG00000015288	<i>BEST4</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	0.80963	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000015288	<i>BEST4</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	0.82738	POS
ENSBTAG00000015288	<i>BEST4</i>	ENSBTAG00000047713	<i>LMNTD2</i>	0.84018	POS
ENSBTAG00000015288	<i>BEST4</i>	ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	0.81652	POS
ENSBTAG00000015288	<i>BEST4</i>	ENSBTAG00000054543	<i>ENSBTAG00000054543</i>	0.80041	POS
ENSBTAG00000015288	<i>BEST4</i>	ENSBTAG00000013271	<i>NCOR1</i>	0.85044	POS
ENSBTAG00000015288	<i>BEST4</i>	ENSBTAG00000019357	<i>ZNF688</i>	0.80331	POS
ENSBTAG00000015369	<i>MLLT11</i>	ENSBTAG00000034393	<i>FAM149A</i>	0.89494	POS
ENSBTAG00000015369	<i>MLLT11</i>	ENSBTAG00000045925	<i>CITED1</i>	0.89704	POS
ENSBTAG00000015511	<i>FADS3</i>	ENSBTAG00000016486	<i>SORBS2</i>	0.81049	POS
ENSBTAG00000015511	<i>FADS3</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.80132	POS
ENSBTAG00000015511	<i>FADS3</i>	ENSBTAG00000030671	<i>HOOK1</i>	-0.85282	NEG
ENSBTAG00000015511	<i>FADS3</i>	ENSBTAG00000039326	<i>GCNT2</i>	-0.82737	NEG
ENSBTAG00000015511	<i>FADS3</i>	ENSBTAG00000044146	<i>NPCIL1</i>	-0.83299	NEG
ENSBTAG00000015511	<i>FADS3</i>	ENSBTAG00000045787	<i>CDS1</i>	-0.80427	NEG
ENSBTAG00000015511	<i>FADS3</i>	ENSBTAG00000046337	<i>TUBB6</i>	0.90403	POS
ENSBTAG00000015511	<i>FADS3</i>	ENSBTAG00000048246	<i>DPP4</i>	-0.86323	NEG
ENSBTAG00000015511	<i>FADS3</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	-0.8013	NEG
ENSBTAG00000015511	<i>FADS3</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	-0.81266	NEG
ENSBTAG00000015511	<i>FADS3</i>	ENSBTAG00000021435	<i>MAFF</i>	0.82044	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000015547	<i>SLC26A3</i>	ENSBTAG00000016263	<i>SLC25A14</i>	-0.86847	NEG
ENSBTAG00000015547	<i>SLC26A3</i>	ENSBTAG00000019486	<i>CLDN12</i>	0.8141	POS
ENSBTAG00000015547	<i>SLC26A3</i>	ENSBTAG00000047626	<i>CCDC188</i>	-0.80417	NEG
ENSBTAG00000015547	<i>SLC26A3</i>	ENSBTAG00000052510	<i>CCL26</i>	0.81419	POS
ENSBTAG00000015547	<i>SLC26A3</i>	ENSBTAG00000004939	<i>ZNF569</i>	-0.82507	NEG
ENSBTAG00000015547	<i>SLC26A3</i>	ENSBTAG00000006428	<i>ZNF354A</i>	-0.84526	NEG
ENSBTAG00000015550	<i>MLN</i>	ENSBTAG00000020267	<i>WNT9A</i>	0.84445	POS
ENSBTAG00000015550	<i>MLN</i>	ENSBTAG00000051588	<i>ENSBTAG00000051588</i>	0.89713	POS
ENSBTAG00000015592	<i>GPR84</i>	ENSBTAG00000050852	<i>ENSBTAG00000050852</i>	0.81044	POS
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000015798	<i>UCKL1</i>	0.92827	POS
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000016602	<i>LBX2</i>	0.83235	POS
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000017280	<i>C3</i>	-0.86058	NEG
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000017376	<i>GALNT5</i>	-0.83885	NEG
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000017468	<i>NUCB2</i>	-0.88455	NEG
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000017722	<i>F5</i>	-0.83947	NEG
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000020859	<i>SERPINF2</i>	-0.84903	NEG
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000021276	<i>TFF3</i>	-0.83726	NEG
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000021303	<i>RSAD1</i>	0.89216	POS
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000024406	<i>AGR2</i>	-0.85554	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000030247	<i>NSMF</i>	0.93379	POS
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000031750	<i>PLAC8B</i>	0.8478	POS
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000032193	<i>REG4</i>	-0.90345	NEG
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	0.84225	POS
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000046984	<i>ZNF672</i>	0.84556	POS
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000047713	<i>LMNTD2</i>	0.8982	POS
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000049942	<i>ENSBTAG00000049942</i>	-0.84009	NEG
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	0.87434	POS
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	0.87294	POS
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000054543	<i>ENSBTAG00000054543</i>	0.82093	POS
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000003843	<i>SMARCA1</i>	0.83061	POS
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.86382	POS
ENSBTAG00000015635	<i>TNFRSF4</i>	ENSBTAG00000013271	<i>NCOR1</i>	0.81437	POS
ENSBTAG00000015710	<i>CD3E</i>	ENSBTAG00000016345	<i>IL2RB</i>	0.88511	POS
ENSBTAG00000015710	<i>CD3E</i>	ENSBTAG00000017442	<i>CDO1</i>	-0.88022	NEG
ENSBTAG00000015710	<i>CD3E</i>	ENSBTAG00000018367	<i>CD6</i>	0.83535	POS
ENSBTAG00000015710	<i>CD3E</i>	ENSBTAG00000022861	<i>KLRJ1</i>	0.93485	POS
ENSBTAG00000015710	<i>CD3E</i>	ENSBTAG00000031348	<i>CCR9</i>	0.89714	POS
ENSBTAG00000015710	<i>CD3E</i>	ENSBTAG00000040607	<i>SLA2</i>	0.87805	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000015710	<i>CD3E</i>	ENSBTAG00000044010	<i>EMB</i>	0.84676	POS
ENSBTAG00000015710	<i>CD3E</i>	ENSBTAG00000048873	<i>ENSBTAG00000048873</i>	0.83668	POS
ENSBTAG00000015710	<i>CD3E</i>	ENSBTAG00000049108	<i>TRAT1</i>	0.8479	POS
ENSBTAG00000015710	<i>CD3E</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	0.83995	POS
ENSBTAG00000015710	<i>CD3E</i>	ENSBTAG00000050324	<i>ENSBTAG00000050324</i>	0.80572	POS
ENSBTAG00000015710	<i>CD3E</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.91568	POS
ENSBTAG00000015710	<i>CD3E</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.92251	POS
ENSBTAG00000015778	<i>SASS6</i>	ENSBTAG00000016841	<i>ATP10B</i>	0.80987	POS
ENSBTAG00000015778	<i>SASS6</i>	ENSBTAG00000019497	<i>ILDR2</i>	-0.80381	NEG
ENSBTAG00000015778	<i>SASS6</i>	ENSBTAG00000033748	<i>IL18RAP</i>	0.83516	POS
ENSBTAG00000015778	<i>SASS6</i>	ENSBTAG00000048550	<i>GCSAM</i>	0.82503	POS
ENSBTAG00000015778	<i>SASS6</i>	ENSBTAG00000048736	<i>ENSBTAG00000048736</i>	-0.81458	NEG
ENSBTAG00000015778	<i>SASS6</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	-0.80376	NEG
ENSBTAG00000015778	<i>SASS6</i>	ENSBTAG00000050189	<i>ENSBTAG00000050189</i>	0.86027	POS
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000016467	<i>SLC22A17</i>	0.83062	POS
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000016602	<i>LBX2</i>	0.84605	POS
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000017280	<i>C3</i>	-0.85528	NEG
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000017376	<i>GALNT5</i>	-0.81895	NEG
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000017468	<i>NUCB2</i>	-0.83973	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000017722	<i>F5</i>	-0.80889	NEG
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000019940	<i>RASGRF1</i>	0.80634	POS
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000020184	<i>AQP8</i>	0.81909	POS
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000021303	<i>RSAD1</i>	0.88595	POS
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000024406	<i>AGR2</i>	-0.82988	NEG
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000030247	<i>NSMF</i>	0.98779	POS
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000032193	<i>REG4</i>	-0.92237	NEG
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	0.80751	POS
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000047713	<i>LMNTD2</i>	0.92453	POS
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	0.86836	POS
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000053558	<i>NOTUM</i>	0.84713	POS
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000003843	<i>SMARCA1</i>	0.86933	POS
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000007318	<i>ZNF687</i>	0.81323	POS
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000008313	<i>KLF15</i>	-0.8133	NEG
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.92025	POS
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000012522	<i>ZNF283</i>	0.80089	POS
ENSBTAG00000015798	<i>UCKL1</i>	ENSBTAG00000013271	<i>NCOR1</i>	0.83537	POS
ENSBTAG00000015915	<i>SBSN</i>	ENSBTAG00000017442	<i>CDOI</i>	-0.80278	NEG
ENSBTAG00000015915	<i>SBSN</i>	ENSBTAG00000022861	<i>KLRJ1</i>	0.81522	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000015939	<i>NECTIN1</i>	ENSBTAG00000016467	<i>SLC22A17</i>	-0.88049	NEG
ENSBTAG00000015939	<i>NECTIN1</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.8779	POS
ENSBTAG00000015939	<i>NECTIN1</i>	ENSBTAG00000017642	<i>BMP3</i>	0.95629	POS
ENSBTAG00000015939	<i>NECTIN1</i>	ENSBTAG00000017722	<i>F5</i>	0.84839	POS
ENSBTAG00000015939	<i>NECTIN1</i>	ENSBTAG00000019454	<i>ANGEL1</i>	0.83988	POS
ENSBTAG00000015939	<i>NECTIN1</i>	ENSBTAG00000020543	<i>UPK1A</i>	-0.82445	NEG
ENSBTAG00000015939	<i>NECTIN1</i>	ENSBTAG00000020580	<i>TCN1</i>	0.85806	POS
ENSBTAG00000015939	<i>NECTIN1</i>	ENSBTAG00000020859	<i>SERPINF2</i>	0.80769	POS
ENSBTAG00000015939	<i>NECTIN1</i>	ENSBTAG00000021276	<i>TFF3</i>	0.87037	POS
ENSBTAG00000015939	<i>NECTIN1</i>	ENSBTAG00000028359	<i>U3</i>	-0.85793	NEG
ENSBTAG00000015939	<i>NECTIN1</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.92447	POS
ENSBTAG00000015939	<i>NECTIN1</i>	ENSBTAG00000042471	<i>SNORA25</i>	-0.92261	NEG
ENSBTAG00000015939	<i>NECTIN1</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	-0.91508	NEG
ENSBTAG00000015939	<i>NECTIN1</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	-0.90393	NEG
ENSBTAG00000015939	<i>NECTIN1</i>	ENSBTAG00000047626	<i>CCDC188</i>	-0.8266	NEG
ENSBTAG00000015939	<i>NECTIN1</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.93695	NEG
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000016486	<i>SORBS2</i>	0.81893	POS
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000016924	<i>CAP2</i>	0.80968	POS
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000018744	<i>MGAT5</i>	-0.80222	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000020018	<i>FRK</i>	-0.87592	NEG
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000020273	<i>YOD1</i>	-0.80806	NEG
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000021322	<i>TM4SF20</i>	-0.85345	NEG
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	-0.82696	NEG
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	-0.8559	NEG
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000025005	<i>TMT1A</i>	-0.81388	NEG
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000034393	<i>FAM149A</i>	0.83085	POS
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	-0.83786	NEG
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000043983	<i>LRRIC19</i>	-0.82814	NEG
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000044017	<i>MSRB3</i>	0.84679	POS
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000044146	<i>NPCIL1</i>	-0.82368	NEG
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000045751	<i>ENSBTAG00000045751</i>	-0.80448	NEG
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000045787	<i>CDS1</i>	-0.85695	NEG
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000047088	<i>ENSBTAG00000047088</i>	-0.8335	NEG
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000048246	<i>DPP4</i>	-0.86637	NEG
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	0.83262	POS
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	-0.89976	NEG
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	-0.90517	NEG
ENSBTAG00000015961	<i>TSPAN2</i>	ENSBTAG00000055282	<i>CLDN2</i>	-0.92535	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000016073	<i>UGCG</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.82578	NEG
ENSBTAG00000016073	<i>UGCG</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.82615	POS
ENSBTAG00000016073	<i>UGCG</i>	ENSBTAG00000020142	<i>LMBRD2</i>	0.86461	POS
ENSBTAG00000016073	<i>UGCG</i>	ENSBTAG00000021872	<i>RASGRP1</i>	0.80864	POS
ENSBTAG00000016073	<i>UGCG</i>	ENSBTAG00000034393	<i>FAM149A</i>	-0.8476	NEG
ENSBTAG00000016073	<i>UGCG</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.86226	POS
ENSBTAG00000016073	<i>UGCG</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.80658	POS
ENSBTAG00000016073	<i>UGCG</i>	ENSBTAG00000039372	<i>CIMAPID</i>	-0.80429	NEG
ENSBTAG00000016073	<i>UGCG</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.8411	POS
ENSBTAG00000016073	<i>UGCG</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.84205	POS
ENSBTAG00000016073	<i>UGCG</i>	ENSBTAG00000045787	<i>CDS1</i>	0.8007	POS
ENSBTAG00000016073	<i>UGCG</i>	ENSBTAG00000003304	<i>HOXC4</i>	-0.85346	NEG
ENSBTAG00000016094	<i>SLC36A1</i>	ENSBTAG00000017508	<i>CYSLTR2</i>	-0.87021	NEG
ENSBTAG00000016094	<i>SLC36A1</i>	ENSBTAG00000018331	<i>CLEC3B</i>	-0.84967	NEG
ENSBTAG00000016094	<i>SLC36A1</i>	ENSBTAG00000016074	<i>ZNF143</i>	0.81769	POS
ENSBTAG00000016204	<i>CIRL</i>	ENSBTAG00000016444	<i>RETREG1</i>	0.82242	POS
ENSBTAG00000016204	<i>CIRL</i>	ENSBTAG00000019454	<i>ANGEL1</i>	0.82298	POS
ENSBTAG00000016204	<i>CIRL</i>	ENSBTAG00000037902	<i>FAM229A</i>	-0.8295	NEG
ENSBTAG00000016204	<i>CIRL</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	-0.85449	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000016204	<i>CIRL</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	-0.8484	NEG
ENSBTAG00000016204	<i>CIRL</i>	ENSBTAG00000050189	<i>ENSBTAG00000050189</i>	0.9113	POS
ENSBTAG00000016234	<i>DUOX2</i>	ENSBTAG00000016505	<i>TMC7</i>	0.81264	POS
ENSBTAG00000016234	<i>DUOX2</i>	ENSBTAG00000016841	<i>ATP10B</i>	0.81809	POS
ENSBTAG00000016234	<i>DUOX2</i>	ENSBTAG00000018331	<i>CLEC3B</i>	-0.88133	NEG
ENSBTAG00000016234	<i>DUOX2</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.85845	POS
ENSBTAG00000016234	<i>DUOX2</i>	ENSBTAG00000021467	<i>IGFBP6</i>	-0.81359	NEG
ENSBTAG00000016234	<i>DUOX2</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.8411	POS
ENSBTAG00000016234	<i>DUOX2</i>	ENSBTAG00000044146	<i>NPC1L1</i>	0.81864	POS
ENSBTAG00000016234	<i>DUOX2</i>	ENSBTAG00000045751	<i>ENSBTAG00000045751</i>	0.87959	POS
ENSBTAG00000016234	<i>DUOX2</i>	ENSBTAG00000047088	<i>ENSBTAG00000047088</i>	0.85183	POS
ENSBTAG00000016234	<i>DUOX2</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	-0.80186	NEG
ENSBTAG00000016234	<i>DUOX2</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	0.89651	POS
ENSBTAG00000016234	<i>DUOX2</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.82503	POS
ENSBTAG00000016234	<i>DUOX2</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.91778	POS
ENSBTAG00000016239	<i>DUOX42</i>	ENSBTAG00000045588	<i>ENSBTAG00000045588</i>	-0.8449	NEG
ENSBTAG00000016263	<i>SLC25A14</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	-0.81084	NEG
ENSBTAG00000016263	<i>SLC25A14</i>	ENSBTAG00000052510	<i>CCL26</i>	-0.81891	NEG
ENSBTAG00000016343	<i>KCNIP2</i>	ENSBTAG00000017376	<i>GALNT5</i>	-0.84657	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000016343	<i>KCNIP2</i>	ENSBTAG00000017468	<i>NUCB2</i>	-0.81277	NEG
ENSBTAG00000016343	<i>KCNIP2</i>	ENSBTAG00000021303	<i>RSAD1</i>	0.80784	POS
ENSBTAG00000016343	<i>KCNIP2</i>	ENSBTAG00000021673	<i>NDC80</i>	-0.84076	NEG
ENSBTAG00000016343	<i>KCNIP2</i>	ENSBTAG00000024406	<i>AGR2</i>	-0.82302	NEG
ENSBTAG00000016343	<i>KCNIP2</i>	ENSBTAG00000031750	<i>PLAC8B</i>	0.81792	POS
ENSBTAG00000016343	<i>KCNIP2</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	-0.83366	NEG
ENSBTAG00000016343	<i>KCNIP2</i>	ENSBTAG00000048257	<i>CYP4F8</i>	-0.82606	NEG
ENSBTAG00000016345	<i>IL2RB</i>	ENSBTAG00000018367	<i>CD6</i>	0.88543	POS
ENSBTAG00000016345	<i>IL2RB</i>	ENSBTAG00000018940	<i>CRACR2A</i>	0.83935	POS
ENSBTAG00000016345	<i>IL2RB</i>	ENSBTAG00000019900	<i>LNPEP</i>	0.85779	POS
ENSBTAG00000016345	<i>IL2RB</i>	ENSBTAG00000031348	<i>CCR9</i>	0.94387	POS
ENSBTAG00000016345	<i>IL2RB</i>	ENSBTAG00000039477	<i>TPBG</i>	-0.85709	NEG
ENSBTAG00000016345	<i>IL2RB</i>	ENSBTAG00000040607	<i>SLA2</i>	0.9003	POS
ENSBTAG00000016345	<i>IL2RB</i>	ENSBTAG00000048550	<i>GCSAM</i>	0.86028	POS
ENSBTAG00000016345	<i>IL2RB</i>	ENSBTAG00000049108	<i>TRAT1</i>	0.82933	POS
ENSBTAG00000016345	<i>IL2RB</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	-0.85655	NEG
ENSBTAG00000016345	<i>IL2RB</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	0.84248	POS
ENSBTAG00000016345	<i>IL2RB</i>	ENSBTAG00000053928	<i>GPR25</i>	0.84625	POS
ENSBTAG00000016345	<i>IL2RB</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.93508	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000016345	<i>IL2RB</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.87925	POS
ENSBTAG00000016345	<i>IL2RB</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.81338	NEG
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000016486	<i>SORBS2</i>	-0.84162	NEG
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000016505	<i>TMC7</i>	0.81413	POS
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000018307	<i>SEMA3F</i>	-0.82231	NEG
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000018398	<i>GPR4</i>	-0.86306	NEG
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.85591	POS
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000020018	<i>FRK</i>	0.86872	POS
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000020957	<i>FZD5</i>	0.81261	POS
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000021322	<i>TM4SF20</i>	0.81016	POS
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.88778	POS
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.87724	POS
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000030814	<i>TFF2</i>	0.822	POS
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.86893	POS
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.80997	POS
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.80801	POS
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000045787	<i>CDS1</i>	0.83127	POS
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000048246	<i>DPP4</i>	0.81557	POS
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000049386	<i>ENSBTAG00000049386</i>	0.80654	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000049806	<i>ENSBTAG00000049806</i>	0.81846	POS
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.85982	POS
ENSBTAG00000016365	<i>ABCG5</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.86351	POS
ENSBTAG00000016366	<i>ABCG8</i>	ENSBTAG00000021422	<i>PDZD4</i>	-0.82337	NEG
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000016845	<i>GALNT7</i>	-0.80454	NEG
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000017376	<i>GALNT5</i>	-0.88116	NEG
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000017642	<i>BMP3</i>	-0.8242	NEG
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000017722	<i>F5</i>	-0.84107	NEG
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000018316	<i>ZMYND15</i>	0.85255	POS
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000019486	<i>CLDN12</i>	-0.8084	NEG
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000021276	<i>TFF3</i>	-0.8161	NEG
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000028359	<i>U3</i>	0.83075	POS
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000031569	<i>GOLM1</i>	-0.86804	NEG
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000032193	<i>REG4</i>	-0.86768	NEG
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000033351	<i>PACRGL</i>	-0.84721	NEG
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000039413	<i>ENSBTAG00000039413</i>	-0.81887	NEG
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000042471	<i>SNORA25</i>	0.84529	POS
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	0.81928	POS
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000046158	<i>CFB</i>	-0.8675	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	0.82297	POS
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000048257	<i>CYP4F8</i>	-0.80976	NEG
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	0.80674	POS
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000052290	<i>ENSBTAG00000052290</i>	0.80924	POS
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	-0.88513	NEG
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000007660	<i>ZNF414</i>	0.84418	POS
ENSBTAG00000016467	<i>SLC22A17</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.83886	POS
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000016505	<i>TMC7</i>	-0.87346	NEG
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	-0.83848	NEG
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000016915	<i>FLT1</i>	0.85693	POS
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000016924	<i>CAP2</i>	0.82671	POS
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.88339	POS
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.83718	POS
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000018398	<i>GPR4</i>	0.9221	POS
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000018744	<i>MGAT5</i>	-0.8119	NEG
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000019129	<i>BTD</i>	-0.88134	NEG
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000020018	<i>FRK</i>	-0.83919	NEG
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000021322	<i>TM4SF20</i>	-0.80005	NEG
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000021368	<i>ENSBTAG00000021368</i>	-0.83929	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.80239	POS
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	-0.89675	NEG
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	-0.89703	NEG
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000021916	<i>MYL4</i>	0.81175	POS
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.80645	POS
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.84566	POS
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000034393	<i>FAM149A</i>	0.81524	POS
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	-0.90326	NEG
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000039326	<i>GCNT2</i>	-0.80849	NEG
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	0.9382	POS
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000043983	<i>LRRC19</i>	-0.82932	NEG
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000044017	<i>MSRB3</i>	0.80934	POS
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000044146	<i>NPCIL1</i>	-0.84292	NEG
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000045787	<i>CDS1</i>	-0.87244	NEG
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000046337	<i>TUBB6</i>	0.81121	POS
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000048246	<i>DPP4</i>	-0.87779	NEG
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	0.80578	POS
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	-0.8782	NEG
ENSBTAG00000016486	<i>SORBS2</i>	ENSBTAG00000055282	<i>CLDN2</i>	-0.89874	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000016505	<i>TMC7</i>	ENSBTAG00000016915	<i>FLT1</i>	-0.90981	NEG
ENSBTAG00000016505	<i>TMC7</i>	ENSBTAG00000017183	<i>PDLIM3</i>	-0.8058	NEG
ENSBTAG00000016505	<i>TMC7</i>	ENSBTAG00000018307	<i>SEMA3F</i>	-0.85867	NEG
ENSBTAG00000016505	<i>TMC7</i>	ENSBTAG00000018331	<i>CLEC3B</i>	-0.91518	NEG
ENSBTAG00000016505	<i>TMC7</i>	ENSBTAG00000018398	<i>GPR4</i>	-0.91687	NEG
ENSBTAG00000016505	<i>TMC7</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.8022	POS
ENSBTAG00000016505	<i>TMC7</i>	ENSBTAG00000019497	<i>ILDR2</i>	-0.80272	NEG
ENSBTAG00000016505	<i>TMC7</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	-0.80668	NEG
ENSBTAG00000016505	<i>TMC7</i>	ENSBTAG00000021467	<i>IGFBP6</i>	-0.8267	NEG
ENSBTAG00000016505	<i>TMC7</i>	ENSBTAG00000024000	<i>ATOH8</i>	-0.8428	NEG
ENSBTAG00000016505	<i>TMC7</i>	ENSBTAG00000025424	<i>NOTCH4</i>	-0.83136	NEG
ENSBTAG00000016505	<i>TMC7</i>	ENSBTAG00000030259	<i>RASGRF2</i>	-0.82375	NEG
ENSBTAG00000016505	<i>TMC7</i>	ENSBTAG00000030814	<i>TFF2</i>	0.85777	POS
ENSBTAG00000016505	<i>TMC7</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	-0.90376	NEG
ENSBTAG00000016505	<i>TMC7</i>	ENSBTAG00000046649	<i>SGPP2</i>	0.82122	POS
ENSBTAG00000016505	<i>TMC7</i>	ENSBTAG00000047088	<i>ENSBTAG00000047088</i>	0.88234	POS
ENSBTAG00000016505	<i>TMC7</i>	ENSBTAG00000047626	<i>CCDC188</i>	-0.80769	NEG
ENSBTAG00000016505	<i>TMC7</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	-0.81149	NEG
ENSBTAG00000016602	<i>LBX2</i>	ENSBTAG00000017280	<i>C3</i>	-0.81869	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000016602	<i>LBX2</i>	ENSBTAG00000021303	<i>RSAD1</i>	0.85556	POS
ENSBTAG00000016602	<i>LBX2</i>	ENSBTAG00000030247	<i>NSMF</i>	0.83177	POS
ENSBTAG00000016602	<i>LBX2</i>	ENSBTAG00000031750	<i>PLAC8B</i>	0.80532	POS
ENSBTAG00000016602	<i>LBX2</i>	ENSBTAG00000047713	<i>LMNTD2</i>	0.88436	POS
ENSBTAG00000016602	<i>LBX2</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	0.81617	POS
ENSBTAG00000016602	<i>LBX2</i>	ENSBTAG00000053558	<i>NOTUM</i>	0.91104	POS
ENSBTAG00000016602	<i>LBX2</i>	ENSBTAG00000008409	<i>MYC</i>	-0.8057	NEG
ENSBTAG00000016602	<i>LBX2</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.80069	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000016841	<i>ATP10B</i>	0.82663	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.90289	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000018398	<i>GPR4</i>	-0.80967	NEG
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.90597	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000019129	<i>BTBD</i>	0.91104	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000019486	<i>CLDN12</i>	0.82342	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000020018	<i>FRK</i>	0.83675	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000020273	<i>YOD1</i>	0.86067	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000020957	<i>FZD5</i>	0.89777	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.83891	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.81442	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.81739	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.80928	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.89517	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000034939	<i>BTNL2</i>	0.82021	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.82274	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.89533	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.91903	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.85126	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000045787	<i>CDS1</i>	0.858	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000046158	<i>CFB</i>	0.81459	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000048246	<i>DPP4</i>	0.85357	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	-0.82663	NEG
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.81121	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.83211	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	-0.83448	NEG
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000055095	<i>ENSBTAG00000055095</i>	-0.84521	NEG
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.87829	POS
ENSBTAG00000016713	<i>ENSBTAG00000016713</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.88128	NEG
ENSBTAG00000016723	<i>GFII</i>	ENSBTAG00000048918	<i>ENSBTAG00000048918</i>	-0.83863	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000016723	<i>GFII</i>	ENSBTAG00000052499	<i>RNF39</i>	0.89352	POS
ENSBTAG00000016765	<i>SPACDR</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.82286	POS
ENSBTAG00000016765	<i>SPACDR</i>	ENSBTAG00000023207	<i>FAM3D</i>	-0.89665	NEG
ENSBTAG00000016765	<i>SPACDR</i>	ENSBTAG00000030711	<i>LYPD8</i>	-0.83992	NEG
ENSBTAG00000016765	<i>SPACDR</i>	ENSBTAG00000032819	<i>MUC20</i>	-0.83298	NEG
ENSBTAG00000016765	<i>SPACDR</i>	ENSBTAG00000042471	<i>SNORA25</i>	0.82237	POS
ENSBTAG00000016765	<i>SPACDR</i>	ENSBTAG00000049942	<i>ENSBTAG00000049942</i>	-0.82687	NEG
ENSBTAG00000016770	<i>GAPT</i>	ENSBTAG00000029897	<i>MIR21</i>	-0.8883	NEG
ENSBTAG00000016835	<i>IL17F</i>	ENSBTAG00000020350	<i>DUSP2</i>	0.81143	POS
ENSBTAG00000016835	<i>IL17F</i>	ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	-0.84103	NEG
ENSBTAG00000016835	<i>IL17F</i>	ENSBTAG00000048550	<i>GCSAM</i>	0.81417	POS
ENSBTAG00000016835	<i>IL17F</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	0.8169	POS
ENSBTAG00000016835	<i>IL17F</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.80589	POS
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000016845	<i>GALNT7</i>	0.8202	POS
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000017642	<i>BMP3</i>	0.86217	POS
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000017722	<i>F5</i>	0.81628	POS
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000018307	<i>SEMA3F</i>	-0.8422	NEG
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000018331	<i>CLEC3B</i>	-0.88794	NEG
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.89477	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000019497	<i>ILDR2</i>	-0.8788	NEG
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000020273	<i>YOD1</i>	0.82661	POS
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000021467	<i>IGFBP6</i>	-0.83584	NEG
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000021872	<i>RASGRP1</i>	0.86768	POS
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000028359	<i>U3</i>	-0.90763	NEG
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.88743	POS
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.82768	POS
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	0.8264	POS
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	-0.8428	NEG
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	-0.8054	NEG
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.88703	POS
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.90415	NEG
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.85451	NEG
ENSBTAG00000016841	<i>ATP10B</i>	ENSBTAG00000018019	<i>BCL11B</i>	0.80083	POS
ENSBTAG00000016845	<i>GALNT7</i>	ENSBTAG00000017642	<i>BMP3</i>	0.89602	POS
ENSBTAG00000016845	<i>GALNT7</i>	ENSBTAG00000017722	<i>F5</i>	0.80187	POS
ENSBTAG00000016845	<i>GALNT7</i>	ENSBTAG00000018744	<i>MGAT5</i>	0.80388	POS
ENSBTAG00000016845	<i>GALNT7</i>	ENSBTAG00000019454	<i>ANGEL1</i>	0.8208	POS
ENSBTAG00000016845	<i>GALNT7</i>	ENSBTAG00000019486	<i>CLDN12</i>	0.80163	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000016845	<i>GALNT7</i>	ENSBTAG00000020580	<i>TCN1</i>	0.80148	POS
ENSBTAG00000016845	<i>GALNT7</i>	ENSBTAG00000020859	<i>SERPINF2</i>	0.80008	POS
ENSBTAG00000016845	<i>GALNT7</i>	ENSBTAG00000021276	<i>TFF3</i>	0.80609	POS
ENSBTAG00000016845	<i>GALNT7</i>	ENSBTAG00000028359	<i>U3</i>	-0.81085	NEG
ENSBTAG00000016845	<i>GALNT7</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.9504	POS
ENSBTAG00000016845	<i>GALNT7</i>	ENSBTAG00000033351	<i>PACRGL</i>	0.80947	POS
ENSBTAG00000016845	<i>GALNT7</i>	ENSBTAG00000034939	<i>BTNL2</i>	0.85546	POS
ENSBTAG00000016845	<i>GALNT7</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.83904	POS
ENSBTAG00000016845	<i>GALNT7</i>	ENSBTAG00000046158	<i>CFB</i>	0.88992	POS
ENSBTAG00000016845	<i>GALNT7</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	0.82843	POS
ENSBTAG00000016845	<i>GALNT7</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.81364	POS
ENSBTAG00000016845	<i>GALNT7</i>	ENSBTAG00000055095	<i>ENSBTAG00000055095</i>	-0.91443	NEG
ENSBTAG00000016845	<i>GALNT7</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.93459	NEG
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000017183	<i>PDLIM3</i>	0.80019	POS
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000017508	<i>CYSLTR2</i>	0.83048	POS
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.92753	POS
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.87906	POS
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000018398	<i>GPR4</i>	0.93402	POS
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000018419	<i>ADCY4</i>	0.85891	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000018843	<i>SERPINA1</i>	-0.80016	NEG
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.89445	POS
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.82651	POS
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.81333	POS
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.85494	POS
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.90359	POS
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.91655	POS
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000030671	<i>HOOK1</i>	-0.81269	NEG
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	0.88866	POS
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000039509	<i>GPRC5A</i>	-0.831	NEG
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000046649	<i>SGPP2</i>	-0.82827	NEG
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000049058	<i>INHBB</i>	0.82254	POS
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.86757	POS
ENSBTAG00000016915	<i>FLT1</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.85751	POS
ENSBTAG00000016924	<i>CAP2</i>	ENSBTAG00000019129	<i>BTD</i>	-0.85138	NEG
ENSBTAG00000016924	<i>CAP2</i>	ENSBTAG00000021322	<i>TM4SF20</i>	-0.85122	NEG
ENSBTAG00000016924	<i>CAP2</i>	ENSBTAG00000048246	<i>DPP4</i>	-0.84012	NEG
ENSBTAG00000016924	<i>CAP2</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	-0.8381	NEG
ENSBTAG00000016924	<i>CAP2</i>	ENSBTAG00000055282	<i>CLDN2</i>	-0.85657	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000017183	<i>PDLIM3</i>	ENSBTAG00000017508	<i>CYSLTR2</i>	0.82839	POS
ENSBTAG00000017183	<i>PDLIM3</i>	ENSBTAG00000018307	<i>SEMA3F</i>	0.80941	POS
ENSBTAG00000017183	<i>PDLIM3</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.87846	POS
ENSBTAG00000017183	<i>PDLIM3</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.88544	POS
ENSBTAG00000017183	<i>PDLIM3</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.87803	POS
ENSBTAG00000017183	<i>PDLIM3</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.89872	POS
ENSBTAG00000017183	<i>PDLIM3</i>	ENSBTAG00000047088	<i>ENSBTAG00000047088</i>	-0.84325	NEG
ENSBTAG00000017183	<i>PDLIM3</i>	ENSBTAG00000047330	<i>FABP5</i>	0.95443	POS
ENSBTAG00000017183	<i>PDLIM3</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.84783	POS
ENSBTAG00000017183	<i>PDLIM3</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.82868	POS
ENSBTAG00000017183	<i>PDLIM3</i>	ENSBTAG00000009634	<i>HOXC5</i>	0.82069	POS
ENSBTAG00000017183	<i>PDLIM3</i>	ENSBTAG00000009979	<i>HOXB2</i>	0.82662	POS
ENSBTAG00000017183	<i>PDLIM3</i>	ENSBTAG00000011662	<i>SOX18</i>	0.82267	POS
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000017376	<i>GALNT5</i>	0.81982	POS
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000017468	<i>NUCB2</i>	0.91179	POS
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000018316	<i>ZMYND15</i>	-0.84143	NEG
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000018540	<i>NOX4</i>	-0.85982	NEG
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000019940	<i>RASGRF1</i>	-0.81107	NEG
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000021303	<i>RSAD1</i>	-0.8946	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000024406	<i>AGR2</i>	0.85668	POS
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000030247	<i>NSMF</i>	-0.87549	NEG
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000032193	<i>REG4</i>	0.89584	POS
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000039413	<i>ENSBTAG00000039413</i>	0.80996	POS
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000045596	<i>ENSBTAG00000045596</i>	-0.83706	NEG
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000046158	<i>CFB</i>	0.81039	POS
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000046984	<i>ZNF672</i>	-0.86344	NEG
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000047713	<i>LMNTD2</i>	-0.89145	NEG
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	-0.85822	NEG
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	-0.89398	NEG
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000053558	<i>NOTUM</i>	-0.88347	NEG
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000054229	<i>ENSBTAG00000054229</i>	0.83086	POS
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000008409	<i>MYC</i>	0.80416	POS
ENSBTAG00000017280	<i>C3</i>	ENSBTAG00000010681	<i>NR1H3</i>	-0.88161	NEG
ENSBTAG00000017376	<i>GALNT5</i>	ENSBTAG00000017468	<i>NUCB2</i>	0.92922	POS
ENSBTAG00000017376	<i>GALNT5</i>	ENSBTAG00000017722	<i>F5</i>	0.9228	POS
ENSBTAG00000017376	<i>GALNT5</i>	ENSBTAG00000018316	<i>ZMYND15</i>	-0.85328	NEG
ENSBTAG00000017376	<i>GALNT5</i>	ENSBTAG00000020859	<i>SERPINF2</i>	0.83643	POS
ENSBTAG00000017376	<i>GALNT5</i>	ENSBTAG00000021303	<i>RSAD1</i>	-0.88825	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000017376	<i>GALNT5</i>	ENSBTAG00000024406	<i>AGR2</i>	0.88918	POS
ENSBTAG00000017376	<i>GALNT5</i>	ENSBTAG00000031750	<i>PLAC8B</i>	-0.83831	NEG
ENSBTAG00000017376	<i>GALNT5</i>	ENSBTAG00000032193	<i>REG4</i>	0.90741	POS
ENSBTAG00000017376	<i>GALNT5</i>	ENSBTAG00000034939	<i>BTNL2</i>	0.8095	POS
ENSBTAG00000017376	<i>GALNT5</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	0.84141	POS
ENSBTAG00000017376	<i>GALNT5</i>	ENSBTAG00000045596	<i>ENSBTAG00000045596</i>	-0.80403	NEG
ENSBTAG00000017376	<i>GALNT5</i>	ENSBTAG00000046158	<i>CFB</i>	0.8516	POS
ENSBTAG00000017376	<i>GALNT5</i>	ENSBTAG00000046984	<i>ZNF672</i>	-0.81486	NEG
ENSBTAG00000017376	<i>GALNT5</i>	ENSBTAG00000047713	<i>LMNTD2</i>	-0.80886	NEG
ENSBTAG00000017376	<i>GALNT5</i>	ENSBTAG00000048125	<i>ENTPD2</i>	0.81274	POS
ENSBTAG00000017376	<i>GALNT5</i>	ENSBTAG00000048257	<i>CYP4F8</i>	0.85086	POS
ENSBTAG00000017376	<i>GALNT5</i>	ENSBTAG00000050212	<i>MUC2</i>	0.80216	POS
ENSBTAG00000017376	<i>GALNT5</i>	ENSBTAG00000010681	<i>NR1H3</i>	-0.93921	NEG
ENSBTAG00000017430	<i>PNCK</i>	ENSBTAG00000030369	<i>IFFO1</i>	0.8708	POS
ENSBTAG00000017442	<i>CDO1</i>	ENSBTAG00000021517	<i>TMEM216</i>	0.85396	POS
ENSBTAG00000017442	<i>CDO1</i>	ENSBTAG00000022861	<i>KLRJ1</i>	-0.95652	NEG
ENSBTAG00000017442	<i>CDO1</i>	ENSBTAG00000031348	<i>CCR9</i>	-0.80491	NEG
ENSBTAG00000017442	<i>CDO1</i>	ENSBTAG00000049108	<i>TRAT1</i>	-0.84106	NEG
ENSBTAG00000017442	<i>CDO1</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	-0.80739	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000017442	<i>CDO1</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	-0.85615	NEG
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000017722	<i>F5</i>	0.86771	POS
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000018316	<i>ZMYND15</i>	-0.81223	NEG
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000020859	<i>SERPINF2</i>	0.88209	POS
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000021303	<i>RSAD1</i>	-0.92928	NEG
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000024406	<i>AGR2</i>	0.95854	POS
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000026236	<i>AZGP1</i>	0.86389	POS
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000030247	<i>NSMF</i>	-0.84146	NEG
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000030757	<i>ELFN1</i>	0.81268	POS
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000031750	<i>PLAC8B</i>	-0.85876	NEG
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000032193	<i>REG4</i>	0.9366	POS
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	0.84485	POS
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000045596	<i>ENSBTAG00000045596</i>	-0.86883	NEG
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000046158	<i>CFB</i>	0.85378	POS
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000046984	<i>ZNF672</i>	-0.91443	NEG
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000047713	<i>LMNTD2</i>	-0.87578	NEG
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000048125	<i>ENTPD2</i>	0.85622	POS
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	-0.81724	NEG
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	-0.85167	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000002333	<i>HOPX</i>	0.80941	POS
ENSBTAG00000017468	<i>NUCB2</i>	ENSBTAG00000010681	<i>NR1H3</i>	-0.92104	NEG
ENSBTAG00000017508	<i>CYSLTR2</i>	ENSBTAG00000018123	<i>FBLN5</i>	0.83179	POS
ENSBTAG00000017508	<i>CYSLTR2</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.84368	POS
ENSBTAG00000017508	<i>CYSLTR2</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.89002	POS
ENSBTAG00000017508	<i>CYSLTR2</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.86287	POS
ENSBTAG00000017508	<i>CYSLTR2</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.81698	POS
ENSBTAG00000017508	<i>CYSLTR2</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.85416	POS
ENSBTAG00000017508	<i>CYSLTR2</i>	ENSBTAG00000047330	<i>FABP5</i>	0.86201	POS
ENSBTAG00000017508	<i>CYSLTR2</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.83368	POS
ENSBTAG00000017508	<i>CYSLTR2</i>	ENSBTAG00000010649	<i>MEF2A</i>	0.86169	POS
ENSBTAG00000017642	<i>BMP3</i>	ENSBTAG00000017722	<i>F5</i>	0.85734	POS
ENSBTAG00000017642	<i>BMP3</i>	ENSBTAG00000019454	<i>ANGEL1</i>	0.84608	POS
ENSBTAG00000017642	<i>BMP3</i>	ENSBTAG00000020580	<i>TCN1</i>	0.81261	POS
ENSBTAG00000017642	<i>BMP3</i>	ENSBTAG00000021276	<i>TFF3</i>	0.80919	POS
ENSBTAG00000017642	<i>BMP3</i>	ENSBTAG00000021872	<i>RASGRP1</i>	0.8051	POS
ENSBTAG00000017642	<i>BMP3</i>	ENSBTAG00000028359	<i>U3</i>	-0.89544	NEG
ENSBTAG00000017642	<i>BMP3</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.9277	POS
ENSBTAG00000017642	<i>BMP3</i>	ENSBTAG00000042471	<i>SNORA25</i>	-0.88425	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000017642	<i>BMP3</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	-0.84607	NEG
ENSBTAG00000017642	<i>BMP3</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	-0.84644	NEG
ENSBTAG00000017642	<i>BMP3</i>	ENSBTAG00000047626	<i>CCDC188</i>	-0.80931	NEG
ENSBTAG00000017642	<i>BMP3</i>	ENSBTAG00000048257	<i>CYP4F8</i>	0.83945	POS
ENSBTAG00000017642	<i>BMP3</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.80126	POS
ENSBTAG00000017642	<i>BMP3</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.8219	NEG
ENSBTAG00000017642	<i>BMP3</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.95497	NEG
ENSBTAG00000017722	<i>F5</i>	ENSBTAG00000019454	<i>ANGEL1</i>	0.86205	POS
ENSBTAG00000017722	<i>F5</i>	ENSBTAG00000020859	<i>SERPINF2</i>	0.82345	POS
ENSBTAG00000017722	<i>F5</i>	ENSBTAG00000021303	<i>RSAD1</i>	-0.83555	NEG
ENSBTAG00000017722	<i>F5</i>	ENSBTAG00000028359	<i>U3</i>	-0.89202	NEG
ENSBTAG00000017722	<i>F5</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.84081	POS
ENSBTAG00000017722	<i>F5</i>	ENSBTAG00000031750	<i>PLAC8B</i>	-0.86449	NEG
ENSBTAG00000017722	<i>F5</i>	ENSBTAG00000032193	<i>REG4</i>	0.80849	POS
ENSBTAG00000017722	<i>F5</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	0.85879	POS
ENSBTAG00000017722	<i>F5</i>	ENSBTAG00000042471	<i>SNORA25</i>	-0.80865	NEG
ENSBTAG00000017722	<i>F5</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	-0.81321	NEG
ENSBTAG00000017722	<i>F5</i>	ENSBTAG00000048257	<i>CYP4F8</i>	0.81621	POS
ENSBTAG00000017722	<i>F5</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	-0.82221	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000017722	<i>F5</i>	ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	-0.8206	NEG
ENSBTAG00000017722	<i>F5</i>	ENSBTAG00000010681	<i>NR1H3</i>	-0.87128	NEG
ENSBTAG00000017863	<i>SRGN</i>	ENSBTAG00000020350	<i>DUSP2</i>	0.86175	POS
ENSBTAG00000017863	<i>SRGN</i>	ENSBTAG00000030247	<i>NSMF</i>	-0.80672	NEG
ENSBTAG00000017969	<i>CA4</i>	ENSBTAG00000043993	<i>EPCIP</i>	-0.86477	NEG
ENSBTAG00000018123	<i>FBLN5</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.82515	POS
ENSBTAG00000018123	<i>FBLN5</i>	ENSBTAG00000046337	<i>TUBB6</i>	0.84458	POS
ENSBTAG00000018123	<i>FBLN5</i>	ENSBTAG00000051781	<i>ENSBTAG00000051781</i>	0.8357	POS
ENSBTAG00000018123	<i>FBLN5</i>	ENSBTAG00000052140	<i>ENSBTAG00000052140</i>	0.8103	POS
ENSBTAG00000018143	<i>Cl6H1orf116</i>	ENSBTAG00000020580	<i>TCN1</i>	0.80744	POS
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000018331	<i>CLEC3B</i>	0.91521	POS
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000018398	<i>GPR4</i>	0.94652	POS
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000018419	<i>ADCY4</i>	0.87756	POS
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000018744	<i>MGAT5</i>	-0.86004	NEG
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000019497	<i>ILDR2</i>	0.80113	POS
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000020273	<i>YOD1</i>	-0.86841	NEG
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.87481	POS
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.91344	POS
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	-0.80437	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000021872	<i>RASGRP1</i>	-0.81244	NEG
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.86877	POS
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.89155	POS
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.91501	POS
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.86907	POS
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000030671	<i>HOOK1</i>	-0.84606	NEG
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	-0.83363	NEG
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000039326	<i>GCNT2</i>	-0.80964	NEG
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	0.8597	POS
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000045787	<i>CDS1</i>	-0.82431	NEG
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.8936	POS
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.84591	POS
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000051781	<i>ENSBTAG00000051781</i>	0.80791	POS
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000006366	<i>NFATC4</i>	0.89098	POS
ENSBTAG00000018307	<i>SEMA3F</i>	ENSBTAG00000008688	<i>HEYL</i>	0.8742	POS
ENSBTAG00000018316	<i>ZMYND15</i>	ENSBTAG00000021303	<i>RSAD1</i>	0.80886	POS
ENSBTAG00000018316	<i>ZMYND15</i>	ENSBTAG00000024406	<i>AGR2</i>	-0.80184	NEG
ENSBTAG00000018316	<i>ZMYND15</i>	ENSBTAG00000032193	<i>REG4</i>	-0.8782	NEG
ENSBTAG00000018316	<i>ZMYND15</i>	ENSBTAG00000033351	<i>PACRGL</i>	-0.91345	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000018316	<i>ZMYND15</i>	ENSBTAG00000046158	<i>CFB</i>	-0.83709	NEG
ENSBTAG00000018316	<i>ZMYND15</i>	ENSBTAG00000052290	<i>ENSBTAG00000052290</i>	0.8362	POS
ENSBTAG00000018316	<i>ZMYND15</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	-0.80183	NEG
ENSBTAG00000018316	<i>ZMYND15</i>	ENSBTAG00000053558	<i>NOTUM</i>	0.83035	POS
ENSBTAG00000018316	<i>ZMYND15</i>	ENSBTAG00000008409	<i>MYC</i>	-0.80264	NEG
ENSBTAG00000018316	<i>ZMYND15</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.82527	POS
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000018398	<i>GPR4</i>	0.89655	POS
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000018419	<i>ADCY4</i>	0.83097	POS
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000018744	<i>MGAT5</i>	-0.87044	NEG
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000019497	<i>ILDR2</i>	0.89898	POS
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000020273	<i>YOD1</i>	-0.83	NEG
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.86028	POS
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.96149	POS
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000021872	<i>RASGRP1</i>	-0.84287	NEG
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.93514	POS
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.86955	POS
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000028359	<i>U3</i>	0.82145	POS
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.83451	POS
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	0.8219	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000047088	<i>ENSBTAG00000047088</i>	-0.89287	NEG
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000047330	<i>FABP5</i>	0.85738	POS
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000047626	<i>CCDC188</i>	0.80473	POS
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.86597	POS
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	0.87736	POS
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000050189	<i>ENSBTAG00000050189</i>	-0.80465	NEG
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.87096	POS
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.86748	POS
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000006366	<i>NFATC4</i>	0.83522	POS
ENSBTAG00000018331	<i>CLEC3B</i>	ENSBTAG00000011662	<i>SOX18</i>	0.82055	POS
ENSBTAG00000018367	<i>CD6</i>	ENSBTAG00000031348	<i>CCR9</i>	0.90102	POS
ENSBTAG00000018367	<i>CD6</i>	ENSBTAG00000036154	<i>ENSBTAG00000036154</i>	0.89799	POS
ENSBTAG00000018367	<i>CD6</i>	ENSBTAG00000040607	<i>SLA2</i>	0.88307	POS
ENSBTAG00000018367	<i>CD6</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.86767	POS
ENSBTAG00000018367	<i>CD6</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.88339	POS
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000018419	<i>ADCY4</i>	0.87258	POS
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000018744	<i>MGAT5</i>	-0.85108	NEG
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000019129	<i>BTD</i>	-0.82245	NEG
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000019497	<i>ILDR2</i>	0.82333	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.83593	POS
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000021368	<i>ENSBTAG00000021368</i>	-0.81125	NEG
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.84232	POS
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	-0.85051	NEG
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000021916	<i>MYL4</i>	0.88254	POS
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.87745	POS
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.94105	POS
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.94056	POS
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	-0.83333	NEG
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	0.91204	POS
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000039509	<i>GPRC5A</i>	-0.80359	NEG
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000044146	<i>NPC1L1</i>	-0.81018	NEG
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000045787	<i>CDS1</i>	-0.81763	NEG
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000049058	<i>INHBB</i>	0.84845	POS
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.9007	POS
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	-0.81047	NEG
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.80109	POS
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000008688	<i>HEYL</i>	0.82865	POS
ENSBTAG00000018398	<i>GPR4</i>	ENSBTAG00000052504	<i>KLF2</i>	0.83738	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000018413	<i>TENT5B</i>	ENSBTAG00000021322	<i>TM4SF20</i>	-0.81388	NEG
ENSBTAG00000018413	<i>TENT5B</i>	ENSBTAG00000051248	<i>ENSBTAG00000051248</i>	0.81891	POS
ENSBTAG00000018419	<i>ADCY4</i>	ENSBTAG00000019497	<i>ILDR2</i>	0.8261	POS
ENSBTAG00000018419	<i>ADCY4</i>	ENSBTAG00000020688	<i>ARHGEF15</i>	0.86663	POS
ENSBTAG00000018419	<i>ADCY4</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.81853	POS
ENSBTAG00000018419	<i>ADCY4</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.89999	POS
ENSBTAG00000018419	<i>ADCY4</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.96325	POS
ENSBTAG00000018419	<i>ADCY4</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.81986	POS
ENSBTAG00000018419	<i>ADCY4</i>	ENSBTAG00000039509	<i>GPRC5A</i>	-0.82853	NEG
ENSBTAG00000018419	<i>ADCY4</i>	ENSBTAG00000049058	<i>INHBB</i>	0.82312	POS
ENSBTAG00000018419	<i>ADCY4</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.87215	POS
ENSBTAG00000018419	<i>ADCY4</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.80917	POS
ENSBTAG00000018419	<i>ADCY4</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.88119	POS
ENSBTAG00000018419	<i>ADCY4</i>	ENSBTAG00000017397	<i>ZNF423</i>	0.83348	POS
ENSBTAG00000018419	<i>ADCY4</i>	ENSBTAG00000020854	<i>BCL6B</i>	0.81297	POS
ENSBTAG00000018540	<i>NOX4</i>	ENSBTAG00000045596	<i>ENSBTAG00000045596</i>	0.87679	POS
ENSBTAG00000018540	<i>NOX4</i>	ENSBTAG00000054229	<i>ENSBTAG00000054229</i>	-0.82822	NEG
ENSBTAG00000018669	<i>PLB1</i>	ENSBTAG00000020957	<i>FZD5</i>	0.83148	POS
ENSBTAG00000018669	<i>PLB1</i>	ENSBTAG00000021501	<i>ENSBTAG00000021501</i>	0.80861	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000018669	<i>PLBI</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.81213	POS
ENSBTAG00000018669	<i>PLBI</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.8031	POS
ENSBTAG00000018669	<i>PLBI</i>	ENSBTAG00000049386	<i>ENSBTAG00000049386</i>	0.80209	POS
ENSBTAG00000018669	<i>PLBI</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.86968	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000019129	<i>BTD</i>	0.83718	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000020018	<i>FRK</i>	0.84236	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000020142	<i>LMBRD2</i>	0.8538	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000020273	<i>YOD1</i>	0.87338	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000020957	<i>FZD5</i>	0.83185	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000021467	<i>IGFBP6</i>	-0.81586	NEG
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.83106	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000021872	<i>RASGRP1</i>	0.81281	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000022509	<i>DNAH9</i>	-0.81138	NEG
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000030814	<i>TFF2</i>	0.83157	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.85281	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.88975	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.9004	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.93807	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.87409	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.88075	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000045787	<i>CDS1</i>	0.88652	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000048246	<i>DPP4</i>	0.81654	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	-0.82724	NEG
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	0.85988	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.84026	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.86284	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.87868	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.84289	POS
ENSBTAG00000018744	<i>MGAT5</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.83967	NEG
ENSBTAG00000018843	<i>SERPINA1</i>	ENSBTAG00000021368	<i>ENSBTAG00000021368</i>	0.81914	POS
ENSBTAG00000018843	<i>SERPINA1</i>	ENSBTAG00000035081	<i>SERINC2</i>	0.89151	POS
ENSBTAG00000018843	<i>SERPINA1</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	-0.84648	NEG
ENSBTAG00000018843	<i>SERPINA1</i>	ENSBTAG00000049271	<i>ENSBTAG00000049271</i>	-0.80413	NEG
ENSBTAG00000018940	<i>CRACR2A</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.85551	NEG
ENSBTAG00000018940	<i>CRACR2A</i>	ENSBTAG00000016074	<i>ZNF143</i>	0.81705	POS
ENSBTAG00000019129	<i>BTD</i>	ENSBTAG00000020018	<i>FRK</i>	0.90149	POS
ENSBTAG00000019129	<i>BTD</i>	ENSBTAG00000020957	<i>FZD5</i>	0.86554	POS
ENSBTAG00000019129	<i>BTD</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.89531	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000019129	<i>BTBD</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.89811	POS
ENSBTAG00000019129	<i>BTBD</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.85805	POS
ENSBTAG00000019129	<i>BTBD</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.83714	POS
ENSBTAG00000019129	<i>BTBD</i>	ENSBTAG00000030814	<i>TFF2</i>	0.81914	POS
ENSBTAG00000019129	<i>BTBD</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.87354	POS
ENSBTAG00000019129	<i>BTBD</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.84601	POS
ENSBTAG00000019129	<i>BTBD</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.81434	POS
ENSBTAG00000019129	<i>BTBD</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.84939	POS
ENSBTAG00000019129	<i>BTBD</i>	ENSBTAG00000045787	<i>CDS1</i>	0.89462	POS
ENSBTAG00000019129	<i>BTBD</i>	ENSBTAG00000048246	<i>DPP4</i>	0.90971	POS
ENSBTAG00000019129	<i>BTBD</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.8968	POS
ENSBTAG00000019129	<i>BTBD</i>	ENSBTAG00000052665	<i>CYP3A74</i>	0.84537	POS
ENSBTAG00000019129	<i>BTBD</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	-0.83741	NEG
ENSBTAG00000019129	<i>BTBD</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.9051	POS
ENSBTAG00000019454	<i>ANGEL1</i>	ENSBTAG00000028359	<i>U3</i>	-0.87081	NEG
ENSBTAG00000019454	<i>ANGEL1</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.87787	POS
ENSBTAG00000019454	<i>ANGEL1</i>	ENSBTAG00000039197	<i>SLC2A9</i>	0.85876	POS
ENSBTAG00000019454	<i>ANGEL1</i>	ENSBTAG00000042471	<i>SNORA25</i>	-0.82333	NEG
ENSBTAG00000019454	<i>ANGEL1</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	-0.86286	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000019454	<i>ANGEL1</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	-0.81179	NEG
ENSBTAG00000019454	<i>ANGEL1</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	0.81265	POS
ENSBTAG00000019454	<i>ANGEL1</i>	ENSBTAG00000050189	<i>ENSBTAG00000050189</i>	0.83812	POS
ENSBTAG00000019454	<i>ANGEL1</i>	ENSBTAG00000051810	<i>ENSBTAG00000051810</i>	-0.82235	NEG
ENSBTAG00000019454	<i>ANGEL1</i>	ENSBTAG00000055095	<i>ENSBTAG00000055095</i>	-0.8256	NEG
ENSBTAG00000019454	<i>ANGEL1</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.81908	NEG
ENSBTAG00000019486	<i>CLDN12</i>	ENSBTAG00000020957	<i>FZD5</i>	0.83149	POS
ENSBTAG00000019486	<i>CLDN12</i>	ENSBTAG00000028359	<i>U3</i>	-0.80865	NEG
ENSBTAG00000019486	<i>CLDN12</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.80841	NEG
ENSBTAG00000019497	<i>ILDR2</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.85084	POS
ENSBTAG00000019497	<i>ILDR2</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.8689	POS
ENSBTAG00000019497	<i>ILDR2</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.86609	POS
ENSBTAG00000019497	<i>ILDR2</i>	ENSBTAG00000028359	<i>U3</i>	0.85701	POS
ENSBTAG00000019497	<i>ILDR2</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.82957	POS
ENSBTAG00000019497	<i>ILDR2</i>	ENSBTAG00000037902	<i>FAM229A</i>	0.81392	POS
ENSBTAG00000019497	<i>ILDR2</i>	ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	0.8509	POS
ENSBTAG00000019497	<i>ILDR2</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.85852	POS
ENSBTAG00000019497	<i>ILDR2</i>	ENSBTAG00000050189	<i>ENSBTAG00000050189</i>	-0.81088	NEG
ENSBTAG00000019497	<i>ILDR2</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.82527	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000019497	<i>ILDR2</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.84987	POS
ENSBTAG00000019497	<i>ILDR2</i>	ENSBTAG00000011662	<i>SOX18</i>	0.85273	POS
ENSBTAG00000019587	<i>PII5</i>	ENSBTAG00000031696	<i>ANKRD44</i>	0.81617	POS
ENSBTAG00000019587	<i>PII5</i>	ENSBTAG00000000656	<i>NFATC1</i>	0.859	POS
ENSBTAG00000019665	<i>IL1RN</i>	ENSBTAG00000047274	<i>KIF21B</i>	0.82881	POS
ENSBTAG00000019900	<i>LNPEP</i>	ENSBTAG00000031348	<i>CCR9</i>	0.8198	POS
ENSBTAG00000019900	<i>LNPEP</i>	ENSBTAG00000040607	<i>SLA2</i>	0.83951	POS
ENSBTAG00000019900	<i>LNPEP</i>	ENSBTAG00000048550	<i>GCSAM</i>	0.8585	POS
ENSBTAG00000019900	<i>LNPEP</i>	ENSBTAG00000049108	<i>TRAT1</i>	0.82815	POS
ENSBTAG00000019900	<i>LNPEP</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	0.87532	POS
ENSBTAG00000019900	<i>LNPEP</i>	ENSBTAG00000049942	<i>ENSBTAG00000049942</i>	0.83623	POS
ENSBTAG00000019940	<i>RASGRF1</i>	ENSBTAG00000030247	<i>NSMF</i>	0.80398	POS
ENSBTAG00000019940	<i>RASGRF1</i>	ENSBTAG00000032193	<i>REG4</i>	-0.85111	NEG
ENSBTAG00000019940	<i>RASGRF1</i>	ENSBTAG00000046984	<i>ZNF672</i>	0.81138	POS
ENSBTAG00000019940	<i>RASGRF1</i>	ENSBTAG00000003843	<i>SMARCA1</i>	0.87003	POS
ENSBTAG00000019940	<i>RASGRF1</i>	ENSBTAG00000007318	<i>ZNF687</i>	0.81384	POS
ENSBTAG00000019940	<i>RASGRF1</i>	ENSBTAG00000008313	<i>KLF15</i>	-0.82267	NEG
ENSBTAG00000019940	<i>RASGRF1</i>	ENSBTAG00000009905	<i>NFYA</i>	0.83518	POS
ENSBTAG00000019940	<i>RASGRF1</i>	ENSBTAG00000010113	<i>ZBTB24</i>	0.85448	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000019993	<i>APLN</i>	ENSBTAG00000046268	<i>ENSBTAG00000046268</i>	-0.80942	NEG
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000020957	<i>FZD5</i>	0.89672	POS
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000021322	<i>TM4SF20</i>	0.88899	POS
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.93994	POS
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.88119	POS
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000022158	<i>TNNT3</i>	-0.82867	NEG
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.847	POS
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.84798	POS
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000030814	<i>TFF2</i>	0.81449	POS
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000037651	<i>SI00A2</i>	0.80535	POS
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.84689	POS
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.84182	POS
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.85201	POS
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000044017	<i>MSRB3</i>	-0.82038	NEG
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.90472	POS
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000045787	<i>CDS1</i>	0.92047	POS
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000046337	<i>TUBB6</i>	-0.80535	NEG
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000048246	<i>DPP4</i>	0.92955	POS
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000049386	<i>ENSBTAG00000049386</i>	0.83309	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000049806	<i>ENSBTAG00000049806</i>	0.8148	POS
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.92725	POS
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	0.88051	POS
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000052665	<i>CYP3A74</i>	0.92736	POS
ENSBTAG00000020018	<i>FRK</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.9246	POS
ENSBTAG00000020080	<i>MYBPC2</i>	ENSBTAG00000050212	<i>MUC2</i>	-0.82307	NEG
ENSBTAG00000020142	<i>LMBRD2</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.86173	POS
ENSBTAG00000020142	<i>LMBRD2</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.81509	POS
ENSBTAG00000020142	<i>LMBRD2</i>	ENSBTAG00000043983	<i>LRRIC19</i>	0.88701	POS
ENSBTAG00000020142	<i>LMBRD2</i>	ENSBTAG00000045787	<i>CDS1</i>	0.83095	POS
ENSBTAG00000020142	<i>LMBRD2</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	0.83225	POS
ENSBTAG00000020142	<i>LMBRD2</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	0.82438	POS
ENSBTAG00000020142	<i>LMBRD2</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.81028	POS
ENSBTAG00000020184	<i>AQP8</i>	ENSBTAG00000030247	<i>NSMF</i>	0.81904	POS
ENSBTAG00000020184	<i>AQP8</i>	ENSBTAG00000047713	<i>LMNTD2</i>	0.83061	POS
ENSBTAG00000020184	<i>AQP8</i>	ENSBTAG00000053558	<i>NOTUM</i>	0.83348	POS
ENSBTAG00000020191	<i>FEV</i>	ENSBTAG00000020580	<i>TCN1</i>	0.88674	POS
ENSBTAG00000020191	<i>FEV</i>	ENSBTAG00000030921	<i>FAM3B</i>	0.85972	POS
ENSBTAG00000020273	<i>YOD1</i>	ENSBTAG00000021467	<i>IGFBP6</i>	-0.83903	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000020273	<i>YOD1</i>	ENSBTAG00000022509	<i>DNAH9</i>	-0.82713	NEG
ENSBTAG00000020273	<i>YOD1</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.82428	POS
ENSBTAG00000020273	<i>YOD1</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.87669	POS
ENSBTAG00000020273	<i>YOD1</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	-0.88732	NEG
ENSBTAG00000020273	<i>YOD1</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.82563	POS
ENSBTAG00000020350	<i>DUSP2</i>	ENSBTAG00000052822	<i>ENSBTAG00000052822</i>	0.80141	POS
ENSBTAG00000020448	<i>ZNF282</i>	ENSBTAG00000050388	<i>KRBA2</i>	-0.8536	NEG
ENSBTAG00000020580	<i>TCN1</i>	ENSBTAG00000020859	<i>SERPINF2</i>	0.82359	POS
ENSBTAG00000020580	<i>TCN1</i>	ENSBTAG00000021276	<i>TFF3</i>	0.85938	POS
ENSBTAG00000020580	<i>TCN1</i>	ENSBTAG00000021501	<i>ENSBTAG00000021501</i>	0.85464	POS
ENSBTAG00000020580	<i>TCN1</i>	ENSBTAG00000028359	<i>U3</i>	-0.81653	NEG
ENSBTAG00000020580	<i>TCN1</i>	ENSBTAG00000039413	<i>ENSBTAG00000039413</i>	0.80102	POS
ENSBTAG00000020580	<i>TCN1</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	-0.80056	NEG
ENSBTAG00000020580	<i>TCN1</i>	ENSBTAG00000047626	<i>CCDC188</i>	-0.80264	NEG
ENSBTAG00000020580	<i>TCN1</i>	ENSBTAG00000053073	<i>ENSBTAG00000053073</i>	-0.80108	NEG
ENSBTAG00000020580	<i>TCN1</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.81104	NEG
ENSBTAG00000020592	<i>OTOS</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.81258	POS
ENSBTAG00000020592	<i>OTOS</i>	ENSBTAG00000051810	<i>ENSBTAG00000051810</i>	0.88858	POS
ENSBTAG00000020601	<i>ZNF366</i>	ENSBTAG00000043993	<i>EPCIP</i>	0.92943	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000020601	<i>ZNF366</i>	ENSBTAG00000048400	<i>ENSBTAG00000048400</i>	-0.81367	NEG
ENSBTAG00000020688	<i>ARHGEF15</i>	ENSBTAG00000021467	<i>IGFBP6</i>	0.84977	POS
ENSBTAG00000020688	<i>ARHGEF15</i>	ENSBTAG00000024000	<i>ATOX8</i>	0.9283	POS
ENSBTAG00000020688	<i>ARHGEF15</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.89838	POS
ENSBTAG00000020688	<i>ARHGEF15</i>	ENSBTAG00000047330	<i>FABP5</i>	0.86182	POS
ENSBTAG00000020688	<i>ARHGEF15</i>	ENSBTAG00000047626	<i>CCDC188</i>	0.82839	POS
ENSBTAG00000020688	<i>ARHGEF15</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.8592	POS
ENSBTAG00000020688	<i>ARHGEF15</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.82896	POS
ENSBTAG00000020688	<i>ARHGEF15</i>	ENSBTAG00000051781	<i>ENSBTAG00000051781</i>	0.86719	POS
ENSBTAG00000020688	<i>ARHGEF15</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.91218	POS
ENSBTAG00000020688	<i>ARHGEF15</i>	ENSBTAG00000009634	<i>HOXC5</i>	0.86645	POS
ENSBTAG00000020688	<i>ARHGEF15</i>	ENSBTAG00000011662	<i>SOX18</i>	0.80093	POS
ENSBTAG00000020688	<i>ARHGEF15</i>	ENSBTAG00000017397	<i>ZNF423</i>	0.828	POS
ENSBTAG00000020859	<i>SERPINF2</i>	ENSBTAG00000021276	<i>TFF3</i>	0.88966	POS
ENSBTAG00000020859	<i>SERPINF2</i>	ENSBTAG00000021303	<i>RSAD1</i>	-0.86633	NEG
ENSBTAG00000020859	<i>SERPINF2</i>	ENSBTAG00000023207	<i>FAM3D</i>	0.8374	POS
ENSBTAG00000020859	<i>SERPINF2</i>	ENSBTAG00000024406	<i>AGR2</i>	0.88455	POS
ENSBTAG00000020859	<i>SERPINF2</i>	ENSBTAG00000030426	<i>ENSBTAG00000030426</i>	0.81613	POS
ENSBTAG00000020859	<i>SERPINF2</i>	ENSBTAG00000032193	<i>REG4</i>	0.84643	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000020859	<i>SERPINF2</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	0.88624	POS
ENSBTAG00000020859	<i>SERPINF2</i>	ENSBTAG00000039413	<i>ENSBTAG00000039413</i>	0.83154	POS
ENSBTAG00000020859	<i>SERPINF2</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	-0.80508	NEG
ENSBTAG00000020859	<i>SERPINF2</i>	ENSBTAG00000046984	<i>ZNF672</i>	-0.8315	NEG
ENSBTAG00000020859	<i>SERPINF2</i>	ENSBTAG00000048125	<i>ENTPD2</i>	0.81902	POS
ENSBTAG00000020859	<i>SERPINF2</i>	ENSBTAG00000048257	<i>CYP4F8</i>	0.80729	POS
ENSBTAG00000020859	<i>SERPINF2</i>	ENSBTAG00000052510	<i>CCL26</i>	0.85086	POS
ENSBTAG00000020954	<i>TRIM7</i>	ENSBTAG00000024852	<i>ENSBTAG00000024852</i>	-0.81775	NEG
ENSBTAG00000020957	<i>FZD5</i>	ENSBTAG00000021322	<i>TM4SF20</i>	0.89391	POS
ENSBTAG00000020957	<i>FZD5</i>	ENSBTAG00000021501	<i>ENSBTAG00000021501</i>	0.83714	POS
ENSBTAG00000020957	<i>FZD5</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.84879	POS
ENSBTAG00000020957	<i>FZD5</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.89392	POS
ENSBTAG00000020957	<i>FZD5</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.84194	POS
ENSBTAG00000020957	<i>FZD5</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.82482	POS
ENSBTAG00000020957	<i>FZD5</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.84953	POS
ENSBTAG00000020957	<i>FZD5</i>	ENSBTAG00000048246	<i>DPP4</i>	0.81533	POS
ENSBTAG00000020957	<i>FZD5</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	0.80571	POS
ENSBTAG00000020957	<i>FZD5</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.81309	POS
ENSBTAG00000020957	<i>FZD5</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	-0.80291	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000020957	<i>FZD5</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.86199	POS
ENSBTAG00000021141	<i>CD8A</i>	ENSBTAG00000037651	<i>SI00A2</i>	0.8309	POS
ENSBTAG00000021276	<i>TFF3</i>	ENSBTAG00000023207	<i>FAM3D</i>	0.8731	POS
ENSBTAG00000021276	<i>TFF3</i>	ENSBTAG00000024406	<i>AGR2</i>	0.82427	POS
ENSBTAG00000021276	<i>TFF3</i>	ENSBTAG00000030711	<i>LYPD8</i>	0.81842	POS
ENSBTAG00000021276	<i>TFF3</i>	ENSBTAG00000031569	<i>GOLM1</i>	0.83742	POS
ENSBTAG00000021276	<i>TFF3</i>	ENSBTAG00000032193	<i>REG4</i>	0.86753	POS
ENSBTAG00000021276	<i>TFF3</i>	ENSBTAG00000042471	<i>SNORA25</i>	-0.8443	NEG
ENSBTAG00000021276	<i>TFF3</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	-0.85804	NEG
ENSBTAG00000021276	<i>TFF3</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	0.86091	POS
ENSBTAG00000021276	<i>TFF3</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.81672	NEG
ENSBTAG00000021303	<i>RSADI</i>	ENSBTAG00000024406	<i>AGR2</i>	-0.90191	NEG
ENSBTAG00000021303	<i>RSADI</i>	ENSBTAG00000026236	<i>AZGPI</i>	-0.80926	NEG
ENSBTAG00000021303	<i>RSADI</i>	ENSBTAG00000030247	<i>NSMF</i>	0.88519	POS
ENSBTAG00000021303	<i>RSADI</i>	ENSBTAG00000030757	<i>ELFN1</i>	-0.80529	NEG
ENSBTAG00000021303	<i>RSADI</i>	ENSBTAG00000031750	<i>PLAC8B</i>	0.82673	POS
ENSBTAG00000021303	<i>RSADI</i>	ENSBTAG00000032193	<i>REG4</i>	-0.91029	NEG
ENSBTAG00000021303	<i>RSADI</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	-0.90799	NEG
ENSBTAG00000021303	<i>RSADI</i>	ENSBTAG00000045596	<i>ENSBTAG00000045596</i>	0.81671	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000021303	<i>RSADI</i>	ENSBTAG00000046984	<i>ZNF672</i>	0.89494	POS
ENSBTAG00000021303	<i>RSADI</i>	ENSBTAG00000047713	<i>LMNTD2</i>	0.91244	POS
ENSBTAG00000021303	<i>RSADI</i>	ENSBTAG00000048125	<i>ENTPD2</i>	-0.81907	NEG
ENSBTAG00000021303	<i>RSADI</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	0.85667	POS
ENSBTAG00000021303	<i>RSADI</i>	ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	0.87512	POS
ENSBTAG00000021303	<i>RSADI</i>	ENSBTAG00000053558	<i>NOTUM</i>	0.84928	POS
ENSBTAG00000021303	<i>RSADI</i>	ENSBTAG00000002333	<i>HOPX</i>	-0.87164	NEG
ENSBTAG00000021303	<i>RSADI</i>	ENSBTAG00000003843	<i>SMARCA1</i>	0.80046	POS
ENSBTAG00000021303	<i>RSADI</i>	ENSBTAG00000008409	<i>MYC</i>	-0.84654	NEG
ENSBTAG00000021303	<i>RSADI</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.9134	POS
ENSBTAG00000021322	<i>TM4SF20</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.86429	POS
ENSBTAG00000021322	<i>TM4SF20</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.86276	POS
ENSBTAG00000021322	<i>TM4SF20</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.85424	POS
ENSBTAG00000021322	<i>TM4SF20</i>	ENSBTAG00000044017	<i>MSRB3</i>	-0.83479	NEG
ENSBTAG00000021322	<i>TM4SF20</i>	ENSBTAG00000048246	<i>DPP4</i>	0.85504	POS
ENSBTAG00000021322	<i>TM4SF20</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.84129	POS
ENSBTAG00000021322	<i>TM4SF20</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.90782	POS
ENSBTAG00000021368	<i>ENSBTAG00000021368</i>	ENSBTAG00000030259	<i>RASGRF2</i>	-0.8239	NEG
ENSBTAG00000021368	<i>ENSBTAG00000021368</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	-0.87627	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000021368	<i>ENSBTAG00000021368</i>	ENSBTAG00000044146	<i>NPCILI</i>	0.82129	POS
ENSBTAG00000021368	<i>ENSBTAG00000021368</i>	ENSBTAG00000052665	<i>CYP3A74</i>	0.80357	POS
ENSBTAG00000021422	<i>PDZD4</i>	ENSBTAG00000022509	<i>DNAH9</i>	0.82594	POS
ENSBTAG00000021422	<i>PDZD4</i>	ENSBTAG00000025005	<i>TMT1A</i>	-0.85339	NEG
ENSBTAG00000021422	<i>PDZD4</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	0.85719	POS
ENSBTAG00000021437	<i>ENSBTAG00000021437</i>	ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	0.80002	POS
ENSBTAG00000021437	<i>ENSBTAG00000021437</i>	ENSBTAG00000045925	<i>CITED1</i>	-0.81781	NEG
ENSBTAG00000021467	<i>IGFBP6</i>	ENSBTAG00000021872	<i>RASGRP1</i>	-0.81803	NEG
ENSBTAG00000021467	<i>IGFBP6</i>	ENSBTAG00000023736	<i>CDC42EP3</i>	0.8128	POS
ENSBTAG00000021467	<i>IGFBP6</i>	ENSBTAG00000024000	<i>ATOH8</i>	0.93691	POS
ENSBTAG00000021467	<i>IGFBP6</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.84351	POS
ENSBTAG00000021467	<i>IGFBP6</i>	ENSBTAG00000047088	<i>ENSBTAG00000047088</i>	-0.82705	NEG
ENSBTAG00000021467	<i>IGFBP6</i>	ENSBTAG00000047330	<i>FABP5</i>	0.85445	POS
ENSBTAG00000021467	<i>IGFBP6</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.85688	POS
ENSBTAG00000021467	<i>IGFBP6</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	0.85685	POS
ENSBTAG00000021467	<i>IGFBP6</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.84485	POS
ENSBTAG00000021467	<i>IGFBP6</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.84912	POS
ENSBTAG00000021467	<i>IGFBP6</i>	ENSBTAG00000003304	<i>HOXC4</i>	0.80036	POS
ENSBTAG00000021467	<i>IGFBP6</i>	ENSBTAG00000006366	<i>NFATC4</i>	0.82131	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000021467	<i>IGFBP6</i>	ENSBTAG00000009979	<i>HOXB2</i>	0.854	POS
ENSBTAG00000021467	<i>IGFBP6</i>	ENSBTAG00000011662	<i>SOX18</i>	0.85203	POS
ENSBTAG00000021501	<i>ENSBTAG00000021501</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.86305	POS
ENSBTAG00000021501	<i>ENSBTAG00000021501</i>	ENSBTAG00000030814	<i>TFF2</i>	0.86258	POS
ENSBTAG00000021501	<i>ENSBTAG00000021501</i>	ENSBTAG00000030921	<i>FAM3B</i>	0.91035	POS
ENSBTAG00000021501	<i>ENSBTAG00000021501</i>	ENSBTAG00000033351	<i>PACRGL</i>	0.82386	POS
ENSBTAG00000021501	<i>ENSBTAG00000021501</i>	ENSBTAG00000049386	<i>ENSBTAG00000049386</i>	0.8274	POS
ENSBTAG00000021501	<i>ENSBTAG00000021501</i>	ENSBTAG00000049806	<i>ENSBTAG00000049806</i>	0.80245	POS
ENSBTAG00000021501	<i>ENSBTAG00000021501</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	0.8232	POS
ENSBTAG00000021501	<i>ENSBTAG00000021501</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.80198	POS
ENSBTAG00000021516	<i>ENSBTAG00000021516</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.81934	POS
ENSBTAG00000021516	<i>ENSBTAG00000021516</i>	ENSBTAG00000050809	<i>GIPC3</i>	-0.82345	NEG
ENSBTAG00000021517	<i>TMEM216</i>	ENSBTAG00000049108	<i>TRAT1</i>	-0.85208	NEG
ENSBTAG00000021517	<i>TMEM216</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	-0.82258	NEG
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000021587	<i>SMPDL3A</i>	0.9186	POS
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	0.87401	POS
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.89458	POS
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000030814	<i>TFF2</i>	0.81556	POS
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.8059	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.86709	POS
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.81944	POS
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	-0.81182	NEG
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.81433	POS
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000044017	<i>MSRB3</i>	-0.81974	NEG
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.87378	POS
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000045787	<i>CDS1</i>	0.88657	POS
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000048246	<i>DPP4</i>	0.92208	POS
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000049386	<i>ENSBTAG00000049386</i>	0.80421	POS
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000049806	<i>ENSBTAG00000049806</i>	0.81157	POS
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.89743	POS
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	0.82776	POS
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000052665	<i>CYP3A74</i>	0.81095	POS
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	-0.80623	NEG
ENSBTAG00000021557	<i>ENSBTAG00000021557</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.93796	POS
ENSBTAG00000021587	<i>SMPDL3A</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.86388	POS
ENSBTAG00000021587	<i>SMPDL3A</i>	ENSBTAG00000030814	<i>TFF2</i>	0.82094	POS
ENSBTAG00000021587	<i>SMPDL3A</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.80925	POS
ENSBTAG00000021587	<i>SMPDL3A</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.92617	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000021587	<i>SMPDL3A</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.82079	POS
ENSBTAG00000021587	<i>SMPDL3A</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.87052	POS
ENSBTAG00000021587	<i>SMPDL3A</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.88457	POS
ENSBTAG00000021587	<i>SMPDL3A</i>	ENSBTAG00000045787	<i>CDS1</i>	0.92662	POS
ENSBTAG00000021587	<i>SMPDL3A</i>	ENSBTAG00000048246	<i>DPP4</i>	0.93208	POS
ENSBTAG00000021587	<i>SMPDL3A</i>	ENSBTAG00000050809	<i>GIPC3</i>	-0.85179	NEG
ENSBTAG00000021587	<i>SMPDL3A</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.96436	POS
ENSBTAG00000021587	<i>SMPDL3A</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	-0.80343	NEG
ENSBTAG00000021587	<i>SMPDL3A</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.94804	POS
ENSBTAG00000021673	<i>NDC80</i>	ENSBTAG00000032193	<i>REG4</i>	0.80043	POS
ENSBTAG00000021673	<i>NDC80</i>	ENSBTAG00000047713	<i>LMNTD2</i>	-0.82616	NEG
ENSBTAG00000021872	<i>RASGRP1</i>	ENSBTAG00000024000	<i>ATOH8</i>	-0.84661	NEG
ENSBTAG00000021872	<i>RASGRP1</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.81033	POS
ENSBTAG00000021872	<i>RASGRP1</i>	ENSBTAG00000046649	<i>SGPP2</i>	0.81912	POS
ENSBTAG00000021872	<i>RASGRP1</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	-0.82378	NEG
ENSBTAG00000021872	<i>RASGRP1</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.82155	POS
ENSBTAG00000021872	<i>RASGRP1</i>	ENSBTAG00000003304	<i>HOXC4</i>	-0.86532	NEG
ENSBTAG00000021872	<i>RASGRP1</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.89581	NEG
ENSBTAG00000021872	<i>RASGRP1</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.80104	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000021872	<i>RASGRP1</i>	ENSBTAG00000016074	<i>ZNF143</i>	0.82128	POS
ENSBTAG00000021916	<i>MYL4</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.8512	POS
ENSBTAG00000021916	<i>MYL4</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.88505	POS
ENSBTAG00000021916	<i>MYL4</i>	ENSBTAG00000039050	<i>ENSBTAG00000039050</i>	0.80923	POS
ENSBTAG00000021916	<i>MYL4</i>	ENSBTAG00000049058	<i>INHBB</i>	0.87084	POS
ENSBTAG00000021916	<i>MYL4</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.86966	POS
ENSBTAG00000021916	<i>MYL4</i>	ENSBTAG00000052504	<i>KLF2</i>	0.81773	POS
ENSBTAG00000021941	<i>DPP6</i>	ENSBTAG00000025345	<i>ARL10</i>	0.83951	POS
ENSBTAG00000021993	<i>SPDEF</i>	ENSBTAG00000023207	<i>FAM3D</i>	0.90161	POS
ENSBTAG00000021993	<i>SPDEF</i>	ENSBTAG00000030426	<i>ENSBTAG00000030426</i>	0.81315	POS
ENSBTAG00000021993	<i>SPDEF</i>	ENSBTAG00000030711	<i>LYPD8</i>	0.81693	POS
ENSBTAG00000021993	<i>SPDEF</i>	ENSBTAG00000046291	<i>FAM83E</i>	0.81519	POS
ENSBTAG00000021993	<i>SPDEF</i>	ENSBTAG00000050212	<i>MUC2</i>	0.8713	POS
ENSBTAG00000022158	<i>TNNT3</i>	ENSBTAG00000052665	<i>CYP3A74</i>	-0.8786	NEG
ENSBTAG00000022509	<i>DNAH9</i>	ENSBTAG00000039326	<i>GCNT2</i>	-0.84291	NEG
ENSBTAG00000022509	<i>DNAH9</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	0.81237	POS
ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	ENSBTAG00000025005	<i>TMT1A</i>	0.9077	POS
ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	ENSBTAG00000030814	<i>TFF2</i>	0.81786	POS
ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	ENSBTAG00000037795	<i>CYP2C87</i>	0.83071	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.8568	POS
ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	ENSBTAG00000048246	<i>DPP4</i>	0.83977	POS
ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.82896	POS
ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	-0.81714	NEG
ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.88328	POS
ENSBTAG00000022861	<i>KLRJ1</i>	ENSBTAG00000049108	<i>TRAT1</i>	0.82498	POS
ENSBTAG00000022861	<i>KLRJ1</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.80415	POS
ENSBTAG00000022861	<i>KLRJ1</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.85771	POS
ENSBTAG00000023207	<i>FAM3D</i>	ENSBTAG00000030426	<i>ENSBTAG00000030426</i>	0.80066	POS
ENSBTAG00000023207	<i>FAM3D</i>	ENSBTAG00000030711	<i>LYPD8</i>	0.93086	POS
ENSBTAG00000023207	<i>FAM3D</i>	ENSBTAG00000045578	<i>AGR3</i>	0.86265	POS
ENSBTAG00000023207	<i>FAM3D</i>	ENSBTAG00000050212	<i>MUC2</i>	0.90219	POS
ENSBTAG00000023207	<i>FAM3D</i>	ENSBTAG00000052510	<i>CCL26</i>	0.80024	POS
ENSBTAG00000023207	<i>FAM3D</i>	ENSBTAG00000052983	<i>ARMCX4</i>	-0.80105	NEG
ENSBTAG00000023207	<i>FAM3D</i>	ENSBTAG00000054525	<i>ENSBTAG00000054525</i>	0.80361	POS
ENSBTAG00000023736	<i>CDC42EP3</i>	ENSBTAG00000025853	<i>HOMER1</i>	-0.85137	NEG
ENSBTAG00000023736	<i>CDC42EP3</i>	ENSBTAG00000030671	<i>HOOK1</i>	-0.80605	NEG
ENSBTAG00000023736	<i>CDC42EP3</i>	ENSBTAG00000034393	<i>FAM149A</i>	0.80824	POS
ENSBTAG00000023736	<i>CDC42EP3</i>	ENSBTAG00000046337	<i>TUBB6</i>	0.82896	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000023736	<i>CDC42EP3</i>	ENSBTAG00000051781	<i>ENSBTAG00000051781</i>	0.86673	POS
ENSBTAG00000023736	<i>CDC42EP3</i>	ENSBTAG00000052140	<i>ENSBTAG00000052140</i>	0.82748	POS
ENSBTAG00000024000	<i>ATOH8</i>	ENSBTAG00000025424	<i>NOTCH4</i>	0.93215	POS
ENSBTAG00000024000	<i>ATOH8</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.81189	POS
ENSBTAG00000024000	<i>ATOH8</i>	ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	0.82083	POS
ENSBTAG00000024000	<i>ATOH8</i>	ENSBTAG00000047330	<i>FABP5</i>	0.89789	POS
ENSBTAG00000024000	<i>ATOH8</i>	ENSBTAG00000047626	<i>CCDC188</i>	0.86867	POS
ENSBTAG00000024000	<i>ATOH8</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.92225	POS
ENSBTAG00000024000	<i>ATOH8</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.8496	POS
ENSBTAG00000024000	<i>ATOH8</i>	ENSBTAG00000051781	<i>ENSBTAG00000051781</i>	0.82116	POS
ENSBTAG00000024000	<i>ATOH8</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.94167	POS
ENSBTAG00000024000	<i>ATOH8</i>	ENSBTAG00000006366	<i>NFATC4</i>	0.8119	POS
ENSBTAG00000024000	<i>ATOH8</i>	ENSBTAG00000009634	<i>HOXC5</i>	0.8755	POS
ENSBTAG00000024000	<i>ATOH8</i>	ENSBTAG00000009979	<i>HOXB2</i>	0.83153	POS
ENSBTAG00000024000	<i>ATOH8</i>	ENSBTAG00000011662	<i>SOX18</i>	0.9092	POS
ENSBTAG00000024000	<i>ATOH8</i>	ENSBTAG00000017397	<i>ZNF423</i>	0.85107	POS
ENSBTAG00000024406	<i>AGR2</i>	ENSBTAG00000026236	<i>AZGP1</i>	0.87179	POS
ENSBTAG00000024406	<i>AGR2</i>	ENSBTAG00000030247	<i>NSMF</i>	-0.82915	NEG
ENSBTAG00000024406	<i>AGR2</i>	ENSBTAG00000030757	<i>ELFN1</i>	0.8864	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000024406	<i>AGR2</i>	ENSBTAG00000032193	<i>REG4</i>	0.9537	POS
ENSBTAG00000024406	<i>AGR2</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	0.81492	POS
ENSBTAG00000024406	<i>AGR2</i>	ENSBTAG00000045596	<i>ENSBTAG00000045596</i>	-0.86249	NEG
ENSBTAG00000024406	<i>AGR2</i>	ENSBTAG00000046158	<i>CFB</i>	0.88417	POS
ENSBTAG00000024406	<i>AGR2</i>	ENSBTAG00000046984	<i>ZNF672</i>	-0.95041	NEG
ENSBTAG00000024406	<i>AGR2</i>	ENSBTAG00000047713	<i>LMNTD2</i>	-0.86824	NEG
ENSBTAG00000024406	<i>AGR2</i>	ENSBTAG00000048125	<i>ENTPD2</i>	0.8297	POS
ENSBTAG00000024406	<i>AGR2</i>	ENSBTAG00000052510	<i>CCL26</i>	0.83615	POS
ENSBTAG00000024406	<i>AGR2</i>	ENSBTAG00000010681	<i>NR1H3</i>	-0.88915	NEG
ENSBTAG00000024852	<i>ENSBTAG00000024852</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	0.82449	POS
ENSBTAG00000025005	<i>TMT1A</i>	ENSBTAG00000030814	<i>TFF2</i>	0.83929	POS
ENSBTAG00000025005	<i>TMT1A</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.83473	POS
ENSBTAG00000025005	<i>TMT1A</i>	ENSBTAG00000044017	<i>MSRB3</i>	-0.81529	NEG
ENSBTAG00000025005	<i>TMT1A</i>	ENSBTAG00000044146	<i>NPC1L1</i>	0.81132	POS
ENSBTAG00000025005	<i>TMT1A</i>	ENSBTAG00000048246	<i>DPP4</i>	0.90125	POS
ENSBTAG00000025005	<i>TMT1A</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.84791	POS
ENSBTAG00000025005	<i>TMT1A</i>	ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	0.82038	POS
ENSBTAG00000025005	<i>TMT1A</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	-0.91696	NEG
ENSBTAG00000025005	<i>TMT1A</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.91798	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000025021	<i>ENSBTAG00000025021</i>	ENSBTAG00000044017	<i>MSRB3</i>	-0.84498	NEG
ENSBTAG00000025021	<i>ENSBTAG00000025021</i>	ENSBTAG00000049386	<i>ENSBTAG00000049386</i>	0.81876	POS
ENSBTAG00000025021	<i>ENSBTAG00000025021</i>	ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	0.82885	POS
ENSBTAG00000025021	<i>ENSBTAG00000025021</i>	ENSBTAG00000054558	<i>ENSBTAG00000054558</i>	0.85721	POS
ENSBTAG00000025345	<i>ARL10</i>	ENSBTAG00000049383	<i>LSAMP</i>	0.81706	POS
ENSBTAG00000025424	<i>NOTCH4</i>	ENSBTAG00000030259	<i>RASGRF2</i>	0.90601	POS
ENSBTAG00000025424	<i>NOTCH4</i>	ENSBTAG00000039509	<i>GPRC5A</i>	-0.81186	NEG
ENSBTAG00000025424	<i>NOTCH4</i>	ENSBTAG00000049058	<i>INHBB</i>	0.88728	POS
ENSBTAG00000025424	<i>NOTCH4</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.94981	POS
ENSBTAG00000025424	<i>NOTCH4</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.88207	POS
ENSBTAG00000025424	<i>NOTCH4</i>	ENSBTAG00000008688	<i>HEYL</i>	0.81222	POS
ENSBTAG00000025424	<i>NOTCH4</i>	ENSBTAG00000009634	<i>HOXC5</i>	0.80056	POS
ENSBTAG00000025424	<i>NOTCH4</i>	ENSBTAG00000011662	<i>SOX18</i>	0.81311	POS
ENSBTAG00000025424	<i>NOTCH4</i>	ENSBTAG00000017397	<i>ZNF423</i>	0.86844	POS
ENSBTAG00000025424	<i>NOTCH4</i>	ENSBTAG00000052504	<i>KLF2</i>	0.84606	POS
ENSBTAG00000025853	<i>HOMER1</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.81595	POS
ENSBTAG00000025853	<i>HOMER1</i>	ENSBTAG00000045751	<i>ENSBTAG00000045751</i>	0.80358	POS
ENSBTAG00000025853	<i>HOMER1</i>	ENSBTAG00000046337	<i>TUBB6</i>	-0.81949	NEG
ENSBTAG00000025853	<i>HOMER1</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	0.85187	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000026236	<i>AZGP1</i>	ENSBTAG00000030757	<i>ELFN1</i>	0.81278	POS
ENSBTAG00000026236	<i>AZGP1</i>	ENSBTAG00000032193	<i>REG4</i>	0.80492	POS
ENSBTAG00000026236	<i>AZGP1</i>	ENSBTAG00000045596	<i>ENSBTAG00000045596</i>	-0.8331	NEG
ENSBTAG00000026236	<i>AZGP1</i>	ENSBTAG00000046984	<i>ZNF672</i>	-0.87396	NEG
ENSBTAG00000028359	<i>U3</i>	ENSBTAG00000031569	<i>GOLM1</i>	-0.85394	NEG
ENSBTAG00000028359	<i>U3</i>	ENSBTAG00000031750	<i>PLAC8B</i>	0.81838	POS
ENSBTAG00000028359	<i>U3</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	-0.80922	NEG
ENSBTAG00000028359	<i>U3</i>	ENSBTAG00000039413	<i>ENSBTAG00000039413</i>	-0.86073	NEG
ENSBTAG00000028359	<i>U3</i>	ENSBTAG00000042471	<i>SNORA25</i>	0.85315	POS
ENSBTAG00000028359	<i>U3</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	0.82423	POS
ENSBTAG00000028359	<i>U3</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	0.82059	POS
ENSBTAG00000028359	<i>U3</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	-0.80724	NEG
ENSBTAG00000028359	<i>U3</i>	ENSBTAG00000049942	<i>ENSBTAG00000049942</i>	-0.807	NEG
ENSBTAG00000028359	<i>U3</i>	ENSBTAG00000007660	<i>ZNF414</i>	0.86646	POS
ENSBTAG00000029897	<i>MIR21</i>	ENSBTAG00000047700	<i>ENSBTAG00000047700</i>	-0.83795	NEG
ENSBTAG00000029897	<i>MIR21</i>	ENSBTAG00000053928	<i>GPR25</i>	-0.81799	NEG
ENSBTAG00000030247	<i>NSMF</i>	ENSBTAG00000032193	<i>REG4</i>	-0.90787	NEG
ENSBTAG00000030247	<i>NSMF</i>	ENSBTAG00000046984	<i>ZNF672</i>	0.80548	POS
ENSBTAG00000030247	<i>NSMF</i>	ENSBTAG00000047713	<i>LMNTD2</i>	0.94243	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000030247	<i>NSMF</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	0.89231	POS
ENSBTAG00000030247	<i>NSMF</i>	ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	0.84835	POS
ENSBTAG00000030247	<i>NSMF</i>	ENSBTAG00000053558	<i>NOTUM</i>	0.85026	POS
ENSBTAG00000030247	<i>NSMF</i>	ENSBTAG00000003843	<i>SMARCAL1</i>	0.86866	POS
ENSBTAG00000030247	<i>NSMF</i>	ENSBTAG00000007318	<i>ZNF687</i>	0.83362	POS
ENSBTAG00000030247	<i>NSMF</i>	ENSBTAG00000008313	<i>KLF15</i>	-0.82221	NEG
ENSBTAG00000030247	<i>NSMF</i>	ENSBTAG00000009905	<i>NFYA</i>	0.80084	POS
ENSBTAG00000030247	<i>NSMF</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.91026	POS
ENSBTAG00000030247	<i>NSMF</i>	ENSBTAG00000012522	<i>ZNF283</i>	0.84455	POS
ENSBTAG00000030247	<i>NSMF</i>	ENSBTAG00000013271	<i>NCOR1</i>	0.85765	POS
ENSBTAG00000030259	<i>RASGRF2</i>	ENSBTAG00000030671	<i>HOOK1</i>	-0.81085	NEG
ENSBTAG00000030259	<i>RASGRF2</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	0.85316	POS
ENSBTAG00000030259	<i>RASGRF2</i>	ENSBTAG00000049058	<i>INHBB</i>	0.86875	POS
ENSBTAG00000030259	<i>RASGRF2</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.90644	POS
ENSBTAG00000030259	<i>RASGRF2</i>	ENSBTAG00000052983	<i>ARMCX4</i>	0.80386	POS
ENSBTAG00000030259	<i>RASGRF2</i>	ENSBTAG00000053928	<i>GPR25</i>	-0.84721	NEG
ENSBTAG00000030259	<i>RASGRF2</i>	ENSBTAG00000008688	<i>HEYL</i>	0.80368	POS
ENSBTAG00000030259	<i>RASGRF2</i>	ENSBTAG00000052504	<i>KLF2</i>	0.85048	POS
ENSBTAG00000030369	<i>IFFO1</i>	ENSBTAG00000046158	<i>CFB</i>	-0.82884	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000030426	<i>ENSBTAG00000030426</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	0.80013	POS
ENSBTAG00000030426	<i>ENSBTAG00000030426</i>	ENSBTAG00000039529	<i>BTBD19</i>	-0.81094	NEG
ENSBTAG00000030426	<i>ENSBTAG00000030426</i>	ENSBTAG00000048980	<i>ENSBTAG00000048980</i>	0.80169	POS
ENSBTAG00000030671	<i>HOOK1</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	-0.80767	NEG
ENSBTAG00000030711	<i>LYPD8</i>	ENSBTAG00000045578	<i>AGR3</i>	0.86251	POS
ENSBTAG00000030711	<i>LYPD8</i>	ENSBTAG00000006428	<i>ZNF354A</i>	-0.89385	NEG
ENSBTAG00000030757	<i>ELFN1</i>	ENSBTAG00000032193	<i>REG4</i>	0.80962	POS
ENSBTAG00000030757	<i>ELFN1</i>	ENSBTAG00000045596	<i>ENSBTAG00000045596</i>	-0.92345	NEG
ENSBTAG00000030757	<i>ELFN1</i>	ENSBTAG00000046158	<i>CFB</i>	0.86794	POS
ENSBTAG00000030757	<i>ELFN1</i>	ENSBTAG00000046984	<i>ZNF672</i>	-0.84296	NEG
ENSBTAG00000030814	<i>TFF2</i>	ENSBTAG00000037902	<i>FAM229A</i>	-0.83781	NEG
ENSBTAG00000030814	<i>TFF2</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.83305	POS
ENSBTAG00000030814	<i>TFF2</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	-0.88879	NEG
ENSBTAG00000030814	<i>TFF2</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.8264	POS
ENSBTAG00000030921	<i>FAM3B</i>	ENSBTAG00000051851	<i>ENSBTAG00000051851</i>	0.82309	POS
ENSBTAG00000030921	<i>FAM3B</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	0.82832	POS
ENSBTAG00000030921	<i>FAM3B</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.80755	POS
ENSBTAG00000031348	<i>CCR9</i>	ENSBTAG00000039477	<i>TPBG</i>	-0.80303	NEG
ENSBTAG00000031348	<i>CCR9</i>	ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	-0.80644	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000031348	<i>CCR9</i>	ENSBTAG00000040607	<i>SLA2</i>	0.9043	POS
ENSBTAG00000031348	<i>CCR9</i>	ENSBTAG00000048550	<i>GCSAM</i>	0.82968	POS
ENSBTAG00000031348	<i>CCR9</i>	ENSBTAG00000049108	<i>TRAT1</i>	0.8391	POS
ENSBTAG00000031348	<i>CCR9</i>	ENSBTAG00000053649	<i>ENSBTAG00000053649</i>	0.83106	POS
ENSBTAG00000031348	<i>CCR9</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.94429	POS
ENSBTAG00000031348	<i>CCR9</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.90297	POS
ENSBTAG00000031569	<i>GOLM1</i>	ENSBTAG00000034939	<i>BTNL2</i>	0.81837	POS
ENSBTAG00000031569	<i>GOLM1</i>	ENSBTAG00000037902	<i>FAM229A</i>	-0.80924	NEG
ENSBTAG00000031569	<i>GOLM1</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.81908	POS
ENSBTAG00000031569	<i>GOLM1</i>	ENSBTAG00000042471	<i>SNORA25</i>	-0.86306	NEG
ENSBTAG00000031569	<i>GOLM1</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	-0.88633	NEG
ENSBTAG00000031569	<i>GOLM1</i>	ENSBTAG00000046158	<i>CFB</i>	0.85507	POS
ENSBTAG00000031569	<i>GOLM1</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	-0.81933	NEG
ENSBTAG00000031569	<i>GOLM1</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	0.85827	POS
ENSBTAG00000031569	<i>GOLM1</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	0.8182	POS
ENSBTAG00000031569	<i>GOLM1</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.80085	POS
ENSBTAG00000031569	<i>GOLM1</i>	ENSBTAG00000055095	<i>ENSBTAG00000055095</i>	-0.86887	NEG
ENSBTAG00000031569	<i>GOLM1</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.81918	NEG
ENSBTAG00000031569	<i>GOLM1</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.95054	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000031696	<i>ANKRD44</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	-0.82747	NEG
ENSBTAG00000031750	<i>PLAC8B</i>	ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	-0.81981	NEG
ENSBTAG00000031750	<i>PLAC8B</i>	ENSBTAG00000049942	<i>ENSBTAG00000049942</i>	-0.9451	NEG
ENSBTAG00000031750	<i>PLAC8B</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	0.84818	POS
ENSBTAG00000031750	<i>PLAC8B</i>	ENSBTAG00000054543	<i>ENSBTAG00000054543</i>	0.82616	POS
ENSBTAG00000032193	<i>REG4</i>	ENSBTAG00000046158	<i>CFB</i>	0.87838	POS
ENSBTAG00000032193	<i>REG4</i>	ENSBTAG00000046984	<i>ZNF672</i>	-0.90075	NEG
ENSBTAG00000032193	<i>REG4</i>	ENSBTAG00000047713	<i>LMNTD2</i>	-0.90885	NEG
ENSBTAG00000032193	<i>REG4</i>	ENSBTAG00000048125	<i>ENTPD2</i>	0.82441	POS
ENSBTAG00000032193	<i>REG4</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	-0.83417	NEG
ENSBTAG00000032193	<i>REG4</i>	ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	-0.80367	NEG
ENSBTAG00000032193	<i>REG4</i>	ENSBTAG00000053558	<i>NOTUM</i>	-0.84014	NEG
ENSBTAG00000032193	<i>REG4</i>	ENSBTAG00000008409	<i>MYC</i>	0.82628	POS
ENSBTAG00000032193	<i>REG4</i>	ENSBTAG00000010681	<i>NR1H3</i>	-0.93582	NEG
ENSBTAG00000032819	<i>MUC20</i>	ENSBTAG00000045578	<i>AGR3</i>	0.80818	POS
ENSBTAG00000033351	<i>PACRGL</i>	ENSBTAG00000039413	<i>ENSBTAG00000039413</i>	0.83224	POS
ENSBTAG00000033351	<i>PACRGL</i>	ENSBTAG00000046158	<i>CFB</i>	0.86349	POS
ENSBTAG00000033351	<i>PACRGL</i>	ENSBTAG00000052290	<i>ENSBTAG00000052290</i>	-0.83981	NEG
ENSBTAG00000033351	<i>PACRGL</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	0.87175	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000033351	<i>PACRGL</i>	ENSBTAG00000054229	<i>ENSBTAG00000054229</i>	0.80383	POS
ENSBTAG00000034138	<i>ENSBTAG00000034138</i>	ENSBTAG00000049058	<i>INHBB</i>	0.82881	POS
ENSBTAG00000034393	<i>FAM149A</i>	ENSBTAG00000038700	<i>FAM124B</i>	0.80377	POS
ENSBTAG00000034939	<i>BTNL2</i>	ENSBTAG00000048257	<i>CYP4F8</i>	0.80193	POS
ENSBTAG00000034939	<i>BTNL2</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	0.80615	POS
ENSBTAG00000034939	<i>BTNL2</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.85914	POS
ENSBTAG00000037508	<i>EBF1</i>	ENSBTAG00000053649	<i>ENSBTAG00000053649</i>	-0.80723	NEG
ENSBTAG00000037651	<i>SI00A2</i>	ENSBTAG00000049383	<i>LSAMP</i>	-0.8618	NEG
ENSBTAG00000037651	<i>SI00A2</i>	ENSBTAG00000051248	<i>ENSBTAG00000051248</i>	-0.81396	NEG
ENSBTAG00000037795	<i>CYP2C87</i>	ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	0.84292	POS
ENSBTAG00000037795	<i>CYP2C87</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.87191	POS
ENSBTAG00000037795	<i>CYP2C87</i>	ENSBTAG00000043983	<i>LRRIC19</i>	0.81983	POS
ENSBTAG00000037795	<i>CYP2C87</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	0.82662	POS
ENSBTAG00000037795	<i>CYP2C87</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.83496	POS
ENSBTAG00000037795	<i>CYP2C87</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.85614	POS
ENSBTAG00000037795	<i>CYP2C87</i>	ENSBTAG00000003304	<i>HOXC4</i>	-0.81964	NEG
ENSBTAG00000037795	<i>CYP2C87</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.88192	NEG
ENSBTAG00000037902	<i>FAM229A</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	0.8154	POS
ENSBTAG00000037902	<i>FAM229A</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	0.8319	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000037902	<i>FAM229A</i>	ENSBTAG00000054229	<i>ENSBTAG00000054229</i>	-0.87339	NEG
ENSBTAG00000037902	<i>FAM229A</i>	ENSBTAG00000054543	<i>ENSBTAG00000054543</i>	0.8202	POS
ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	ENSBTAG00000039326	<i>GCNT2</i>	0.91615	POS
ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	-0.83776	NEG
ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	ENSBTAG00000043983	<i>LRRIC19</i>	0.93814	POS
ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.91873	POS
ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	ENSBTAG00000045787	<i>CDS1</i>	0.94316	POS
ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	ENSBTAG00000048246	<i>DPP4</i>	0.91189	POS
ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	0.84791	POS
ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.90665	POS
ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.86033	POS
ENSBTAG00000037969	<i>ENSBTAG00000037969</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.91575	POS
ENSBTAG00000038700	<i>FAM124B</i>	ENSBTAG00000039372	<i>CIMAP1D</i>	0.81533	POS
ENSBTAG00000039050	<i>ENSBTAG00000039050</i>	ENSBTAG00000008183	<i>MBTPS2</i>	-0.81503	NEG
ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	ENSBTAG00000045596	<i>ENSBTAG00000045596</i>	-0.80654	NEG
ENSBTAG00000039196	<i>ENSBTAG00000039196</i>	ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	-0.83131	NEG
ENSBTAG00000039197	<i>SLC2A9</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	-0.81086	NEG
ENSBTAG00000039197	<i>SLC2A9</i>	ENSBTAG00000050852	<i>ENSBTAG00000050852</i>	0.88063	POS
ENSBTAG00000039197	<i>SLC2A9</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	-0.80926	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000039197	<i>SLC2A9</i>	ENSBTAG00000051810	<i>ENSBTAG00000051810</i>	-0.84523	NEG
ENSBTAG00000039326	<i>GCNT2</i>	ENSBTAG00000043983	<i>LRRC19</i>	0.91059	POS
ENSBTAG00000039326	<i>GCNT2</i>	ENSBTAG00000044146	<i>NPCIL1</i>	0.89052	POS
ENSBTAG00000039326	<i>GCNT2</i>	ENSBTAG00000045787	<i>CDS1</i>	0.88797	POS
ENSBTAG00000039326	<i>GCNT2</i>	ENSBTAG00000048246	<i>DPP4</i>	0.89235	POS
ENSBTAG00000039326	<i>GCNT2</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	-0.85238	NEG
ENSBTAG00000039326	<i>GCNT2</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	0.9161	POS
ENSBTAG00000039326	<i>GCNT2</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.83205	POS
ENSBTAG00000039326	<i>GCNT2</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.86002	POS
ENSBTAG00000039326	<i>GCNT2</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.94104	POS
ENSBTAG00000039326	<i>GCNT2</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.885	POS
ENSBTAG00000039326	<i>GCNT2</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.83054	NEG
ENSBTAG00000039372	<i>CIMAP1D</i>	ENSBTAG00000053928	<i>GPR25</i>	-0.82495	NEG
ENSBTAG00000039413	<i>ENSBTAG00000039413</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	-0.83034	NEG
ENSBTAG00000039413	<i>ENSBTAG00000039413</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	-0.82621	NEG
ENSBTAG00000039413	<i>ENSBTAG00000039413</i>	ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	-0.80735	NEG
ENSBTAG00000039413	<i>ENSBTAG00000039413</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	0.8194	POS
ENSBTAG00000039477	<i>TPBG</i>	ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	0.82492	POS
ENSBTAG00000039477	<i>TPBG</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	-0.81798	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000039477	<i>TPBG</i>	ENSBTAG00000009979	<i>HOXB2</i>	0.80748	POS
ENSBTAG00000039509	<i>GPRC5A</i>	ENSBTAG00000049058	<i>INHBB</i>	-0.81919	NEG
ENSBTAG00000039509	<i>GPRC5A</i>	ENSBTAG00000052983	<i>ARMCX4</i>	-0.80805	NEG
ENSBTAG00000039529	<i>BTBD19</i>	ENSBTAG00000052983	<i>ARMCX4</i>	0.81001	POS
ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	ENSBTAG00000048550	<i>GCSAM</i>	-0.80672	NEG
ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.80589	POS
ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	ENSBTAG00000050189	<i>ENSBTAG00000050189</i>	-0.81673	NEG
ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	0.81461	POS
ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	-0.85727	NEG
ENSBTAG00000040296	<i>ENSBTAG00000040296</i>	ENSBTAG00000009979	<i>HOXB2</i>	0.83061	POS
ENSBTAG00000040607	<i>SLA2</i>	ENSBTAG00000044010	<i>EMB</i>	0.80636	POS
ENSBTAG00000040607	<i>SLA2</i>	ENSBTAG00000048550	<i>GCSAM</i>	0.87471	POS
ENSBTAG00000040607	<i>SLA2</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	0.82593	POS
ENSBTAG00000040607	<i>SLA2</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.82797	POS
ENSBTAG00000040607	<i>SLA2</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.8164	POS
ENSBTAG00000042471	<i>SNORA25</i>	ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	0.9331	POS
ENSBTAG00000042471	<i>SNORA25</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	0.87302	POS
ENSBTAG00000042471	<i>SNORA25</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	-0.85987	NEG
ENSBTAG00000042471	<i>SNORA25</i>	ENSBTAG00000051810	<i>ENSBTAG00000051810</i>	0.80002	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000042471	<i>SNORA25</i>	ENSBTAG00000007660	<i>ZNF414</i>	0.84016	POS
ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	ENSBTAG00000046622	<i>Metazoa_SRP</i>	0.92873	POS
ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	ENSBTAG00000051810	<i>ENSBTAG00000051810</i>	0.81863	POS
ENSBTAG00000043250	<i>ENSBTAG00000043250</i>	ENSBTAG00000007660	<i>ZNF414</i>	0.83482	POS
ENSBTAG00000043983	<i>LRRC19</i>	ENSBTAG00000044146	<i>NPC1L1</i>	0.86915	POS
ENSBTAG00000043983	<i>LRRC19</i>	ENSBTAG00000045787	<i>CDS1</i>	0.92188	POS
ENSBTAG00000043983	<i>LRRC19</i>	ENSBTAG00000046337	<i>TUBB6</i>	-0.8446	NEG
ENSBTAG00000043983	<i>LRRC19</i>	ENSBTAG00000048246	<i>DPP4</i>	0.90013	POS
ENSBTAG00000043983	<i>LRRC19</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	0.90377	POS
ENSBTAG00000043983	<i>LRRC19</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.91249	POS
ENSBTAG00000043983	<i>LRRC19</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.91402	POS
ENSBTAG00000043983	<i>LRRC19</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.89277	POS
ENSBTAG00000044010	<i>EMB</i>	ENSBTAG00000048049	<i>ENSBTAG00000048049</i>	0.8305	POS
ENSBTAG00000044017	<i>MSRB3</i>	ENSBTAG00000046337	<i>TUBB6</i>	0.8273	POS
ENSBTAG00000044017	<i>MSRB3</i>	ENSBTAG00000047088	<i>ENSBTAG00000047088</i>	-0.86727	NEG
ENSBTAG00000044017	<i>MSRB3</i>	ENSBTAG00000047412	<i>TNFSF18</i>	0.87356	POS
ENSBTAG00000044017	<i>MSRB3</i>	ENSBTAG00000048246	<i>DPP4</i>	-0.80343	NEG
ENSBTAG00000044017	<i>MSRB3</i>	ENSBTAG00000049386	<i>ENSBTAG00000049386</i>	-0.82362	NEG
ENSBTAG00000044017	<i>MSRB3</i>	ENSBTAG00000049806	<i>ENSBTAG00000049806</i>	-0.81372	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000044017	<i>MSRB3</i>	ENSBTAG00000052140	<i>ENSBTAG00000052140</i>	0.85401	POS
ENSBTAG00000044017	<i>MSRB3</i>	ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	-0.91524	NEG
ENSBTAG00000044017	<i>MSRB3</i>	ENSBTAG00000054558	<i>ENSBTAG00000054558</i>	-0.81226	NEG
ENSBTAG00000044017	<i>MSRB3</i>	ENSBTAG00000055282	<i>CLDN2</i>	-0.80163	NEG
ENSBTAG00000044146	<i>NPCILI</i>	ENSBTAG00000045751	<i>ENSBTAG00000045751</i>	0.81317	POS
ENSBTAG00000044146	<i>NPCILI</i>	ENSBTAG00000045787	<i>CDS1</i>	0.93133	POS
ENSBTAG00000044146	<i>NPCILI</i>	ENSBTAG00000048246	<i>DPP4</i>	0.92947	POS
ENSBTAG00000044146	<i>NPCILI</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.88655	POS
ENSBTAG00000044146	<i>NPCILI</i>	ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	0.89382	POS
ENSBTAG00000044146	<i>NPCILI</i>	ENSBTAG00000052665	<i>CYP3A74</i>	0.89393	POS
ENSBTAG00000044146	<i>NPCILI</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.82869	POS
ENSBTAG00000044146	<i>NPCILI</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.86422	POS
ENSBTAG00000045578	<i>AGR3</i>	ENSBTAG00000046649	<i>SGPP2</i>	0.83214	POS
ENSBTAG00000045578	<i>AGR3</i>	ENSBTAG00000050212	<i>MUC2</i>	0.85556	POS
ENSBTAG00000045588	<i>ENSBTAG00000045588</i>	ENSBTAG00000048736	<i>ENSBTAG00000048736</i>	0.81751	POS
ENSBTAG00000045596	<i>ENSBTAG00000045596</i>	ENSBTAG00000046158	<i>CFB</i>	-0.89636	NEG
ENSBTAG00000045596	<i>ENSBTAG00000045596</i>	ENSBTAG00000046984	<i>ZNF672</i>	0.81443	POS
ENSBTAG00000045596	<i>ENSBTAG00000045596</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.80598	POS
ENSBTAG00000045751	<i>ENSBTAG00000045751</i>	ENSBTAG00000049271	<i>ENSBTAG00000049271</i>	-0.81277	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000045751	<i>ENSBTAG00000045751</i>	ENSBTAG00000049806	<i>ENSBTAG00000049806</i>	0.84063	POS
ENSBTAG00000045751	<i>ENSBTAG00000045751</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	0.84464	POS
ENSBTAG00000045751	<i>ENSBTAG00000045751</i>	ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	0.86469	POS
ENSBTAG00000045751	<i>ENSBTAG00000045751</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.86461	POS
ENSBTAG00000045787	<i>CDS1</i>	ENSBTAG00000046337	<i>TUBB6</i>	-0.83033	NEG
ENSBTAG00000045787	<i>CDS1</i>	ENSBTAG00000048246	<i>DPP4</i>	0.94316	POS
ENSBTAG00000045787	<i>CDS1</i>	ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	0.83244	POS
ENSBTAG00000045787	<i>CDS1</i>	ENSBTAG00000050809	<i>GIPC3</i>	-0.80793	NEG
ENSBTAG00000045787	<i>CDS1</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	0.95999	POS
ENSBTAG00000045787	<i>CDS1</i>	ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	0.82724	POS
ENSBTAG00000045787	<i>CDS1</i>	ENSBTAG00000052665	<i>CYP3A74</i>	0.85847	POS
ENSBTAG00000045787	<i>CDS1</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.83119	POS
ENSBTAG00000045787	<i>CDS1</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.91834	POS
ENSBTAG00000045787	<i>CDS1</i>	ENSBTAG00000008688	<i>HEYL</i>	-0.83247	NEG
ENSBTAG00000045905	<i>PCDH15</i>	ENSBTAG00000022819	<i>ONECUT2</i>	-0.80246	NEG
ENSBTAG00000045925	<i>CITED1</i>	ENSBTAG00000048918	<i>ENSBTAG00000048918</i>	0.81817	POS
ENSBTAG00000046158	<i>CFB</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	0.83094	POS
ENSBTAG00000046158	<i>CFB</i>	ENSBTAG00000055095	<i>ENSBTAG00000055095</i>	-0.81551	NEG
ENSBTAG00000046158	<i>CFB</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.81524	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000046158	<i>CFB</i>	ENSBTAG00000010681	<i>NR1H3</i>	-0.80986	NEG
ENSBTAG00000046291	<i>FAM83E</i>	ENSBTAG00000050212	<i>MUC2</i>	0.8483	POS
ENSBTAG00000046337	<i>TUBB6</i>	ENSBTAG00000048246	<i>DPP4</i>	-0.87622	NEG
ENSBTAG00000046337	<i>TUBB6</i>	ENSBTAG00000051248	<i>ENSBTAG00000051248</i>	0.86902	POS
ENSBTAG00000046337	<i>TUBB6</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	-0.84444	NEG
ENSBTAG00000046337	<i>TUBB6</i>	ENSBTAG00000051781	<i>ENSBTAG00000051781</i>	0.80242	POS
ENSBTAG00000046337	<i>TUBB6</i>	ENSBTAG00000055282	<i>CLDN2</i>	-0.8144	NEG
ENSBTAG00000046421	<i>SFTPD</i>	ENSBTAG00000052510	<i>CCL26</i>	0.81882	POS
ENSBTAG00000046649	<i>SGPP2</i>	ENSBTAG00000048257	<i>CYP4F8</i>	0.81113	POS
ENSBTAG00000046649	<i>SGPP2</i>	ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	0.81781	POS
ENSBTAG00000046649	<i>SGPP2</i>	ENSBTAG00000053928	<i>GPR25</i>	0.82692	POS
ENSBTAG00000046984	<i>ZNF672</i>	ENSBTAG00000047713	<i>LMNTD2</i>	0.87986	POS
ENSBTAG00000046984	<i>ZNF672</i>	ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	0.81088	POS
ENSBTAG00000046984	<i>ZNF672</i>	ENSBTAG00000052510	<i>CCL26</i>	-0.80705	NEG
ENSBTAG00000046984	<i>ZNF672</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.83524	POS
ENSBTAG00000047088	<i>ENSBTAG00000047088</i>	ENSBTAG00000047330	<i>FABP5</i>	-0.85266	NEG
ENSBTAG00000047088	<i>ENSBTAG00000047088</i>	ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	-0.85996	NEG
ENSBTAG00000047330	<i>FABP5</i>	ENSBTAG00000047626	<i>CCDC188</i>	0.83618	POS
ENSBTAG00000047330	<i>FABP5</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.87794	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG000000047330	<i>FABP5</i>	ENSBTAG000000004939	<i>ZNF569</i>	0.80441	POS
ENSBTAG000000047330	<i>FABP5</i>	ENSBTAG000000009634	<i>HOXC5</i>	0.82714	POS
ENSBTAG000000047330	<i>FABP5</i>	ENSBTAG000000011662	<i>SOX18</i>	0.83957	POS
ENSBTAG000000047626	<i>CCDC188</i>	ENSBTAG000000054046	<i>ENSBTAG000000054046</i>	0.85912	POS
ENSBTAG000000047626	<i>CCDC188</i>	ENSBTAG000000004939	<i>ZNF569</i>	0.88414	POS
ENSBTAG000000047626	<i>CCDC188</i>	ENSBTAG000000007660	<i>ZNF414</i>	0.81447	POS
ENSBTAG000000047626	<i>CCDC188</i>	ENSBTAG000000009634	<i>HOXC5</i>	0.8258	POS
ENSBTAG000000047713	<i>LMNTD2</i>	ENSBTAG000000051225	<i>ENSBTAG000000051225</i>	0.82579	POS
ENSBTAG000000047713	<i>LMNTD2</i>	ENSBTAG000000051255	<i>ENSBTAG000000051255</i>	0.80888	POS
ENSBTAG000000047713	<i>LMNTD2</i>	ENSBTAG000000053558	<i>NOTUM</i>	0.87634	POS
ENSBTAG000000047713	<i>LMNTD2</i>	ENSBTAG000000002333	<i>HOPX</i>	-0.80677	NEG
ENSBTAG000000047713	<i>LMNTD2</i>	ENSBTAG000000003843	<i>SMARCA1</i>	0.83333	POS
ENSBTAG000000047713	<i>LMNTD2</i>	ENSBTAG000000007318	<i>ZNF687</i>	0.8107	POS
ENSBTAG000000047713	<i>LMNTD2</i>	ENSBTAG000000008409	<i>MYC</i>	-0.81718	NEG
ENSBTAG000000047713	<i>LMNTD2</i>	ENSBTAG000000010681	<i>NR1H3</i>	0.90987	POS
ENSBTAG000000047713	<i>LMNTD2</i>	ENSBTAG000000012522	<i>ZNF283</i>	0.84365	POS
ENSBTAG000000048246	<i>DPP4</i>	ENSBTAG000000051726	<i>ENSBTAG000000051726</i>	0.95372	POS
ENSBTAG000000048246	<i>DPP4</i>	ENSBTAG000000052585	<i>ENSBTAG000000052585</i>	0.87275	POS
ENSBTAG000000048246	<i>DPP4</i>	ENSBTAG000000052665	<i>CYP3A74</i>	0.83432	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000048246	<i>DPP4</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.81303	POS
ENSBTAG00000048246	<i>DPP4</i>	ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	-0.80156	NEG
ENSBTAG00000048246	<i>DPP4</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.96047	POS
ENSBTAG00000048400	<i>ENSBTAG00000048400</i>	ENSBTAG00000052983	<i>ARMCX4</i>	-0.80098	NEG
ENSBTAG00000048550	<i>GCSAM</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	0.82023	POS
ENSBTAG00000048550	<i>GCSAM</i>	ENSBTAG00000050189	<i>ENSBTAG00000050189</i>	0.82297	POS
ENSBTAG00000048587	<i>ENSBTAG00000048587</i>	ENSBTAG00000048980	<i>ENSBTAG00000048980</i>	0.8102	POS
ENSBTAG00000048587	<i>ENSBTAG00000048587</i>	ENSBTAG00000050852	<i>ENSBTAG00000050852</i>	0.82179	POS
ENSBTAG00000048736	<i>ENSBTAG00000048736</i>	ENSBTAG00000050388	<i>KRBA2</i>	0.84515	POS
ENSBTAG00000048873	<i>ENSBTAG00000048873</i>	ENSBTAG00000050324	<i>ENSBTAG00000050324</i>	0.85922	POS
ENSBTAG00000048873	<i>ENSBTAG00000048873</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.8408	POS
ENSBTAG00000048918	<i>ENSBTAG00000048918</i>	ENSBTAG00000049383	<i>LSAMP</i>	0.83635	POS
ENSBTAG00000048918	<i>ENSBTAG00000048918</i>	ENSBTAG00000052499	<i>RNF39</i>	-0.8124	NEG
ENSBTAG00000048918	<i>ENSBTAG00000048918</i>	ENSBTAG00000054074	<i>ENSBTAG00000054074</i>	0.86389	POS
ENSBTAG00000049058	<i>INHBB</i>	ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	0.84102	POS
ENSBTAG00000049058	<i>INHBB</i>	ENSBTAG00000049217	<i>ENSBTAG00000049217</i>	0.84951	POS
ENSBTAG00000049058	<i>INHBB</i>	ENSBTAG00000052983	<i>ARMCX4</i>	0.81584	POS
ENSBTAG00000049058	<i>INHBB</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.81006	POS
ENSBTAG00000049108	<i>TRAT1</i>	ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	0.89223	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000049108	<i>TRAT1</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.8185	POS
ENSBTAG00000049108	<i>TRAT1</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.81458	POS
ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.86966	POS
ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	ENSBTAG00000006366	<i>NFATC4</i>	0.81643	POS
ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	ENSBTAG00000009979	<i>HOXB2</i>	0.85197	POS
ENSBTAG00000049114	<i>ENSBTAG00000049114</i>	ENSBTAG00000011662	<i>SOX18</i>	0.80411	POS
ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	ENSBTAG00000049942	<i>ENSBTAG00000049942</i>	0.83582	POS
ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.804	POS
ENSBTAG00000049257	<i>ENSBTAG00000049257</i>	ENSBTAG00000006366	<i>NFATC4</i>	-0.82913	NEG
ENSBTAG00000049271	<i>ENSBTAG00000049271</i>	ENSBTAG00000053073	<i>ENSBTAG00000053073</i>	0.80917	POS
ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	ENSBTAG00000050189	<i>ENSBTAG00000050189</i>	-0.80716	NEG
ENSBTAG00000049377	<i>ENSBTAG00000049377</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	-0.81242	NEG
ENSBTAG00000049386	<i>ENSBTAG00000049386</i>	ENSBTAG00000049806	<i>ENSBTAG00000049806</i>	0.87806	POS
ENSBTAG00000049806	<i>ENSBTAG00000049806</i>	ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	0.82676	POS
ENSBTAG00000049942	<i>ENSBTAG00000049942</i>	ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	-0.84874	NEG
ENSBTAG00000050197	<i>GPR15LG</i>	ENSBTAG00000052983	<i>ARMCX4</i>	-0.81716	NEG
ENSBTAG00000050212	<i>MUC2</i>	ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	0.85964	POS
ENSBTAG00000050212	<i>MUC2</i>	ENSBTAG00000052510	<i>CCL26</i>	0.84326	POS
ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	-0.83306	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000050618	<i>ENSBTAG00000050618</i>	ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	0.98594	POS
ENSBTAG00000050809	<i>GIPC3</i>	ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	-0.84026	NEG
ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	ENSBTAG00000051810	<i>ENSBTAG00000051810</i>	0.86101	POS
ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	ENSBTAG00000053073	<i>ENSBTAG00000053073</i>	0.80673	POS
ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.80275	POS
ENSBTAG00000051079	<i>ENSBTAG00000051079</i>	ENSBTAG00000006366	<i>NFATC4</i>	0.83563	POS
ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	0.90372	POS
ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	ENSBTAG00000053558	<i>NOTUM</i>	0.86938	POS
ENSBTAG00000051225	<i>ENSBTAG00000051225</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.82856	POS
ENSBTAG00000051248	<i>ENSBTAG00000051248</i>	ENSBTAG00000051781	<i>ENSBTAG00000051781</i>	0.80161	POS
ENSBTAG00000051248	<i>ENSBTAG00000051248</i>	ENSBTAG00000052140	<i>ENSBTAG00000052140</i>	0.83104	POS
ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.81995	POS
ENSBTAG00000051255	<i>ENSBTAG00000051255</i>	ENSBTAG00000019357	<i>ZNF688</i>	0.87114	POS
ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	0.83405	POS
ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	ENSBTAG00000052665	<i>CYP3A74</i>	0.84083	POS
ENSBTAG00000051726	<i>ENSBTAG00000051726</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.95725	POS
ENSBTAG00000051781	<i>ENSBTAG00000051781</i>	ENSBTAG00000052140	<i>ENSBTAG00000052140</i>	0.80279	POS
ENSBTAG00000051896	<i>ENSBTAG00000051896</i>	ENSBTAG00000016074	<i>ZNF143</i>	0.8225	POS
ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	ENSBTAG00000052510	<i>CCL26</i>	0.80665	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000052309	<i>ENSBTAG00000052309</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.82861	NEG
ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	ENSBTAG00000052665	<i>CYP3A74</i>	0.82388	POS
ENSBTAG00000052585	<i>ENSBTAG00000052585</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.8359	POS
ENSBTAG00000052885	<i>ENSBTAG00000052885</i>	ENSBTAG00000007660	<i>ZNF414</i>	-0.80646	NEG
ENSBTAG00000052983	<i>ARMCX4</i>	ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	0.80315	POS
ENSBTAG00000053545	<i>ENSBTAG00000053545</i>	ENSBTAG00000055282	<i>CLDN2</i>	0.81453	POS
ENSBTAG00000053558	<i>NOTUM</i>	ENSBTAG00000008313	<i>KLF15</i>	-0.83048	NEG
ENSBTAG00000053558	<i>NOTUM</i>	ENSBTAG00000008409	<i>MYC</i>	-0.85875	NEG
ENSBTAG00000053558	<i>NOTUM</i>	ENSBTAG00000010681	<i>NR1H3</i>	0.83797	POS
ENSBTAG00000053649	<i>ENSBTAG00000053649</i>	ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	0.83152	POS
ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	ENSBTAG00000009634	<i>HOXC5</i>	0.82134	POS
ENSBTAG00000054046	<i>ENSBTAG00000054046</i>	ENSBTAG00000011662	<i>SOX18</i>	0.84981	POS
ENSBTAG00000054229	<i>ENSBTAG00000054229</i>	ENSBTAG00000054543	<i>ENSBTAG00000054543</i>	-0.84466	NEG
ENSBTAG00000054229	<i>ENSBTAG00000054229</i>	ENSBTAG00000055095	<i>ENSBTAG00000055095</i>	-0.80223	NEG
ENSBTAG00000054665	<i>NKX6-2</i>	ENSBTAG00000000656	<i>NFATC1</i>	0.80439	POS
ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	ENSBTAG00000055282	<i>CLDN2</i>	-0.83579	NEG
ENSBTAG00000054738	<i>ENSBTAG00000054738</i>	ENSBTAG00000008183	<i>MBTPS2</i>	-0.80377	NEG
ENSBTAG00000055197	<i>ENSBTAG00000055197</i>	ENSBTAG00000055254	<i>ENSBTAG00000055254</i>	0.90315	POS
ENSBTAG00000002333	<i>HOPX</i>	ENSBTAG00000010681	<i>NR1H3</i>	-0.83472	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000002333	<i>HOPX</i>	ENSBTAG000000023675	<i>ZNF654</i>	-0.84073	NEG
ENSBTAG00000002936	<i>PRRX2</i>	ENSBTAG00000004710	<i>HNF1B</i>	-0.91489	NEG
ENSBTAG00000002936	<i>PRRX2</i>	ENSBTAG00000007884	<i>SREBF1</i>	-0.87577	NEG
ENSBTAG00000002936	<i>PRRX2</i>	ENSBTAG00000008313	<i>KLF15</i>	0.89321	POS
ENSBTAG00000002936	<i>PRRX2</i>	ENSBTAG00000010113	<i>ZBTB24</i>	-0.8016	NEG
ENSBTAG00000002936	<i>PRRX2</i>	ENSBTAG00000013895	<i>RELA</i>	0.86632	POS
ENSBTAG00000002936	<i>PRRX2</i>	ENSBTAG00000014278	<i>TBX2</i>	0.83287	POS
ENSBTAG00000002936	<i>PRRX2</i>	ENSBTAG00000017243	<i>GATA3</i>	0.8279	POS
ENSBTAG00000002936	<i>PRRX2</i>	ENSBTAG00000019174	<i>ZNF710</i>	-0.85451	NEG
ENSBTAG00000003304	<i>HOXC4</i>	ENSBTAG00000006366	<i>NFATC4</i>	0.83488	POS
ENSBTAG00000003304	<i>HOXC4</i>	ENSBTAG00000009979	<i>HOXB2</i>	0.87082	POS
ENSBTAG00000003843	<i>SMARCA1</i>	ENSBTAG00000007318	<i>ZNF687</i>	0.82606	POS
ENSBTAG00000003843	<i>SMARCA1</i>	ENSBTAG00000008313	<i>KLF15</i>	-0.8745	NEG
ENSBTAG00000003843	<i>SMARCA1</i>	ENSBTAG00000012868	<i>ENSBTAG00000012868</i>	0.83764	POS
ENSBTAG00000003843	<i>SMARCA1</i>	ENSBTAG00000013271	<i>NCOR1</i>	0.90142	POS
ENSBTAG00000004710	<i>HNF1B</i>	ENSBTAG00000005404	<i>MSC</i>	-0.80327	NEG
ENSBTAG00000004710	<i>HNF1B</i>	ENSBTAG00000007884	<i>SREBF1</i>	0.93629	POS
ENSBTAG00000004710	<i>HNF1B</i>	ENSBTAG00000008313	<i>KLF15</i>	-0.82439	NEG
ENSBTAG00000004710	<i>HNF1B</i>	ENSBTAG00000013895	<i>RELA</i>	-0.84924	NEG

