

TITLE

[0001] Methods and Compositions for Determining Smoking Status.

CROSS REFERENCE TO RELATED APPLICATIONS

[0002] This application claims the benefit of U.S. Provisional Application No. 61/528,616, filed August 29, 2011, the entire disclosure of which is hereby incorporated by reference in its entirety for all purposes.

BACKGROUND**Field**

[0003] The invention relates to predictive models for determining smoking status based on marker expression measurements, to their methods of use, and to computer systems and software for their implementation.

Description of the Related Art

[0004] Smoking is the leading cause of preventable death in the world, resulting in over 5 million deaths per year worldwide, with ~ 500,000 of those deaths occurring in the United States (1,2). Smoking has been shown to be detrimental to human health, increasing the risk of multiple diseases, including many forms of cancers (lung, pancreatic) and cardiovascular/pulmonary disease (atherosclerosis, chronic obstructive pulmonary disease) (3,4,5). Cigarette smoke contains over 4,000 compounds, many of which have been shown to be carcinogenic or toxic; these compounds are able to enter the circulatory system by way of the pulmonary alveoli, and are distributed to different organs of the body, resulting in damage (6). During this process, circulatory cells of the immune system are exposed to these compounds, which may result in the changes in gene expression which can be assessed using established technologies.

Unmet Clinical and Scientific Need

[0005] Cotinine is a metabolite of nicotine and appears in the blood and urine of cigarette smokers. Biochemical measurements of cotinine in blood or urine therefore provide a marker of smoking status, but specialized assays are required. A general assay using readily available and general molecular biology tools such as quantitative RNA measures or nucleic acid sequencing reactions provides an independent way to determine smoking status and can be

carried out as part of a parallel or multiplexed series of nucleic-acid based measures obtained from a patient sample.

SUMMARY

[0006] Described herein is a computer-implemented method for scoring a sample obtained from a subject, wherein said score indicates said subject's smoking status, comprising: obtaining a dataset associated with said sample, wherein said dataset comprises quantitative expression data for one or more of marker 1, marker 2, marker 3, marker 4, and/or marker 5, wherein marker 1 is CLDND1 or IL7R, wherein marker 2 is LRRN3 or CCR7, wherein marker 3 is MUC1 or FOXP3, wherein marker 4 is GOPC or MCM3, and wherein marker 5 is LEF1 or CCR7; and determining, by a computer processor, a score from said dataset using an interpretation function, wherein said score is indicative of said subject's smoking status.

[0007] In some embodiments, said dataset comprises quantitative expression data for marker 1, marker 2, marker 3, marker 4 and marker 5, wherein marker 1 is CLDND1, wherein marker 2 is LRRN3, wherein marker 3 is MUC1, wherein marker 4 is GOPC, and wherein marker 5 is LEF1. In some embodiments, said dataset comprises quantitative expression data for two or more of marker 1, marker 2, marker 3, marker 4, and marker 5. In some embodiments, said dataset comprises quantitative expression data for three or more of marker 1, marker 2, marker 3, marker 4, and marker 5. In some embodiments, said dataset comprises quantitative expression data for four or more of marker 1, marker 2, marker 3, marker 4, and marker 5. In some embodiments, said dataset comprises quantitative expression data for marker 1, marker 2, marker 3, marker 4, and marker 5.

[0008] In some embodiments, the method further comprises, determining, by a computer processor, the subject's risk for developing a smoking-related disease, based on said score. In some embodiments, said smoking-related disease is chronic obstructive pulmonary disease, chronic bronchitis, emphysema, lung cancer, and/or asthma.

[0009] In some embodiments, the dataset comprises quantitative expression data for at least one, two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty or more additional markers selected from Table 1.

[0010] In some embodiments, the dataset further comprises a clinical factor used to calculate the score. In some embodiments, the clinical factor is selected from the group consisting of: gender and hypertension. In some embodiments, the clinical factor is gender.

[0011] In some embodiments, said interpretation function is based on a predictive model. In some embodiments, said predictive model is selected from the group consisting of a partial least squares model, a logistic regression model, a linear regression model, a linear discriminant analysis model, a ridge regression model, and a tree-based recursive partitioning model. In some embodiments, said interpretation function is $\log(\text{pr}(\text{Smoker})/(1-\text{Pr}(\text{Smoker}))) = 15.78306 + 0.3876 * \text{SEX} - 3.3368 * \text{CLDND1} - 3.4034 * \text{LRRN3} - 1.4847 * \text{MUC1} + 5.9209 * \text{GOPC} + 2.27166 * \text{LEF1}$, wherein $\text{SEX} = 1$ if male, and 0 if female and Pr is probability. In some embodiments, said interpretation function is an interpretation function selected from the group of interpretation functions consisting of those set out in Table 7.

[0012] In some embodiments, obtaining said dataset associated with said sample comprises obtaining said sample and processing said sample to experimentally determine said dataset. In some embodiments, obtaining said dataset associated with said sample comprises receiving said dataset directly or indirectly from a third party that has processed said sample to experimentally determine said dataset.

[0013] In some embodiments, the dataset is obtained stored on a storage memory. In some embodiments, said quantitative expression data are from hybridization data. In some embodiments, said quantitative expression data are from polymerase chain reaction data. In some embodiments, said quantitative expression data are from sequence data.

[0014] Also described herein is a computer-implemented method for scoring a sample obtained from a subject, comprising: obtaining a dataset associated with the sample, wherein the dataset comprises a clinical factor used to calculate a score and quantitative expression level values for at least one marker selected from the group consisting of CLDND1, IL7R, LRRN3, CCR7, MUC1, FOXP3, GOPC, MCM3, LEF1, and CCR7; and determining, by a computer processor, the score from the dataset using an interpretation function, wherein the score is indicative of said subject's smoking status. In some embodiments, said dataset comprises quantitative expression data for CLDND1, LRRN3, MUC1, GOPC, and LEF1. In some embodiments, said dataset comprises quantitative expression data for two or more markers. In some embodiments, said dataset comprises quantitative expression data for three or more markers. In some embodiments, said dataset comprises quantitative expression data for four or more markers. In some embodiments, said dataset comprises quantitative expression data for five or more markers.

[0015] Also described herein is a system for scoring a sample obtained from a subject, wherein said score indicates said subject's smoking status, comprising: a storage memory for storing a

dataset associated with said sample, wherein said dataset comprises quantitative expression data for one or more of marker 1, marker 2, marker 3, marker 4, and/or marker 5, wherein marker 1 is CLDND1 or IL7R, wherein marker 2 is LRRN3 or CCR7, wherein marker 3 is MUC1 or FOXP3, wherein marker 4 is GOPC or MCM3, and wherein marker 5 is LEF1 or CCR7; and a processor communicatively coupled to the storage memory for determining a score from said dataset using an interpretation function, wherein said score is indicative of said subject's smoking status.

[0016] Also described herein is a computer-readable storage medium storing computer-executable program code, the program code comprising: program code for storing a dataset associated with said sample, wherein said dataset comprises quantitative expression data for one or more of marker 1, marker 2, marker 3, marker 4, and/or marker 5, wherein marker 1 is CLDND1 or IL7R, wherein marker 2 is LRRN3 or CCR7, wherein marker 3 is MUC1 or FOXP3, wherein marker 4 is GOPC or MCM3, and wherein marker 5 is LEF1 or CCR7; and program code for determining a score from said dataset using an interpretation function, wherein said score is indicative of said subject's smoking status.

[0017] Also described herein is a method for scoring a sample obtained from a subject, wherein said score indicates said subject's smoking status, comprising: obtaining a sample from the subject, wherein the sample comprises a plurality of analytes; contacting the sample with a reagent; generating a plurality of complexes between the reagent and the plurality of analytes; detecting the plurality of complexes to obtain a dataset associated with said sample, wherein said dataset comprises quantitative expression data for one or more of marker 1, marker 2, marker 3, marker 4, and/or marker 5, wherein marker 1 is CLDND1 or IL7R, wherein marker 2 is LRRN3 or CCR7, wherein marker 3 is MUC1 or FOXP3, wherein marker 4 is GOPC or MCM3, and wherein marker 5 is LEF1 or CCR7; and determining a score from the dataset using an interpretation function, wherein said score is indicative of said subject's smoking status.

[0018] Also described herein is a kit for scoring a sample obtained from a subject, wherein said score indicates said subject's smoking status, comprising: a set of reagents comprising a plurality of reagents for determining from a sample obtained from the subject quantitative expression data for one or more of marker 1, marker 2, marker 3, marker 4, and/or marker 5, wherein marker 1 is CLDND1 or IL7R, wherein marker 2 is LRRN3 or CCR7, wherein marker 3 is MUC1 or FOXP3, wherein marker 4 is GOPC or MCM3, and wherein marker 5 is LEF1 or CCR7; and instructions for using the plurality of reagents to determine quantitative expression

data in a dataset from the sample, wherein the instructions comprise instructions for determining, by a computer processor, a score from said dataset using an interpretation function, wherein said score is indicative of said subject's smoking status.

[0019] In an embodiment, the invention provides a method for determining the smoking status of a subject through use of a dataset that includes quantitative expression data for one or more markers listed in Table 1, by analyzing the dataset to determine an expression level of the marker, wherein the expression level of the marker positively or negatively correlates with the smoking status of the subject, thereby determine the subject's smoking status. In an embodiment, the subject's smoking status can be used to assess risk of developing a smoking-related disease such as chronic obstructive pulmonary disease, chronic bronchitis, emphysema, lung cancer, or asthma. In an embodiment, the analyzing step is carried out by comparing the expression level of the marker to a threshold value. In other embodiments, the dataset includes quantitative expression data for at least two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty or more markers selected from Table 1. The marker may be positively or negatively correlated with smoking status, and the expression level of the marker may be increased or decreased in a smoker as compared to a non-smoker. In other aspects, the methods of the invention are implemented on one or more computers. In some embodiments, the dataset is obtained by assaying a sample to experimentally determine expression values. In other embodiments, the dataset is obtained directly or indirectly from a third party that has processed the sample to experimentally determine the data. The data in the dataset may reflect measurements made using a nucleotide-based assay such as a qRT-PCR assay, a hybridization assay, or a sequencing reaction assay. In some embodiments, the methods of the invention are implemented using a computer processor. The invention also encompasses systems for determining smoking status of a subject. The system includes a storage memory for storing the dataset, and a processor communicatively coupled to the storage memory for analyzing the dataset to determine the expression level of the marker. In other embodiments, the invention includes a computer-readable storage medium storing computer-executable program code for storing a dataset associated with a sample obtained from the subject, which dataset includes quantitative expression data for a marker selected from Table 1 and program code for analyzing the dataset to determine an expression level of the marker, where the expression level positively or negatively correlates with the subject's smoking status. In yet other embodiments, the system of the intention includes a storage memory for storing a dataset that

includes a threshold value for a marker selected from Table 1. The threshold can be associated with expression data obtained from a non-smoking subject or a non-smoking population of subjects. Still other embodiments of the invention include a kit for use in determining a subject's smoking status, that includes a set of reagents for determining from a sample obtained from the subject quantitative expression data for a marker selected from Table 1 and instructions for using the reagents to determine quantitative expression data from the sample and analyzing the dataset to determine an expression level of the marker, which positively or negatively correlates with the subject's smoking status. The instructions may further include threshold values for use in the analysis and/or an interpretation function for generating a score indicative of smoking status. The kit may include reagents for more than one marker selected from Table 1, for example, at least two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty or more markers. Embodiments of the invention also incorporate predictive models and associated interpretation functions that operate on the quantitative expression data to generate a score that is indicative of a subject's smoking status. The predictive model can be a partial least squares model, a logistic regression model, a linear regression model, a linear discriminant analysis model, a ridge regression model, and a tree-based recursive partitioning model. In certain embodiments, the markers comprise CDND1, LRRN3, MUC1, GOPC, or LEF1, or markers selected from Table 1 whose expression is correlated with CDND1, LRRN3, MUC1, GOPC, and LEF1. In some embodiments, the interpretation function is $\log(\text{pr}(\text{Smoker})/(1 - \text{Pr}(\text{Smoker}))) = 15.78306 + 0.3876 * \text{SEX} - 3.3368 * \text{CDND1} - 3.4034 * \text{LRRN3} - 1.4847 * \text{MUC1} + 5.9209 * \text{GOPC} + 2.27166 * \text{LEF1}$, wherein $\text{SEX} = 1$ if male, and 0 if female and Pr is probability. In other embodiments, the interpretation function is an interpretation function set out in Table 7.

BRIEF DESCRIPTION OF THE DRAWING

[0020] These and other features, aspects, and advantages of the present invention will become better understood with regard to the following description, and accompanying drawing, where:

[0021] **Figure 1** – is a plot showing relationship between classification by application of predictive model of samples into smoker and non-smoker categories and mean cotinine levels for the same samples.

DETAILED DESCRIPTION

[0022] In general, terms used in the claims and the specification are intended to be construed as having the plain meaning understood by a person of ordinary skill in the art. Certain terms are defined below to provide additional clarity. In case of conflict between the plain meaning and the provided definitions, the provided definitions are to be used.

[0023] The term “Ct” refers to cycle threshold and is defined as the PCR cycle number where the fluorescent value is above a set threshold. Therefore, a low Ct value corresponds to a high level of expression, and a high Ct value corresponds to a low level of expression.

[0024] The term “Cp” refers to the crossing point and is defined as the intersection of the best fit of the log-linear portion of a standard’s amplification curve in a real time PCR instrument such as, e.g., a LightCycler, and the noise band (set according to background fluorescence measurements).

[0025] The term “FDR” means to false discovery rate. FDR can be estimated by analyzing randomly-permuted datasets and tabulating the average number of genes at a given p-value threshold.

[0026] The terms “GL” “GM” and “GU” respectively refer to 1st percentile, median, and 99th percentile of Cp for that gene in the Algorithm Development data set.

[0027] The terms “marker” or “markers” encompass, without limitation, lipids, lipoproteins, proteins, cytokines, chemokines, growth factors, peptides, nucleic acids, genes, and oligonucleotides, together with their related complexes, metabolites, mutations, variants, polymorphisms, modifications, fragments, subunits, degradation products, elements, and other analytes or sample-derived measures. A marker can also include mutated proteins, mutated nucleic acids, variations in copy numbers, and/or transcript variants, in circumstances in which such mutations, variations in copy number and/or transcript variants are useful for generating a predictive model, or are useful in predictive models developed using related markers (e.g., non-mutated versions of the proteins or nucleic acids, alternative transcripts, etc.).

[0028] The terms “highly correlated gene expression” or “highly correlated marker expression” refer to gene or marker expression values that have a sufficient degree of correlation to allow their interchangeable use in a predictive model of coronary artery disease. For example, if gene x having expression value X is used to construct a predictive model, highly correlated gene y having expression value Y can be substituted into the predictive model in a straightforward way readily apparent to those having ordinary skill in the art and the benefit of the instant disclosure. Assuming an approximately linear relationship between the expression

values of genes x and y such that $Y = a + bX$, then X can be substituted into the predictive model with $(Y-a)/b$. For non-linear correlations, similar mathematical transformations can be used that effectively convert the expression value of gene y into the corresponding expression value for gene x . The terms “highly correlated marker” or “highly correlated substitute marker” refer to markers that can be substituted into and/or added to a predictive model based on, e.g., the above criteria. A highly correlated marker can be used in at least two ways: (1) by substitution of the highly correlated marker(s) for the original marker(s) and generation of a new model for predicting smoking status; or (2) by substitution of the highly correlated marker(s) for the original marker(s) in the existing model for predicting smoking status.

[0029] The term “mammal” encompasses both humans and non-humans and includes but is not limited to humans, non-human primates, canines, felines, murines, bovines, equines, and porcines.

[0030] The term “metagene” refers to a set of genes whose expression values are combined to generate a single value that can be used as a component in a predictive model. (Brunet, J.P., et al. Proc. Natl. Acad. Sciences 2004;101(12):4164-9)

[0031] The term “sample” can include a single cell or multiple cells or fragments of cells or an aliquot of body fluid, taken from a subject, by means including venipuncture, excretion, ejaculation, massage, biopsy, needle aspirate, lavage sample, scraping, surgical incision, or intervention or other means known in the art.

[0032] The term “subject” encompasses a cell, tissue, or organism, human or non-human, whether in vivo, ex vivo, or in vitro, male or female.

[0033] The term “obtaining a dataset associated with a sample” encompasses obtaining a set of data determined from at least one sample. Obtaining a dataset encompasses obtaining a sample, and processing the sample to experimentally determine the data. The phrase also encompasses receiving a set of data, e.g., from a third party that has processed the sample to experimentally determine the dataset. Additionally, the phrase encompasses mining data from at least one database or at least one publication or a combination of databases and publications. A dataset can be obtained by one of skill in the art via a variety of known ways including stored on a storage memory.

[0034] It must be noted that, as used in the specification and the appended claims, the singular forms “a,” “an,” and “the” include plural referents unless the context clearly dictates otherwise.

Methods

Markers and Clinical Factors

[0035] The quantity of one or more markers of the invention can be indicated as a value. A value can be one or more numerical values resulting from evaluation of a sample under a condition. The values can be obtained, for example, by experimentally obtaining measures from a sample by an assay performed in a laboratory, or alternatively, obtaining a dataset from a service provider such as a laboratory, or from a database or a server on which the dataset has been stored, e.g., on a storage memory.

[0036] In an embodiment, the quantity of one or more markers can be one or more numerical values associated with expression levels of the genes set out in Table 1 resulting from evaluation of a sample under a condition. The column labels of Table 1 indicate the following: “Probe Name” refers to the names of probes found on Agilent Human Whole Genome Arrays (Agilent Technologies, Santa Clara, CA); “Gene Name” refers to the names of human genes in accordance with guidelines provided by the Human Genome Organization (HUGO) Gene Nomenclature Committee (HGNC). Further information about each human gene, such as accession number(s) and aliases, can be found by entering the gene name into the search page on the HGNC genenames.org website. For example, entering the term “LRRN3” into the Simple Search field of the HGNC website on August 10, 2011 returns the approved gene name of LRRN3 (leucine rich repeat neuronal 3), the sequence accession IDs of LRRN3 (GenBank AB060967; RefSeq: NM 001099658), and the previous symbols or synonyms for LRRN3 (FIGLER5, FLJ11129, NLRR3). Further human gene names are provided in the Examples section below. A person of ordinary skill in the art recognizes that the Gene Name information provided in Table 1 unambiguously identifies genes used as biomarkers in the present invention, and is able to use the Gene Name information of Table 1 to obtain protein and nucleic acid sequence information about the named gene without exercising undue experimentation. Such information readily enables the skilled artisan to obtain quantitative expression level data for these markers using any one of a number of methods described in this specification. “Smoking Log Odds” refers to a standard statistical measure of the association of a biomarker with smoking status. A positive value in Table 1 indicates that the marker is positively associated with smoking status, while a negative value indicates that the marker is negatively associated with smoking status (*i.e.*, that the marker is associated with negative (“non-smoking”) smoking status. Thus, if expression goes down with increased smoking, the

marker has a negative value, and if expression goes up with increased smoking, the marker has positive value in Table 1. “Smoking p” refers to the statistical significance of a marker’s association (positive or negative) with smoking status.

[0037] In an embodiment, a marker’s associated value can be included in a dataset associated with a sample obtained from a subject. A dataset can include the marker expression value of two or more, three or more, four or more, five or more, six or more, seven or more, eight or more, nine or more, ten or more, eleven or more, twelve or more, thirteen or more, fourteen or more, fifteen or more, sixteen or more, seventeen or more, eighteen or more, nineteen or more, twenty or more, twenty-one or more, twenty-two or more, twenty-three or more, twenty-four or more, twenty-five or more, twenty-six or more, twenty-seven or more, twenty-eight or more, twenty-nine or more, or thirty or more marker(s) set out in Table 1. A dataset can include a subset or a complete set of the markers set out in Table 1 with other markers now known or later determined to be positively or negatively associated with smoking status. For example, a dataset can include the expression values for SASH1, P2RY6, MUC1, LRRN3, MGAT3, and CLDND1. In another embodiment, a dataset can include the expression values for CLDND1, LRRN3, MUC1, GOPC, and LEF1. Other combinations are described in more detail in the Examples section below. A dataset may also combine expression values for markers with a clinical factor, e.g., gender. A dataset may also combine expression values for markers with an indicator of a subject’s sex (*i.e.*, an indication of whether the subject is male or female). A dataset may also combine expression values for markers with an indicator of a subject’s hypertension status.

[0038] In another embodiment, the invention includes obtaining a sample associated with a subject, where the sample includes one or more markers. The sample can be obtained by the subject or by a third party, *e.g.*, a medical professional. Examples of medical professionals include physicians, emergency medical technicians, nurses, first responders, psychologists, medical physics personnel, nurse practitioners, surgeons, dentists, and any other obvious medical professional as would be known to one skilled in the art. A sample can include peripheral blood cells, isolated leukocytes, or RNA extracted from peripheral blood cells or isolated leukocytes. The sample can be obtained from any bodily fluid, for example, amniotic fluid, aqueous humor, bile, lymph, breast milk, interstitial fluid, blood, blood plasma, cerumen (earwax), Cowper’s fluid (pre-ejaculatory fluid), chyle, chyme, female ejaculate, menses, mucus, saliva, urine, vomit, tears, vaginal lubrication, sweat, serum, semen, sebum, pus, pleural fluid, cerebrospinal fluid, synovial fluid, intracellular fluid, and vitreous humour. In an

example, the sample is obtained by a blood draw, where the medical professional draws blood from a subject, such as by a syringe. The bodily fluid can then be tested to determine the value of one or more markers using an assay. The value of the one or more markers can then be evaluated by the same party that performed the assay using the methods of the invention or sent to a third party for evaluation using the methods of the invention.

[0039] Smoking status is well known to correlate with certain smoking-related disease risks. These include chronic obstructive pulmonary disease (COPD), chronic bronchitis, emphysema, lung cancer, asthma (11, 12). Thus, the methods of the invention can be used to provide an independent risk factor to assess an individual's risk of developing one or more smoking-related disease. The result from the methods of the invention can be fed into any one of a number of diagnostic processes that use smoking status to assess a smoking-related disease risk. These results can be used in lieu of or in addition to an individual's self-reported smoking status, for example, in providing patient history data to a physician, to an insurance carrier or to any other entity that was interested in assessing an individual's risk of developing one or more smoking-related diseases.

Interpretation Functions

[0040] In an embodiment, an interpretation function can be a function produced by a predictive model. An interpretation function can also be produced by a plurality of predictive models. In an embodiment, an interpretation function can take the form of: $\log(\text{Pr}(\text{Smoker})/(1 - \text{Pr}(\text{Smoker}))) = 15.7306 + 0.3876 * \text{SEX} - 3.3368 * \text{CLDND1} - 3.4034 * \text{LRRN3} - 1.4847 * \text{MUC1} + 5.9209 * \text{GOPC} + 2.7166 * \text{LEF1}$ where $\text{SEX} = 1$ if male, 0 if female; $\text{Pr} =$ probability. Other interpretation functions are set out in Table 7.

[0041] In an embodiment, a predictive model can include a partial least squares model, a logistic regression model, a linear regression model, a linear discriminant analysis model, a ridge regression model, and a tree-based recursive partitioning model. In an embodiment, a predictive model can also include Support Vector Machines, quadratic discriminant analysis, or a LASSO regression model. *See* Elements of Statistical Learning, Springer 2003, Hastie, Tibshirani, Friedman; which is herein incorporated by reference in its entirety for all purposes. Predictive model performance can be characterized by an area under the curve (AUC). In an embodiment, predictive model performance is characterized by an AUC ranging from 0.68 to 0.70. In an embodiment, predictive model performance is characterized by an AUC ranging from 0.70 to 0.79. In an embodiment, predictive model performance is characterized by an AUC ranging from 0.80 to 0.89. In an embodiment, predictive model performance is

characterized by an AUC ranging from 0.90 to 0.99. Interpretation functions can be developed using combinations of informative markers as shown in the Examples below, or using a single gene whose expression is highly correlated with smoking status. In certain embodiments, methods for classifying based on a single gene are developed using logistic regression or linear discriminant analysis (LDA).

Assays

[0042] Examples of assays for one or more markers include DNA assays, microarrays, sequencing-based assays in which the number of sequenced molecules is counted and the count used to determine expression level. The sequenced molecules can be cDNAs corresponding to mRNA transcripts. Other assays include polymerase chain reaction (PCR), RT-qPCR, sequencing assays, Southern blots, Northern blots, antibody-binding assays, enzyme-linked immunosorbent assays (ELISAs), flow cytometry, protein assays, Western blots, nephelometry, turbidimetry, chromatography, mass spectrometry, immunoassays, including, by way of example, but not limitation, RIA, immunofluorescence, immunochemiluminescence, immunoelectrochemiluminescence, or competitive immunoassays, immunoprecipitation, and the assays described in the Examples section below. The information from the assay can be quantitative and sent to a computer system of the invention. The information can also be qualitative, such as observing patterns or fluorescence, which can be translated into a quantitative measure by a user or automatically by a reader or computer system. In an embodiment, the subject can also provide information other than assay information to a computer system, such as a clinical factor (*e.g.*, gender).

[0043] In addition to the use of RT-qPCR to assess expression levels, other modalities such as microarrays or RNA sequencing can be used. For example, to crosswalk a predictive model based on RT-qPCR data to microarray data, the array data is first subjected to standard normalization. A regression line is then fit to predict the PCR value for each of the model genes from its array value. The fitted values of each regression are then inserted into the smoking model as predictors. To crosswalk a predictive model to RNA sequencing, targeted re-sequencing of the model genes is accomplished using a next-generation sequencing platform. Raw sequence reads are aligned to the respective targeted genes, and raw expression levels assessed by calculating depth of coverage. Raw values are normalized by the total number of raw sequences per sample and length of target gene. A regression line is then fit to predict the PCR value for each of the model genes from its normalized sequence value. The fitted values of each regression are inserted into the smoking model as predictors.

Informative marker groups

[0044] In addition to the specific, exemplary markers identified in this application by name, accession number, or sequence, included within the scope of the invention are all operable predictive models of smoking status and methods for their use to score and optionally classify samples using expression values of variant sequences having at least 90% or at least 95% or at least 97% or greater identity to the exemplified sequences or that encode proteins having sequences with at least 90% or at least 95% or at least 97% or greater identity to those encoded by the exemplified genes or sequences. The percentage of sequence identity may be determined using algorithms well known to those of ordinary skill in the art, including, e.g., BLASTn, and BLASTp, as described in Stephen F. Altschul et al., J. Mol. Biol. 215:403-410 (1990) and available at the National Center for Biotechnology Information website maintained by the National Institutes of Health. As described below, in accordance with an embodiment of the present invention, are all operable predictive models and methods for their use in scoring and optionally classifying samples that use a marker expression measurement that is now known or later discovered to be highly correlated with the expression of an exemplary marker expression value in addition to or in lieu of that exemplary marker expression value. For the purposes of the present invention, such highly correlated genes are contemplated either to be within the literal scope of the claimed inventions or alternatively encompassed as equivalents to the exemplary markers. Identification of markers having expression values that are highly correlated to those of the exemplary markers, and their use as a component of a predictive model is well within the level of ordinary skill in the art. The Examples section below provides numerous examples of methods for identifying highly correlated markers and substituting them for algorithm markers in predictive models of smoking status and methods for their use to score and optionally classify samples.

Computer implementation

[0045] In one embodiment, a computer comprises at least one processor coupled to a chipset. Also coupled to the chipset are a memory, a storage device, a keyboard, a graphics adapter, a pointing device, and a network adapter. A display is coupled to the graphics adapter. In one embodiment, the functionality of the chipset is provided by a memory controller hub and an I/O controller hub. In another embodiment, the memory is coupled directly to the processor instead of the chipset.

[0046] The storage device is any device capable of holding data, like a hard drive, compact disk read-only memory (CD-ROM), DVD, or a solid-state memory device. The memory holds instructions and data used by the processor. The pointing device may be a mouse, track ball, or other type of pointing device, and is used in combination with the keyboard to input data into the computer system. The graphics adapter displays images and other information on the display. The network adapter couples the computer system to a local or wide area network.

[0047] As is known in the art, a computer can have different and/or other components than those described previously. In addition, the computer can lack certain components. Moreover, the storage device can be local and/or remote from the computer (such as embodied within a storage area network (SAN)).

[0048] As is known in the art, the computer is adapted to execute computer program modules for providing functionality described herein. As used herein, the term "module" refers to computer program logic utilized to provide the specified functionality. Thus, a module can be implemented in hardware, firmware, and/or software. In one embodiment, program modules are stored on the storage device, loaded into the memory, and executed by the processor.

[0049] The term percent "identity," in the context of two or more nucleic acid or polypeptide sequences, refer to two or more sequences or subsequences that have a specified percentage of nucleotides or amino acid residues that are the same, when compared and aligned for maximum correspondence, as measured using one of the sequence comparison algorithms described below (e.g., BLASTP and BLASTN or other algorithms available to persons of skill) or by visual inspection. Depending on the application, the percent "identity" can exist over a region of the sequence being compared, e.g., over a functional domain, or, alternatively, exist over the full length of the two sequences to be compared.

[0050] For sequence comparison, typically one sequence acts as a reference sequence to which test sequences are compared. When using a sequence comparison algorithm, test and reference sequences are input into a computer, subsequence coordinates are designated, if necessary, and sequence algorithm program parameters are designated. The sequence comparison algorithm then calculates the percent sequence identity for the test sequence(s) relative to the reference sequence, based on the designated program parameters.

[0051] Optimal alignment of sequences for comparison can be conducted, e.g., by the local homology algorithm of Smith & Waterman, Adv. Appl. Math. 2:482 (1981), by the homology alignment algorithm of Needleman & Wunsch, J. Mol. Biol. 48:443 (1970), by the search for similarity method of Pearson & Lipman, Proc. Nat'l. Acad. Sci. USA 85:2444 (1988), by

computerized implementations of these algorithms (GAP, BESTFIT, FASTA, and TFASTA in the Wisconsin Genetics Software Package, Genetics Computer Group, 575 Science Dr., Madison, Wis.), or by visual inspection (see generally Ausubel et al., *infra*).

[0052] One example of an algorithm that is suitable for determining percent sequence identity and sequence similarity is the BLAST algorithm, which is described in Altschul et al., *J. Mol. Biol.* 215:403-410 (1990). Software for performing BLAST analyses is publicly available through the National Center for Biotechnology Information.

[0053] Embodiments of the entities described herein can include other and/or different modules than the ones described here. In addition, the functionality attributed to the modules can be performed by other or different modules in other embodiments. Moreover, this description occasionally omits the term “module” for purposes of clarity and convenience.

Kits

[0054] The invention provides kits for determining quantitative expression data for one or more markers selected from Table 1 and instructions for using the data to determine a subject's smoking status. Optionally the kit may include packaging. The kit can include reagents for carrying out a nucleotide-based assay such as a qRT-PCR assay, a hybridization assay, or a sequencing assay for determining the expression levels of the one or markers selected from Table 1. The kit can include reagents for carrying out any of the other types of assays described in this specification. The reagents can be probes and primers such as those set out in Table 4, or other similar reagents. The reagents can be probes such as the probes identified in Table 1 or Table 2. The instructions can include an interpretation function that is used to operate on the quantitative expression data. The interpretation function can be generated from a predictive model. The instructions can include thresholds that can be determined from a smoking subject or a smoking population of subjects, or from a non-smoking subject or a non-smoking population of subjects. The instructions can include methods for comparing the quantitative expression data to a threshold for determining smoking status.

EXAMPLES

[0055] Below are examples of specific embodiments for carrying out the present invention. The examples are offered for illustrative purposes only, and are not intended to limit the scope of the present invention in any way. Efforts have been made to ensure accuracy with respect to numbers used (e.g., amounts, temperatures, etc.), but some experimental error and deviation should, of course, be allowed for.

[0056] The practice of the present invention will employ, unless otherwise indicated, conventional methods of protein chemistry, biochemistry, recombinant DNA techniques and pharmacology, within the skill of the art. Such techniques are explained fully in the literature. See, e.g., T.E. Creighton, *Proteins: Structures and Molecular Properties* (W.H. Freeman and Company, 1993); A.L. Lehninger, *Biochemistry* (Worth Publishers, Inc., current addition); Sambrook, et al., *Molecular Cloning: A Laboratory Manual* (2nd Edition, 1989); *Methods In Enzymology* (S. Colowick and N. Kaplan eds., Academic Press, Inc.); *Remington's Pharmaceutical Sciences*, 18th Edition (Easton, Pennsylvania: Mack Publishing Company, 1990); Carey and Sundberg *Advanced Organic Chemistry 3rd Ed.* (Plenum Press) Vols A and B(1992).

Materials and Methods

Statistical Methods

[0057] All statistical methods were performed using the R software package. The statistical methods used are described and referenced in greater detail below.

Gene Selection

[0058] Genes for RT-PCR were selected based on significance, fold-change, pathway analysis, and literature support. Hierarchical clustering based on gene: gene correlations ensured that RT-PCR genes represented multiple clusters. Normalization genes were selected based on low variance, moderate to high expression, and no significant association with case: control status, sex, age, or cell counts.

PCR Statistical Analysis

[0059] Clinical/demographic factors were assessed for smoking status association using univariate and multivariate logistic regression. Gene expression association with smoking status and other clinical/demographic factors was assessed by robust logistic regression (unadjusted and sex/age adjusted).⁷

Whole Genome Microarray Analysis

Phase I – PREDICT DISCOVERY.

[0060] We performed whole genome microarray analysis on RNA isolated from 210 catheter lab patients enrolled in a prospective clinical trial (PREDICT) designed to identify gene expression signatures that correlate with coronary artery disease.

[0061] Blood was collected at the time of catheterization in PAXgen tubes. RNA was isolated by automated method, using the Agencourt RNAdvance system, and quantified using Ribogreen (Invitrogen (now Life Technologies), Carlsbad, CA). RNA was labeled with Cy3 using methods recommended by the manufacturer (Agilent, Santa Clara, CA) and hybridized to whole genome arrays (Agilent Human Whole Genome Arrays).

Array Normalization

[0062] Agilent processed signal values for array normalization were scaled to a trimmed mean of 100 and then log2 transformed. Standard array QC metrics (percent present, pairwise correlation, and signal intensity) were used for quality assessment, resulting in 12 of 210 PREDICT samples being excluded.

Array Analysis

[0063] For the PREDICT array, given the paired design, conditional logistic regression was used. False discovery rates were used to account for multiple comparisons. GOEAST was used to determine over-representation of Gene Ontology (GO) terms.

[0064] Array feature data was extracted using Agilent Feature Extraction software and normalized using quantile normalization.

Algorithm Calculation and Transformation

Data Preprocessing and QC Steps

- 1) The median of triplicate wells for each algorithm gene/sample was computed
 - a. If one well had no call, the median of the two remaining wells was used
 - b. If two or three wells had no call, the algorithm gene received no call for that sample
- 2) The median of the algorithm gene SD's was computed. If this value was greater than .15, the sample failed for *High Replicate SD*.

- 3) For each algorithm gene i , a floor Cp value was created by replacing values less than GL_i with GL_i . This value represents the 1st percentile of Cp for that gene in the Algorithm Development set.
- 4) For each algorithm gene i , a ceiling Cp value was created by replacing values greater than GU_i with GU_i . This value represents the 99th percentile of Cp for that gene in the Algorithm Development set.
- 5) For each algorithm gene i , the absolute value of the difference between its Cp value and GM_i was computed, where GM_i represents the median Cp for that gene in the Algorithm Development set. This value was summed across the algorithm genes. If the sum was greater than 27.17, the sample failed for *Expression Profile Out of Range*. 27.17 represents the largest value of this metric within the Algorithm Development set.

[0065] In certain cases, an algorithm score was not be calculated for a subject. Reasons for this included low PAXgene® tube blood volume, lab QC failure, etc. The frequency of occurrence of these failures was tabulated, though these subjects were not included in the analysis set.

[0066] To identify genes whose expression levels correlated with smoking, a robust linear model was used (8), with smoking status used as the dependent variable and age, sex, and gene expression as the independent variables. Table 1 contains the 4988 probes (representing 4214 genes) which showed significant correlation with smoking status ($p < 0.05$). 1933 probes were down-regulated (indicated by negative smoking Log Odds) in smokers and 3055 were up-regulated (indicated by positive smoking Log Odds) (Table 1).

Table 1

Probe Name	Accession Number	Gene Name	Smoking Log Odds	Smoking p
A_24_P123385	NM_005909	MAP1B	-91.68	0.008102221
A_23_P105524	NM_033123	PLCZ1	-80.37	0.019425846
A_24_P205045	NM_015576	ERC2	-80.04	0.032759299
A_24_P316335	AB070620	AB070620	-69.95	0.033598626
A_24_P935437	AK123433	MBP	-67.56	0.037028443
A_23_P363149	AF034209	AF034209	-66.1	0.046389678

A_32_P100452	THC2654273	THC2654273	-65.73	0.038337597
A_32_P40946	THC2696194	THC2696194	-65.55	0.03319935
A_32_P228683	AW293859	AW293859	-65.12	0.039119592
A_24_P65121	NM_001040655	TTC23	-63.93	0.040492796
A_23_P115261	NM_000029	AGT	-58.5	0.049559402
A_24_P915300	NM_032184	SYDE2	-56.34	0.009652812
A_24_P402090	BC031604	C17orf71	-52.6	0.043160989
A_24_P410900	AF130117	LOC100129198	-39.29	0.045410565
A_24_P915566	A_24_P915566	A_24_P915566	-38.68	0.029926316
A_24_P179225	NM_030583	MATN2	-37.37	0.019161645
A_24_P323148	NM_182573	LYPD5	-29.57	0.044004222
A_24_P222441	BC034424	HEXA	-22.7	0.028023605
A_23_P202448	NM_199168	CXCL12	-18.06	0.034785065
A_23_P127107	NM_152311	CLRN3	-15.69	0.049678973
A_32_P441530	NM_207335	KLHDC6	-15.21	0.044856344
A_23_P113111	NM_000044	AR	-14.08	0.003701352
A_23_P113111	NM_000044	AR	-13.43	0.001825987
A_23_P113111	NM_000044	AR	-12.93	0.001410916
A_24_P599340	NM_015550	OSBPL3	-12.29	0.027850022
A_23_P113111	NM_000044	AR	-12.25	0.00299763
A_23_P202245	NM_020975	RET	-11.24	0.048959904
A_32_P98739	NM_001080444	IGSF5	-10.85	0.04847366
A_23_P113111	NM_000044	AR	-10.7	0.000840556
A_32_P5057	AF070541	LOC284244	-9.923	0.022174238
A_24_P484791	AK094649	LOC283089	-9.63	0.025602335
A_23_P113111	NM_000044	AR	-9.247	0.0058246
A_23_P202206	NM_183239	GSTO2	-9.177	0.008495699
A_24_P112110	NM_001518	GTF2I	-8.852	0.043632467
A_23_P167237	NM_031911	C1QTNF7	-8.672	0.043389878
A_32_P226186	NM_020910	KIAA1549	-8.274	0.023535877
A_23_P113111	NM_000044	AR	-8.223	0.001886501
A_23_P215828	NM_022820	CYP3A43	-8.161	0.013403194
A_24_P69084	NM_139056	ADAMTS16	-8.026	0.049403182
A_32_P174805	AI492422	AI492422	-7.762	0.038678344
A_24_P134863	NM_198510	ITIH5L	-7.641	0.016079114
A_23_P113111	NM_000044	AR	-7.64	0.007411684
A_23_P113111	NM_000044	AR	-7.365	0.019611991
A_23_P23572	NM_003557	PIP5K1A	-7.333	0.011014245
A_24_P43810	NM_207006	FAM83A	-7.3	0.03031582
A_32_P133106	BM978707	BM978707	-6.984	0.011484109
A_23_P302672	NM_145244	DDIT4L	-6.921	0.020803232

A_23_P41344	NM_001432	EREG	-6.914	0.011241005
A_24_P929957	THC2500744	THC2500744	-6.796	0.033695121
A_32_P214020	AK124256	AK124256	-6.662	0.015981967
A_24_P936444	AF323119	NFE2L2	-6.612	0.002377299
A_24_P158298	AK025116	AK025116	-6.341	0.021968079
A_23_P48264	NM_181783	TMTC3	-6.339	0.029564695
A_23_P113111	NM_000044	AR	-6.314	0.010932518
A_23_P167030	NM_000316	PTHR1	-6.061	0.023651686
A_24_P42624	NM_003728	UNC5C	-5.901	0.02161711
A_24_P935804	AK095688	CCDC66	-5.812	0.003267218
A_23_P373521	NM_021973	HAND2	-5.706	0.036892189
A_23_P20101	NM_016944	TAS2R4	-5.651	0.023956476
A_24_P917219	THC2550160	THC2550160	-5.459	0.015473638
A_32_P46603	NM_144992	VWA3B	-5.448	0.00532198
A_24_P187938	BC002741	BC002741	-5.414	0.031283971
A_24_P76757	BC019583	BC019583	-5.394	0.04322091
A_23_P62387	NM_018159	NUDT11	-5.317	0.027884786
A_23_P216679	NM_033331	CDC14B	-5.196	0.015430582
A_23_P386514	NM_005506	SCARB2	-5.136	0.032999596
A_23_P98923	NM_006390	IPO8	-5.113	0.043681076
A_32_P35692	THC2692879	THC2692879	-5.042	0.049934183
A_23_P35755	NM_000372	TYR	-4.998	0.034143127
A_32_P179138	BC039414	BC039414	-4.992	0.006605846
A_23_P156890	NM_003206	TCF21	-4.986	0.02861737
A_23_P347610	NM_012206	HAVCR1	-4.952	0.013516988
A_23_P160214	NM_001080494	C1orf34	-4.947	0.020710762
A_23_P108427	THC2604598	THC2604598	-4.939	0.017777599
A_23_P43898	NM_173567	ABHD7	-4.93	0.022614957
A_32_P48842	CR595668	LOC644538	-4.929	0.002827534
A_32_P49854	THC2697511	THC2697511	-4.867	0.000506624
A_24_P919063	A_24_P919063	A_24_P919063	-4.839	0.002347836
A_23_P400716	NM_001010846	SHE	-4.821	0.018678339
A_23_P1320	NM_021245	MYOZ1	-4.803	0.045079048
A_23_P97553	D42044	KIAA0090	-4.775	0.024753099
A_23_P349343	NM_139163	ALS2CR12	-4.683	0.015659374
A_24_P340771	XR_016510	XR_016510	-4.656	0.000639159
A_23_P161962	AK001998	AK001998	-4.646	0.001191654
A_23_P137035	NM_003662	PIR	-4.634	0.007459819
A_23_P73787	NM_153183	NUDT10	-4.617	0.025141863
A_24_P225970	NM_001012409	SGOL1	-4.612	0.005165034
A_23_P94030	NM_002291	LAMB1	-4.547	0.029939799

A_24_P419039	NM_020766	PCDH19	-4.527	0.049497023
A_23_P303181	NM_020126	SPHK2	-4.459	0.000133044
A_23_P305137	ENST00000378250	ENST00000378250	-4.414	0.042897412
A_23_P13137	AY358815	UNQ2550	-4.367	0.001625242
A_23_P347541	NM_133445	GRIN3A	-4.351	0.046351603
A_23_P145846	NM_000245	MET	-4.332	0.007412903
A_23_P104845	NM_000741	CHRM4	-4.309	0.023531908
A_32_P32195	THC2651958	THC2651958	-4.303	0.013010357
A_23_P79145	NM_144694	ZNF570	-4.28	0.03474037
A_32_P198731	NR_015355	LOC54492	-4.253	0.022857478
A_23_P367043	NR_003595	CDC14C	-4.238	0.005361109
A_23_P205637	NM_015163	TRIM9	-4.237	0.030914052
A_24_P32473	NM_024930	ELOVL7	-4.23	0.005179115
A_23_P211039	NM_006988	ADAMTS1	-4.224	0.038644969
A_32_P96845	NM_002830	PTPN4	-4.212	0.002216122
A_23_P169257	NM_001244	TNFSF8	-4.207	0.021548268
A_32_P27763	U92025	U92025	-4.199	0.009274437
A_23_P167298	NM_032149	C4orf17	-4.135	0.049356536
A_23_P365412	NM_181644	MFSD4	-4.082	0.016343909
A_32_P111996	ENST00000400767	ENST00000400767	-4.066	0.012109227
A_23_P62953	NM_002585	PBX1	-4.056	0.006008663
A_23_P203729	NM_002869	RAB6A	-4.046	0.000497846
A_23_P425766	NM_052904	KLHL32	-4.045	0.038176362
A_23_P121676	NM_025212	CXXC4	-4.043	0.037218694
A_24_P278156	NM_018112	TMEM38B	-3.993	0.024099284
A_32_P118657	AK022044	AK022044	-3.953	0.001881772
A_23_P37785	BC094790	KCTD19	-3.952	0.010605949
A_24_P20623	A_24_P20623	A_24_P20623	-3.931	0.016602676
A_23_P207414	NM_025267	AARSD1	-3.93	0.010992547
A_23_P130056	NM_020426	LYZL6	-3.882	0.024030665
A_23_P2283	NM_001006667	TAC3	-3.866	0.000606623
A_23_P127608	NM_019894	TMPRSS4	-3.866	0.009293401
A_23_P87421	BC063022	BC063022	-3.855	0.016304248
A_23_P107432	AK093253	FLJ35934	-3.851	0.001035311
A_23_P411542	AK095052	LOC284033	-3.848	0.03844623
A_32_P112655	AK058000	AK058000	-3.841	0.016930643
A_32_P203559	AK127362	C11orf39	-3.756	0.029859029
A_32_P80597	ENST00000394607	ELOVL6	-3.74	0.012984707
A_24_P331882	NM_020722	KIAA1211	-3.734	0.014137072
A_23_P206877	NM_018427	RRN3	-3.709	0.017630243
A_24_P693986	NM_001013642	LOC388610	-3.7	0.010512794