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000004710	<i>HNF1B</i>	ENSBTAG00000015766	<i>ZFPM1</i>	0.86531	POS
ENSBTAG00000005404	<i>MSC</i>	ENSBTAG00000017243	<i>GATA3</i>	0.80564	POS
ENSBTAG00000005404	<i>MSC</i>	ENSBTAG00000019039	<i>ZNF239</i>	0.81848	POS
ENSBTAG00000005404	<i>MSC</i>	ENSBTAG00000051333	<i>ARID5B</i>	0.8018	POS
ENSBTAG00000006366	<i>NFATC4</i>	ENSBTAG00000007660	<i>ZNF414</i>	0.81415	POS
ENSBTAG00000007318	<i>ZNF687</i>	ENSBTAG00000009905	<i>NFYA</i>	0.8365	POS
ENSBTAG00000007318	<i>ZNF687</i>	ENSBTAG00000012522	<i>ZNF283</i>	0.87232	POS
ENSBTAG00000007318	<i>ZNF687</i>	ENSBTAG00000012868	<i>ENSBTAG00000012868</i>	0.83517	POS
ENSBTAG00000007318	<i>ZNF687</i>	ENSBTAG00000013271	<i>NCOR1</i>	0.82447	POS
ENSBTAG00000007318	<i>ZNF687</i>	ENSBTAG00000026307	<i>ZNF629</i>	0.8188	POS
ENSBTAG00000007318	<i>ZNF687</i>	ENSBTAG00000040551	<i>ZBTB1</i>	0.80582	POS
ENSBTAG00000007318	<i>ZNF687</i>	ENSBTAG00000049098	<i>ZNF496</i>	-0.82092	NEG
ENSBTAG00000007884	<i>SREBF1</i>	ENSBTAG00000008645	<i>ESRRA</i>	0.82541	POS
ENSBTAG00000007884	<i>SREBF1</i>	ENSBTAG00000015766	<i>ZFPM1</i>	0.89921	POS
ENSBTAG00000008313	<i>KLF15</i>	ENSBTAG00000009905	<i>NFYA</i>	-0.81449	NEG
ENSBTAG00000008313	<i>KLF15</i>	ENSBTAG00000010113	<i>ZBTB24</i>	-0.85977	NEG
ENSBTAG00000008313	<i>KLF15</i>	ENSBTAG00000013271	<i>NCOR1</i>	-0.86867	NEG
ENSBTAG00000008313	<i>KLF15</i>	ENSBTAG00000013895	<i>RELA</i>	0.82334	POS
ENSBTAG00000008313	<i>KLF15</i>	ENSBTAG00000017243	<i>GATA3</i>	0.80015	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000008313	<i>KLF15</i>	ENSBTAG00000019174	<i>ZNF710</i>	-0.84879	NEG
ENSBTAG00000008313	<i>KLF15</i>	ENSBTAG00000049845	<i>HOXD8</i>	0.84782	POS
ENSBTAG00000008313	<i>KLF15</i>	ENSBTAG00000051333	<i>ARID5B</i>	0.80169	POS
ENSBTAG00000008520	<i>NFIC</i>	ENSBTAG00000009979	<i>HOXB2</i>	0.83526	POS
ENSBTAG00000008573	<i>ZFP36</i>	ENSBTAG00000009905	<i>NFYA</i>	0.8064	POS
ENSBTAG00000008573	<i>ZFP36</i>	ENSBTAG00000019695	<i>RLF</i>	0.8168	POS
ENSBTAG00000008695	<i>TCF3</i>	ENSBTAG00000010113	<i>ZBTB24</i>	-0.80906	NEG
ENSBTAG00000008695	<i>TCF3</i>	ENSBTAG00000013895	<i>RELA</i>	0.85312	POS
ENSBTAG00000008695	<i>TCF3</i>	ENSBTAG00000014278	<i>TBX2</i>	0.8603	POS
ENSBTAG00000008695	<i>TCF3</i>	ENSBTAG00000019174	<i>ZNF710</i>	-0.86603	NEG
ENSBTAG00000008695	<i>TCF3</i>	ENSBTAG00000052632	<i>TGIF2</i>	0.86281	POS
ENSBTAG00000009905	<i>NFYA</i>	ENSBTAG00000010113	<i>ZBTB24</i>	0.82862	POS
ENSBTAG00000009905	<i>NFYA</i>	ENSBTAG00000012522	<i>ZNF283</i>	0.8913	POS
ENSBTAG00000009905	<i>NFYA</i>	ENSBTAG00000013271	<i>NCOR1</i>	0.82995	POS
ENSBTAG00000009905	<i>NFYA</i>	ENSBTAG00000014278	<i>TBX2</i>	-0.82952	NEG
ENSBTAG00000009905	<i>NFYA</i>	ENSBTAG00000052632	<i>TGIF2</i>	-0.8067	NEG
ENSBTAG00000010113	<i>ZBTB24</i>	ENSBTAG00000013895	<i>RELA</i>	-0.88144	NEG
ENSBTAG00000010113	<i>ZBTB24</i>	ENSBTAG00000019174	<i>ZNF710</i>	0.86408	POS
ENSBTAG00000010113	<i>ZBTB24</i>	ENSBTAG00000040551	<i>ZBTB1</i>	0.85475	POS