A_23_P92999	NM_016279	CDH9	-3.677	0.01425077
A_23_P408167	NM_001004051	GPRASP2	-3.666	0.019838144
A_24_P889473	AF085920	AF085920	-3.639	0.037747601
A_24_P59596	NM_014109	ATAD2	-3.634	0.007742036
A_23_P50990	NM_024322	CENPO	-3.632	0.038111376
A_24_P3761	NM_170740	ALDH5A1	-3.549	0.000384684
A_23_P214079	NM_003122	SPINK1	-3.538	0.019906115
A_23_P25746	BC007251	C14orf128	-3.535	0.029343235
A_24_P407742	A_24_P407742	A_24_P407742	-3.508	0.037220442
A_32_P93442	AF086125	AF086125	-3.493	0.006312164
A_23_P137116	NM_015365	AMMECR1	-3.491	0.013142809
A_32_P12232	NM_017637	BNC2	-3.479	0.017821872
A_23_P206612	NM_020718	USP31	-3.475	0.005631503
A_24_P295633	NM_024841	FLJ14213	-3.461	0.007547246
A_23_P46369	NM_002870	RAB13	-3.45	0.017666247
A_24_P945059	NM_025107	MYCT1	-3.44	0.00780361
A_24_P548811	AK021458	AK021458	-3.432	0.001478136
A_23_P304304	NM_004042	ARSF	-3.432	0.017115028
A_23_P123544	NM_017444	CHAC1	-3.43	0.004701373
A_23_P166964	ENST00000397991	TFDP2	-3.426	0.003392159
A_23_P364504	ENST00000357303	FAM132B	-3.373	0.021727567
A_24_P16702	NM_152793	C7orf41	-3.371	0.015140514
A_23_P84219	NM_139248	LIPH	-3.361	0.022004127
A_23_P28530	NM_017694	FLJ20160	-3.357	0.008677221
A_24_P175783	NM_015313	ARHGEF12	-3.357	0.027998924
A_32_P305888	NM_024577	SH3TC2	-3.339	0.004053733
A_23_P72050	NM_153831	PTK2	-3.33	0.014143153
A_23_P145824	NM_017650	PPP1R9A	-3.326	0.006644355
A_24_P496297	XR_018860	XR_018860	-3.318	0.033440996
A_23_P346327	AK055241	FLJ30679	-3.311	0.039901865
A_24_P23546	NM_198956	SP8	-3.303	0.027760623
A_23_P321892	NM_000412	HRG	-3.3	0.010058418
A_32_P171225	THC2672305	THC2672305	-3.281	0.028489451
A_23_P120863	NM_004861	GAL3ST1	-3.265	0.013345032
A_24_P886589	BF115114	BF115114	-3.25	0.031797835
A_23_P319512	NM_003597	KLF11	-3.231	0.010264651
A_23_P117580	NM_001249	ENTPD5	-3.222	0.005731109
A_24_P751492	NM_001012446	C9orf128	-3.213	0.044996986
A_23_P42128	NM_031460	KCNK17	-3.207	0.035786486
A_24_P23190	NM_173510	CCDC117	-3.207	0.005910885
A_32_P725218	NM_181725	METTL2A	-3.206	0.02811637

A_23_P380208	NM_024621	VEPH1	-3.206	0.021864562
A_23_P98477	NM_025004	CCDC15	-3.181	0.004277288
A_23_P118042	NM_018296	LRRC36	-3.173	0.00764061
A_23_P138655	NM_057157	CYP26A1	-3.147	0.007007579
A_23_P74162	NM_018134	IQCC	-3.138	0.013206096
A_23_P166400	NM_001007279	RASL10A	-3.102	0.006679534
A_23_P350491	NM_198794	MAP4K5	-3.098	0.00548186
A_23_P31903	NM_183057	VPS28	-3.089	0.005004101
A_24_P13376	NM_024551	ADIPOR2	-3.084	0.020832783
A_23_P214578	NM_006778	TRIM10	-3.083	0.008670706
A_32_P218707	A_32_P218707	A_32_P218707	-3.082	0.022664024
A_23_P165959	NM_016004	IFT52	-3.068	0.027126528
A_23_P314805	NM_152487	TMEM56	-3.044	0.019148479
A_23_P104493	NM_001015880	PAPSS2	-3.034	0.020436386
A_32_P179083	NR_015363	MGC21881	-3.027	0.027747285
A_23_P69218	NM_018447	TMEM111	-3.026	4.66E-05
A_23_P105691	NM_018654	GPRC5D	-3.019	0.046463972
A_23_P130376	NM_022068	FAM38B	-3.019	0.01464945
A_23_P167328	NM_001775	CD38	-2.997	0.003288355
A_32_P218543	THC2719525	THC2719525	-2.997	0.026539259
A_24_P176484	NM_015144	ZCCHC14	-2.994	0.047108031
A_24_P347065	AJ420378	CPT1A	-2.993	0.018006562
A_32_P64894	A_32_P64894	A_32_P64894	-2.985	0.028119282
A_23_P256172	NM_199417	C3orf60	-2.984	0.000430327
A_32_P117908	A_32_P117908	A_32_P117908	-2.981	0.000944928
A_32_P720220	NM_182558	C12orf36	-2.959	0.022729953
A_24_P185394	NM_019884	GSK3A	-2.94	0.001003966
A_32_P10643	A_32_P10643	A_32_P10643	-2.933	0.012813838
A_23_P71946	NM_017688	BSPRY	-2.932	0.014345911
A_23_P152995	NM_001045	SLC6A4	-2.931	0.000171179
A_32_P78783	NM_182531	ZNF778	-2.912	0.048433307
A_24_P71781	AK095050	TMEM108	-2.911	0.03425584
A_32_P73991	THC2667995	THC2667995	-2.895	0.007117595
A_23_P377197	NM_012219	MRAS	-2.89	0.009392009
A_23_P72050	NM_153831	PTK2	-2.873	0.022814829
A_24_P185487	NM_014910	ZNF507	-2.853	0.035066965
A_24_P911179	NM_018136	ASPM	-2.85	0.01304793
A_24_P634602	BE542385	BE542385	-2.849	0.002399183
A_23_P12241	NM_018298	MCOLN3	-2.834	0.034881431
A_32_P88310	BM932296	BM932296	-2.833	0.001799513
A_23_P56578	NM_053276	VIT	-2.814	0.017040294

A_24_P345209	NM_001004023	DYRK3	-2.795	0.020068529
A_23_P8812	W60781	W60781	-2.793	0.004399452
A_23_P218743	NM_020132	AGPAT3	-2.763	0.022887971
A_32_P228570	A_32_P228570	A_32_P228570	-2.761	0.049674718
A_23_P72050	NM_153831	PTK2	-2.76	0.019106259
A_23_P10591	NM_001004431	METRNL	-2.755	0.001318866
A_23_P1331	NM_005203	COL13A1	-2.748	0.00196752
A_23_P1331	NM_005203	COL13A1	-2.744	0.006166992
A_23_P370666	NM_080661	GLYATL1	-2.726	0.015866973
A_23_P82420	NM_004603	STX1A	-2.722	0.000874493
A_24_P467073	AK131023	AK131023	-2.719	0.006756573
A_24_P32574	NM_152643	KNDC1	-2.718	0.018421895
A_23_P108404	NM_001037131	CENTG2	-2.714	0.028591903
A_23_P72050	NM_153831	PTK2	-2.713	0.017015291
A_24_P370471	NM_031482	ATG10	-2.703	0.027554654
A_32_P5150	THC2682672	THC2682672	-2.702	0.004098814
A_24_P862207	BC057844	BC057844	-2.701	0.00809594
A_23_P93912	NM_019004	ANKIB1	-2.698	0.042693841
A_23_P28811	NM_014484	MOCS3	-2.694	0.032362567
A_32_P4337	THC2694873	THC2694873	-2.692	0.041097811
A_23_P202945	NM_014155	ZBTB44	-2.691	0.003072906
A_23_P206301	THC2551912	THC2551912	-2.686	0.007529704
A_24_P743802	NM_133374	ZNF618	-2.681	0.024261594
A_23_P159119	NM_016507	CRKRS	-2.679	0.04343117
A_23_P130285	NM_018289	VPS53	-2.674	0.03024787
A_23_P99906	NM_199330	HOMER2	-2.671	0.002446742
A_23_P206212	NM_003246	THBS1	-2.654	0.013035007
A_24_P602052	CA420688	CA420688	-2.647	0.012147787
A_24_P243278	NM_004394	DAP	-2.645	0.028994768
A_23_P72050	NM_153831	PTK2	-2.634	0.044417054
A_32_P62863	NM_014575	SCHIP1	-2.634	0.011541684
A_32_P32338	CA441889	CA441889	-2.62	0.019679193
A_23_P71053	NM_016447	MPP6	-2.617	0.02741578
A_24_P209109	NM_030571	NDFIP1	-2.617	0.006058484
A_23_P134274	NM_005837	POP7	-2.616	0.00067525
A_23_P1331	NM_005203	COL13A1	-2.614	0.007821696
A_23_P149270	A_23_P149270	A_23_P149270	-2.612	0.032552864
A_23_P1331	NM_005203	COL13A1	-2.608	0.003126645
A_23_P417363	AK057267	CLIP4	-2.608	0.041418146
A_23_P163475	NM_207380	C15orf52	-2.607	0.00450898
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A_23_P152995	NM_001045	SLC6A4	-2.6	0.000371848
A_23_P39647	NM_005070	SLC4A3	-2.589	0.037824226
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A_23_P428326	CR936670	TBC1D16	-2.586	0.04230613
A_23_P107750	NM_030760	S1PR5	-2.586	0.004909104
A_23_P107612	NM_004163	RAB27B	-2.582	0.000602003
A_23_P152995	NM_001045	SLC6A4	-2.581	0.000637719
A_23_P155425	THC2665061	THC2665061	-2.576	0.001179055
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A_23_P59718	NM_003130	SRI	-2.551	0.001530166
A_24_P239140	NM_000819	GART	-2.533	0.033372298
A_24_P899637	AA203154	AA203154	-2.531	0.008484042
A_32_P26721	A_32_P26721	A_32_P26721	-2.518	0.006767081
A_23_P152995	NM_001045	SLC6A4	-2.513	0.000414869
A_23_P218225	NM_014298	QPRT	-2.512	0.000748108
A_23_P38696	NM_004948	DSC1	-2.506	0.032831721
A_23_P15647	NM_016231	NLK	-2.505	0.001391513
A_23_P42358	NM_020482	FHL5	-2.472	0.008071373
A_23_P214144	NM_000493	COL10A1	-2.472	0.004516563
A_23_P213638	NM_024594	PANK3	-2.472	0.012988047
A_23_P111995	NM_002318	LOXL2	-2.467	0.005297728
A_23_P112673	NM_017975	ZWILCH	-2.467	0.017477697
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A_23_P80032	NM_005225	E2F1	-2.458	0.011056709
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A_23_P502224	NM_007326	CYB5R3	-2.453	0.000713164
A_23_P96262	A_23_P96262	A_23_P96262	-2.448	0.036857396
A_23_P152995	NM_001045	SLC6A4	-2.435	0.0006735
A_24_P162319	NM_001037540	SCML1	-2.433	0.039311491
A_24_P628384	NM_001001655	ALKBH2	-2.426	0.018438737
A_32_P57854	BC105283	LOC100128731	-2.424	0.003795672
A_23_P70534	NM_001003693	C6orf21	-2.414	0.002425683
A_32_P134167	BG031574	CUL5	-2.411	0.001576784
A_32_P210223	THC2762463	THC2762463	-2.407	0.008062836
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A_23_P45456	NM_001289	CLIC2	-2.406	0.021468937
A_23_P1331	NM_005203	COL13A1	-2.404	0.013587837

A_23_P22096	NM_153831	PTK2	-2.404	0.028845358
A_24_P915652	AA635126	AA635126	-2.399	0.03402048
A_23_P111995	NM_002318	LOXL2	-2.394	0.004451732
A_32_P6646	AK090694	AK090694	-2.392	0.020756236
A_24_P725895	BE218249	BE218249	-2.392	0.019049249
A_23_P72050	NM_153831	PTK2	-2.389	0.033004836
A_24_P375819	NR_002774	HTR7P	-2.378	0.037415071
A_23_P69226	NM_018447	TMEM111	-2.375	0.000369492
A_23_P416536	THC2539425	THC2539425	-2.372	0.023908744
A_24_P183150	NM_002090	CXCL3	-2.371	0.043914444
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A_24_P933538	A_24_P933538	A_24_P933538	-2.363	0.018933983
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A_24_P370484	A_24_P370484	A_24_P370484	-2.332	0.025903584
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A_23_P405216	NM_173656	ZNF619	-2.307	0.03641289
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A_23_P214739	NM_012160	FBXL4	-2.296	0.002660093
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A_23_P136317	NM_018254	RCOR3	-2.286	0.004269842
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A_32_P175667	BI832578	BI832578	-2.271	0.037409603
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A_32_P35947	XR_037106	LOC728763	-2.259	0.003198188
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A_23_P16866	NM_007127	VIL1	-2.247	0.000161166
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A_24_P918808	NM_004152	OAZ1	-2.24	0.017980201
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A_24_P166012	NM_020640	DCUN1D1	-2.233	0.000387631
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A_23_P111995	NM_002318	LOXL2	-2.226	0.01057123
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A_24_P413437	NM_007363	NONO	-2.223	0.008965359
A_23_P1331	NM_005203	COL13A1	-2.223	0.008436327
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A_23_P49391	NM_016212	TP53TG3	-2.219	0.014364395
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A_23_P72050	NM_153831	PTK2	-2.207	0.049650459
A_23_P95672	NM_006548	IGF2BP2	-2.206	0.005067234
A_23_P255263	NM_198194	STOM	-2.205	0.001200766
A_24_P926709	A_24_P926709	A_24_P926709	-2.2	0.037137856
A_23_P214168	NM_004370	COL12A1	-2.199	0.005170733
A_23_P256618	AK024611	CCDC90A	-2.197	0.002058726
A_23_P18539	NM_007351	MMRN1	-2.195	0.008183054
A_23_P202881	NM_005103	FEZ1	-2.195	0.001209863
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A_32_P110472	NM_203395	IYD	-2.188	0.003147478
A_32_P32463	THC2753543	THC2753543	-2.183	0.002135648
A_23_P82523	NM_000927	ABCB1	-2.183	0.042253994
A_32_P187277	BC063570	BC063570	-2.183	0.020509156
A_23_P89249	NM_001005862	ERBB2	-2.177	0.00120887
A_24_P291133	NM_175866	UHMK1	-2.175	0.027386147
A_23_P1331	NM_005203	COL13A1	-2.174	0.011082274
A_23_P7761	NM_018356	C5orf22	-2.171	0.018649828
A_23_P119337	NM_012068	ATF5	-2.171	0.033262063
A_24_P371628	NM_054027	ANKH	-2.169	0.024003161
A_23_P23584	NM_020248	CTNNBIP1	-2.163	0.002162971
A_32_P133916	NM_017637	BNC2	-2.159	0.03156881
A_24_P302406	AF086286	AF086286	-2.157	0.02151458
A_32_P44987	A_32_P44987	A_32_P44987	-2.156	0.033629531
A_24_P838448	AK022865	FLJ22536	-2.156	0.025116635
A_32_P44961	BE551634	BE551634	-2.154	0.008765175
A_23_P92543	NM_152540	SCFD2	-2.152	0.005484255
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A_32_P123743	NR_002728	KCNQ1OT1	-2.147	8.69E-05
A_23_P217326	NM_001449	FHL1	-2.142	0.011482853
A_23_P80032	NM_005225	E2F1	-2.141	0.018655944
A_23_P500333	NM_001009955	SSBP3	-2.14	0.004482185
A_23_P74920	NM_014357	LCE2B	-2.137	0.041825265
A_24_P943095	NM_001033553	SPECC1	-2.13	0.020729825
A_23_P142950	NM_015575	GIGYF2	-2.128	0.016017351
A_23_P363769	NM_002284	KRT86	-2.128	0.014998405
A_24_P197537	NM_003719	PDE8B	-2.127	0.008593032
A_23_P216949	NM_005388	PDCL	-2.121	0.006675504
A_32_P189324	A_32_P189324	A_32_P189324	-2.115	0.01521589
A_23_P89249	NM_001005862	ERBB2	-2.11	0.002262419
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A_24_P501520	AK098185	MCART1	-2.104	0.014749838
A_23_P152995	NM_001045	SLC6A4	-2.104	0.001565029
A_23_P166526	NM_015653	RIBC2	-2.103	0.028907098
A_23_P66117	NM_032039	ITFG3	-2.102	0.009912241
A_32_P104825	NM_080678	UBE2F	-2.098	0.000482675
A_23_P80032	NM_005225	E2F1	-2.083	0.031672475
A_24_P128354	AF130069	AF130069	-2.083	0.021067889
A_23_P151376	A_23_P151376	A_23_P151376	-2.081	0.009750578
A_24_P110780	AK075118	C1orf118	-2.081	0.026690118
A_24_P90005	NM_005203	COL13A1	-2.08	0.002601811
A_23_P400887	NM_012279	ZNF346	-2.079	0.043136135
A_23_P20502	NM_017767	SLC39A4	-2.067	0.003606546
A_24_P20292	ENST00000287590	B3GNT7	-2.067	0.039281294
A_24_P342127	NM_014997	KIAA0265	-2.065	0.017809849
A_23_P141044	NM_145271	ZNF688	-2.062	0.025864665
A_23_P382835	NM_002563	P2RY1	-2.061	0.013824291
A_24_P230965	NM_020931	KIAA1586	-2.061	0.020058124
A_32_P39216	NM_006761	YWHAE	-2.058	0.036266732
A_23_P96965	NM_030786	SYNC1	-2.052	0.036445896
A_23_P328740	NM_001080535	LINCR	-2.049	0.016331796
A_23_P89249	NM_001005862	ERBB2	-2.048	0.002099049
A_23_P368794	NM_174937	TCERG1L	-2.046	0.029581886
A_23_P113212	NM_018004	TMEM45A	-2.035	0.048950522
A_32_P147651	CR616314	CR616314	-2.033	0.049947719
A_23_P39561	NM_080678	UBE2F	-2.025	0.001288292
A_24_P375453	NM_001009955	SSBP3	-2.021	0.01271782
A_23_P152995	NM_001045	SLC6A4	-2.014	0.003489041
A_32_P106646	NM_198076	FAM36A	-2.014	0.004614169

A_24_P9833	NM_020229	PRDM11	-2.011	0.045491453
A_23_P82523	NM_000927	ABCB1	-2.011	0.039050044
A_23_P152995	NM_001045	SLC6A4	-2.006	0.002972946
A_24_P494230	AK123750	AK123750	-2.002	0.028678972
A_23_P121564	NM_000857	GUCY1B3	-2.001	0.002851862
A_23_P202004	NM_020200	PRTFDC1	-2	0.024158469
A_32_P72351	AK026140	AK026140	-2	0.039146839
A_32_P188752	AK129584	AK129584	-1.997	0.017654524
A_24_P333445	NM_012286	MORF4L2	-1.997	0.039768515
A_24_P118231	NM_001003803	ATP5S	-1.992	0.00082353
A_23_P407090	NM_152995	NFXL1	-1.992	0.006412219
A_24_P356015	NM_004094	EIF2S1	-1.99	0.032371089
A_23_P69310	NM_003965	CCRL2	-1.988	0.046562901
A_23_P162199	NM_024779	PIP4K2C	-1.984	0.012708383
A_23_P89249	NM_001005862	ERBB2	-1.98	0.002273174
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A_23_P408239	AL117400	PASK	-1.975	0.044926962
A_24_P589028	AK026750	AK026750	-1.971	3.22E-05
A_32_P75141	A_32_P75141	A_32_P75141	-1.967	0.006764815
A_24_P410797	ENST00000393496	ENST00000393496	-1.966	0.041681589
A_23_P89249	NM_001005862	ERBB2	-1.965	0.001971125
A_23_P165343	NM_002830	PTPN4	-1.964	0.003898266
A_24_P927444	ENST00000395522	SPECC1	-1.962	0.008053288
A_23_P63190	NM_002524	NRAS	-1.961	0.025384513
A_23_P89249	NM_001005862	ERBB2	-1.96	0.002899256
A_23_P208779	NM_133180	EPS8L1	-1.96	0.033827985
A_24_P341538	NM_201286	USP51	-1.958	0.012769616
A_23_P89249	NM_001005862	ERBB2	-1.956	0.002932868
A_24_P928522	AK025142	DST	-1.956	0.044733475
A_23_P56314	NM_006830	UQCR	-1.954	0.036664463
A_23_P11341	BC006406	FAM104B	-1.951	0.000253058
A_23_P138706	NM_000681	ADRA2A	-1.949	0.04860168
A_23_P37296	NM_015684	ATP5S	-1.948	0.000450367
A_32_P99804	A_32_P99804	A_32_P99804	-1.946	0.036790436
A_32_P194095	THC2617292	THC2617292	-1.94	4.02E-05
A_24_P263310	NM_182562	FLJ39743	-1.939	0.008807733
A_23_P352879	M90656	GCLC	-1.934	0.036058456
A_23_P15101	NM_024780	TMC5	-1.933	0.001270505
A_23_P89249	NM_001005862	ERBB2	-1.932	0.002929782
A_23_P104624	NM_015036	ENDOD1	-1.932	0.000369079
A_32_P40327	BE184907	BE184907	-1.929	0.000908157

A_24_P273666	NM_001077489	GNAS	-1.929	0.004550454
A_24_P162211	NM_001001438	LSS	-1.921	0.024931396
A_24_P128563	NM_012316	KPNA6	-1.916	0.018652492
A_32_P105311	THC2676737	THC2676737	-1.913	0.030533797
A_24_P234391	NM_025202	EFHD1	-1.913	0.016514245
A_23_P168556	NM_004603	STX1A	-1.91	0.003014378
A_23_P210060	NM_001042519	MGC13057	-1.907	0.018213183
A_23_P32233	NM_004235	KLF4	-1.905	0.036247071
A_24_P942481	NM_180989	GPR180	-1.898	0.023373189
A_23_P54816	NM_001694	ATP6V0C	-1.897	0.002120646
A_32_P53049	NM_005801	EIF1	-1.896	0.004059212
A_23_P152995	NM_001045	SLC6A4	-1.896	0.004380552
A_23_P18082	NM_032806	C3orf39	-1.896	0.001799854
A_23_P91430	NM_007238	PXMP4	-1.894	0.033421888
A_23_P27784	NM_016363	GP6	-1.887	0.021993647
A_24_P175435	NM_014580	SLC2A8	-1.885	0.008988399
A_23_P1331	NM_005203	COL13A1	-1.883	0.024398062
A_24_P929413	A_24_P929413	A_24_P929413	-1.88	0.032953251
A_24_P248083	BC033233	SNIP	-1.88	0.02259809
A_24_P937405	NM_007173	PRSS23	-1.875	0.001139569
A_24_P100266	NM_003932	ST13	-1.874	0.014628341
A_23_P4551	NM_015559	SETBP1	-1.869	0.000910367
A_23_P213562	NM_001992	F2R	-1.864	0.003739193
A_32_P181297	NR_002330	ST7OT1	-1.857	0.00991493
A_32_P224498	THC2537367	THC2537367	-1.852	0.024181447
A_23_P106497	NM_004136	IREB2	-1.845	0.028073896
A_23_P89249	NM_001005862	ERBB2	-1.844	0.003269254
A_24_P218006	NM_032317	WBSCR18	-1.84	0.016731785
A_23_P111995	NM_002318	LOXL2	-1.828	0.043181955
A_23_P20743	NM_032342	C9orf125	-1.828	0.036404376
A_24_P148503	NM_003468	FZD5	-1.826	0.017655815
A_24_P79403	NM_002619	PF4	-1.825	7.62E-05
A_24_P367397	A_24_P367397	A_24_P367397	-1.824	0.004037516
A_24_P189533	NM_015036	ENDOD1	-1.822	0.002202659
A_32_P95502	A_32_P95502	A_32_P95502	-1.818	0.003581621
A_24_P213396	A_24_P213396	A_24_P213396	-1.816	0.012510399
A_23_P103897	NM_001081472	SPATA1	-1.816	0.036074087
A_23_P159237	NM_005293	GPR20	-1.814	0.000191112
A_23_P257057	NM_016647	C8orf55	-1.812	0.003537713
A_23_P1331	NM_005203	COL13A1	-1.809	0.016218072
A_23_P127978	NM_138706	B3GNT6	-1.809	0.035013368

A_23_P86434	BC007866	MGC14425	-1.807	0.048298481
A_24_P849628	NM_002904	RDBP	-1.807	0.021886901
A_23_P311818	NM_021081	GHRH	-1.803	0.042927255
A_32_P171903	BQ233868	BQ233868	-1.802	0.016913301
A_23_P155666	NM_001042402	NAAA	-1.802	0.004497911
A_24_P209113	NM_030571	NDFIP1	-1.8	0.02527872
A_23_P147874	NM_023947	CHID1	-1.799	0.00462139
A_23_P163697	NM_016524	SYT17	-1.798	0.049370612
A_23_P100278	NM_000833	GRIN2A	-1.789	0.008682866
A_23_P45945	NM_005801	EIF1	-1.789	0.003259467
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A_32_P56726	A_32_P56726	A_32_P56726	-1.787	0.00719584
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A_23_P4522	NM_004786	TXNL1	-1.785	0.007716608
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A_32_P211683	THC2506246	THC2506246	-1.782	0.041502752
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A_32_P191417	AW276186	AW276186	-1.773	0.030151312
A_32_P194025	BC006406	FAM104B	-1.773	0.00580998
A_32_P137408	THC2560357	THC2560357	-1.773	0.009227372
A_24_P391960	XM_001131332	LOC730144	-1.77	0.010346384
A_24_P764519	BM666433	BM666433	-1.77	0.025556114
A_23_P362712	NM_148912	ABHD11	-1.765	0.015289015
A_23_P321511	NM_178450	3-Mar	-1.764	0.017521379
A_23_P57137	NM_018347	C20orf29	-1.764	0.014337755
A_32_P167723	A_32_P167723	A_32_P167723	-1.764	0.020731395
A_23_P152087	NM_018145	FAM82C	-1.763	0.028070496
A_23_P162879	NM_032374	C14orf153	-1.762	0.020066441
A_32_P13371	BQ434958	BQ434958	-1.762	0.039916105
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A_23_P10211	NM_052885	SLC2A13	-1.76	0.036502539
A_23_P139965	NM_001010897	SERP2	-1.759	0.00486794
A_32_P1381	CR617556	CR617556	-1.759	0.003489157
A_23_P309779	NM_018177	N4BP2	-1.757	0.028363273
A_32_P429876	AK092378	AK092378	-1.754	0.025802162
A_24_P341674	NM_013989	DIO2	-1.754	0.031217757
A_24_P462899	NM_001012507	C6orf173	-1.751	0.017497655
A_23_P114582	THC2532155	THC2532155	-1.75	0.000282052
A_23_P103149	NM_001098	ACO2	-1.749	0.028684573
A_23_P111995	NM_002318	LOXL2	-1.749	0.016599647
A_32_P201417	NM_001039948	SGSM1	-1.743	0.038387427

A_23_P74740	NM_007262	PARK7	-1.738	0.046403749
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A_23_P1461	NM_001008211	OPTN	-1.735	8.93E-05
A_23_P1691	NM_002421	MMP1	-1.734	0.014941204
A_23_P209527	ENST00000392114	VIL1	-1.733	0.000253132
A_23_P205265	NM_001969	EIF5	-1.729	0.012487953
A_23_P381714	NM_198584	CA13	-1.728	0.001933836
A_24_P298179	A_24_P298179	A_24_P298179	-1.719	0.047791429
A_32_P435367	NM_002810	PSMD4	-1.713	0.003208996
A_23_P7642	NM_003118	SPARC	-1.713	0.000410043
A_23_P69573	NM_000856	GUCY1A3	-1.712	0.002539921
A_32_P98496	BE564275	BE564275	-1.711	0.007392453
A_23_P88893	NM_017702	DEF8	-1.708	0.020046798
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A_32_P4814	NM_032508	TMEM185A	-1.701	0.002095863
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A_32_P974	THC2676436	THC2676436	-1.7	0.004350777
A_24_P88763	NM_032603	LOXL3	-1.693	0.009739442
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A_23_P86171	NM_004474	FOXD2	-1.685	0.023201005
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A_24_P633902	NM_014455	ZNF364	-1.682	0.021729467
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A_23_P119714	NM_001033549	C19orf62	-1.674	0.007493177
A_23_P47135	NM_005693	NR1H3	-1.673	0.034923253
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A_32_P160206	THC2706921	THC2706921	-1.668	0.025347317
A_24_P44462	NM_000366	TPM1	-1.666	0.00148473
A_24_P703462	CD518305	CD518305	-1.665	0.017612685
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A_23_P71037	NM_000600	IL6	-1.659	0.028366319
A_23_P354187	BC014983	TBC1D20	-1.652	0.001482093
A_32_P70891	AK098629	AK098629	-1.65	0.000165324
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A_23_P111995	NM_002318	LOXL2	-1.648	0.033784889
A_24_P340286	BC068590	CHADL	-1.647	0.006156064
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A_23_P102258	NM_053050	MRPL53	-1.642	0.002661597
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A_32_P130577	BC066989	BC066989	-1.634	0.044519637
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A_23_P212696	NM_007085	FSTL1	-1.62	0.000255814
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A_24_P416079	NM_016359	NUSAP1	-1.612	0.002253193
A_23_P327426	NM_152902	TIPRL	-1.611	0.043883775
A_23_P158925	NM_145290	GPR125	-1.611	0.024202401
A_32_P25639	AK002042	BET3L	-1.61	0.011957836
A_23_P59630	NM_005395	PMS2L3	-1.605	0.020156672
A_32_P203500	NM_052937	PCMTD1	-1.603	0.008356926
A_24_P246552	NM_006370	VTI1B	-1.602	0.003507538
A_23_P17095	NM_006287	TFPI	-1.6	0.011167862
A_23_P103824	THC2539706	THC2539706	-1.599	0.019956524
A_23_P117602	NM_004131	GZMB	-1.598	0.000232475
A_23_P92132	NM_006764	IFRD2	-1.591	0.009690707
A_23_P328069	NM_000195	HPS1	-1.589	0.005310403
A_23_P83939	NM_032796	SYAP1	-1.585	0.003241346
A_32_P73045	NM_018686	CMAS	-1.584	0.007957947
A_23_P360354	NM_152548	FAM81B	-1.584	0.008830086
A_23_P76538	NM_017899	TESC	-1.581	0.000648985
A_23_P63371	NM_003189	TAL1	-1.581	0.002076314

A_23_P127426	NM_003273	TM7SF2	-1.58	0.011026479
A_32_P86466	AK057142	C17orf87	-1.579	0.047487784
A_23_P67960	NM_021176	G6PC2	-1.579	0.04301164
A_23_P3946	NM_020201	NT5M	-1.576	0.000160461
A_23_P41390	NM_018986	SH3TC1	-1.576	0.010509319
A_32_P126832	CD511705	CD511705	-1.575	0.009197677
A_23_P1691	NM_002421	MMP1	-1.575	0.019301206
A_23_P501831	NM_032385	C5orf4	-1.575	1.17E-05
A_32_P105281	AW771919	AW771919	-1.572	0.043481796
A_32_P171061	NM_005170	ASCL2	-1.572	0.00869792
A_32_P107859	BQ638334	BQ638334	-1.571	0.034559043
A_23_P129279	NM_018602	DNAJA4	-1.57	0.001643114
A_24_P911718	BC037919	BC037919	-1.569	0.009565317
A_23_P80336	NM_020243	TOMM22	-1.563	0.046214013
A_24_P357037	NM_182688	UBE2G2	-1.56	0.001099833
A_24_P912941	AB290171	DNHD1	-1.559	0.019915119
A_23_P15123	NM_019116	UBFD1	-1.556	0.007513103
A_23_P38519	NM_000212	ITGB3	-1.556	0.002002578
A_23_P154526	NM_004490	GRB14	-1.554	0.001364706
A_24_P840343	CA428801	CA428801	-1.553	0.029450763
A_23_P255317	NM_004290	RNF14	-1.553	0.029889295
A_23_P135494	NM_013943	CLIC4	-1.55	0.003566385
A_24_P119482	NM_024077	SECISBP2	-1.547	0.004920088
A_24_P921823	THC2499809	THC2499809	-1.546	0.000629711
A_24_P920904	BC032347	C8orf59	-1.544	0.047185589
A_23_P259561	AB362555	AB362555	-1.539	0.004673948
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A_23_P250619	NM_153746	ZDHHC14	-1.538	0.016116843
A_23_P146654	NM_004323	BAG1	-1.537	0.009469616
A_23_P138492	NM_004210	NEURL	-1.534	0.000522538
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A_32_P173177	BG284526	BG284526	-1.531	0.014280673
A_23_P14026	NM_001310	CREBL2	-1.53	0.004617768
A_23_P390006	NM_138325	PCSK6	-1.529	0.016341698
A_24_P605233	THC2620595	THC2620595	-1.529	0.032550936
A_24_P65779	NM_001033930	UBA52	-1.528	0.013329693
A_24_P62505	NM_015101	GLT25D2	-1.528	0.021015706
A_24_P318457	NM_001950	E2F4	-1.525	0.003255763
A_24_P100277	NM_007326	CYB5R3	-1.524	0.034624909
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A_23_P207507	NM_003786	ABCC3	-1.52	0.000577884
A_23_P38519	NM_000212	ITGB3	-1.517	0.001763015
A_32_P134968	NM_001024858	SPTB	-1.513	0.001992059
A_32_P875758	AB046850	AB046850	-1.512	0.005822662
A_23_P335920	NM_021135	RPS6KA2	-1.512	0.002012158
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A_23_P38519	NM_000212	ITGB3	-1.505	0.002068826
A_23_P157736	NM_032728	PPAPDC3	-1.504	0.01125016
A_24_P567952	CR606587	HCG18	-1.502	0.005734042
A_32_P215100	ENST00000377006	ENST00000377006	-1.502	0.049160506
A_32_P64263	BQ029628	BQ029628	-1.501	0.038947068
A_24_P119141	NM_000313	PROS1	-1.5	0.026149861
A_24_P338145	NM_013442	STOML2	-1.498	0.035735411
A_23_P30315	NM_033342	TRIM7	-1.498	0.02151062
A_23_P413788	NM_173540	FUT11	-1.495	0.003164761
A_23_P258088	NM_020804	PACSLN1	-1.494	0.001409194
A_23_P150789	NM_007173	PRSS23	-1.494	0.000597416
A_23_P351148	NM_053282	SH2D1B	-1.494	0.000265955
A_23_P163079	NM_000161	GCH1	-1.49	0.029292145
A_32_P129269	NM_052909	PLEKHG4B	-1.489	0.03694613
A_23_P1691	NM_002421	MMP1	-1.488	0.028489467
A_23_P43810	NM_206943	LTBP1	-1.485	0.002593141
A_23_P312181	NM_207013	TCEB2	-1.484	0.017335196
A_32_P26464	ENST00000329015	ENST00000329015	-1.483	0.035988035
A_23_P360215	NM_021173	POLD4	-1.481	0.015832449
A_23_P19987	NM_006547	IGF2BP3	-1.48	0.002207092
A_23_P18903	NM_032782	HAVCR2	-1.477	0.002790818
A_24_P371194	NM_053050	MRPL53	-1.477	0.004976756
A_23_P213102	NM_016081	PALLD	-1.477	0.003411129
A_23_P89199	NM_003653	COPS3	-1.475	0.00806153
A_24_P316364	NM_015523	REXO2	-1.475	0.00701764
A_23_P78543	NM_005498	AP1M2	-1.473	0.013518513
A_32_P125177	THC2630830	THC2630830	-1.472	0.040173538
A_24_P176079	NM_006646	WASF3	-1.472	0.034834101
A_23_P120488	NM_024663	NPEPL1	-1.472	0.023113274
A_23_P168610	NM_014399	TSPAN13	-1.471	0.020894758
A_23_P323930	NM_005723	TSPAN5	-1.471	0.000204094

A_23_P54488	NM_015162	ACSBG1	-1.47	0.016093246
A_23_P421843	ENST00000285206	ENST00000285206	-1.469	0.007728422
A_24_P62800	NM_018203	KLHDC8A	-1.466	0.006755477
A_24_P378928	NM_005160	ADRBK2	-1.464	0.033380989
A_32_P73821	NM_001007553	CSDE1	-1.463	0.044988398
A_23_P416048	AK024437	MAPK8IP3	-1.46	0.009622958
A_23_P85742	NM_003851	CREG1	-1.46	0.000653779
A_23_P409516	NM_138333	FAM122A	-1.46	0.004328959
A_23_P118300	NM_031208	FAHD1	-1.459	0.015614674
A_23_P123071	NM_001233	CAV2	-1.457	0.00988223
A_24_P8350	NM_006031	PCNT	-1.455	0.033413253
A_23_P38519	NM_000212	ITGB3	-1.455	0.002286853
A_23_P1936	NM_025080	ASRGL1	-1.453	0.008964099
A_23_P29495	NM_001904	CTNNB1	-1.452	0.021528978
A_24_P288954	NM_001013694	SRRD	-1.447	0.001886248
A_24_P409500	BC000986	BC000986	-1.445	0.000899485
A_32_P233950	NM_001025290	DPPA5	-1.445	0.006844868
A_24_P532653	AA242987	AA242987	-1.445	0.040551503
A_24_P151121	ENST00000263100	A1BG	-1.445	0.027153534
A_32_P108592	A_32_P108592	A_32_P108592	-1.445	0.01832988
A_23_P16451	NM_025241	UBXD1	-1.444	0.002466646
A_32_P93187	AL517609	AL517609	-1.444	0.026883986
A_23_P29495	NM_001904	CTNNB1	-1.443	0.019967525
A_23_P1691	NM_002421	MMP1	-1.442	0.046261894
A_32_P5148	THC2682672	THC2682672	-1.439	0.033107777
A_23_P393777	NM_000953	PTGDR	-1.437	0.008197075
A_23_P206103	NM_001099436	ULK3	-1.437	0.035400962
A_23_P46627	NM_015999	ADIPOR1	-1.435	0.000431813
A_23_P29495	NM_001904	CTNNB1	-1.435	0.020535414
A_23_P59210	NM_000389	CDKN1A	-1.435	0.004770811
A_24_P205268	NM_015299	KIAA0323	-1.43	0.029201413
A_23_P145330	NM_019052	CCHCR1	-1.429	0.046105827
A_23_P38519	NM_000212	ITGB3	-1.429	0.002347474
A_24_P147263	NM_020718	USP31	-1.429	0.034443705
A_32_P135043	THC2636523	THC2636523	-1.429	0.008377161
A_23_P40548	NM_013313	YPEL1	-1.427	0.021271228
A_23_P423074	NM_015566	KIAA0888	-1.426	0.026286395
A_24_P173754	NM_030806	C1orf21	-1.424	0.01916069
A_24_P23245	NM_002490	NDUFA6	-1.423	0.023238914
A_23_P90357	NM_001060	TBXA2R	-1.421	0.001436169
A_23_P78330	NM_006566	CD226	-1.419	0.044778829

A_32_P135385	NM_001013694	SRRD	-1.418	0.001546157
A_32_P186725	AL546498	AL546498	-1.417	0.001018687
A_32_P188178	NM_004238	TRIP12	-1.416	0.031037034
A_23_P1691	NM_002421	MMP1	-1.414	0.034145041
A_23_P38519	NM_000212	ITGB3	-1.413	0.002751524
A_23_P13907	NM_000618	IGF1	-1.41	0.023710263
A_32_P69803	NM_018566	YOD1	-1.409	0.001943653
A_32_P36005	THC2489591	THC2489591	-1.408	0.045302421
A_24_P402847	NM_001829	CLCN3	-1.408	0.044752026
A_23_P75453	NM_130803	MEN1	-1.405	0.045638493
A_23_P59210	NM_000389	CDKN1A	-1.402	0.013686788
A_23_P59210	NM_000389	CDKN1A	-1.4	0.014300991
A_32_P214860	A_32_P214860	A_32_P214860	-1.4	0.048228772
A_23_P363344	NM_000366	TPM1	-1.399	0.004598972
A_24_P682199	CR749500	LOC390595	-1.398	0.022893538
A_23_P38519	NM_000212	ITGB3	-1.396	0.00343016
A_24_P135444	NM_001144	AMFR	-1.396	0.014627501
A_23_P39076	NM_006270	RRAS	-1.395	0.020871915
A_24_P836315	A_24_P836315	A_24_P836315	-1.395	0.022469524
A_23_P2601	NM_003299	HSP90B1	-1.395	0.005222929
A_24_P929003	S70348	ITGB3	-1.394	0.002757181
A_24_P209171	NM_031469	SH3BGRL2	-1.393	0.002821556
A_23_P53439	NM_138432	SDSL	-1.392	0.02918421
A_23_P204998	NM_005766	FARP1	-1.392	0.034098002
A_24_P388622	NM_016930	STX18	-1.391	0.025397882
A_23_P214789	NM_016224	SNX9	-1.39	0.006605681
A_23_P34915	NM_001040619	ATF3	-1.39	0.040531436
A_24_P29885	NM_002514	NOV	-1.39	0.027862795
A_32_P185149	NM_006913	RNF5	-1.389	0.014894246
A_32_P21459	THC2664391	THC2664391	-1.386	0.045051979
A_23_P300220	NM_145008	YPEL4	-1.385	0.001379838
A_23_P29495	NM_001904	CTNNB1	-1.384	0.028998264
A_23_P208389	NM_021913	AXL	-1.383	0.015477209
A_23_P19894	NM_198098	AQP1	-1.382	0.023679359
A_24_P357056	NM_152906	C22orf25	-1.38	0.00687387
A_23_P132121	NM_173354	SNF1LK	-1.378	0.00837809
A_23_P13232	A_23_P13232	A_23_P13232	-1.378	0.045068576
A_23_P132138	ENST00000397683	ENST00000397683	-1.378	0.0059675
A_23_P14284	NM_006370	VTI1B	-1.378	0.002989176
A_23_P215096	NM_003344	UBE2H	-1.377	0.003549624
A_24_P229669	ENST00000283760	ENST00000283760	-1.377	0.016077859

A_23_P162787	NM_006704	SUGT1	-1.377	0.022728898
A_23_P152909	NM_000697	ALOX12	-1.376	0.012405347
A_23_P230	NM_004623	TTC4	-1.372	0.04345693
A_32_P9575	NM_032351	MRPL45	-1.372	0.01640871
A_32_P155026	THC2507792	THC2507792	-1.372	0.035524709
A_23_P59388	NM_001723	DST	-1.369	0.005547073
A_23_P257743	NM_003028	SHB	-1.366	0.043686427
A_24_P942933	AK022802	APOBEC3G	-1.366	0.00402701
A_23_P150609	NM_000612	IGF2	-1.365	8.23E-05
A_24_P219920	NM_018708	FEM1A	-1.362	0.003807985
A_32_P96043	THC2534106	THC2534106	-1.362	0.021859261
A_23_P206697	NM_030579	CYB5B	-1.362	0.013602613
A_24_P187954	NM_213654	ARMC8	-1.359	0.020480591
A_23_P211252	NM_001001438	LSS	-1.359	0.046172576
A_32_P25397	AK022962	AK022962	-1.359	0.008370729
A_23_P128230	NM_002135	NR4A1	-1.358	0.000207788
A_32_P69930	NM_153376	CCDC96	-1.358	0.037432388
A_24_P755069	A_24_P755069	A_24_P755069	-1.356	0.022338746
A_23_P97457	NM_022831	C1orf80	-1.355	0.041697281
A_23_P122662	NM_018988	GFOD1	-1.355	0.001704455
A_23_P29495	NM_001904	CTNNB1	-1.355	0.026434591
A_23_P138117	AY037153	CAMTA1	-1.354	0.040749699
A_23_P64019	NM_201278	MTMR2	-1.354	0.032041799
A_23_P346900	NM_001005505	CACNA2D2	-1.351	0.032305764
A_23_P218685	NM_001032288	UBE2V1	-1.351	0.013896684
A_23_P353574	NM_133494	NEK7	-1.35	0.049323959
A_32_P2605	AV756170	AV756170	-1.349	0.0225174
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A_23_P252758	NM_000420	KEL	-1.347	0.032965656
A_23_P107744	NM_030760	S1PR5	-1.345	0.001890705
A_23_P252721	NM_182643	DLC1	-1.344	0.031039569
A_24_P673786	NM_005028	PIP4K2A	-1.342	0.001709883
A_23_P13907	NM_000618	IGF1	-1.34	0.025413227
A_23_P118552	NM_006460	HEXIM1	-1.34	0.00957893
A_24_P164815	A_24_P164815	A_24_P164815	-1.34	0.023798719
A_32_P213306	THC2579654	THC2579654	-1.34	0.007111351
A_24_P299562	AF116618	AF116618	-1.339	0.025473972
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A_23_P38519	NM_000212	ITGB3	-1.329	0.004161954
A_32_P222060	A_32_P222060	A_32_P222060	-1.329	0.00954536
A_24_P167377	NM_206899	OR10P1	-1.328	0.047611944
A_23_P89030	AK026130	FBXO31	-1.328	0.012640701
A_23_P49849	NM_178860	SEZ6	-1.327	0.005624643
A_24_P24332	A_24_P24332	A_24_P24332	-1.326	0.03436009
A_23_P308603	NM_005417	SRC	-1.323	0.011894952
A_23_P366366	NM_014766	SCRN1	-1.322	0.006153499
A_32_P11181	NM_006191	PA2G4	-1.32	0.016809171
A_24_P127491	ENST00000330710	ENST00000330710	-1.32	0.01587455
A_23_P255111	THC2545097	THC2545097	-1.319	0.011398533
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A_24_P158536	NM_014836	RHOBTB1	-1.316	0.01115731
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A_23_P85664	NM_152376	UBXD3	-1.314	0.040961198
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A_23_P41128	NM_003884	PCAF	-1.311	0.002965833
A_23_P171314	NM_023934	FUNDC2	-1.311	0.004285256
A_23_P53081	NM_020896	OSBPL5	-1.308	0.006968867
A_32_P74778	A_32_P74778	A_32_P74778	-1.308	0.035574456
A_23_P500844	NM_001083	PDE5A	-1.308	0.021312078
A_23_P152926	J02940	GP1BA	-1.307	0.001215857
A_23_P395534	NM_006511	RSC1A1	-1.305	0.032301519
A_32_P231641	THC2671299	THC2671299	-1.304	0.008809705
A_32_P141724	NM_053041	COMMD7	-1.303	0.027848298
A_23_P387649	AF116663	DNAJA4	-1.302	0.015984144
A_23_P25974	NM_001010854	TTC7B	-1.301	0.002217922
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A_23_P83368	NM_016373	WVOX	-1.3	0.033456216
A_23_P86421	NM_005437	NCOA4	-1.3	0.019118014
A_23_P369815	NM_000639	FASLG	-1.298	0.01310483
A_23_P62634	NM_020485	RHCE	-1.298	0.028740993
A_24_P32790	NM_018566	YOD1	-1.298	0.00705535
A_23_P61127	NM_024122	APOO	-1.297	0.043723219
A_32_P31165	BC000986	BC000986	-1.297	0.002770819
A_32_P192594	CR624390	LOC400099	-1.295	0.047576156
A_23_P359277	NM_024930	ELOVL7	-1.294	0.022846907
A_24_P9809	NM_017580	ZRANB1	-1.29	0.040975117
A_23_P12082	NM_001025199	CHI3L2	-1.29	0.036117238