Ensembl_ID1	Gene.Name.1	Ensembl_ID2	Gene.Name.2	Correlation	Sign
ENSBTAG00000010681	<i>NRIH3</i>	ENSBTAG00000023675	<i>ZNF654</i>	0.8154	POS
ENSBTAG00000011162	<i>ZKSCAN2</i>	ENSBTAG00000013353	<i>ZNF274</i>	-0.80967	NEG
ENSBTAG00000011662	<i>SOX18</i>	ENSBTAG00000017397	<i>ZNF423</i>	0.84711	POS
ENSBTAG00000012868	<i>ENSBTAG00000012868</i>	ENSBTAG00000013271	<i>NCOR1</i>	0.80337	POS
ENSBTAG00000012868	<i>ENSBTAG00000012868</i>	ENSBTAG00000014278	<i>TBX2</i>	-0.81979	NEG
ENSBTAG00000013314	<i>PBX3</i>	ENSBTAG00000026307	<i>ZNF629</i>	0.82512	POS
ENSBTAG00000013895	<i>RELA</i>	ENSBTAG00000014278	<i>TBX2</i>	0.85457	POS
ENSBTAG00000013895	<i>RELA</i>	ENSBTAG00000017243	<i>GATA3</i>	0.87775	POS
ENSBTAG00000013895	<i>RELA</i>	ENSBTAG00000019174	<i>ZNF710</i>	-0.87503	NEG
ENSBTAG00000014278	<i>TBX2</i>	ENSBTAG00000019174	<i>ZNF710</i>	-0.82729	NEG
ENSBTAG00000017243	<i>GATA3</i>	ENSBTAG00000019174	<i>ZNF710</i>	-0.82639	NEG
ENSBTAG00000017397	<i>ZNF423</i>	ENSBTAG00000020854	<i>BCL6B</i>	0.85414	POS
ENSBTAG00000019174	<i>ZNF710</i>	ENSBTAG00000040551	<i>ZBTB1</i>	0.82647	POS
ENSBTAG00000020854	<i>BCL6B</i>	ENSBTAG00000052504	<i>KLF2</i>	0.80563	POS
ENSBTAG00000026307	<i>ZNF629</i>	ENSBTAG00000052632	<i>TGIF2</i>	-0.80216	NEG
ENSBTAG00000031873	<i>ZSCAN16</i>	ENSBTAG00000054572	<i>PEG3</i>	0.81679	POS