A_23_P75220	NM_031212	SLC25A28	-1.289	0.011187312
A_23_P29495	NM_001904	CTNNB1	-1.287	0.035481589
A_23_P29495	NM_001904	CTNNB1	-1.286	0.040163241
A_23_P38519	NM_000212	ITGB3	-1.285	0.004802208
A_23_P149992	NM_020992	PDLIM1	-1.283	0.032727583
A_24_P348173	AK001784	AK001784	-1.283	0.017720948
A_32_P130968	BC035377	BC035377	-1.281	0.046573589
A_23_P10291	NM_001910	CTSE	-1.279	0.012522939
A_23_P361448	NM_144665	SESN3	-1.278	0.000805002
A_23_P29495	NM_001904	CTNNB1	-1.277	0.045480637
A_23_P7074	NM_032313	C4orf14	-1.272	0.043057497
A_24_P290314	E01827	E01827	-1.272	0.019655527
A_23_P69695	NM_001008388	CISD2	-1.271	0.008913573
A_24_P173823	BC044624	BC044624	-1.267	0.004355294
A_23_P119295	NM_016581	ECSIT	-1.267	0.020302055
A_24_P399680	NM_080821	C20orf108	-1.266	0.000690282
A_23_P34767	NM_004559	YBX1	-1.266	0.009768226
A_23_P58293	NM_181886	UBE2D3	-1.265	0.009615451
A_23_P216966	NM_000962	PTGS1	-1.265	0.010355191
A_23_P139486	NM_004642	CDK2AP1	-1.263	0.037256927
A_23_P147984	NM_004238	TRIP12	-1.262	0.017970538
A_23_P138541	NM_003739	AKR1C3	-1.261	0.002718504
A_23_P371266	NM_015569	DNM3	-1.259	0.011934158
A_23_P205808	NM_012388	PLDN	-1.254	0.010110833
A_23_P431319	NM_173834	YIPF6	-1.254	0.004692627
A_23_P320159	ENST00000314720	LOC170082	-1.252	0.011538816
A_32_P63324	THC2700145	THC2700145	-1.251	0.016103868
A_23_P115922	NM_004096	EIF4EBP2	-1.251	0.046396943
A_23_P125408	NM_031304	DOHH	-1.251	0.018356039
A_32_P96752	AW946823	AW946823	-1.251	0.007136219
A_32_P42574	NM_032800	C1orf198	-1.25	0.00614054
A_23_P156550	AY358357	TREML1	-1.25	0.002574953
A_23_P73150	NM_031421	TTC25	-1.249	0.000593981
A_23_P369919	NM_004578	RAB4A	-1.249	0.031014172
A_23_P253281	NM_001102426	TBC1D8	-1.248	0.001253289
A_23_P152655	NM_000873	ICAM2	-1.247	0.031116139
A_32_P195401	NM_173511	ALS2CR13	-1.245	0.012258104
A_24_P346762	NM_025182	KIAA1539	-1.245	0.009010161
A_24_P409494	NM_015367	BCL2L13	-1.242	0.042390432
A_23_P97914	AK021432	AK021432	-1.242	0.012461477
A_32_P17743	THC2670504	THC2670504	-1.242	0.004488486

A_23_P10685	NM_012267	HSPBP1	-1.242	0.04454452
A_23_P92362	NM_002494	NDUFC1	-1.24	0.017352479
A_24_P16997	NM_198794	MAP4K5	-1.24	0.004267742
A_24_P165259	NM_013328	PYCR2	-1.239	0.031952123
A_23_P373100	BC020879	MGC24103	-1.239	0.011157401
A_23_P29495	NM_001904	CTNNB1	-1.238	0.049802227
A_23_P6034	NM_030773	TUBB1	-1.237	0.015036076
A_23_P12282	NM_001004023	DYRK3	-1.237	0.006395023
A_23_P99747	NM_004196	CDKL1	-1.234	0.042201772
A_24_P281264	A_24_P281264	A_24_P281264	-1.233	0.012051638
A_24_P277955	NM_016068	FIS1	-1.231	0.007030677
A_23_P109322	NM_006198	PCP4	-1.231	0.036180458
A_23_P86424	NM_005437	NCOA4	-1.23	0.019141681
A_23_P208582	A_23_P208582	A_23_P208582	-1.229	0.038151572
A_24_P466102	AL390143	AL390143	-1.229	0.048710519
A_23_P67708	NM_003200	TCF3	-1.227	0.004711255
A_23_P433760	NM_001030288	SPN	-1.227	0.028429855
A_23_P369733	NM_020850	RANBP10	-1.227	0.012015233
A_23_P351	NM_203342	EPB41	-1.226	0.009493062
A_23_P210658	NM_016045	SLMO2	-1.226	0.035048705
A_23_P59210	NM_000389	CDKN1A	-1.226	0.014289663
A_24_P168574	ENST00000371081	ENST00000371081	-1.225	0.011356453
A_23_P20622	NM_033331	CDC14B	-1.221	0.015041129
A_23_P98431	NM_000190	HMBS	-1.22	0.003920833
A_23_P119794	CR608907	CR608907	-1.218	0.018656465
A_32_P140139	NM_000129	F13A1	-1.217	0.002713248
A_24_P320033	NM_005191	CD80	-1.217	0.03062659
A_23_P98431	NM_000190	HMBS	-1.217	0.003774837
A_24_P309594	BC026344	FLJ20489	-1.216	0.045969735
A_24_P7330	A_24_P7330	A_24_P7330	-1.213	0.000770685
A_23_P353035	NM_001553	IGFBP7	-1.213	0.002785147
A_24_P91238	NM_032837	FAM104A	-1.211	0.011729306
A_24_P936537	AL036373	AL036373	-1.21	0.041951845
A_32_P17439	THC2537721	THC2537721	-1.21	0.01191789
A_24_P102981	NM_006736	DNAJB2	-1.208	0.01066099
A_23_P54376	NM_004809	STOML1	-1.205	0.047219098
A_23_P98431	NM_000190	HMBS	-1.205	0.003908706
A_32_P166693	NM_020733	HEG1	-1.204	0.024398048
A_32_P226869	BC002470	BC002470	-1.203	0.009827673
A_24_P113131	NM_004758	BZRAP1	-1.203	0.012760033
A_24_P703642	A_24_P703642	A_24_P703642	-1.202	0.015031367

A_23_P69468	NM_004547	NDUFB4	-1.201	0.035233736
A_23_P204208	NM_002262	KLRD1	-1.201	0.008144812
A_23_P128808	NM_013345	GPR132	-1.2	0.013318678
A_32_P42780	NM_001112663	ZNF271	-1.199	0.020870867
A_23_P13907	NM_000618	IGF1	-1.199	0.043374755
A_23_P111981	NM_177457	LYNX1	-1.199	0.003105978
A_24_P58247	NR_002169	OR1F2P	-1.198	0.044496236
A_23_P59210	NM_000389	CDKN1A	-1.197	0.028533615
A_32_P167791	NM_003932	ST13	-1.196	0.016746467
A_23_P110022	NM_032638	GATA2	-1.196	0.021911713
A_23_P18713	NM_004827	ABCG2	-1.195	0.002342884
A_24_P930597	BG259864	BG259864	-1.194	0.013101999
A_23_P143817	NM_053025	MYLK	-1.193	0.010224591
A_24_P826646	NM_001037738	NPM1	-1.193	0.016027548
A_23_P128147	NM_006082	TUBA1B	-1.193	0.043252366
A_23_P89073	NM_145911	ZNF23	-1.193	0.044682778
A_24_P333525	NM_014857	RABGAP1L	-1.193	0.009960941
A_23_P108042	BC064806	NCR1	-1.192	0.010082878
A_23_P55616	ENST00000321925	SLC14A1	-1.189	5.75E-05
A_24_P118531	BP290435	BP290435	-1.188	0.005639706
A_23_P98431	NM_000190	HMBS	-1.188	0.004709564
A_23_P81441	NM_130848	C5orf20	-1.187	0.044403174
A_23_P428129	NM_000076	CDKN1C	-1.187	9.13E-05
A_23_P210358	NM_004987	LIMS1	-1.186	0.008706487
A_23_P19886	NM_207173	NPSR1	-1.186	0.024439913
A_24_P148043	NM_014864	FAM20B	-1.186	0.020381927
A_23_P143120	NM_003183	ADAM17	-1.185	0.040449138
A_23_P13907	NM_000618	IGF1	-1.184	0.042184946
A_23_P414771	A_23_P414771	A_23_P414771	-1.183	0.032178235
A_24_P208809	NM_004162	RAB5A	-1.183	0.013162431
A_24_P281844	THC2526432	THC2526432	-1.182	0.008160459
A_23_P343221	NM_006669	LILRB1	-1.181	0.012752846
A_23_P983	NM_004905	PRDX6	-1.181	0.000762612
A_23_P93302	NM_001470	GABBR1	-1.18	0.04621842
A_23_P422922	NM_031923	TAF3	-1.179	0.046124797
A_23_P206284	NM_201525	GPR56	-1.179	0.003006508
A_23_P121596	NM_002704	PPBP	-1.177	0.000360208
A_23_P397376	NM_001031804	MAF	-1.177	0.020222754
A_23_P308603	NM_005417	SRC	-1.175	0.011138063
A_24_P212997	XR_019070	XR_019070	-1.175	0.020031842
A_24_P415615	NM_000738	CHRM1	-1.173	0.015457519

A_23_P401361	NM_020845	PITPNM2	-1.173	0.011776408
A_23_P83388	NM_031308	EPPK1	-1.171	0.033455481
A_23_P126613	NM_080429	AQP10	-1.17	0.001369868
A_23_P103034	NM_001886	CRYBA4	-1.17	0.017776849
A_23_P369815	NM_000639	FASLG	-1.169	0.022343115
A_32_P215078	BQ364306	BQ364306	-1.169	0.007375063
A_23_P425073	NM_002898	RBMS2	-1.168	0.005027856
A_23_P108522	BC064950	FAM134A	-1.168	0.011299809
A_23_P89708	NM_018129	PNPO	-1.168	0.036874541
A_24_P482009	XR_038151	LOC100131707	-1.168	0.010966818
A_23_P98431	NM_000190	HMBS	-1.167	0.005315258
A_23_P145761	NM_005738	ARL4A	-1.167	0.020427132
A_23_P143143	NM_002166	ID2	-1.167	0.033007847
A_23_P30755	NM_138296	PTCRA	-1.166	0.001103766
A_23_P73114	NM_000313	PROS1	-1.166	0.011960939
A_23_P85682	NM_005595	NFIA	-1.163	0.010397376
A_23_P98431	NM_000190	HMBS	-1.161	0.005429583
A_24_P365807	NM_004429	EFNB1	-1.16	0.021570365
A_23_P98431	NM_000190	HMBS	-1.159	0.005296501
A_23_P25253	NM_015954	DERA	-1.158	0.028544104
A_23_P55107	NM_014683	ULK2	-1.158	0.046415451
A_23_P22744	NM_130467	PAGE5	-1.157	0.001309657
A_23_P152955	NM_017622	C17orf59	-1.156	0.039130704
A_23_P49597	NM_020360	PLSCR3	-1.155	0.002592446
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A_23_P62932	NM_001677	ATP1B1	-1.154	0.020000378
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A_23_P77562	NM_194280	LOC124446	-1.15	0.044291661
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A_24_P210343	NM_002355	M6PR	-1.144	0.041204399
A_23_P213137	NM_032622	LNK1	-1.144	0.041525444
A_32_P37247	AK096908	LOC642826	-1.144	0.014731434
A_24_P119685	NM_052843	OBSCN	-1.142	0.001231052

A_24_P196188	NM_007224	NXPH4	-1.142	0.042076234
A_23_P124522	NM_024819	DCAKD	-1.142	0.03637202
A_23_P19142	NM_004137	KCNMB1	-1.14	0.018438751
A_23_P364517	NM_021237	SELK	-1.14	0.016506528
A_23_P111701	NM_004126	GNG11	-1.14	0.002790991
A_23_P98431	NM_000190	HMBS	-1.14	0.00535897
A_32_P77252	THC2608799	THC2608799	-1.14	0.04111324
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A_24_P525144	A_24_P525144	A_24_P525144	-1.138	0.014247305
A_23_P29225	NM_012179	FBXO7	-1.138	0.012369069
A_24_P567944	CR606587	HCG18	-1.136	0.005334899
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A_23_P391586	NM_001018004	TPM1	-1.134	0.004349566
A_23_P98431	NM_000190	HMBS	-1.133	0.006575661
A_23_P145114	NM_001498	GCLC	-1.133	0.004245408
A_23_P372962	NM_144670	A2ML1	-1.133	0.011295288
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A_24_P149124	NM_004772	C5orf13	-1.131	0.007383558
A_24_P928243	T15787	T15787	-1.13	0.012849713
A_23_P86682	NM_013451	FER1L3	-1.13	0.008803486
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A_23_P338495	NM_001002265	8-Mar	-1.127	0.004516648
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A_32_P22654	NM_000032	ALAS2	-1.124	0.000327984
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A_24_P180654	BC063666	CREB3L2	-1.118	0.044595536
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A_23_P137806	NM_005373	MPL	-1.117	0.004090377
A_23_P105571	NM_020244	CHPT1	-1.117	0.004018266

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A_24_P916423	AI337612	AI337612	-1.114	0.011028379
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A_23_P84587	NM_018979	WNK1	-1.112	0.001748678
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A_23_P217938	NM_006542	SPHAR	-1.107	0.038324963
A_24_P230907	BC015394	FAM149B1	-1.107	0.022818155
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A_32_P55462	CR593500	LOC388494	-1.104	0.016298294
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A_24_P88505	NM_016505	ZCCHC17	-1.089	0.025217107
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A_23_P117082	NM_015987	HEBP1	-1.077	0.000139916
A_23_P30913	NM_033554	HLA-DPA1	-1.073	0.007047572
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A_23_P95790	NM_017625	ITLN1	-1.069	1.99E-05
A_23_P124132	NM_024648	FLJ22222	-1.069	0.021107464
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A_32_P136450	THC2656784	THC2656784	-1.064	0.024248558
A_23_P354341	NM_007053	CD160	-1.063	0.04096449
A_24_P64167	NM_000962	PTGS1	-1.063	0.011617693
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A_24_P887805	A_24_P887805	A_24_P887805	-1.048	0.036884224
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A_24_P144104	ENST00000320010	ENST00000320010	-1.047	0.033546159
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A_23_P320095	NM_014460	CSDC2	-1.044	0.008706198
A_32_P71437	THC2583762	THC2583762	-1.044	0.019167809
A_32_P175183	NM_014155	ZBTB44	-1.043	0.043207247
A_24_P38895	NM_002105	H2AFX	-1.042	0.040625382
A_24_P308506	NM_016347	NAT8B	-1.042	0.047171467
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A_23_P308603	NM_005417	SRC	-1.041	0.02130036
A_24_P896373	A_24_P896373	A_24_P896373	-1.04	0.039749596
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A_32_P18251	NM_023934	FUNDC2	-1.039	0.004328221
A_32_P731227	XR_017079	XR_017079	-1.036	0.02614295
A_24_P819419	THC2532711	THC2532711	-1.034	0.020550047
A_23_P89798	NM_001012515	FECH	-1.034	0.000593173
A_24_P117942	NM_207377	UNQ9438	-1.032	0.002915529
A_23_P26815	NM_031430	RILP	-1.031	0.008943676
A_32_P224234	AK123450	LOC645195	-1.03	0.009532074
A_24_P719081	AA704712	AA704712	-1.029	0.038640831
A_32_P429872	NM_016097	IER3IP1	-1.029	0.04098143
A_23_P141555	NM_013351	TBX21	-1.029	0.00351051
A_32_P208078	NM_005957	MTHFR	-1.028	0.020672544
A_23_P145724	NM_006658	C7orf16	-1.025	0.010045617
A_23_P68007	NM_001679	ATP1B3	-1.024	0.021850037
A_32_P63426	THC2733814	THC2733814	-1.024	0.005688242
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A_23_P206280	NM_201525	GPR56	-1.021	0.001709852
A_24_P316019	ENST00000333156	ENST00000333156	-1.019	0.017941024
A_32_P46214	NM_173653	SLC9A9	-1.018	0.043167978
A_32_P191859	NM_020382	SETD8	-1.013	0.0333565
A_23_P59210	NM_000389	CDKN1A	-1.012	0.028457215
A_23_P354387	NM_013451	FER1L3	-1.011	0.002820762
A_23_P118693	NM_003593	FOXN1	-1.01	0.039700315
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A_23_P97860	NM_000235	LIPA	-1.004	0.008894293
A_23_P165657	NM_005415	SLC20A1	-1.004	0.025795767
A_23_P137434	NM_014372	RNF11	-1.004	0.028107812
A_23_P250701	NM_018979	WNK1	-1.002	0.014160379
A_23_P110791	NM_005211	CSF1R	-1.002	0.031324006
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A_23_P17773	NM_031444	C22orf13	-1.001	0.023552323
A_23_P20615	NM_006401	ANP32B	-1	0.048463903
A_23_P380614	NM_006045	ATP9A	-0.999	0.018149159
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A_23_P146554	NM_000954	PTGDS	-0.997	0.001893177

A_23_P141715	NM_015476	C18orf10	-0.997	0.003096586
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A_32_P169754	NM_004559	YBX1	-0.995	0.002936214
A_32_P168349	ENST00000375806	C6orf25	-0.993	0.002484017
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A_23_P17430	NM_017495	RBM38	-0.991	0.009187967
A_24_P13190	NM_138961	ESAM	-0.99	0.001039624
A_23_P151679	NM_021003	PPM1A	-0.99	0.032223315
A_23_P156431	NM_005907	MAN1A1	-0.989	0.016728965
A_32_P139414	AW804491	AW804491	-0.988	0.033045185
A_23_P217079	NM_003863	DPM2	-0.987	0.004109967
A_23_P156708	NM_032470	TNXB	-0.986	0.009516239
A_24_P753476	NR_002942	LOC340508	-0.986	0.038417194
A_23_P86330	NM_016545	IER5	-0.986	0.009804412
A_24_P353289	NM_031444	C22orf13	-0.985	0.038492288
A_23_P137630	NM_016287	HP1BP3	-0.985	0.024799685
A_23_P259272	NM_018639	WSB2	-0.984	0.019666248
A_32_P178099	EB386378	EB386378	-0.984	0.044977336
A_23_P81219	NM_016619	PLAC8	-0.983	0.040922281
A_23_P143774	NM_018995	MOV10L1	-0.982	0.014205566
A_32_P89269	THC2670311	THC2670311	-0.98	0.048641801
A_23_P408095	NM_001011546	DSTN	-0.979	0.029116309
A_32_P25243	THC2656826	THC2656826	-0.979	0.046376759
A_23_P393656	AK055893	NPHP3	-0.978	0.015790132
A_24_P203000	NM_000878	IL2RB	-0.977	0.011117994
A_23_P417951	NM_033512	TSPYL5	-0.976	0.046704674
A_24_P935893	NM_017709	FAM46C	-0.976	0.002022435
A_24_P186354	A_24_P186354	A_24_P186354	-0.974	0.004538597
A_23_P142325	ENST00000395095	ENST00000395095	-0.972	0.044577504
A_23_P502710	NM_152237	GAS2L1	-0.972	0.014937717
A_23_P73457	NM_025158	RUFY1	-0.971	0.022818329
A_23_P200073	NM_020362	C1orf128	-0.97	0.002923371
A_24_P393151	AF025529	LILRA1	-0.97	0.031455378
A_24_P218151	NM_016352	CPA4	-0.968	0.007992622
A_23_P24843	NM_014632	MICAL2	-0.968	0.016444503
A_23_P153351	NM_000713	BLVRB	-0.968	0.006460537
A_23_P205646	NM_198794	MAP4K5	-0.966	0.042568608

A_23_P206441	NM_000135	FANCA	-0.965	0.036189325
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A_24_P383704	THC2625585	THC2625585	-0.964	0.01106912
A_23_P206441	NM_000135	FANCA	-0.964	0.031775657
A_24_P293114	NM_020971	SPTBN4	-0.963	0.004554433
A_24_P139901	NM_002101	GYPC	-0.961	0.005786791
A_24_P1545	NM_015633	FGFR1OP2	-0.961	0.005567299
A_24_P336276	NM_013272	SLCO3A1	-0.96	0.035324369
A_23_P250274	NM_019594	LRRC8A	-0.959	0.039822844
A_32_P180971	BC090920	BC090920	-0.958	0.019744858
A_24_P347880	NM_021628	ALOXE3	-0.957	0.013990144
A_23_P118392	NM_016084	RASD1	-0.957	0.014422242
A_23_P212436	NM_001008392	CTDSPL	-0.956	0.045020244
A_23_P65370	NM_016417	GLRX5	-0.956	0.004529116
A_23_P250212	NM_001080826	PRAGMIN	-0.956	0.044641062
A_24_P176445	NM_001040427	HAGH	-0.955	0.009145834
A_23_P19936	NM_006854	KDELR2	-0.954	0.037053822
A_23_P162739	NM_183422	TSC22D1	-0.952	0.043662926
A_23_P254507	NM_139211	HOPX	-0.952	0.013144674
A_23_P257753	NM_022780	RMND5A	-0.951	0.038402379
A_23_P59210	NM_000389	CDKN1A	-0.95	0.045494125
A_23_P82169	NM_003107	SOX4	-0.949	0.031197923
A_24_P913489	M28219	LDLR	-0.948	0.015836584
A_23_P204511	NM_017842	FLJ20489	-0.946	0.019961078
A_32_P70927	NM_207339	PAGE2	-0.945	0.009281631
A_24_P910818	THC2786662	THC2786662	-0.945	0.018308564
A_23_P94533	NM_001912	CTSL1	-0.944	0.027436717
A_23_P206290	NM_153837	GPR114	-0.944	0.036899568
A_23_P100660	NM_002615	SERPINF1	-0.942	0.037508295
A_23_P133949	A_23_P133949	A_23_P133949	-0.942	0.046398654
A_32_P112910	NM_203412	UBL4B	-0.941	0.00824716
A_23_P97123	BC007072	RP4-747L4.3	-0.941	0.043258544
A_23_P26386	NM_016140	TPPP3	-0.941	0.04784671
A_32_P89709	NM_001018004	TPM1	-0.94	0.004639675
A_23_P307525	NM_152326	ANKRD9	-0.94	0.014652346
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A_24_P502660	A_24_P502660	A_24_P502660	-0.939	0.026513951
A_23_P118427	NM_145109	MAP2K3	-0.939	0.007612662
A_23_P6252	AJ783421	DSCR8	-0.938	0.046148052
A_23_P107454	NM_031958	KRTAP3-1	-0.937	0.034844698
A_24_P374244	NM_002049	GATA1	-0.936	0.010383484

A_23_P29551	NM_018306	TMEM40	-0.935	0.011038904
A_23_P80594	NM_015184	PLCL2	-0.935	0.0476128
A_23_P131825	NM_003279	TNNC2	-0.934	0.027353442
A_23_P143811	A_23_P143811	A_23_P143811	-0.932	0.031325291
A_23_P146631	NM_006336	ZER1	-0.932	0.022970031
A_23_P204937	NM_014059	C13orf15	-0.931	0.02388524
A_23_P160481	NM_018442	IQWD1	-0.93	0.02431942
A_24_P22887	NM_005053	RAD23A	-0.93	0.007339641
A_23_P216004	AY032628	SLC25A37	-0.93	0.021784563
A_23_P72961	NM_002764	PRPS1	-0.93	0.014360234
A_23_P57227	NM_003098	SNTA1	-0.929	0.024396898
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A_32_P69368	NM_002166	ID2	-0.929	0.042580391
A_24_P181998	ENST00000255896	ENST00000255896	-0.929	0.036159465
A_24_P414187	NM_014869	IQSEC1	-0.928	0.023304278
A_23_P210886	NM_138578	BCL2L1	-0.928	0.005764794
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A_23_P166633	NM_002213	ITGB5	-0.928	0.015720253
A_24_P246926	NM_001302	CORT	-0.927	0.012612682
A_23_P136870	NM_175868	MAGEA6	-0.926	0.021687261
A_23_P365610	X56681	JUND	-0.925	0.041036031
A_24_P248251	NM_139048	HLTF	-0.923	0.032343997
A_24_P187365	A_24_P187365	A_24_P187365	-0.922	0.045062579
A_32_P173122	A_32_P173122	A_32_P173122	-0.921	0.048382249
A_23_P128919	NM_002306	LGALS3	-0.92	0.009391517
A_24_P25668	NM_000797	DRD4	-0.92	0.037246263
A_23_P133107	AK027833	FRAS1	-0.919	0.037794184
A_23_P20035	NM_138445	GPR146	-0.917	0.01106072
A_23_P41267	BC010526	LOC401127	-0.915	0.009322662
A_23_P345118	NM_002648	PIM1	-0.915	0.015122906
A_23_P119042	NM_005601	NKG7	-0.913	0.018093694
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A_23_P161399	NM_130439	MXI1	-0.909	0.008737222
A_23_P134454	NM_001753	CAV1	-0.908	0.011501773
A_24_P858698	NM_002501	NFIX	-0.908	0.000844457
A_23_P372834	NM_198098	AQP1	-0.907	0.008616887
A_23_P52286	NM_015448	RP11-529I10.4	-0.907	0.014917153
A_23_P136870	NM_175868	MAGEA6	-0.907	0.038067568
A_23_P308603	NM_005417	SRC	-0.907	0.045398471

A_23_P166797	NM_022147	RTP4	-0.907	0.040360762
A_23_P206441	NM_000135	FANCA	-0.904	0.048294437
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A_23_P136870	NM_175868	MAGEA6	-0.9	0.026229263
A_23_P345575	NM_001455	FOXO3	-0.9	0.010310405
A_23_P352435	NM_002926	RGS12	-0.9	0.036435682
A_32_P103776	THC2734788	THC2734788	-0.9	0.013337258
A_24_P935203	THC2500587	THC2500587	-0.899	0.031083139
A_24_P485742	THC2689427	THC2689427	-0.899	0.048158934
A_24_P318656	NM_000212	ITGB3	-0.897	0.003631432
A_32_P46238	NR_001443	LOC339240	-0.897	0.049601213
A_23_P206018	NM_001018004	TPM1	-0.896	0.036805537
A_23_P78289	NM_032837	FAM104A	-0.894	0.014699225
A_24_P289865	A_24_P289865	A_24_P289865	-0.894	0.024212912
A_24_P919330	NM_002032	FTH1	-0.894	0.011432889
A_23_P152906	NM_000697	ALOX12	-0.892	0.022462007
A_24_P752518	NM_005961	MUC6	-0.891	0.043791418
A_24_P73669	NM_002094	GSPT1	-0.89	0.007954744
A_24_P366787	BC029785	FLJ42875	-0.89	0.025260698
A_23_P33072	NM_032272	MAF1	-0.889	0.018451497
A_23_P120364	NM_024299	C20orf149	-0.888	0.020101092
A_24_P401150	A_24_P401150	A_24_P401150	-0.887	0.005915351
A_23_P372910	NM_005060	RORC	-0.887	0.013773819
A_24_P148590	NM_015727	TACR1	-0.885	0.026326369
A_23_P62429	NM_001078172	FAM127B	-0.883	0.003838268
A_23_P75430	NM_020179	C11orf75	-0.882	0.040992364
A_23_P256059	NM_203477	MGC70863	-0.881	0.028605665
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A_24_P744148	BC009800	BC009800	-0.878	0.018810939
A_24_P266466	NM_005293	GPR20	-0.877	0.031648015
A_23_P200001	NM_144573	NEXN	-0.877	0.039308654
A_24_P159845	NM_007145	ZNF146	-0.877	0.023356958
A_24_P172993	NM_022066	UBE2O	-0.876	0.005368728
A_24_P649735	BY796363	BY796363	-0.876	0.018706305
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A_23_P77117	NM_023003	TM6SF1	-0.871	0.035404496
A_23_P41528	NM_031950	FGFBP2	-0.87	0.003165653
A_24_P130792	NM_199044	NSUN4	-0.87	0.009518779
A_24_P401670	XR_015583	XR_015583	-0.87	0.013423217

A_23_P26143	BU568037	BU568037	-0.868	0.013618301
A_23_P385851	NM_133486	MBNL3	-0.868	0.045014898
A_24_P128727	ENST00000306515	ENST00000306515	-0.868	0.013502375
A_23_P200015	NM_174858	AK5	-0.867	0.013241102
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A_23_P408708	NM_004331	BNIP3L	-0.866	0.033082772
A_23_P421032	NM_174977	SEC14L4	-0.865	0.016444532
A_23_P1833	NM_054025	B3GAT1	-0.865	0.01851404
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A_23_P210886	NM_138578	BCL2L1	-0.863	0.010306287
A_32_P168342	ENST00000375806	C6orf25	-0.862	0.002760058
A_24_P164718	NM_016496	2-Mar	-0.862	0.005503335
A_23_P393627	NM_138693	KLF14	-0.862	0.001454426
A_23_P325726	NM_015547	ACOT11	-0.861	0.038505496
A_23_P75260	NM_032023	RASSF4	-0.86	0.01928567
A_32_P30004	AF086044	AF086044	-0.859	0.049159541
A_23_P143374	NM_025176	RP4-691N24.1	-0.858	0.049322269
A_24_P359205	BC010094	PIGQ	-0.858	0.049451763
A_32_P35751	THC2704459	THC2704459	-0.858	0.024232202
A_32_P148047	CD239565	CD239565	-0.857	0.008908719
A_23_P151506	NM_016445	PLEK2	-0.856	0.00810997
A_23_P2041	NM_032867	MICALCL	-0.855	0.007866741
A_24_P51127	BC094862	WNK1	-0.855	0.012386376
A_23_P80382	NM_015366	PRR5	-0.855	0.004157962
A_24_P336853	NM_020143	PNO1	-0.854	0.008769356
A_23_P82959	NM_003923	FOXH1	-0.851	0.002074859
A_24_P59247	XM_001720677	LOC390282	-0.851	0.025203696
A_32_P25253	NM_030940	ISCA1	-0.851	0.012341357
A_23_P350059	NR_003242	C1orf152	-0.85	0.029775313
A_23_P207967	NM_014772	KIAA0427	-0.85	0.010930804
A_23_P379630	NM_138570	SLC38A10	-0.85	0.011862072
A_23_P102731	NM_175839	SMOX	-0.849	0.021129481
A_23_P106559	ENST00000397462	ENST00000397462	-0.848	0.046801596
A_23_P139198	NM_033101	LGALS12	-0.848	0.038894278
A_23_P210886	NM_138578	BCL2L1	-0.845	0.012426389
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A_23_P308603	NM_005417	SRC	-0.844	0.042938017
A_23_P210886	NM_138578	BCL2L1	-0.843	0.010479679
A_23_P254271	NM_032525	TUBB6	-0.843	0.008035822
A_24_P222054	AF271776	AF271776	-0.843	0.046473222
A_32_P122402	BC031344	LOC441455	-0.842	0.011264687

A_23_P48212	NM_016509	CLEC1B	-0.842	0.030134552
A_24_P599496	THC2613527	THC2613527	-0.842	0.017088261
A_23_P210886	NM_138578	BCL2L1	-0.841	0.011183527
A_32_P95082	NM_017738	CNTLN	-0.841	0.036294859
A_23_P68486	NM_080821	C20orf108	-0.838	0.018387489
A_32_P4228	ENST00000358396	LOC728450	-0.837	0.011047822
A_23_P42241	NM_030876	OR5V1	-0.837	0.027550271
A_24_P718503	AK127768	LOC100130152	-0.837	0.044405315
A_24_P595717	NM_199280	LOC165186	-0.836	0.024643475
A_32_P113742	BC104478	RPL21	-0.836	0.033300318
A_23_P257111	NM_000507	FBP1	-0.836	0.043029992
A_32_P159770	CF139200	CF139200	-0.835	0.048391598
A_23_P103131	NM_019008	SMCR7L	-0.835	0.046753169
A_24_P99963	NM_001319	CSNK1G2	-0.834	0.001126569
A_24_P59297	ENST00000391607	ENST00000391607	-0.833	0.049739973
A_23_P140675	NM_000119	EPB42	-0.833	0.003153707
A_23_P210886	NM_138578	BCL2L1	-0.831	0.011312463
A_23_P420196	NM_003745	SOCS1	-0.831	0.047693542
A_32_P19466	A_32_P19466	A_32_P19466	-0.831	0.04050838
A_23_P210886	NM_138578	BCL2L1	-0.83	0.011773337
A_23_P206140	NM_018602	DNAJA4	-0.83	0.017751665
A_24_P101391	NM_004559	YBX1	-0.829	0.016826692
A_24_P355267	NM_001006641	SLC25A25	-0.829	0.024690665
A_23_P13057	NM_020229	PRDM11	-0.828	0.01068724
A_23_P77971	NM_000419	ITGA2B	-0.827	0.004955564
A_32_P188841	A_32_P188841	A_32_P188841	-0.826	0.018791933
A_23_P101908	NM_005883	APC2	-0.826	0.010376856
A_23_P100326	NM_001039476	C16orf35	-0.826	0.012568956
A_23_P1473	NM_005041	PRF1	-0.825	0.008965126
A_23_P31984	NM_006687	ACTL7A	-0.825	0.026202476
A_23_P35796	NM_006244	PPP2R5B	-0.824	0.02153886
A_23_P432056	NM_178568	RTN4RL1	-0.82	0.00993646
A_23_P209426	NM_015049	TRAK2	-0.819	0.038392342
A_23_P5221	NM_032433	ZNF333	-0.819	0.003499427
A_24_P237117	NM_002237	KCNG1	-0.818	0.014212163
A_24_P921366	NM_033138	CALD1	-0.817	0.032377341
A_24_P682601	XR_019446	XR_019446	-0.815	0.008822215
A_23_P210886	NM_138578	BCL2L1	-0.814	0.015207437
A_23_P33683	NM_016496	2-Mar	-0.814	0.008634299
A_23_P318800	NM_001050	SSTR2	-0.813	0.013041064
A_23_P73780	NM_001569	IRAK1	-0.813	0.00877921

A_23_P48088	NM_001242	CD27	-0.811	0.025621192
A_23_P430818	NM_014181	HSPC159	-0.811	0.014252924
A_24_P922378	NM_004449	ERG	-0.81	0.024735679
A_23_P49559	NM_181790	GPR142	-0.808	0.007844983
A_23_P210886	NM_138578	BCL2L1	-0.808	0.013895752
A_23_P251173	NM_014413	EIF2AK1	-0.807	0.020667132
A_23_P136870	NM_175868	MAGEA6	-0.805	0.038562877
A_23_P368366	NM_207332	ERICH1	-0.805	0.031645458
A_23_P321261	NM_002396	ME2	-0.805	0.036538761
A_23_P254120	NM_033480	FBXO9	-0.803	0.027653021
A_24_P385942	NM_133371	MYOZ3	-0.802	0.015125662
A_23_P125204	NM_001004464	OR10G8	-0.802	0.04262958
A_23_P144126	NM_014375	FETUB	-0.801	0.046119906
A_24_P246626	ENST00000308384	ENST00000308384	-0.8	0.03949341
A_23_P104413	NM_033178	DUX4	-0.799	0.040081012
A_24_P47467	NM_024092	TMEM109	-0.799	0.032354833
A_23_P69121	NM_005067	SIAH2	-0.797	0.01601201
A_24_P206305	NM_182924	MICALL2	-0.795	0.035105181
A_23_P216108	NM_000037	ANK1	-0.792	0.005501967
A_23_P58729	NM_003052	SLC34A1	-0.791	0.009203365
A_23_P75149	NM_213649	SFXN4	-0.791	0.038292358
A_32_P178503	NM_001012984	C16orf86	-0.791	0.015151804
A_24_P156769	NM_005373	MPL	-0.79	0.048426697
A_24_P11436	NM_017904	TTC22	-0.79	0.033041142
A_23_P116259	NM_018400	SCN3B	-0.789	0.006781432
A_32_P16975	NM_133450	ANKS3	-0.787	0.011138264
A_23_P217554	NM_005364	MAGEA8	-0.786	0.033532412
A_32_P102062	NM_001455	FOXO3	-0.785	0.01783253
A_24_P323682	A_24_P323682	A_24_P323682	-0.785	0.007378948
A_32_P213624	BU537444	BU537444	-0.785	0.025583076
A_23_P160359	NM_004437	EPB41	-0.783	0.012499004
A_24_P409971	NM_144573	NEXN	-0.783	0.037400632
A_23_P332937	NM_152480	C19orf23	-0.78	0.006912274
A_24_P272713	XR_018980	XR_018980	-0.779	0.022895332
A_23_P397120	ENST00000211092	ENST00000211092	-0.779	0.016700375
A_24_P709949	BM351936	BM351936	-0.779	0.013355373
A_23_P16096	NM_020230	PPAN	-0.778	0.005164182
A_24_P367571	NM_017794	KIAA1797	-0.778	0.015883237
A_23_P433588	NM_001406	EFNB3	-0.776	0.033076045
A_23_P259901	NM_012253	TKTL1	-0.776	0.028829566
A_24_P910050	CD242823	CD242823	-0.775	0.008232932

A_32_P163089	ENST00000310995	ENST00000310995	-0.774	0.043162695
A_23_P50389	NM_020378	NAT14	-0.774	0.005351012
A_23_P215913	NM_203339	CLU	-0.773	0.016302179
A_24_P556883	AI732974	AI732974	-0.773	0.013573178
A_23_P87329	NM_024662	NAT10	-0.772	0.003027403
A_32_P209624	THC2522223	THC2522223	-0.772	0.016674144
A_24_P334640	NM_133367	PAQR8	-0.77	0.045427676
A_23_P369899	NM_015444	TMEM158	-0.77	0.010285347
A_23_P113701	NM_002607	PDGFA	-0.77	0.029266863
A_23_P257583	NM_015689	DENND2A	-0.768	0.025049083
A_24_P600036	A_24_P600036	A_24_P600036	-0.768	0.035753682
A_24_P87931	NM_145343	APOL1	-0.768	0.032442685
A_32_P209960	NM_000246	CIITA	-0.767	0.032989305
A_23_P79978	NM_020689	SLC24A3	-0.767	0.011006821
A_23_P100408	NM_006181	NTN2L	-0.766	0.022874366
A_23_P8452	NM_001040167	LFNG	-0.764	0.014747178
A_24_P341593	XR_015535	XR_015535	-0.764	0.036571567
A_23_P405088	NM_005602	CLDN11	-0.763	0.04903843
A_32_P192474	NM_030651	PRRT1	-0.763	0.02633235
A_23_P71649	NM_005592	MUSK	-0.762	0.024983032
A_24_P818268	ENST00000339692	ENST00000339692	-0.762	0.020906026
A_23_P129382	NM_005425	TNP2	-0.762	0.036207578
A_23_P151106	NM_007273	PHB2	-0.76	0.002332462
A_23_P416581	NM_002073	GNAZ	-0.758	0.015814234
A_24_P8220	NM_004807	HS6ST1	-0.756	0.049495269
A_23_P89799	NM_006111	ACAA2	-0.754	0.028752976
A_24_P133475	NM_138452	DHRS1	-0.754	0.011009747
A_23_P51986	NM_181873	MTMR11	-0.754	0.010877511
A_24_P356930	NM_000782	CYP24A1	-0.754	0.03354862
A_32_P204740	BC065754	BC065754	-0.753	0.00890976
A_24_P931804	A_24_P931804	A_24_P931804	-0.752	0.045035887
A_32_P184260	AL516445	AL516445	-0.752	0.007042534
A_32_P102300	THC2687538	THC2687538	-0.751	0.022593225
A_24_P330385	NM_016609	SLC22A17	-0.75	0.019781267
A_23_P152984	NM_005782	THOC4	-0.749	0.024798857
A_32_P191120	THC2744687	THC2744687	-0.749	0.047231303
A_24_P499481	A_24_P499481	A_24_P499481	-0.748	0.027237843
A_23_P134454	NM_001753	CAV1	-0.747	0.018780675
A_23_P150064	NM_024756	MMRN2	-0.747	0.037154932
A_23_P142045	NM_005809	PRDX2	-0.745	0.014601301
A_23_P26890	NM_024302	MMP28	-0.745	0.022789107

A_23_P148641	NR_001551	TTY12	-0.744	0.046602585
A_24_P341019	NM_001009924	C20orf30	-0.742	0.006769506
A_23_P15369	NM_174892	CD300LB	-0.742	0.034082289
A_23_P333129	ENST00000391334	ENST00000391334	-0.74	0.046662458
A_24_P169073	NM_182623	FAM131C	-0.74	0.008326521
A_23_P129829	NM_139280	ORMDL3	-0.739	0.00170473
A_23_P134454	NM_001753	CAV1	-0.738	0.019305087
A_32_P150040	CR606969	CR606969	-0.737	0.008290353
A_23_P29897	NM_005935	AFF1	-0.735	0.023497008
A_24_P353638	NM_021181	SLAMF7	-0.734	0.046919623
A_32_P89523	T12590	T12590	-0.734	0.040848352
A_23_P1998	NM_001164	APBB1	-0.733	0.047873402
A_24_P827738	A_24_P827738	A_24_P827738	-0.732	0.040287801
A_23_P117125	NM_000966	RARG	-0.731	0.024220226
A_23_P14302	BC008299	C14orf139	-0.729	0.005187909
A_23_P6321	NM_003277	CLDN5	-0.729	0.028013153
A_23_P48109	NM_016533	NINJ2	-0.728	0.043108116
A_24_P136453	NM_022648	TNS1	-0.728	0.01476612
A_24_P104512	NM_001988	EVPL	-0.727	0.006799588
A_23_P134454	NM_001753	CAV1	-0.727	0.0167663
A_23_P137751	NM_017709	FAM46C	-0.726	0.010376714
A_23_P206498	NM_032366	C16orf13	-0.725	0.007369062
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A_24_P341853	NM_031454	RP3-402G11.5	-0.721	0.046548815
A_24_P911676	NM_003107	SOX4	-0.721	0.032326734
A_23_P29124	NM_002688	5-Sep	-0.72	0.046900487
A_23_P86021	NM_003944	SELENBP1	-0.718	0.005891389
A_24_P30034	NM_032818	C9orf100	-0.717	0.039141595
A_23_P61886	AK055659	TSPAN5	-0.716	0.016939902
A_23_P114670	NM_014448	ARHGEF16	-0.716	0.010184664
A_23_P7005	NM_005787	ALG3	-0.716	0.023679765
A_23_P77000	NM_014909	VASH1	-0.715	0.014648936
A_23_P218892	NM_182917	EIF4G1	-0.714	0.018908824
A_23_P106042	NM_001037288	CMTM5	-0.713	0.031548447
A_23_P144627	NM_018933	PCDHB13	-0.713	0.012502211
A_24_P243396	NM_001008657	TCOF1	-0.711	0.023088999
A_24_P247536	NM_001040057	FAM133B	-0.711	0.042720244
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A_23_P164258	NM_016518	PIPOX	-0.709	0.046973457
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A_24_P919256	A_24_P919256	A_24_P919256	-0.707	0.010240398

A_24_P937744	THC2553569	THC2553569	-0.706	0.005126359
A_24_P373885	NM_152482	C19orf25	-0.705	0.020388416
A_23_P73348	NM_024335	IRX6	-0.704	0.037552773
A_23_P346301	NM_144723	ZMAT2	-0.704	0.049513416
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A_23_P255257	NM_015397	WDR40A	-0.702	0.011709955
A_24_P91094	NM_006695	RUNDC3A	-0.702	0.027923528
A_32_P17133	NM_006241	PPP1R2	-0.702	0.028590369
A_23_P90679	NM_018571	ALS2CR2	-0.7	0.021615997
A_24_P936758	AK074614	IGF2	-0.699	0.005132236
A_32_P56890	THC2749298	THC2749298	-0.699	0.04325359
A_32_P219942	NM_033132	ZIC5	-0.698	0.027056637
A_24_P222139	AK025047	AK025047	-0.698	0.041878527
A_24_P405190	NM_201626	USP33	-0.697	0.048202195
A_23_P53630	NM_014868	RNF10	-0.697	0.044159941
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A_24_P356218	NM_015161	ARL6IP1	-0.694	0.039761476
A_24_P7470	A_24_P7470	A_24_P7470	-0.693	0.024922731
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A_24_P879428	BC070363	BC070363	-0.69	0.046890295
A_24_P226069	NM_031950	FGFBP2	-0.689	0.020323466
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A_32_P72887	A_32_P72887	A_32_P72887	-0.67	0.012066811