Appendix 3.1. Nutrient composition of vitamin mineral (VTM) supplement and feed ingredients of basal diets delivered to gestating heifers from breeding through calving, as well as, composition of commercial colostrum replacer fed to neonatal calves within 2 h of birth¹; company guaranteed analysis, and mineral requirements based on NASEM.

Item	Assurance levels	
	Min	Max
Minerals¹		
Calcium, g/kg of DM	135	162
Phosphorus, g/kg of DM	75	-
Sodium Chloride, g/kg of DM	180	216
Magnesium, g/kg of DM	10	-
Potassium, g/kg of DM	10	-
Manganese, mg/kg of DM	3,600.00	-
Cobalt, mg/kg of DM	12	-
Copper, mg/kg of DM	1,200.00	-
Iodine, mg/kg of DM	60	-
Selenium, mg/kg of DM	27	-
Zinc, mg/kg of DM	3,600.00	-
Vitamins, IU/kg of DM		
A		661,500.00
D		66,150.00
E		661.5

¹Purina® Wind and Rain® Storm® All Season 7.5 Complete Mineral (Land O'Lakes, Inc., Arden Hills, MN); Ingredients: Dicalcium Phosphate, Monocalcium Phosphate, Processed Grain By-Products, Plant Protein Products, Calcium Carbonate, Molasses Products, Salt, Mineral Oil, Potassium Chloride, Magnesium Oxide, Ferric Oxide, Vitamin E Supplement, Vitamin A Supplement, Lignin Sulfonate, Cobalt Carbonate, Manganese Sulfate, Ethylenediamine Dihydroiodide, Zinc Sulfate, Copper Chloride, Vitamin D3 Supplement, Natural and Artificial Flavors, Sodium Selenite.

	Diet 1	Diet 2	Diet 3 ²
Ingredients, % DM			
Corn Silage	37	25	25
Prairie Hay	53	-	-
Millet Hay	-	66	-
Alfalfa	-	-	66
DDGS	10	9	4
Premix ²	-	-	5
Chemical composition, % DM			
Dry Matter	53	58.2	62.1
Ash	11.3	10.1	9.77
Crude Protein	10.5	10.4	17.3
Acid Detergent Fiber	32.7	36.1	35.7
Neutral Detergent Fiber	56.9	62.5	48.6
Ether Extract	2.12	2.03	1.46
Mineral composition			
Ca, % DM	0.58	0.39	1.23
P, % DM	0.28	0.28	0.44
Co, mg/kg DM	<1.00	<1.00	<1.00
Cu, mg/kg DM	4.4	3.9	10.1
Mn, mg/kg DM	72.6	55.1	69.1
Mo, mg/kg DM	2.3	0.7	0.7
Se, mg/kg DM	0.28	0.17	0.2
Zn, mg/kg DM	20.8	22.8	86.7

Nutrient analysis was conducted for diets provided from 60 d pre-breeding to d 200 of pregnancy (diet 1), d 201 to d 238 of pregnancy (diet 2), and from d 239 of pregnancy to calving (diet 3). Feed deliveries of diet 1 were adjusted to target $0.45 \text{ kg} \cdot \text{heifer}^{-1} \cdot \text{d}^{-1}$ gain while diets 2 and 3 were fed for *ad libitum* consumption.

Premix was provided in the TMR for both CON and VTM diets, and if indicated by treatment the vitamin and mineral supplement was added to the ground corn-based premix. The premix was comprised of ground corn, urea, limestone, dicalcium phosphate, and monensin.

Item	Assurance Levels	
	Min	Max
Crude protein, %	47	
Crude fat, %	15	
Crude fiber, %		0.25
ADF, %		1
Ca, %	0.4	0.9
P, %	0.3	
Salt, %	2	2.5
Na, %	0.6	1.1
K, %	0.2	
Se, ppm	0.3	
Vitamin A, IU/kg	11,023	
Globulin,%	30	

All calves from CON and VTM treatments received the same colostrum replacement product within 2 h of birth.

LifeLine Rescue High Level Colostrum Replacer (APC, Ankeny, IA, USA); ingredients: bovine serum globulin, animal and vegetable fat (preserved with BHA and BHT), dried whey protein concentrate, lactose, dextrose, calcium carbonate, glycine, salt, fructose, lecithin, canola oil, potassium chloride, magnesium sulfate, choline chloride, polyoxyethylene glycol 400 (mono and dioleates), natural and artificial flavors, vitamin E supplement, silicon dioxide, zinc proteinate, dicalcium phosphate, ferrous sulfate, manganese proteinate, vitamin A acetate, brewer's dried yeast, iron proteinate, ascorbic acid, D-calcium pantothenate, vitamin B12 supplement, vitamin D3 supplement, niacinamide, sodium selenite, riboflavin, biotin, pyridoxine hydrochloride, thiamin mononitrate, folic acid, calcium iodate, and menadione sodium bisulfite complex (source of vitamin K3 activity).

Appendix 3.2. Summary of RNA sequencing, mapping statistics, and treatments.

Sample ID	M Seqs	% Aligned	M Aligned	Group
L16V	21	95.80%	20.1	VTM
L22V	23.5	96.80%	22.7	VTM
L28V	23.8	96.20%	22.9	VTM
L34V	21.1	96.50%	20.3	VTM
L40V	20.8	91.30%	19	VTM
L4V	22.3	95.50%	21.3	VTM
L13C	20	96.00%	19.2	CON
L1C	20.6	86.00%	17.7	CON
L25C	20.3	88.50%	18	CON
L31C	23.1	95.30%	22	CON
L37C	21.2	96.50%	20.5	CON
L7C	21.2	95.90%	20.4	CON
Average	21.6	94.2%	20.3	

Appendix 3.3. Differentially expressed genes in the liver tissue of neonatal beef heifers born from dams receiving or not receiving vitamin–mineral supplementation (VTM or CON) during gestation.

Ensembl ID	Gene.Name	baseMean	log2FC	lfcSE	stat	pvalue	Status	Is TF?	IS RIF?
ENSBTAG00000000037	<i>CWC27</i>	108.125	0.561	0.279	2.012	0.0442	Up	No	No
ENSBTAG00000000078	<i>GLIPR2</i>	171.022	-0.727	0.201	-3.624	0.0003	Down	No	No
ENSBTAG00000000111	<i>UGP2</i>	3663.913	0.584	0.254	2.301	0.0214	Up	No	No
ENSBTAG00000000197	<i>TRMT10A</i>	81.882	0.513	0.233	2.2	0.0278	Up	No	No
ENSBTAG00000000434	<i>CRYAB</i>	355.194	-0.811	0.264	-3.077	0.0021	Down	No	No
ENSBTAG00000000522	<i>AHSG</i>	148745.883	0.673	0.282	2.385	0.0171	Up	No	No
ENSBTAG00000000575	<i>TNC</i>	2022.218	1.062	0.465	2.285	0.0223	Up	No	No
ENSBTAG00000000598	<i>CST3</i>	1343.601	-1.208	0.332	-3.637	0.0003	Down	No	No
ENSBTAG00000000639	<i>APRT</i>	3085.82	-0.633	0.25	-2.531	0.0114	Down	No	No
ENSBTAG00000000672	<i>OTULINL</i>	115.203	-0.61	0.27	-2.259	0.0239	Down	No	No
ENSBTAG00000000742	<i>AMOTL2</i>	512.781	-0.62	0.215	-2.89	0.0039	Down	No	No
ENSBTAG00000000808	<i>COX14</i>	988.27	-0.628	0.284	-2.209	0.0272	Down	No	No
ENSBTAG00000000813	<i>HOMER3</i>	149.518	-0.702	0.308	-2.279	0.0226	Down	No	No
ENSBTAG00000000828	<i>CAPN6</i>	462.236	-0.709	0.2	-3.54	0.0004	Down	No	No
ENSBTAG00000000973	<i>KCNJ15</i>	48.937	1.523	0.737	2.068	0.0387	Up	No	No
ENSBTAG00000001019	<i>GDF10</i>	61.548	-1.175	0.322	-3.653	0.0003	Down	No	No
ENSBTAG00000001027	<i>SERPINH1</i>	3349.164	-0.585	0.247	-2.372	0.0177	Down	No	No
ENSBTAG00000001060	<i>CXCR4</i>	37.371	-0.707	0.342	-2.066	0.0388	Down	No	No
ENSBTAG00000001086	<i>FHL2</i>	140.851	-0.943	0.313	-3.015	0.0026	Down	No	No
ENSBTAG00000001163	<i>MACROH2A2</i>	13.068	-1.261	0.64	-1.968	0.049	Down	No	No
ENSBTAG00000001173	<i>PLXNA2</i>	82.621	-0.71	0.327	-2.169	0.0301	Down	No	No
ENSBTAG00000001193	<i>UNC93B1</i>	619.088	-0.554	0.259	-2.14	0.0324	Down	No	No

ENSBTAG00000001424	<i>MSH6</i>	1792.614	0.636	0.308	2.065	0.0389	Up	No	No
ENSBTAG00000001444	<i>TNXB</i>	354.229	-0.797	0.239	-3.337	0.0008	Down	No	No
ENSBTAG00000001514	<i>ASB11</i>	92.792	-0.904	0.379	-2.384	0.0171	Down	No	No
ENSBTAG00000001619	<i>SERINC5</i>	137.244	0.711	0.358	1.984	0.0473	Up	No	No
ENSBTAG00000001694	<i>TYRO3</i>	53.511	-1.217	0.608	-2.001	0.0453	Down	No	No
ENSBTAG00000001729	<i>DUSP10</i>	57.63	-0.637	0.285	-2.239	0.0252	Down	No	No
ENSBTAG00000001762	<i>RFXANK</i>	350.88	-0.693	0.299	-2.322	0.0202	Down	Yes	No
ENSBTAG00000001834	<i>PNKP</i>	596.234	-0.509	0.252	-2.017	0.0437	Down	No	No
ENSBTAG00000001877	<i>HMG5</i>	250.817	-1.151	0.48	-2.398	0.0165	Down	No	No
ENSBTAG00000001961	<i>MAP1B</i>	129.795	-0.666	0.294	-2.265	0.0235	Down	No	No
ENSBTAG00000001966	<i>PDGFRL</i>	57.875	-0.694	0.328	-2.115	0.0344	Down	No	No
ENSBTAG00000002027	<i>FAM167B</i>	770.069	-0.55	0.231	-2.375	0.0175	Down	No	No
ENSBTAG00000002080	<i>CCN3</i>	29.758	-1.092	0.449	-2.431	0.015	Down	No	No
ENSBTAG00000002182	<i>COX17</i>	1289.89	-0.782	0.358	-2.186	0.0288	Down	No	No
ENSBTAG00000002238	<i>ARL2</i>	620.383	-0.611	0.225	-2.718	0.0066	Down	No	No
ENSBTAG00000002326	<i>LGALS3</i>	76.38	-0.626	0.284	-2.206	0.0274	Down	No	No
ENSBTAG00000002340	<i>STEAP4</i>	1665.656	1.296	0.529	2.449	0.0143	Up	No	No
ENSBTAG00000002367	<i>HCFC1R1</i>	160.443	-1.085	0.473	-2.292	0.0219	Down	No	No
ENSBTAG00000002370	<i>ZNF792</i>	45.196	0.938	0.422	2.223	0.0262	Up	Yes	No
ENSBTAG00000002391	<i>TGFB111</i>	268.038	-0.602	0.236	-2.547	0.0109	Down	No	No
ENSBTAG00000002431	<i>TRIM24</i>	252.489	0.62	0.249	2.494	0.0126	Up	No	No
ENSBTAG00000002455	<i>KLHL8</i>	65.212	0.929	0.469	1.979	0.0478	Up	No	No
ENSBTAG00000002481	<i>HAGHL</i>	179.359	-0.515	0.262	-1.966	0.0493	Down	No	No
ENSBTAG00000002606	<i>LGR4</i>	577.199	0.532	0.238	2.237	0.0253	Up	No	No
ENSBTAG00000002658	<i>STAM</i>	233.102	0.683	0.346	1.975	0.0482	Up	No	No

ENSBTAG00000002751	<i>VSTM5</i>	52.21	1.716	0.493	3.483	0.0005	Up	No	No
ENSBTAG00000002817	<i>SLC46A1</i>	84.206	-0.702	0.277	-2.534	0.0113	Down	No	No
ENSBTAG00000002846	<i>TRAF3IP3</i>	27.892	-1.391	0.548	-2.537	0.0112	Down	No	No
ENSBTAG00000002879	<i>DCPS</i>	336.093	-0.588	0.278	-2.117	0.0343	Down	No	No
ENSBTAG00000002919	<i>UNC5CL</i>	107.986	0.755	0.305	2.477	0.0133	Up	No	No
ENSBTAG00000002999	<i>ANAPC15</i>	394.553	-0.633	0.308	-2.05	0.0403	Down	No	No
ENSBTAG00000003017	<i>TTC38</i>	591.693	-0.584	0.142	-4.12	0.00E+00	Down	No	No
ENSBTAG00000003035	<i>IMPACT</i>	72.346	0.65	0.298	2.185	0.0289	Up	No	No
ENSBTAG00000003039	<i>PSMB8</i>	380.998	-0.504	0.238	-2.118	0.0342	Down	No	No
ENSBTAG00000003120	<i>ZNF385B</i>	69.92	0.978	0.315	3.099	0.0019	Up	Yes	No
ENSBTAG00000003152	<i>IFI27</i>	573.631	-0.742	0.338	-2.192	0.0284	Down	No	No
ENSBTAG00000003191	<i>FSCN1</i>	612.097	-0.83	0.217	-3.829	0.0001	Down	No	No
ENSBTAG00000003222	<i>ASNS</i>	166.546	-0.595	0.228	-2.608	0.0091	Down	No	No
ENSBTAG00000003298	<i>LZTS2</i>	501.374	-0.509	0.182	-2.794	0.0052	Down	No	No
ENSBTAG00000003505	<i>DCN</i>	3563.438	-0.842	0.202	-4.164	0.00E+00	Down	No	No
ENSBTAG00000003512	<i>MYH7B</i>	20.143	-1.711	0.738	-2.317	0.0205	Down	No	No
ENSBTAG00000003587	<i>ELL</i>	260.726	0.573	0.225	2.544	0.011	Up	No	No
ENSBTAG00000003598	<i>P3H3</i>	241.907	-0.601	0.271	-2.216	0.0267	Down	No	No
ENSBTAG00000003658	<i>RELN</i>	850.445	0.915	0.46	1.988	0.0468	Up	No	No
ENSBTAG00000003692	<i>UCP2</i>	3012.467	-0.569	0.248	-2.29	0.022	Down	No	No
ENSBTAG00000003707	<i>GRAP</i>	193.959	-0.607	0.272	-2.23	0.0258	Down	No	No
ENSBTAG00000003797	<i>SLC17A3</i>	375.899	-1.048	0.533	-1.968	0.0491	Down	No	No
ENSBTAG00000003822	<i>CROCC</i>	621.824	-0.8	0.345	-2.319	0.0204	Down	No	No
ENSBTAG00000003826	<i>SCN1B</i>	340.636	-0.571	0.221	-2.577	0.01	Down	No	No
ENSBTAG00000003835	<i>BMP4</i>	175.757	-0.565	0.254	-2.223	0.0262	Down	No	No

ENSBTAG00000003894	<i>NDRG4</i>	23.526	0.893	0.356	2.509	0.0121	Up	No	No
ENSBTAG00000003898	<i>HMGC52</i>	289.749	-1.504	0.612	-2.458	0.014	Down	No	No
ENSBTAG00000003904	<i>GPN1</i>	255.644	0.557	0.19	2.933	0.0034	Up	No	No
ENSBTAG00000003947	<i>SSBP4</i>	494.455	-0.503	0.248	-2.025	0.0428	Down	No	No
ENSBTAG00000004014	<i>FBLN2</i>	951.838	-0.635	0.295	-2.155	0.0312	Down	No	No
ENSBTAG00000004018	<i>DGKA</i>	129.689	-0.549	0.267	-2.053	0.0401	Down	No	No
ENSBTAG00000004261	<i>SPON2</i>	534.402	-1.262	0.412	-3.06	0.0022	Down	No	No
ENSBTAG00000004275	<i>DKK3</i>	181.998	-0.639	0.269	-2.378	0.0174	Down	No	No
ENSBTAG00000004295	<i>NDUFA8</i>	1045.217	-0.576	0.221	-2.61	0.009	Down	No	No
ENSBTAG00000004318	<i>ARL3</i>	199.797	-0.655	0.317	-2.067	0.0387	Down	No	No
ENSBTAG00000004322	<i>FOS</i>	99.435	-1.463	0.671	-2.182	0.0291	Down	Yes	No
ENSBTAG00000004348	<i>MRPL21</i>	344.202	-0.571	0.272	-2.099	0.0358	Down	No	No
ENSBTAG00000004356	<i>ROBO4</i>	284.75	-1.033	0.242	-4.277	0.00E+00	Down	No	No
ENSBTAG00000004367	<i>COQ10A</i>	100.064	-0.865	0.311	-2.786	0.0053	Down	No	No
ENSBTAG00000004421	<i>CHST14</i>	172.564	-0.502	0.177	-2.84	0.0045	Down	No	No
ENSBTAG00000004459	<i>TMEM45A</i>	427.086	0.85	0.306	2.776	0.0055	Up	No	No
ENSBTAG00000004499	<i>RGS3</i>	112.934	-0.604	0.228	-2.648	0.0081	Down	No	No
ENSBTAG00000004510	<i>SARDH</i>	860.574	-0.505	0.213	-2.367	0.0179	Down	No	No
ENSBTAG00000004521	<i>LSM7</i>	434.702	-0.824	0.364	-2.265	0.0235	Down	No	No
ENSBTAG00000004613	<i>CSGALNACT1</i>	472.162	0.854	0.269	3.171	0.0015	Up	No	No
ENSBTAG00000004632	<i>ASPSCR1</i>	1620.241	-0.534	0.263	-2.028	0.0426	Down	No	No
ENSBTAG00000004680	<i>SLC13A5</i>	683.685	0.992	0.506	1.961	0.0499	Up	No	No
ENSBTAG00000004757	<i>LTBP4</i>	277.334	-0.657	0.332	-1.978	0.0479	Down	No	No
ENSBTAG00000004772	<i>THEM4</i>	447.654	0.525	0.244	2.154	0.0313	Up	No	No
ENSBTAG00000004776	<i>DUSP23</i>	513.827	-0.574	0.236	-2.437	0.0148	Down	No	No

ENSBTAG00000004777	<i>SI00B</i>	152.837	-0.728	0.296	-2.456	0.014	Down	No	No
ENSBTAG00000004799	<i>DENND2A</i>	429.544	-0.591	0.267	-2.211	0.027	Down	No	No
ENSBTAG00000004852	<i>PLEKHO1</i>	533.753	-0.572	0.215	-2.665	0.0077	Down	No	No
ENSBTAG00000004905	<i>KRT19</i>	453.36	-0.647	0.29	-2.232	0.0256	Down	No	No
ENSBTAG00000005039	<i>ARAF</i>	2538.698	-0.91	0.278	-3.28	0.001	Down	No	No
ENSBTAG00000005042	<i>SYN1</i>	14.433	-1.675	0.699	-2.398	0.0165	Down	No	No
ENSBTAG00000005052	<i>GLP2R</i>	86.75	1.365	0.493	2.772	0.0056	Up	No	No
ENSBTAG00000005078	<i>UCHL1</i>	88.215	-0.845	0.372	-2.271	0.0231	Down	No	No
ENSBTAG00000005186	<i>DBNDD2</i>	156.252	-0.622	0.314	-1.982	0.0474	Down	No	No
ENSBTAG00000005275	<i>PKIG</i>	480.293	-0.647	0.215	-3.015	0.0026	Down	No	No
ENSBTAG00000005299	<i>EDNRB</i>	518.086	0.574	0.276	2.077	0.0378	Up	No	No
ENSBTAG00000005305	<i>NTS</i>	77.696	-1.976	0.801	-2.467	0.0136	Down	No	No
ENSBTAG00000005390	<i>GMFG</i>	345.415	-0.707	0.342	-2.068	0.0386	Down	No	No
ENSBTAG00000005397	<i>CD46</i>	2865.053	0.552	0.258	2.136	0.0327	Up	No	No
ENSBTAG00000005404	<i>MSC</i>	43.554	-2.436	0.633	-3.85	0.0001	Down	Yes	No
ENSBTAG00000005431	<i>LMCD1</i>	59.422	-0.596	0.272	-2.196	0.0281	Down	No	No
ENSBTAG00000005453	<i>FGD4</i>	44.948	0.806	0.38	2.123	0.0338	Up	No	No
ENSBTAG00000005501	<i>COBLL1</i>	636.796	0.749	0.356	2.102	0.0356	Up	No	No
ENSBTAG00000005556	<i>CYGB</i>	95.871	-0.583	0.274	-2.132	0.033	Down	No	No
ENSBTAG00000005576	<i>CLEC11A</i>	124.733	-1.238	0.618	-2.002	0.0453	Down	No	No
ENSBTAG00000005581	<i>CCL25</i>	15.344	-1.518	0.739	-2.054	0.04	Down	No	No
ENSBTAG00000005685	<i>HSD11B2</i>	13.077	-2.15	0.821	-2.618	0.0089	Down	No	No
ENSBTAG00000005772	<i>SPDYC</i>	151.126	-0.672	0.341	-1.972	0.0486	Down	No	No
ENSBTAG00000005812	<i>TP73</i>	19.588	-2.236	0.831	-2.691	0.0071	Down	Yes	No
ENSBTAG00000005888	<i>MDGA1</i>	114.914	1.445	0.573	2.52	0.0117	Up	No	No

ENSBTAG00000006050	<i>BOLA1</i>	316.198	-0.813	0.371	-2.19	0.0285	Down	No	No
ENSBTAG00000006069	<i>CAPS</i>	81.285	-0.938	0.452	-2.077	0.0378	Down	No	No
ENSBTAG00000006125	<i>PLK3</i>	53.432	-0.989	0.355	-2.783	0.0054	Down	No	No
ENSBTAG00000006143	<i>CREB3L1</i>	298.773	-0.935	0.259	-3.61	0.0003	Down	Yes	No
ENSBTAG00000006187	<i>MFAP4</i>	254.17	-1.089	0.33	-3.298	0.001	Down	No	No
ENSBTAG00000006199	<i>DRAP1</i>	1387.732	-0.549	0.235	-2.33	0.0198	Down	No	No
ENSBTAG00000006241	<i>MAN2B1</i>	1507.553	-0.628	0.295	-2.127	0.0335	Down	No	No
ENSBTAG00000006242	<i>USP9X</i>	1433.633	0.505	0.222	2.281	0.0226	Up	No	No
ENSBTAG00000006255	<i>MDM4</i>	107.577	0.789	0.329	2.396	0.0166	Up	No	No
ENSBTAG00000006276	<i>CIQTNF1</i>	1501.668	-0.571	0.185	-3.082	0.0021	Down	No	No
ENSBTAG00000006343	<i>IL1R2</i>	510.118	1.033	0.277	3.725	0.0002	Up	No	No
ENSBTAG00000006367	<i>CCN2</i>	111.773	-1.403	0.637	-2.204	0.0276	Down	No	No
ENSBTAG00000006428	<i>ZNF354A</i>	93.05	-0.835	0.341	-2.45	0.0143	Down	Yes	No
ENSBTAG00000006491	<i>AGL</i>	880.983	0.751	0.371	2.024	0.043	Up	No	No
ENSBTAG00000006528	<i>BBS9</i>	29.84	-1.146	0.544	-2.108	0.035	Down	No	No
ENSBTAG00000006645	<i>LPAR6</i>	372.706	-0.602	0.267	-2.259	0.0239	Down	No	No
ENSBTAG00000006812	<i>FAM181B</i>	14.501	-1.536	0.77	-1.995	0.046	Down	No	No
ENSBTAG00000006828	<i>RAPGEF3</i>	84.939	-0.904	0.302	-2.991	0.0028	Down	No	No
ENSBTAG00000006905	<i>KLHDC4</i>	340.631	-0.502	0.198	-2.536	0.0112	Down	No	No
ENSBTAG00000006918	<i>TLK1</i>	291.075	0.794	0.304	2.608	0.0091	Up	No	No
ENSBTAG00000006954	<i>ENSBTAG00000006954</i>	32.965	1.059	0.396	2.672	0.0075	Up	Yes	No
ENSBTAG00000007061	<i>PPP2R5B</i>	242.78	-0.638	0.296	-2.155	0.0312	Down	No	No
ENSBTAG00000007075	<i>ENSBTAG00000007075</i>	219.273	1.333	0.515	2.592	0.0096	Up	No	No
ENSBTAG00000007084	<i>MAP3K14</i>	351.988	0.658	0.296	2.225	0.0261	Up	No	No
ENSBTAG00000007187	<i>INF2</i>	457.739	-0.789	0.317	-2.487	0.0129	Down	No	No