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A_32_P200787	NM_145702	TIGD1	-0.664	0.042995888
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A_24_P625382	NM_003651	CSDA	-0.661	0.032727321
A_23_P66497	NM_014404	CACNG5	-0.661	0.014197915
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A_32_P93807	A_32_P93807	A_32_P93807	-0.66	0.012420698
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A_24_P918739	BC028378	ABHD1	-0.655	0.008517081
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A_32_P109532	AB019568	AB019568	-0.654	0.040743514
A_24_P269327	AL136837	DKFZp434F142	-0.654	0.035212459
A_24_P65373	NM_000419	ITGA2B	-0.653	0.036773124
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A_23_P86504	NM_024541	C10orf76	-0.648	0.010315837
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A_23_P87432	NM_052924	RHPN1	-0.643	0.034648588
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A_32_P216809	BX108033	BX108033	-0.642	0.028742512
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A_23_P4400	NM_033059	KRTAP4-11	-0.637	0.014933719
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A_24_P923704	ENST00000391481	ENST00000391481	-0.633	0.039810935
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A_24_P23636	NM_014510	PCLO	-0.63	0.007809277
A_23_P160849	NM_004106	FCER1G	-0.629	0.014045321
A_23_P42768	NM_001110199	FLJ37078	-0.629	0.015012701
A_23_P218269	NM_016151	TAOK2	-0.629	0.002608445
A_32_P234753	BU674437	BU674437	-0.627	0.006791409
A_23_P118086	NM_152339	SPATA2L	-0.627	0.01401342
A_24_P76313	NM_207334	FAM43B	-0.627	0.035648655
A_23_P39453	NM_203304	MEX3D	-0.626	0.002018765
A_23_P139162	NM_006725	CD6	-0.626	0.007820262
A_24_P282288	BC032944	KIAA0317	-0.625	0.038229525
A_24_P929745	AK021842	AK021842	-0.623	0.048167879
A_24_P162485	NM_000037	ANK1	-0.62	0.022961204
A_23_P254970	AK057799	RNPC3	-0.62	0.013664403
A_23_P378514	NM_145178	ATOH7	-0.619	0.021832676
A_32_P177750	NM_018571	ALS2CR2	-0.618	0.037774783
A_24_P833097	BE243669	BE243669	-0.618	0.041425989
A_24_P945293	NM_016079	VPS24	-0.618	0.011938834
A_32_P79152	THC2539923	THC2539923	-0.616	0.010277226
A_23_P212954	NM_006798	UGT2A1	-0.614	0.014833183
A_32_P515971	NM_173503	EFCAB3	-0.613	0.015232466
A_24_P759955	THC2548256	THC2548256	-0.611	0.007454691
A_32_P6062	A_32_P6062	A_32_P6062	-0.61	0.009382433
A_23_P27424	NM_133460	ZNF418	-0.608	0.006777366
A_32_P136376	CR594735	CR594735	-0.607	0.047247245
A_23_P408955	NM_004091	E2F2	-0.607	0.028556652
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A_23_P17330	NM_017859	UCKL1	-0.606	0.005824126
A_23_P137046	NM_022567	NYX	-0.605	0.003418936
A_32_P234570	THC2668853	THC2668853	-0.605	0.025607284
A_24_P910121	THC2649401	THC2649401	-0.604	0.016411126
A_24_P219094	CR936651	SIPA1L1	-0.604	0.008413411
A_24_P136454	NM_022648	TNS1	-0.604	0.033368448
A_23_P127721	NM_002559	P2RX3	-0.603	0.023441929
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A_24_P930551	THC2585049	THC2585049	-0.603	0.002341435
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A_32_P27535	BC045676	C17orf72	-0.602	0.014968754
A_23_P128337	NM_002824	PTMS	-0.602	0.005307964
A_23_P202769	NM_005528	DNAJC4	-0.601	0.029304049
A_24_P789033	AW452819	AW452819	-0.601	0.035779749
A_24_P153680	NM_018660	ZNF395	-0.599	0.030818306
A_32_P218228	NM_001002034	FAM109B	-0.597	0.00868393
A_23_P32229	NM_012127	CIZ1	-0.597	0.038757828
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A_23_P41365	NM_012390	SMR3A	-0.596	0.005162452
A_32_P197026	R96556	R96556	-0.595	0.028703029
A_24_P215445	NM_005169	PHOX2A	-0.595	0.046722119
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A_32_P232617	AK023827	RUNDC2B	-0.592	0.023636276
A_23_P106945	NM_001114	ADCY7	-0.591	0.043976536
A_24_P917492	BC009479	TTLL3	-0.589	0.025453943
A_23_P11071	NM_203473	PORCN	-0.584	0.020567074
A_23_P29499	NM_001904	CTNNB1	-0.584	0.018087197
A_24_P42071	A_24_P42071	A_24_P42071	-0.584	0.046808378
A_32_P156017	THC2753719	THC2753719	-0.583	0.010821281
A_24_P892790	AL359650	AL359650	-0.582	0.006803886
A_32_P163215	THC2628099	THC2628099	-0.581	0.003142308
A_23_P46740	NM_032517	LYZL1	-0.579	0.029649709
A_24_P936692	BC033528	BC033528	-0.578	0.014871192
A_24_P168033	NM_001454	FOXJ1	-0.577	0.028887804
A_23_P107465	NM_002277	KRT31	-0.576	0.011252206
A_24_P75324	AK131217	TTBK1	-0.575	0.040956609
A_23_P257144	NM_012293	PXDN	-0.575	0.037633416
A_23_P2366	NM_199040	NUDT4	-0.574	0.012914905
A_23_P56239	NM_005305	GPR42	-0.573	0.014758198
A_24_P184445	NM_002429	MMP19	-0.573	0.0265724
A_24_P931583	A_24_P931583	A_24_P931583	-0.573	0.020598822
A_23_P201156	NM_021189	CADM3	-0.573	0.039732893
A_23_P149448	NM_021170	HES4	-0.571	0.015791366
A_24_P363896	NM_032888	COL27A1	-0.57	0.030374958
A_23_P74330	BC068047	MGC4473	-0.569	0.00936323

A_24_P373768	NM_000164	GIPR	-0.569	0.011167886
A_23_P207049	A_23_P207049	A_23_P207049	-0.569	0.007957544
A_23_P109026	NM_022358	KCNK15	-0.569	0.018477283
A_23_P138567	NM_032797	AIFM2	-0.569	0.022592326
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A_24_P257259	ENST00000354668	ENST00000354668	-0.565	0.014433993
A_24_P112160	NM_030570	UPK3B	-0.565	0.020732491
A_23_P75192	A_23_P75192	A_23_P75192	-0.565	0.042419148
A_24_P131580	NM_031313	ALPPL2	-0.565	0.021404008
A_24_P941404	A_24_P941404	A_24_P941404	-0.564	0.028179164
A_32_P18523	AI064892	AI064892	-0.564	0.006011231
A_23_P363313	NM_153357	SLC16A11	-0.563	0.025117406
A_23_P258769	NM_002121	HLA-DPB1	-0.561	0.048498231
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A_23_P23839	NM_001017403	LGR6	-0.561	0.012691275
A_32_P80781	THC2752167	THC2752167	-0.56	0.004304229
A_24_P85143	NM_022370	ROBO3	-0.56	0.046519025
A_23_P96285	NM_022912	REEP1	-0.558	0.009516805
A_23_P106258	NM_207117	C14orf68	-0.557	0.042795797
A_24_P341972	AK090466	AK090466	-0.557	0.022534514
A_23_P202361	NM_182639	HPS1	-0.557	0.02317859
A_23_P217712	NM_009589	ARSD	-0.556	0.022853294
A_23_P130169	NM_014726	TBKBP1	-0.555	0.049260231
A_32_P149967	BX105952	BX105952	-0.554	0.012018636
A_23_P422131	NM_152375	KLHDC7A	-0.552	0.02634389
A_24_P163574	NM_022574	GIGYF1	-0.551	0.011808024
A_23_P365081	NM_005250	FOXL1	-0.55	0.027252353
A_23_P117380	NM_138344	C14orf152	-0.549	0.016039903
A_23_P101893	NM_032447	FBN3	-0.547	0.049482991
A_24_P919727	A_24_P919727	A_24_P919727	-0.547	0.02189773
A_23_P387552	NM_000966	RARG	-0.546	0.038407821
A_24_P173294	NM_031918	KLF16	-0.545	0.043154903
A_23_P209578	NM_013445	GAD1	-0.544	0.029568141
A_23_P117882	NM_004378	CRABP1	-0.544	0.016846985
A_23_P87461	NM_001478	B4GALNT1	-0.543	0.021040642
A_32_P13348	NP186315	NP186315	-0.543	0.021869662
A_32_P141338	THC2565151	THC2565151	-0.543	0.049944042
A_32_P175282	BF149382	BF149382	-0.543	0.01271058
A_23_P20804	NM_147202	C9orf25	-0.542	0.010429242
A_24_P642328	AA420998	AA420998	-0.542	0.008421302
A_32_P200820	A_32_P200820	A_32_P200820	-0.542	0.024598529

A_23_P166207	NR_003087	ABCC13	-0.541	0.043866268
A_23_P168584	NM_152992	POMZP3	-0.541	0.022421414
A_24_P697573	AI942297	AI942297	-0.541	0.045044626
A_23_P82002	NM_003214	TEAD3	-0.541	0.017080702
A_24_P809964	AA465699	AA465699	-0.541	0.009591289
A_32_P75888	CD243286	CD243286	-0.541	0.01046487
A_23_P12858	NM_152710	C10orf27	-0.541	0.047306196
A_32_P336690	NM_013373	ZDHHC8	-0.54	0.028534859
A_23_P131909	BC021178	C20orf141	-0.54	0.009251326
A_23_P10135	NM_001001349	NKIRAS2	-0.539	0.046392912
A_32_P58407	ENST00000369697	KCND3	-0.539	0.040374489
A_32_P129288	NM_030981	RAB1B	-0.539	0.038621841
A_24_P374962	NM_018991	STAG3L1	-0.539	0.006602685
A_24_P256570	BC014215	BC014215	-0.537	0.039632239
A_32_P9518	BX090181	BX090181	-0.535	0.030121378
A_32_P159445	NM_015075	IQSEC2	-0.534	0.0409097
A_23_P209954	NM_006433	GNLY	-0.534	0.023420275
A_23_P206741	A_23_P206741	A_23_P206741	-0.533	0.027930486
A_24_P278192	NM_000476	AK1	-0.533	0.046711537
A_32_P220666	THC2558776	THC2558776	-0.533	0.013318461
A_24_P913598	S66917	S66917	-0.532	0.03949616
A_23_P25187	NM_002281	KRT81	-0.532	0.029879733
A_24_P64524	ENST00000333139	C11orf72	-0.53	0.014175802
A_23_P355471	NM_201636	TBXA2R	-0.53	0.034249461
A_32_P151437	NM_020825	CRAMP1L	-0.53	0.033138259
A_32_P131090	A_32_P131090	A_32_P131090	-0.528	0.047849343
A_24_P308096	NM_000215	JAK3	-0.528	0.012341432
A_32_P516342	NM_182608	ANKRD33	-0.527	0.033055075
A_23_P116765	NM_002289	LALBA	-0.527	0.014252314
A_23_P87346	NM_000519	HBD	-0.526	0.024515213
A_32_P233155	BX105253	BX105253	-0.525	0.049011568
A_23_P210361	NM_022082	C20orf59	-0.525	0.037849129
A_32_P192480	CR627122	CR627122	-0.525	0.039918578
A_23_P17880	NM_005740	DNAL4	-0.524	0.011699418
A_24_P105332	NM_016382	CD244	-0.524	0.020241114
A_24_P76008	A_24_P76008	A_24_P76008	-0.524	0.037924028
A_23_P435407	NM_001448	GPC4	-0.522	0.012279437
A_23_P319557	AF426268	C21orf89	-0.521	0.020152106
A_23_P101783	NM_005535	IL12RB1	-0.52	0.035613509
A_32_P214611	THC2690528	THC2690528	-0.52	0.014105266
A_23_P170901	NM_152410	PACRG	-0.52	0.0374655

A_23_P371794	NM_000725	CACNB3	-0.52	0.017441476
A_23_P118095	NM_005061	RPL3L	-0.52	0.012654872
A_23_P130639	A_23_P130639	A_23_P130639	-0.52	0.032294096
A_23_P309292	NM_001109662	C12orf51	-0.519	0.040524136
A_24_P416055	NM_031452	FAM103A1	-0.519	0.020628284
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A_23_P165952	NM_024855	ACTR5	-0.512	0.038173666
A_32_P75563	THC2688821	THC2688821	-0.512	0.007348724
A_23_P160890	NM_138697	TAS1R1	-0.511	0.031378718
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A_24_P522678	AF117899	AF117899	-0.509	0.030988363
A_23_P258164	NM_001302	CORT	-0.509	0.011227047
A_24_P930442	NM_001048194	RCC1	-0.509	0.019683173
A_23_P334186	NM_005920	MEF2D	-0.505	0.019249167
A_24_P917783	X90978	RUNX1	-0.504	0.008928
A_32_P161836	THC2588392	THC2588392	-0.504	0.011559569
A_23_P163814	XM_928464	ATXN1L	-0.504	0.04512481
A_32_P109653	THC2669092	THC2669092	-0.503	0.018779902
A_23_P45304	NM_021083	XK	-0.503	0.038811938
A_24_P84781	AK021933	AK021933	-0.501	0.031091894
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A_32_P220881	THC2754464	THC2754464	-0.501	0.004682787
A_23_P502808	NM_178013	PRIMA1	-0.5	0.02461482
A_32_P10432	THC2679040	THC2679040	-0.5	0.015171471
A_32_P19101	THC2699069	THC2699069	-0.499	0.021731331
A_32_P218493	THC2649348	THC2649348	-0.499	0.032081813
A_24_P903715	A_24_P903715	A_24_P903715	-0.498	0.03448528
A_24_P401990	NM_000400	ERCC2	-0.498	0.019729652
A_32_P191665	BF088423	BF088423	-0.497	0.030617635
A_24_P260325	NM_004744	LRAT	-0.497	0.036100945
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A_23_P21862	A_23_P21862	A_23_P21862	-0.495	0.01284155
A_23_P21425	NM_178471	GPR119	-0.493	0.026388435
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A_24_P221551	AK094477	LOC100129113	-0.472	0.025642991
A_24_P219418	BC029861	MGC34800	-0.47	0.019959583
A_32_P448360	NM_178542	C17orf65	-0.47	0.019310341
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A_24_P82358	NM_005251	FOXC2	-0.467	0.021847847
A_32_P33294	BM808621	BM808621	-0.466	0.020039429
A_23_P82088	NM_016588	NRN1	-0.465	0.0041099
A_23_P332392	AK054935	TTC9B	-0.462	0.043380784
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A_23_P136961	A_23_P136961	A_23_P136961	-0.461	0.023092786
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A_32_P173862	BC039385	LOC494558	-0.456	0.025699421
A_24_P920525	AK022468	SORBS1	-0.452	0.040448485
A_23_P502343	NM_025220	ADAM33	-0.449	0.046450625
A_24_P64407	NM_005519	HMX2	-0.445	0.027877298
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A_24_P400832	BC029580	LOC100130950	-0.443	0.030939258
A_24_P931711	A_24_P931711	A_24_P931711	-0.442	0.040034514
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A_23_P67127	NM_173633	TMEM145	-0.437	0.046892332
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A_32_P160438	AF085874	AF085874	-0.422	0.030633047
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A_32_P30075	THC2689579	THC2689579	-0.42	0.029093636
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A_23_P435444	NM_032087	PCDHGA7	-0.418	0.042805065
A_24_P136744	BC036431	BC036431	-0.416	0.025087548
A_32_P40547	NR_002766	MEG3	-0.415	0.046235799
A_23_P363196	NM_014418	TCL6	-0.415	0.024778623
A_23_P377717	NM_002516	NOVA2	-0.414	0.022110824
A_32_P138366	THC2714978	THC2714978	-0.413	0.018809112
A_23_P335988	NM_014235	UBL4A	-0.412	0.025838038
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A_24_P7873	XM_374386	ELFN1	-0.405	0.027459957
A_32_P120014	A_32_P120014	A_32_P120014	-0.4	0.032852717
A_32_P215404	AI915259	AI915259	-0.399	0.022942708
A_24_P388593	NM_024871	MAP6D1	-0.399	0.04321487
A_23_P254797	NM_025227	BPIL1	-0.393	0.01464561
A_23_P132139	NM_058180	C21orf58	-0.39	0.020209941
A_24_P341897	NM_004302	ACVR1B	-0.389	0.044678074
A_23_P141005	NM_001144	AMFR	-0.388	0.036973831
A_23_P404685	NM_178348	LCE1A	-0.386	0.040671551
A_23_P120513	NM_080739	C20orf141	-0.386	0.046672909
A_23_P44533	NM_153268	PLCXD2	-0.385	0.019910185
A_23_P113204	NM_005247	FGF3	-0.38	0.033074767
A_24_P50281	XR_019167	XR_019167	-0.376	0.040608323
A_23_P167537	NM_006650	CPLX2	-0.375	0.030161615
A_24_P311063	BC018095	hCG_20426	-0.372	0.013430592
A_24_P281636	ENST00000398290	ENST00000398290	-0.37	0.040402051
A_24_P384397	NM_133452	RAVER1	-0.363	0.029518443
A_24_P928250	A_24_P928250	A_24_P928250	-0.36	0.015057449
A_23_P130761	U06936	DBP	-0.357	0.021370949
A_23_P89691	BC066363	SDK2	-0.354	0.021952811
A_23_P218505	NM_000894	LHB	-0.351	0.044693116
A_23_P113682	NM_080877	SLC34A3	-0.345	0.043101529
A_23_P398574	NM_005581	BCAM	-0.343	0.028416218
A_32_P185089	A_32_P185089	A_32_P185089	-0.338	0.040170948
A_24_P372643	AF037066	SLC22A18AS	-0.328	0.048525087
A_23_P84670	NM_007327	GRIN1	-0.327	0.04690795
A_23_P325862	AF116661	AF116661	-0.325	0.04411835
A_23_P36364	NM_006288	THY1	-0.309	0.048270102
A_32_P23748	BC037911	BC037911	-0.307	0.021070792

A_24_P707860	XM_001714359	LOC100132738	0.3843	0.045006765
A_23_P136026	AK128476	IGHA1	0.4421	0.015264773
A_24_P40775	NM_020862	LRFN1	0.4543	0.033796609
A_32_P108544	NM_001078170	RGPD2	0.4664	0.027980085
A_23_P169494	NM_000607	ORM1	0.4824	0.038181406
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A_24_P169873	ENST00000390539	ENST00000390539	0.51	0.001197881
A_32_P8351	CR627362	LOC595101	0.5122	0.045175384
A_24_P605563	AY172962	AY172962	0.5159	0.016533244
A_23_P9485	NM_000608	ORM2	0.5505	0.03644601
A_23_P78248	NM_015515	KRT23	0.5528	0.033868198
A_24_P636974	XR_039576	LOC100132640	0.5546	0.030686942
A_32_P51524	CR627362	LOC595101	0.5568	0.041712074
A_23_P208706	NM_138764	BAX	0.5577	0.02965597
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A_24_P384210	A_24_P384210	A_24_P384210	0.5679	0.041110032
A_23_P208706	NM_138764	BAX	0.5696	0.027622888
A_32_P129660	NM_181453	GCC2	0.5752	0.026419417
A_24_P8151	AK096606	LOC100131170	0.5792	0.035287525
A_23_P208706	NM_138764	BAX	0.5869	0.02378101
A_24_P83102	NM_020070	IGLL1	0.5938	0.012754748
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A_23_P208706	NM_138764	BAX	0.5947	0.02164913
A_23_P502320	NM_001138	AGRP	0.595	0.029306098
A_23_P208706	NM_138764	BAX	0.5951	0.02019631
A_23_P151820	NM_024832	RIN3	0.5956	0.046721445
A_23_P390116	NM_153023	SPATA13	0.5973	0.040614105
A_24_P239076	NM_001013618	IGLL3	0.6086	0.011200969
A_23_P54781	BC051317	RBBP6	0.6155	0.007825062
A_24_P67948	AK001116	AK001116	0.6165	0.038907699
A_24_P88690	NM_000578	SLC11A1	0.6176	0.01274634
A_23_P158868	A_23_P158868	A_23_P158868	0.6185	0.048291666
A_23_P208706	NM_138764	BAX	0.623	0.018755943
A_24_P510357	ENST00000390312	ENST00000390312	0.6261	0.049830556
A_23_P122563	NM_014260	PFDN6	0.6261	0.018027253
A_24_P324074	A_24_P324074	A_24_P324074	0.6273	0.030748216
A_23_P208706	NM_138764	BAX	0.6287	0.018728598
A_32_P8666	XR_018217	LOC644063	0.629	0.036145519
A_24_P144163	XR_037026	LOC100128140	0.6364	0.04128856
A_23_P78975	A_23_P78975	A_23_P78975	0.6399	0.022122809

A_23_P435390	A_23_P435390	A_23_P435390	0.6415	0.012362732
A_32_P78395	A_32_P78395	A_32_P78395	0.6422	0.048976721
A_23_P103011	NM_004914	RAB36	0.6479	0.017052015
A_23_P140760	NM_170776	GPR97	0.6505	0.018497652
A_23_P208706	NM_138764	BAX	0.6539	0.015369461
A_24_P7181	XR_037686	LOC100128548	0.6548	0.022247115
A_23_P39665	NM_000578	SLC11A1	0.6588	0.007231669
A_24_P854492	NR_003491	MIAT	0.6614	0.028714015
A_24_P362904	NM_004567	PFKFB4	0.6647	0.031875134
A_23_P165624	NM_007115	TNFAIP6	0.6664	0.016418204
A_23_P330561	NM_174918	C19orf59	0.6678	0.015758321
A_23_P209116	AB002454	CYP4F3	0.6704	0.049927365
A_24_P253827	NM_001030006	AP2B1	0.677	0.044520963
A_24_P260101	NM_007289	MME	0.6775	0.019449679
A_32_P38989	NR_002712	IL8RBP	0.6782	0.022112595
A_24_P359859	NM_006037	HDAC4	0.6829	0.032753007
A_23_P39931	NM_003494	DYSF	0.6861	0.01057674
A_23_P61042	ENST00000390539	ENST00000390539	0.6919	0.000230911
A_32_P79396	NM_005746	NAMPT	0.6939	0.032739662
A_24_P283341	NM_022765	MICAL1	0.6978	0.049729417
A_23_P34597	NM_001785	CDA	0.6979	0.026570283
A_23_P117971	M15530	BCGF1	0.7011	0.032029442
A_24_P10233	NM_014326	DAPK2	0.7058	0.039960562
A_24_P238996	A_24_P238996	A_24_P238996	0.708	0.028050546
A_23_P119583	NM_000923	PDE4C	0.7081	0.038837695
A_24_P392790	A_24_P392790	A_24_P392790	0.709	0.041182692
A_23_P92499	NM_003264	TLR2	0.7161	0.049597719
A_23_P152002	NM_004049	BCL2A1	0.7199	0.035667608
A_23_P15621	NM_032391	C17orf92	0.7211	0.019178372
A_24_P195145	ENST00000399221	ENST00000399221	0.7216	0.047348342
A_23_P119583	NM_000923	PDE4C	0.7236	0.034348694
A_23_P406330	NM_022733	SMAP2	0.7274	0.02757474
A_23_P92499	NM_003264	TLR2	0.7279	0.044422211
A_23_P122724	NM_004665	VNN2	0.7306	0.031798796
A_32_P112452	BI026064	BI026064	0.7313	0.007483406
A_24_P353619	NM_000478	ALPL	0.7344	0.01352007
A_23_P119583	NM_000923	PDE4C	0.7351	0.034204723
A_24_P248255	AF116642	AF116642	0.7352	0.043347454
A_32_P206308	CD556746	CD556746	0.736	0.048950361
A_23_P39481	NM_019112	ABCA7	0.7367	0.033638024
A_23_P92499	NM_003264	TLR2	0.7379	0.044739178

A_23_P119583	NM_000923	PDE4C	0.7386	0.036199247
A_23_P214935	NM_078625	VNN3	0.7415	0.032111952
A_23_P92499	NM_003264	TLR2	0.7418	0.040982613
A_23_P130113	NM_080912	ASGR2	0.7424	0.031867033
A_23_P115534	NM_024874	KIAA0319L	0.7435	0.026645335
A_23_P92499	NM_003264	TLR2	0.7439	0.038906489
A_24_P396375	NM_001113347	ECE1	0.7441	0.025859815
A_24_P868905	XR_018907	XR_018907	0.7463	0.003645997
A_23_P119583	NM_000923	PDE4C	0.7468	0.03248631
A_23_P92499	NM_003264	TLR2	0.7486	0.039923781
A_23_P333218	NM_001031711	ERGIC1	0.7492	0.025623398
A_23_P119583	NM_000923	PDE4C	0.7506	0.032538967
A_23_P91230	NM_003064	SLPI	0.7509	0.006074256
A_23_P92499	NM_003264	TLR2	0.7513	0.039657294
A_24_P666795	A_24_P666795	A_24_P666795	0.7531	0.027775147
A_23_P119583	NM_000923	PDE4C	0.7539	0.031292297
A_23_P143662	NM_014338	PISD	0.7573	0.032739601
A_23_P21072	AF258583	RAB24	0.7583	0.048023011
A_23_P128974	NM_006399	BATF	0.7591	0.042795059
A_23_P119583	NM_000923	PDE4C	0.7618	0.031337991
A_23_P431933	NM_032294	CAMKK1	0.7638	0.015277939
A_23_P251387	NM_004726	REPS2	0.7645	0.049992857
A_23_P68240	NM_207328	LOC150763	0.7654	0.018845719
A_23_P119583	NM_000923	PDE4C	0.7666	0.03083285
A_24_P127442	A_24_P127442	A_24_P127442	0.7692	0.044774407
A_23_P211603	A_23_P211603	A_23_P211603	0.7709	0.021947311
A_23_P164022	NM_033375	MYO1C	0.7714	0.040678048
A_23_P57856	NM_001706	BCL6	0.7745	0.030764347
A_23_P32500	NM_015136	STAB1	0.7807	0.015343157
A_23_P170186	NM_017570	OPLAH	0.7817	0.043477386
A_23_P140190	AF161538	FAM30A	0.7822	0.038765016
A_23_P66774	NM_153338	GGT6	0.7828	0.036234441
A_24_P7040	A_24_P7040	A_24_P7040	0.7873	0.025903621
A_32_P47754	BC060766	SLC2A14	0.7896	0.0373637
A_23_P53198	NM_032564	DGAT2	0.7907	0.006911737
A_24_P239731	NM_004776	B4GALT5	0.7911	0.010877373
A_32_P118010	THC2657593	THC2657593	0.792	0.02531932
A_32_P7916	BX096603	BX096603	0.7939	0.034013667
A_23_P314526	NM_005803	FLOT1	0.7944	0.046735411
A_23_P18294	NM_001034996	RPL14	0.7948	0.047234519
A_23_P40347	NM_178580	HM13	0.795	0.043852587

A_23_P207138	NM_203351	MAP3K3	0.7953	0.048317331
A_24_P322395	NM_080732	EGLN2	0.797	0.032016006
A_23_P15146	NM_001012631	IL32	0.7974	0.021841809
A_23_P14649	AK021784	C15orf28	0.8006	0.047086782
A_24_P452293	A_24_P452293	A_24_P452293	0.8015	0.039679475
A_23_P200728	NM_000569	FCGR3A	0.8058	0.021583438
A_24_P340886	A_24_P340886	A_24_P340886	0.8066	0.016432407
A_24_P763243	NM_001402	EEF1A1	0.8077	0.042514224
A_24_P117294	NM_002463	MX2	0.8086	0.027522638
A_24_P228717	NM_002872	RAC2	0.8094	0.030131608
A_24_P418044	BC062324	BC062324	0.8098	0.041386489
A_23_P126593	NM_005620	S100A11	0.8101	0.03914557
A_23_P109508	NM_000631	NCF4	0.8139	0.045006678
A_23_P134176	NM_001024465	SOD2	0.814	0.046196993
A_24_P322215	NM_144683	DHRS13	0.8147	0.042349876
A_23_P135184	NM_001042368	RALGDS	0.8154	0.020900468
A_23_P255436	NM_000487	ARSA	0.8154	0.037320222
A_23_P358394	NM_015864	C6orf32	0.8157	0.045322155
A_23_P74001	NM_005621	S100A12	0.8165	0.002926622
A_24_P418044	BC062324	BC062324	0.8189	0.043784147
A_23_P95130	NM_207113	SLC37A3	0.82	0.026934854
A_23_P121885	NM_031916	ROPN1L	0.8206	0.034270497
A_23_P86653	NM_002727	SRGN	0.8247	0.030058969
A_23_P259868	NM_020406	CD177	0.8254	0.022975885
A_23_P125109	A_23_P125109	A_23_P125109	0.8266	0.043023119
A_23_P94230	NM_015364	LY96	0.8284	0.04966147
A_24_P263144	NM_001721	BMX	0.8291	0.014046054
A_24_P84808	XR_015548	XR_015548	0.8301	0.042309212
A_24_P202581	NM_199002	ARHGEF1	0.8302	0.046055163
A_23_P200056	NM_023018	NADK	0.8305	0.040860236
A_23_P256724	NM_003841	TNFRSF10C	0.8327	0.03733118
A_23_P109907	NM_175924	ILDR1	0.8339	0.011664777
A_23_P19543	NM_003137	SRPK1	0.8368	0.030990394
A_32_P148914	BC037255	LOC389634	0.8377	0.021885624
A_24_P3704	DQ786246	DQ786246	0.8377	0.047316838
A_23_P17655	NM_170736	KCNJ15	0.839	0.013549313
A_23_P134980	NM_033086	FGD3	0.8394	0.040526139
A_23_P77049	NM_001039355	SLC25A29	0.8401	0.031912542
A_23_P142447	NM_012335	MYO1F	0.8409	0.04698973
A_23_P138985	NM_000732	CD3D	0.8412	0.044791239
A_23_P68807	BC021857	FLJ23185	0.8424	0.046173768

A_24_P297078	NM_020531	C20orf3	0.8442	0.011885659
A_23_P47304	NM_004347	CASP5	0.8459	0.01071847
A_32_P118013	THC2657593	THC2657593	0.8463	0.020011122
A_24_P89257	NM_001031711	ERGIC1	0.8474	0.040782285
A_23_P426989	NM_030645	SH3BP5L	0.8492	0.007790487
A_23_P258108	XR_015767	LOC727835	0.8495	0.027799161
A_24_P174924	NM_003537	HIST1H3B	0.8503	0.046244483
A_23_P98686	NM_025092	ATHL1	0.8511	0.0082581
A_32_P14544	NM_002952	RPS2	0.8514	0.049815387
A_24_P295791	NM_032564	DGAT2	0.8526	0.017383747
A_32_P145790	XR_015746	LOC728732	0.8533	0.040922987
A_23_P251232	NR_001543	TTY14	0.8536	0.048182023
A_23_P321703	NM_004049	BCL2A1	0.8544	0.040439823
A_23_P218549	NM_032571	EMR3	0.8557	0.040765493
A_23_P208516	NM_024298	MBOAT7	0.8558	0.023017277
A_23_P68121	NM_012455	PSD4	0.8567	0.044355105
A_23_P207837	NM_001304	CPD	0.8568	0.030799345
A_23_P214603	NM_005803	FLOT1	0.8569	0.026262198
A_32_P55438	A_32_P55438	A_32_P55438	0.8574	0.01618447
A_23_P135755	NM_001557	IL8RB	0.8583	0.010353364
A_24_P70480	NM_001817	CEACAM4	0.8586	0.010527009
A_23_P132438	NM_018133	MSL2L1	0.8601	0.036924804
A_23_P305060	NM_005746	NAMPT	0.8604	0.035791769
A_32_P79115	XR_039086	LOC100133075	0.8607	0.033477373
A_24_P192914	NM_153206	AMICA1	0.8611	0.03846877
A_32_P49392	XR_036968	LOC100129742	0.862	0.036314914
A_23_P13899	NM_002046	GAPDH	0.8624	0.03925237
A_24_P252497	NM_025195	TRIB1	0.863	0.035531755
A_24_P929621	NP111770	NP111770	0.8637	0.026027454
A_23_P305711	NM_012234	RYBP	0.8646	0.019555591
A_24_P295245	NM_032467	ASPH	0.8653	0.025590872
A_23_P118406	NM_001033046	C17orf62	0.8665	0.0470983
A_23_P250353	NM_017912	HERC6	0.8674	0.022614255
A_23_P371215	NM_012092	ICOS	0.8682	0.045455438
A_24_P105648	DB304731	DB304731	0.8712	0.047403585
A_23_P16538	NM_006532	ELL	0.8713	0.036889445
A_24_P659122	AK125790	LOC401357	0.8716	0.017456523
A_23_P111037	NM_003529	HIST1H3A	0.8729	0.04996939
A_23_P61637	NM_002108	HAL	0.8732	0.018523372
A_32_P41375	AK093729	tcag7.907	0.8735	0.025382355
A_23_P145863	NM_005620	S100A11	0.8741	0.026676096

A_23_P384405	NM_001440	EXTL3	0.8756	0.046613991
A_32_P168375	THC2659236	THC2659236	0.8773	0.009842734
A_23_P148121	NM_001099409	EHBP1L1	0.8792	0.026705901
A_24_P204574	A_24_P204574	A_24_P204574	0.8805	0.023366346
A_32_P213002	THC2526402	THC2526402	0.8809	0.04048581
A_23_P66694	NM_006495	EVI2B	0.8824	0.020071531
A_32_P221641	A_32_P221641	A_32_P221641	0.8833	0.048534092
A_24_P190472	NM_003064	SLPI	0.8836	0.003157991
A_23_P148768	NM_000130	F5	0.8852	0.021402064
A_24_P358760	AK090481	AK090481	0.8862	0.021442957
A_23_P209625	NM_000104	CYP1B1	0.887	0.010289808
A_24_P120352	NM_020773	TBC1D14	0.887	0.0489837
A_32_P228438	THC2637028	THC2637028	0.8875	0.015795695
A_23_P218111	NM_001002236	SERPINA1	0.889	0.04052717
A_23_P148768	NM_000130	F5	0.8896	0.022241863
A_23_P144054	NM_006254	PRKCD	0.8929	0.049030972
A_23_P58266	NM_005980	S100P	0.893	0.002082629
A_24_P341058	XR_018572	XR_018572	0.8931	0.023453644
A_23_P111583	NM_001001547	CD36	0.8936	0.034872045
A_32_P62137	A_32_P62137	A_32_P62137	0.8948	0.031221611
A_23_P101434	NM_033297	NLRP12	0.8964	0.034995041
A_23_P4096	NM_000717	CA4	0.8971	0.004791835
A_32_P135818	NM_001006	RPS3A	0.8996	0.041087446
A_23_P408353	NM_002116	HLA-A	0.9	0.025674928
A_32_P105469	AK074696	AK074696	0.9003	0.033751929
A_23_P148768	NM_000130	F5	0.9014	0.021209283
A_24_P369898	ENST00000293201	ENST00000293201	0.9024	0.02801005
A_32_P116088	A_32_P116088	A_32_P116088	0.9034	0.017811475
A_23_P7066	NM_001024921	RPL9	0.9076	0.027320127
A_23_P143845	NM_015508	TIPARP	0.908	0.048993741
A_32_P209350	NM_001033853	RPL3	0.9103	0.038849285
A_32_P66881	NM_138554	TLR4	0.9112	0.018735538
A_24_P90097	NM_016824	ADD3	0.9131	0.036848159
A_24_P351906	NM_024636	STEAP4	0.9141	0.033618479
A_23_P16537	NM_006532	ELL	0.9159	0.041738435
A_24_P55391	BC082970	BC082970	0.9176	0.007643549
A_23_P49616	NM_020198	CCDC47	0.9199	0.017567685
A_23_P148768	NM_000130	F5	0.9202	0.018681797
A_23_P218817	NM_152246	CPT1B	0.9216	0.030525101
A_24_P314597	NM_182686	KIAA0319L	0.9243	0.012850333
A_23_P436336	ENST00000340536	ENST00000340536	0.9254	0.005466423

A_24_P273561	NM_018169	C12orf35	0.9259	0.025723931
A_23_P201521	A_23_P201521	A_23_P201521	0.926	0.045947704
A_23_P144054	NM_006254	PRKCD	0.9264	0.047015308
A_24_P280933	XR_018187	XR_018187	0.9267	0.013426548
A_24_P81900	NM_006931	SLC2A3	0.9281	0.046046267
A_23_P376557	NM_022468	MMP25	0.9288	0.005317262
A_23_P13899	NM_002046	GAPDH	0.9291	0.032907072
A_32_P164758	AK128836	LOC730286	0.9301	0.011907248
A_23_P163492	NM_003933	BAIAP3	0.9306	0.015023548
A_23_P377616	AK128423	CIRBP	0.9325	0.017324879
A_23_P155828	NM_020773	TBC1D14	0.9325	0.042849493
A_23_P408353	NM_002116	HLA-A	0.9327	0.022528948
A_23_P148768	NM_000130	F5	0.9328	0.014214073
A_32_P19294	NM_144669	GLT1D1	0.933	0.024472203
A_24_P349636	XR_016879	LOC388401	0.9334	0.049552408
A_23_P408353	NM_002116	HLA-A	0.9338	0.022265768
A_23_P101829	NM_004720	LPAR2	0.9339	0.008490402
A_23_P352266	NM_000633	BCL2	0.934	0.04657783
A_23_P126623	NM_002631	PGD	0.9346	0.013848734
A_24_P298238	A_24_P298238	A_24_P298238	0.9348	0.036334931
A_23_P213863	NM_019057	FLJ10404	0.9349	0.038006647
A_23_P259506	NM_032412	C5orf32	0.9372	0.014809113
A_23_P148768	NM_000130	F5	0.9382	0.014645962
A_23_P96556	NM_203391	GK	0.9401	0.043723764
A_23_P352266	NM_000633	BCL2	0.9403	0.041362192
A_32_P64016	NR_002939	RUNDC2C	0.9404	0.01902399
A_24_P267814	BI521983	BI521983	0.9404	0.007688423
A_23_P154488	NM_033109	PNPT1	0.9414	0.015516471
A_24_P15502	ENST00000399573	ENST00000399573	0.9422	0.007154632
A_24_P375949	XR_019375	XR_019375	0.9429	0.034109029
A_24_P172768	NM_004124	GMFB	0.944	0.039136709
A_32_P25809	A_32_P25809	A_32_P25809	0.9447	0.046488461
A_23_P217866	NM_005531	IFI16	0.9477	0.011320951
A_32_P58074	NM_001006	RPS3A	0.9487	0.049977324
A_24_P228796	NM_021123	GAGE7	0.9496	0.029484007
A_23_P148768	NM_000130	F5	0.95	0.01385847
A_23_P137391	NM_001428	ENO1	0.9513	0.031623654
A_23_P119835	NM_021209	NLRC4	0.9518	0.043208663
A_24_P110403	BF931515	BF931515	0.9535	0.03751388
A_24_P68631	NM_175065	HIST2H2AB	0.9535	0.02539545
A_23_P145264	NM_018950	HLA-F	0.9535	0.036220684

A_23_P24784	NM_003282	TNNI2	0.9538	0.031934129
A_24_P789842	A_24_P789842	A_24_P789842	0.9538	0.029204091
A_23_P148768	NM_000130	F5	0.9541	0.014282143
A_23_P352266	NM_000633	BCL2	0.9545	0.039797227
A_23_P60753	THC2721409	THC2721409	0.9545	0.027467482
A_23_P54636	NM_004691	ATP6V0D1	0.9551	0.043835458
A_24_P349743	NM_002295	RPSA	0.9558	0.047628526
A_23_P4653	BC025318	KLC3	0.9559	0.018998935
A_32_P38821	BF475893	BF475893	0.956	0.044921122
A_23_P426305	NM_003734	AOC3	0.9561	0.039606964
A_23_P101380	NM_198540	B3GNT8	0.9562	0.033737401
A_23_P334021	NM_000876	IGF2R	0.9571	0.011587146
A_32_P37089	AK097700	AK097700	0.9574	0.042194585
A_23_P312932	NM_175857	KRTAP8-1	0.9582	0.015071347
A_23_P413456	AK128423	CIRBP	0.9592	0.016177216
A_23_P408353	NM_002116	HLA-A	0.9596	0.018492889
A_23_P148768	NM_000130	F5	0.9596	0.015250859
A_24_P89708	NM_000883	IMPDH1	0.9601	0.012814294
A_23_P408353	NM_002116	HLA-A	0.9607	0.018100349
A_24_P66027	NM_004900	APOBEC3B	0.9607	0.004001614
A_32_P225604	NM_000969	RPL5	0.9636	0.04566378
A_23_P65789	BC041387	MCTP2	0.964	0.034076825
A_23_P7684	NM_024565	CCNJL	0.9652	0.013246964
A_23_P65174	NM_001040443	PHF11	0.9655	0.044603288
A_23_P85903	NM_003268	TLR5	0.9658	0.024819021
A_32_P72067	AK130576	ARHGAP24	0.9658	0.023301694
A_23_P502312	NM_078481	CD97	0.9679	0.044068374
A_23_P408353	NM_002116	HLA-A	0.9699	0.018096759
A_23_P30069	NM_001012967	DDX60L	0.9704	0.005569584
A_23_P36658	NM_145791	MGST1	0.9707	0.032292042
A_23_P72503	NM_007246	KLHL2	0.9716	0.008122535
A_32_P71744	BG695979	BG695979	0.9725	0.033171518
A_23_P67932	NM_000634	IL8RA	0.9729	0.00622518
A_24_P222591	NM_001077619	LOC137886	0.9733	0.027955794
A_24_P8109	NM_001012302	TMEM16J	0.9735	0.033265056
A_32_P213692	AK025695	TMED8	0.9751	0.013471578
A_24_P229531	NM_001031716	OBFC2A	0.9765	0.041015099
A_24_P367199	A_24_P367199	A_24_P367199	0.9766	0.025265293
A_24_P395415	AF343666	AF343666	0.9779	0.000408622
A_24_P279121	NM_018670	MESPI	0.9779	0.026933581
A_23_P104689	BC110830	RELA	0.9792	0.042950253

A_24_P58054	NM_015266	SLC9A8	0.9829	0.023919141
A_23_P129492	NM_016332	SEPX1	0.9843	0.012015618
A_32_P159347	NM_194247	HNRNPA3	0.9846	0.029302476
A_23_P104689	BC110830	RELA	0.9848	0.045806921
A_23_P107933	NM_016440	VRK3	0.9851	0.041150635
A_23_P408353	NM_002116	HLA-A	0.9852	0.017767068
A_23_P154367	NM_004226	STK17B	0.9863	0.040001383
A_23_P101321	NM_199002	ARHGEF1	0.9868	0.042226806
A_23_P53467	NM_201612	IKIP	0.9872	0.029202262
A_24_P761818	XM_928025	LOC644937	0.9875	0.037103372
A_23_P137196	NM_001560	IL13RA1	0.9884	0.020898753
A_23_P321201	NM_015213	RAB6IP1	0.9886	0.046813931
A_32_P776626	NM_001024457	RGPD1	0.9889	0.020485543
A_23_P150919	AK027372	ORAI1	0.9891	0.021571917
A_24_P89701	NM_000883	IMPDH1	0.9897	0.043829245
A_24_P21715	NM_004584	RAD9A	0.9901	0.037777537
A_24_P389517	NM_031262	HNRNPK	0.9911	0.007767474
A_24_P336759	NM_021960	MCL1	0.9921	0.008405634
A_23_P54929	NM_020424	LYRM1	0.9926	0.048635736
A_24_P297798	XR_019052	XR_019052	0.9929	0.030703719
A_23_P148768	NM_000130	F5	0.993	0.010570759
A_23_P6746	NM_014869	IQSEC1	0.9951	0.025847011
A_32_P74561	ENST00000332686	ENST00000332686	0.9952	0.023169978
A_24_P59387	AK022255	C8orf60	0.9959	0.016098802
A_24_P25252	NM_015208	ANKRD12	0.9975	0.049382983
A_23_P120345	NM_020651	PELI1	0.9978	0.026222374
A_24_P167825	NM_015289	VPS39	0.9999	0.033665098
A_32_P137382	BX089701	BX089701	1.0006	0.04924763
A_23_P23048	NM_002965	S100A9	1.0014	0.00667731
A_32_P136662	THC2560098	THC2560098	1.0019	0.032059275
A_24_P684328	ENST00000339120	ENST00000339120	1.0024	0.032358886
A_23_P304237	NM_198679	RAPGEF1	1.0025	0.032936159
A_23_P67529	NM_002250	KCNN4	1.0032	0.014072386
A_23_P14559	NM_006871	RIPK3	1.0039	0.042846501
A_23_P55319	NM_004475	FLOT2	1.004	0.00509027
A_23_P86164	NM_020765	UBR4	1.005	0.044385661
A_23_P408353	NM_002116	HLA-A	1.0054	0.014916957
A_23_P133142	NM_025144	ALPK1	1.0059	0.027878979
A_23_P212522	NM_014616	ATP11B	1.007	0.024686415
A_23_P119502	NM_003775	S1PR4	1.0074	0.033969721
A_24_P471121	XR_019546	XR_019546	1.0079	0.024044649

A_23_P28485	NM_012198	GCA	1.0094	0.007850733
A_24_P50554	XR_018405	LOC391655	1.0101	0.030057455
A_24_P58381	NM_017780	CHD7	1.0109	0.037115882
A_24_P417706	AK092842	MXD3	1.0117	0.019881585
A_24_P350008	XR_038176	LOC100129553	1.0124	0.0316389
A_32_P56001	NM_012072	CD93	1.0127	0.026108445
A_23_P132948	NM_201999	ELF2	1.0143	0.014614121
A_23_P112162	NM_012079	DGAT1	1.0158	0.028192303
A_24_P794833	THC2597357	THC2597357	1.0159	0.015723341
A_23_P408353	NM_002116	HLA-A	1.0164	0.012643005
A_23_P408353	NM_002116	HLA-A	1.0171	0.013733065
A_23_P384517	NM_004130	GYG1	1.0173	0.011421306
A_23_P19333	NM_018643	TREM1	1.0182	0.004430647
A_24_P367069	XR_018975	XR_018975	1.0187	0.032768443
A_24_P36898	AL832451	AL832451	1.0192	0.036110283
A_23_P217269	NM_007268	VSIG4	1.0201	0.004656018
A_23_P5273	NM_014963	SBNO2	1.0206	0.02220238
A_24_P367063	A_24_P367063	A_24_P367063	1.0244	0.008405568
A_24_P89038	ENST00000307533	ENST00000307533	1.0251	0.030956727
A_24_P29641	NM_148936	NSUN5C	1.0263	0.029001032
A_24_P649624	BC063684	BC063684	1.0264	0.049396455
A_23_P149075	NM_018067	MAP7D1	1.0278	0.018360505
A_24_P928798	AK056260	AK056260	1.0282	0.029352322
A_23_P104689	BC110830	RELA	1.0298	0.035996146
A_32_P71113	THC2508355	THC2508355	1.031	0.046975669
A_23_P123125	NM_001029835	CCM2	1.031	0.011164351
A_24_P754803	NM_006013	RPL10	1.0318	0.042783211
A_23_P56150	NM_032753	RAX2	1.0322	0.041823042
A_24_P400528	NM_001080495	TNRC18	1.0328	0.049267176
A_23_P155162	AF398511	PANX2	1.0333	0.033182989
A_23_P336198	NM_138426	GLCCI1	1.034	0.047866477
A_24_P394702	NM_001662	ARF5	1.0348	0.034247445
A_23_P154539	NM_012469	PRPF6	1.0352	0.043209368
A_23_P160025	NM_005531	IFI16	1.0358	0.012232486
A_23_P155830	NM_020773	TBC1D14	1.0361	0.025028631
A_23_P63896	NM_000043	FAS	1.0372	0.043153223
A_23_P14340	NM_014672	KIAA0391	1.0378	0.047257322
A_23_P428184	NM_021065	HIST1H2AD	1.0379	0.03945727
A_24_P451992	XR_018393	XR_018393	1.0395	0.021569505
A_23_P165007	NM_170604	RASGRP4	1.0396	0.046299221
A_24_P48078	NM_015247	CYLD	1.0397	0.037254286

A_23_P112481	NM_004925	AQP3	1.04	0.006753951
A_23_P207896	NM_001893	CSNK1D	1.0414	0.024172376
A_23_P39925	NM_003494	DYSF	1.0421	0.005468302
A_23_P205686	NM_000021	PSEN1	1.0421	0.046913271
A_24_P719096	THC2729213	THC2729213	1.0433	0.0303925
A_32_P31992	XR_017310	LOC343515	1.0437	0.023492185
A_23_P102109	NM_006000	TUBA4A	1.0439	0.009658599
A_32_P22401	NM_018067	MAP7D1	1.044	0.020374815
A_23_P1199	NM_014142	NUDT5	1.0446	0.040092716
A_32_P203320	BC041849	ROCK1	1.0455	0.042157244
A_32_P142652	AK091931	LOC220433	1.046	0.048798907
A_23_P151791	NM_181657	LTB4R	1.0462	0.024006252
A_23_P121253	NM_003810	TNFSF10	1.0463	0.009925026
A_23_P124559	NM_031300	MXD3	1.0473	0.016269251
A_23_P128447	NM_198578	LRRK2	1.0493	0.027571386
A_23_P2801	NM_172373	ELF1	1.0495	0.02774426
A_24_P318544	AB209463	CSNK1D	1.0507	0.0162617
A_23_P56127	NM_019108	C19orf61	1.051	0.031813506
A_23_P27846	NM_001080400	KIAA1881	1.0529	0.025337183
A_24_P306355	XR_018781	XR_018781	1.0534	0.033976836
A_23_P68730	NM_003681	PDXK	1.0535	0.048532166
A_24_P170147	A_24_P170147	A_24_P170147	1.0575	0.017882458
A_24_P49533	NM_024646	ZYG11B	1.0587	0.041881297
A_24_P213284	XR_019258	XR_019258	1.0602	0.04304303
A_24_P107336	NM_052875	VPS26B	1.0609	0.041256046
A_23_P4060	AK026312	FLJ22659	1.0613	0.030646989
A_23_P35349	NM_021738	SVIL	1.064	0.032853758
A_23_P251825	NM_001007245	IFRD1	1.065	0.031259331
A_23_P363968	NM_016546	C1RL	1.0657	0.033506866
A_24_P168456	NM_001001975	ATP5D	1.0662	0.022777002
A_23_P170534	NM_004479	FUT7	1.0668	0.010602402
A_23_P3823	NM_001122957	BCKDK	1.0679	0.029836349
A_24_P24831	NM_182905	WASH1	1.0692	0.046430949
A_23_P47991	NM_015335	MED13L	1.0694	0.03308744
A_23_P121253	NM_003810	TNFSF10	1.0708	0.009464275
A_23_P104689	BC110830	RELA	1.0714	0.030862098
A_23_P348587	A_23_P348587	A_23_P348587	1.0716	0.045566774
A_24_P354412	AK091335	AK091335	1.072	0.038512287
A_24_P516728	AL547890	AL547890	1.0725	0.042966235
A_23_P90014	NM_020171	GPR108	1.0738	0.029965378
A_23_P75097	NM_024895	PDZD7	1.074	0.034786747

A_32_P209472	NM_170606	MLL3	1.0753	0.044499794
A_23_P200489	NM_014698	TMEM63A	1.0753	0.016355182
A_32_P212058	NM_032898	C3orf34	1.0755	0.006109245
A_24_P223124	NM_022763	FNDC3B	1.0761	0.039116861
A_32_P19752	NM_144664	FAM76B	1.0767	0.034005683
A_23_P89283	NM_006224	PITPNA	1.0773	0.045968231
A_23_P201778	NM_080588	PTPN7	1.0781	0.034813888
A_32_P308040	NR_002775	RPLP0P2	1.0792	0.031193884
A_24_P278367	NM_005736	ACTR1A	1.0819	0.026604737
A_24_P370372	NM_014292	CBX6	1.0824	0.042259224
A_23_P87545	NM_021034	IFITM3	1.0829	0.005002961
A_24_P96709	CR606630	CR606630	1.0844	0.036421842
A_24_P74559	NM_013385	PSCD4	1.0851	0.027696795
A_24_P307443	XR_018808	XR_018808	1.0854	0.020418543
A_23_P125117	NM_173546	KLHDC8B	1.0867	0.00716958
A_24_P7494	A_24_P7494	A_24_P7494	1.0868	0.046074674
A_23_P85598	NM_020247	CABC1	1.0871	0.013276833
A_23_P254415	NM_002295	RPSA	1.0871	0.028323968
A_24_P252718	BC036529	EPC1	1.0892	0.007159496
A_23_P29378	NM_007282	RNF13	1.0898	0.022249867
A_24_P303420	ENST00000338759	ENST00000338759	1.0899	0.049474658
A_24_P127082	A_24_P127082	A_24_P127082	1.0904	0.021956799
A_24_P289795	ENST00000323057	ENST00000323057	1.0906	0.02939697
A_32_P100109	NM_004726	REPS2	1.0913	0.007550959
A_23_P258393	NM_144641	PPM1M	1.0953	0.043914711
A_23_P162211	NM_018050	MANSC1	1.0971	0.008836528
A_24_P344053	NM_015556	SIPA1L1	1.0971	0.016441153
A_23_P205686	NM_000021	PSEN1	1.0975	0.040768798
A_32_P204019	NM_000992	RPL29	1.0987	0.03840544
A_23_P251196	A_23_P251196	A_23_P251196	1.0993	0.048201901
A_24_P8721	NM_003517	HIST2H2AC	1.1011	0.049334763
A_24_P354468	NM_002106	H2AFZ	1.1012	0.044511111
A_23_P121253	NM_003810	TNFSF10	1.1015	0.007802416
A_23_P253012	NM_017577	GRAMD1C	1.1019	0.011815258
A_23_P201287	NM_015074	KIF1B	1.1029	0.034149029
A_24_P392201	NM_198517	TBC1D10C	1.1032	0.040815594
A_23_P9903	NM_178326	ATG4B	1.1035	0.044711119
A_23_P212354	NM_000647	CCR2	1.1038	0.012727628
A_23_P121253	NM_003810	TNFSF10	1.1039	0.007374725
A_24_P820302	THC2594845	THC2594845	1.1039	0.032678521
A_24_P230100	ENST00000397494	ENST00000397494	1.1049	0.049461022

A_23_P8281	NM_000416	IFNGR1	1.107	0.028720456
A_24_P941441	NM_006572	GNA13	1.1071	0.044916968
A_24_P314179	NM_005239	ETS2	1.1073	0.035218777
A_23_P161194	NM_003380	VIM	1.1077	0.028049693
A_23_P48637	BG108194	BG108194	1.1079	0.048601071
A_23_P152234	NM_144673	CMTM2	1.1094	0.005146288
A_23_P154070	NM_006000	TUBA4A	1.1101	0.036553436
A_23_P210379	NM_175609	ARFGAP1	1.1105	0.041152762
A_24_P309415	NM_052932	TMEM123	1.1111	0.01518838
A_24_P229766	A_24_P229766	A_24_P229766	1.1117	0.04897584
A_23_P77552	NM_198490	RAB43	1.1125	0.040387818
A_23_P2582	NM_015401	HDAC7	1.113	0.027449348
A_24_P245838	NM_002409	MGAT3	1.1134	0.015368992
A_23_P51926	NM_000952	PTAFR	1.1135	0.0117525
A_23_P93629	NM_015905	TRIM24	1.1139	0.039627217
A_23_P214766	NM_006734	HIVEP2	1.1148	0.034348837
A_32_P10856	THC2689623	THC2689623	1.1154	0.026339677
A_23_P144896	NM_005451	PDLIM7	1.1173	0.009772048
A_23_P121253	NM_003810	TNFSF10	1.1173	0.006973012
A_24_P144275	A_24_P144275	A_24_P144275	1.1175	0.016829991
A_23_P125519	NM_001007	RPS4X	1.1185	0.022041596
A_24_P274640	NM_001042490	LOC730394	1.119	0.009242862
A_32_P179837	NM_174903	RNF151	1.1191	0.014215552
A_32_P226786	BC045174	BC045174	1.1193	0.007072604
A_23_P67339	NM_020650	RCN3	1.1197	0.011268647
A_23_P207301	AK001891	PRR11	1.1198	0.013301839
A_23_P328652	NM_153240	NPHP3	1.1204	0.039484383
A_24_P519504	X57802	X57802	1.1212	0.001152039
A_23_P119168	A_23_P119168	A_23_P119168	1.1221	0.037682852
A_23_P26878	NM_001025579	NDEL1	1.1228	0.024885223
A_23_P160631	NM_005998	CCT3	1.1233	0.040105488
A_24_P629900	AK024602	AK024602	1.1234	0.043655166
A_23_P18490	NM_001017405	MAEA	1.1248	0.040947211
A_23_P389708	NM_032378	EEF1D	1.1257	0.0354915
A_23_P127793	NM_153265	EML3	1.1259	0.037367389
A_23_P114947	NM_002923	RGS2	1.1259	0.005213497
A_24_P330971	NM_013234	EIF3K	1.1274	0.037524913
A_24_P13041	NM_145307	RTKN2	1.1281	0.013838728
A_23_P63816	NM_030759	NRBF2	1.1298	0.027235233
A_23_P350895	AK022408	RABGAP1	1.1299	0.041329074
A_23_P157580	NM_005625	SDCBP	1.13	0.008797712

A_32_P64936	X05126	X05126	1.1301	0.015026729
A_24_P97526	NM_017801	CMTM6	1.1301	0.021386292
A_23_P67971	NM_138801	GALM	1.1301	0.048712016
A_23_P327069	NM_014743	KIAA0232	1.1305	0.04524267
A_24_P538459	AF076205	AF076205	1.1316	0.024141263
A_32_P219657	NM_002295	RPSA	1.1318	0.025433338
A_23_P35912	NM_033306	CASP4	1.1329	0.030759431
A_23_P38427	NM_032932	RAB11FIP4	1.1365	0.031396439
A_23_P3221	NM_021199	SQRDL	1.1369	0.032202205
A_23_P34628	NM_001514	GTF2B	1.1371	0.022111826
A_23_P143551	NM_001696	ATP6V1E1	1.1377	0.030329249
A_23_P250866	NM_030935	TSC22D4	1.1377	0.025798841
A_23_P23141	NM_002107	H3F3A	1.1382	0.02848718
A_24_P254933	ENST00000270031	ENST00000270031	1.1392	0.005285936
A_23_P16673	NM_004368	CNN2	1.1394	0.001997125
A_23_P121253	NM_003810	TNFSF10	1.1394	0.005199365
A_23_P48637	BG108194	BG108194	1.1397	0.044795063
A_24_P511877	NR_003955	LOC647121	1.1415	0.025520194
A_24_P650893	A_24_P650893	A_24_P650893	1.1423	0.021414041
A_32_P31123	THC2690780	THC2690780	1.1427	0.022585323
A_24_P450285	NM_001033658	LOC283152	1.1427	0.022445353
A_24_P252739	THC2621222	THC2621222	1.1431	0.029748661
A_23_P353905	AK093617	AK093617	1.1431	0.011023742
A_23_P211299	NM_004571	PKNOX1	1.1432	0.049788456
A_24_P417267	AK097861	C22orf37	1.1434	0.039281955
A_24_P673209	A_24_P673209	A_24_P673209	1.1436	0.002836327
A_32_P198371	CR617352	CR617352	1.1438	0.038003681
A_24_P341958	NM_178862	STT3B	1.1451	0.04234756
A_23_P121253	NM_003810	TNFSF10	1.1459	0.005758017
A_23_P144497	NM_001006	RPS3A	1.1467	0.021226121
A_24_P323835	NM_002107	H3F3A	1.1468	0.019681745
A_23_P157316	NM_178829	C7orf34	1.147	0.025440132
A_23_P11922	AK024925	FLJ21272	1.148	0.022815935
A_23_P121253	NM_003810	TNFSF10	1.1483	0.005612487
A_23_P251937	NM_030627	CPEB4	1.1486	0.009593819
A_23_P20285	NM_021630	PDLIM2	1.1488	0.016885329
A_23_P119907	NM_018089	ANKZF1	1.1489	0.037334745
A_24_P96403	NM_001001890	RUNX1	1.1502	0.017347498
A_23_P11744	NM_182905	WASH1	1.1507	0.034149181
A_32_P146508	NM_002295	RPSA	1.1521	0.020092662
A_24_P49421	A_24_P49421	A_24_P49421	1.1528	0.027243376

A_23_P140907	NM_021259	TMEM8	1.1539	0.011159546
A_24_P681218	THC2544911	THC2544911	1.154	0.026120861
A_23_P213385	NM_006317	BASP1	1.1546	0.002845972
A_23_P99320	NM_000224	KRT18	1.1554	0.048074248
A_23_P211673	AY358828	SLITRK2	1.157	0.006961828
A_24_P46689	NM_015278	SASH1	1.1577	0.010956803
A_23_P76480	BF213738	BF213738	1.1578	0.018368705
A_23_P121253	NM_003810	TNFSF10	1.1597	0.005349006
A_23_P155057	NM_013385	PSCD4	1.1606	0.026225086
A_32_P162004	NM_000992	RPL29	1.1634	0.031457351
A_23_P46928	NM_002627	PFKP	1.1645	0.033223718
A_23_P360874	NM_152892	LRWD1	1.1645	0.009707128
A_23_P137209	NM_003334	UBA1	1.1652	0.016472417
A_23_P252825	NM_012235	SCAP	1.1656	0.015147599
A_23_P137865	NM_198883	MTX1	1.1659	0.03430755
A_23_P358195	NR_003246	FLJ40113	1.1662	0.018553227
A_23_P152804	NM_198175	NME1	1.1667	0.041721796
A_23_P215233	NM_020246	SLC12A9	1.1678	0.040754821
A_23_P207999	NM_021127	PMAIP1	1.1678	0.048352165
A_24_P397150	NM_005255	GAK	1.168	0.020364594
A_23_P48637	BG108194	BG108194	1.1688	0.038053722
A_24_P126741	NM_001123388	GLRX1	1.1691	0.028035015
A_24_P36847	NM_001357	DHX9	1.1693	0.032964423
A_24_P40978	ENST00000292543	ENST00000292543	1.1703	0.01168164
A_23_P80778	NM_032839	DIRC2	1.1705	0.032566889
A_24_P381945	NM_002134	HMOX2	1.171	0.016734022
A_24_P7934	XM_373079	LOC391769	1.1726	0.04609419
A_23_P251505	NM_148956	NSUN5	1.1727	0.034727588
A_23_P129486	NM_016332	SEPX1	1.1731	0.006258325
A_23_P204929	NM_016248	AKAP11	1.1735	0.038008246
A_24_P75230	NM_033546	MRLC2	1.1739	0.017412658
A_24_P73370	NM_003565	ULK1	1.1744	0.015877975
A_23_P56213	NM_020895	GRAMD1A	1.1744	0.008010589
A_24_P42495	BC010544	BC010544	1.1749	0.025842869
A_24_P272710	NM_006013	RPL10	1.175	0.014830322
A_23_P121253	NM_003810	TNFSF10	1.175	0.004371467
A_23_P27936	NM_006532	ELL	1.1751	0.030799076
A_23_P207999	NM_021127	PMAIP1	1.1757	0.049358602
A_32_P26092	NM_003327	TNFRSF4	1.1762	0.030758475
A_23_P98092	NM_000274	OAT	1.1784	0.041775445
A_23_P22957	NM_016009	SH3GLB1	1.1785	0.017164106

A_32_P459533	NM_015122	FCHO1	1.1795	0.043315128
A_23_P122582	NM_024294	C6orf106	1.1797	0.04091184
A_23_P139929	NM_006817	ERP29	1.1801	0.017364886
A_23_P64721	NM_006018	GPR109B	1.1811	0.003747385
A_23_P34093	NM_000402	G6PD	1.1816	0.01068437
A_32_P38003	ENST00000379156	EIF2AK2	1.1836	0.016314266
A_23_P20832	NM_003127	SPTAN1	1.1836	0.028844384
A_23_P151805	NM_006329	FBLN5	1.1855	0.015202815
A_32_P133564	THC2663970	THC2663970	1.1865	0.001762871
A_23_P257155	NM_000333	ATXN7	1.1869	0.026009084
A_24_P508410	NM_002295	RPSA	1.187	0.025757384
A_24_P303480	NM_006834	RAB32	1.1881	0.049135144
A_23_P48637	BG108194	BG108194	1.1885	0.036870937
A_32_P10003	NM_080386	TUBA3D	1.1885	0.007347141
A_32_P26895	AB046820	KIAA1600	1.1891	0.027125075
A_23_P23279	NM_052862	RCSD1	1.1892	0.031067242
A_23_P24104	NM_002658	PLAU	1.1893	0.04922515
A_32_P132317	NM_001033045	GPR155	1.1897	0.032459365
A_23_P25605	NM_032138	KBTBD7	1.1912	0.014000761
A_23_P53763	NM_025113	C13orf18	1.1913	0.017701753
A_32_P930953	AK024147	AK024147	1.1914	0.024329936
A_24_P178784	A_24_P178784	A_24_P178784	1.1915	0.017825172
A_24_P766208	NM_000967	RPL3	1.1923	0.027588349
A_23_P112004	NM_012472	LRRC6	1.1925	0.005083908
A_23_P112774	NM_032611	PTP4A3	1.194	0.024114585
A_24_P485105	THC2632823	THC2632823	1.1941	0.014922249
A_23_P167983	ENST00000314088	HIST1H2AC	1.1959	0.032644075
A_23_P153383	NM_015414	RPL36	1.1959	0.022431932
A_23_P114662	NM_001889	CRYZ	1.1961	0.017978039
A_32_P167592	XR_015343	XR_015343	1.1963	0.001614725
A_24_P16124	NR_001590	IFITM4P	1.1977	0.000850561
A_24_P538403	NM_005406	ROCK1	1.1985	0.039328281
A_24_P358328	NR_002187	tcag7.1015	1.1989	0.014914518
A_23_P13344	NM_001404	EEF1G	1.2001	0.01726049
A_32_P325680	AK074162	AK074162	1.2002	0.019248605
A_23_P107684	NM_014347	ZNF324	1.2009	0.047469567
A_23_P120660	NM_001024	RPS21	1.2012	0.045496577
A_23_P147805	BC047030	UPP1	1.2013	0.043239705
A_24_P52111	NM_001031677	RAB24	1.2013	0.025777001
A_23_P404678	NM_004283	RAB3D	1.2019	0.04199538
A_24_P41391	NM_001031617	COX19	1.2027	0.039303252

A_23_P138514	NM_012071	COMMD3	1.2029	0.048906536
A_32_P208424	NM_002107	H3F3A	1.2034	0.034017997
A_24_P593120	THC2631229	THC2631229	1.2036	0.024733662
A_23_P35650	NM_032905	RBM17	1.2037	0.037010777
A_23_P203376	NM_152852	MS4A6A	1.2043	0.014600661
A_24_P154080	NM_001397	ECE1	1.2045	0.007000934
A_23_P125348	NM_021210	TRAPPC1	1.2063	0.048256339
A_32_P21384	NM_000985	RPL17	1.207	0.012861472
A_23_P15857	NM_001042388	PPP4R1	1.2071	0.015709152
A_23_P207999	NM_021127	PMAIP1	1.2075	0.042783196
A_24_P601695	AK026194	AK026194	1.2089	0.015015398
A_23_P36647	NM_177441	TMUB2	1.209	0.0159301
A_23_P77174	NM_004855	PIGB	1.2096	0.029908239
A_23_P312652	AK128423	CIRBP	1.2103	0.037412067
A_32_P201868	CD359823	CD359823	1.2108	0.009535279
A_24_P940426	NM_206855	QKI	1.2119	0.007916129
A_24_P311926	NM_002127	HLA-G	1.2123	0.033443759
A_32_P111507	XR_016779	LOC440311	1.2123	0.018103231
A_23_P319808	NM_015054	UHRF1BP1L	1.214	0.036689946
A_23_P5626	A_23_P5626	A_23_P5626	1.2141	0.024426117
A_24_P390833	NM_023075	MPPE1	1.2154	0.036139243
A_23_P140967	NM_000243	MEFV	1.2155	0.043382645
A_24_P53215	NM_199242	UNC13D	1.2173	0.014364528
A_24_P287198	NM_001404	EEF1G	1.2174	0.04323264
A_23_P102391	NM_014585	SLC40A1	1.2178	0.022925435
A_24_P259799	NM_024041	SCNM1	1.2179	0.040603766
A_23_P39704	NM_001031684	SFRS7	1.2181	0.047641089
A_23_P124927	NM_006480	RGS14	1.2184	0.004795033
A_23_P394836	NM_022489	INF2	1.2188	0.038369951
A_32_P30710	NM_000978	RPL23	1.2195	0.041490537
A_23_P201035	NM_001005749	GBA	1.2213	0.022593862
A_24_P899020	THC2645960	THC2645960	1.2215	0.028998639
A_23_P101297	NM_012155	EML2	1.2216	0.019804737
A_23_P49686	AF090926	AF090926	1.2217	0.035572969
A_24_P653354	THC2543840	THC2543840	1.2219	0.037430962
A_24_P192338	CR608275	CR608275	1.2222	0.015536175
A_23_P71867	NM_147162	IL11RA	1.2226	0.023970606
A_24_P63290	NM_198562	C3orf62	1.2226	0.046232739
A_23_P209619	ENST00000378954	ENST00000378954	1.2229	0.040552912
A_24_P50738	AF035020	AF035020	1.2238	0.02957378
A_24_P565496	A_24_P565496	A_24_P565496	1.2247	0.017011129

A_32_P128980	BC062780	BC062780	1.2251	0.006328154
A_23_P40952	NM_002880	RAF1	1.2291	0.024091472
A_23_P217737	L06133	ATP7A	1.2291	0.044038984
A_24_P50767	AF161342	AF161342	1.2291	0.021944672
A_24_P677608	AK024171	AK024171	1.2292	0.044905171
A_23_P108501	NM_004438	EPHA4	1.2293	0.030327844
A_23_P207999	NM_021127	PMAIP1	1.2294	0.043401195
A_32_P129894	NM_001080497	MEGF9	1.2303	0.004479904
A_32_P10396	NM_014991	WDFY3	1.2309	0.011440827
A_23_P74278	NM_001037341	PDE4B	1.2311	0.042601882
A_24_P111737	NM_014616	ATP11B	1.2316	0.03906361
A_24_P41570	NM_002106	H2AFZ	1.2326	0.036942124
A_24_P137897	NM_001007245	IFRD1	1.2329	0.014131378
A_23_P7101	NM_006527	SLBP	1.2346	0.027557155
A_23_P109254	NM_184234	RBM39	1.2359	0.040629656
A_23_P257609	NM_000992	RPL29	1.2369	0.034918204
A_32_P43436	NM_000992	RPL29	1.237	0.044527936
A_24_P417162	NM_005647	TBL1X	1.2378	0.025134339
A_24_P367139	A_24_P367139	A_24_P367139	1.238	0.017804152
A_23_P23616	NM_032129	PLEKHN1	1.2384	0.038149101
A_23_P355067	NM_019026	TMCO1	1.2388	0.047255946
A_24_P406132	NM_002754	MAPK13	1.239	0.008050136
A_24_P639441	NM_203330	CD59	1.239	0.030298914
A_23_P313640	NM_006609	MAP3K2	1.2401	0.015407549
A_23_P156531	NM_002793	PSMB1	1.2413	0.036572896
A_23_P332042	NM_004259	RECQL5	1.2421	0.047210102
A_23_P163258	NM_020214	PARP6	1.2429	0.03267538
A_24_P237624	NM_182563	C16orf79	1.2451	0.038390091
A_23_P168882	NM_033285	TP53INP1	1.2457	0.01427629
A_24_P641406	A_24_P641406	A_24_P641406	1.2461	0.003382495
A_24_P544661	BC068044	BC068044	1.2461	0.03749834
A_23_P44149	NM_005730	CTDSP2	1.2463	0.011624131
A_24_P287043	NM_006435	IFITM2	1.2492	0.001204585
A_24_P942517	ENST00000246024	TXNDC13	1.2498	0.015601315
A_23_P16817	NM_004071	CLK1	1.2503	0.019560603
A_23_P206396	NM_001040138	CKLF	1.2506	0.023236548
A_23_P92065	AF116626	AF116626	1.2515	0.035635404
A_23_P146572	NM_015392	NPDC1	1.2534	0.011620566
A_24_P76078	XM_001724177	LOC100130794	1.2542	0.045145789
A_23_P204472	NM_053275	RPLP0	1.2549	0.015776528
A_23_P204472	NM_053275	RPLP0	1.255	0.018223568

A_24_P157415	NM_014616	ATP11B	1.255	0.019686968
A_23_P75889	NM_175932	PSMD13	1.2576	0.030591651
A_24_P290293	ENST00000399198	ENST00000399198	1.2579	0.01643912
A_24_P296347	NM_018427	RRN3	1.2588	0.00110157
A_24_P6975	NM_001111266	LOC342994	1.2596	0.019729664
A_23_P68942	NM_000967	RPL3	1.2598	0.01359095
A_23_P204472	NM_053275	RPLP0	1.2598	0.016807062
A_24_P85200	NM_194278	C14orf43	1.2607	0.042950807
A_24_P251688	NM_018358	ABCF3	1.2609	0.029483023
A_24_P67308	XR_037795	LOC100129424	1.2614	0.013455673
A_32_P464568	NM_020944	GBA2	1.2643	0.037582508
A_23_P170574	NM_178310	SNAI3	1.2646	0.042493372
A_23_P204472	NM_053275	RPLP0	1.2648	0.016107645
A_23_P402081	NM_003520	HIST1H2BN	1.265	0.047188033
A_24_P80915	NM_014739	BCLAF1	1.2653	0.025835869
A_24_P73178	NM_001005354	PRR13	1.2657	0.030486491
A_24_P161733	A_24_P161733	A_24_P161733	1.2658	0.030212644
A_23_P207999	NM_021127	PMAIP1	1.2659	0.036716056
A_23_P38723	NM_015295	SMCHD1	1.2665	0.012011423
A_32_P212373	XM_933693	LOC440731	1.2695	0.010908217
A_23_P133284	NM_018343	RIOK2	1.2695	0.033526772
A_24_P395042	NM_003754	EIF3F	1.2697	0.035870152
A_32_P220912	AA132288	AA132288	1.2698	0.015725948
A_23_P359647	NM_138714	NFAT5	1.2702	0.018588781
A_24_P813550	ENST00000390630	ENST00000390630	1.2709	0.033364181
A_23_P48495	NM_199206	TCL1B	1.2714	0.02541552
A_23_P131435	NM_014880	CD302	1.2725	0.037117814
A_23_P204472	NM_053275	RPLP0	1.273	0.015704644
A_24_P360269	NM_003730	RNASET2	1.2744	0.008667057
A_23_P2967	NM_003917	AP1G2	1.2744	0.026196707
A_32_P214503	BC038512	BC038512	1.2745	0.006739337
A_23_P125656	NM_001356	DDX3X	1.2759	0.036353168
A_32_P91107	BC089156	BC089156	1.2763	0.036756339
A_24_P204084	THC2494410	THC2494410	1.277	0.036727686
A_23_P82412	NM_001039575	NSUN5B	1.2771	0.015570806
A_23_P105625	NM_032314	COQ5	1.2782	0.030968997
A_32_P8604	AK093691	AK093691	1.2789	0.046829958
A_23_P106562	NM_000512	GALNS	1.279	0.020269537
A_23_P254601	NM_001662	ARF5	1.2796	0.022536421
A_32_P515088	NM_002035	KDSR	1.2806	0.047489088
A_23_P48416	NM_014953	DIS3	1.2806	0.016596228

A_23_P316601	NM_006912	RIT1	1.2813	0.034082262
A_24_P66270	NR_001444	LYPLA2P1	1.2821	0.043336763
A_32_P430996	AK001120	AK001120	1.2838	0.037559435
A_23_P131626	NM_014014	ASCC3L1	1.2842	0.024289318
A_23_P143199	NM_006282	STK4	1.2852	0.012450478
A_23_P90143	NM_012423	RPL13A	1.2858	0.009743806
A_23_P71241	NM_014302	SEC61G	1.2865	0.047565225
A_23_P102122	NM_152862	ARPC2	1.2869	0.028322836
A_23_P8513	NM_013322	SNX10	1.2874	0.032981408
A_24_P867201	CR613944	CR613944	1.2874	0.007938061
A_23_P204472	NM_053275	RPLP0	1.2877	0.015296349
A_23_P389676	AK131103	EXOC3	1.2889	0.017695529
A_23_P48676	NM_002863	PYGL	1.2895	0.002744909
A_23_P204472	NM_053275	RPLP0	1.2902	0.014098331
A_23_P215175	NM_005692	ABCF2	1.2903	0.049879476
A_24_P590560	NM_018427	RRN3	1.2915	0.02270862
A_23_P120744	NM_003906	MCM3AP	1.2921	0.040358778
A_32_P52609	NM_145693	LPIN1	1.2921	0.008757845
A_23_P887	NM_014002	IKBKE	1.2927	0.024894424
A_23_P434809	NM_002964	S100A8	1.2934	0.003581141
A_24_P67638	A_24_P67638	A_24_P67638	1.2955	0.047844664
A_23_P99163	NM_018370	DRAM	1.2973	0.020986275
A_24_P42066	NR_003267	GGT3P	1.2977	0.033508589
A_24_P329065	NM_007048	BTN3A1	1.3018	0.038753605
A_32_P136204	BQ548663	BQ548663	1.3024	0.031257851
A_24_P214556	A_24_P214556	A_24_P214556	1.3025	0.036461169
A_23_P63584	NM_015446	AHCTF1	1.3026	0.010778019
A_32_P20367	NM_001011	RPS7	1.3044	0.018671304
A_24_P479645	AK093640	AK093640	1.3048	0.049366878
A_23_P407628	NM_006766	MYST3	1.3056	0.028368976
A_24_P160920	A_24_P160920	A_24_P160920	1.3058	0.016348772
A_24_P333019	NM_007219	RNF24	1.3059	0.002037004
A_23_P84154	NM_018460	ARHGAP15	1.306	0.021845297
A_23_P70785	NM_001624	AIM1	1.3062	0.021095067
A_23_P117175	NM_006437	PARP4	1.3063	0.022855919
A_24_P236091	NM_001975	ENO2	1.3063	0.029452744
A_24_P375340	A_24_P375340	A_24_P375340	1.3066	0.019898324
A_23_P138308	NM_001779	CD58	1.307	0.03824284
A_23_P115998	NM_003120	SPI1	1.3074	0.014292893
A_24_P916718	NM_207336	ZNF467	1.3079	0.040240496
A_24_P924697	AK055915	AK055915	1.308	0.009700483

A_23_P97932	NM_012228	MSRB2	1.3082	0.007811231
A_23_P61050	NM_152649	MLKL	1.3085	0.036741323
A_23_P76851	NM_001039619	PRMT5	1.3092	0.008727603
A_23_P253221	NM_032995	ARHGEF4	1.3098	0.012011184
A_32_P58029	A_32_P58029	A_32_P58029	1.311	0.021310281
A_23_P142421	NM_014727	MLL4	1.3113	0.006766245
A_23_P148015	NM_004655	AXIN2	1.3114	0.019696448
A_32_P38404	BC015133	BC015133	1.3118	0.048914877
A_32_P218251	BC019599	BC019599	1.3132	0.041306653
A_24_P755505	A_24_P755505	A_24_P755505	1.3134	0.012493891
A_23_P150718	NM_001665	RHOG	1.3139	0.004449196
A_23_P68072	NM_032118	WDR54	1.3144	0.031698728
A_23_P28084	CR601641	STX10	1.3174	0.025408392
A_23_P49033	NM_003099	SNX1	1.3176	0.030147045
A_23_P40952	NM_002880	RAF1	1.3195	0.017547559
A_23_P150147	NM_017857	SSH3	1.3196	0.029898658
A_32_P208178	NM_001006	RPS3A	1.3198	0.013351018
A_24_P941505	NM_014612	FAM120A	1.3214	0.02753233
A_24_P169013	NR_001298	HLA-DRB6	1.3219	0.023204403
A_24_P181149	NM_024685	BBS10	1.3221	0.023973971
A_23_P92410	NM_004346	CASP3	1.3234	0.037164173
A_23_P213592	NM_014901	RNF44	1.3239	0.038447297
A_24_P850428	BC070327	BC070327	1.3239	0.006417593
A_23_P40952	NM_002880	RAF1	1.3242	0.01854739
A_24_P153840	NM_033086	FGD3	1.3245	0.006898747
A_23_P9823	NM_014938	MLXIP	1.3248	0.0061622
A_23_P157569	NM_144650	ADHFE1	1.3249	0.046425714
A_23_P39602	NM_147233	NCOA1	1.3252	0.028946245
A_32_P213946	A_32_P213946	A_32_P213946	1.3259	0.008879441
A_24_P101960	A_24_P101960	A_24_P101960	1.3267	0.022268934
A_24_P250922	NM_000963	PTGS2	1.327	0.007194093
A_24_P396105	NM_153273	IHPK1	1.3272	0.033893435
A_24_P349356	NM_207354	ANKRD13D	1.3278	0.003585557
A_24_P57837	THC2567891	THC2567891	1.3285	0.007312619
A_24_P926960	NM_001409	MEGF6	1.3285	0.009288802
A_23_P60376	NM_153200	EDF1	1.3297	0.023885199
A_24_P216087	NM_019088	PAF1	1.3298	0.044469046
A_24_P76868	X01147	X01147	1.3299	0.013093863
A_23_P341065	NM_031454	RP3-402G11.5	1.3308	0.017010758
A_24_P780052	NM_001089588	hCG_1984468	1.3311	0.007917302
A_23_P361569	NM_025181	SLC35F5	1.3315	0.041041311

A_23_P204472	NM_053275	RPLP0	1.3315	0.013168155
A_24_P217834	NM_003530	HIST1H3D	1.3362	0.003887422
A_23_P155417	NM_032750	ABHD14B	1.3362	0.035136118
A_23_P138881	NM_001104	ACTN3	1.3364	0.01564035
A_23_P90752	NM_015909	NAG	1.3365	0.039063351
A_23_P163942	NM_003168	SUPT4H1	1.3368	0.019601649
A_24_P103686	NM_178819	AGPAT6	1.3375	0.017875026
A_23_P117546	NM_006939	SOS2	1.3379	0.016872286
A_23_P408473	NM_032450	KIAA1833	1.3385	0.03884339
A_23_P62583	NM_001409	MEGF6	1.3394	0.019111377
A_24_P303080	A_24_P303080	A_24_P303080	1.3399	0.04991547
A_23_P140515	NM_078474	TM2D3	1.3404	0.040455767
A_24_P349756	A_24_P349756	A_24_P349756	1.3405	0.010443499
A_23_P408271	NM_016245	HSD17B11	1.3415	0.014952321
A_32_P184488	NM_198850	PHLDB3	1.3417	0.010957782
A_23_P40952	NM_002880	RAF1	1.3443	0.016346403
A_24_P340976	XR_018155	XR_018155	1.3445	0.016202847
A_24_P168760	NM_004286	GTPBP1	1.3453	0.040270947
A_24_P128361	AF289562	LOC100130339	1.3459	0.005115464
A_23_P43086	NM_018688	BIN3	1.3467	0.0189685
A_32_P76399	NM_016091	EIF3EIP	1.347	0.022925089
A_23_P141100	NM_012091	ADAT1	1.347	0.049642073
A_24_P419211	NM_004685	MTMR6	1.3478	0.048418052
A_23_P58747	NM_015111	N4BP3	1.348	0.02246531
A_24_P403501	BC043198	CECR7	1.3494	0.010548103
A_24_P7085	NR_002778	RPL29P2	1.3495	0.014368276
A_23_P390190	NM_014089	NUPL1	1.3499	0.019515664
A_24_P185044	NM_152649	MLKL	1.3501	0.034418892
A_23_P317800	NM_013367	ANAPC4	1.3514	0.046280778
A_23_P7221	NM_033625	RPL34	1.3514	0.022229979
A_32_P184796	NM_053275	RPLP0	1.3515	0.013154512
A_23_P106898	NM_152288	ORAI3	1.3518	0.035533115
A_23_P156198	NM_015288	PHF15	1.3521	0.028318803
A_23_P216630	NM_080546	SLC44A1	1.3532	0.030343973
A_23_P118105	NM_004548	NDUFB10	1.3564	0.032122236
A_24_P8049	NM_014515	CNOT2	1.3582	0.016964342
A_23_P93881	NM_182715	SYPL1	1.3592	0.017903907
A_24_P27229	NM_015989	CSAD	1.3599	0.015589769
A_23_P54243	NM_003485	GPR68	1.3602	0.028428343
A_23_P31840	NM_032378	EEF1D	1.3603	0.043831756
A_23_P209962	NM_024624	SMC6	1.3621	0.042071798

A_23_P110571	NM_015183	MAST4	1.3623	0.02791112
A_24_P925455	A_24_P925455	A_24_P925455	1.3626	0.039984886
A_23_P207999	NM_021127	PMAIP1	1.3629	0.025568831
A_23_P2998	NM_005015	OXA1L	1.3633	0.039278544
A_23_P335958	NM_001033045	GPR155	1.3637	0.014285343
A_23_P61823	NM_001031677	RAB24	1.3644	0.009751222
A_32_P56618	XM_001726460	LOC100130600	1.3648	0.019654907
A_23_P148919	NM_000098	CPT2	1.3658	0.020225834
A_23_P48550	NM_015005	KIAA0284	1.3661	0.043893785
A_23_P217564	NM_004458	ACSL4	1.3662	0.006203388
A_24_P383788	NM_138368	DKFZp761E198	1.3664	0.022304926
A_24_P271014	NM_001042388	PPP4R1	1.3683	0.013654976
A_23_P27515	NM_012268	PLD3	1.3696	0.021743859
A_23_P9603	NM_006904	PRKDC	1.3697	0.00949145
A_23_P209904	NM_002081	GPC1	1.3702	0.015385967
A_24_P450172	AK095151	AK095151	1.3705	0.001733626
A_24_P40795	XM_497352	LOC283412	1.3706	0.008488065
A_32_P4403	NM_014117	C16orf72	1.3707	0.033419341
A_32_P177040	NM_001099435	LOC442590	1.3708	0.009973596
A_24_P295601	NM_014741	HARBI1	1.371	0.018516177
A_23_P21409	NM_001042384	CEP63	1.3713	0.016927439
A_23_P214330	NM_030666	SERPINB1	1.3719	0.00469849
A_23_P92410	NM_004346	CASP3	1.372	0.027871686
A_32_P15156	BX648207	BX648207	1.3727	0.028821475
A_23_P35399	NM_145869	ANXA11	1.375	0.006212661
A_24_P303974	NM_006023	CDC123	1.375	0.029162513
A_32_P38145	AL136845	PACSIN2	1.3753	0.004740403
A_23_P215931	NM_015344	LEPROTL1	1.3773	0.025272413
A_23_P64129	NM_006410	HTATIP2	1.3773	0.009201545
A_23_P134835	NM_018371	CSGALNACT1	1.3773	0.000161715
A_23_P204472	NM_053275	RPLP0	1.3795	0.010413651
A_23_P329198	NM_001031716	OBFC2A	1.3799	0.012960888
A_24_P367109	XR_019503	LOC728533	1.3802	0.035241396
A_24_P940551	ENST00000299125	ENST00000299125	1.3803	0.032681154
A_24_P250922	NM_000963	PTGS2	1.3808	0.005223947
A_23_P257164	NM_000481	AMT	1.3816	0.038223703
A_23_P256561	NM_006068	TLR6	1.3819	0.003132212
A_23_P40952	NM_002880	RAF1	1.3824	0.01279998
A_23_P210708	NM_001040022	SIRPA	1.3829	0.012038201
A_23_P209962	NM_024624	SMC6	1.3835	0.039695985
A_24_P96171	NM_030578	B9D2	1.3838	0.013843529

A_32_P184367	NM_006013	RPL10	1.3857	0.035176935
A_24_P250922	NM_000963	PTGS2	1.3858	0.005053515
A_24_P235429	NM_005502	ABCA1	1.3863	0.001929929
A_23_P87853	NM_020698	TMCC3	1.3866	0.00368456
A_23_P202750	NM_014039	C11orf54	1.3872	0.035387521
A_23_P16683	NM_017722	TRMT1	1.388	0.036648149
A_23_P308305	ENST00000317571	ENST00000317571	1.3883	0.040255265
A_23_P99540	NM_004926	ZFP36L1	1.3891	0.018595299
A_23_P61674	NM_020666	CLK4	1.3891	0.008364492
A_23_P94216	NM_152271	LONRF1	1.3892	0.018945517
A_24_P506977	NR_003697	C7orf40	1.3904	0.039848771
A_24_P266880	NM_021009	UBC	1.3916	0.048991854
A_24_P250922	NM_000963	PTGS2	1.3928	0.004348978
A_32_P167176	THC2701422	THC2701422	1.3929	0.025746291
A_23_P45875	NM_003292	TPR	1.3939	0.036646739
A_23_P95594	NM_000662	NAT1	1.3944	0.048617865
A_23_P69141	NM_016141	DYNC1LI1	1.3949	0.02434401
A_32_P115749	CD104030	CD104030	1.3951	0.003205023
A_23_P1682	NM_138788	TMEM45B	1.3953	0.000725906
A_23_P13978	NM_016123	IRAK4	1.3969	0.016600966
A_23_P165548	NM_022460	HS1BP3	1.3971	0.01703597
A_32_P115518	AI207522	AI207522	1.3972	0.032105585
A_23_P217797	AF000984	DDX3Y	1.3975	0.020704049
A_32_P65303	THC2672675	THC2672675	1.3975	0.019188554
A_23_P428219	NM_001991	EZH1	1.398	0.014540679
A_24_P419087	NM_006576	AVIL	1.3985	0.01564608
A_24_P250922	NM_000963	PTGS2	1.3987	0.00452308
A_24_P761386	A_24_P761386	A_24_P761386	1.3999	0.031032967
A_23_P31097	NM_014028	OSTM1	1.4019	0.047899293
A_24_P114617	NM_014043	CHMP2B	1.4034	0.029549368
A_24_P204454	A_24_P204454	A_24_P204454	1.4045	0.03156366
A_23_P8561	NM_001040457	RHBDD2	1.4047	0.039342637
A_24_P650011	A_24_P650011	A_24_P650011	1.405	0.016695904
A_24_P126060	NM_001356	DDX3X	1.4051	0.009245085
A_23_P204472	NM_053275	RPLP0	1.4056	0.008979128
A_24_P565503	A_24_P565503	A_24_P565503	1.4057	0.011406734
A_23_P398770	AK055921	PWWP2A	1.4057	0.029227969
A_23_P159907	NM_030801	MAGED4B	1.4064	0.025989545
A_24_P358164	NM_001089588	hCG_1984468	1.4065	0.01161647
A_23_P62652	NM_003037	SLAMF1	1.4065	0.034490111
A_23_P10463	NM_004552	NDUFS5	1.4067	0.042429404

A_24_P289188	XM_001133762	LOC729611	1.4067	0.035975479
A_23_P26583	NM_032206	NLRC5	1.407	0.004488797
A_23_P161501	NM_024954	UBTD1	1.4073	0.012063776
A_23_P217507	NM_004729	ZBED1	1.4077	0.007028993
A_23_P80062	NM_003185	TAF4	1.4081	0.015537769
A_32_P158746	NM_000985	RPL17	1.4081	0.006426148
A_24_P28165	NM_015071	ARHGAP26	1.4081	0.002834246
A_32_P114739	DB518505	DB518505	1.4083	0.038699826
A_23_P396299	ENST00000324928	ENST00000324928	1.4102	0.02774058
A_23_P206347	NM_016025	METTL9	1.4102	0.033256351
A_32_P75867	THC2691419	THC2691419	1.4102	0.001580288
A_24_P230691	AK025303	KIF13A	1.4108	0.00846651
A_24_P48069	NM_018110	DOK4	1.4118	0.017388028
A_23_P17382	NM_022095	ZNF335	1.4119	0.019547446
A_23_P28857	NM_018556	SIRPG	1.4121	0.036215702
A_23_P200199	NM_015913	TXNDC12	1.4129	0.01591757
A_23_P87973	NM_213590	TRIM13	1.4134	0.048776167
A_24_P919304	BC012204	FNDC3B	1.4138	0.025594413
A_23_P93258	NM_003537	HIST1H3B	1.4141	0.012442362
A_24_P250922	NM_000963	PTGS2	1.4154	0.004266148
A_23_P258698	NM_005908	MANBA	1.4155	0.034927226
A_23_P362759	NM_018699	PRDM5	1.4157	0.036454286
A_23_P140328	NM_004713	SDCCAG1	1.4175	0.046917422
A_24_P187023	XM_001718967	LOC390876	1.4179	0.021063173
A_23_P40952	NM_002880	RAF1	1.419	0.012262561
A_23_P165171	NM_017814	TMEM161A	1.419	0.040957875
A_23_P86884	NM_005146	SART1	1.4194	0.014199098
A_23_P51187	NM_002744	PRKCZ	1.4199	0.022076999
A_23_P98876	NM_173596	SLC39A5	1.4217	0.029013252
A_24_P373174	NM_004580	RAB27A	1.4219	0.015328208
A_23_P101007	NM_178493	NOTUM	1.4233	0.047219016
A_24_P406034	NM_006416	SLC35A1	1.4234	0.016502191
A_24_P67148	AF318328	AF318328	1.4239	0.027165247
A_32_P112279	NM_001039690	CTF8	1.4239	0.00923095
A_23_P157452	NM_005034	POLR2K	1.4245	0.032204367
A_23_P254472	NM_024573	C6orf211	1.4247	0.029336126
A_24_P250922	NM_000963	PTGS2	1.4249	0.004467371
A_23_P212728	BC020955	TBC1D23	1.4255	0.033956909
A_23_P90804	NM_145686	MAP4K4	1.4255	0.023728333
A_23_P36345	NM_006645	STARD10	1.426	0.013803646
A_23_P142776	NM_003754	EIF3F	1.4271	0.041109331

A_32_P50066	NM_001039580	MAP9	1.4278	0.030881494
A_32_P105195	NM_014829	DDX46	1.4278	0.031165847
A_23_P39356	NM_005303	FFAR1	1.43	0.025857672
A_24_P379750	NM_002357	MXD1	1.4311	0.00375457
A_23_P149509	NM_005341	ZBTB48	1.4311	0.0133703
A_24_P75708	XR_018526	XR_018526	1.4315	0.007892469
A_24_P266880	NM_021009	UBC	1.4321	0.039566584
A_23_P71464	NM_001359	DECRI	1.4322	0.042584862
A_23_P49467	NM_001114600	C1orf144	1.4331	0.039002817
A_23_P151075	NM_001175	ARHGDIB	1.4342	0.031744525
A_23_P170986	NM_001017395	TMCC1	1.4345	0.039844088
A_23_P40952	NM_002880	RAF1	1.436	0.011144452
A_23_P218476	NM_030578	B9D2	1.4368	0.023649996
A_24_P81740	NM_006755	TALDO1	1.4389	0.022299508
A_23_P40952	NM_002880	RAF1	1.4407	0.010140166
A_23_P2901	AK000041	C14orf113	1.4408	0.02742528
A_32_P137035	NM_006510	TRIM27	1.4413	0.004166967
A_24_P332780	A_24_P332780	A_24_P332780	1.4415	0.045154692
A_32_P8857	A_32_P8857	A_32_P8857	1.443	0.026133307
A_23_P385267	NM_173618	CCDC95	1.4436	0.041171701
A_23_P202939	NM_001642	APLP2	1.4445	0.042611645
A_23_P105307	NM_201444	DGKA	1.4458	0.01439333
A_24_P350126	A_24_P350126	A_24_P350126	1.446	0.024374281
A_23_P92410	NM_004346	CASP3	1.4473	0.034327585
A_23_P157449	NM_005034	POLR2K	1.4494	0.008829461
A_23_P117163	NM_018191	RCBTB1	1.4496	0.027730588
A_32_P14894	NM_001014	RPS10	1.4498	0.035741101
A_23_P81660	NM_018368	LMBRD1	1.4501	0.023610097
A_32_P126375	NM_198270	NHS	1.4504	0.011061648
A_23_P65877	NM_001042496	SLC12A6	1.4509	0.024406524
A_24_P245976	NM_013452	VCX	1.4509	0.019662584
A_23_P317001	U15173	BNIP2	1.4511	0.019679263
A_23_P74547	NM_001040033	CD53	1.4511	0.024848836
A_23_P74843	NM_018060	IARS2	1.4521	0.049338874
A_32_P180435	NM_175064	WBSCR19	1.4538	0.012109191
A_23_P251342	NM_002093	GSK3B	1.4538	0.043355695
A_24_P12435	NM_181782	NCOA7	1.4541	0.0172043
A_23_P347131	AK094181	TTC15	1.4542	0.020486122
A_24_P50472	XM_938903	LOC649839	1.4546	0.040088223
A_32_P33083	NM_016378	VCX2	1.4555	0.012893502
A_24_P85181	NM_022340	ZFYVE20	1.456	0.027196844