ENSBTAG00000007196	<i>TAGLN</i>	1086.286	-0.731	0.293	-2.492	0.0127	Down	No	No
ENSBTAG00000007275	<i>TREM2</i>	52.491	-1.14	0.507	-2.247	0.0246	Down	No	No
ENSBTAG00000007312	<i>CD209</i>	111.148	-1.304	0.472	-2.766	0.0057	Down	No	No
ENSBTAG00000007375	<i>MIF</i>	2219.043	-0.934	0.353	-2.647	0.0081	Down	No	No
ENSBTAG00000007389	<i>IFI35</i>	375.337	-0.537	0.21	-2.555	0.0106	Down	No	No
ENSBTAG00000007393	<i>RND2</i>	23.307	-1.125	0.484	-2.326	0.02	Down	No	No
ENSBTAG00000007434	<i>CD300LG</i>	229.087	-0.528	0.255	-2.072	0.0383	Down	No	No
ENSBTAG00000007446	<i>NGF</i>	41.602	-1.06	0.433	-2.446	0.0145	Down	No	No
ENSBTAG00000007480	<i>ENSBTAG00000007480</i>	873.976	-0.508	0.228	-2.228	0.0259	Down	No	No
ENSBTAG00000007520	<i>MAPRE2</i>	416.187	-0.579	0.206	-2.811	0.0049	Down	No	No
ENSBTAG00000007654	<i>CHST7</i>	81.007	-0.57	0.223	-2.561	0.0104	Down	No	No
ENSBTAG00000007754	<i>NDUFA3</i>	838.81	-0.919	0.435	-2.116	0.0343	Down	No	No
ENSBTAG00000007766	<i>CDK5</i>	173.875	-0.651	0.24	-2.712	0.0067	Down	No	No
ENSBTAG00000007960	<i>TOP1</i>	647.717	0.605	0.301	2.008	0.0447	Up	No	No
ENSBTAG00000007962	<i>ATP9A</i>	199.704	0.674	0.341	1.974	0.0484	Up	No	No
ENSBTAG00000008074	<i>CIQTNF6</i>	233.868	-0.516	0.159	-3.243	0.0012	Down	No	No
ENSBTAG00000008127	<i>RBP5</i>	176.652	-1.439	0.489	-2.943	0.0032	Down	No	No
ENSBTAG00000008283	<i>FLI1</i>	167.913	-0.783	0.306	-2.561	0.0104	Down	Yes	No
ENSBTAG00000008294	<i>KCNJ2</i>	29.08	-1.098	0.533	-2.059	0.0395	Down	No	No
ENSBTAG00000008314	<i>SDHB</i>	2070.201	-0.59	0.29	-2.034	0.0419	Down	No	No
ENSBTAG00000008320	<i>SEPTIN5</i>	533.678	-0.742	0.348	-2.135	0.0328	Down	No	No
ENSBTAG00000008419	<i>PDE2A</i>	1031.62	-0.52	0.154	-3.378	0.0007	Down	No	No
ENSBTAG00000008430	<i>RANBP3L</i>	16.527	1.548	0.773	2.003	0.0452	Up	No	No
ENSBTAG00000008625	<i>PLEKHF1</i>	47.056	-1.336	0.636	-2.099	0.0358	Down	No	No
ENSBTAG00000008635	<i>SULT1A1</i>	4382.802	-0.575	0.264	-2.176	0.0296	Down	No	No

ENSBTAG00000008646	<i>TRMT112</i>	641.798	-0.665	0.316	-2.103	0.0355	Down	No	No
ENSBTAG00000008656	<i>KBTBD6</i>	167.742	1.023	0.479	2.136	0.0327	Up	No	No
ENSBTAG00000008688	<i>HEYL</i>	678.585	-0.624	0.296	-2.108	0.035	Down	Yes	No
ENSBTAG00000008690	<i>SLC6A9</i>	83.558	-0.593	0.266	-2.229	0.0258	Down	No	No
ENSBTAG00000008792	<i>RNASE6</i>	116.654	-0.66	0.256	-2.575	0.01	Down	No	No
ENSBTAG00000008852	<i>SIGLEC10</i>	89.451	-0.66	0.308	-2.143	0.0321	Down	No	No
ENSBTAG00000008909	<i>PNPT1</i>	454.635	0.55	0.191	2.878	0.004	Up	No	No
ENSBTAG00000008935	<i>PFDN5</i>	1115.931	-0.664	0.288	-2.309	0.0209	Down	No	No
ENSBTAG00000008942	<i>NGEF</i>	162.569	-0.891	0.45	-1.98	0.0478	Down	No	No
ENSBTAG00000008997	<i>ENG</i>	3974.67	-0.665	0.183	-3.642	0.0003	Down	No	No
ENSBTAG00000009079	<i>RAB4B</i>	219.61	-0.694	0.31	-2.237	0.0253	Down	No	No
ENSBTAG00000009117	<i>THNSL1</i>	18.976	1.068	0.495	2.158	0.0309	Up	No	No
ENSBTAG00000009199	<i>GLIS2</i>	372.195	-0.645	0.264	-2.442	0.0146	Down	Yes	No
ENSBTAG00000009206	<i>FOXS1</i>	58.865	-0.838	0.396	-2.113	0.0346	Down	Yes	No
ENSBTAG00000009246	<i>DPY30</i>	387.601	-0.672	0.3	-2.238	0.0252	Down	No	No
ENSBTAG00000009284	<i>GLS2</i>	23.86	-1.791	0.666	-2.689	0.0072	Down	No	No
ENSBTAG00000009336	<i>LXN</i>	88.375	-0.823	0.318	-2.592	0.0095	Down	No	No
ENSBTAG00000009359	<i>ENSBTAG00000009359</i>	41.782	-0.678	0.316	-2.146	0.0319	Down	No	No
ENSBTAG00000009401	<i>MTRR</i>	160.456	1.28	0.519	2.464	0.0137	Up	No	No
ENSBTAG00000009428	<i>GAN</i>	19.834	-1.326	0.609	-2.177	0.0295	Down	No	No
ENSBTAG00000009430	<i>MYRIP</i>	93.719	1.076	0.443	2.431	0.0151	Up	No	No
ENSBTAG00000009496	<i>STAT5A</i>	194.253	-0.609	0.258	-2.359	0.0183	Down	Yes	No
ENSBTAG00000009534	<i>NDUFB10</i>	1457.963	-0.639	0.3	-2.131	0.0331	Down	No	No
ENSBTAG00000009554	<i>EHBP1L1</i>	501.434	-0.585	0.262	-2.229	0.0258	Down	No	No
ENSBTAG00000009580	<i>SH3BGRL3</i>	3276.502	-0.545	0.277	-1.964	0.0495	Down	No	No

ENSBTAG00000009581	<i>UBXN11</i>	126.122	-0.678	0.21	-3.225	0.0013	Down	No	No
ENSBTAG00000009631	<i>ZNF683</i>	10.353	-1.789	0.671	-2.668	0.0076	Down	Yes	No
ENSBTAG00000009656	<i>ENSBTAG00000009656</i>	109.434	-1.017	0.414	-2.456	0.0141	Down	No	No
ENSBTAG00000009704	<i>CECR2</i>	118.889	0.972	0.417	2.329	0.0198	Up	No	No
ENSBTAG00000009737	<i>LTC4S</i>	15.885	-1.9	0.67	-2.835	0.0046	Down	No	No
ENSBTAG00000009800	<i>MSI1</i>	78.187	0.983	0.33	2.979	0.0029	Up	No	No
ENSBTAG00000009812	<i>CXCL5</i>	60.742	-1.451	0.632	-2.296	0.0216	Down	No	No
ENSBTAG00000009826	<i>GPD1L</i>	86.805	-0.557	0.253	-2.199	0.0278	Down	No	No
ENSBTAG00000009844	<i>CCN1</i>	290.827	-1.423	0.339	-4.193	0.00E+00	Down	No	No
ENSBTAG00000009966	<i>XRCC3</i>	331.577	-0.946	0.413	-2.293	0.0219	Down	No	No
ENSBTAG00000010050	<i>COL16A1</i>	299.971	-1.014	0.39	-2.601	0.0093	Down	No	No
ENSBTAG00000010119	<i>ALDH1A2</i>	65.439	0.778	0.313	2.485	0.013	Up	No	No
ENSBTAG00000010155	<i>ENSBTAG00000010155</i>	2364.662	-1.139	0.449	-2.536	0.0112	Down	No	No
ENSBTAG00000010161	<i>CCL21</i>	273.643	-1.16	0.529	-2.19	0.0285	Down	No	No
ENSBTAG00000010339	<i>ABHD11</i>	177.418	-0.559	0.232	-2.408	0.0161	Down	No	No
ENSBTAG00000010343	<i>CIQTNF7</i>	32.418	-1.192	0.591	-2.018	0.0436	Down	No	No
ENSBTAG00000010348	<i>GATD1</i>	771.603	-0.598	0.271	-2.205	0.0275	Down	No	No
ENSBTAG00000010357	<i>ST6GAL1</i>	8118.881	0.545	0.168	3.246	0.0012	Up	No	No
ENSBTAG00000010382	<i>MUC13</i>	21.478	2.592	0.874	2.965	0.003	Up	No	No
ENSBTAG00000010442	<i>PANK1</i>	241.242	0.901	0.431	2.09	0.0366	Up	No	No
ENSBTAG00000010464	<i>MNI</i>	96.456	1.035	0.409	2.529	0.0114	Up	No	No
ENSBTAG00000010477	<i>TTC21A</i>	17.512	-1.561	0.719	-2.17	0.03	Down	No	No
ENSBTAG00000010508	<i>BLVRB</i>	1075.43	-0.721	0.318	-2.268	0.0233	Down	No	No
ENSBTAG00000010509	<i>CDK3</i>	307.233	-0.994	0.482	-2.064	0.0391	Down	No	No
ENSBTAG00000010547	<i>CEP76</i>	91.038	0.733	0.332	2.21	0.0271	Up	No	No

ENSBTAG00000010661	<i>DPYSL3</i>	242.868	-1.058	0.377	-2.805	0.005	Down	No	No
ENSBTAG00000010723	<i>PFDN6</i>	1083.216	-0.679	0.286	-2.374	0.0176	Down	No	No
ENSBTAG00000010882	<i>ENSBTAG00000010882</i>	507.097	-0.655	0.292	-2.24	0.0251	Down	No	No
ENSBTAG00000010899	<i>TIMP2</i>	736.332	-0.561	0.233	-2.403	0.0163	Down	No	No
ENSBTAG00000010943	<i>SLC22A23</i>	698.947	0.659	0.236	2.793	0.0052	Up	No	No
ENSBTAG00000010957	<i>LHPP</i>	592.401	-0.61	0.31	-1.967	0.0492	Down	No	No
ENSBTAG00000010991	<i>TTR</i>	12187.692	-1.002	0.496	-2.021	0.0433	Down	No	No
ENSBTAG00000011027	<i>PTGR1</i>	2710.989	-0.758	0.337	-2.249	0.0245	Down	No	No
ENSBTAG00000011062	<i>TDO2</i>	896.97	0.676	0.27	2.504	0.0123	Up	No	No
ENSBTAG00000011082	<i>IGF1</i>	143.006	0.752	0.307	2.45	0.0143	Up	No	No
ENSBTAG00000011287	<i>ATXN7</i>	338.114	-0.543	0.243	-2.237	0.0253	Down	No	No
ENSBTAG00000011338	<i>NREP</i>	480.742	-0.519	0.232	-2.241	0.025	Down	No	No
ENSBTAG00000011424	<i>TPM2</i>	1155.36	-0.686	0.283	-2.422	0.0154	Down	No	No
ENSBTAG00000011444	<i>HINT2</i>	1090.318	-0.803	0.377	-2.13	0.0332	Down	No	No
ENSBTAG00000011447	<i>FAM171A2</i>	113.703	-0.607	0.261	-2.325	0.0201	Down	No	No
ENSBTAG00000011454	<i>FKBP10</i>	431.364	-0.597	0.295	-2.023	0.043	Down	No	No
ENSBTAG00000011471	<i>CARS2</i>	740.644	-0.511	0.247	-2.072	0.0383	Down	No	No
ENSBTAG00000011527	<i>NT5C</i>	1508.038	-0.662	0.3	-2.204	0.0275	Down	No	No
ENSBTAG00000011539	<i>PCGF2</i>	307.137	-0.714	0.294	-2.426	0.0153	Down	No	No
ENSBTAG00000011562	<i>STK32C</i>	85.11	-0.66	0.295	-2.238	0.0252	Down	No	No
ENSBTAG00000011573	<i>ENPP6</i>	71.3	0.793	0.351	2.259	0.0239	Up	No	No
ENSBTAG00000011616	<i>MPO</i>	12.856	-1.524	0.766	-1.989	0.0467	Down	No	No
ENSBTAG00000011658	<i>PTPN18</i>	295.143	-0.653	0.298	-2.19	0.0286	Down	No	No
ENSBTAG00000011662	<i>SOX18</i>	613.266	-0.736	0.242	-3.045	0.0023	Down	Yes	No
ENSBTAG00000011752	<i>SYNM</i>	82.873	1.012	0.5	2.022	0.0431	Up	No	No

ENSBTAG00000011772	<i>PPP1R12B</i>	103.476	0.563	0.266	2.122	0.0339	Up	No	No
ENSBTAG00000011802	<i>COL6A1</i>	2647.542	-0.535	0.223	-2.401	0.0163	Down	No	No
ENSBTAG00000011815	<i>SMG9</i>	216.821	-0.62	0.271	-2.285	0.0223	Down	No	No
ENSBTAG00000011851	<i>FYN</i>	180.473	-0.651	0.219	-2.97	0.003	Down	No	No
ENSBTAG00000011934	<i>PCK2</i>	4523.294	-0.53	0.179	-2.952	0.0032	Down	No	No
ENSBTAG00000011952	<i>SULT1E1</i>	1270.157	-0.954	0.387	-2.464	0.0138	Down	No	No
ENSBTAG00000012004	<i>TGFB3</i>	54.519	-1.177	0.596	-1.976	0.0481	Down	No	No
ENSBTAG00000012005	<i>IFT43</i>	68.134	-0.898	0.343	-2.617	0.0089	Down	No	No
ENSBTAG00000012019	<i>IRS2</i>	117.388	1.056	0.456	2.317	0.0205	Up	No	No
ENSBTAG00000012035	<i>EXOC3L1</i>	157.431	-0.591	0.28	-2.108	0.035	Down	No	No
ENSBTAG00000012058	<i>GMDS</i>	381.559	-0.703	0.259	-2.711	0.0067	Down	No	No
ENSBTAG00000012072	<i>NDUFS8</i>	3618.928	-0.951	0.384	-2.477	0.0132	Down	No	No
ENSBTAG00000012083	<i>IRX3</i>	27.06	1.77	0.751	2.359	0.0183	Up	Yes	No
ENSBTAG00000012088	<i>FBLN1</i>	452.771	-0.685	0.339	-2.018	0.0436	Down	No	No
ENSBTAG00000012147	<i>ARRDC1</i>	278.978	-0.642	0.323	-1.985	0.0471	Down	No	No
ENSBTAG00000012280	<i>PGLYRP2</i>	1391.447	-0.973	0.315	-3.089	0.002	Down	No	No
ENSBTAG00000012322	<i>INKA1</i>	110.316	-0.905	0.324	-2.79	0.0053	Down	No	No
ENSBTAG00000012370	<i>MGP</i>	1669.01	-1.062	0.299	-3.557	0.0004	Down	No	No
ENSBTAG00000012398	<i>APOC3</i>	7376.638	-1.568	0.694	-2.26	0.0238	Down	No	No
ENSBTAG00000012451	<i>BOLA-DMB</i>	125.453	-0.675	0.323	-2.089	0.0367	Down	No	No
ENSBTAG00000012540	<i>ENSBTAG00000012540</i>	54.252	-2.774	0.971	-2.858	0.0043	Down	No	No
ENSBTAG00000012567	<i>TERT</i>	13.569	1.321	0.544	2.428	0.0152	Up	No	No
ENSBTAG00000012634	<i>NDUFB7</i>	1348.807	-0.665	0.334	-1.989	0.0467	Down	No	No
ENSBTAG00000012684	<i>CCL19</i>	102.633	-1.917	0.666	-2.881	0.004	Down	No	No
ENSBTAG00000012753	<i>BRF1</i>	451.097	-0.509	0.22	-2.318	0.0204	Down	No	No

ENSBTAG00000012796	<i>ZNF428</i>	273.854	-0.834	0.33	-2.526	0.0116	Down	No	No
ENSBTAG00000012855	<i>LPL</i>	1072.521	-0.596	0.281	-2.121	0.0339	Down	No	No
ENSBTAG00000012898	<i>RPS27L</i>	517.394	-0.935	0.388	-2.412	0.0159	Down	No	No
ENSBTAG00000012939	<i>DTNBP1</i>	294.84	-0.583	0.255	-2.292	0.0219	Down	No	No
ENSBTAG00000013004	<i>ITIH5</i>	139.262	-0.718	0.323	-2.227	0.026	Down	No	No
ENSBTAG00000013103	<i>COL1A1</i>	11269.915	-1.119	0.35	-3.197	0.0014	Down	No	No
ENSBTAG00000013131	<i>FAM110D</i>	76.665	-0.879	0.396	-2.222	0.0263	Down	No	No
ENSBTAG00000013132	<i>MTX3</i>	19.009	1.628	0.813	2.003	0.0452	Up	No	No
ENSBTAG00000013185	<i>TIMD4</i>	196.927	-0.818	0.396	-2.065	0.0389	Down	No	No
ENSBTAG00000013242	<i>MYMK</i>	23.621	-1.406	0.64	-2.196	0.0281	Down	No	No
ENSBTAG00000013244	<i>HDAC6</i>	379.261	-0.521	0.263	-1.984	0.0473	Down	No	No
ENSBTAG00000013287	<i>SMO</i>	236.495	-0.586	0.249	-2.352	0.0186	Down	No	No
ENSBTAG00000013314	<i>PBX3</i>	87.412	0.613	0.292	2.103	0.0355	Up	Yes	No
ENSBTAG00000013392	<i>PLD2</i>	253.984	-0.909	0.318	-2.857	0.0043	Down	No	No
ENSBTAG00000013407	<i>PLXNB1</i>	417.306	0.632	0.241	2.619	0.0088	Up	No	No
ENSBTAG00000013412	<i>NFAT5</i>	45.651	1.24	0.524	2.364	0.0181	Up	No	No
ENSBTAG00000013416	<i>MGC133636</i>	11.652	-1.505	0.755	-1.994	0.0461	Down	No	No
ENSBTAG00000013425	<i>COPS2</i>	203.143	0.538	0.222	2.431	0.0151	Up	No	No
ENSBTAG00000013464	<i>CEP97</i>	55.646	1.094	0.454	2.411	0.0159	Up	No	No
ENSBTAG00000013472	<i>COL1A2</i>	8108.126	-0.987	0.35	-2.824	0.0047	Down	No	No
ENSBTAG00000013479	<i>NHERF2</i>	3277.396	-0.65	0.315	-2.064	0.039	Down	No	No
ENSBTAG00000013530	<i>DDAH2</i>	201.405	-1.018	0.347	-2.935	0.0033	Down	No	No
ENSBTAG00000013548	<i>GABRE</i>	30.875	-1.824	0.48	-3.799	0.0001	Down	No	No
ENSBTAG00000013662	<i>COL8A1</i>	152.266	-0.865	0.277	-3.122	0.0018	Down	No	No
ENSBTAG00000013843	<i>ACVRL1</i>	268.869	-0.579	0.19	-3.057	0.0022	Down	No	No

ENSBTAG00000013882	<i>CHMP2A</i>	2336.418	-0.548	0.264	-2.077	0.0378	Down	No	No
ENSBTAG00000013889	<i>TMEM141</i>	200.912	-0.661	0.253	-2.616	0.0089	Down	No	No
ENSBTAG00000013909	<i>BOC</i>	28.865	-1.243	0.559	-2.223	0.0262	Down	No	No
ENSBTAG00000013928	<i>WFDC2</i>	146.134	-1.494	0.572	-2.611	0.009	Down	No	No
ENSBTAG00000013929	<i>RRAD</i>	158.099	-0.931	0.449	-2.073	0.0382	Down	No	No
ENSBTAG00000013973	<i>SERPIND1</i>	12788.986	-0.986	0.492	-2.003	0.0452	Down	No	No
ENSBTAG00000013984	<i>KL</i>	17.397	1.278	0.498	2.568	0.0102	Up	No	No
ENSBTAG00000014088	<i>MBNL3</i>	48.572	1.17	0.574	2.038	0.0415	Up	No	No
ENSBTAG00000014136	<i>FAAP20</i>	183.25	-0.788	0.295	-2.67	0.0076	Down	No	No
ENSBTAG00000014204	<i>SI00A16</i>	996.232	-0.519	0.221	-2.349	0.0188	Down	No	No
ENSBTAG00000014207	<i>ADAMTS10</i>	183.833	-0.814	0.391	-2.082	0.0373	Down	No	No
ENSBTAG00000014351	<i>EIF2AK4</i>	663.919	0.596	0.253	2.359	0.0183	Up	No	No
ENSBTAG00000014354	<i>FXYD6</i>	299.463	-0.952	0.358	-2.657	0.0079	Down	No	No
ENSBTAG00000014358	<i>EVA1B</i>	581.924	-0.509	0.201	-2.53	0.0114	Down	No	No
ENSBTAG00000014377	<i>CHD3</i>	925.835	0.613	0.263	2.334	0.0196	Up	No	No
ENSBTAG00000014448	<i>VKORC1L1</i>	177.978	0.633	0.3	2.109	0.035	Up	No	No
ENSBTAG00000014498	<i>UNC93A</i>	15.979	-1.665	0.774	-2.151	0.0314	Down	No	No
ENSBTAG00000014560	<i>HLX</i>	302.864	-0.773	0.299	-2.584	0.0098	Down	Yes	No
ENSBTAG00000014608	<i>KDM1B</i>	245.285	0.563	0.279	2.022	0.0432	Up	No	No
ENSBTAG00000014646	<i>MZT2B</i>	763.388	-0.712	0.3	-2.374	0.0176	Down	No	No
ENSBTAG00000014668	<i>NAGK</i>	391.482	-0.608	0.294	-2.071	0.0383	Down	No	No
ENSBTAG00000014693	<i>TMEM88</i>	74.445	-1.361	0.453	-3.001	0.0027	Down	No	No
ENSBTAG00000014713	<i>RARRES1</i>	85.294	-0.996	0.283	-3.52	0.0004	Down	No	No
ENSBTAG00000014731	<i>GAPDH</i>	22335.298	-0.628	0.239	-2.627	0.0086	Down	No	No
ENSBTAG00000014782	<i>STAB1</i>	1779.617	-0.637	0.275	-2.315	0.0206	Down	No	No

ENSBTAG00000014835	<i>SPARC</i>	13359.686	-0.63	0.196	-3.209	0.0013	Down	No	No
ENSBTAG00000014863	<i>GYPC</i>	500.349	-0.657	0.333	-1.972	0.0486	Down	No	No
ENSBTAG00000014906	<i>VCAN</i>	156.633	-1.361	0.44	-3.093	0.002	Down	No	No
ENSBTAG00000014933	<i>TRAK2</i>	138.225	0.675	0.337	2.004	0.0451	Up	No	No
ENSBTAG00000014960	<i>SCHIP1</i>	46.501	-0.747	0.349	-2.14	0.0323	Down	No	No
ENSBTAG00000015041	<i>NDUFA2</i>	1257.817	-0.512	0.249	-2.055	0.0398	Down	No	No
ENSBTAG00000015089	<i>LGALS1</i>	973.829	-0.906	0.313	-2.896	0.0038	Down	No	No
ENSBTAG00000015106	<i>DSP</i>	1392.218	0.567	0.238	2.382	0.0172	Up	No	No
ENSBTAG00000015113	<i>CITED4</i>	1818.654	-0.7	0.328	-2.131	0.0331	Down	No	No
ENSBTAG00000015117	<i>GADD45GIP1</i>	734.492	-0.796	0.337	-2.362	0.0182	Down	No	No
ENSBTAG00000015163	<i>TM4SF1</i>	513.932	-0.805	0.262	-3.074	0.0021	Down	No	No
ENSBTAG00000015182	<i>STARD10</i>	6123.67	-0.575	0.261	-2.204	0.0275	Down	No	No
ENSBTAG00000015183	<i>TPCN2</i>	229.583	-0.529	0.19	-2.789	0.0053	Down	No	No
ENSBTAG00000015187	<i>DDX41</i>	725.586	-0.541	0.235	-2.303	0.0213	Down	No	No
ENSBTAG00000015197	<i>ENSBTAG00000015197</i>	35.307	1.475	0.748	1.971	0.0487	Up	No	No
ENSBTAG00000015214	<i>CA3</i>	331.316	-0.984	0.393	-2.503	0.0123	Down	No	No
ENSBTAG00000015228	<i>CD74</i>	2066.611	-0.871	0.301	-2.898	0.0038	Down	No	No
ENSBTAG00000015362	<i>BMP7</i>	28.445	1.394	0.428	3.257	0.0011	Up	No	No
ENSBTAG00000015537	<i>RASAL2</i>	37.549	-1.317	0.659	-1.998	0.0457	Down	No	No
ENSBTAG00000015669	<i>ADAT1</i>	90.36	0.553	0.28	1.974	0.0483	Up	No	No
ENSBTAG00000015730	<i>BOLA-DMA</i>	65.811	-0.781	0.396	-1.972	0.0487	Down	No	No
ENSBTAG00000015745	<i>RAB3IL1</i>	352.802	-0.567	0.193	-2.938	0.0033	Down	No	No
ENSBTAG00000015794	<i>NES</i>	355.354	-0.996	0.33	-3.016	0.0026	Down	No	No
ENSBTAG00000015909	<i>PDE8A</i>	433.459	0.547	0.266	2.06	0.0394	Up	No	No
ENSBTAG00000015911	<i>RWDD2A</i>	82.838	0.753	0.379	1.987	0.0469	Up	No	No

ENSBTAG00000015919	<i>PARM1</i>	103.103	1.007	0.249	4.049	1.00E-04	Up	No	No
ENSBTAG00000015938	<i>ARAP3</i>	433.931	-0.573	0.226	-2.535	0.0112	Down	No	No
ENSBTAG00000016057	<i>CSRP1</i>	1145.811	-0.722	0.251	-2.876	0.004	Down	No	No
ENSBTAG00000016165	<i>KRT7</i>	433.326	-0.914	0.318	-2.878	0.004	Down	No	No
ENSBTAG00000016359	<i>SLCO4C1</i>	50.277	1.087	0.436	2.491	0.0127	Up	No	No
ENSBTAG00000016365	<i>ABCG5</i>	189.652	0.619	0.315	1.962	0.0498	Up	No	No
ENSBTAG00000016506	<i>ST3GAL4</i>	678.061	-0.55	0.216	-2.54	0.0111	Down	No	No
ENSBTAG00000016520	<i>ENSBTAG00000016520</i>	43.931	-1.878	0.675	-2.781	0.0054	Down	No	No
ENSBTAG00000016526	<i>PIH1D1</i>	418.232	-0.555	0.223	-2.487	0.0129	Down	No	No
ENSBTAG00000016685	<i>FMO4</i>	743.089	0.606	0.242	2.502	0.0123	Up	No	No
ENSBTAG00000016691	<i>LACC1</i>	106.773	0.675	0.266	2.535	0.0112	Up	No	No
ENSBTAG00000016826	<i>GPR176</i>	69.351	1.242	0.387	3.214	0.0013	Up	No	No
ENSBTAG00000016854	<i>AK7</i>	19.381	-1.084	0.534	-2.029	0.0424	Down	No	No
ENSBTAG00000016936	<i>MISP3</i>	50.885	-1.022	0.427	-2.393	0.0167	Down	No	No
ENSBTAG00000016963	<i>ADAMTS6</i>	58.591	-0.811	0.309	-2.622	0.0087	Down	No	No
ENSBTAG00000017042	<i>HAMP</i>	3040.472	-1.098	0.477	-2.303	0.0213	Down	No	No
ENSBTAG00000017167	<i>LRAT</i>	194.825	0.826	0.211	3.922	1.00E-04	Up	No	No
ENSBTAG00000017181	<i>MACROD1</i>	810.962	-0.863	0.416	-2.078	0.0377	Down	No	No
ENSBTAG00000017223	<i>MEST</i>	150.865	-0.723	0.293	-2.465	0.0137	Down	No	No
ENSBTAG00000017318	<i>TMEM178A</i>	63.319	1.291	0.566	2.281	0.0226	Up	No	No
ENSBTAG00000017328	<i>PTI</i>	40.339	-1.547	0.522	-2.962	0.0031	Down	No	No
ENSBTAG00000017339	<i>RUNX1T1</i>	97.397	-0.643	0.292	-2.201	0.0278	Down	No	No
ENSBTAG00000017365	<i>ZBTB47</i>	243.732	-0.744	0.365	-2.037	0.0417	Down	Yes	No
ENSBTAG00000017393	<i>L3MBTL3</i>	186.149	0.682	0.264	2.587	0.0097	Up	Yes	No
ENSBTAG00000017397	<i>ZNF423</i>	66.229	-0.61	0.292	-2.087	0.0369	Down	Yes	No

ENSBTAG00000017475	<i>ENSBTAG00000017475</i>	429.249	-0.691	0.34	-2.032	0.0421	Down	No	No
ENSBTAG00000017482	<i>ISYNA1</i>	299.635	-0.707	0.264	-2.678	0.0074	Down	No	No
ENSBTAG00000017490	<i>PLD1</i>	238.061	0.68	0.322	2.116	0.0344	Up	No	No
ENSBTAG00000017599	<i>NR2F1</i>	227.266	-0.584	0.192	-3.041	0.0024	Down	Yes	No
ENSBTAG00000017764	<i>HDAC4</i>	101.789	0.773	0.365	2.117	0.0342	Up	No	No
ENSBTAG00000017805	<i>CRACR2B</i>	181.065	-0.583	0.297	-1.967	0.0491	Down	No	No
ENSBTAG00000017956	<i>KCTD15</i>	94.941	-0.696	0.313	-2.222	0.0263	Down	No	No
ENSBTAG00000017969	<i>CA4</i>	40.461	-1.328	0.603	-2.203	0.0276	Down	No	No
ENSBTAG00000018013	<i>EMP3</i>	213.362	-1.027	0.305	-3.367	0.0008	Down	No	No
ENSBTAG00000018016	<i>NUPR1</i>	3044.073	-1.24	0.515	-2.407	0.0161	Down	No	No
ENSBTAG00000018024	<i>NR1D2</i>	138.974	0.754	0.381	1.977	0.048	Up	Yes	No
ENSBTAG00000018040	<i>PSMB10</i>	610.38	-0.854	0.304	-2.813	0.0049	Down	No	No
ENSBTAG00000018077	<i>LYPD3</i>	20.852	1.669	0.67	2.49	0.0128	Up	No	No
ENSBTAG00000018116	<i>MTFP1</i>	407.523	-0.942	0.331	-2.845	0.0044	Down	No	No
ENSBTAG00000018157	<i>IFT172</i>	47.828	1.263	0.613	2.059	0.0395	Up	No	No
ENSBTAG00000018181	<i>CCDC8</i>	126.572	-0.659	0.297	-2.22	0.0264	Down	No	No
ENSBTAG00000018223	<i>CHI3L1</i>	110.269	-0.777	0.349	-2.228	0.0259	Down	No	No
ENSBTAG00000018240	<i>CYP2S1</i>	19.244	-1.587	0.633	-2.506	0.0122	Down	No	No
ENSBTAG00000018285	<i>VAMP5</i>	257.472	-0.624	0.246	-2.533	0.0113	Down	No	No
ENSBTAG00000018463	<i>VIM</i>	4164.835	-0.858	0.208	-4.119	0.00E+00	Down	No	No
ENSBTAG00000018598	<i>HSPB6</i>	507.656	-1.003	0.365	-2.745	0.0061	Down	No	No
ENSBTAG00000018622	<i>PCBP4</i>	171.022	-0.519	0.25	-2.075	0.038	Down	No	No
ENSBTAG00000018796	<i>RABGGTA</i>	267.993	-0.515	0.252	-2.044	0.0409	Down	No	No
ENSBTAG00000018837	<i>SLC39A11</i>	1085.967	0.524	0.187	2.804	0.005	Up	No	No
ENSBTAG00000018918	<i>NDUFAF3</i>	673.158	-0.793	0.387	-2.047	0.0407	Down	No	No

ENSBTAG00000019025	<i>NDUFA11</i>	1185.903	-0.758	0.342	-2.215	0.0267	Down	No	No
ENSBTAG00000019110	<i>ENSBTAG00000019110</i>	392.793	0.587	0.23	2.555	0.0106	Up	No	No
ENSBTAG00000019210	<i>ADCY2</i>	95.592	0.881	0.391	2.252	0.0243	Up	No	No
ENSBTAG00000019242	<i>CHRNA1</i>	64.855	-0.578	0.286	-2.022	0.0432	Down	No	No
ENSBTAG00000019267	<i>MMP2</i>	1271.993	-0.719	0.329	-2.182	0.0291	Down	No	No
ENSBTAG00000019269	<i>COL6A2</i>	2834.422	-0.685	0.238	-2.886	0.0039	Down	No	No
ENSBTAG00000019291	<i>GRB14</i>	97.945	0.728	0.26	2.804	0.005	Up	No	No
ENSBTAG00000019315	<i>PLA2G7</i>	143.703	0.557	0.282	1.977	0.0481	Up	No	No
ENSBTAG00000019327	<i>NRAP</i>	10.945	-1.439	0.664	-2.166	0.0303	Down	No	No
ENSBTAG00000019343	<i>MDF1</i>	105.181	-0.781	0.288	-2.713	0.0067	Down	No	No
ENSBTAG00000019368	<i>IGFBP7</i>	4204.594	-0.637	0.208	-3.065	0.0022	Down	No	No
ENSBTAG00000019402	<i>CFAP100</i>	66.301	-1.035	0.464	-2.233	0.0255	Down	No	No
ENSBTAG00000019517	<i>ELN</i>	2573.773	-0.655	0.299	-2.193	0.0283	Down	No	No
ENSBTAG00000019569	<i>CD151</i>	1322.382	-0.585	0.254	-2.302	0.0213	Down	No	No
ENSBTAG00000019651	<i>TRIM52</i>	26.397	1.04	0.443	2.347	0.0189	Up	No	No
ENSBTAG00000019674	<i>CLIP3</i>	81.212	-0.925	0.34	-2.719	0.0065	Down	No	No
ENSBTAG00000019678	<i>ALKBH6</i>	193.39	-0.686	0.326	-2.103	0.0354	Down	No	No
ENSBTAG00000019687	<i>NMRK1</i>	223.915	0.508	0.252	2.012	0.0442	Up	No	No
ENSBTAG00000019754	<i>CAVIN3</i>	328.239	-0.734	0.309	-2.373	0.0176	Down	No	No
ENSBTAG00000019787	<i>PAFAH1B3</i>	111.428	-0.731	0.279	-2.619	0.0088	Down	No	No
ENSBTAG00000019798	<i>PIGR</i>	378.298	-0.886	0.323	-2.74	0.0061	Down	No	No
ENSBTAG00000019844	<i>ZNF467</i>	42.795	0.998	0.492	2.028	0.0425	Up	Yes	No
ENSBTAG00000019872	<i>PIK3AP1</i>	502.891	0.716	0.334	2.139	0.0324	Up	No	No
ENSBTAG00000019891	<i>MRPL40</i>	987.873	-0.632	0.318	-1.988	0.0468	Down	No	No
ENSBTAG00000019950	<i>GRPEL2</i>	525.724	0.503	0.254	1.976	0.0481	Up	No	No

ENSBTAG00000020040	<i>LPCAT4</i>	163.193	-0.791	0.318	-2.491	0.0128	Down	No	No
ENSBTAG00000020099	<i>STMN2</i>	45.951	-1.524	0.776	-1.964	0.0496	Down	No	No
ENSBTAG00000020177	<i>MYG1</i>	211.082	-0.832	0.326	-2.553	0.0107	Down	No	No
ENSBTAG00000020199	<i>F2R</i>	93.229	0.686	0.313	2.193	0.0283	Up	No	No
ENSBTAG00000020205	<i>PDE8B</i>	53.515	1.574	0.436	3.613	0.0003	Up	No	No
ENSBTAG00000020429	<i>MED29</i>	591.63	-0.825	0.377	-2.188	0.0287	Down	No	No
ENSBTAG00000020657	<i>FAT1</i>	1040.955	0.521	0.264	1.975	0.0482	Up	No	No
ENSBTAG00000020688	<i>ARHGEF15</i>	120.502	-0.675	0.303	-2.228	0.0259	Down	No	No
ENSBTAG00000020735	<i>SMG1</i>	368.751	0.604	0.276	2.188	0.0287	Up	No	No
ENSBTAG00000020837	<i>ARHGEF16</i>	423.43	-0.593	0.298	-1.992	0.0464	Down	No	No
ENSBTAG00000020852	<i>SLC16A11</i>	428.05	-0.576	0.257	-2.239	0.0251	Down	No	No
ENSBTAG00000020928	<i>ENSBTAG00000020928</i>	189.393	-1.168	0.422	-2.769	0.0056	Down	No	No
ENSBTAG00000020963	<i>RASSF1</i>	950.38	-0.625	0.247	-2.528	0.0115	Down	No	No
ENSBTAG00000020983	<i>RRAS</i>	388.638	-0.671	0.204	-3.283	0.001	Down	No	No
ENSBTAG00000021048	<i>ADM</i>	231.201	-1.287	0.48	-2.683	0.0073	Down	No	No
ENSBTAG00000021107	<i>STXBP5</i>	112.415	0.612	0.298	2.058	0.0396	Up	No	No
ENSBTAG00000021191	<i>EHD2</i>	536.973	-0.649	0.313	-2.076	0.0379	Down	No	No
ENSBTAG00000021201	<i>HYCC2</i>	34.713	1.194	0.565	2.114	0.0345	Up	No	No
ENSBTAG00000021211	<i>DPT</i>	481.989	-1.575	0.381	-4.139	0.00E+00	Down	No	No
ENSBTAG00000021294	<i>VWA1</i>	101.293	-0.608	0.301	-2.016	0.0438	Down	No	No
ENSBTAG00000021357	<i>ZNF518A</i>	92.591	0.56	0.264	2.124	0.0336	Up	No	No
ENSBTAG00000021466	<i>COL3A1</i>	19018.435	-0.612	0.28	-2.184	0.029	Down	No	No
ENSBTAG00000021467	<i>IGFBP6</i>	293.399	-0.866	0.325	-2.667	0.0077	Down	No	No
ENSBTAG00000021565	<i>ENSBTAG00000021565</i>	298.184	-1.374	0.415	-3.313	0.0009	Down	No	No
ENSBTAG00000021658	<i>TAMALIN</i>	126.647	-0.612	0.228	-2.681	0.0073	Down	No	No