A_24_P109921	ENST00000390541	ENST00000390541	1.4577	0.017720847
A_23_P209962	NM_024624	SMC6	1.4581	0.035003176
A_23_P104351	NM_207009	FAM45A	1.4587	0.027225941
A_23_P204736	NM_005276	GPD1	1.4594	0.027187288
A_23_P10815	NM_001020658	PUM1	1.4594	0.022754989
A_23_P154986	NM_005265	GGT1	1.4595	0.020181243
A_23_P43079	NM_017864	INTS8	1.4599	0.036771553
A_23_P86222	NM_138794	LYPLAL1	1.4605	0.029724989
A_23_P382043	NM_152729	NT5DC1	1.4612	0.036815972
A_24_P139943	NM_022460	HS1BP3	1.4628	0.013997247
A_23_P384085	NM_181453	GCC2	1.463	0.026102134
A_23_P107166	NM_024722	ACBD4	1.4642	0.037304364
A_24_P532232	NM_182898	CREB5	1.4648	0.001613599
A_23_P401380	NM_173602	DIP2B	1.465	0.008603351
A_24_P336113	NM_012295	CABIN1	1.4654	0.033425492
A_23_P156609	A_23_P156609	A_23_P156609	1.4666	0.004921304
A_24_P54178	NM_016040	TMED5	1.4693	0.006949059
A_23_P31195	NM_031434	TMUB1	1.4698	0.023777852
A_23_P431543	NM_182612	PDDC1	1.4704	0.03983858
A_23_P100141	NM_023076	UNKL	1.4707	0.008175681
A_24_P2584	BC065040	C1orf63	1.4717	0.025674503
A_24_P58647	XR_018731	LOC441131	1.4718	0.002464993
A_23_P61987	NM_025268	TMEM121	1.4727	0.001690954
A_23_P135778	NM_018461	PPP2R2D	1.4729	0.041723404
A_24_P250922	NM_000963	PTGS2	1.4731	0.00342908
A_24_P12539	NM_015483	KBTBD2	1.4736	0.024991822
A_23_P55564	BC006340	ZCCHC2	1.4739	0.034709988
A_32_P41065	NM_001017395	TMCC1	1.4743	0.007208469
A_23_P14716	NM_031284	ADPGK	1.4745	0.042004497
A_24_P404245	NM_002861	PCYT2	1.4747	0.033213129
A_23_P218637	NM_005054	RGPD5	1.4749	0.024077635
A_23_P11543	NM_000147	FUCA1	1.4755	0.000941246
A_23_P52589	NM_003475	RASSF7	1.4758	0.049747488
A_23_P6447	NM_006860	RABL4	1.4765	0.046818287
A_24_P255954	XR_019330	KRT18P33	1.4767	0.026480861
A_23_P75369	NM_006019	TCIRG1	1.4769	0.009053404
A_23_P215406	NM_198829	RAC1	1.4775	0.010430086
A_23_P54900	NM_016936	UBN1	1.4791	0.002214617
A_23_P391164	NM_032434	ZNF512	1.4793	0.044484394
A_24_P132787	NM_021252	RAB18	1.4796	0.024490751
A_23_P376661	NM_005600	NIT1	1.4798	0.033030122

A_23_P40952	NM_002880	RAF1	1.4804	0.008915304
A_24_P612656	XR_018574	XR_018574	1.4804	0.010520117
A_23_P202199	NM_014720	SLK	1.4806	0.027153425
A_24_P465772	BC107865	LOC204010	1.482	0.005827629
A_23_P143559	NM_007098	CLTCL1	1.4821	0.036330445
A_23_P380181	NM_006769	LMO4	1.4842	0.008045633
A_24_P350060	XR_018193	KRT18P42	1.4847	0.016663793
A_23_P9591	NM_006816	LMAN2	1.485	0.018540463
A_24_P50437	BC065737	BC065737	1.4868	0.018473491
A_23_P129246	NM_025201	PLEKHO2	1.487	0.007286003
A_24_P286054	NM_001105251	ZFYVE16	1.4877	0.008587419
A_32_P124461	AK129743	AK129743	1.4881	0.037037777
A_23_P133227	NM_002109	HARS	1.4884	0.048455609
A_23_P87917	NM_012284	KCNH3	1.4905	0.037196829
A_23_P164797	NM_016202	ZNF580	1.4909	0.01921845
A_32_P22078	NM_001013	RPS9	1.4917	0.028374043
A_23_P167464	AK022140	FLJ12078	1.4927	0.034003522
A_23_P48897	AF011794	CCPG1	1.4928	0.015442478
A_23_P306500	NM_033360	KRAS	1.4945	0.019475867
A_24_P134526	NM_000714	TSPO	1.4957	0.007963878
A_24_P322369	NM_004869	VPS4B	1.4961	0.011676985
A_24_P250922	NM_000963	PTGS2	1.4973	0.002883912
A_23_P93348	NM_002341	LTB	1.498	0.00355036
A_23_P145068	NM_012123	MTO1	1.4982	0.029796158
A_23_P45517	NM_013239	PPP2R3B	1.4984	0.004993513
A_23_P105747	NM_018171	APPL2	1.4985	0.049795216
A_23_P208866	NM_004877	GMFG	1.4987	0.003986124
A_23_P133506	NM_024872	DOK3	1.4988	0.015546663
A_24_P250922	NM_000963	PTGS2	1.4997	0.002916895
A_24_P23979	NM_016379	VCX3A	1.5012	0.002941747
A_23_P139687	NM_152321	ERP27	1.5013	0.037398249
A_23_P251342	NM_002093	GSK3B	1.5016	0.039461212
A_23_P30870	ENST00000383267	ENST00000383267	1.5025	0.016518883
A_23_P48897	AF011794	CCPG1	1.5039	0.014523932
A_24_P19337	NM_015338	ASXL1	1.506	0.025313879
A_24_P207727	NM_001003891	MED15	1.5065	0.006068636
A_23_P214139	NM_002912	REV3L	1.5069	0.046809712
A_23_P250379	NM_015274	MAN2B2	1.5069	0.029921193
A_23_P163428	NM_021823	PPCDC	1.5073	0.008047626
A_23_P366216	NM_003524	HIST1H2BH	1.508	0.015340347
A_24_P266880	NM_021009	UBC	1.5087	0.042637244

A_23_P21644	NM_016245	HSD17B11	1.5087	0.005490619
A_23_P145865	NM_006869	CENTA1	1.5101	0.017087037
A_24_P392231	AW302767	AW302767	1.5137	0.035661702
A_24_P191971	AK027248	LOC56757	1.5139	0.045423909
A_23_P120002	NM_004510	SP110	1.5146	0.004074607
A_23_P202602	NM_007190	SEC23IP	1.5146	0.025036503
A_23_P133095	NM_014247	RAPGEF2	1.5148	0.014478037
A_24_P281374	XR_018462	XR_018462	1.5153	0.036708734
A_24_P211565	NM_031910	C1QTNF6	1.5156	0.018878072
A_24_P332837	BC039449	MSL-1	1.5161	0.005917555
A_24_P168232	NM_030576	LIMD2	1.5163	0.024154285
A_24_P242299	NM_005455	ZRANB2	1.5166	0.011142748
A_23_P105368	AK001057	MGC16384	1.5172	0.004076665
A_23_P215406	NM_198829	RAC1	1.5188	0.008087221
A_23_P256158	NM_000683	ADRA2C	1.5204	0.038211453
A_23_P30776	NM_003523	HIST1H2BE	1.5205	0.034320193
A_23_P215406	NM_198829	RAC1	1.5206	0.009476368
A_24_P322741	NM_000628	IL10RB	1.5209	0.00642504
A_23_P306507	NM_033360	KRAS	1.5213	0.015844145
A_24_P414371	NM_000944	PPP3CA	1.5217	0.009910111
A_23_P258124	NM_012279	ZNF346	1.5231	0.042365757
A_24_P3140	NM_014497	ZNF638	1.5235	0.043515787
A_23_P135611	NM_018114	DALRD3	1.5248	0.017486635
A_24_P266880	NM_021009	UBC	1.526	0.042599114
A_32_P91902	A_32_P91902	A_32_P91902	1.526	0.014147323
A_23_P61057	NM_004513	IL16	1.5262	0.012368632
A_32_P128097	A_32_P128097	A_32_P128097	1.5264	0.025058659
A_23_P92899	NM_031908	C1QTNF2	1.5278	0.031048212
A_24_P93111	A_24_P93111	A_24_P93111	1.5296	0.027772594
A_23_P48897	AF011794	CCPG1	1.5299	0.011946536
A_23_P501460	NM_033489	CDC2L1	1.5301	0.008338956
A_23_P215787	NM_012257	HBP1	1.5304	0.011150735
A_24_P87498	NM_177441	TMUB2	1.5309	0.028434016
A_23_P86283	NM_006762	LAPTM5	1.531	0.004521776
A_32_P36192	NM_004640	BAT1	1.5312	0.026186875
A_23_P329727	NM_015133	MAPK8IP3	1.5317	0.031665598
A_23_P204342	NM_213594	RFX4	1.5318	0.043750686
A_23_P92410	NM_004346	CASP3	1.5318	0.025322199
A_23_P155123	NM_000106	CYP2D6	1.5321	0.024657481
A_23_P123916	NM_138361	LRSAM1	1.5325	0.049342718
A_23_P205997	NM_031301	APH1B	1.5328	0.0086324

A_23_P113245	D14041	RBPI	1.5332	0.005605777
A_23_P169189	NM_003640	IKBKAP	1.534	0.038055469
A_23_P397635	NM_007131	ZNF75	1.5343	0.023564473
A_23_P82402	NM_138426	GLCCI1	1.5349	0.041407367
A_23_P53891	NM_001730	KLF5	1.5358	0.012165928
A_23_P215406	NM_198829	RAC1	1.5359	0.009635592
A_32_P163125	NM_147156	SGMS1	1.536	0.029046404
A_32_P35734	NR_001443	LOC339240	1.5372	0.025329727
A_23_P138376	NM_021252	RAB18	1.5375	0.02226834
A_23_P26511	NM_024307	GDPD3	1.5389	0.003229591
A_23_P202067	NM_012311	KIN	1.5392	0.039267135
A_23_P166431	NM_015372	C22orf24	1.541	0.031613452
A_23_P48897	AF011794	CCPG1	1.5412	0.01279472
A_23_P11286	NM_019597	HNRNP2	1.5421	0.027108021
A_23_P164341	NM_014232	VAMP2	1.5428	0.041734704
A_23_P122174	NM_022550	XRCC4	1.543	0.019741313
A_23_P306105	NM_020474	GALNT1	1.5433	0.032370125
A_23_P77073	NM_032802	SPPL2A	1.5437	0.013442365
A_23_P37399	NM_014216	ITPK1	1.5457	0.003991335
A_24_P174563	NM_025196	GRPEL1	1.5458	0.049776549
A_23_P143356	AY007156	AY007156	1.5461	0.006822196
A_23_P41145	NM_138805	FAM3D	1.5478	0.035095273
A_24_P41021	NM_203301	FBXO33	1.548	0.007846376
A_24_P144383	A_24_P144383	A_24_P144383	1.5489	0.024674739
A_23_P131227	NM_017735	TTC27	1.549	0.018875873
A_24_P142473	NM_015343	DULLARD	1.5494	0.040152872
A_32_P150632	ENST00000372234	ANXA11	1.5498	0.031037089
A_23_P108835	NM_016061	YPEL5	1.5504	0.04667877
A_24_P71244	NM_005026	PIK3CD	1.5505	0.002224515
A_23_P120048	NM_013450	BAZ2B	1.551	0.002777009
A_32_P161934	THC2657931	THC2657931	1.5536	0.029921722
A_23_P104323	NM_002412	MGMT	1.5539	0.031648942
A_24_P119331	AK054562	AK054562	1.5542	0.029162422
A_23_P66017	NM_145239	PRRT2	1.5559	0.020376226
A_23_P251342	NM_002093	GSK3B	1.5562	0.042192786
A_23_P318604	BC004544	CYHR1	1.5565	0.01371172
A_24_P362317	NM_001111	ADAR	1.5565	0.006210199
A_23_P92410	NM_004346	CASP3	1.5566	0.020850327
A_23_P127824	NM_001042780	TNNT3	1.5573	0.02394841
A_24_P8768	NM_017971	MRPL20	1.5581	0.039463184
A_23_P40952	NM_002880	RAF1	1.5583	0.006531766

A_23_P431310	NM_170604	RASGRP4	1.5584	0.029690199
A_24_P322756	NM_003307	TRPM2	1.56	0.01565436
A_23_P37441	NM_004048	B2M	1.5603	0.008939838
A_23_P156748	NM_015245	ANKS1A	1.5609	0.023783747
A_23_P93180	NM_003526	HIST1H2BC	1.5614	0.015737784
A_24_P943106	NM_001080415	SR140	1.5617	0.026220979
A_24_P396702	NM_014880	CD302	1.5626	0.004062869
A_23_P37441	NM_004048	B2M	1.5645	0.012775175
A_23_P118888	NM_000430	PAFAH1B1	1.5646	0.014652392
A_23_P131149	NM_002552	ORC4L	1.5651	0.046613373
A_24_P481113	AI971459	AI971459	1.5652	0.031138188
A_24_P244952	NM_015092	SMG1	1.5656	0.033950545
A_23_P169197	NM_032303	HSDL2	1.5691	0.001870369
A_23_P143047	NM_080653	ATP6V1E2	1.5695	0.039177776
A_23_P126398	NM_012432	SETDB1	1.5707	0.017286575
A_23_P150818	AK093078	MBD6	1.5716	0.000822298
A_24_P940725	AL080186	SFRS18	1.5717	0.01242882
A_23_P147826	NM_021183	RAP2C	1.5724	0.031377489
A_32_P107441	XM_001726460	LOC100130600	1.5733	0.001738538
A_23_P20225	NM_015713	RRM2B	1.574	0.004915772
A_24_P139816	NM_031901	MRPS21	1.5749	0.031938696
A_24_P117323	NM_032775	KLHL22	1.5755	0.025705938
A_24_P910169	A_24_P910169	A_24_P910169	1.5764	0.006727314
A_23_P63178	NM_005644	TAF12	1.5765	0.047058727
A_24_P497226	NM_003161	RPS6KB1	1.5772	0.043072556
A_24_P757154	THC2661968	THC2661968	1.5787	0.003383565
A_23_P213141	NM_015271	TRIM2	1.5793	0.01386237
A_23_P201619	ENST00000367385	NEK7	1.5796	0.012891903
A_23_P252145	NM_020156	C1GALT1	1.5799	0.020916351
A_23_P215406	NM_198829	RAC1	1.5812	0.008292111
A_23_P255663	NM_024641	MANEA	1.5813	0.020149147
A_32_P221590	THC2643233	THC2643233	1.5819	0.016999837
A_23_P67312	NM_003437	ZNF136	1.5819	0.043599833
A_23_P157240	J05272	IMPDH1	1.5822	0.011731022
A_23_P365119	ENST00000324808	ENST00000324808	1.5835	0.024345104
A_23_P349083	NM_138782	FCHO2	1.5846	0.00108159
A_23_P138137	NM_145243	OMA1	1.5848	0.018511665
A_23_P96853	NM_007051	FAF1	1.5849	0.048378464
A_23_P8297	NM_198081	SCML4	1.5856	0.015658533
A_23_P309281	NM_005543	INSL3	1.5859	0.024287466
A_24_P400473	NM_014655	SLC25A44	1.5866	0.007332643

A_24_P3783	NM_003521	HIST1H2BM	1.5868	0.002719309
A_23_P63289	NM_014188	SSU72	1.5871	0.022276355
A_24_P409681	A_24_P409681	A_24_P409681	1.5872	0.006480115
A_24_P713668	NM_014670	BZW1	1.5886	0.022794936
A_23_P418046	AL137400	AL137400	1.5895	0.021442899
A_23_P37475	NM_030800	C15orf44	1.591	0.045518557
A_23_P37311	NM_014982	PCNX	1.591	0.002108574
A_23_P215406	NM_198829	RAC1	1.5926	0.007840801
A_23_P86182	NM_031901	MRPS21	1.5928	0.035888902
A_23_P37441	NM_004048	B2M	1.5928	0.00712169
A_24_P272310	NM_205853	MUSTN1	1.5932	0.038217919
A_32_P134090	THC2719547	THC2719547	1.5938	0.023169491
A_32_P99097	NM_002270	TNPO1	1.5949	0.024092537
A_32_P3127	AF038199	AF038199	1.5957	0.037596393
A_23_P30799	NM_021018	HIST1H3F	1.5961	0.006351076
A_23_P332316	NM_152285	ARRDC1	1.5964	0.042630278
A_23_P35591	NM_016046	EXOSC1	1.5971	0.013496663
A_23_P109774	NM_014415	ZBTB11	1.5993	0.015152956
A_23_P124837	NM_002332	LRP1	1.5997	0.029558421
A_23_P166698	NM_016305	SS18L2	1.6007	0.039076833
A_23_P161488	NM_001033925	TIAL1	1.6007	0.035080425
A_23_P130149	NM_001976	ENO3	1.6019	0.02649298
A_23_P54770	NM_018690	APOB48R	1.6024	0.006624785
A_23_P202427	NM_025130	HKDC1	1.6025	0.006623116
A_23_P39237	NM_003407	ZFP36	1.6029	0.010997148
A_23_P215675	NM_018224	C7orf44	1.6031	0.03210394
A_24_P916853	A_24_P916853	A_24_P916853	1.6033	0.024236422
A_23_P23960	NM_001001342	BLOC1S2	1.6036	0.029886805
A_23_P73589	NM_002444	MSN	1.6037	0.023458374
A_23_P53530	NM_001033050	MTERFD3	1.6041	0.0167841
A_23_P24375	NM_017670	OTUB1	1.6046	0.009394326
A_23_P93898	NM_020369	FSCN3	1.6046	0.047532324
A_23_P146990	NM_007013	WWP1	1.6056	0.047261202
A_24_P323715	XM_001717499	LOC642076	1.6064	0.012100724
A_24_P76740	NM_032449	CC2D1B	1.6074	0.015758525
A_23_P23234	BC000988	C1orf217	1.6086	0.020608677
A_23_P393425	NM_173797	PAPD4	1.6087	0.008697172
A_24_P913760	NM_012141	INTS6	1.609	0.021002494
A_23_P140362	NM_018228	C14orf115	1.6095	0.039093429
A_23_P92410	NM_004346	CASP3	1.6097	0.018722181
A_23_P109895	NM_001040454	SLC26A6	1.6102	0.011899226

A_23_P77401	NM_018340	FLJ11151	1.6105	0.005634889
A_24_P796652	U69195	U69195	1.6119	0.006605083
A_32_P95739	NM_000365	TPI1	1.6119	0.032243725
A_24_P98975	NM_033121	ANKRD13A	1.6123	0.019720844
A_23_P80409	NM_020839	WDR48	1.6126	0.048336061
A_24_P361167	NM_020920	CHD8	1.6131	0.012194326
A_32_P75792	NM_001014980	FAM132A	1.6134	0.048862935
A_23_P24260	NM_001776	ENTPD1	1.6145	0.003624646
A_23_P349203	AK027172	RNH1	1.6154	0.023673194
A_23_P168951	NM_014943	ZHX2	1.6155	0.026516029
A_23_P111041	NM_003525	HIST1H2BI	1.6155	0.003513069
A_24_P66522	NM_014984	AZI1	1.6163	0.010577704
A_23_P120710	NM_003316	TTC3	1.6164	0.032430523
A_24_P25470	BC027922	BC027922	1.6171	0.036607586
A_23_P213908	NM_032177	RNUXA	1.6175	0.047221724
A_23_P92410	NM_004346	CASP3	1.6184	0.019186196
A_32_P138004	NM_207009	FAM45A	1.6192	0.012268192
A_24_P148836	NM_173546	KLHDC8B	1.6195	0.007131927
A_23_P396353	NM_020921	NIN	1.6198	0.009949222
A_23_P16143	NM_002096	GTF2F1	1.6199	0.034384971
A_23_P92410	NM_004346	CASP3	1.62	0.017751647
A_24_P409891	XR_018524	XR_018524	1.6209	0.015313844
A_24_P818005	NM_177441	TMUB2	1.621	0.003096871
A_23_P416705	NM_147129	ALS2CL	1.6211	0.031154043
A_23_P215406	NM_198829	RAC1	1.6215	0.00675055
A_32_P108420	A_32_P108420	A_32_P108420	1.6219	0.04376406
A_23_P251342	NM_002093	GSK3B	1.623	0.032514811
A_24_P937582	AK027610	AK027610	1.6254	0.01360597
A_23_P112825	NM_016309	LCMT1	1.626	0.027041053
A_24_P143574	NM_006065	SIRPB1	1.6266	0.007055899
A_23_P429689	NM_148894	FAM44A	1.627	0.004598426
A_23_P78444	NM_018255	ELP2	1.6271	0.021707298
A_32_P92295	NM_012423	RPL13A	1.6281	0.015417503
A_24_P186174	NM_014678	SAPS2	1.6284	0.03850274
A_24_P266880	NM_021009	UBC	1.6289	0.027823601
A_32_P104075	NM_002577	PAK2	1.6294	0.004790919
A_23_P430800	NM_001114938	CCDC17	1.6297	0.004389476
A_24_P345131	ENST00000330947	LRRC8B	1.6301	0.030465515
A_23_P48070	NM_016162	ING4	1.6307	0.038455503
A_23_P94800	NM_002961	S100A4	1.6307	0.006938147
A_32_P115451	THC2651395	THC2651395	1.6312	0.026865211

A_23_P37441	NM_004048	B2M	1.6315	0.006682618
A_23_P52657	NM_005609	PYGM	1.6315	0.049139851
A_23_P70888	NM_033506	FBXO24	1.6316	0.030492058
A_23_P48897	AF011794	CCPG1	1.633	0.009745348
A_23_P48897	AF011794	CCPG1	1.6333	0.008900072
A_23_P133245	NM_006083	IK	1.6335	0.032296919
A_23_P215227	NM_005494	DNAJB6	1.6339	0.027914442
A_32_P30813	NM_006601	PTGES3	1.634	0.028625789
A_23_P110445	NM_006051	APBB3	1.634	0.003806877
A_32_P87809	BC041636	BC041636	1.6351	0.024498312
A_23_P32320	NM_024083	ASPSR1	1.6354	0.041972395
A_23_P213486	THC2504035	THC2504035	1.6355	0.006925462
A_32_P527371	NM_001039948	SGSM1	1.6358	0.036165075
A_23_P61222	AJ002425	HSAJ2425	1.6358	0.006940436
A_23_P309599	AK026760	PABPC1L	1.637	0.012582069
A_32_P36313	NM_145206	VTI1A	1.6375	0.036400761
A_23_P346206	NM_001015885	RAE1	1.638	0.042677687
A_24_P251221	NM_006243	PPP2R5A	1.6389	0.011640527
A_24_P27977	NM_003307	TRPM2	1.6402	0.003623992
A_23_P37441	NM_004048	B2M	1.6411	0.006520631
A_24_P195327	XR_019253	XR_019253	1.6415	0.029054198
A_24_P290799	NM_024419	PGS1	1.6427	0.038640981
A_24_P213144	A_24_P213144	A_24_P213144	1.6431	0.019823213
A_23_P215109	NM_080385	CPA5	1.6437	0.049723729
A_23_P337753	NM_138402	LOC93349	1.6442	0.046824645
A_23_P37441	NM_004048	B2M	1.6446	0.007068492
A_23_P106362	NM_020980	AQP9	1.6481	0.000321533
A_24_P382765	NM_005008	NHP2L1	1.6484	0.02659071
A_32_P144421	NM_053042	ZNF518B	1.6488	0.033216773
A_23_P71433	NM_001001481	UBE2W	1.6493	0.008629069
A_24_P913115	NM_000314	PTEN	1.6508	0.003094429
A_23_P311632	NM_138329	NLRP6	1.6512	0.032118582
A_23_P83277	NM_004512	IL11RA	1.6519	0.00420962
A_32_P100464	THC2691500	THC2691500	1.6522	0.042963366
A_23_P251548	NM_144582	TEX261	1.6525	0.049842952
A_23_P29036	NM_005534	IFNGR2	1.6528	0.009390021
A_24_P390403	NM_015138	RTF1	1.653	0.029597706
A_23_P212447	NM_018262	IFT122	1.655	0.031786323
A_23_P311616	NM_015167	JMJD6	1.6551	0.015017025
A_23_P202170	NM_012215	MGEA5	1.6553	0.007439858
A_32_P63162	THC2557053	THC2557053	1.6555	0.005096555

A_24_P919510	AF107493	RBM5	1.6558	0.039221417
A_32_P153833	AK098597	AK098597	1.6559	0.035846878
A_23_P70571	NM_006979	SLC39A7	1.6562	0.015775173
A_23_P23421	NM_198236	ARHGEF11	1.6566	0.033266618
A_23_P207927	NM_017941	C17orf80	1.657	0.017269248
A_23_P40821	NM_032383	HPS3	1.659	0.039327278
A_23_P155907	NM_015143	METAP1	1.6595	0.017854808
A_32_P63729	BX117044	BX117044	1.66	0.047823379
A_24_P171268	NM_182663	RASSF5	1.6604	0.016081382
A_23_P325075	NM_003800	RNGTT	1.6632	0.019198814
A_24_P339416	NM_014960	ARSG	1.6645	0.030402332
A_24_P945147	NM_004703	RABEP1	1.6648	0.018430149
A_23_P59069	NM_003527	HIST1H2BO	1.6674	0.011305786
A_32_P232851	THC2645586	THC2645586	1.6686	0.021545982
A_23_P353726	NM_153810	C10orf46	1.6686	0.024025704
A_23_P48897	AF011794	CCPG1	1.6716	0.00724153
A_24_P111054	BC035878	SLC2A5	1.6718	0.018783519
A_23_P96658	ENST00000382832	CYorf15B	1.672	0.033845992
A_24_P208081	NM_022819	PLA2G2F	1.6729	0.049928338
A_32_P113682	AK025056	AK025056	1.673	0.018239841
A_23_P92410	NM_004346	CASP3	1.6734	0.018363983
A_24_P13083	NM_130783	TSPAN18	1.6738	0.014096641
A_23_P256231	NM_032145	FBXO30	1.674	0.009108553
A_24_P556049	A_24_P556049	A_24_P556049	1.6745	0.045408262
A_23_P429670	NM_032440	LCOR	1.6746	0.029220564
A_32_P148407	A_32_P148407	A_32_P148407	1.6747	0.029408778
A_24_P165082	NM_013360	ZNF222	1.6755	0.027487537
A_32_P58937	NM_017643	MBTD1	1.6762	0.034151743
A_24_P348892	NM_052849	CCDC32	1.6765	0.047425226
A_24_P201702	NM_005127	CLEC2B	1.6766	0.002590308
A_24_P225477	NM_018281	ECHDC2	1.6767	0.006696062
A_23_P215406	NM_198829	RAC1	1.6771	0.006389039
A_24_P277747	NM_006586	CNPY3	1.6785	0.011986213
A_23_P170978	NM_017865	ZNF692	1.6787	0.01807041
A_23_P356122	NM_001031623	ZNF451	1.6796	0.032747655
A_23_P99253	NM_004664	LIN7A	1.6803	0.001048841
A_32_P7502	NM_198196	CD96	1.6808	0.0175441
A_23_P217899	NM_001039577	CCNL2	1.681	0.013359233
A_23_P146798	NM_012248	SEPHS2	1.6816	0.025560346
A_32_P141948	THC2564562	THC2564562	1.6816	0.045295226
A_23_P142974	NM_001007231	ARHGAP25	1.6816	0.004818907

A_23_P38115	NM_017748	CCDC49	1.682	0.023466315
A_23_P168324	NM_014809	KIAA0319	1.6821	0.009154452
A_24_P301557	NM_014646	LPIN2	1.6822	0.01184063
A_23_P89460	NM_012138	AATF	1.6825	0.01424282
A_24_P255303	XR_018489	LOC391160	1.683	0.00408922
A_24_P406525	NM_018371	CSGALNACT1	1.683	0.005977639
A_23_P163347	NM_016166	PIAS1	1.6831	0.006898461
A_24_P301954	AK001057	MGC16384	1.6835	0.003613947
A_23_P20648	NM_003172	SURF1	1.6844	0.010475234
A_23_P118025	NM_022355	DPEP2	1.6844	0.001970743
A_32_P86494	A_32_P86494	A_32_P86494	1.6848	0.00850066
A_24_P934861	A_24_P934861	A_24_P934861	1.6849	0.019436579
A_24_P15083	A_24_P15083	A_24_P15083	1.685	0.00664804
A_23_P48897	AF011794	CCPG1	1.686	0.008299614
A_23_P207400	NM_007295	BRCA1	1.6863	0.00788412
A_23_P104054	NM_016227	C1orf9	1.6866	0.016225366
A_23_P170399	NM_021942	C4orf41	1.6873	0.035934373
A_24_P419120	NM_015250	BICD2	1.6876	0.024214917
A_24_P544882	NM_003144	SSR1	1.6882	0.02148697
A_23_P159071	NM_024515	WDR25	1.6884	0.02702457
A_23_P59349	NM_016217	HECA	1.6888	0.019096465
A_23_P37441	NM_004048	B2M	1.6891	0.008693986
A_23_P167789	NM_016605	FAM53C	1.6893	0.002039462
A_23_P65129	NM_032840	SPRYD3	1.6909	0.008594213
A_32_P167122	NM_018254	RCOR3	1.6915	0.01262458
A_24_P281443	A_24_P281443	A_24_P281443	1.6924	0.030732051
A_32_P63013	AF086052	AF086052	1.6938	0.00036073
A_23_P251342	NM_002093	GSK3B	1.6946	0.024089443
A_23_P66900	NM_176096	CDK5RAP3	1.6951	0.008919807
A_23_P201047	NM_007112	THBS3	1.6959	0.015890676
A_23_P8013	NM_003519	HIST1H2BL	1.6973	0.015220765
A_32_P58999	XR_015267	LOC728003	1.6982	0.008743495
A_23_P88234	NM_016049	C14orf122	1.6989	0.049945958
A_23_P324873	NR_000011	SNORA70	1.6992	0.00950336
A_23_P2032	A_23_P2032	A_23_P2032	1.6994	0.024808576
A_23_P65823	AF180519	GABARAPL3	1.7003	0.007447596
A_32_P200600	THC2591088	THC2591088	1.7008	0.022382122
A_23_P219045	NM_003530	HIST1H3D	1.7017	0.001685553
A_23_P99632	NM_017999	RNF31	1.7036	0.007265721
A_23_P125829	NM_000291	PGK1	1.704	0.046177025
A_23_P77669	NM_017530	ZNF821	1.7042	0.024066133

A_23_P120414	NM_003404	YWHAB	1.7054	0.010606671
A_24_P727868	XR_015267	LOC728003	1.7068	0.003123728
A_24_P17870	NM_006674	HCP5	1.7078	0.004792213
A_23_P5435	AY358993	KRTCAP3	1.708	0.026399845
A_23_P28797	THC2525955	THC2525955	1.7095	0.013348389
A_23_P166159	NM_030815	PDRG1	1.7096	0.024923443
A_32_P169574	NM_017602	OTUD5	1.7098	0.030814104
A_24_P99838	NM_013361	ZNF223	1.7098	0.045995621
A_23_P332992	NM_175055	HIST3H2BB	1.7106	0.007994474
A_32_P141257	ENST00000382909	ENST00000382909	1.7109	0.045594418
A_23_P91350	NM_019593	RP5-1022P6.2	1.7114	0.008552396
A_24_P942694	NM_018017	C10orf118	1.7121	0.020243392
A_32_P66148	AI359141	AI359141	1.714	0.014350454
A_24_P124325	CR749800	IKZF5	1.7153	0.007637766
A_23_P79836	NM_006811	SERINC3	1.7161	0.026136893
A_32_P130217	A_32_P130217	A_32_P130217	1.7162	0.049506801
A_24_P465799	AF063695	AF063695	1.7167	0.04717475
A_23_P368278	NM_014824	FCHSD2	1.7177	0.040701566
A_23_P259207	NM_018271	THNSL2	1.7201	0.02053448
A_24_P584463	XR_018311	XR_018311	1.7217	0.008703132
A_23_P5392	NM_004881	TP53I3	1.7241	0.004832646
A_23_P250735	NM_175709	CBX7	1.7249	0.009165172
A_23_P105184	NM_001040118	CENTD2	1.7256	0.001760445
A_23_P215406	NM_198829	RAC1	1.7271	0.004776521
A_23_P26777	NM_024844	NUP85	1.7279	0.031172084
A_23_P206759	NM_014761	KIAA0174	1.7279	0.022013092
A_24_P852082	AK125829	LOC100130175	1.7286	0.018885741
A_23_P88163	NM_018036	ATG2B	1.7288	0.02799864
A_24_P600603	A_24_P600603	A_24_P600603	1.729	0.029911455
A_23_P103885	NM_017900	AURKAIP1	1.7299	0.00778736
A_23_P69242	NM_182760	SUMF1	1.7306	0.007460093
A_23_P215406	NM_198829	RAC1	1.7314	0.004385328
A_24_P327011	NM_021823	PPCDC	1.7317	0.043903449
A_23_P313734	NM_033395	KIAA1731	1.732	0.045391054
A_23_P59988	NM_054028	AMACIL2	1.7335	0.042487956
A_24_P295379	NM_020960	GPR107	1.7345	0.010990628
A_23_P132654	NM_017442	TLR9	1.7347	0.049273854
A_23_P71752	NM_006007	ZFAND5	1.7359	0.015390152
A_23_P323749	NM_025049	PIF1	1.7364	0.028035993
A_32_P114235	THC2505819	THC2505819	1.7382	0.030829725
A_23_P158007	NM_032799	ZDHHC12	1.7406	0.011424708

A_23_P23266	ENST00000367808	BLZF1	1.7412	0.039624141
A_24_P52801	NM_017670	OTUB1	1.7426	0.041912521
A_32_P223140	NM_145313	RASGEF1A	1.7443	0.016064965
A_24_P153399	NM_015705	SGSM3	1.7444	0.014476127
A_23_P332509	NM_015909	NAG	1.7455	0.017103092
A_32_P216734	NM_001004351	tcag7.1017	1.7458	0.045575345
A_23_P362637	NM_015255	UBR2	1.7479	0.010975352
A_24_P942469	AK129652	SPAG9	1.7488	0.003404313
A_24_P229756	XM_001726996	LOC644950	1.7495	0.003095762
A_23_P37441	NM_004048	B2M	1.7504	0.004910731
A_24_P336728	NM_014873	LPGAT1	1.751	0.012957481
A_23_P37441	NM_004048	B2M	1.7515	0.006420381
A_23_P139143	NM_004177	STX3	1.7525	0.00167876
A_24_P305678	NM_012399	PITPNB	1.7542	0.032081451
A_23_P46618	NM_025179	PLXNA2	1.7544	0.032391162
A_24_P13475	ENST00000382108	SPATA13	1.7545	0.005770464
A_32_P32835	NM_145274	TMEM99	1.7554	0.01020279
A_32_P130265	NM_014827	ZC3H11A	1.7558	0.017543863
A_24_P341504	NM_017619	RNPC3	1.7574	0.015414014
A_24_P141522	NM_016320	NUP98	1.7584	0.004923996
A_23_P376735	NM_153219	ZNF524	1.759	0.035852069
A_32_P192984	AK128396	AK128396	1.7597	0.047120558
A_24_P609323	AF098968	AF098968	1.7617	0.028302421
A_23_P48897	AF011794	CCPG1	1.762	0.005883486
A_23_P102000	NM_001008540	CXCR4	1.7631	0.004271932
A_23_P108376	NM_022065	THADA	1.7632	0.026370318
A_24_P357791	NP1247838	NP1247838	1.7643	0.038635934
A_23_P124044	NM_021008	DEAF1	1.7655	0.040498118
A_23_P61230	NM_004712	HGS	1.7662	0.011225268
A_23_P133585	NM_001799	CDK7	1.7681	0.034951348
A_24_P578641	A_24_P578641	A_24_P578641	1.7707	0.038459394
A_23_P28201	AF119861	AF119861	1.7723	0.036662969
A_23_P205855	AK000336	AK000336	1.7726	0.0153556923
A_23_P372771	NM_020447	C15orf17	1.7732	0.021769113
A_24_P186370	NM_002444	MSN	1.7735	0.014402541
A_23_P125829	NM_000291	PGK1	1.7757	0.031773802
A_23_P201079	NM_012231	PRDM2	1.7774	0.007111174
A_23_P169934	NM_178314	RILPL1	1.7784	0.007174125
A_23_P204427	NM_002710	PPP1CC	1.7787	0.043823168
A_23_P31376	NM_018334	LRRN3	1.7803	1.87E-07
A_23_P38959	NM_005428	VAV1	1.7807	0.001115949

A_32_P6452	A_32_P6452	A_32_P6452	1.7815	0.017886078
A_23_P254179	NM_015339	ADNP	1.7827	0.04391773
A_32_P220472	NM_019006	ZFAND6	1.7831	0.006996736
A_23_P337550	NM_017602	OTUD5	1.7836	0.020766474
A_24_P226278	NM_015288	PHF15	1.7869	0.008419241
A_32_P69399	BQ072652	BQ072652	1.787	0.028958064
A_24_P338757	NM_005800	USPL1	1.7884	0.015799735
A_23_P74993	AK096104	AK096104	1.7886	0.040801306
A_23_P104116	NM_005105	RBM8A	1.7905	0.041971449
A_24_P74329	NM_001076678	ZNF493	1.7914	0.047218743
A_23_P25835	NM_002028	FNTB	1.7918	0.003913382
A_24_P36285	NM_013398	ZNF224	1.7919	0.033718929
A_24_P598999	BF932142	BF932142	1.7929	0.017910391
A_23_P209678	NM_002664	PLEK	1.7936	0.020736297
A_23_P92292	NM_022457	RFWD2	1.7939	0.015051798
A_23_P58763	NM_015946	PELO	1.7939	0.006702515
A_32_P179351	BX095281	BX095281	1.7939	0.035818713
A_32_P87769	NM_203301	FBXO33	1.7957	0.005462067
A_23_P60387	NM_017617	NOTCH1	1.7959	0.001992863
A_23_P202565	NM_007373	SHOC2	1.797	0.007822925
A_32_P21646	AK093641	FAM120AOS	1.797	0.046499252
A_23_P218841	NM_018297	NGLY1	1.7983	0.046700144
A_24_P944049	NM_015147	CEP68	1.7993	0.016181228
A_23_P145247	NM_001023560	ZNF187	1.7999	0.045661318
A_23_P111843	NM_006349	ZNHIT1	1.8006	0.040404694
A_23_P37569	NM_006122	MAN2A2	1.8009	0.001926652
A_23_P136964	NM_000328	RPGR	1.8023	0.002351674
A_24_P850336	A_24_P850336	A_24_P850336	1.8032	0.017773138
A_23_P101237	NM_031446	C18orf21	1.8033	0.024975425
A_23_P126349	NM_020063	BARHL2	1.8034	0.00793703
A_23_P210619	NM_016407	C20orf43	1.8034	0.008284772
A_23_P253317	NM_013308	GPR171	1.8037	0.000510803
A_23_P216017	NM_004901	ENTPD4	1.8043	0.040637337
A_24_P266880	NM_021009	UBC	1.8059	0.01328374
A_24_P95198	NM_013318	KIAA0515	1.8063	0.017106957
A_23_P47034	NM_002729	HHEX	1.8079	0.006211649
A_23_P23705	BC040655	BC040655	1.8094	0.017687436
A_32_P129530	NM_018341	C6orf70	1.8097	0.018966609
A_24_P7510	A_24_P7510	A_24_P7510	1.8114	0.04389939
A_24_P266880	NM_021009	UBC	1.8122	0.010084838
A_32_P85500	NM_006674	HCP5	1.8136	0.009108234

A_24_P152398	AB045831	P53AIP1	1.8138	0.042399568
A_23_P68472	NM_003859	DPM1	1.814	0.017778389
A_23_P112798	NM_001312	CRIP2	1.8144	0.01102741
A_24_P49383	NM_024684	C11orf67	1.8146	0.047408156
A_23_P204847	NM_002298	LCP1	1.8146	0.004225215
A_23_P26629	NM_013258	PYCARD	1.8149	0.007710432
A_24_P177634	A_24_P177634	A_24_P177634	1.815	0.049474349
A_23_P366682	NM_033513	C19orf20	1.816	0.034492665
A_24_P916816	L79989	SP100	1.8165	0.007593691
A_32_P230828	NR_002578	GAS5	1.8165	0.001210563
A_23_P151018	NM_014319	LEMD3	1.8168	0.010869557
A_23_P102508	NM_021095	SLC5A6	1.8172	0.026627474
A_23_P350187	AB046766	TET2	1.8173	0.003670613
A_23_P96008	NM_006785	MALT1	1.8188	0.018613592
A_23_P125829	NM_000291	PGK1	1.8195	0.038281749
A_24_P28657	NM_015446	AHCTF1	1.8196	0.011445025
A_23_P376488	NM_000594	TNF	1.8196	0.01123304
A_23_P169278	NM_015239	AGTPBP1	1.8213	0.003671977
A_23_P109224	THC2655417	THC2655417	1.8217	0.008590945
A_24_P201879	NM_021645	UTP14C	1.8218	0.048415063
A_24_P88721	NM_013412	RABL2A	1.8228	0.004482721
A_23_P26954	NM_006373	VAT1	1.8236	0.018042883
A_24_P921232	BC017848	PEX14	1.8246	0.041544432
A_23_P207400	NM_007295	BRCA1	1.8264	0.006488921
A_23_P110846	NM_004779	CNOT8	1.8265	0.016449699
A_23_P211598	NM_002676	PMM1	1.8281	0.032519454
A_23_P15375	NM_024585	ARMC7	1.8292	0.009162602
A_23_P87603	NM_134323	TARBP2	1.8296	0.039735804
A_24_P134319	ENST00000349014	ADNP	1.83	0.017128372
A_23_P112950	NM_018179	ATF7IP	1.8306	0.023751066
(+)E1A_r60_a104	E1A_r60_a104	E1A_r60_a104	1.8307	0.033838653
A_23_P133438	NM_019018	FAM105A	1.8313	0.028416102
A_23_P159172	NM_001080395	AATK	1.8319	0.000517945
A_23_P132669	NM_001010983	GLT8D1	1.8325	0.016225486
A_23_P156697	NM_021160	BAT5	1.8336	0.016836848
A_23_P12053	NM_015001	SPEN	1.834	0.006401925
A_32_P795813	BC037918	BC037918	1.8342	0.038290052
A_32_P45009	NM_005896	IDH1	1.8352	0.023203631
A_23_P164141	NM_176863	PSME3	1.8357	0.029682825
A_23_P62270	NM_004187	JARID1C	1.8369	0.034361674
A_24_P273157	NM_052843	OBSCN	1.8378	0.037224272

A_23_P422178	NM_003588	CUL4B	1.8379	0.02733174
A_23_P209356	NM_014946	SPAST	1.8381	0.038565549
A_24_P197284	NM_173821	FLJ33590	1.8389	0.040082918
A_23_P111712	NM_006980	MTERF	1.8405	0.01648927
A_23_P43504	NM_001606	ABCA2	1.8407	0.017759343
A_23_P15073	NM_001005920	LOC339123	1.8411	0.015420694
A_23_P424080	NM_032312	YIPF4	1.8412	0.012627335
A_32_P12454	BC041686	BC041686	1.8412	0.031496553
A_24_P124567	NM_014182	ORMDL2	1.8414	0.028878222
A_23_P385206	NM_177424	STX12	1.8417	0.03295138
A_23_P48897	AF011794	CCPG1	1.8417	0.004589907
A_23_P218517	NM_013360	ZNF222	1.8418	0.013499357
A_23_P30995	NM_016230	CYB5R4	1.8424	0.005391978
A_24_P681301	NM_021009	UBC	1.8426	0.004971775
A_23_P24948	NM_005472	KCNE3	1.8426	0.000727408
A_23_P102000	NM_001008540	CXCR4	1.8429	0.003266152
A_23_P102000	NM_001008540	CXCR4	1.8431	0.003312136
A_24_P75920	NM_001080503	LOC126075	1.8435	0.041607266
A_24_P339157	NM_014761	KIAA0174	1.8441	0.023630918
A_23_P8185	NM_006519	DYNLT1	1.8445	0.00567342
A_23_P201816	NM_014810	CEP350	1.8483	0.023983391
A_23_P24104	NM_002658	PLAU	1.8487	0.005647777
A_24_P244410	NM_014042	C11orf51	1.8492	0.017094636
A_23_P84084	NM_001495	GFRA2	1.85	0.036708399
A_32_P512061	NR_002188	GBAP	1.8503	0.00183684
A_23_P102000	NM_001008540	CXCR4	1.8506	0.00374228
A_23_P257726	NM_016481	C9orf156	1.8514	0.012468463
A_24_P57170	NM_001039887	C19orf55	1.8515	0.010655552
A_23_P5761	NM_006164	NFE2L2	1.8522	0.01488471
A_24_P196351	AB208934	PLXNC1	1.8528	0.000198597
A_23_P102000	NM_001008540	CXCR4	1.8533	0.002736102
A_23_P250283	NM_004161	RAB1A	1.8559	0.025341586
A_23_P36183	NM_005316	GTF2H1	1.8563	0.011639758
A_24_P253713	AK022252	AK022252	1.8587	0.025447286
A_32_P116881	NM_053275	RPLP0	1.859	0.003352786
A_23_P84836	NM_006310	NPEPPS	1.86	0.005570462
A_23_P61551	NM_006110	CD2BP2	1.8619	0.023956464
A_24_P134683	NM_005745	BCAP31	1.8626	0.009022668
A_32_P11723	ENST00000249480	ENST00000249480	1.8631	0.002971396
A_23_P353704	NM_019593	RP5-1022P6.2	1.864	0.003674501
A_23_P139509	NM_016570	ERGIC2	1.8668	0.012653756

A_24_P91035	NM_005324	H3F3B	1.867	0.002586124
A_23_P333498	NM_030636	EEPD1	1.8685	0.003732959
A_24_P122862	NM_017657	AFTPH	1.8692	0.017412351
A_23_P20777	NM_033117	RBM18	1.8696	0.022948249
A_23_P251342	NM_002093	GSK3B	1.8704	0.014669993
A_23_P159927	NM_001666	ARHGAP4	1.8713	0.021579082
A_23_P29684	NM_015873	VILL	1.8727	0.01258059
A_24_P49775	NM_001076678	ZNF493	1.8732	0.04308382
A_23_P128773	NM_203356	CTAGE5	1.8736	0.022349764
A_23_P132294	NM_001001560	GGA1	1.8754	0.010752566
A_23_P207736	AK023077	AK023077	1.8765	0.024017172
A_23_P69188	NM_206831	DPH3	1.8767	0.005093234
A_23_P139509	NM_016570	ERGIC2	1.8769	0.015145215
A_23_P55242	NM_032595	PPP1R9B	1.8773	0.046194192
A_23_P98483	ENST00000250524	ENST00000250524	1.8774	0.003751657
A_24_P904484	AK123849	LOC283174	1.8775	9.67E-05
A_23_P18276	NM_005778	RBM5	1.8785	0.010907078
A_23_P125829	NM_000291	PGK1	1.8793	0.031969959
A_24_P736617	A_24_P736617	A_24_P736617	1.8798	0.003413684
A_24_P373286	NM_014711	CP110	1.88	0.01860048
A_32_P86400	NM_198273	LYSMD3	1.881	0.006708375
A_32_P147324	BC038355	BC038355	1.8812	0.035519149
A_23_P102000	NM_001008540	CXCR4	1.882	0.002639299
A_23_P345081	NM_001083956	ZNF655	1.882	0.008319508
A_24_P140827	NM_005389	PCMT1	1.8823	0.033910931
A_23_P102000	NM_001008540	CXCR4	1.8835	0.003340305
A_23_P98953	NM_145648	SLC15A4	1.884	0.008550275
A_23_P427217	NM_032776	JMJD1C	1.8846	0.002606957
A_23_P210048	NM_006037	HDAC4	1.8851	0.007436007
A_23_P22263	NM_079837	BANP	1.8866	0.006246685
A_23_P160729	NM_006594	AP4B1	1.8867	0.022797921
A_24_P740705	NM_194326	RPS19BP1	1.887	0.004918064
A_23_P139558	NM_022771	TBC1D15	1.8884	0.007996397
A_23_P95823	NM_145080	NSMCE1	1.8896	0.016387554
A_23_P125829	NM_000291	PGK1	1.8898	0.028538735
A_23_P150876	NM_024667	VPS37B	1.8899	0.003055359
A_23_P70371	NM_015153	PHF3	1.8909	0.024031809
A_23_P1387	NM_032900	ARHGAP19	1.8922	0.005907538
A_24_P608330	AK095242	CTNNB1	1.8935	0.023812266
A_24_P205230	NM_001004333	RNASEK	1.8946	0.043888014
A_24_P630039	CR600369	CR600369	1.8951	0.006977701

A_23_P366312	NM_138473	SP1	1.897	0.02076222
A_24_P43588	NM_001003690	MAD2L1BP	1.9008	0.017131515
A_23_P8055	NM_007243	NRM	1.9008	0.030415685
A_23_P48771	NM_024952	C14orf159	1.9018	0.001028941
A_32_P144920	NM_015509	NECAP1	1.9021	0.045750826
A_24_P406480	NM_152271	LONRF1	1.9029	0.04693611
A_23_P78092	NM_001003927	EVI2A	1.9035	0.00080044
A_23_P31747	NM_032847	C8orf76	1.906	0.028041889
A_24_P236799	NM_006868	RAB31	1.9065	0.002449804
A_24_P109351	NM_001009814	KIAA0564	1.9075	0.046050784
A_23_P102622	NM_003833	MATN4	1.9078	0.013017546
A_23_P66767	NM_153338	GGT6	1.9094	0.017584505
A_24_P115762	NM_148170	CTSC	1.9095	0.015292698
A_23_P48166	NM_002822	TWF1	1.9099	0.009301318
A_23_P204702	NM_003217	TEGT	1.9107	0.011978625
A_23_P207400	NM_007295	BRCA1	1.913	0.004235409
A_23_P125829	NM_000291	PGK1	1.9167	0.023777523
A_23_P388900	NM_018420	SLC22A15	1.9188	0.001163992
A_23_P203137	NM_004788	UBE4A	1.9195	0.011981961
A_23_P130293	NM_015208	ANKRD12	1.9203	0.034884518
A_23_P140830	NM_024712	ELMO3	1.9208	0.0174762
A_23_P60387	NM_017617	NOTCH1	1.9209	0.001046465
A_23_P124358	X75962	X75962	1.9219	0.026385703
A_23_P314191	NM_015336	ZDHHC17	1.9224	0.003521939
A_23_P97221	NM_015911	ZNF691	1.9237	0.030542051
A_23_P102364	NM_019850	NGEF	1.9243	0.020727675
A_23_P255503	NM_002572	PAFAH1B2	1.9246	0.037081484
A_24_P614362	NR_002806	FAM13A1OS	1.9253	0.001451212
A_23_P115137	NM_006402	HBXIP	1.928	0.010610541
A_23_P50241	NM_001294	CLPTM1	1.9286	0.04156251
A_23_P138139	NM_145243	OMA1	1.9291	0.019255803
A_24_P108005	NM_022818	MAP1LC3B	1.9293	0.006556775
A_32_P3556	NM_018206	VPS35	1.9308	0.010491959
A_24_P383199	A_24_P383199	A_24_P383199	1.9353	0.040621359
A_24_P618928	CR602022	CR602022	1.9369	0.011292601
A_23_P254648	NM_012164	FBXW2	1.9374	0.026894108
A_24_P332902	XR_018818	XR_018818	1.9375	0.00533084
A_24_P60217	AK055730	SLC23A3	1.9378	0.043518111
A_23_P250800	NM_006100	ST3GAL6	1.938	0.004394511
A_24_P125273	NM_001661	ARL4D	1.9388	0.039385481
A_24_P124831	NM_002028	FNTB	1.939	0.011320319

A_23_P218317	NM_001038618	NARF	1.9395	0.001396518
A_23_P102000	NM_001008540	CXCR4	1.9397	0.002787532
A_32_P179746	XM_001716343	LOC100133781	1.9403	0.001158408
A_23_P207400	NM_007295	BRCA1	1.9421	0.003160092
A_23_P103454	NM_032264	NBPF3	1.9426	0.001357895
A_32_P128391	AL162073	AL162073	1.9444	0.043125805
A_23_P98930	NM_018169	C12orf35	1.9447	0.000307008
A_24_P260440	NM_002270	TNPO1	1.9447	0.012586423
A_24_P361457	NM_173627	FLJ35220	1.9459	0.04802068
A_23_P322	NM_182690	EFNA4	1.9469	0.040758836
A_24_P241330	NM_024824	ZC3H14	1.9472	0.038741419
A_24_P381164	BC041893	TTC17	1.9477	0.019001223
A_23_P133582	NM_004730	ETF1	1.9485	0.003640656
A_23_P88849	NM_004165	RRAD	1.9485	0.006748696
A_23_P28169	NM_152522	ARL6IP6	1.9495	0.00998207
A_23_P366312	NM_138473	SP1	1.9498	0.020149622
A_23_P139509	NM_016570	ERGIC2	1.9508	0.011511234
A_24_P307466	A_24_P307466	A_24_P307466	1.9511	0.00996016
A_23_P435697	NM_015608	C10orf137	1.9521	0.035600979
A_23_P218774	NM_002872	RAC2	1.9527	0.013584149
A_23_P47116	NM_003475	RASSF7	1.9528	0.02727358
A_23_P9056	NM_014781	RB1CC1	1.9558	0.003035944
A_23_P250800	NM_006100	ST3GAL6	1.9567	0.003695244
A_23_P354864	NM_001031737	CCDC78	1.9572	0.020280462
A_32_P12639	NM_002816	PSMD12	1.9578	0.026249375
A_24_P261052	NM_015458	MTMR9	1.9578	0.02697607
A_32_P187245	AA669846	AA669846	1.9584	0.041508649
A_23_P87742	NM_001039670	IFFO	1.9584	0.011580041
A_23_P62647	NM_003037	SLAMF1	1.9591	0.008425473
A_23_P60387	NM_017617	NOTCH1	1.9599	0.001011355
A_23_P79962	NM_170784	MKKS	1.9605	0.006412782
A_24_P409661	XR_016019	LOC729768	1.9612	0.025195196
A_23_P64689	NM_014871	PAN2	1.9619	0.039702812
A_23_P315386	NM_052924	RHPN1	1.962	0.001916462
A_23_P168629	NM_018077	RBM28	1.9628	0.040315456
A_23_P92082	NM_001064	TKT	1.9628	0.000683607
A_23_P369987	NM_001039479	KIAA0317	1.9633	0.005182004
A_24_P345193	NM_015001	SPEN	1.9639	0.008169442
A_23_P331992	AK056657	STX6	1.9643	0.032264382
A_23_P120812	NM_020070	IGLL1	1.9663	0.001298467
A_24_P83848	ENST00000249062	ENST00000249062	1.9665	0.007077066

A_23_P110704	NM_006425	SLU7	1.967	0.007422104
A_23_P164637	NM_024691	ZNF419	1.9677	0.015528577
A_23_P40354	NM_012325	MAPRE1	1.9681	0.015141783
A_24_P374586	NM_000535	PMS2	1.969	0.022144496
A_23_P25503	NM_001079673	FNDC3A	1.9693	0.002302354
A_23_P60387	NM_017617	NOTCH1	1.9703	0.000992723
A_23_P32249	AK001616	FNBP1	1.9716	0.01707043
A_24_P109272	BC042998	ADD1	1.9742	0.03037294
(+)E1A_r60_a104	E1A_r60_a104	E1A_r60_a104	1.9743	0.033262801
A_24_P916435	AF147727	AF147727	1.9745	0.011262422
A_23_P28507	NM_012214	MGAT4A	1.9753	0.022608697
A_24_P607107	A_24_P607107	A_24_P607107	1.976	0.004174939
A_23_P23625	NM_030649	CENTB5	1.9774	0.024821882
A_23_P3527	NM_032940	POLR2C	1.9783	0.000931238
A_24_P307395	A_24_P307395	A_24_P307395	1.9791	0.005013891
A_24_P49214	AF469129	C1orf86	1.9806	0.007041508
A_32_P193322	NM_152756	RICTOR	1.9812	0.001399752
A_24_P272061	NM_012423	RPL13A	1.9813	0.004172752
A_23_P254702	NM_003472	DEK	1.9817	0.010855096
A_23_P115824	NM_012207	HNRNP3	1.9836	0.004730236
A_23_P139509	NM_016570	ERGIC2	1.9843	0.009751422
A_23_P428382	NM_203437	AFTPH	1.9843	0.014015936
A_32_P218249	NM_003211	TDG	1.9848	0.018968751
A_23_P384127	ENST00000390550	ENST00000390550	1.9862	0.041070828
A_32_P1434	A_32_P1434	A_32_P1434	1.987	0.002643135
A_23_P148556	NM_000033	ABCD1	1.9872	0.0160992
A_24_P247233	XR_018420	XR_018420	1.988	0.018653976
A_24_P283635	NM_001040272	ADAMTSL1	1.9894	0.01481198
A_24_P4054	NM_003302	TRIP6	1.9902	0.0043024
A_24_P551028	NM_001001664	SPOPL	1.9907	0.003072567
A_23_P79545	NM_003849	SUCLG1	1.9921	0.009761392
A_23_P368729	NM_007162	TFEB	1.9924	0.001854203
A_23_P55551	NM_020412	CHMP1B	1.9929	0.002418458
A_24_P191588	NM_000688	ALAS1	1.9944	0.005893642
A_23_P28318	NM_144736	C2orf56	1.9945	0.044375928
A_23_P75500	NM_001024957	BRMS1	1.9955	0.003355582
A_23_P203586	NM_016320	NUP98	1.9964	0.007224259
A_32_P20203	BC035247	BC035247	1.9966	0.029520803
A_24_P25326	NM_007167	ZMYM6	1.9971	0.009321012
A_23_P250800	NM_006100	ST3GAL6	1.9975	0.003301316
A_24_P266880	NM_021009	UBC	1.9981	0.004334889

A_23_P140069	NM_012158	FBXL3	1.9983	0.002613846
A_23_P78191	NM_025099	C17orf68	1.9984	0.004699777
A_23_P366312	NM_138473	SP1	2.0002	0.016293712
A_32_P186921	BC032805	ZNF616	2.0003	0.023205788
A_23_P340890	CR601567	THAP3	2.001	0.023626235
A_32_P163368	AW076051	AW076051	2.0016	0.012459909
A_23_P56228	NM_016573	GMIP	2.0043	0.000418838
A_23_P126278	NM_003465	CHIT1	2.0044	0.007267957
A_23_P60387	NM_017617	NOTCH1	2.0049	0.000778174
A_23_P60387	NM_017617	NOTCH1	2.0053	0.000979335
A_24_P294832	NM_003463	PTP4A1	2.0063	0.004317662
A_23_P125815	NM_005676	RBM10	2.0065	0.006993021
A_23_P44760	NM_014159	SETD2	2.0072	0.015788566
A_24_P179489	NM_006642	SDCCAG8	2.0098	0.019936837
A_23_P38408	NM_024835	GGNBP2	2.0102	0.012278876
A_23_P116430	NM_005709	USH1C	2.0112	0.027503406
A_23_P308924	AK093617	AK093617	2.0115	0.00363063
A_24_P290719	AY047582	AY047582	2.0123	0.030368262
A_23_P90710	NM_001927	DES	2.0127	0.028531622
A_23_P60387	NM_017617	NOTCH1	2.0129	0.000844691
A_32_P192033	AK055918	FLJ31356	2.0143	0.018569056
A_23_P342348	BC047869	COX4I1	2.0156	0.0084027
A_23_P24723	NM_016464	TMEM138	2.016	0.02802426
A_23_P27638	NM_144566	ZNF700	2.0168	0.040970282
A_32_P92171	BC052596	LOC388564	2.0192	0.002900582
A_23_P51069	NM_001862	COX5B	2.0197	0.007747466
A_23_P110253	NM_000222	KIT	2.0198	0.016900503
A_23_P68922	NM_033386	MICALL1	2.0202	0.023644458
A_24_P276531	NM_024700	SNIP1	2.0204	0.04728301
A_24_P366670	NM_002285	AFF3	2.0214	0.028270145
A_24_P937435	AL713718	RBED1	2.0221	0.042585538
A_23_P209694	NM_022894	PAPOLG	2.0228	0.005667753
A_24_P252078	NM_007047	BTN3A2	2.0252	0.004241016
A_23_P96775	NM_020710	LRRC47	2.0257	0.01321528
A_24_P46953	NM_013257	SGK3	2.0257	0.005384422
A_24_P318319	NM_005466	MED6	2.0258	0.037708379
A_23_P139509	NM_016570	ERGIC2	2.026	0.008594505
A_23_P396194	NM_022457	RFWD2	2.0266	0.002788261
A_23_P117527	NM_017943	FBXO34	2.0268	0.046184539
A_23_P81247	NM_030571	NDFIP1	2.0271	0.012369312
A_23_P217367	NM_052936	ATG4A	2.0271	0.03467508

A_23_P366312	NM_138473	SP1	2.028	0.013872319
A_23_P60387	NM_017617	NOTCH1	2.0296	0.000781277
A_24_P393880	NM_001043352	TPM3	2.0296	0.042048421
A_23_P83463	NM_004261	15-Sep	2.0296	0.003977991
A_23_P21485	NM_017933	PID1	2.0299	0.000299499
A_24_P278460	NM_032228	MLSTD2	2.0323	0.008206392
A_24_P6850	A_24_P6850	A_24_P6850	2.0325	0.022702475
A_23_P207400	NM_007295	BRCA1	2.0326	0.003533802
A_23_P105619	NM_138341	TMEM116	2.0326	0.000999577
A_23_P94683	NM_002504	NFX1	2.0339	0.027649161
A_23_P54340	NM_032445	MEGF11	2.0342	0.032221115
(+)E1A_r60_a104	E1A_r60_a104	E1A_r60_a104	2.0353	0.045960103
A_23_P252936	NM_015266	SLC9A8	2.0368	0.04473795
A_23_P159671	NM_000292	PHKA2	2.038	0.009140834
A_24_P477127	NM_000296	PKD1	2.038	0.030987614
A_23_P10873	NM_003263	TLR1	2.0382	0.00089009
A_23_P44768	NM_013254	TBK1	2.0423	0.009743639
A_23_P98910	NM_006152	LRMP	2.0429	0.003708805
A_23_P366312	NM_138473	SP1	2.0431	0.016627941
A_23_P208450	NM_024103	SLC25A23	2.0459	0.037367748
A_23_P209944	NM_017750	RETSAT	2.0464	0.018986505
A_24_P841622	AK096589	RPL32P3	2.0465	0.016011608
A_23_P37441	NM_004048	B2M	2.0466	0.002698998
A_23_P331379	NM_198400	NEDD4	2.047	0.031191928
A_23_P38482	NM_024297	PHF23	2.047	0.015698334
A_23_P126008	NM_015112	MAST2	2.0472	0.029102501
A_23_P14105	NM_001268	RCBTB2	2.0473	0.004335949
A_23_P46356	NM_024575	TNFAIP8L2	2.0477	0.002798734
A_23_P133146	NM_002106	H2AFZ	2.0479	0.005360514
A_23_P250800	NM_006100	ST3GAL6	2.0495	0.002533558
A_32_P93121	THC2650012	THC2650012	2.0497	0.029198685
A_23_P69491	NM_001664	RHOA	2.0527	0.01229859
A_23_P102000	NM_001008540	CXCR4	2.0528	0.001434444
A_23_P165028	NM_001348	DAPK3	2.0533	0.001940503
A_24_P452326	A_24_P452326	A_24_P452326	2.0562	0.038286529
A_23_P34710	CR604521	EGLN1	2.0564	0.000348775
A_23_P207400	NM_007295	BRCA1	2.0565	0.003153613
A_23_P4798	NM_016535	ZNF581	2.0571	0.014090921
A_23_P207400	NM_007295	BRCA1	2.0573	0.002109248
A_23_P250800	NM_006100	ST3GAL6	2.0582	0.002807603
A_23_P35168	NM_013339	ALG6	2.0583	0.004279772

A_23_P250800	NM_006100	ST3GAL6	2.059	0.002349124
A_24_P17677	NM_006068	TLR6	2.0601	8.34E-05
A_23_P502957	NM_021810	CDH26	2.0602	0.012444288
A_23_P79199	NM_020548	DBI	2.0615	0.041918395
A_23_P254801	NM_002660	PLCG1	2.0618	0.005388999
A_23_P160881	NM_001009568	SMPDL3B	2.0622	0.036458381
A_32_P174398	ENST00000391665	ENST00000391665	2.0625	0.020560023
A_32_P199263	BC073929	BC073929	2.063	0.03803385
A_23_P60387	NM_017617	NOTCH1	2.0635	0.000922006
A_23_P83094	NM_007005	TLE4	2.0651	0.006534089
A_24_P205242	BC034378	RPL23	2.068	0.028621436
A_23_P204408	NM_005056	JARID1A	2.0684	0.01699178
A_23_P125829	NM_000291	PGK1	2.0689	0.018988473
A_23_P4494	NM_024422	DSC2	2.073	0.003563305
A_23_P1926	NM_017841	C11orf79	2.0734	0.006150038
A_23_P133470	NM_014819	PJA2	2.074	0.001094086
A_24_P157698	NM_173828	RELL2	2.0747	0.012139291
A_24_P357576	NM_019600	KIAA1370	2.0749	0.000985984
A_24_P412512	NM_016350	NIN	2.0752	0.009802318
A_23_P100912	NM_014030	GIT1	2.0758	0.036066897
A_24_P916614	NM_005156	ROD1	2.0791	0.002040968
A_23_P130919	NM_130807	MOBKL2A	2.0837	0.00103252
A_23_P80739	NM_006225	PLCD1	2.085	0.011495653
A_23_P266	U82382	PIN1L	2.0852	0.021144867
A_23_P254801	NM_002660	PLCG1	2.0854	0.010428513
A_23_P110253	NM_000222	KIT	2.0856	0.010239367
A_23_P352358	NM_138346	KIAA2013	2.0862	0.001482782
A_23_P90626	NM_004288	PSCDBP	2.0866	0.005686503
A_24_P684186	NR_003955	LOC647121	2.0875	0.000385001
A_23_P1641	NM_005133	RCE1	2.0901	0.032211812
A_23_P93613	NM_013255	MKLN1	2.0903	0.005510451
A_23_P205724	NM_199043	C14orf102	2.0917	0.04915901
A_23_P139509	NM_016570	ERGIC2	2.092	0.006032093
A_23_P250800	NM_006100	ST3GAL6	2.0929	0.002380288
A_23_P24751	NM_173810	TTC9C	2.0937	0.035332381
A_23_P110253	NM_000222	KIT	2.0938	0.013846464
A_23_P204016	NM_000725	CACNB3	2.0941	0.030801746
A_23_P102000	NM_001008540	CXCR4	2.0943	0.001884718
A_32_P17364	THC2664263	THC2664263	2.0955	0.035891713
A_23_P134946	NM_014665	LRRC14	2.0973	0.019955514
A_32_P27271	NM_198256	E2F6	2.0982	0.022176549

A_32_P186027	ENST00000267918	ANP32A	2.0986	0.005470216
A_24_P254346	NM_006052	DSCR3	2.099	0.013864596
A_23_P105519	NM_016312	WBP11	2.1012	0.010191234
A_24_P181672	NM_001009905	B3GNTL1	2.1019	0.001120164
A_23_P26697	NM_033452	TRIM47	2.1023	0.01472311
A_24_P162128	AK054840	C4orf38	2.1026	0.001655313
A_23_P137157	NM_002910	RENBP	2.1033	0.022815288
A_32_P90551	NM_014230	SRP68	2.104	0.0457735
A_24_P204374	A_24_P204374	A_24_P204374	2.1048	0.003004131
A_24_P111019	BC028243	BC028243	2.1058	0.010907667
A_23_P203737	NM_033547	INTS4	2.1061	0.041010663
A_24_P268210	ENST00000358951	RAB3GAP2	2.1063	0.018292254
A_23_P431789	NM_001660	ARF4	2.1068	0.015192886
A_23_P97218	CR596670	CR596670	2.1072	0.015305012
A_32_P93144	XM_001714697	LOC653458	2.1094	0.015563665
A_23_P46170	NM_052877	MED8	2.1097	0.010602809
A_23_P12423	NM_022089	ATP13A2	2.1098	0.029446633
A_32_P181564	THC2606490	THC2606490	2.1099	0.029185593
A_32_P190864	THC2718727	THC2718727	2.1113	0.015948724
A_23_P254801	NM_002660	PLCG1	2.1118	0.005952682
A_23_P122464	NM_006299	ZNF193	2.1118	0.016466219
A_23_P69491	NM_001664	RHOA	2.1119	0.013641558
A_23_P366455	NM_133264	WIPF2	2.1145	0.003947082
A_23_P313476	NM_032448	FAM120B	2.1148	0.015198928
(+)E1A_r60_a104	E1A_r60_a104	E1A_r60_a104	2.1174	0.013745832
A_23_P65262	NM_033111	N4BP2L2	2.1179	0.000669777
A_24_P321919	NM_003870	IQGAP1	2.1195	0.000739426
A_23_P7543	NM_014733	ZFYVE16	2.1205	0.005259647
A_24_P211842	NM_178128	FADS6	2.1215	0.038171044
A_23_P47790	NM_005371	METTL1	2.1215	0.032670425
A_24_P566891	AK023803	ARF1	2.1221	0.001287347
A_24_P367496	AK124894	LOC100131650	2.1294	0.01453245
A_23_P374782	NM_001024666	SH3KBP1	2.1314	0.015917041
A_23_P103282	NM_004872	TMEM59	2.1317	0.009953263
A_24_P268893	NM_144721	THAP6	2.1318	0.008820978
A_23_P396777	NM_006315	PCGF3	2.1319	0.016890278
A_23_P102113	NM_025216	WNT10A	2.134	0.003054325
A_23_P94932	NM_015702	C2orf25	2.1353	0.002937811
A_24_P886040	NM_152624	DCP2	2.138	0.004751221
A_24_P370887	NM_004781	VAMP3	2.1384	0.000663233
A_32_P26103	NM_006412	AGPAT2	2.1393	0.009115299

A_24_P201404	NM_014039	C11orf54	2.1406	0.007543729
A_23_P8664	NM_021145	DMTF1	2.1411	0.009224825
A_24_P195544	BC061642	BC061642	2.1439	0.015302658
A_24_P7750	XR_038299	LOC100128116	2.1462	0.023681168
A_23_P34045	NM_001399	EDA	2.1473	0.028285006
A_23_P67583	NM_018174	MAP1S	2.1497	0.004831118
A_23_P79661	NM_019044	CCDC93	2.1499	0.014921252
A_24_P928574	AK023400	AK023400	2.1502	0.011351465
A_24_P916338	A_24_P916338	A_24_P916338	2.1503	0.030298451
A_23_P91891	NM_004766	COPB2	2.1526	0.01329819
A_32_P115220	NM_152569	C9orf66	2.1552	0.012831527
A_23_P366312	NM_138473	SP1	2.1553	0.006683254
A_23_P250800	NM_006100	ST3GAL6	2.1569	0.002242187
A_23_P72850	NM_032889	MFSD5	2.1584	0.016213166
A_23_P125829	NM_000291	PGK1	2.1591	0.015385762
A_23_P100022	NM_014848	SV2B	2.1597	0.029347778
A_23_P395033	NM_020892	DTX2	2.1598	0.019057719
A_23_P3856	NM_153688	ZFP1	2.1627	0.035647689
A_23_P56709	NM_005667	RNF103	2.167	0.01006977
A_23_P9392	NM_016390	C9orf114	2.1697	0.00958676
A_32_P178499	NM_001012984	C16orf86	2.1699	0.049433555
A_24_P306704	XR_016161	XR_016161	2.1702	0.014894949
A_23_P95353	NM_014678	SAPS2	2.1705	0.017896483
A_23_P98232	NM_006782	ZFPL1	2.1706	0.010430987
A_23_P320478	BC065260	FLJ22795	2.1709	0.008973447
A_23_P164946	NM_001039885	FKRP	2.1736	0.044119285
A_23_P207400	NM_007295	BRCA1	2.1737	0.001844391
A_23_P31085	NM_015439	CCDC28A	2.1738	0.00403391
A_23_P87500	NM_014182	ORMDL2	2.174	0.04545291
A_23_P139509	NM_016570	ERGIC2	2.1742	0.005739595
A_23_P26824	NM_030576	LIMD2	2.1745	0.006997798
A_24_P265539	NM_015607	C1orf77	2.1748	0.021434046
A_24_P371303	NM_015224	C3orf63	2.1748	0.01361405
A_24_P198629	NM_018148	LINS1	2.1754	0.009448194
A_32_P206293	NM_024639	ZNF322A	2.1766	0.024373464
A_23_P311087	NM_012482	ZNF281	2.1788	0.000231406
A_24_P108351	NM_007040	HNRNPUL1	2.1789	0.031671499
A_24_P353208	NM_018556	SIRPG	2.1803	0.002349497
A_23_P305938	NM_007131	ZNF75	2.1804	0.012956778
A_24_P346807	NM_022079	HERC4	2.1805	0.006981955
A_24_P166397	NM_014809	KIAA0319	2.1812	0.009632631

A_24_P86968	NM_000733	CD3E	2.1823	0.010929209
A_23_P159839	NM_152692	C1GALT1C1	2.1837	0.008921391
A_23_P168062	NM_003587	DHX16	2.184	0.016551578
A_24_P926666	AK000925	AK000925	2.1841	0.000549901
A_23_P334111	BC002482	WDR55	2.1842	0.00939149
A_23_P100486	NM_206824	VKORC1	2.1842	0.039988989
A_24_P912404	A_24_P912404	A_24_P912404	2.1867	0.04507079
A_23_P142708	NM_030805	LMAN2L	2.1882	0.030679924
A_23_P139509	NM_016570	ERGIC2	2.1887	0.004214876
A_23_P11915	NM_017686	GDAP2	2.1887	0.014242837
A_24_P583007	BC039246	BC039246	2.1908	0.011098991
A_23_P98722	NM_005898	CAPRIN1	2.1913	0.015228421
A_23_P141302	NM_144680	ZNF18	2.1953	0.025961973
A_23_P50418	NM_153358	ZNF791	2.1954	0.011452875
A_23_P205336	NM_016472	C14orf129	2.1969	0.003896974
A_24_P932632	CR617018	CR617018	2.1999	0.002440445
A_23_P168443	NM_004444	EPHB4	2.2011	0.034283426
A_23_P422083	NM_018710	TMEM55A	2.2024	0.001083352
A_23_P344531	NM_007286	SYNPO	2.2029	0.024838806
A_23_P7655	NM_013978	BNIP1	2.205	0.028103942
A_23_P201567	NM_018061	PRPF38B	2.2056	0.016489399
A_23_P126129	NM_030934	C1orf25	2.2068	0.014370694
A_24_P101181	XR_019095	XR_019095	2.2091	0.012324664
A_23_P319895	ENST00000267197	SETD1B	2.2105	0.007256649
A_23_P151624	NM_173527	REM2	2.2117	0.029056801
A_24_P187197	BX648930	LOC652005	2.214	0.00675532
A_23_P34126	NM_001711	BGN	2.2145	0.007256591
A_24_P310616	NM_001042498	SLC35A2	2.2159	0.023827742
A_23_P24577	AK091966	PDZD3	2.2169	0.017438277
A_23_P47800	NM_019887	DIABLO	2.2174	0.015485701
A_24_P497186	NM_182972	IRF2BP2	2.2183	0.003485684
A_23_P158897	BE531123	BE531123	2.2195	0.033235338
A_24_P927996	A_24_P927996	A_24_P927996	2.22	0.04041645
A_24_P341546	XR_018415	XR_018415	2.2211	0.04207428
A_23_P84648	NM_000202	IDS	2.2261	0.008984428
A_23_P138826	NM_172230	SYVN1	2.2271	0.038344677
A_23_P17911	NM_145912	NFAM1	2.2274	0.006714185
A_32_P144596	NM_003747	TNKS	2.2276	0.049859765
A_32_P167856	AF338232	CTAGE4	2.2279	0.01025125
A_24_P83952	BC014432	PDZRN3	2.2283	0.012467249
A_23_P69339	NM_001607	ACAA1	2.2293	0.00148215

A_32_P119949	A_32_P119949	A_32_P119949	2.2299	0.009064435
A_24_P76911	NM_015528	RNF167	2.2305	0.025302808
A_24_P173566	X57818	X57818	2.231	0.002415691
A_23_P137935	NM_002432	MNDA	2.2338	0.000423188
A_24_P150874	CR611712	CR611712	2.2343	0.002990929
A_23_P69491	NM_001664	RHOA	2.2347	0.010826467
A_23_P321855	NM_003899	ARHGEF7	2.2348	0.009758404
A_24_P118608	NM_032437	EFCAB7	2.2351	0.024361887
A_23_P76610	AK001817	PSPC1	2.2356	0.007888433
A_23_P48997	NM_003978	PSTPIP1	2.2362	0.000456498
A_23_P4144	NM_025233	COASY	2.2374	0.001136547
A_24_P940086	AB032985	NXPH3	2.2381	0.011427086
A_23_P139509	NM_016570	ERGIC2	2.2384	0.004762297
A_23_P60387	NM_017617	NOTCH1	2.2397	0.000445001
A_23_P430161	NM_175876	EXOC8	2.2402	0.004329801
A_23_P47565	NM_005566	LDHA	2.2405	0.001740116
A_24_P800824	AK096031	AK096031	2.2412	0.012215472
A_24_P239451	BC011648	BC011648	2.242	0.038275102
A_23_P417965	NM_015603	CCDC9	2.2432	0.015600356
A_24_P398972	NM_016138	COQ7	2.2448	0.03024088
A_23_P251945	NM_016221	DCTN4	2.2464	0.002581251
A_23_P416656	NM_033375	MYO1C	2.2465	0.037558514
A_23_P98963	AK002085	LOC144438	2.2467	0.005156685
A_32_P76627	CR597597	CR597597	2.2493	0.046403535
A_24_P298027	NM_004655	AXIN2	2.2516	0.043954905
A_24_P392480	NM_001012643	LOC339344	2.2529	0.012724728
A_23_P5389	NM_032574	DPY30	2.2536	0.011138875
A_23_P7783	NM_016604	JMJD1B	2.2557	0.007784773
A_23_P124224	NM_004941	DHX8	2.2573	0.002223612
A_23_P31348	THC2571921	THC2571921	2.2581	0.024407463
A_23_P131899	NM_080489	SDCBP2	2.2653	0.021302716
A_23_P13382	NM_001013254	LSP1	2.267	0.000783718
A_24_P218587	NM_004268	MED17	2.2679	0.003221888
A_23_P61308	AK023691	CCDC71	2.2681	0.006066805
A_23_P71778	NM_203347	RP11-216L13.5	2.2696	0.03060543
A_24_P234462	NM_147196	TMIE	2.2704	0.033967664
A_24_P826578	AK311609	AK311609	2.2738	0.022309498
A_23_P57118	NM_003245	TGM3	2.2741	0.001435842
A_23_P157051	NM_004722	AP4M1	2.2772	0.011219817
A_24_P565430	BQ778202	BQ778202	2.2786	0.043164729
A_23_P75509	NM_003626	PPFIA1	2.2786	0.001494699

A_32_P150142	AL713776	DKFZp434L192	2.2786	0.046896655
A_24_P176255	NM_005254	GABPB2	2.2789	0.035546439
A_24_P300379	NM_153370	PI16	2.2789	0.000479551
A_24_P92183	NM_001124756	PABPC1L	2.2805	0.003908202
A_24_P573089	NM_001103161	SH2D5	2.2816	0.02083766
A_23_P40039	NM_031445	AMMECR1L	2.2825	0.03419384
A_23_P37237	NM_145165	CHURC1	2.2845	0.011131599
A_23_P69491	NM_001664	RHOA	2.2857	0.007911372
A_24_P79617	CR602920	KIAA0040	2.2863	0.020358965
A_23_P139509	NM_016570	ERGIC2	2.2869	0.004591816
A_24_P266728	NM_004630	SF1	2.2876	0.005645795
A_24_P930415	NM_001012508	SPRN	2.2884	0.017764653
A_32_P226449	THC2778545	THC2778545	2.2886	0.025631483
A_24_P593724	A_24_P593724	A_24_P593724	2.289	0.009701966
A_23_P218770	NM_002872	RAC2	2.2894	0.006897721
A_23_P69491	NM_001664	RHOA	2.2897	0.007197259
A_32_P58425	NM_153812	PHF13	2.291	0.011523705
A_32_P229746	NM_005494	DNAJB6	2.2915	0.010217787
A_23_P125829	NM_000291	PGK1	2.2917	0.010087967
A_32_P117758	BG208131	BG208131	2.2942	0.033404636
A_23_P145529	NM_181795	PKIB	2.2943	0.02774305
A_23_P76598	NM_152726	EFHA1	2.2949	0.007562223
A_23_P106682	NM_001424	EMP2	2.2954	0.049879886
A_23_P215037	NM_152858	WTAP	2.2959	0.019833578
A_23_P29566	NM_005718	ARPC4	2.2973	0.014702611
A_23_P133648	NM_016255	FAM8A1	2.2991	0.000671444
A_23_P66967	NM_004066	CETN1	2.3039	0.039360808
A_23_P99853	NM_019600	KIAA1370	2.3061	0.001893927
A_23_P56069	NM_015578	LSM14A	2.3069	0.014873825
A_23_P6869	NM_007024	TMEM115	2.3072	0.007007717
A_23_P69853	NM_173828	RELL2	2.3093	0.004842324
A_24_P2995	NM_015317	PUM2	2.3102	0.006399536
A_23_P113966	NM_001024924	EXOC1	2.3105	0.002707254
A_24_P339664	NM_020170	NCLN	2.3108	0.00469517
A_24_P358406	A_24_P358406	A_24_P358406	2.3111	0.0182995
A_24_P929867	A_24_P929867	A_24_P929867	2.3126	0.027664775
A_23_P415033	NM_138795	ARL8A	2.3128	0.03690486
A_23_P166910	NM_015268	DNAJC13	2.3157	0.047858035
A_32_P160216	BM702130	BM702130	2.3171	0.018409209
A_24_P941824	NM_004798	KIF3B	2.3177	0.007714649
A_32_P220826	AK091162	WBSCR22	2.3186	0.02182845

A_23_P409988	NM_024947	PHC3	2.3191	0.023192451
A_23_P43283	NM_032777	GPR124	2.32	0.009276624
A_23_P157607	NM_018142	INTS10	2.3203	0.010455341
A_23_P105409	NM_006301	MAP3K12	2.3229	0.034160969
A_24_P24230	A_24_P24230	A_24_P24230	2.3231	0.007056155
A_24_P209285	NM_018141	MRPS10	2.3235	0.018511469
A_24_P125839	NM_017447	C21orf91	2.3235	0.009356931
A_23_P53788	NM_152912	MTIF3	2.3279	0.004831984
A_32_P60343	NM_198181	LOC440295	2.3279	0.005630058
A_24_P281313	AK095554	LOC100129858	2.3301	0.014387061
A_32_P202587	A_32_P202587	A_32_P202587	2.3338	0.020862761
A_23_P250800	NM_006100	ST3GAL6	2.3339	0.000964148
A_23_P254031	NM_007344	TTF1	2.3348	0.002259195
A_24_P396660	NM_147148	GSTM4	2.3442	0.014473976
A_23_P431981	NM_005487	HMG2L1	2.3451	0.032394771
A_23_P2705	NM_005767	P2RY5	2.3462	9.99E-05
A_23_P102973	NM_022719	DGCR14	2.347	0.006344865
A_23_P207400	NM_007295	BRCA1	2.3489	0.00103258
A_23_P38365	NM_006852	TLK2	2.3489	0.018851621
A_23_P404667	NM_001197	BIK	2.3494	0.00888116
A_23_P30024	NM_003998	NFKB1	2.3496	0.012852874
A_32_P198810	ENST00000381800	ENST00000381800	2.3497	0.043981112
A_24_P96505	NM_001495	GFRA2	2.3504	0.020102498
A_24_P380061	NM_001025616	ARHGAP24	2.3508	0.047422345
A_23_P254801	NM_002660	PLCG1	2.3511	0.005920625
A_23_P125033	THC2493066	THC2493066	2.3529	0.023505591
A_24_P365129	THC2504193	THC2504193	2.3553	0.031229825
A_24_P141995	NM_032632	PAPOLA	2.3554	0.007267279
A_24_P111134	NM_013382	POMT2	2.3577	0.032026661
A_23_P115407	NM_146421	GSTM1	2.3594	0.03970805
A_23_P411379	NM_178508	C6orf1	2.3616	0.006623628
A_32_P4934	THC2640099	THC2640099	2.362	0.000589929
A_24_P230521	CR623296	GPSM3	2.3634	0.034299288
A_23_P200443	NM_003029	SHC1	2.3637	0.009395563
A_24_P942002	NM_012287	CENTB2	2.3644	0.001181458
A_24_P232696	NM_139071	SMARCD1	2.3653	0.023752623
A_24_P117672	NM_021228	SCAF1	2.3655	0.033785887
A_23_P160689	NM_018372	C1orf103	2.3705	0.001671133
A_24_P46808	CR590302	MDH2	2.3744	0.016245059
A_24_P330366	NM_015156	RCOR1	2.3747	0.004241911
A_23_P200160	NM_001014975	CFH	2.3758	0.000876975

A_23_P203389	NM_016499	MGC13379	2.3767	0.0081828
A_23_P335452	NM_153367	C10orf56	2.3782	0.049824543
A_23_P145437	NM_017934	PHIP	2.3796	0.006246569
A_23_P200030	NM_003838	FPGT	2.3805	0.00344041
A_23_P30495	NM_000859	HMGCR	2.3815	0.00170078
A_24_P147407	NM_153335	LYK5	2.3846	0.001827682
A_24_P396994	NM_001690	ATP6V1A	2.3847	0.001127957
A_32_P178339	A_32_P178339	A_32_P178339	2.3863	0.022073715
A_23_P77286	NM_024713	C15orf29	2.3866	0.000325131
A_23_P64743	NM_015000	STK38L	2.388	0.00223508
A_24_P485012	BC017563	BC017563	2.3895	0.027506417
A_23_P110253	NM_000222	KIT	2.3906	0.006817525
A_23_P80008	NM_033118	MYLK2	2.3912	0.028459717
A_24_P307580	NM_001098523	HTATIP2	2.3913	0.04148733
A_32_P88719	NM_001031834	RAB40AL	2.3934	0.014522958
A_23_P106575	NM_002080	GOT2	2.3936	0.003390024
A_24_P109071	NM_017576	KIF27	2.3941	0.036486202
A_23_P213247	NM_033535	FBXL5	2.3973	0.000122827
A_23_P140050	NM_017569	FAM48A	2.3973	0.005131703
A_23_P20463	NM_006265	RAD21	2.3981	0.002731659
A_24_P126417	NM_014709	USP34	2.3983	0.000573798
A_23_P380917	NM_014300	SEC11A	2.4015	0.00628912
A_23_P69491	NM_001664	RHOA	2.4017	0.004753126
A_23_P144684	NM_032290	ANKRD32	2.402	0.002009267
A_23_P58898	NM_012115	CASP8AP2	2.4024	0.005362071
A_24_P367576	AK125170	LOC100131993	2.405	0.000472311
A_23_P21134	NM_004083	DDIT3	2.4057	0.001110723
A_24_P77008	NM_000963	PTGS2	2.4062	0.010740898
A_24_P937240	U09197	U09197	2.4066	0.006676618
A_23_P19778	NM_012450	SLC13A4	2.4067	0.00684222
A_24_P294719	NM_014613	UBXD8	2.4067	0.015375632
A_23_P62901	NM_006763	BTG2	2.4069	0.002110378
A_23_P202696	NM_016506	KBTBD4	2.408	0.03169192
A_24_P394368	NM_025132	WDR19	2.4102	0.046910306
A_23_P112113	NM_014846	KIAA0196	2.4117	0.00933422
A_23_P373992	NM_145294	WDR90	2.4126	0.015346778
A_24_P928510	NM_053055	THEM4	2.4182	0.005789878
A_23_P321354	NM_144649	TMEM71	2.4211	0.000178318
A_24_P920979	AK057921	LOC145758	2.4231	0.016415845
A_23_P109547	NM_019008	SMCR7L	2.4248	0.014260251
A_32_P31633	NM_012433	SF3B1	2.4252	0.003225772

A_23_P69491	NM_001664	RHOA	2.4294	0.005178173
A_23_P170467	NM_006537	USP3	2.4308	0.002758455
A_23_P131449	ENST00000290390	ENST00000290390	2.4317	0.017663066
A_23_P84892	NM_032882	PNMA6A	2.4353	0.009740079
A_23_P203629	NM_173042	IL18BP	2.4359	0.024513437
A_24_P317827	NM_001042590	C9orf127	2.436	0.029462825
A_23_P106675	NM_002661	PLCG2	2.439	0.000804359
A_23_P213415	NM_003966	SEMA5A	2.4394	0.027228737
A_23_P36496	NM_016836	RBMS1	2.4399	0.001645626
A_23_P207400	NM_007295	BRCA1	2.4429	0.000803981
A_24_P409728	NM_015037	KIAA0913	2.4452	0.002545249
A_24_P358131	XR_017211	AK2P2	2.4474	0.046214609
A_23_P154058	NM_001034116	EIF2B4	2.4474	0.021933236
A_23_P164253	NR_002181	PPY2	2.4493	0.025037933
A_23_P150379	NM_144765	MPZL2	2.4493	0.008123072
A_24_P68819	NM_152994	CCDC128	2.4504	0.006851921
A_23_P30024	NM_003998	NFKB1	2.4524	0.010561975
A_24_P630875	THC2647213	THC2647213	2.4552	0.01113781
A_24_P193570	NM_016284	CNOT1	2.456	0.030291265
A_24_P922877	NM_182923	KLC1	2.4569	0.001842097
A_23_P216984	NM_016322	RAB14	2.4575	0.016418689
A_23_P77310	NM_022473	ZFP106	2.467	0.002241005
A_23_P368896	NM_013346	SNX12	2.4706	0.02280198
A_24_P357709	NM_001009921	VPS8	2.4723	0.002072996
A_24_P295709	BF446608	BF446608	2.4728	0.017981822
A_23_P93704	NM_001004323	LOC402573	2.4729	0.008876621
A_23_P52451	NM_025130	HKDC1	2.4736	0.00488197
A_32_P390781	NM_020695	REXO1	2.4743	0.024818358
A_23_P157460	NM_018660	ZNF395	2.4751	0.020772584
A_23_P207399	NM_031858	NBR1	2.4774	0.005090358
A_24_P156576	NM_017856	GEMIN8	2.485	0.025193836
A_23_P110253	NM_000222	KIT	2.4857	0.004370688
A_23_P54953	NM_013260	SAP30BP	2.4878	0.029268051
A_23_P68211	NM_003124	SPR	2.4881	0.019747729
A_24_P62521	NM_000447	PSEN2	2.4885	0.013513766
A_23_P34546	NM_006642	SDCCAG8	2.4889	0.008064439
A_24_P293120	NM_024327	ZNF576	2.4891	0.029101782
A_23_P366312	NM_138473	SP1	2.4934	0.004834311
A_24_P73920	CR609948	CR609948	2.4938	0.002793219
A_23_P69491	NM_001664	RHOA	2.4939	0.004059276
A_23_P323143	NM_024910	ZNF767	2.4943	0.003129067