ENSBTAG00000021697	<i>PDGFB</i>	121.993	-0.569	0.225	-2.524	0.0116	Down	No	No
ENSBTAG00000021706	<i>TBX3</i>	1142.134	0.605	0.203	2.98	0.0029	Up	Yes	No
ENSBTAG00000021799	<i>RCN3</i>	780.34	-0.737	0.224	-3.284	0.001	Down	No	No
ENSBTAG00000021836	<i>TCEA2</i>	71.066	-0.922	0.32	-2.881	0.004	Down	No	No
ENSBTAG00000021957	<i>LTBP2</i>	64.611	-0.89	0.375	-2.374	0.0176	Down	No	No
ENSBTAG00000021978	<i>PARVB</i>	112.931	-0.554	0.269	-2.062	0.0392	Down	No	No
ENSBTAG00000022027	<i>ENSBTAG00000022027</i>	3295.408	-0.587	0.294	-1.998	0.0457	Down	No	No
ENSBTAG00000022032	<i>CHCHD10</i>	3980.654	-0.747	0.354	-2.109	0.0349	Down	No	No
ENSBTAG00000022275	<i>ENSBTAG00000022275</i>	200.728	-0.72	0.342	-2.108	0.0351	Down	No	No
ENSBTAG00000022394	<i>SAA2</i>	128275.971	-0.911	0.401	-2.269	0.0233	Down	No	No
ENSBTAG00000022395	<i>ENSBTAG00000022395</i>	201393.424	-0.572	0.273	-2.094	0.0363	Down	No	No
ENSBTAG00000022571	<i>AKRIC3</i>	279.062	-1.301	0.591	-2.202	0.0277	Down	No	No
ENSBTAG00000022715	<i>ENSBTAG00000022715</i>	6856.569	-0.535	0.229	-2.334	0.0196	Down	No	No
ENSBTAG00000022733	<i>ENSBTAG00000022733</i>	308.039	0.612	0.283	2.163	0.0305	Up	No	No
ENSBTAG00000022927	<i>RAC3</i>	35.864	-1.838	0.615	-2.989	0.0028	Down	No	No
ENSBTAG00000023452	<i>B9D2</i>	82.767	-0.709	0.265	-2.674	0.0075	Down	No	No
ENSBTAG00000023472	<i>PPP1R14A</i>	756.002	-1.071	0.266	-4.027	1.00E-04	Down	No	No
ENSBTAG00000023718	<i>MRAP</i>	125.684	-0.864	0.349	-2.475	0.0133	Down	No	No
ENSBTAG00000023843	<i>RALGPS1</i>	104.694	0.623	0.279	2.231	0.0257	Up	No	No
ENSBTAG00000023947	<i>AVPII</i>	3209.522	-0.661	0.291	-2.273	0.023	Down	No	No
ENSBTAG00000024044	<i>CDKL4</i>	16.314	2.187	0.636	3.439	0.0006	Up	No	No
ENSBTAG00000024081	<i>ECM2</i>	128.482	0.605	0.27	2.243	0.0249	Up	No	No
ENSBTAG00000024091	<i>MALL</i>	16.322	-1.762	0.623	-2.827	0.0047	Down	No	No
ENSBTAG00000024097	<i>MRPS15</i>	1041.903	-0.644	0.301	-2.142	0.0322	Down	No	No
ENSBTAG00000025424	<i>NOTCH4</i>	156.833	-0.723	0.284	-2.545	0.0109	Down	No	No

ENSBTAG00000025752	<i>P3H4</i>	218.25	-1.048	0.457	-2.293	0.0218	Down	No	No
ENSBTAG00000025809	<i>ABHD8</i>	265.377	-0.508	0.256	-1.985	0.0471	Down	No	No
ENSBTAG00000025817	<i>BORCS8</i>	356.152	-0.545	0.264	-2.064	0.039	Down	No	No
ENSBTAG00000026008	<i>METTL5</i>	233.346	-0.684	0.286	-2.395	0.0166	Down	No	No
ENSBTAG00000026710	<i>C2H2orf72</i>	530.772	0.787	0.374	2.108	0.035	Up	No	No
ENSBTAG00000026819	<i>HDAC7</i>	371.258	-0.645	0.291	-2.212	0.027	Down	No	No
ENSBTAG00000026919	<i>PXDC1</i>	216.472	-0.557	0.268	-2.081	0.0374	Down	No	No
ENSBTAG00000027204	<i>ENSBTAG00000027204</i>	19.549	-1.797	0.636	-2.824	0.0047	Down	No	No
ENSBTAG00000027442	<i>NFIB</i>	385	-1.138	0.367	-3.098	0.0019	Down	Yes	No
ENSBTAG00000027577	<i>C15H11orf91</i>	16.386	1.132	0.556	2.035	0.0418	Up	No	No
ENSBTAG00000027610	<i>ENSBTAG00000027610</i>	18.589	-0.756	0.385	-1.965	0.0494	Down	No	No
ENSBTAG00000027625	<i>SFRP1</i>	249.861	-1.239	0.435	-2.849	0.0044	Down	No	No
ENSBTAG00000027654	<i>EIF4EBP1</i>	985.849	-0.739	0.299	-2.471	0.0135	Down	No	No
ENSBTAG00000027676	<i>IL18BP</i>	104.851	-0.521	0.215	-2.425	0.0153	Down	No	No
ENSBTAG00000030170	<i>ENSBTAG00000030170</i>	606.922	-0.835	0.356	-2.347	0.0189	Down	No	No
ENSBTAG00000030278	<i>EGFL7</i>	1142.607	-0.793	0.331	-2.396	0.0166	Down	No	No
ENSBTAG00000031059	<i>LRRC61</i>	371.19	-0.542	0.27	-2.005	0.045	Down	No	No
ENSBTAG00000031249	<i>PSMG4</i>	1088.349	-0.663	0.277	-2.398	0.0165	Down	No	No
ENSBTAG00000031503	<i>NDUFA4L2</i>	39.529	-1.124	0.396	-2.84	0.0045	Down	No	No
ENSBTAG00000031750	<i>PLAC8B</i>	468.27	-0.756	0.263	-2.867	0.0041	Down	No	No
ENSBTAG00000031752	<i>TMEM256</i>	1218.975	-0.827	0.383	-2.158	0.031	Down	No	No
ENSBTAG00000032031	<i>ZBTB12</i>	52.902	-0.668	0.284	-2.355	0.0185	Down	Yes	No
ENSBTAG00000032558	<i>TTC7A</i>	353.222	0.734	0.227	3.229	0.0012	Up	No	No
ENSBTAG00000032598	<i>RP9</i>	123.607	-0.812	0.34	-2.386	0.0171	Down	No	No
ENSBTAG00000032642	<i>GSTA3</i>	76.168	2.258	1.145	1.972	0.0486	Up	No	No

ENSBTAG00000032705	<i>CALM</i>	10.996	-1.07	0.49	-2.185	0.0289	Down	No	No
ENSBTAG00000032774	<i>ADIRF</i>	61.812	-1.033	0.429	-2.408	0.016	Down	No	No
ENSBTAG00000032905	<i>RMDN2</i>	328.119	-0.586	0.236	-2.483	0.013	Down	No	No
ENSBTAG00000034154	<i>AGMO</i>	426.6	0.759	0.201	3.769	0.0002	Up	No	No
ENSBTAG00000034206	<i>EMCN</i>	79.932	-0.869	0.354	-2.456	0.0141	Down	No	No
ENSBTAG00000034255	<i>EIF5B</i>	2126.405	-0.757	0.33	-2.296	0.0217	Down	No	No
ENSBTAG00000035587	<i>ARRB2</i>	458.003	-0.749	0.272	-2.752	0.0059	Down	No	No
ENSBTAG00000036101	<i>KYAT1</i>	107.281	1.095	0.537	2.041	0.0413	Up	No	No
ENSBTAG00000036260	<i>LPXN</i>	41.428	-0.805	0.347	-2.317	0.0205	Down	No	No
ENSBTAG00000037765	<i>TNFAIP8L1</i>	209.296	-0.624	0.275	-2.273	0.0231	Down	No	No
ENSBTAG00000037811	<i>ENSBTAG00000037811</i>	96.029	-1.371	0.414	-3.314	0.0009	Down	No	No
ENSBTAG00000038011	<i>SH3RF3</i>	43.35	-0.772	0.352	-2.195	0.0281	Down	No	No
ENSBTAG00000038139	<i>CERCAM</i>	27.843	-1.377	0.664	-2.075	0.038	Down	No	No
ENSBTAG00000038221	<i>EFNA2</i>	14.354	-1.589	0.764	-2.081	0.0374	Down	No	No
ENSBTAG00000038337	<i>ENSBTAG00000038337</i>	22.86	-2.676	0.918	-2.915	0.0036	Down	No	No
ENSBTAG00000038422	<i>ENSBTAG00000038422</i>	30.328	-1.055	0.483	-2.186	0.0288	Down	No	No
ENSBTAG00000038488	<i>TMSB4X</i>	4800.985	-0.594	0.256	-2.318	0.0204	Down	No	No
ENSBTAG00000038496	<i>CR2</i>	40.393	-1.996	0.742	-2.689	0.0072	Down	No	No
ENSBTAG00000038617	<i>SH3D21</i>	452.539	-0.517	0.262	-1.973	0.0485	Down	No	No
ENSBTAG00000038652	<i>ENSBTAG00000038652</i>	439.546	-0.586	0.265	-2.213	0.0269	Down	No	No
ENSBTAG00000038929	<i>BCAS4</i>	69.155	-0.732	0.374	-1.96	0.0499	Down	No	No
ENSBTAG00000039071	<i>ANKRD16</i>	124.97	-0.519	0.234	-2.217	0.0267	Down	No	No
ENSBTAG00000039504	<i>ENSBTAG00000039504</i>	18.547	-1.578	0.719	-2.194	0.0282	Down	No	No
ENSBTAG00000039531	<i>LCN12</i>	17.788	1.545	0.693	2.228	0.0259	Up	No	No
ENSBTAG00000039662	<i>ENSBTAG00000039662</i>	238.844	0.501	0.237	2.111	0.0348	Up	No	No

ENSBTAG00000039684	<i>CAVIN1</i>	1374.658	-0.62	0.266	-2.334	0.0196	Down	No	No
ENSBTAG00000039962	<i>DCTPP1</i>	135.686	-0.625	0.271	-2.308	0.021	Down	No	No
ENSBTAG00000040056	<i>LTB4R2</i>	30.508	1.073	0.545	1.966	0.0492	Up	No	No
ENSBTAG00000040132	<i>PWWP3B</i>	231.345	0.619	0.298	2.077	0.0378	Up	No	No
ENSBTAG00000040298	<i>GSTT1</i>	389.627	-0.697	0.325	-2.142	0.0322	Down	No	No
ENSBTAG00000040432	<i>CLDN3</i>	149.621	-1.007	0.401	-2.51	0.0121	Down	No	No
ENSBTAG00000040603	<i>ZNF175</i>	66.47	1.095	0.417	2.628	0.0086	Up	Yes	No
ENSBTAG00000042741	<i>SNORD104</i>	26.469	-1.487	0.747	-1.989	0.0467	Down	No	No
ENSBTAG00000043545	<i>ENSBTAG00000043545</i>	351.532	-2.206	0.765	-2.885	0.0039	Down	No	No
ENSBTAG00000043546	<i>ND6</i>	1372.222	-1.135	0.42	-2.701	0.0069	Down	No	No
ENSBTAG00000043550	<i>CYTB</i>	64742.001	-1.506	0.71	-2.12	0.034	Down	No	No
ENSBTAG00000043556	<i>COX2</i>	81841.046	-1.655	0.793	-2.087	0.0369	Down	No	No
ENSBTAG00000043558	<i>ND1</i>	39637.691	-1.588	0.703	-2.258	0.0239	Down	No	No
ENSBTAG00000043559	<i>ND4L</i>	1478.107	-1.618	0.727	-2.225	0.0261	Down	No	No
ENSBTAG00000043560	<i>COX3</i>	106293.261	-1.671	0.755	-2.214	0.0268	Down	No	No
ENSBTAG00000043561	<i>COX1</i>	470732.096	-1.589	0.778	-2.042	0.0411	Down	No	No
ENSBTAG00000043563	<i>ND5</i>	22739.535	-1.573	0.664	-2.369	0.0178	Down	No	No
ENSBTAG00000043564	<i>ATP8</i>	42.49	-1.475	0.617	-2.391	0.0168	Down	No	No
ENSBTAG00000043567	<i>ENSBTAG00000043567</i>	4474.316	-1.352	0.479	-2.822	0.0048	Down	No	No
ENSBTAG00000043568	<i>ND3</i>	19500.964	-1.729	0.692	-2.5	0.0124	Down	No	No
ENSBTAG00000043570	<i>ENSBTAG00000043570</i>	7248.546	-1.345	0.444	-3.03	0.0024	Down	No	No
ENSBTAG00000043571	<i>ND2</i>	22084.438	-1.477	0.618	-2.389	0.0169	Down	No	No
ENSBTAG00000043572	<i>ENSBTAG00000043572</i>	56.088	-1.714	0.566	-3.028	0.0025	Down	No	No
ENSBTAG00000043577	<i>ND4</i>	44160.907	-1.58	0.749	-2.108	0.035	Down	No	No
ENSBTAG00000043582	<i>ENSBTAG00000043582</i>	37.365	-2.446	0.762	-3.211	0.0013	Down	No	No

ENSBTAG00000043974	<i>ENSBTAG00000043974</i>	454.582	-0.605	0.29	-2.085	0.0371	Down	Yes	No
ENSBTAG00000044007	<i>KLF12</i>	25.424	1.061	0.52	2.043	0.0411	Up	Yes	No
ENSBTAG00000044018	<i>PRR36</i>	19.576	-1.592	0.542	-2.938	0.0033	Down	No	No
ENSBTAG00000044132	<i>NTN5</i>	83.874	-1.746	0.813	-2.147	0.0318	Down	No	No
ENSBTAG00000044427	<i>RNaseP_nuc</i>	88.133	-2.467	1.072	-2.302	0.0213	Down	No	No
ENSBTAG00000045754	<i>SMIM1</i>	279.145	-0.729	0.243	-3.001	0.0027	Down	No	No
ENSBTAG00000045895	<i>NFASC</i>	155.412	0.841	0.391	2.151	0.0315	Up	No	No
ENSBTAG00000045901	<i>CLDN6</i>	20.833	-1.855	0.77	-2.411	0.0159	Down	No	No
ENSBTAG00000045904	<i>PIM3</i>	1005.213	-0.705	0.33	-2.138	0.0325	Down	No	No
ENSBTAG00000046110	<i>CLCF1</i>	31.792	-1.183	0.586	-2.018	0.0436	Down	No	No
ENSBTAG00000046193	<i>ENSBTAG00000046193</i>	27.979	1.272	0.539	2.359	0.0183	Up	No	No
ENSBTAG00000046256	<i>TMEM132C</i>	45.402	-1.592	0.551	-2.891	0.0038	Down	No	No
ENSBTAG00000046266	<i>TNFSF9</i>	38.729	-1.793	0.741	-2.418	0.0156	Down	No	No
ENSBTAG00000046470	<i>ONECUT1</i>	218.81	1.052	0.477	2.207	0.0273	Up	Yes	No
ENSBTAG00000046574	<i>FRMPD1</i>	13.878	1.332	0.655	2.034	0.0419	Up	No	No
ENSBTAG00000046587	<i>CST6</i>	815.496	-0.752	0.318	-2.366	0.018	Down	No	No
ENSBTAG00000046837	<i>ZNF358</i>	986.372	-0.724	0.292	-2.477	0.0132	Down	Yes	No
ENSBTAG00000046922	<i>TWIST1</i>	17.471	-2.22	0.735	-3.02	0.0025	Down	Yes	No
ENSBTAG00000047004	<i>UMAD1</i>	39.413	1.379	0.684	2.017	0.0437	Up	No	No
ENSBTAG00000047299	<i>DGCR6L</i>	1248.742	-0.848	0.348	-2.436	0.0149	Down	No	No
ENSBTAG00000047330	<i>FABP5</i>	136.4	-0.879	0.315	-2.791	0.0052	Down	No	No
ENSBTAG00000047420	<i>BTNL9</i>	43.103	-1.629	0.7	-2.326	0.02	Down	No	No
ENSBTAG00000047524	<i>TMEM200B</i>	112.455	-0.85	0.341	-2.493	0.0127	Down	No	No
ENSBTAG00000047543	<i>NTRK3</i>	26.515	-1.647	0.612	-2.69	0.0071	Down	No	No
ENSBTAG00000047550	<i>KIAA2026</i>	213.361	0.779	0.235	3.312	0.0009	Up	No	No

ENSBTAG00000047567	<i>VEGFB</i>	190.955	-0.846	0.318	-2.661	0.0078	Down	No	No
ENSBTAG00000047673	<i>THUMPD1</i>	66.53	0.705	0.343	2.054	0.04	Up	No	No
ENSBTAG00000047700	<i>ENSBTAG00000047700</i>	49.258	-1.723	0.872	-1.976	0.0481	Down	No	No
ENSBTAG00000047702	<i>NAA10</i>	1009.421	-0.702	0.279	-2.51	0.0121	Down	No	No
ENSBTAG00000047715	<i>TPRN</i>	231.295	-0.51	0.234	-2.184	0.029	Down	No	No
ENSBTAG00000047807	<i>SAPCD2</i>	24.533	-1.461	0.66	-2.211	0.027	Down	No	No
ENSBTAG00000047975	<i>DOK5</i>	32.85	1.106	0.518	2.133	0.0329	Up	No	No
ENSBTAG00000048010	<i>NUDT14</i>	186.028	-0.845	0.354	-2.384	0.0171	Down	No	No
ENSBTAG00000048041	<i>ACTR1B</i>	366.364	-0.526	0.165	-3.19	0.0014	Down	No	No
ENSBTAG00000048049	<i>ENSBTAG00000048049</i>	13.614	1.729	0.723	2.39	0.0168	Up	No	No
ENSBTAG00000048059	<i>TMEM86A</i>	636.283	-0.673	0.269	-2.498	0.0125	Down	No	No
ENSBTAG00000048122	<i>CFD</i>	1359.264	-1.228	0.395	-3.106	0.0019	Down	No	No
ENSBTAG00000048155	<i>FCN1</i>	173.044	-0.832	0.352	-2.365	0.018	Down	No	No
ENSBTAG00000048173	<i>SMIM10</i>	246.629	-1.157	0.534	-2.166	0.0303	Down	No	No
ENSBTAG00000048367	<i>ENSBTAG00000048367</i>	258.383	1.062	0.477	2.226	0.026	Up	No	No
ENSBTAG00000048413	<i>ENSBTAG00000048413</i>	40.03	0.709	0.251	2.82	0.0048	Up	No	No
ENSBTAG00000048459	<i>ENSBTAG00000048459</i>	994.352	-0.633	0.269	-2.349	0.0188	Down	Yes	No
ENSBTAG00000048620	<i>CEBPZOS</i>	200.452	-0.627	0.314	-1.999	0.0456	Down	No	No
ENSBTAG00000049127	<i>ENSBTAG00000049127</i>	31.94	0.822	0.405	2.029	0.0425	Up	Yes	No
ENSBTAG00000049411	<i>DHRX</i>	114.661	0.711	0.346	2.053	0.0401	Up	No	No
ENSBTAG00000049665	<i>B3GNT9</i>	133.686	-0.826	0.312	-2.644	0.0082	Down	No	No
ENSBTAG00000049730	<i>TCEAL1</i>	233.022	0.736	0.285	2.577	0.01	Up	No	No
ENSBTAG00000049772	<i>ENSBTAG00000049772</i>	60.744	0.549	0.275	1.994	0.0461	Up	No	No
ENSBTAG00000049782	<i>ENSBTAG00000049782</i>	16.503	-2.155	0.799	-2.697	0.007	Down	No	No
ENSBTAG00000050008	<i>ENSBTAG00000050008</i>	34.556	-1.352	0.686	-1.971	0.0488	Down	No	No

ENSBTAG00000050233	<i>PRRG1</i>	727.478	0.719	0.294	2.443	0.0146	Up	No	No
ENSBTAG00000050387	<i>ENSBTAG00000050387</i>	165.516	-0.686	0.296	-2.318	0.0205	Down	No	No
ENSBTAG00000050388	<i>KRBA2</i>	59.989	0.799	0.303	2.639	0.0083	Up	No	No
ENSBTAG00000050853	<i>ENSBTAG00000050853</i>	90.783	0.753	0.357	2.111	0.0348	Up	No	No
ENSBTAG00000050907	<i>RPP21</i>	416.658	-1.031	0.481	-2.143	0.0321	Down	No	No
ENSBTAG00000051146	<i>MED31</i>	388.13	0.586	0.227	2.576	0.01	Up	No	No
ENSBTAG00000051150	<i>ENSBTAG00000051150</i>	542.796	-0.562	0.286	-1.966	0.0493	Down	No	No
ENSBTAG00000051348	<i>ENSBTAG00000051348</i>	29.014	1.042	0.483	2.159	0.0309	Up	No	No
ENSBTAG00000051364	<i>ENSBTAG00000051364</i>	11891.745	-1.274	0.434	-2.936	0.0033	Down	No	No
ENSBTAG00000051519	<i>ENSBTAG00000051519</i>	102.845	1.748	0.671	2.604	0.0092	Up	No	No
ENSBTAG00000051573	<i>ENSBTAG00000051573</i>	23.117	-1.521	0.739	-2.057	0.0397	Down	No	No
ENSBTAG00000051588	<i>ENSBTAG00000051588</i>	119.122	-1.464	0.652	-2.246	0.0247	Down	No	No
ENSBTAG00000051698	<i>ENSBTAG00000051698</i>	87.09	2.556	1.151	2.222	0.0263	Up	No	No
ENSBTAG00000051801	<i>ENSBTAG00000051801</i>	51.662	-1.298	0.536	-2.419	0.0156	Down	No	No
ENSBTAG00000051936	<i>NMNAT3</i>	36.375	1.133	0.542	2.091	0.0365	Up	No	No
ENSBTAG00000052481	<i>IRGQ</i>	212.669	0.591	0.212	2.795	0.0052	Up	No	No
ENSBTAG00000052750	<i>ENSBTAG00000052750</i>	35.526	-1.498	0.662	-2.265	0.0235	Down	No	No
ENSBTAG00000052917	<i>ENSBTAG00000052917</i>	28.659	-1.267	0.61	-2.076	0.0379	Down	No	No
ENSBTAG00000053003	<i>GPX4</i>	4849.875	-0.709	0.335	-2.117	0.0343	Down	No	No
ENSBTAG00000053282	<i>MGC152010</i>	54.423	-1.759	0.454	-3.876	0.0001	Down	No	No
ENSBTAG00000053557	<i>DEFB4A</i>	17.918	-1.896	0.81	-2.34	0.0193	Down	No	No
ENSBTAG00000053909	<i>NAT9</i>	188.296	-0.807	0.386	-2.091	0.0365	Down	No	No
ENSBTAG00000053911	<i>ENSBTAG00000053911</i>	133.791	-0.881	0.387	-2.278	0.0227	Down	No	No
ENSBTAG00000053923	<i>EXOSC6</i>	504.802	-0.585	0.27	-2.172	0.0298	Down	No	No
ENSBTAG00000054131	<i>TWF2</i>	469.437	-0.591	0.219	-2.698	0.007	Down	No	No

ENSBTAG00000054257	<i>bta-mir-2887-1</i>	43.52	-1.808	0.599	-3.016	0.0026	Down	No	No
ENSBTAG00000054314	<i>ENSBTAG00000054314</i>	80.152	1.249	0.502	2.485	0.0129	Up	No	No
ENSBTAG00000054331	<i>COLEC10</i>	200.538	0.842	0.309	2.729	0.0064	Up	No	No
ENSBTAG00000054494	<i>ENSBTAG00000054494</i>	15.41	1.678	0.816	2.055	0.0398	Up	No	No
ENSBTAG00000054661	<i>bta-mir-2887-1</i>	42371.195	-1.402	0.452	-3.101	0.0019	Down	No	No
ENSBTAG00000054745	<i>ENSBTAG00000054745</i>	6320.354	-0.867	0.352	-2.462	0.0138	Down	No	No
ENSBTAG00000054751	<i>ENSBTAG00000054751</i>	22.907	1.194	0.589	2.028	0.0425	Up	No	No
ENSBTAG00000055302	<i>ENSBTAG00000055302</i>	22.783	-1.985	0.647	-3.07	0.0021	Down	No	No

Appendix 3.4. Transcription factors identified as putative regulators of differentially expressed genes in the liver tissue of neonatal beef heifers born from dams receiving or not receiving vitamin–mineral supplementation (VTM or CON) during gestation by Regulatory Impact Factor measures (RIF1 and RIF2).

Ensembl_ID	Gene.Name	Family	RIF1	RIF2
ENSBTAG000000052347	<i>ZNF133</i>	<i>zf-C2H2</i>	3.979	1.140
ENSBTAG000000004518	<i>GRHL2</i>	<i>CP2</i>	3.615	1.202
ENSBTAG000000008520	<i>NFIC</i>	<i>CTF NFI</i>	3.299	1.079
ENSBTAG000000052132	<i>FOXQ1</i>	<i>Fork_head</i>	3.150	1.181
ENSBTAG000000007678	<i>MKX</i>	<i>Homeobox</i>	3.095	0.643
ENSBTAG000000049610	<i>ZNF234</i>	<i>zf-C2H2</i>	2.986	0.814
ENSBTAG000000020185	<i>ENSBTAG000000020185</i>	<i>zf-C2H2</i>	2.923	1.113
ENSBTAG000000037457	<i>MBD2</i>	<i>MBD</i>	2.908	0.685
ENSBTAG000000045791	<i>ZNF623</i>	<i>zf-C2H2</i>	2.841	0.961
ENSBTAG000000026772	<i>ZNF142</i>	<i>zf-C2H2</i>	2.832	0.657
ENSBTAG000000008397	<i>ZNF555</i>	<i>zf-C2H2</i>	2.824	1.315
ENSBTAG000000039343	<i>ZBTB34</i>	<i>ZBTB</i>	2.763	0.956
ENSBTAG000000021008	<i>ZNF219</i>	<i>zf-C2H2</i>	2.754	0.603
ENSBTAG000000004262	<i>ZNF454</i>	<i>zf-C2H2</i>	2.745	0.531
ENSBTAG000000031071	<i>ZNF624</i>	<i>zf-C2H2</i>	2.695	0.875
ENSBTAG000000007660	<i>ZNF414</i>	<i>Others</i>	2.655	1.398
ENSBTAG000000024657	<i>ZFP91</i>	<i>zf-C2H2</i>	2.619	0.311
ENSBTAG000000005474	<i>CREB1</i>	<i>TF bZIP</i>	2.565	0.603
ENSBTAG000000016103	<i>CBFB</i>	<i>CBF</i>	2.550	1.125
ENSBTAG000000012063	<i>E2F4</i>	<i>E2F</i>	2.537	0.709
ENSBTAG000000039711	<i>ZFP62</i>	<i>zf-C2H2</i>	2.518	0.228

ENSBTAG00000003606	<i>GLI4</i>	<i>zf-C2H2</i>	2.482	1.369
ENSBTAG000000040209	<i>ZNF112</i>	<i>zf-C2H2</i>	2.472	0.660
ENSBTAG000000016496	<i>ZNF641</i>	<i>zf-C2H2</i>	2.463	0.593
ENSBTAG000000004710	<i>HNF1B</i>	<i>Homeobox</i>	2.424	0.519
ENSBTAG000000049014	<i>ZNF696</i>	<i>zf-C2H2</i>	2.408	0.831
ENSBTAG000000023847	<i>IKZF5</i>	<i>zf-C2H2</i>	2.389	1.421
ENSBTAG000000032657	<i>TEAD1</i>	<i>TEA</i>	2.384	1.134
ENSBTAG000000018456	<i>ZNF7</i>	<i>zf-C2H2</i>	2.378	1.059
ENSBTAG000000006017	<i>NFKB2</i>	<i>RHD</i>	2.355	0.814
ENSBTAG000000037913	<i>ZNF22</i>	<i>zf-C2H2</i>	2.341	1.050
ENSBTAG000000045824	<i>SOX9</i>	<i>HMG</i>	2.337	0.817
ENSBTAG000000015752	<i>SP110</i>	<i>SAND</i>	2.336	0.061
ENSBTAG000000005067	<i>UBTF</i>	<i>HMG</i>	2.311	1.078
ENSBTAG000000018094	<i>ZNF689</i>	<i>zf-C2H2</i>	2.285	0.839
ENSBTAG000000005195	<i>ZNF200</i>	<i>zf-C2H2</i>	2.280	0.116
ENSBTAG000000015308	<i>SMARCE1</i>	<i>HMG</i>	2.258	1.342
ENSBTAG000000020053	<i>ZEB1</i>	<i>zf-C2H2</i>	2.254	0.309
ENSBTAG000000046984	<i>ZNF672</i>	<i>zf-C2H2</i>	2.246	0.825
ENSBTAG000000011162	<i>ZKSCAN2</i>	<i>zf-C2H2</i>	2.205	1.072
ENSBTAG000000003465	<i>ZNF329</i>	<i>zf-C2H2</i>	2.162	0.152
ENSBTAG000000014705	<i>HES4</i>	<i>bHLH</i>	2.135	-0.070
ENSBTAG000000032686	<i>HOMEZ</i>	<i>Homeobox</i>	2.134	0.300
ENSBTAG000000017123	<i>ZNF354B</i>	<i>zf-C2H2</i>	2.127	1.375
ENSBTAG000000010252	<i>ZNF397</i>	<i>zf-C2H2</i>	2.110	-0.168
ENSBTAG000000047508	<i>ZNF580</i>	<i>zf-C2H2</i>	2.079	1.221

ENSBTAG00000017306	<i>AKNA</i>	<i>Others</i>	2.066	0.665
ENSBTAG00000007329	<i>SETDB2</i>	<i>MBD</i>	2.064	0.424
ENSBTAG000000038055	<i>KLF16</i>	<i>zf-C2H2</i>	2.051	0.462
ENSBTAG000000051258	<i>ZNF500</i>	<i>zf-C2H2</i>	2.041	1.187
ENSBTAG000000019208	<i>ZFTA</i>	<i>zf-BED</i>	2.038	0.701
ENSBTAG000000014211	<i>FOXP4</i>	<i>Fork_head</i>	2.032	1.412
ENSBTAG000000013346	<i>SIX5</i>	<i>Homeobox</i>	2.018	0.274
ENSBTAG000000009961	<i>E4F1</i>	<i>zf-C2H2</i>	2.014	1.291
ENSBTAG000000023885	<i>ZNF79</i>	<i>zf-C2H2</i>	1.990	1.211
ENSBTAG000000012274	<i>CIZ1</i>	<i>Others</i>	1.186	2.106
ENSBTAG000000020751	<i>HSF1</i>	<i>HSF</i>	0.764	2.009
ENSBTAG000000047606	<i>MTA1</i>	<i>zf-GATA</i>	-0.061	1.962

Appendix 3.5. Differentially connected genes in the liver tissue of neonatal beef heifers born from dams receiving or not receiving vitamin–mineral supplementation (VTM or CON) during gestation.

Gene	K_CON	K_CON norm	K_VTM	K_VTM norm	DK	zscore	status	Gene.Name
ENSBTAG00000026819	117	0.111	838	0.987	0.876	9.996	Gain	<i>HDAC7</i>
ENSBTAG00000025424	134	0.127	847	0.998	0.871	9.934	Gain	<i>NOTCH4</i>
ENSBTAG00000001694	90	0.085	809	0.953	0.868	9.899	Gain	<i>TYRO3</i>
ENSBTAG00000008909	86	0.082	780	0.919	0.837	9.556	Gain	<i>PNPT1</i>
ENSBTAG00000024091	105	0.1	786	0.926	0.826	9.432	Gain	<i>MALL</i>
ENSBTAG00000011447	96	0.091	753	0.887	0.796	9.089	Gain	<i>FAM171A2</i>
ENSBTAG00000004322	40	0.038	687	0.809	0.771	8.811	Gain	<i>FOS</i>
ENSBTAG00000008283	111	0.105	744	0.876	0.771	8.809	Gain	<i>FLI1</i>
ENSBTAG000000046256	103	0.098	734	0.865	0.767	8.762	Gain	<i>TMEM132C</i>
ENSBTAG00000006367	206	0.195	780	0.919	0.723	8.27	Gain	<i>CCN2</i>
ENSBTAG00000006528	100	0.095	686	0.808	0.713	8.155	Gain	<i>BBS9</i>
ENSBTAG00000013909	133	0.126	706	0.832	0.706	8.067	Gain	<i>BOC</i>
ENSBTAG000000044018	110	0.104	686	0.808	0.704	8.048	Gain	<i>NA</i>
ENSBTAG00000005195	246	0.233	787	0.927	0.694	7.935	Gain	<i>ZNF200</i>
ENSBTAG000000051936	148	0.14	693	0.816	0.676	7.734	Gain	<i>NMNAT3</i>
ENSBTAG00000005404	114	0.108	655	0.771	0.663	7.592	Gain	<i>MSC</i>
ENSBTAG00000010343	89	0.084	633	0.746	0.661	7.567	Gain	<i>C1QTNF7</i>
ENSBTAG00000004356	51	0.048	599	0.706	0.657	7.521	Gain	<i>ROBO4</i>
ENSBTAG000000046574	52	0.049	596	0.702	0.653	7.471	Gain	<i>FRMPD1</i>
ENSBTAG00000025752	85	0.081	621	0.731	0.651	7.45	Gain	<i>P3H4</i>
ENSBTAG00000008430	69	0.065	608	0.716	0.651	7.448	Gain	<i>RANBP3L</i>
ENSBTAG00000015794	130	0.123	639	0.753	0.629	7.208	Gain	<i>NES</i>
ENSBTAG00000009428	134	0.127	642	0.756	0.629	7.205	Gain	<i>GAN</i>
ENSBTAG00000010252	209	0.198	695	0.819	0.621	7.107	Gain	<i>ZNF397</i>
ENSBTAG00000039711	242	0.229	716	0.843	0.614	7.033	Gain	<i>ZFP62</i>
ENSBTAG00000020177	223	0.211	699	0.823	0.612	7.01	Gain	<i>MYG1</i>
ENSBTAG000000047330	82	0.078	582	0.686	0.608	6.963	Gain	<i>FABP5</i>
ENSBTAG00000017365	102	0.097	594	0.7	0.603	6.909	Gain	<i>ZBTB47</i>
ENSBTAG00000008294	357	0.338	793	0.934	0.596	6.826	Gain	<i>KCNJ2</i>
ENSBTAG00000010050	70	0.066	559	0.658	0.592	6.785	Gain	<i>COL16A1</i>
ENSBTAG000000045901	200	0.19	656	0.773	0.583	6.684	Gain	<i>CLDN6</i>
ENSBTAG000000046110	415	0.393	826	0.973	0.58	6.644	Gain	<i>CLCF1</i>
ENSBTAG00000013412	250	0.237	692	0.815	0.578	6.628	Gain	<i>NFAT5</i>
ENSBTAG00000002326	111	0.105	580	0.683	0.578	6.626	Gain	<i>LGALS3</i>

ENSBTAG00000006143	65	0.062	540	0.636	0.574	6.586	Gain	<i>CREB3L1</i>
ENSBTAG00000001163	189	0.179	638	0.751	0.572	6.562	Gain	<i>MACROH2A2</i>
ENSBTAG00000019844	358	0.339	758	0.893	0.553	6.349	Gain	<i>ZNF467</i>
ENSBTAG00000016520	189	0.179	605	0.713	0.533	6.123	Gain	<i>ENSBTAG000000016520</i>
ENSBTAG00000019651	48	0.045	488	0.575	0.529	6.076	Gain	<i>TRIM52</i>
ENSBTAG00000009656	114	0.108	536	0.631	0.523	6.008	Gain	<i>NA</i>
ENSBTAG000000054314	68	0.064	491	0.578	0.514	5.902	Gain	<i>NA</i>
ENSBTAG000000038055	269	0.255	652	0.768	0.513	5.892	Gain	<i>KLF16</i>
ENSBTAG00000008074	139	0.132	538	0.634	0.502	5.767	Gain	<i>CIQTNF6</i>
ENSBTAG00000012004	106	0.1	507	0.597	0.497	5.708	Gain	<i>TGFB3</i>
ENSBTAG00000020199	85	0.081	477	0.562	0.481	5.533	Gain	<i>F2R</i>
ENSBTAG00000002846	279	0.264	631	0.743	0.479	5.505	Gain	<i>TRAF3IP3</i>
ENSBTAG00000006954	144	0.136	513	0.604	0.468	5.38	Gain	<i>NA</i>
ENSBTAG00000003598	62	0.059	445	0.524	0.465	5.354	Gain	<i>P3H3</i>
ENSBTAG000000051348	174	0.165	532	0.627	0.462	5.312	Gain	<i>NA</i>
ENSBTAG000000032686	360	0.341	676	0.796	0.455	5.236	Gain	<i>HOMEZ</i>
ENSBTAG000000009430	334	0.317	654	0.77	0.454	5.222	Gain	<i>MYRIP</i>
ENSBTAG000000007329	491	0.465	780	0.919	0.453	5.217	Gain	<i>SETDB2</i>
ENSBTAG000000040209	580	0.55	849	1	0.45	5.182	Gain	<i>ZNF112</i>
ENSBTAG000000038139	214	0.203	554	0.653	0.45	5.176	Gain	<i>CERCAM</i>
ENSBTAG000000016496	463	0.439	751	0.885	0.446	5.131	Gain	<i>ZNF641</i>
ENSBTAG000000019208	533	0.505	804	0.947	0.442	5.087	Gain	<i>ZFTA</i>
ENSBTAG000000013244	537	0.509	807	0.951	0.442	5.084	Gain	<i>HDAC6</i>
ENSBTAG000000006918	372	0.353	668	0.787	0.434	5.001	Gain	<i>TLK1</i>
ENSBTAG000000045824	556	0.527	816	0.961	0.434	5	Gain	<i>SOX9</i>
ENSBTAG000000024081	366	0.347	661	0.779	0.432	4.972	Gain	<i>ECM2</i>
ENSBTAG000000001173	60	0.057	409	0.482	0.425	4.896	Gain	<i>PLXNA2</i>
ENSBTAG000000049730	86	0.082	425	0.501	0.419	4.83	Gain	<i>TCEAL1</i>
ENSBTAG000000012684	458	0.434	717	0.845	0.41	4.732	Gain	<i>CCL19</i>
ENSBTAG000000046193	185	0.175	495	0.583	0.408	4.701	Gain	<i>NA</i>
ENSBTAG000000021658	176	0.167	485	0.571	0.404	4.665	Gain	<i>TAMALIN</i>
ENSBTAG000000049610	553	0.524	788	0.928	0.404	4.66	Gain	<i>ENSBTAG000000049610</i>
ENSBTAG000000051588	107	0.101	425	0.501	0.399	4.605	Gain	<i>NA</i>
ENSBTAG000000040603	338	0.32	604	0.711	0.391	4.513	Gain	<i>ZNF175</i>
ENSBTAG000000009554	384	0.364	638	0.751	0.387	4.473	Gain	<i>EHBP1L1</i>
ENSBTAG000000019674	102	0.097	408	0.481	0.384	4.432	Gain	<i>CLIP3</i>
ENSBTAG000000009737	173	0.164	465	0.548	0.384	4.431	Gain	<i>LTC4S</i>

ENSBTAG00000012063	503	0.477	730	0.86	0.383	4.423	Gain	<i>E2F4</i>
ENSBTAG00000018094	604	0.573	807	0.951	0.378	4.366	Gain	<i>ZNF689</i>
ENSBTAG00000027577	204	0.193	478	0.563	0.37	4.272	Gain	<i>C15H11orf91</i>
ENSBTAG00000018077	277	0.263	534	0.629	0.366	4.235	Gain	<i>LYPD3</i>
ENSBTAG00000005305	155	0.147	435	0.512	0.365	4.224	Gain	<i>NTS</i>
ENSBTAG00000008688	67	0.064	364	0.429	0.365	4.222	Gain	<i>HEYL</i>
ENSBTAG00000016826	118	0.112	405	0.477	0.365	4.221	Gain	<i>GPR176</i>
ENSBTAG00000032774	153	0.145	430	0.506	0.361	4.179	Gain	<i>ADIRF</i>
ENSBTAG00000015752	438	0.415	659	0.776	0.361	4.174	Gain	<i>SP110</i>
ENSBTAG00000013132	524	0.497	728	0.857	0.361	4.172	Gain	<i>MTX3</i>
ENSBTAG00000014705	387	0.367	614	0.723	0.356	4.122	Gain	<i>HES4</i>
ENSBTAG00000011851	128	0.121	405	0.477	0.356	4.114	Gain	<i>FYN</i>
ENSBTAG00000019327	302	0.286	545	0.642	0.356	4.114	Gain	<i>NRAP</i>
ENSBTAG00000014354	431	0.409	648	0.763	0.355	4.103	Gain	<i>FXVD6</i>
ENSBTAG00000005474	527	0.5	724	0.853	0.353	4.086	Gain	<i>CREB1</i>
ENSBTAG00000026919	113	0.107	389	0.458	0.351	4.062	Gain	<i>PXDC1</i>
ENSBTAG00000000672	163	0.155	429	0.505	0.351	4.059	Gain	<i>OTULINL</i>
ENSBTAG00000049014	636	0.603	804	0.947	0.344	3.983	Gain	<i>ENSBTAG00000049014</i>
ENSBTAG00000011338	126	0.119	390	0.459	0.34	3.936	Gain	<i>NREP</i>
ENSBTAG00000017393	217	0.206	463	0.545	0.34	3.933	Gain	<i>L3MBTL3</i>
ENSBTAG00000021107	378	0.358	588	0.693	0.334	3.872	Gain	<i>STXBP5</i>
ENSBTAG00000037457	511	0.484	692	0.815	0.331	3.832	Gain	<i>MBD2</i>
ENSBTAG00000005039	90	0.085	343	0.404	0.319	3.696	Gain	<i>ARAF</i>
ENSBTAG00000015537	192	0.182	424	0.499	0.317	3.681	Gain	<i>RASAL2</i>
ENSBTAG00000010943	126	0.119	367	0.432	0.313	3.63	Gain	<i>SLC22A23</i>
ENSBTAG00000003707	209	0.198	430	0.506	0.308	3.579	Gain	<i>GRAP</i>
ENSBTAG00000039531	288	0.273	493	0.581	0.308	3.571	Gain	<i>LCN12</i>
ENSBTAG00000003191	108	0.102	345	0.406	0.304	3.53	Gain	<i>FSCN1</i>
ENSBTAG00000036101	119	0.113	350	0.412	0.299	3.478	Gain	<i>KYAT1</i>
ENSBTAG00000010442	446	0.423	613	0.722	0.299	3.476	Gain	<i>PANK1</i>
ENSBTAG00000013242	265	0.251	467	0.55	0.299	3.472	Gain	<i>MYMK</i>
ENSBTAG00000005685	35	0.033	277	0.326	0.293	3.406	Gain	<i>HSD11B2</i>
ENSBTAG00000003465	250	0.237	449	0.529	0.292	3.393	Gain	<i>ZNF329</i>
ENSBTAG00000054494	414	0.392	576	0.678	0.286	3.327	Gain	<i>NA</i>
ENSBTAG00000013346	392	0.372	556	0.655	0.283	3.296	Gain	<i>SIX5</i>
ENSBTAG00000008625	523	0.496	661	0.779	0.283	3.29	Gain	<i>PLEKHF1</i>
ENSBTAG00000002751	75	0.071	299	0.352	0.281	3.271	Gain	<i>NA</i>

ENSBTAG00000047543	300	0.284	480	0.565	0.281	3.27	Gain	<i>NTRK3</i>
ENSBTAG00000038496	69	0.065	289	0.34	0.275	3.202	Gain	<i>CR2</i>
ENSBTAG00000027204	288	0.273	462	0.544	0.271	3.159	Gain	<i>ENSBTAG00000027204</i>
ENSBTAG00000008942	226	0.214	412	0.485	0.271	3.157	Gain	<i>NGEF</i>
ENSBTAG00000002455	470	0.445	607	0.715	0.269	3.139	Gain	<i>KLHL8</i>
ENSBTAG00000014498	192	0.182	371	0.437	0.255	2.976	Gain	<i>UNC93A</i>
ENSBTAG00000005431	93	0.088	291	0.343	0.255	2.971	Gain	<i>LMCD1</i>
ENSBTAG00000001086	591	0.56	691	0.814	0.254	2.961	Gain	<i>FHL2</i>
ENSBTAG00000024044	125	0.118	313	0.369	0.25	2.921	Gain	<i>CDKL4</i>
ENSBTAG00000010464	214	0.203	382	0.45	0.247	2.887	Gain	<i>MN1</i>
ENSBTAG00000014207	429	0.407	555	0.654	0.247	2.886	Gain	<i>ADAMTS10</i>
ENSBTAG00000005556	124	0.118	309	0.364	0.246	2.879	Gain	<i>CYGB</i>
ENSBTAG00000020040	271	0.257	421	0.496	0.239	2.795	Gain	<i>LPCAT4</i>
ENSBTAG00000012855	108	0.102	288	0.339	0.237	2.771	Gain	<i>LPL</i>
ENSBTAG00000017318	89	0.084	267	0.314	0.23	2.695	Gain	<i>TMEM178A</i>
ENSBTAG00000006017	672	0.637	734	0.865	0.228	2.666	Gain	<i>NFKB2</i>
ENSBTAG00000045791	782	0.741	822	0.968	0.227	2.659	Gain	<i>ZNF623</i>
ENSBTAG00000017339	176	0.167	330	0.389	0.222	2.601	Gain	<i>RUNX1T1</i>
ENSBTAG00000047807	68	0.064	242	0.285	0.221	2.587	Gain	<i>SAPCD2</i>
ENSBTAG00000023718	60	0.057	235	0.277	0.22	2.579	Gain	<i>MRAP</i>
ENSBTAG00000012088	151	0.143	306	0.36	0.217	2.55	Gain	<i>FBLN1</i>
ENSBTAG00000015909	483	0.458	573	0.675	0.217	2.547	Gain	<i>PDE8A</i>
ENSBTAG00000002817	170	0.161	320	0.377	0.216	2.533	Gain	<i>SLC46A1</i>
ENSBTAG00000007678	568	0.538	635	0.748	0.21	2.462	Gain	<i>MKX</i>
ENSBTAG00000004262	485	0.46	568	0.669	0.209	2.459	Gain	<i>ZNF454</i>
ENSBTAG00000007312	116	0.11	271	0.319	0.209	2.459	Gain	<i>CD209</i>
ENSBTAG00000044427	136	0.129	287	0.338	0.209	2.458	Gain	<i>RNaseP nuc</i>
ENSBTAG00000005042	104	0.099	261	0.307	0.209	2.454	Gain	<i>SYN1</i>
ENSBTAG00000003152	329	0.312	440	0.518	0.206	2.427	Gain	<i>IFI27</i>
ENSBTAG00000052750	716	0.679	749	0.882	0.204	2.394	Gain	<i>NA</i>
ENSBTAG00000020099	216	0.205	342	0.403	0.198	2.333	Gain	<i>STMN2</i>
ENSBTAG00000009581	142	0.135	280	0.33	0.195	2.3	Gain	<i>UBXN11</i>
ENSBTAG00000001444	161	0.153	295	0.347	0.195	2.296	Gain	<i>TNXB</i>
ENSBTAG00000003039	420	0.398	503	0.592	0.194	2.29	Gain	<i>PSMB8</i>
ENSBTAG00000021048	172	0.163	302	0.356	0.193	2.272	Gain	<i>ADM</i>
ENSBTAG00000005186	279	0.264	388	0.457	0.193	2.27	Gain	<i>DBNDD2</i>
ENSBTAG00000053282	95	0.09	239	0.282	0.191	2.258	Gain	<i>MGC152010</i>

ENSBTAG00000018157	585	0.555	633	0.746	0.191	2.253	Gain	<i>IFT172</i>
ENSBTAG00000011772	62	0.059	211	0.249	0.19	2.239	Gain	<i>PPP1R12B</i>
ENSBTAG00000016526	401	0.38	482	0.568	0.188	2.214	Gain	<i>PIH1D1</i>
ENSBTAG00000020688	191	0.181	312	0.367	0.186	2.201	Gain	<i>ARHGEF15</i>
ENSBTAG00000009704	263	0.249	369	0.435	0.185	2.189	Gain	<i>CECR2</i>
ENSBTAG00000010119	247	0.234	355	0.418	0.184	2.174	Gain	<i>ALDH1A2</i>
ENSBTAG00000051519	58	0.055	201	0.237	0.182	2.148	Gain	<i>NA</i>
ENSBTAG00000009812	106	0.1	239	0.282	0.181	2.14	Gain	<i>CXCL5</i>
ENSBTAG00000039343	678	0.643	697	0.821	0.178	2.109	Gain	<i>ZBTB34</i>
ENSBTAG00000013416	209	0.198	316	0.372	0.174	2.062	Gain	<i>MGC133636</i>
ENSBTAG00000037913	741	0.702	744	0.876	0.174	2.06	Gain	<i>ZNF22</i>
ENSBTAG00000019787	261	0.247	356	0.419	0.172	2.037	Gain	<i>PAFAH1B3</i>
ENSBTAG00000002481	609	0.577	636	0.749	0.172	2.036	Gain	<i>HAGHL</i>
ENSBTAG00000040056	198	0.188	305	0.359	0.172	2.033	Gain	<i>LTB4R2</i>
ENSBTAG00000002340	394	0.373	459	0.541	0.167	1.983	Gain	<i>STEAP4</i>
ENSBTAG00000017223	63	0.06	191	0.225	0.165	1.962	Gain	<i>MEST</i>
ENSBTAG00000019872	524	0.497	267	0.314	-0.182	-1.965	Loss	<i>PIK3API</i>
ENSBTAG00000018285	829	0.786	512	0.603	-0.183	-1.971	Loss	<i>VAMP5</i>
ENSBTAG00000001966	293	0.278	80	0.094	-0.183	-1.98	Loss	<i>PDGFRL</i>
ENSBTAG00000010477	864	0.819	535	0.63	-0.189	-2.04	Loss	<i>TTC21A</i>
ENSBTAG00000003298	358	0.339	126	0.148	-0.191	-2.064	Loss	<i>LZTS2</i>
ENSBTAG00000018456	592	0.561	313	0.369	-0.192	-2.081	Loss	<i>ZNF7</i>
ENSBTAG00000012753	577	0.547	296	0.349	-0.198	-2.147	Loss	<i>BRF1</i>
ENSBTAG00000022275	723	0.685	412	0.485	-0.2	-2.167	Loss	<i>ENSBTAG00000022275</i>
ENSBTAG00000050388	349	0.331	107	0.126	-0.205	-2.22	Loss	<i>KRBA2</i>
ENSBTAG00000013392	589	0.558	300	0.353	-0.205	-2.222	Loss	<i>PLD2</i>
ENSBTAG00000006491	486	0.461	217	0.256	-0.205	-2.224	Loss	<i>AGL</i>
ENSBTAG00000003512	653	0.619	351	0.413	-0.206	-2.229	Loss	<i>MYH7B</i>
ENSBTAG00000015745	314	0.298	78	0.092	-0.206	-2.232	Loss	<i>RAB3IL1</i>
ENSBTAG00000018598	434	0.411	171	0.201	-0.21	-2.279	Loss	<i>HSPB6</i>
ENSBTAG00000014960	275	0.261	43	0.051	-0.21	-2.28	Loss	<i>SCHIP1</i>
ENSBTAG00000013973	519	0.492	239	0.282	-0.21	-2.284	Loss	<i>SERPIND1</i>
ENSBTAG00000018013	618	0.586	317	0.373	-0.212	-2.307	Loss	<i>EMP3</i>
ENSBTAG00000017482	291	0.276	50	0.059	-0.217	-2.358	Loss	<i>ISYNA1</i>
ENSBTAG00000048041	545	0.517	251	0.296	-0.221	-2.403	Loss	<i>ACTR1B</i>
ENSBTAG00000023452	306	0.29	55	0.065	-0.225	-2.452	Loss	<i>B9D2</i>
ENSBTAG00000019368	286	0.271	38	0.045	-0.226	-2.464	Loss	<i>IGFBP7</i>

ENSBTAG00000048367	434	0.411	156	0.184	-0.228	-2.479	Loss	NA
ENSBTAG00000051364	393	0.373	123	0.145	-0.228	-2.479	Loss	NA
ENSBTAG00000050853	469	0.445	184	0.217	-0.228	-2.481	Loss	NA
ENSBTAG00000006187	326	0.309	66	0.078	-0.231	-2.52	Loss	MFAP4
ENSBTAG00000009961	951	0.901	567	0.668	-0.234	-2.546	Loss	E4F1
ENSBTAG00000014204	560	0.531	250	0.294	-0.236	-2.577	Loss	SI00A16
ENSBTAG00000021706	350	0.332	80	0.094	-0.238	-2.591	Loss	TBX3
ENSBTAG00000006069	886	0.84	511	0.602	-0.238	-2.595	Loss	CAPS
ENSBTAG00000022715	508	0.482	204	0.24	-0.241	-2.633	Loss	NA
ENSBTAG00000054661	373	0.354	95	0.112	-0.242	-2.637	Loss	bta-mir-2887-1
ENSBTAG00000004367	335	0.318	64	0.075	-0.242	-2.643	Loss	COQ10A
ENSBTAG00000023843	533	0.505	218	0.257	-0.248	-2.714	Loss	RALGPS1
ENSBTAG00000032558	470	0.445	165	0.194	-0.251	-2.745	Loss	TTC7A
ENSBTAG00000003904	597	0.566	267	0.314	-0.251	-2.747	Loss	GPN1
ENSBTAG00000000813	390	0.37	100	0.118	-0.252	-2.753	Loss	HOMER3
ENSBTAG00000012058	932	0.883	534	0.629	-0.254	-2.782	Loss	GMDS
ENSBTAG00000043567	770	0.73	403	0.475	-0.255	-2.79	Loss	ENSBTAG000000 43567
ENSBTAG00000026772	448	0.425	143	0.168	-0.256	-2.802	Loss	ZNF142
ENSBTAG00000015911	744	0.705	377	0.444	-0.261	-2.858	Loss	RWDD2A
ENSBTAG00000015938	347	0.329	57	0.067	-0.262	-2.865	Loss	ARAP3
ENSBTAG00000020852	659	0.625	306	0.36	-0.264	-2.892	Loss	SLC16A11
ENSBTAG00000000828	562	0.533	227	0.267	-0.265	-2.905	Loss	CAPN6
ENSBTAG00000022571	631	0.598	282	0.332	-0.266	-2.912	Loss	AKR1C3
ENSBTAG00000011952	366	0.347	66	0.078	-0.269	-2.948	Loss	SULT1E1
ENSBTAG00000012796	797	0.755	411	0.484	-0.271	-2.973	Loss	ZNF428
ENSBTAG00000000111	432	0.409	114	0.134	-0.275	-3.016	Loss	UGP2
ENSBTAG00000015308	522	0.495	186	0.219	-0.276	-3.022	Loss	SMARCE1
ENSBTAG00000020928	567	0.537	222	0.261	-0.276	-3.025	Loss	ADPRHL1
ENSBTAG00000013131	366	0.347	60	0.071	-0.276	-3.028	Loss	FAM110D
ENSBTAG00000001877	728	0.69	347	0.409	-0.281	-3.086	Loss	HMG5
ENSBTAG00000054131	388	0.368	72	0.085	-0.283	-3.104	Loss	TWF2
ENSBTAG00000050387	425	0.403	98	0.115	-0.287	-3.154	Loss	ENSBTAG000000 50387
ENSBTAG00000005581	773	0.733	378	0.445	-0.287	-3.155	Loss	CCL25
ENSBTAG00000011539	666	0.631	291	0.343	-0.289	-3.167	Loss	PCGF2
ENSBTAG00000011616	512	0.485	166	0.196	-0.29	-3.181	Loss	MPO
ENSBTAG00000015228	540	0.512	188	0.221	-0.29	-3.188	Loss	CD74
ENSBTAG00000009966	498	0.472	154	0.181	-0.291	-3.191	Loss	XRCC3

ENSBTAG00000023847	683	0.647	302	0.356	-0.292	-3.203	Loss	<i>IKZF5</i>
ENSBTAG00000007480	491	0.465	147	0.173	-0.292	-3.209	Loss	<i>NA</i>
ENSBTAG00000010991	636	0.603	262	0.309	-0.294	-3.232	Loss	<i>TTR</i>
ENSBTAG00000012540	512	0.485	158	0.186	-0.299	-3.288	Loss	<i>ENSBTAG00000012540</i>
ENSBTAG00000053909	824	0.781	408	0.481	-0.3	-3.302	Loss	<i>NAT9</i>
ENSBTAG00000014668	819	0.776	399	0.47	-0.306	-3.368	Loss	<i>NAGK</i>
ENSBTAG00000040132	888	0.842	454	0.535	-0.307	-3.375	Loss	<i>PWWP3B</i>
ENSBTAG00000048155	488	0.463	132	0.155	-0.307	-3.377	Loss	<i>FCN1</i>
ENSBTAG00000031071	657	0.623	268	0.316	-0.307	-3.377	Loss	<i>ZNF624</i>
ENSBTAG00000048173	791	0.75	375	0.442	-0.308	-3.388	Loss	<i>SMIM10</i>
ENSBTAG00000006905	406	0.385	64	0.075	-0.309	-3.404	Loss	<i>KLHDC4</i>
ENSBTAG00000013185	550	0.521	179	0.211	-0.31	-3.415	Loss	<i>TIMD4</i>
ENSBTAG00000009206	657	0.623	265	0.312	-0.311	-3.417	Loss	<i>FOXSI</i>
ENSBTAG00000045904	741	0.702	332	0.391	-0.311	-3.425	Loss	<i>PIM3</i>
ENSBTAG00000014448	576	0.546	198	0.233	-0.313	-3.441	Loss	<i>VKORC1L1</i>
ENSBTAG00000014377	601	0.57	218	0.257	-0.313	-3.442	Loss	<i>CHD3</i>
ENSBTAG00000007960	702	0.665	298	0.351	-0.314	-3.459	Loss	<i>TOP1</i>
ENSBTAG00000052917	750	0.711	336	0.396	-0.315	-3.468	Loss	<i>NA</i>
ENSBTAG00000002999	958	0.908	503	0.592	-0.316	-3.473	Loss	<i>ANAPC15</i>
ENSBTAG00000053923	857	0.812	420	0.495	-0.318	-3.496	Loss	<i>EXOSC6</i>
ENSBTAG00000012398	509	0.482	139	0.164	-0.319	-3.509	Loss	<i>APOC3</i>
ENSBTAG00000035587	619	0.587	227	0.267	-0.319	-3.515	Loss	<i>ARRB2</i>
ENSBTAG00000004776	762	0.722	342	0.403	-0.319	-3.517	Loss	<i>DUSP23</i>
ENSBTAG00000039662	487	0.462	120	0.141	-0.32	-3.526	Loss	<i>DDI2</i>
ENSBTAG00000005501	745	0.706	325	0.383	-0.323	-3.561	Loss	<i>COBLL1</i>
ENSBTAG00000043559	747	0.708	322	0.379	-0.329	-3.622	Loss	<i>MT-ND4L</i>
ENSBTAG00000047567	858	0.813	410	0.483	-0.33	-3.64	Loss	<i>VEGFB</i>
ENSBTAG00000038488	738	0.7	313	0.369	-0.331	-3.645	Loss	<i>TMSB4X</i>
ENSBTAG00000004014	485	0.46	109	0.128	-0.331	-3.651	Loss	<i>FBLN2</i>
ENSBTAG00000021201	705	0.668	284	0.335	-0.334	-3.678	Loss	<i>HYCC2</i>
ENSBTAG00000014136	810	0.768	365	0.43	-0.338	-3.725	Loss	<i>FAAP20</i>
ENSBTAG00000002658	630	0.597	220	0.259	-0.338	-3.727	Loss	<i>STAM</i>
ENSBTAG00000007393	667	0.632	248	0.292	-0.34	-3.75	Loss	<i>RND2</i>
ENSBTAG00000038617	563	0.534	164	0.193	-0.34	-3.754	Loss	<i>SH3D2I</i>
ENSBTAG00000000742	454	0.43	72	0.085	-0.346	-3.811	Loss	<i>AMOTL2</i>
ENSBTAG00000009496	590	0.559	181	0.213	-0.346	-3.817	Loss	<i>STAT5A</i>
ENSBTAG00000002431	689	0.653	260	0.306	-0.347	-3.826	Loss	<i>TRIM24</i>

ENSBTAG00000020983	510	0.483	115	0.135	-0.348	-3.839	Loss	<i>RRAS</i>
ENSBTAG00000011562	470	0.445	79	0.093	-0.352	-3.889	Loss	<i>STK32C</i>
ENSBTAG00000017475	777	0.736	324	0.382	-0.355	-3.917	Loss	<i>NA</i>
ENSBTAG00000015113	549	0.52	135	0.159	-0.361	-3.99	Loss	<i>CITED4</i>
ENSBTAG00000030278	751	0.712	296	0.349	-0.363	-4.011	Loss	<i>EGFL7</i>
ENSBTAG00000046587	691	0.655	244	0.287	-0.368	-4.06	Loss	<i>CST6</i>
ENSBTAG00000046470	636	0.603	198	0.233	-0.37	-4.084	Loss	<i>ONECUT1</i>
ENSBTAG00000031503	445	0.422	42	0.049	-0.372	-4.114	Loss	<i>NDUFA4L2</i>
ENSBTAG00000023947	891	0.845	397	0.468	-0.377	-4.166	Loss	<i>AVP11</i>
ENSBTAG00000007061	957	0.907	450	0.53	-0.377	-4.168	Loss	<i>PPP2R5B</i>
ENSBTAG00000022733	564	0.535	132	0.155	-0.379	-4.191	Loss	<i>NA</i>
ENSBTAG00000008635	644	0.61	195	0.23	-0.381	-4.209	Loss	<i>SULT1A1</i>
ENSBTAG00000026710	576	0.546	135	0.159	-0.387	-4.28	Loss	<i>C2H2orf72</i>
ENSBTAG00000013479	892	0.845	389	0.458	-0.387	-4.284	Loss	<i>NHERF2</i>
ENSBTAG00000054257	734	0.696	261	0.307	-0.388	-4.295	Loss	<i>bta-mir-2887-1</i>
ENSBTAG00000021836	566	0.536	124	0.146	-0.39	-4.319	Loss	<i>TCEA2</i>
ENSBTAG00000048122	834	0.791	337	0.397	-0.394	-4.354	Loss	<i>CFD</i>
ENSBTAG00000047700	675	0.64	208	0.245	-0.395	-4.368	Loss	<i>ENSBTAG00000047700</i>
ENSBTAG00000005067	547	0.518	104	0.122	-0.396	-4.382	Loss	<i>UBTF</i>
ENSBTAG00000018016	692	0.656	216	0.254	-0.402	-4.444	Loss	<i>NUPR1</i>
ENSBTAG00000019025	803	0.761	305	0.359	-0.402	-4.448	Loss	<i>NDUFA11</i>
ENSBTAG00000014646	707	0.67	225	0.265	-0.405	-4.485	Loss	<i>MZT2B</i>
ENSBTAG00000022395	596	0.565	133	0.157	-0.408	-4.52	Loss	<i>ENSBTAG00000022395</i>
ENSBTAG00000010957	574	0.544	115	0.135	-0.409	-4.524	Loss	<i>LHPP</i>
ENSBTAG00000002370	589	0.558	126	0.148	-0.41	-4.539	Loss	<i>ZNF792</i>
ENSBTAG00000011815	588	0.557	125	0.147	-0.41	-4.541	Loss	<i>SMG9</i>
ENSBTAG00000044132	834	0.791	320	0.377	-0.414	-4.581	Loss	<i>NTN5</i>
ENSBTAG00000032598	731	0.693	237	0.279	-0.414	-4.582	Loss	<i>RP9</i>
ENSBTAG00000015669	509	0.482	58	0.068	-0.414	-4.587	Loss	<i>ADAT1</i>
ENSBTAG00000000575	635	0.602	155	0.183	-0.419	-4.645	Loss	<i>TNC</i>
ENSBTAG00000018024	566	0.536	99	0.117	-0.42	-4.652	Loss	<i>NR1D2</i>
ENSBTAG00000005453	560	0.531	93	0.11	-0.421	-4.667	Loss	<i>FGD4</i>
ENSBTAG00000017805	703	0.666	208	0.245	-0.421	-4.668	Loss	<i>CRACR2B</i>
ENSBTAG00000043974	760	0.72	253	0.298	-0.422	-4.68	Loss	<i>ZNF768</i>
ENSBTAG00000007660	973	0.922	424	0.499	-0.423	-4.685	Loss	<i>ZNF414</i>
ENSBTAG00000008520	652	0.618	163	0.192	-0.426	-4.721	Loss	<i>NFIC</i>
ENSBTAG00000012019	671	0.636	177	0.208	-0.428	-4.738	Loss	<i>IRS2</i>

ENSBTAG00000023885	680	0.645	183	0.216	-0.429	-4.755	Loss	<i>ZNF79</i>
ENSBTAG00000050907	724	0.686	217	0.256	-0.431	-4.773	Loss	<i>RPP21</i>
ENSBTAG00000009359	578	0.548	99	0.117	-0.431	-4.78	Loss	<i>ENSBTAG00000009359</i>
ENSBTAG00000027442	679	0.644	179	0.211	-0.433	-4.797	Loss	<i>NFIB</i>
ENSBTAG00000018116	692	0.656	186	0.219	-0.437	-4.843	Loss	<i>MTFP1</i>
ENSBTAG00000004632	859	0.814	318	0.375	-0.44	-4.875	Loss	<i>ASPSCR1</i>
ENSBTAG00000038337	656	0.622	150	0.177	-0.445	-4.937	Loss	<i>NA</i>
ENSBTAG00000015182	770	0.73	241	0.284	-0.446	-4.947	Loss	<i>STARD10</i>
ENSBTAG00000015187	626	0.593	125	0.147	-0.446	-4.948	Loss	<i>DDX41</i>
ENSBTAG00000046922	615	0.583	109	0.128	-0.455	-5.043	Loss	<i>TWIST1</i>
ENSBTAG00000004518	984	0.933	400	0.471	-0.462	-5.123	Loss	<i>GRHL2</i>
ENSBTAG00000014560	676	0.641	152	0.179	-0.462	-5.125	Loss	<i>HLX</i>
ENSBTAG00000005397	747	0.708	206	0.243	-0.465	-5.166	Loss	<i>CD46</i>
ENSBTAG00000011027	862	0.817	293	0.345	-0.472	-5.24	Loss	<i>PTGR1</i>
ENSBTAG00000008397	709	0.672	168	0.198	-0.474	-5.265	Loss	<i>ZNF555</i>
ENSBTAG00000047673	636	0.603	107	0.126	-0.477	-5.295	Loss	<i>THUMPD1</i>
ENSBTAG00000014608	772	0.732	212	0.25	-0.482	-5.354	Loss	<i>KDM1B</i>
ENSBTAG00000030170	852	0.808	275	0.324	-0.484	-5.373	Loss	<i>NA</i>
ENSBTAG000000051150	704	0.667	154	0.181	-0.486	-5.398	Loss	<i>NA</i>
ENSBTAG00000015089	554	0.525	33	0.039	-0.486	-5.402	Loss	<i>LGALS1</i>
ENSBTAG00000022027	736	0.698	179	0.211	-0.487	-5.408	Loss	<i>ENSBTAG00000022027</i>
ENSBTAG00000005299	723	0.685	165	0.194	-0.491	-5.455	Loss	<i>EDNRB</i>
ENSBTAG00000011752	589	0.558	54	0.064	-0.495	-5.497	Loss	<i>SYNM</i>
ENSBTAG00000008656	717	0.68	157	0.185	-0.495	-5.497	Loss	<i>KBTD6</i>
ENSBTAG00000011471	883	0.837	287	0.338	-0.499	-5.545	Loss	<i>CARS2</i>
ENSBTAG00000014211	684	0.648	122	0.144	-0.505	-5.61	Loss	<i>FOXP4</i>
ENSBTAG00000009580	809	0.767	222	0.261	-0.505	-5.617	Loss	<i>SH3BGR13</i>
ENSBTAG00000027654	759	0.719	179	0.211	-0.509	-5.654	Loss	<i>EIF4EBP1</i>
ENSBTAG00000002238	787	0.746	201	0.237	-0.509	-5.661	Loss	<i>ARL2</i>
ENSBTAG00000019569	791	0.75	204	0.24	-0.509	-5.664	Loss	<i>CD151</i>
ENSBTAG00000004852	616	0.584	63	0.074	-0.51	-5.667	Loss	<i>PLEKHO1</i>
ENSBTAG00000043570	736	0.698	158	0.186	-0.512	-5.687	Loss	<i>ENSBTAG00000043570</i>
ENSBTAG00000011444	935	0.886	318	0.375	-0.512	-5.689	Loss	<i>HINT2</i>
ENSBTAG00000012939	803	0.761	211	0.249	-0.513	-5.7	Loss	<i>DTNBP1</i>
ENSBTAG00000008935	828	0.785	231	0.272	-0.513	-5.701	Loss	<i>PFDN5</i>
ENSBTAG00000043568	742	0.703	161	0.19	-0.514	-5.712	Loss	<i>MT-ND3</i>
ENSBTAG00000004521	916	0.868	301	0.355	-0.514	-5.712	Loss	<i>LSM7</i>

ENSBTAG00000022032	628	0.595	67	0.079	-0.516	-5.742	Loss	<i>CHCHD10</i>
ENSBTAG00000009534	920	0.872	301	0.355	-0.518	-5.755	Loss	<i>NDUFB10</i>
ENSBTAG00000008314	809	0.767	210	0.247	-0.519	-5.777	Loss	<i>SDHB</i>
ENSBTAG00000018040	844	0.8	236	0.278	-0.522	-5.806	Loss	<i>PSMB10</i>
ENSBTAG00000007754	853	0.809	243	0.286	-0.522	-5.809	Loss	<i>NDUFA3</i>
ENSBTAG00000020837	810	0.768	208	0.245	-0.523	-5.815	Loss	<i>ARHGEF16</i>
ENSBTAG00000017181	856	0.811	243	0.286	-0.525	-5.841	Loss	<i>MACROD1</i>
ENSBTAG00000044007	701	0.664	118	0.139	-0.525	-5.845	Loss	<i>KLF12</i>
ENSBTAG00000003947	788	0.747	187	0.22	-0.527	-5.858	Loss	<i>SSBP4</i>
ENSBTAG00000052347	809	0.767	202	0.238	-0.529	-5.884	Loss	<i>ENSBTAG000000 52347</i>
ENSBTAG00000043546	732	0.694	138	0.163	-0.531	-5.911	Loss	<i>MT-ND6</i>
ENSBTAG00000010348	982	0.931	335	0.395	-0.536	-5.967	Loss	<i>GATD1</i>
ENSBTAG00000018918	899	0.852	266	0.313	-0.539	-5.996	Loss	<i>NDUFAF3</i>
ENSBTAG00000006242	914	0.866	278	0.327	-0.539	-5.997	Loss	<i>USP9X</i>
ENSBTAG00000011934	622	0.59	43	0.051	-0.539	-5.997	Loss	<i>PCK2</i>
ENSBTAG00000025809	914	0.866	271	0.319	-0.547	-6.09	Loss	<i>ABHD8</i>
ENSBTAG00000011082	696	0.66	95	0.112	-0.548	-6.098	Loss	<i>IGF1</i>
ENSBTAG00000021799	644	0.61	53	0.062	-0.548	-6.1	Loss	<i>RCN3</i>
ENSBTAG00000007375	771	0.731	155	0.183	-0.548	-6.102	Loss	<i>MIF</i>
ENSBTAG00000048459	648	0.614	56	0.066	-0.548	-6.103	Loss	<i>NA</i>
ENSBTAG00000053003	898	0.851	256	0.302	-0.55	-6.118	Loss	<i>GPX4</i>
ENSBTAG00000040432	709	0.672	103	0.121	-0.551	-6.13	Loss	<i>CLDN3</i>
ENSBTAG00000043561	813	0.771	186	0.219	-0.552	-6.14	Loss	<i>COX1</i>
ENSBTAG00000002027	749	0.71	133	0.157	-0.553	-6.159	Loss	<i>FAM167B</i>
ENSBTAG00000046837	935	0.886	282	0.332	-0.554	-6.169	Loss	<i>ZNF358</i>
ENSBTAG00000009117	937	0.888	280	0.33	-0.558	-6.217	Loss	<i>THNSL1</i>
ENSBTAG00000009079	844	0.8	203	0.239	-0.561	-6.245	Loss	<i>RAB4B</i>
ENSBTAG00000010547	688	0.652	75	0.088	-0.564	-6.278	Loss	<i>CEP76</i>
ENSBTAG00000043545	877	0.831	226	0.266	-0.565	-6.293	Loss	<i>ENSBTAG000000 43545</i>
ENSBTAG00000013530	668	0.633	56	0.066	-0.567	-6.317	Loss	<i>DDAH2</i>
ENSBTAG00000031249	794	0.753	157	0.185	-0.568	-6.322	Loss	<i>PSMG4</i>
ENSBTAG00000003797	833	0.79	186	0.219	-0.57	-6.354	Loss	<i>SLC17A3</i>
ENSBTAG00000009246	971	0.92	297	0.35	-0.571	-6.355	Loss	<i>DPY30</i>
ENSBTAG00000008646	745	0.706	114	0.134	-0.572	-6.37	Loss	<i>TRMT112</i>
ENSBTAG00000015041	860	0.815	206	0.243	-0.573	-6.377	Loss	<i>NDUFA2</i>
ENSBTAG00000012898	939	0.89	268	0.316	-0.574	-6.398	Loss	<i>RPS27L</i>
ENSBTAG00000015197	698	0.662	74	0.087	-0.574	-6.399	Loss	<i>NA</i>

ENSBTAG00000014863	809	0.767	163	0.192	-0.575	-6.403	Loss	<i>GYPC</i>
ENSBTAG00000003658	740	0.701	107	0.126	-0.575	-6.409	Loss	<i>RELN</i>
ENSBTAG00000018622	684	0.648	59	0.069	-0.579	-6.448	Loss	<i>PCBP4</i>
ENSBTAG00000001729	780	0.739	136	0.16	-0.579	-6.452	Loss	<i>DUSP10</i>
ENSBTAG000000051698	820	0.777	167	0.197	-0.581	-6.467	Loss	<i>DCXR</i>
ENSBTAG000000031750	858	0.813	196	0.231	-0.582	-6.489	Loss	<i>PLAC8B</i>
ENSBTAG00000016685	688	0.652	55	0.065	-0.587	-6.544	Loss	<i>FMO4</i>
ENSBTAG00000048049	867	0.822	196	0.231	-0.591	-6.585	Loss	<i>NA</i>
ENSBTAG00000006241	882	0.836	203	0.239	-0.597	-6.652	Loss	<i>MAN2B1</i>
ENSBTAG00000008127	826	0.783	157	0.185	-0.598	-6.665	Loss	<i>RBP5</i>
ENSBTAG00000006428	833	0.79	161	0.19	-0.6	-6.687	Loss	<i>ZNF354A</i>
ENSBTAG00000010508	830	0.787	157	0.185	-0.602	-6.708	Loss	<i>BLVRB</i>
ENSBTAG00000000639	877	0.831	191	0.225	-0.606	-6.759	Loss	<i>APRT</i>
ENSBTAG00000043556	880	0.834	193	0.227	-0.607	-6.764	Loss	<i>MT-CO2</i>
ENSBTAG00000043572	938	0.889	239	0.282	-0.608	-6.773	Loss	<i>ENSBTAG000000043572</i>
ENSBTAG000000031752	998	0.946	287	0.338	-0.608	-6.777	Loss	<i>TMEM256</i>
ENSBTAG00000043560	898	0.851	206	0.243	-0.609	-6.784	Loss	<i>COX3</i>
ENSBTAG00000014731	902	0.855	209	0.246	-0.609	-6.787	Loss	<i>GAPDH</i>
ENSBTAG00000004295	913	0.865	216	0.254	-0.611	-6.811	Loss	<i>NDUFA8</i>
ENSBTAG00000019891	922	0.874	223	0.263	-0.611	-6.815	Loss	<i>MRPL40</i>
ENSBTAG00000020429	971	0.92	259	0.305	-0.615	-6.86	Loss	<i>MED29</i>
ENSBTAG00000047702	1055	1	326	0.384	-0.616	-6.868	Loss	<i>NAA10</i>
ENSBTAG00000043577	857	0.812	163	0.192	-0.62	-6.917	Loss	<i>MT-ND4</i>
ENSBTAG00000048620	734	0.696	64	0.075	-0.62	-6.917	Loss	<i>CEBPZOS</i>
ENSBTAG00000043564	848	0.804	153	0.18	-0.624	-6.954	Loss	<i>MT-ATP8</i>
ENSBTAG00000048010	839	0.795	144	0.17	-0.626	-6.977	Loss	<i>NUDT14</i>
ENSBTAG00000002182	854	0.809	155	0.183	-0.627	-6.991	Loss	<i>NA</i>
ENSBTAG00000016506	877	0.831	172	0.203	-0.629	-7.012	Loss	<i>ST3GAL4</i>
ENSBTAG00000047715	837	0.793	133	0.157	-0.637	-7.102	Loss	<i>TPRN</i>
ENSBTAG00000047299	912	0.864	193	0.227	-0.637	-7.107	Loss	<i>ENSBTAG000000047299</i>
ENSBTAG00000003822	1011	0.958	271	0.319	-0.639	-7.129	Loss	<i>CROCC</i>
ENSBTAG00000007446	916	0.868	193	0.227	-0.641	-7.15	Loss	<i>NGF</i>
ENSBTAG00000011287	749	0.71	58	0.068	-0.642	-7.158	Loss	<i>ATXN7</i>
ENSBTAG00000012072	942	0.893	213	0.251	-0.642	-7.162	Loss	<i>NDUFS8</i>
ENSBTAG00000043550	940	0.891	209	0.246	-0.645	-7.194	Loss	<i>MT-CYB</i>
ENSBTAG00000012274	779	0.738	71	0.084	-0.655	-7.306	Loss	<i>CIZ1</i>
ENSBTAG00000012634	1004	0.952	250	0.294	-0.657	-7.334	Loss	<i>NDUFB7</i>

ENSBTAG00000010509	952	0.902	205	0.241	-0.661	-7.376	Loss	<i>CDK3</i>
ENSBTAG00000043558	943	0.894	195	0.23	-0.664	-7.412	Loss	<i>ND1</i>
ENSBTAG00000006199	786	0.745	67	0.079	-0.666	-7.434	Loss	<i>DRAP1</i>
ENSBTAG00000000808	901	0.854	159	0.187	-0.667	-7.442	Loss	<i>NA</i>
ENSBTAG00000012147	969	0.918	210	0.247	-0.671	-7.491	Loss	<i>ARRDC1</i>
ENSBTAG00000014782	905	0.858	155	0.183	-0.675	-7.538	Loss	<i>STAB1</i>
ENSBTAG00000010723	902	0.855	151	0.178	-0.677	-7.559	Loss	<i>PFDN6</i>
ENSBTAG00000004261	777	0.736	50	0.059	-0.678	-7.564	Loss	<i>SPON2</i>
ENSBTAG00000015117	947	0.898	186	0.219	-0.679	-7.575	Loss	<i>GADD45GIP1</i>
ENSBTAG00000024097	982	0.931	211	0.249	-0.682	-7.617	Loss	<i>MRPS15</i>
ENSBTAG00000007187	844	0.8	99	0.117	-0.683	-7.63	Loss	<i>INF2</i>
ENSBTAG00000043563	838	0.794	93	0.11	-0.685	-7.645	Loss	<i>ND5</i>
ENSBTAG00000008320	912	0.864	150	0.177	-0.688	-7.679	Loss	<i>SEPTIN5</i>
ENSBTAG00000013882	940	0.891	172	0.203	-0.688	-7.686	Loss	<i>CHMP2A</i>
ENSBTAG00000001193	947	0.898	176	0.207	-0.69	-7.708	Loss	<i>UNC93B1</i>
ENSBTAG00000013928	832	0.789	80	0.094	-0.694	-7.754	Loss	<i>WFDC2</i>
ENSBTAG00000011527	873	0.827	109	0.128	-0.699	-7.807	Loss	<i>NT5C</i>
ENSBTAG00000012451	895	0.848	121	0.143	-0.706	-7.883	Loss	<i>BOLA-DMB</i>
ENSBTAG00000013889	825	0.782	64	0.075	-0.707	-7.892	Loss	<i>TMEM141</i>
ENSBTAG00000004348	922	0.874	133	0.157	-0.717	-8.013	Loss	<i>MRPL21</i>
ENSBTAG00000034255	817	0.774	45	0.053	-0.721	-8.059	Loss	<i>EIF5B</i>
ENSBTAG00000006645	913	0.865	118	0.139	-0.726	-8.116	Loss	<i>LPAR6</i>
ENSBTAG00000019678	886	0.84	96	0.113	-0.727	-8.12	Loss	<i>ALKBH6</i>
ENSBTAG00000020751	857	0.812	64	0.075	-0.737	-8.235	Loss	<i>HSF1</i>
ENSBTAG00000001514	921	0.873	114	0.134	-0.739	-8.255	Loss	<i>ASB11</i>
ENSBTAG00000051801	890	0.844	71	0.084	-0.76	-8.495	Loss	<i>ENSBTAG00000051801</i>
ENSBTAG00000043571	934	0.885	101	0.119	-0.766	-8.567	Loss	<i>MT-ND2</i>
ENSBTAG00000005390	993	0.941	133	0.157	-0.785	-8.773	Loss	<i>GMFG</i>
ENSBTAG00000026008	1010	0.957	115	0.135	-0.822	-9.195	Loss	<i>METTL5</i>
ENSBTAG00000006050	964	0.914	76	0.09	-0.824	-9.222	Loss	<i>BOLA1</i>
ENSBTAG00000047606	1001	0.949	91	0.107	-0.842	-9.418	Loss	<i>MTA1</i>

Appendix 3.6. Functional over-representation analysis (Biological Processes) of differentially expressed genes from the liver of neonatal beef heifers born from dams receiving or not receiving vitamin and mineral supplementation (VTM or CON) during gestation.

Biological Processes					
Enrichment FDR	nGenes	Pathway Genes	Fold Enrichment	Pathway	Genes
3.32E-07	10	22	16.23663102	GO:0032964 collagen biosynthetic proc.	<i>SERPINH1 P3H3 BMP4 CREB3L1 TGFB3 COL1A1 VIM F2R RCN3 P3H4</i>
6.76E-05	8	25	11.43058824	GO:0006120 mitochondrial electron transport NADH to ubiquinone	<i>NDUFA8 NDUFS8 ND6 ND1 ND5 ND3 ND2 ND4</i>
3.32E-07	14	51	9.805651672	GO:0032963 collagen metabolic proc.	<i>SERPINH1 TNXB P3H3 BMP4 CREB3L1 MFAP4 TGFB3 COL1A1 COL1A2 VIM MMP2 F2R RCN3 P3H4</i>
3.22E-05	11	47	8.360137672	GO:0010257 NADH dehydrogenase complex assembly	<i>NDUFA8 NDUFB10 NDUFS8 NDUFB7 NDUFAF3 NDUFA11 ND6 ND1 ND5 ND2 ND4</i>
3.22E-05	11	47	8.360137672	GO:0032981 mitochondrial respiratory chain complex I assembly	<i>NDUFA8 NDUFB10 NDUFS8 NDUFB7 NDUFAF3 NDUFA11 ND6 ND1 ND5 ND2 ND4</i>
6.76E-05	13	79	5.878071482	GO:0033108 mitochondrial respiratory chain complex assembly	<i>COX14 COX17 NDUFA8 NDUFB10 NDUFS8 NDUFB7 NDUFAF3 NDUFA11 ND6 ND1 ND5 ND2 ND4</i>
6.01E-05	20	180	3.968954248	GO:0070372 reg. of ERK1 and ERK2 cascade	<i>GLIPR2 DUSP10 BMP4 NDRG4 CCN2 TREM2 CCN1 CCL21 IGF1 FBLN1 CCL19 CD74 PDE8A CHI3L1 CAVIN3 F2R RRAS PDGFB ARRB2</i>

3.22E-05	24	236	3.632602193	GO:0015980 energy derivation by oxidation of organic compounds	<i>UGP2 ARL2 NDUFA8 AGL SDHB PNPT1 IGF1 IRS2 NDUFS8 KL NUPR1 CAVIN3 EPM2AIP1 ND6 CYTB ND1 ND4L COX3 COX1 ND5 ATP8 ND3 ND2 ND4</i>
6.76E-05	28	331	3.02168118	GO:0006091 generation of precursor metabolites and energy	<i>UGP2 COX17 ARL2 HMGCS2 NDUFA8 AGL SDHB PNPT1 IGF1 IRS2 NDUFS8 KL HDAC4 NUPR1 CAVIN3 EPM2AIP1 ND6 CYTB COX2 ND1 ND4L COX3 COX1 ND5 ATP8 ND3 ND2 ND4</i>
2.96E-05	34	420	2.891666667	GO:0061061 muscle structure development	<i>CRYAB FHL2 CCN3 BMP4 FOS PLEKHO1 KRT19 EDNRB MSC CDK5 RANBP3L HEYL ENG IGF1 IRX3 MYMK SMO BOC MBNL3 HLX LGALS1 DSP HDAC4 NUPR1 NR1D2 VAMP5 CHRNBI ELN EHD2 COL3A1 PDGFB TBX3 ARRB2 TWIST1</i>
6.76E-05	58	1024	2.023236443	GO:0009967 positive reg. of signal transduction	<i>GLIPR2 GDF10 CXCR4 CCN3 TGFB1II LGR4 UNC5CL DCN RELN BMP4 NDRG4 S100B NTS LMCD1 USP9X C1QTNF1 CCN2 MAP3K14 TREM2 IFI35 MAPRE2 ENG CCNI CCL21 MNI IGF1 FYN TERT CCL19 COL1A1 SMO PLXNBI NFAT5 ACVRL1 KL GAPDH CD74 BMP7 PDE8A PIH1D1 ZNF423 NUPR1 CHI3L1 CAVIN3 PIK3API F2R COL3A1 IGFBP6 PDGFB MRAP AVPII SFRP1 ARRB2 SH3RF3 FABP5 NTRK3 DOK5</i>

5.42E-05	63	1127	1.996803069	GO:1902531 reg. of intracellular signal transduction	<i>TNFAIP8L1 GLIPR2 HOMER3 FHL2 DUSP10 CCN3 TRIM24 UNC5CL ANAPC15 DCN RELN BMP4 NDRG4 S100B ARAF NTS LMCD1 USP9X CIQTNF1 CCN2 MAP3K14 TREM2 IFI35 MAPRE2 PDE2A KBTBD6 SIGLEC10 ENG CCN1 CCL21 IGF1 FYN FBLN1 APOC3 CCL19 PLXNB1 NFAT5 KL GAPDH CD74 BMP7 PDE8A PIH1D1 NUPRI CHI3L1 CAVIN3 PIK3AP1 F2R RRAS COL3A1 IGFBP6 PDGFB RCN3 RALGPS1 AVPII HDAC7 SFRP1 ARRB2 SH3RF3 TWIST1 NTRK3 DOK5</i>
5.42E-05	76	1463	1.855614973	GO:0048584 positive reg. of response to stimulus	<i>VEGFB GLIPR2 GDF10 CXCR4 PNKP CCN3 TGFB1I1 LGR4 UNC5CL DCN RELN BMP4 NDRG4 S100B NTS LMCD1 USP9X CIQTNF1 CCN2 MAP3K14 TREM2 IFI35 MAPRE2 ENG CCN1 CCL21 MN1 IGF1 FYN BOLA-DMB TERT CCL19 LPL COL1A1 MYMK HDAC6 SMO PLXNB1 NFAT5 ACVRL1 KL HLX GAPDH LGALS1 CD74 BMP7 PDE8A ST3GAL4 PIH1D1 ZNF423 NUPRI CHI3L1 PLA2G7 CAVIN3 PIK3AP1 F2R COL3A1 IGFBP6 PDGFB MRAP AVPII SFRP1 ARRB2 LPXN SH3RF3 CLDN3 CLCF1 FABP5 NTRK3 DOK5 CFD FCN1 EXOSC6 COLEC10 STAT5A</i>

4.58E-05	88	1776	1.769939057	GO:0035556 intracellular signal transduction	<i>TNFAIP8L1 GLIPR2 HOMER3 CXCR4 FHL2 MSH6 ASB11 TYRO3 DUSP10 RFXANK CCN3 TRIM24 UNC5CL ANAPC15 DCN RELN BMP4 NDRG4 ARL3 THEM4 S100B ARAF EDNRB NTS LMCD1 TP73 USP9X C1QTNF1 CCN2 RAPGEF3 TLK1 MAP3K14 TREM2 IFI35 MAPRE2 PDE2A KBTBD6 SIGLEC10 ENG RAB4B CCN1 CCL21 IGF1 FYN FBLN1 APOC3 CCL19 RPS27L SMO PLD2 PLXNB1 NFAT5 COL1A2 KL EIF2AK4 GAPDH TPCN2 CD74 BMP7 PDE8A PIH1D1 LACC1 PLD1 HDAC4 NUPRI CHI3L1 ADCY2 CAVIN3 PIK3AP1 F2R RASSF1 RRAS COL3A1 IGFBP6 PDGFB RCN3 RALGPS1 AVPII HDAC7 SFRP1 EIF4EBP1 ARRB2 CCL2 SH3RF3 TWIST1 NTRK3 DOK5</i>
4.58E-05	89	1802	1.764224391	GO:0032879 reg. of localization	<i>SCN1B VEGFB GLIPR2 CRYAB AHSG PLXNA2 DUSP10 MAP1B CCN3 COX17 LGALS3 STAM LZTS2 DCN RELN CROCC BMP4 NDRG4 ASPSCR1 SYN1 PKIG CCL25 PLK3 C1QTNF1 RAPGEF3 TREM2 MAPRE2 CDK5 ATP9A SEPTIN5 ENG GLIS2 STAT5A CCN1 CCL21 DPYSL3 IGF1 FYN TGFB3 IRS2 FBLN1 APOC3 TERT CCL19 LPL DTNBP1 COL1A1 HDAC6 SMO GABRE ACVRL1 CHMP2A RRAD FXYP6 SPARC DSP TPCN2 CD74 BMP7 ABCG5 ST3GAL4 HAMP LRAT PLD1 CRACR2B PLA2G7 CLIP3 F2R ARHGEF16 RRAS STXBP5 EHD2 COL3A1 TAMALIN PDGFB MRAP HDAC7 SFRP1 ARRB2 CCL2 CAVIN1 CLDN3 ONECUT1 TWIST1 FABP5 NTRK3 SAPCD2 FCN1 COLEC10</i>

6.01E-05	96	2022	1.695932973	GO:0009966 reg. of signal transduction	<i>TMEM88 SFRP1 TNFAIP8L1 GLIPR2 HOMER3 GDF10 CXCR4 FHL2 TYRO3 DUSP10 CCN3 LGALS3 TGFB1I1 TRIM24 LGR4 UNC5CL ANAPC15 LZTS2 DCN RELN BMP4 NDRG4 DKK3 S100B ARAF NTS LMCD1 CREB3L1 USP9X CIQTNF1 IL1R2 CCN2 MAP3K14 TREM2 IFI35 MAPRE2 CDK5 PDE2A KBTBD6 HEYL SIGLEC10 PFDN5 ENG GLIS2 CCN1 CCL21 MN1 CDK3 IGF1 PCGF2 FYN FBLN1 ARRDC1 APOC3 TERT CCL19 COL1A1 HDAC6 SMO PLXNB1 NFAT5 ACVRL1 KL GAPDH CD74 BMP7 PDE8A PIH1D1 ZNF423 NUPR1 CHI3L1 GRB14 CAVIN3 PIK3AP1 F2R RRAS COL3A1 IGFBP6 PDGFB RCN3 MRAP RALGPS1 AVPI1 HDAC7 EGFL7 ARRB2 LPXN SH3RF3 MZB1 ONECUT1 FRMPD1 TWIST1 FABP5 NTRK3 DOK5</i>

5.31E-06	125	2688	1.661113664	GO:0048583 reg. of response to stimulus	<i>TMEM88 SFRP1 TNFAIP8L1 VEGFB GLIPR2</i> <i>AHSG TNC HOMER3 GDF10 CXCR4 FHL2</i> <i>UNC93B1 TYRO3 DUSP10 PNKP CCN3</i> <i>LGALS3 TGFB11I TRIM24 LGR4 UNC5CL</i> <i>ANAPC15 LZTS2 DCN RELN BMP4 NDRG4</i> <i>DKK3 S100B ARAF NTS LMCD1 CREB3L1</i> <i>USP9X CIQTNF1 IL1R2 CCN2 MAP3K14</i> <i>TREM2 IFI35 MAPRE2 CDK5 PDE2A</i> <i>KBTBD6 HEYL SIGLEC10 PFDN5 ENG</i> <i>GLIS2 CCN1 CCL21 MN1 CDK3 IGF1</i> <i>PCGF2 FYN FBLN1 ARRDC1 PGLYRP2</i> <i>APOC3 BOLA-DMB TERT CCL19 LPL</i> <i>COL1A1 MYMK HDAC6 SMO PLXNB1</i> <i>NFAT5 ACVRL1 KL HLX GAPDH LGALS1</i> <i>CD74 BMP7 RASAL2 PDE8A ST3GAL4</i> <i>PIH1D1 LACC1 HAMP ZNF423 HDAC4</i> <i>NUPR1 NR1D2 CHI3L1 GRB14 PLA2G7</i> <i>CAVIN3 PIGR PIK3AP1 F2R SMG1 RRAS</i> <i>COL3A1 IGFBP6 PDGFB RCN3 MRAP</i> <i>RALGPS1 AVPI1 HDAC7 EGFL7 ARRB2</i> <i>LPXN CCL2 SH3RF3 MZB1 CLDN3 CLCF1</i> <i>ONECUT1 FRMPD1 TWIST1 FABP5 NTRK3</i> <i>DOK5 CFD FCN1 EXOSC6 COLEC10</i> <i>STAT5A</i>

1.83E-06	151	3385	1.593444261	GO:0048523 negative reg. of cellular proc.	SERPINH1 TMEM88 SFRP1 TNFAIP8L1 CRYAB HOMER3 GDF10 FHL2 MACROH2A2 MSH6 TYRO3 DUSP10 PNKP HMGN5 MAP1B CCN3 LGALS3 TGFB1I1 TRIM24 LGR4 DCPS ANAPC15 IMPACT ASNS LZTS2 DCN P3H3 BMP4 NDRG4 DKK3 ARAF PKIG EDNRB GMFG MSC LMCD1 CCL25 TP73 PLK3 CREB3L1 DRAP1 USP9X MDM4 C1QTNF1 IL1R2 RAPGEF3 TREM2 IFI35 CIRBP CDK5 ATP9A PDE2A RANBP3L HEYL SIGLEC10 PNPT1 PFDN5 ENG GLIS2 FOXS1 CCN1 ALDH1A2 CCL21 MN1 CDK3 PFDN6 TIMP2 IGF1 ATXN7 HINT2 PCGF2 SOX18 FYN TGFB3 IRS2 IRX3 FBLN1 ARRDC1 PGLYRP2 APOC3 TERT CCL19 RPS27L DTNBP1 COL1A1 HDAC6 SMO PLXNB1 CEP97 ACVRL1 CHMP2A RRAD MBNL3 EIF2AK4 CHD3 HLX RARRES1 GAPDH SPARC TPCN2 CD74 BMP7 NES PDE8A PIH1D1 FMO4 HAMP TMEM178A RUNX1T1 ZNF423 NR2F1 HDAC4 NUPR1 NR1D2 LYPD3 VIM GRB14 CLIP3 CAVIN3 STMN2 F2R PDE8B ARHGEF15 RRAS DPT COL3A1 PDGFB TBX3 MRAP NOTCH4 HDAC7 NFIB EIF4EBP1 EGFL7 ARRB2 LPXN CCL2 CLDN3 ZNF175 KLF12 PIM3 CLCF1 ONECUT1 TWIST1 FABP5 NTRK3 NAA10 SAPCD2 GPX4 TWF2 STAT5A

3.97E-07	165	3713	1.587367912	GO:0048519 negative reg. of biological proc.	SERPINH1 TMEM88 SFRP1 TNFAIP8L1 CRYAB AHSG HOMER3 GDF10 FHL2 MACROH2A2 MSH6 TYRO3 DUSP10 PNKP HMG5 MAP1B CCN3 ARL2 LGALS3 TGFB1I1 TRIM24 LGR4 DCPS ANAPC15 IMPACT ASNS LZTS2 DCN P3H3 BMP4 NDRG4 DKK3 LSM7 ARAF PKIG EDNRB NTS GMFG MSC LMCD1 CCL25 TP73 PLK3 CREB3L1 DRAP1 USP9X MDM4 CIQTNF1 IL1R2 CCN2 RAPGEF3 TREM2 IFI35 CIRBP CDK5 ATP9A PDE2A RANBP3L HEYL SIGLEC10 PNPT1 PFDN5 ENG GLIS2 FOXSI CCN1 ALDH1A2 CCL21 MN1 CDK3 PFDN6 TIMP2 IGF1 ATXN7 HINT2 PCGF2 SOX18 SMG9 FYN TGFB3 IRS2 IRX3 FBLN1 ARRDC1 PGLYRP2 APOC3 TERT CCL19 RPS27L DTNBP1 COL1A1 HDAC6 SMO PLXNB1 CEP97 GABRE ACVRL1 CHMP2A RRAD MBNL3 EIF2AK4 CHD3 HLX RARRES1 GAPDH STAB1 SPARC TPCN2 CD74 BMP7 NES PDE8A ABCG5 PIH1D1 FMO4 HAMP TMEM178A RUNX1T1 L3MBTL3 ZNF423 NR2F1 HDAC4 NUPRI NR1D2 LYPD3 VIM PCBP4 GRB14 CLIP3 CAVIN3 STMN2 F2R PDE8B ARHGEF15 SMG1 RRAS DPT COL3A1 PDGFB TBX3 MRAP NOTCH4 HDAC7 NFIB EIF4EBP1 EGFL7 ARRB2 LPXN CCL2 CLDN3 ZNF175 KLF12 PIM3 CLCF1 ONECUT1 TWIST1 FABP5 NTRK3 NAA10 SAPCD2 FCN1 CARHSP1 GPX4 TWF2 STAT5A

6.76E-05	161	3969	1.448983297	GO:0048522 positive reg. of cellular proc.	<i>VEGFB VIM SFRP1 GLIPR2 TNC GDF10</i> <i>CXCR4 MACROH2A2 TNXB DUSP10</i> <i>RFXANK PNKP HMGN5 CCN3 COX17 ARL2</i> <i>LGALS3 TGFB11I TRIM24 LGR4 STAM</i> <i>VSTM5 DCPS UNC5CL IMPACT FSCN1</i> <i>ASNS DCN ELL RELN CROCC SCN1B BMP4</i> <i>NDRG4 FBLN2 FOS ASPSCR1 S100B ARAF</i> <i>NTS LMCD1 CLEC11A CCL25 SPDYC TP73</i> <i>PLK3 CREB3L1 USP9X C1QTNF1 CCN2</i> <i>RAPGEF3 MAP3K14 TREM2 IFI35 MAPRE2</i> <i>CDK5 FLII RANBP3L PLEKHF1 HEYL</i> <i>PNPT1 ENG GLIS2 STAT5A CCN1 COL16A1</i> <i>ALDH1A2 CCL21 MN1 DPYSL3 IGF1 SOX18</i> <i>FYN SULT1E1 TGFB3 IRS2 IRX3 BOLA-DMB</i> <i>TERT CCL19 LPL RPS27L DTNBP1 COL1A1</i> <i>HDAC6 SMO PBX3 PLXNB1 NFAT5 DDAH2</i> <i>COL8A1 ACVRL1 CHMP2A BOC KL HLX</i> <i>GAPDH SPARC LGALS1 CITED4 CD74</i> <i>BMP7 PDE8A ST3GAL4 PIH1D1 HAMP</i> <i>ZNF423 PLD1 HDAC4 NUPR1 NR1D2</i> <i>CHI3L1 MMP2 PLA2G7 CLIP3 CAVIN3</i> <i>PIK3AP1 STMN2 F2R ARHGEF16 RRAS</i> <i>STXBP5 EHD2 COL3A1 IGFBP6 PDGFB</i> <i>TBX3 RCN3 EPM2AIP1 RAC3 MRAP AVPII</i> <i>ECM2 METTL5 HDAC7 NFIB EIF4EBP1</i> <i>EGFL7 ADIRF ARRB2 CCL2 SH3RF3 MZB1</i> <i>CAVIN1 CLDN3 ZNF175 KLF12 CLCF1</i> <i>ONECUT1 TWIST1 FABP5 NTRK3 SAPCD2</i> <i>DOK5 FCN1 EXOSC6 TWF2 COLEC10</i> <i>TRMT112</i>

KEGG PATHWAYS - ShinyGO					
Enrichment FDR	nGenes	Pathway Genes	Fold Enrichment	Pathway	Genes
2.55E-09	23	141	5.82676262	Path:bta00190 Oxidative phosphorylation	<i>COX17 SDHB NDUFS8 NDUFA11 NDUFA2 NDUFB10 NDUFA8 ND1 ND2 COX1 COX2 ATP8 COX3 ND3 ND4L ND4 ND5 ND6 CYTB NDUFA3 NDUFB7 LHPP NDUFA4L2</i>
0.002810924	8	54	5.291938998	Path:bta04672 Intestinal immune network for IgA production	<i>PIGR CXCR4 BOLA-DMA BOLA-DMB MAP3K14 CCL25</i>
3.72E-09	27	209	4.614621447	Path:bta05415 Diabetic cardiomyopathy	<i>GAPDH COL1A1 COL1A2 MMP2 SDHB NDUFS8 NDUFA11 NDUFA2 NDUFB10 NDUFA8 ND1 ND2 COX1 COX2 ATP8 COX3 ND3 ND4L ND4 ND5 ND6 CYTB NDUFA3 NDUFB7 COL3A1 TGFB3 NDUFA4L2</i>
2.66E-09	29	233	4.445910124	Path:bta05208 Chemical carcinogenesis-reactive oxygen species	<i>FOS SDHB NDUFS8 NDUFA11 NDUFA2 NDUFB10 NDUFA8 ND1 ND2 COX1 COX2 ATP8 COX3 ND3 ND4L ND4 ND5 ND6 CYTB NDUFA3 NDUFB7 MAP3K14 PLD1 GSTT1 PLD2 ARAF NDUFA4L2 AKR1C3 GSTA3</i>
0.03481168	6	49	4.37394958	Path:bta00565 Ether lipid metabolism	<i>PLA2G7 PAFAH1B3 LPCAT4 PLD1 PLD2 ENPP6</i>
4.22E-05	17	148	4.103040541	Path:bta04723 Retrograde endocannabinoid signaling	<i>NDUFS8 NDUFA11 NDUFA2 NDUFB10 NDUFA8 ND1 ND2 ND3 ND4L ND4 ND5 ND6 NDUFA3 NDUFB7 ADCY2 GABRE NDUFA4L2</i>

1.75E-07	26	234	3.96895424 8	Path:bta04714 Thermogenesis	<i>COX17 SDHB NDUFS8 NDUFA11 NDUFA2 NDUFB10 NDUFA8 ND1 ND2 COX1 COX2 ATP8 COX3 ND3 ND4L ND4 ND5 ND6 CYTB NDUFA3 NDUFB7 ADCY2 NDUFAF3 CREB3L1 NDUFA4L2 COX14</i>
1.50E-05	25	275	3.24732620 3	Path:bta05012 Parkinson disease	<i>SDHB NDUFS8 NDUFA11 CALM NDUFA2 NDUFB10 NDUFA8 ND1 ND2 COX1 COX2 ATP8 COX3 ND3 ND4L ND4 ND5 ND6 CYTB NDUFA3 NDUFB7 UCHL1 NDUFA4L2 SEPTIN5 SLC39A11</i>
0.00341845 8	14	159	3.14520902 7	Path:bta04932 Non- alcoholic fatty liver disease	<i>FOS SDHB NDUFS8 NDUFA11 NDUFA2 NDUFB10 NDUFA8 COX1 COX2 COX3 CYTB NDUFA3 NDUFB7 NDUFA4L2</i>
0.00012315 9	23	274	2.99844353 8	Path:bta05020 Prion disease	<i>SDHB NDUFS8 NDUFA11 NDUFA2 NDUFB10 NDUFA8 ND1 ND2 COX1 COX2 ATP8 COX3 ND3 ND4L ND4 ND5 ND6 CYTB NDUFA3 NDUFB7 CREB3L1 FYN NDUFA4L2</i>
0.04174941 2	10	127	2.81264474 3	Path:bta04926 Relaxin signaling pathway	<i>FOS ARRB2 EDNRB VEGFB COL1A1 COL1A2 MMP2 ADCY2 COL3A1 CREB3L1</i>
0.02450236 2	13	177	2.62354602 9	Path:bta04360 Axon guidance	<i>CDK5 CXCR4 PLXNA2 BOC FYN RGS3 SMO BMP7 NGEF EFNA2 RRAS PLXNB1 RAC3</i>
0.01991484 2	14	192	2.60462622 5	Path:bta04510 Focal adhesion	<i>PPP1R12B IGF1 RELN VEGFB COL1A1 COL1A2 COL6A2 TNXB COL6A1 FYN PDGFB TNC PARVB RAC3</i>
0.00174889 6	22	308	2.55147058 8	Path:bta05016 Huntington disease	<i>SDHB NDUFS8 NDUFA11 NDUFA2 NDUFB10 NDUFA8 ND1 ND2 COX1 COX2 ATP8 COX3 ND3 ND4L ND4 ND5 ND6 CYTB NDUFA3 NDUFB7 CREB3L1 NDUFA4L2</i>

0.00042990 1	27	386	2.49859036 9	Path:bta05010 Alzheimer disease	<i>LPL CDK5 GAPDH SDHB NDUFS8 NDUFA11 CALM NDUFA2 NDUFB10 NDUFA8 ND1 ND2 COX1 COX2 ATP8 COX3 ND3 ND4L ND4 ND5 ND6 CYTB NDUFA3 NDUFB7 ARAF NDUFA4L2 SLC39A11</i>
0.00241851 9	24	362	2.36821579 5	Path:bta05014 Amyotrophic lateral sclerosis	<i>ACTR1B SDHB NDUFS8 NDUFA11 NDUFA2 NDUFB10 NDUFA8 ND1 ND2 COX1 COX2 ATP8 COX3 ND3 ND4L ND4 ND5 ND6 CYTB NDUFA3 NDUFB7 HDAC6 NDUFA4L2 CHCHD10</i>
0.03397882 1	20	350	2.04117647 1	Path:bta04151 PI3K-Akt signaling pathway	<i>PIK3AP1 IGF1 NGF RELN VEGFB COL1A1 COL1A2 COL6A2 TNXB PCK2 PPP2R5B EIF4EBP1 COL6A1 CREB3L1 F2R PDGFB TNC EFNA2 LPAR6 THEM4</i>
0.01763159 4	26	472	1.96765952 1	Path:bta05022 Pathways of neurodegeneration-multiple diseases	<i>CDK5 SDHB NDUFS8 NDUFA11 CALM NDUFA2 NDUFB10 NDUFA8 ND1 ND2 COX1 COX2 ATP8 COX3 ND3 ND4L ND4 ND5 ND6 CYTB NDUFA3 NDUFB7 UCHL1 ARAF NDUFA4L2 SEPTIN5</i>
0.02450236 2	27	515	1.87272986 9	Path:bta05200 Pathways in cancer	<i>FOS IGF1 CXCR4 EDNRB VEGFB STAT5A MMP2 CALM BMP4 RASSF1 ADCY2 PLD1 GSTT1 TERT PLD2 F2R NOTCH4 HEYL RUNX1T1 TGFB3 SMO PDGFB ARAF MSH6 RAC3 GSTA3 LPAR6</i>

0.00012315 9	74	1539	1.71755914 8	Path:bta01100 Metabolic pathways	<i>COX17 PDE8B CA4 MIF SULT1E1 GAPDH LRAT UGP2 BLVRB PDE2A ST6GAL1 PLA2G7 HSD11B2 PAFAH1B3 PCK2 GPX4 SDHB NDUFS8 NDUFA11 NDUFA2 NDUFB10 NDUFA8 ND1 ND2 COX1 COX2 ATP8 COX3 ND3 ND4L ND4 ND5 ND6 CYTB NDUFA3 NDUFB7 ST3GAL4 HMGCS2 VKORC1L1 DGKA PDE8A NAGK ISYNA1 NMRK1 ADCY2 LPCAT4 AK7 LTC4S CA3 ASNS PLD1 CYP2S1 AGL GSTT1 APRT PLD2 CSGALNACT1 KYAT1 TDO2 NT5C ALDH1A2 PANK1 ENPP6 LACC1 FMO4 GLS2 NDUFA4L2 DCTPP1 SARDH GMDS AKR1C3 GSTA3 KL</i>

ClueGO – KEGG Pathways					
KEGG ID	Term	Group PValue	% Associated Genes	Nr. Genes	Associated Genes Found
KEGG:00190	Oxidative phosphorylation	3.62E-07	16.31	23.00	[ATP8, COX1, COX17, COX2, COX3, CYTB, LHPP, ND1, ND2, ND3, ND4, ND4L, ND5, ND6, NDUFA11, NDUFA2, NDUFA3, NDUFA4L2, NDUFA8, NDUFB10, NDUFB7, NDUFS8, SDHB]
KEGG:04723	Retrograde endocannabinoid signaling	3.62E-07	10.97	17.00	[ADCY2, GABRE, ND1, ND2, ND3, ND4, ND4L, ND5, ND6, NDUFA11, NDUFA2, NDUFA3, NDUFA4L2, NDUFA8, NDUFB10, NDUFB7, NDUFS8]
KEGG:04932	Non-alcoholic fatty liver disease (NAFLD)	3.62E-07	8.75	14.00	[COX1, COX2, COX3, CYTB, IRS2, NDUFA11, NDUFA2, NDUFA3, NDUFA4L2, NDUFA8, NDUFB10, NDUFB7, NDUFS8, SDHB]
KEGG:05010	Alzheimer's disease	3.62E-07	9.84	18.00	[ATP8, CALM, CDK5, COX1, COX2, COX3, CYTB, GAPDH, LPL, NDUFA11, NDUFA2, NDUFA3, NDUFA4L2, NDUFA8, NDUFB10, NDUFB7, NDUFS8, SDHB]
KEGG:05012	Parkinson's disease	3.62E-07	15.23	23.00	[ATP8, COX1, COX2, COX3, CYTB, ND1, ND2, ND3, ND4, ND4L, ND5, ND6, NDUFA11, NDUFA2, NDUFA3, NDUFA4L2, NDUFA8, NDUFB10, NDUFB7, NDUFS8, SDHB, SEPT5, UCHL1]

KEGG:05016	Huntington's disease	3.62E-07	7.43	15.00	[ATP8, COX1, COX2, COX3, CREB3L1, CYTB, NDUFA11, NDUFA2, NDUFA3, NDUFA4L2, NDUFA8, NDUFB10, NDUFB7, NDUFS8, SDHB]
KEGG:04072	Phospholipase D signaling pathway	1.06E-04	7.14	11.00	[ADCY2, DGKA, F2R, FYN, GNAS, LPAR6, PDGFB, PLD1, PLD2, RAPGEF3, RRAS]
KEGG:04151	PI3K-Akt signaling pathway	1.06E-04	4.68	18.00	[COL1A1, COL1A2, COL6A1, COL6A2, CREB3L1, EFNA2, EIF4EBP1, F2R, IGF1, LPAR6, NGF, PCK2, PDGFB, PPP2R5B, RELN, THEM4, TNC, TNXB]
KEGG:04510	Focal adhesion	1.06E-04	5.91	12.00	[COL1A1, COL1A2, COL6A1, COL6A2, FYN, IGF1, PARVB, PDGFB, RAC3, RELN, TNC, TNXB]
KEGG:04512	ECM-receptor interaction	1.06E-04	8.33	7.00	[COL1A1, COL1A2, COL6A1, COL6A2, RELN, TNC, TNXB]
KEGG:04611	Platelet activation	1.06E-04	5.83	7.00	[ADCY2, COL1A1, COL1A2, COL3A1, F2R, FYN, GNAS]
KEGG:04926	Relaxin signaling pathway	1.06E-04	7.41	10.00	[ADCY2, ARRB2, COL1A1, COL1A2, COL3A1, CREB3L1, EDNRB, FOS, GNAS, MMP2]

KEGG:04933	AGE-RAGE signaling pathway in diabetic complications	1.06E-04	6.80	7.00	[CCL2, COL1A1, COL1A2, COL3A1, MMP2, STAT5A, TGFB3]
KEGG:04974	Protein digestion and absorption	1.06E-04	5.22	6.00	[COL1A1, COL1A2, COL3A1, COL6A1, COL6A2, PRSS2]
KEGG:05146	Amoebiasis	1.06E-04	5.50	6.00	[COL1A1, COL1A2, COL3A1, GNAS, IL1R2, TGFB3]
KEGG:05165	Human papillomavirus infection	1.06E-04	5.17	18.00	[COL1A1, COL1A2, COL6A1, COL6A2, CREB3L1, EIF4EBP1, GNAS, HDAC4, HDAC6, HDAC7, HEYL, LOC616942, NOTCH4, PPP2R5B, RELN, TERT, TNC, TNXB]
KEGG:04360	Axon guidance	1.88E-03	6.82	12.00	[BMP7, BOC, CDK5, CXCR4, EFNA2, FYN, NGEF, PLXNB1, RAC3, RGS3, RRAS, SMO]
KEGG:00564	Glycerophospholipid metabolism	3.54E-03	4.72	5.00	[DGKA, GPD1L, LPCAT4, PLD1, PLD2]
KEGG:00565	Ether lipid metabolism	3.54E-03	11.11	6.00	[ENPP6, LPCAT4, PAFAH1B3, PLA2G7, PLD1, PLD2]
KEGG:05231	Choline metabolism in cancer	3.54E-03	6.86	7.00	[DGKA, EIF4EBP1, FOS, PDGFB, PLD1, PLD2, RAC3]
KEGG:04014	Ras signaling pathway	6.14E-03	4.35	11.00	[CALM, EFNA2, IGF1, NGF, PDGFB, PLD1, PLD2, RAC3, RASAL2, RASSF1, RRAS]
KEGG:04015	Rap1 signaling pathway	6.14E-03	5.07	11.00	[ADCY2, CALM, EFNA2, F2R, GNAS, IGF1, NGF, PDGFB, RAC3, RAPGEF3, RRAS]

KEGG:04024	cAMP signaling pathway	6.14E-03	5.05	11.00	[ADCY2, CALM, CREB3L1, F2R, FOS, GNAS, PLD1, PLD2, RAC3, RAPGEF3, RRAS]
KEGG:04072	Phospholipase D signaling pathway	6.14E-03	7.14	11.00	[ADCY2, DGKA, F2R, FYN, GNAS, LPAR6, PDGFB, PLD1, PLD2, RAPGEF3, RRAS]
KEGG:04114	Oocyte meiosis	6.14E-03	4.17	5.00	[ADCY2, CALM, IGF1, PPP2R5B, SPDYC]
KEGG:04211	Longevity regulating pathway	6.14E-03	6.52	6.00	[ADCY2, CREB3L1, EIF4EBP1, IGF1, IRS2, KL]
KEGG:04213	Longevity regulating pathway	6.14E-03	6.15	4.00	[ADCY2, CRYAB, IGF1, IRS2]
KEGG:04261	Adrenergic signaling in cardiomyocytes	6.14E-03	5.52	8.00	[ADCY2, CALM, CREB3L1, GNAS, PPP2R5B, RAPGEF3, SCN1B, TPM2]
KEGG:04713	Circadian entrainment	6.14E-03	4.00	4.00	[ADCY2, CALM, FOS, GNAS]
KEGG:04724	Glutamatergic synapse	6.14E-03	5.31	6.00	[ADCY2, GLS2, GNAS, HOMER3, PLD1, PLD2]
KEGG:04725	Cholinergic synapse	6.14E-03	4.42	5.00	[ADCY2, CREB3L1, FOS, FYN, KCNJ2]
KEGG:04730	Long-term depression	6.14E-03	5.00	3.00	[ARAF, GNAS, IGF1]
KEGG:04750	Inflammatory mediator regulation of TRP channels	6.14E-03	4.85	5.00	[ADCY2, CALM, GNAS, IGF1, NGF]
KEGG:04912	GnRH signaling pathway	6.14E-03	6.45	6.00	[ADCY2, CALM, GNAS, MMP2, PLD1, PLD2]
KEGG:04913	Ovarian steroidogenesis	6.14E-03	6.67	4.00	[ADCY2, AKR1C3, GNAS, IGF1]
KEGG:04914	Progesterone-mediated oocyte maturation	6.14E-03	4.30	4.00	[ADCY2, ARAF, IGF1, SPDYC]
KEGG:04915	Estrogen signaling pathway	6.14E-03	6.00	6.00	[ADCY2, CALM, CREB3L1, FOS, GNAS, MMP2]

KEGG:04916	Melanogenesis	6.14E-03	4.85	5.00	[ADCY2, CALM, CREB3L1, EDNRB, GNAS]
KEGG:04918	Thyroid hormone synthesis	6.14E-03	5.56	4.00	[ADCY2, CREB3L1, GNAS, TTR]
KEGG:04922	Glucagon signaling pathway	6.14E-03	4.95	5.00	[ADCY2, CALM, CREB3L1, GNAS, PCK2]
KEGG:04923	Regulation of lipolysis in adipocytes	6.14E-03	5.17	3.00	[ADCY2, GNAS, IRS2]
KEGG:04924	Renin secretion	6.14E-03	4.41	3.00	[CALM, GNAS, KCNJ2]
KEGG:04925	Aldosterone synthesis and secretion	6.14E-03	5.21	5.00	[ADCY2, CALM, CREB3L1, GNAS, PDE2A]
KEGG:04926	Relaxin signaling pathway	6.14E-03	7.41	10.00	[ADCY2, ARRB2, COL1A1, COL1A2, COL3A1, CREB3L1, EDNRB, FOS, GNAS, MMP2]
KEGG:04970	Salivary secretion	6.14E-03	4.17	4.00	[ADCY2, CALM, CST3, GNAS]
KEGG:04971	Gastric acid secretion	6.14E-03	6.76	5.00	[ADCY2, CALM, GNAS, KCNJ15, KCNJ2]
KEGG:04972	Pancreatic secretion	6.14E-03	4.04	4.00	[ADCY2, GNAS, PRSS2, TPCN2]
KEGG:05030	Cocaine addiction	6.14E-03	6.12	3.00	[CDK5, CREB3L1, GNAS]
KEGG:05031	Amphetamine addiction	6.14E-03	5.88	4.00	[CALM, CREB3L1, FOS, GNAS]
KEGG:05032	Morphine addiction	6.14E-03	6.38	6.00	[ADCY2, ARRB2, GABRE, GNAS, PDE2A, PDE8A]
KEGG:05214	Glioma	6.14E-03	5.41	4.00	[ARAF, CALM, IGF1, PDGFB]
KEGG:05231	Choline metabolism in cancer	6.14E-03	6.86	7.00	[DGKA, EIF4EBP1, FOS, PDGFB, PLD1, PLD2, RAC3]
KEGG:05414	Dilated cardiomyopathy (DCM)	6.14E-03	5.56	5.00	[ADCY2, GNAS, IGF1, TGFB3, TPM2]

KEGG:05200	Pathways in cancer	7.80E-03	4.54	25.00	[ADCY2, ARAF, BMP4, CALM, CXCR4, EDNRB, F2R, FOS, GNAS, GSTA3, GSTT1, HEYL, IGF1, LPAR6, MMP2, MSH6, NOTCH4, PDGFB, RAC3, RASSF1, RUNX1T1, SMO, STAT5A, TERT, TGFB3]
KEGG:05418	Fluid shear stress and atherosclerosis	7.80E-03	6.85	10.00	[BMP4, CALM, CCL2, FOS, GSTA3, GSTT1, IL1R2, MMP2, PDGFB, RAC3]
KEGG:00532	Glycosaminoglycan biosynthesis	1.38E-02	15.00	3.00	[CHST14, CHST7, CSGALNACT1]
KEGG:04964	Proximal tubule bicarbonate reclamation	1.79E-02	13.64	3.00	[CA4, GLS2, PCK2]
KEGG:04015	Rap1 signaling pathway	2.37E-02	5.07	11.00	[ADCY2, CALM, EFNA2, F2R, GNAS, IGF1, NGF, PDGFB, RAC3, RAPGEF3, RRAS]
KEGG:04024	cAMP signaling pathway	2.37E-02	5.05	11.00	[ADCY2, CALM, CREB3L1, F2R, FOS, GNAS, PLD1, PLD2, RAC3, RAPGEF3, RRAS]
KEGG:04072	Phospholipase D signaling pathway	2.37E-02	7.14	11.00	[ADCY2, DGKA, F2R, FYN, GNAS, LPAR6, PDGFB, PLD1, PLD2, RAPGEF3, RRAS]
KEGG:04611	Platelet activation	2.37E-02	5.83	7.00	[ADCY2, COL1A1, COL1A2, COL3A1, F2R, FYN, GNAS]
KEGG:04724	Glutamatergic synapse	2.37E-02	5.31	6.00	[ADCY2, GLS2, GNAS, HOMER3, PLD1, PLD2]
KEGG:04912	GnRH signaling pathway	2.37E-02	6.45	6.00	[ADCY2, CALM, GNAS, MMP2, PLD1, PLD2]
KEGG:05231	Choline metabolism in cancer	2.37E-02	6.86	7.00	[DGKA, EIF4EBP1, FOS, PDGFB, PLD1, PLD2, RAC3]
KEGG:00980	Metabolism of xenobiotics by cytochrome P450	3.51E-02	4.55	3.00	[CYP2S1, GSTA3, GSTT1]
KEGG:00982	Drug metabolism	3.51E-02	4.84	3.00	[FMO4, GSTA3, GSTT1]
KEGG:05204	Chemical carcinogenesis	3.51E-02	5.26	4.00	[CCBL1, GSTA3, GSTT1, SULT1A1]

KEGG:04068	FoxO signaling pathway	3.79E-02	5.19	7.00	[ARAF, HOMER3, IGF1, IRS2, PCK2, PLK3, TGFB3]
KEGG:04152	AMPK signaling pathway	3.79E-02	4.72	6.00	[CREB3L1, EIF4EBP1, IGF1, IRS2, PCK2, PPP2R5B]
KEGG:04211	Longevity regulating pathway	3.79E-02	6.52	6.00	[ADCY2, CREB3L1, EIF4EBP1, IGF1, IRS2, KL]
KEGG:04213	Longevity regulating pathway	3.79E-02	6.15	4.00	[ADCY2, CRYAB, IGF1, IRS2]
KEGG:04923	Regulation of lipolysis in adipocytes	3.79E-02	5.17	3.00	[ADCY2, GNAS, IRS2]
KEGG:05219	Bladder cancer	4.48E-02	6.52	3.00	[ARAF, MMP2, RASSF1]
KEGG:05221	Acute myeloid leukemia	4.48E-02	7.35	5.00	[ARAF, EIF4EBP1, MPO, RUNX1T1, STAT5A]
KEGG:05223	Non-small cell lung cancer	4.48E-02	4.41	3.00	[ARAF, RASSF1, STAT5A]