A_24_P306788	A_24_P306788	A_24_P306788	2.4969	0.040554311
A_23_P17620	NM_052954	CYYR1	2.4972	0.029659944
A_23_P200443	NM_003029	SHC1	2.498	0.010270108
A_23_P125475	NM_018558	GABRQ	2.4996	0.026025679
A_24_P167063	NM_014803	ZNF518A	2.5014	0.003706909
A_32_P430695	NM_178339	C3orf35	2.5022	0.033595373
A_24_P15043	NM_025010	KLHL18	2.5055	0.004584483
A_32_P206541	NR_003955	LOC647121	2.5056	0.001568644
A_24_P534290	A_24_P534290	A_24_P534290	2.5061	0.005299771
(+)E1A_r60_a104	E1A_r60_a104	E1A_r60_a104	2.5075	0.013222639
A_23_P30024	NM_003998	NFKB1	2.5076	0.009400766
A_23_P106080	NM_032572	RNASE7	2.5099	0.02747824
A_23_P217872	NM_006015	ARID1A	2.5109	0.003428852
A_23_P217778	NM_078629	MSL3L1	2.5122	0.000138581
A_24_P244470	NM_194358	RNF41	2.5132	0.028945934
A_24_P403303	NM_198513	PHF20L1	2.5137	0.020786982
A_23_P50020	NM_018714	COG1	2.515	0.009031104
A_32_P180741	NM_001010938	TNK2	2.5167	0.048644468
A_23_P30024	NM_003998	NFKB1	2.517	0.00679428
A_32_P189952	THC2667190	THC2667190	2.52	0.025387734
A_23_P500734	NM_015100	POGZ	2.5201	0.003717168
A_23_P396666	NM_015079	TBC1D2B	2.5204	0.002547025
A_23_P146811	NM_205836	FBXO38	2.5239	0.002172817
A_23_P380965	NM_016475	C14orf100	2.5266	0.002466596
A_23_P30024	NM_003998	NFKB1	2.5281	0.008142616
A_23_P26336	NM_014153	ZC3H7A	2.5289	0.002039322
A_24_P55356	CR596746	CR596746	2.5293	0.003300281
A_32_P174025	NM_182704	SELV	2.5333	0.031465973
A_23_P60002	NM_014673	TTC35	2.5362	0.009049554
A_23_P25348	NM_025247	ACAD10	2.538	0.007291061
A_24_P143138	NM_004463	FGD1	2.5387	0.02408119
A_23_P2537	NM_052845	MMAB	2.54	0.015033715
A_23_P159382	NM_014822	SEC24D	2.5404	0.004802744
A_23_P213069	NM_018126	TMEM33	2.5417	0.001126903
A_23_P635	NM_007221	PMF1	2.5417	0.001283573
A_23_P129058	NM_005154	USP8	2.545	0.003967987
A_23_P89762	NM_194449	PHLPP	2.5453	0.005156455
A_32_P74366	ENST00000310421	VCPIP1	2.546	0.002390637
A_23_P347508	NM_023077	C1orf163	2.5494	0.033291698
A_32_P53212	AA045093	AA045093	2.5501	0.048509041
A_23_P75921	NM_145803	TRAF6	2.5545	0.048375038

A_24_P334445	NM_001017405	MAEA	2.5547	0.000353819
A_23_P161237	NM_004193	GBF1	2.5572	0.013238083
A_32_P194779	NM_001099270	ZBTB34	2.5572	0.000622157
A_24_P936319	BC030115	BC030115	2.5582	0.006022274
A_24_P12660	THC2586764	THC2586764	2.5612	0.001369747
A_23_P139825	NM_005748	YAF2	2.5616	0.008591106
A_23_P68740	NM_000658	AIRE	2.5618	0.008804258
A_23_P93442	NM_015278	SASH1	2.5629	2.74E-06
A_24_P396662	NM_147148	GSTM4	2.564	0.002836917
A_23_P366312	NM_138473	SP1	2.5663	0.003463589
A_23_P81087	NM_020395	INTS12	2.5664	0.015134513
A_32_P45875	BC071826	PSMD8	2.5683	0.032628926
A_24_P366994	NM_004309	ARHGDIA	2.5689	0.003839339
A_32_P195387	NR_015339	LOC286144	2.5701	0.001858389
A_24_P795283	THC2541781	THC2541781	2.5713	0.025695969
A_23_P30024	NM_003998	NFKB1	2.5728	0.00933419
A_32_P58464	A_32_P58464	A_32_P58464	2.5736	0.005804415
A_23_P13998	NM_017600	GOLGA2L1	2.5749	0.023668942
A_23_P163278	NM_017851	PARP16	2.576	0.000592543
A_32_P4364	NM_005745	BCAP31	2.5769	0.010501866
A_24_P350683	BC012121	SLC9A1	2.5817	0.048142628
A_23_P254801	NM_002660	PLCG1	2.5821	0.003685261
A_23_P320457	NM_033088	FAM40A	2.5855	0.001463143
A_32_P29784	NM_001043352	TPM3	2.5895	0.01356457
A_23_P387031	NM_173465	COL23A1	2.5918	0.015589089
A_24_P310667	NM_031407	HUWE1	2.5923	0.002267388
A_24_P209765	NM_007234	DCTN3	2.5937	0.019270242
A_23_P351232	NM_173680	ZNF775	2.5989	0.003107942
A_24_P321752	NM_015072	TTLL5	2.5991	0.012129404
A_23_P33420	NM_030956	TLR10	2.6008	0.008299618
A_23_P37076	NM_001015049	BAG5	2.6054	0.00840999
A_23_P217447	NM_002294	LAMP2	2.6098	8.21E-05
A_23_P117387	NM_054024	MIA2	2.6119	0.021726242
A_24_P39759	NM_197939	RNF135	2.6141	0.036119735
A_23_P30024	NM_003998	NFKB1	2.6143	0.006756037
A_24_P725365	A_24_P725365	A_24_P725365	2.6147	0.022682681
A_24_P130026	NM_001015049	BAG5	2.6164	0.007647975
A_24_P411899	NM_183419	RNF19A	2.6184	0.001491501
A_23_P105664	NM_014167	CCDC59	2.6202	0.016134015
A_32_P145867	NM_006188	LOC4951	2.6264	0.032818732
A_24_P254904	NM_032236	USP48	2.6306	0.002243573

A_23_P19479	NM_032454	STK19	2.6333	0.01429352
A_23_P30024	NM_003998	NFKB1	2.6354	0.006712125
A_24_P199774	NM_022164	TINAGL1	2.6366	0.004132882
A_23_P200443	NM_003029	SHC1	2.6386	0.006445911
A_23_P200443	NM_003029	SHC1	2.6431	0.007097105
A_23_P110253	NM_000222	KIT	2.6455	0.004196448
A_24_P337058	NM_020307	CCNL1	2.6481	0.000162233
A_23_P200396	NM_019118	C1orf91	2.6492	0.001520073
A_24_P941597	AK055067	AK055067	2.6523	0.040790898
A_24_P181944	NM_016436	PHF20	2.6564	0.006195699
A_23_P206981	NM_007146	VEZF1	2.6586	0.002840002
A_23_P44088	BC004179	MGC2780	2.6615	0.032540536
A_24_P391431	NM_015975	TAF9B	2.6627	0.0110542
A_23_P16242	NM_021143	ZNF20	2.6627	0.026782343
A_23_P14915	NM_001896	CSNK2A2	2.6663	0.01712349
A_23_P348264	NM_144652	LETM2	2.6701	0.026219177
A_24_P641130	NM_080686	BAT2	2.6714	0.000298922
A_23_P145016	NM_006696	BRD8	2.6718	0.007401314
A_23_P147495	NM_021946	BCORL1	2.6735	0.00063868
A_23_P210300	NM_018263	ASXL2	2.6742	0.001710851
A_24_P71661	NM_006371	CRTAP	2.6798	0.035724793
A_23_P107552	NM_014939	KIAA1012	2.6843	0.006180837
A_32_P219011	A_32_P219011	A_32_P219011	2.6859	0.000812777
A_23_P167559	NM_144726	RNF145	2.687	5.70E-05
A_23_P114968	NM_020440	PTGFRN	2.6904	0.004480088
A_23_P307502	AF211119	C9orf53	2.696	0.002568644
A_23_P91552	NM_206965	FTCD	2.6962	0.032913558
A_24_P804667	NM_001043229	LOC751071	2.6991	0.028889108
A_23_P30024	NM_003998	NFKB1	2.7039	0.005305652
A_23_P117447	NM_017924	C14orf119	2.7087	0.003338683
A_24_P89413	NM_021253	TRIM39	2.709	0.002085786
A_23_P110879	NM_147686	TRAF3IP2	2.7106	0.042248886
A_23_P101774	NM_000453	SLC5A5	2.7153	0.039382172
A_24_P349750	ENST00000324414	ENST00000324414	2.717	0.005864983
A_24_P167030	NM_207012	AP3M1	2.7186	0.000548004
A_23_P353048	NM_198455	SSPO	2.7205	0.004201905
A_23_P152970	NM_016339	RAPGEFL1	2.7211	0.0302114
A_23_P56978	NM_005975	PTK6	2.7245	0.012642353
A_23_P211957	NM_001024847	TGFBR2	2.725	0.000698698
A_23_P201445	NM_016076	FAM152A	2.7284	0.002352913
A_23_P91293	NM_004738	VAPB	2.7299	0.006961709

A_23_P86242	NM_018713	SLC30A10	2.7363	0.035934465
A_23_P325501	NM_015358	MORC3	2.7387	0.000678767
A_23_P69491	NM_001664	RHOA	2.7404	0.002658877
A_24_P926125	BC041879	LOC390705	2.7435	0.000116132
A_24_P250227	NM_021724	NR1D1	2.7483	0.013475807
A_23_P51136	NM_004040	RHOB	2.7503	0.001269037
A_23_P89543	NM_014804	KIAA0753	2.7512	0.002915029
A_23_P352226	NM_014994	MAPKBP1	2.7538	0.044236894
A_32_P201773	NM_015365	AMMECR1	2.7553	0.008553896
A_23_P73530	NM_003828	MTMR1	2.7561	0.001459754
A_24_P792389	THC2671169	THC2671169	2.7564	0.015613921
A_23_P304446	NM_006213	PHKG1	2.7688	0.027006438
A_23_P366312	NM_138473	SP1	2.7698	0.002624002
A_23_P259094	NM_025231	ZSCAN16	2.7759	0.004667783
A_23_P12010	NM_015997	C1orf66	2.7776	0.009260444
A_24_P203328	NR_002223	TPRXL	2.7779	0.037887451
A_24_P160969	NM_001076787	TP53I11	2.7802	0.020141659
A_23_P91954	NM_001296	CCBP2	2.7814	0.016636335
A_24_P313678	NM_016060	MED31	2.7869	0.005122134
A_24_P68222	AK023533	AK023533	2.7881	0.003031697
A_23_P256676	NM_013396	USP25	2.7886	0.004315983
A_23_P30363	NM_004199	P4HA2	2.7917	0.047663734
A_24_P316127	AF255792	C1orf31	2.7935	0.017149065
A_23_P200443	NM_003029	SHC1	2.7943	0.00351583
A_23_P69491	NM_001664	RHOA	2.8035	0.002200539
A_24_P72479	NM_006409	ARPC1A	2.8071	0.003354848
A_23_P405815	NM_005609	PYGM	2.8153	0.005599658
A_32_P42925	NM_033546	MRLC2	2.8161	0.001309487
A_23_P60499	NM_021224	ZNF462	2.818	0.028766818
A_23_P359897	NM_030647	JHDM1D	2.8193	6.68E-05
A_24_P84340	NM_198828	MAST4	2.8227	0.009992063
A_23_P132454	NM_020307	CCNL1	2.8237	0.000255281
A_32_P73217	NM_020141	C1orf119	2.8261	0.000607203
A_23_P75609	NM_014956	CEP164	2.8261	0.011321724
A_23_P5550	NM_015317	PUM2	2.8292	0.000398041
A_24_P220548	NM_001010845	ACSM2A	2.8304	0.02851178
A_23_P203191	NM_000039	APOA1	2.8355	0.047396547
A_23_P121898	NM_024615	PARP8	2.8369	7.44E-05
A_24_P233878	NM_017686	GDAP2	2.838	0.02165042
A_23_P49041	NM_024956	TMEM62	2.8383	0.018737009
A_24_P630640	AK126509	CENTB1	2.8409	0.004566682

A_32_P139894	NM_007314	ABL2	2.8432	0.012366974
A_23_P111126	L06175	HCP5	2.8458	0.000196334
A_32_P78488	A_32_P78488	A_32_P78488	2.8462	0.019600967
A_23_P109410	NM_030573	THAP7	2.8497	0.006993931
A_23_P163820	NM_001080417	ZNF629	2.8535	0.007249151
A_23_P313223	NM_138471	LOC144097	2.8541	0.036600376
A_32_P157465	AK091904	AK091904	2.8558	0.01242785
A_23_P55880	NM_144976	ZNF564	2.856	0.001911352
A_23_P102884	NM_203446	SYNJ1	2.8598	0.020845
A_23_P30024	NM_003998	NFKB1	2.8732	0.004117531
A_23_P22994	NM_014223	NFYC	2.8774	0.002110682
A_23_P95060	NM_004443	EPHB3	2.8775	0.03426634
A_24_P787897	NM_022166	XYLT1	2.8788	0.004054761
A_23_P110253	NM_000222	KIT	2.8812	0.002109001
A_23_P200443	NM_003029	SHC1	2.8824	0.00274339
A_23_P91727	NM_012407	PICK1	2.8835	0.012749584
A_23_P424597	NM_152482	C19orf25	2.8861	0.002884101
A_23_P160638	NM_199173	BGLAP	2.8871	0.00814298
A_23_P319565	NM_170753	PGBD3	2.8878	0.003682373
A_23_P107036	NM_003876	TMEM11	2.8883	0.002110026
A_32_P205303	AF070595	AF070595	2.8912	0.007599152
A_24_P346269	THC2657554	THC2657554	2.8916	0.025946824
A_23_P54649	NM_003789	TRADD	2.8951	0.002861939
A_23_P254801	NM_002660	PLCG1	2.899	0.001905125
A_32_P127105	BC037740	BC037740	2.9031	0.001224549
A_23_P151209	NM_030809	FAM130A1	2.9033	0.008848845
A_24_P150676	BC011369	TRAPPC2L	2.9043	0.034193604
A_23_P259663	NM_014569	ZKSCAN5	2.9064	0.031158719
A_32_P212333	BM479077	BM479077	2.9089	0.023859081
A_23_P254801	NM_002660	PLCG1	2.9095	0.001568479
A_24_P374675	NM_001037125	UNKL	2.9127	0.035163993
A_23_P4714	NM_006533	MIA	2.9176	0.001921027
A_23_P26895	NM_016261	TUBD1	2.9192	0.009532721
A_23_P106806	NM_031948	PRSS27	2.9195	0.036443459
A_24_P154868	NM_005588	MEP1A	2.921	0.038912161
A_23_P93360	NM_001136	AGER	2.9258	0.00054064
A_23_P312837	BC007366	C9orf70	2.9277	0.022286927
A_23_P254801	NM_002660	PLCG1	2.9312	0.00134469
A_32_P67769	THC2633447	THC2633447	2.9336	0.032678496
A_23_P54147	NM_016350	NIN	2.9343	0.000229056
A_23_P144622	NM_005471	GNPDA1	2.9356	0.02166529

A_23_P108785	NM_005721	ACTR3	2.9356	0.000527032
A_23_P118544	NM_004859	CLTC	2.9368	0.003905054
A_23_P306203	NM_030754	SAA2	2.9396	0.013544787
A_24_P169773	AF338232	CTAGE4	2.9471	0.003627641
A_23_P79155	NM_001508	GPR39	2.9471	0.003290552
A_23_P43326	NM_006415	SPTLC1	2.9479	0.001934393
A_24_P632160	A_24_P632160	A_24_P632160	2.9498	0.001710981
A_23_P415533	AK054879	AK054879	2.9507	0.003426702
A_32_P9700	NM_002802	PSMC1	2.9511	0.003759437
A_24_P328646	NM_005778	RBM5	2.9514	0.000194263
A_23_P254801	NM_002660	PLCG1	2.9536	0.001370937
A_23_P104892	NM_001418	EIF4G2	2.954	0.000618349
A_23_P157416	NM_032164	ZNF394	2.9545	0.001704552
A_24_P376224	AK098514	LOC100130604	2.9578	4.08E-05
A_24_P392958	NM_144628	TBC1D20	2.9592	0.002213388
A_24_P409420	A_24_P409420	A_24_P409420	2.9601	0.022461015
A_23_P4782	NM_031896	CACNG7	2.9617	0.018495018
A_23_P430201	NM_152446	C14orf145	2.9665	0.017028664
A_23_P208400	NM_024876	ADCK4	2.9725	0.002937315
A_23_P210948	NM_018244	UQCC	2.9728	0.008796692
A_23_P71094	NM_024523	GCC1	2.9753	0.001107978
A_23_P39616	NM_006190	ORC2L	2.9757	0.001343016
A_24_P211351	A_24_P211351	A_24_P211351	2.9776	0.000266657
A_32_P12142	THC2691941	THC2691941	2.9781	0.000367769
A_24_P273303	XR_019523	XR_019523	2.9853	0.034907657
A_32_P34138	ENST00000343959	ENST00000343959	2.9872	0.027196325
A_23_P200443	NM_003029	SHC1	2.9934	0.002677047
A_24_P50759	NM_000594	TNF	2.9934	0.008799074
A_23_P9036	NM_015117	ZC3H3	2.9936	0.003237266
A_23_P254801	NM_002660	PLCG1	2.9964	0.00103017
A_23_P209215	NM_005843	STAM2	3.0058	0.003618269
A_23_P71091	NM_024523	GCC1	3.0101	0.001469549
A_23_P58443	NM_020690	ANKHD1-EIF4EBP3	3.0106	0.000277828
A_23_P38100	NM_173547	TRIM65	3.0117	0.027125373
A_23_P9621	NM_001421	ELF4	3.0129	0.013081871
A_23_P134786	NM_016018	PHF20L1	3.0162	0.000282645
A_24_P238040	NM_004505	USP6	3.0169	0.049419065
A_24_P347488	NM_002802	PSMC1	3.0193	0.02326983
A_23_P165295	NM_002501	NFIX	3.0225	0.022782738
A_32_P163147	NM_182607	VSIG1	3.0238	0.011973946
A_32_P181131	AW467174	AW467174	3.0239	0.026356257

A_23_P256868	NM_152624	DCP2	3.0267	0.001883377
A_23_P154188	NM_024545	SAP130	3.0302	0.00015153
A_24_P93012	NR_002826	LOC401010	3.0323	0.019845418
A_23_P566	NM_014947	FOXJ3	3.0379	0.002285937
A_24_P350644	NM_013318	KIAA0515	3.0389	0.000138549
A_23_P71440	NM_001002296	GOLGA7	3.0542	0.000279784
A_32_P121716	AK057443	AK057443	3.0547	0.044847725
A_23_P110253	NM_000222	KIT	3.0559	0.001208778
A_23_P135966	NM_003951	SLC25A14	3.0592	0.001792551
A_23_P75516	NM_003626	PPFIA1	3.0602	0.000566247
A_23_P253368	NM_018951	HOXA10	3.0718	0.044038169
A_23_P103256	NM_021023	CFHR3	3.0779	0.000862784
A_23_P211047	NM_206866	BACH1	3.0781	0.000116558
A_23_P200443	NM_003029	SHC1	3.0812	0.001546305
A_23_P216188	NM_001556	IKBKB	3.0812	0.004461652
A_23_P256504	NM_001633	AMBP	3.0812	0.025811232
A_23_P360329	NM_001039775	AIM1L	3.0835	0.000449941
A_23_P322367	AL050131	AL050131	3.0899	0.004430889
A_32_P68504	NM_020923	ZDBF2	3.0921	0.048096423
A_23_P14975	NM_032140	C16orf48	3.0921	0.000143388
A_24_P323974	A_24_P323974	A_24_P323974	3.0995	0.003678617
A_23_P89334	NM_003802	MYH13	3.1064	0.026420364
A_24_P230563	NM_000417	IL2RA	3.1088	0.010921867
A_24_P292831	NM_025187	C16orf70	3.1109	0.00631834
A_32_P45297	THC2653459	THC2653459	3.1224	0.013354627
A_32_P235159	CR623684	MSL3L2	3.1251	8.42E-05
A_24_P476386	THC2662279	THC2662279	3.1258	0.000457386
A_23_P425587	NM_001001683	MED11	3.1267	0.00109996
A_23_P72187	NM_004229	MED14	3.1364	0.037108567
A_24_P179504	NM_144668	WDR66	3.1417	0.020704634
A_23_P140821	NM_016948	PARD6A	3.1428	0.002962085
A_23_P257250	NM_015196	KIAA0922	3.1443	0.001957223
A_23_P114164	NM_013444	UBQLN2	3.1461	0.000441603
A_32_P222664	ENST00000372899	UBR2	3.1491	0.000542843
A_24_P941279	AB002307	SRCAP	3.1582	0.00121549
A_24_P205120	NM_199367	SPG7	3.1607	0.044630075
A_23_P144807	NM_001098811	8-Sep	3.1607	0.010413748
A_24_P554040	BF509345	BF509345	3.1709	0.035485381
A_23_P412980	NM_015132	SNX13	3.1734	0.000745654
A_24_P198178	NM_001033953	CALCA	3.1762	0.049358445
A_32_P70073	AV749851	AV749851	3.1802	0.010596862

A_24_P264664	NM_001271	CHD2	3.1866	0.000363559
A_23_P115407	NM_146421	GSTM1	3.1909	0.00771543
A_23_P70213	NM_000038	APC	3.194	0.027858384
A_24_P347185	NM_003717	NPFF	3.2058	0.000826159
A_23_P77160	NM_017610	RNF111	3.2112	0.000156251
A_23_P378329	NM_003395	WNT9A	3.2122	0.008328477
A_23_P88873	NM_022041	GAN	3.2128	0.03234786
A_32_P7308	BX101927	BX101927	3.214	0.004403436
A_23_P402733	NM_032195	SON	3.2159	0.015798246
A_24_P417751	A_24_P417751	A_24_P417751	3.2295	0.039692007
A_23_P200443	NM_003029	SHC1	3.2352	0.001010874
(+)eQC-41	EQC	EQC	3.2373	0.040900653
A_23_P431410	BC065192	C2orf12	3.2426	0.000464595
A_23_P5131	NM_016368	ISYNA1	3.2449	0.002877823
A_23_P351667	NM_003812	ADAM23	3.2509	4.16E-05
A_24_P203689	NM_198525	KIF7	3.2515	0.030789682
A_23_P142574	NM_058165	MOGAT1	3.2532	0.032278911
A_23_P132248	NM_019103	ZMAT5	3.264	0.004319035
A_23_P93321	NM_007109	TCF19	3.2797	0.040585369
A_32_P76137	ENST00000390256	ENST00000390256	3.2831	0.049524172
A_32_P225355	NM_182485	CPEB2	3.2915	0.007796683
A_23_P30547	NM_005565	LCP2	3.2918	0.00048838
A_24_P240137	NM_004487	GOLGB1	3.2991	0.000225286
A_23_P12920	NM_004584	RAD9A	3.3047	0.034400603
A_24_P481314	A_24_P481314	A_24_P481314	3.3142	0.043451935
A_32_P222096	BX115782	BX115782	3.3156	0.011705339
A_23_P213551	NM_001025105	CSNK1A1	3.3392	0.002877395
A_23_P116025	NM_004268	MED17	3.342	0.001947767
A_32_P16263	THC2557351	THC2557351	3.3425	0.020675493
A_24_P715865	AW134708	AW134708	3.3516	0.035265736
A_24_P913482	THC2634909	THC2634909	3.3531	0.004442316
A_23_P256973	A_23_P256973	A_23_P256973	3.3763	0.035148998
A_23_P69493	NM_001664	RHOA	3.3788	0.00056665
A_24_P93728	AK096488	C1orf83	3.3955	0.012920034
A_23_P44964	NM_001010924	C10orf38	3.406	0.009833231
A_23_P152949	NM_033413	LRRC46	3.4069	0.024952632
A_23_P213326	NM_017747	ANKHD1	3.4233	0.001664853
A_32_P224522	NM_024103	SLC25A23	3.4258	0.004813068
A_23_P142756	NM_017759	FLJ20309	3.4259	0.039044903
A_24_P67280	NM_178561	CTAGE6	3.4365	0.001490161
A_24_P366989	THC2569387	THC2569387	3.4527	0.011920772

A_32_P537765	NM_001083909	GPR123	3.4576	0.041960159
A_23_P159316	NM_003571	BFSP2	3.4654	0.024745316
A_23_P343927	NM_175065	HIST2H2AB	3.4722	0.014522416
A_23_P205818	NM_001024463	HISPPD2A	3.4805	0.02226563
A_24_P942211	NM_001110781	RP11-345P4.4	3.4833	8.69E-05
A_24_P153596	AK092445	LOC100132014	3.4859	0.045279373
A_32_P440768	NR_002710	ALOX12P2	3.488	0.019026806
A_23_P354326	AK056275	FLJ31713	3.4943	0.022807965
A_23_P138089	NM_000530	MPZ	3.4952	0.006904072
A_23_P322519	NM_005438	FOSL1	3.4963	0.016376566
A_32_P20240	BX648857	SP3	3.4984	0.000153042
A_23_P137856	NM_002456	MUC1	3.5008	0.003590676
A_32_P147297	CR592318	CR592318	3.5012	0.006328584
A_24_P133933	NM_004309	ARHGDIA	3.5052	0.009783101
A_24_P935889	NM_004035	ACOX1	3.5054	0.045670195
A_23_P207520	Z74615	COL1A1	3.5155	0.040856181
A_23_P201887	NM_005057	RBBP5	3.5183	0.014480606
A_23_P115785	NM_145235	FANK1	3.5314	5.49E-05
A_23_P79416	NM_025133	FBXO11	3.5369	0.000726679
A_24_P393611	NM_138736	GNAO1	3.5445	0.004657014
A_24_P372932	NM_000319	PEX5	3.5536	0.012062076
A_24_P45728	NM_020770	CGN	3.5552	0.014142675
A_23_P156209	NM_033414	ZNF622	3.5554	0.005703543
A_24_P935252	X90874	FXR1	3.5606	0.015927032
A_24_P230057	XR_016590	KRT18P49	3.5638	0.002756881
ETG10_195139	ETG10_195139	ETG10_195139	3.5726	0.012487436
A_24_P169688	NM_005931	MICB	3.5842	0.000631128
A_23_P100240	NM_004062	CDH16	3.5844	0.040210898
A_24_P218814	NM_002905	RDH5	3.586	0.000154964
A_23_P346390	AK094877	CXorf36	3.5874	0.024491844
AT_nD_3	AT_nD_3	AT_nD_3	3.5912	0.012718213
A_24_P921906	AF229803	AF229803	3.5917	0.034973138
A_23_P38987	NM_014516	CNOT3	3.5921	6.56E-05
A_23_P410587	NM_024900	PHF17	3.5982	0.000665182
A_23_P58967	NM_014827	ZC3H11A	3.6039	0.000472924
A_24_P408715	AK098811	LOC285398	3.6107	0.03906667
A_23_P118174	NM_005030	PLK1	3.6138	0.031389299
A_23_P70547	NM_005527	HSPA1L	3.6148	0.000332365
A_24_P243560	AK314822	AK314822	3.6215	0.012488874
A_24_P150160	NM_004265	FADS2	3.6238	0.002683227
A_23_P156017	NM_022130	GOLPH3	3.6322	0.002449774

A_23_P258978	NM_002077	GOLGA1	3.6607	0.002445471
A_24_P66672	NM_001080453	INTS1	3.6663	0.046129256
A_24_P119745	NM_212482	FN1	3.6686	0.035033673
A_24_P350261	ENST00000332902	ENST00000332902	3.6749	0.022115948
A_24_P70183	NM_001040113	MYH11	3.676	0.00668511
A_23_P127467	NM_032325	EIF1AD	3.6777	0.006057611
A_32_P505133	NM_178830	C19orf47	3.6835	0.011774314
A_24_P399694	NM_033089	ZCCHC3	3.6971	0.000799787
A_24_P392030	ENST00000331447	ENST00000331447	3.6996	0.000122446
A_23_P405942	NM_015155	LARP5	3.7021	0.000184178
A_23_P115407	NM_146421	GSTM1	3.7027	0.004119647
A_23_P11644	NM_006945	SPRR2D	3.7191	0.008626861
A_23_P4443	NM_018488	TBX4	3.7381	0.018824708
A_24_P21752	NM_032811	TBRG1	3.7389	0.000365503
A_23_P100676	NM_017575	SMG6	3.7835	0.001400395
A_23_P122254	NM_005124	NUP153	3.7843	0.000262396
A_23_P64611	NM_176798	P2RY6	3.7868	0.000126326
A_23_P58622	NM_181838	UBE2D2	3.7878	0.001924184
A_24_P155815	NM_032382	COG8	3.7949	0.001193209
A_32_P14582	NM_001013640	LOC388503	3.8074	0.030920926
A_24_P515815	AI263220	AI263220	3.8146	0.029206701
A_24_P25137	NM_000740	CHRM3	3.8182	0.034501432
A_23_P170238	NM_020815	PCDH10	3.8233	0.046162554
A_24_P19993	NM_014827	ZC3H11A	3.8303	0.000235568
A_23_P157593	NM_004198	CHRNA6	3.8438	0.041007561
A_23_P98616	NM_153277	SLC22A6	3.8463	0.049232352
A_23_P211572	NM_145733	3-Sep	3.8594	0.044265304
A_32_P210622	THC2660732	THC2660732	3.8854	0.033236752
A_23_P77304	NM_004644	AP3B2	3.8858	0.009061602
A_24_P925124	THC2515402	THC2515402	3.8877	0.010626054
A_23_P148916	NM_148909	OSBPL9	3.8923	9.86E-06
A_32_P70724	NM_006618	JARID1B	3.8929	0.000160759
A_32_P57870	NM_002802	PSMC1	3.9183	0.003220979
A_32_P56584	AW015165	AW015165	3.9284	0.006243035
A_24_P12397	NM_018965	TREM2	3.9332	0.043106425
A_32_P4985	NM_015215	CAMTA1	3.9437	0.016278936
A_23_P50399	NM_138353	LOC90379	3.9573	0.000448253
A_32_P468341	NM_173507	C1orf127	3.9606	0.01952715
A_32_P143048	NM_004799	ZFYVE9	3.9745	0.037809133
A_32_P200608	BC049373	LOC151300	3.9762	0.018282854
A_24_P280833	BC014218	LOC100129138	4.0081	0.002539551

A_24_P934541	A_24_P934541	A_24_P934541	4.0092	0.019416248
A_23_P142969	NM_021088	ZNF2	4.012	0.022565746
A_23_P128956	NM_021260	ZFYVE1	4.0418	0.000196454
A_24_P307712	AK057787	AK057787	4.0459	0.006434409
A_24_P936975	AW337952	AW337952	4.0485	0.034883007
A_24_P84021	XM_001714867	LOC441016	4.0609	0.000851673
A_24_P7021	XR_016847	XR_016847	4.0651	0.042772863
A_32_P87972	AA579646	AA579646	4.0844	0.043619789
A_32_P151875	NM_020781	ZNF398	4.1079	0.000933171
A_24_P132813	NM_001040103	OPALIN	4.1197	0.026066745
A_23_P28761	NM_001030004	HNF4A	4.1247	0.014610959
A_23_P26965	NM_005408	CCL13	4.1266	0.032409804
A_23_P424637	AK098143	LOC283861	4.1582	0.033859974
A_23_P55286	NM_002544	OMG	4.1708	0.0223399
A_24_P291074	AF305819	AF305819	4.1753	0.0132317
A_23_P61524	NM_022903	CCDC71	4.1822	0.01863663
A_23_P3643	NM_001374	DNASE1L2	4.1913	0.004989844
A_23_P615	NM_014215	INSRR	4.1993	0.034678415
A_23_P337875	NM_001040202	PAQR3	4.2023	0.027431599
A_23_P401098	NM_153211	C18orf17	4.2033	0.000461193
A_23_P502750	NM_002392	MDM2	4.2119	0.027956312
A_24_P920102	BC015824	SYF2	4.2555	0.000361384
A_32_P30421	AA975908	AA975908	4.2634	0.019788356
A_24_P109524	NM_018984	SSH1	4.293	0.000156212
A_32_P186121	NM_002637	PHKA1	4.3158	0.024425909
A_23_P133799	NM_201523	KLC4	4.3379	0.00104076
A_24_P23921	NM_001080465	LOC388381	4.3414	0.012486676
A_23_P409449	NM_005421	TAL2	4.3415	0.008086388
A_24_P214043	AF289552	LOC100133287	4.3493	0.032575309
A_23_P123539	NM_002717	PPP2R2A	4.3566	8.23E-05
A_23_P82762	NM_001042416	ZNF596	4.367	0.031160842
A_24_P658584	NM_015278	SASH1	4.37	5.43E-05
A_23_P9875	NM_007170	TESK2	4.3732	0.000198176
A_23_P321846	NM_002251	KCNS1	4.3792	0.014351179
A_23_P19020	NM_005460	SNCAIP	4.4289	0.049608023
A_23_P108216	NM_005031	FXDYD1	4.4471	0.028424095
A_24_P942954	A_24_P942954	A_24_P942954	4.4475	0.009293485
A_24_P315674	XR_018514	XR_018514	4.485	0.036048833
A_23_P110253	NM_000222	KIT	4.4858	3.15E-05
A_23_P72651	NM_001077693	ECSM2	4.4937	0.040137791
A_23_P53417	NM_006741	PPP1R1A	4.4947	0.021488538

A_32_P155035	AK096500	AK096500	4.5086	0.044729502
A_24_P340390	NM_182485	CPEB2	4.5351	0.001141092
A_32_P35839	A_32_P35839	A_32_P35839	4.5424	0.016249227
A_23_P213020	NM_001085382	PSAPL1	4.5464	0.004434361
A_23_P88831	NM_001076785	SLC7A6	4.5479	0.00270926
A_24_P478350	NM_001017924	LRIT2	4.5547	0.009932076
A_24_P392947	A_24_P392947	A_24_P392947	4.5594	0.028952923
A_23_P41588	NM_012208	HARS2	4.5695	4.23E-05
A_24_P286465	NM_033224	PURB	4.5909	0.000301802
A_23_P70566	NM_022110	FKBPL	4.6553	0.020545319
A_23_P357724	NM_002246	KCNK3	4.6596	0.025460194
A_23_P81018	NM_005390	PDHA2	4.6773	0.032950797
A_23_P208085	NM_001025101	MBP	4.683	0.000847089
A_24_P247269	AL834492	C8orf66	4.7132	0.041882919
A_23_P259135	NM_014071	NCOA6	4.73	7.44E-05
(+)eQC-41	EQC	EQC	4.7674	0.012273616
A_24_P230358	XR_018215	XR_018215	4.7708	0.012150623
A_24_P56330	NM_152324	C13orf16	4.781	0.00161551
A_32_P235840	AL526449	AL526449	4.8157	0.000464925
A_23_P70213	NM_000038	APC	4.8232	0.030514271
A_24_P917316	AF035790	AF035790	4.8341	0.0106655
A_23_P30582	NM_004174	SLC9A3	4.8358	0.005519457
A_23_P1912	NM_207341	ZP1	4.8359	0.003379707
A_32_P886589	NM_175895	C12orf61	4.9056	0.032848976
A_24_P179569	NM_000227	LAMA3	4.9272	0.047524839
A_23_P436048	NM_012152	LPAR3	4.9383	0.033927086
A_23_P152462	NM_052874	STX1B	4.9454	0.015038062
A_24_P926895	AF007190	AF007190	4.9669	0.033577258
A_23_P55099	NM_002737	PRKCA	4.9796	0.015322314
A_23_P115805	NM_201564	SYCE1	4.9822	0.032725034
A_24_P186079	AK096324	FLJ39005	4.9859	0.042085978
A_23_P349321	NM_022166	XYLT1	5.0191	0.034389212
A_24_P833067	THC2680363	THC2680363	5.0528	0.028365784
A_23_P155556	NM_001040199	CLDND1	5.0934	9.26E-07
A_23_P140562	NM_001040655	TTC23	5.0981	0.048935535
A_24_P940738	A_24_P940738	A_24_P940738	5.0999	0.045385099
A_24_P237896	XR_018580	LOC392787	5.1478	0.026832768
A_23_P369237	NM_004797	ADIPOQ	5.1706	0.01354588
A_23_P257445	AF119871	AF119871	5.1814	0.001033493
A_24_P306644	XR_018532	XR_018532	5.1933	0.02205048
A_32_P148745	AK027618	FLJ14712	5.2056	0.000295385

A_32_P4595	AF010236	AF010236	5.2232	0.009370349
A_24_P919974	NM_000537	REN	5.243	0.005734509
A_23_P398943	NM_001047605	KIR3DX1	5.2532	0.019497045
A_32_P93841	BG682198	BG682198	5.2572	0.02722624
A_24_P124624	NM_002543	OLR1	5.2873	0.03129368
A_23_P20927	NM_003747	TNKS	5.3	0.047895269
A_32_P15288	BX114329	BX114329	5.3538	0.026930392
A_23_P55099	NM_002737	PRKCA	5.374	0.024933605
A_32_P119869	BG185346	BG185346	5.3912	0.002634288
A_24_P221745	BC008048	LOC440934	5.4046	0.043621919
A_23_P81094	THC2603089	THC2603089	5.4056	0.007503631
A_23_P56433	NM_032411	C2orf40	5.4288	0.046026574
A_24_P229884	BC022385	LOC440335	5.4654	0.022670903
A_24_P202637	BC017357	ZNF765	5.5083	0.041645594
A_23_P301328	ENST00000400399	ENST00000400399	5.5214	0.000332181
A_24_P929729	X65665	SOX3	5.5617	0.03442692
A_32_P136776	AK000872	LOC644192	5.5867	0.02606886
A_24_P538839	BC020376	BC020376	5.6275	0.000352583
A_24_P932785	AF318320	GATA4	5.7113	0.011869846
A_24_P941217	AK096323	SGPP2	5.7271	0.043490073
A_32_P233379	CD671494	CD671494	5.7454	0.047220947
A_24_P924932	NM_001010922	BCL2L15	5.7718	0.04786343
A_32_P96124	A_32_P96124	A_32_P96124	5.7774	0.000576367
A_32_P232808	AF289566	AF289566	5.8376	0.049132812
A_23_P257387	NM_006529	GLRA3	5.8615	0.041729187
AT_ssH_GD_5	AT_ssH_GD_5	AT_ssH_GD_5	5.9508	0.010862368
A_24_P111106	NM_000800	FGF1	5.9646	0.012021333
A_23_P253168	A_23_P253168	A_23_P253168	5.9827	0.045922235
A_24_P926529	BC029395	MPHOSPH6	6.0337	0.012376702
A_32_P209702	THC2681437	THC2681437	6.0922	0.038496372
A_23_P4850	NM_145233	ZNF625	6.0931	0.029574305
A_23_P311410	AL831885	FLCN	6.1072	0.00030197
A_23_P123015	AK026020	WBSCR23	6.1277	0.037125572
A_24_P216456	NM_001004343	MAP1LC3C	6.199	0.03003372
A_23_P331400	NM_199340	LRRC37A3	6.3067	0.014048684
A_23_P331770	NM_018561	USP49	6.3114	0.005427464
A_24_P307653	NM_182767	SLC6A15	6.317	0.028701288
A_24_P144773	NM_144726	RNF145	6.3437	0.001566012
A_23_P128396	NM_194271	RNF34	6.4331	8.07E-05
A_24_P943411	A_24_P943411	A_24_P943411	6.4876	0.02652615
A_24_P915338	AF209507	AF209507	6.5009	0.043775664

A_32_P66684	THC2689970	THC2689970	6.5351	0.018317179
A_23_P381505	AK075525	FLJ14712	6.5402	0.031687892
A_23_P56659	NM_133637	DQX1	6.5695	0.008129882
A_32_P195647	NM_030624	KLHL15	6.5915	0.032694275
A_23_P153128	AF295728	C18orf2	6.6248	0.030545772
A_23_P303833	NM_174934	SCN4B	6.663	0.00107702
A_32_P108066	THC2616558	THC2616558	6.6786	0.035010939
A_32_P16018	THC2729895	THC2729895	6.6991	0.023660055
A_24_P325992	NM_002310	LIFR	6.7289	0.032581726
A_24_P634768	AK026416	FLJ22763	6.7572	0.019201222
(-)3xSLv1	NegativeControl	NegativeControl	6.7736	0.04353629
A_23_P51311	NM_001010857	LELP1	6.8492	0.048014036
ETG10_236652	ETG10_236652	ETG10_236652	7.1255	0.003634884
A_23_P358709	NM_020731	AHRR	7.1962	3.10E-05
A_24_P418216	XR_018299	XR_018299	7.4522	0.00582353
A_32_P42705	BC017721	LOC100144602	7.4749	0.019642723
A_24_P37300	AF052115	AF052115	7.5274	0.002673278
A_23_P256425	NM_014479	ADAMDEC1	7.5286	0.003348314
A_24_P945298	AK128700	ZNF788	7.5641	0.032313631
A_24_P262321	NM_173622	CDRT4	7.5806	0.026951642
A_24_P260122	NM_145753	PHLDB2	7.6035	0.034145543
A_24_P523368	BG461173	BG461173	7.7762	0.000182967
A_24_P285522	NM_003618	MAP4K3	7.7816	0.029593204
A_24_P324538	A_24_P324538	A_24_P324538	7.8027	0.024455017
A_32_P142195	A_32_P142195	A_32_P142195	7.8043	0.025841592
A_24_P717824	A_24_P717824	A_24_P717824	7.8274	0.007752257
A_23_P128613	NM_024089	KDELC1	7.8275	0.02951137
A_23_P128613	NM_024089	KDELC1	7.8369	0.01358842
A_23_P63096	NM_001004319	VHLL	7.8435	0.04973222
A_32_P47157	AK054925	LOC92973	7.8672	0.021134189
AT_L_5	AT_L_5	AT_L_5	7.9384	0.049242309
A_32_P117957	CV323908	CV323908	7.9891	0.030787292
A_23_P204654	NM_000899	KITLG	8.1119	0.030095847
A_32_P426675	BC009366	BC009366	8.3702	0.023375082
AT_T_M	AT_T_M	AT_T_M	8.3793	0.037522768
A_23_P95244	AX721299	AX721299	8.4844	0.034916838
A_24_P865672	CR595483	CR595483	8.5004	0.014032334
A_24_P162226	NM_015347	RIMBP2	8.6012	0.010439127
A_24_P59236	DQ227570	RESP18	8.6409	0.004747219
A_32_P81676	AL832535	LOC157627	8.6839	0.000128664
A_24_P125469	NM_006033	LIPG	8.697	0.038306921

A_24_P418699	ENST00000332666	ENST00000332666	8.7335	0.007407263
A_23_P128613	NM_024089	KDELC1	8.7999	0.037566289
A_32_P195501	THC2659392	THC2659392	8.8731	0.005052351
A_24_P917729	BC009775	AGK	8.8772	0.046667055
A_24_P268323	NM_173532	FNDC7	8.8895	0.02342991
A_23_P257881	A_23_P257881	A_23_P257881	8.9742	0.023992281
A_24_P350832	AJ437018	AGTPBP1	9.1007	0.000401876
A_24_P767725	XR_017120	LOC646090	9.1298	0.024370161
A_32_P185530	A_32_P185530	A_32_P185530	9.2436	0.04364456
A_24_P911872	AK094726	AK094726	9.2653	0.02403276
A_24_P944113	AI401434	AI401434	9.3034	0.0203907
A_23_P150619	NM_006458	TRIM3	9.3069	0.01214165
A_32_P190303	NM_198461	LONRF2	9.3104	0.017638836
A_24_P747625	BQ003493	BQ003493	9.4853	0.019022612
A_32_P185393	THC2747684	THC2747684	9.6241	0.023675952
A_23_P214803	NM_014841	SNAP91	9.6916	0.020286878
A_23_P32474	NM_022842	CDCP1	9.7593	0.047745465
A_24_P771821	BF478043	BF478043	9.955	0.031090389
A_23_P144005	NM_015931	C3orf32	10.013	0.001012253
A_23_P13493	NM_152430	OR51E1	10.013	0.042796762
A_23_P5968	NM_003008	SEMG2	10.082	0.042530448
A_24_P248031	BC017945	BC017945	10.144	0.040656693
A_24_P900555	XR_019510	XR_019510	10.163	0.042101611
A_32_P47410	BX648527	FLJ43080	10.233	0.023701913
A_24_P925342	AB209275	MAN1C1	10.242	0.047222716
A_24_P222165	AK074381	GAB1	10.329	0.036805584
A_23_P11081	NM_003886	AKAP4	10.405	0.00821241
A_23_P259270	NM_003948	CDKL2	10.617	0.047767592
A_23_P148255	NM_153488	MAGEA2B	10.628	0.006440463
A_23_P62099	NM_016249	MAGEC2	10.644	0.027787934
A_24_P407439	AA020958	AA020958	10.799	0.037369204
A_24_P915030	A_24_P915030	A_24_P915030	10.829	0.03084932
A_24_P177932	NM_001080479	RGNEF	10.853	0.049836697
A_23_P71213	NM_130768	ASZ1	10.858	0.018812431
A_23_P155807	NM_024936	ZCCHC4	10.863	0.007168019
A_32_P495952	BC020909	BC020909	10.969	0.013356828
A_23_P16630	NM_017506	OR7A5	11.545	0.042296746
A_32_P25647	BX088949	BX088949	11.66	0.02728166
A_23_P140797	NM_001796	CDH8	11.671	0.010634362
A_24_P919265	A_24_P919265	A_24_P919265	11.691	0.025711428
A_23_P255027	BC007304	MGC15705	11.747	0.006566641

A_24_P923128	THC2562425	THC2562425	11.759	0.025679346
A_24_P114142	NM_005076	CNTN2	11.811	0.022911652
A_23_P77212	NM_022784	IQCH	11.823	0.026591738
A_23_P251974	NM_007323	ZFYVE9	11.911	0.026546736
A_32_P233877	NM_207411	XKR5	12.075	0.027730306
A_32_P32537	BF805854	BF805854	12.106	0.008290121
A_23_P252062	NM_138711	PPARG	12.13	0.001440753
A_32_P77762	BX091687	BX091687	12.155	0.02338744
A_23_P49145	NM_152338	ZG16	12.163	0.004973854
A_23_P145159	NM_001371	DNAH8	12.186	0.019902805
A_24_P944336	BC036071	ELAVL4	12.191	0.035295821
A_24_P608931	AW043836	AW043836	12.196	0.023695309
A_24_P510081	AK026477	AK026477	12.233	0.024783528
A_24_P44992	ENST00000400371	ENST00000400371	12.271	0.035130999
A_24_P917530	A_24_P917530	A_24_P917530	12.326	0.029455701
A_24_P915883	A_24_P915883	A_24_P915883	12.329	0.006755719
A_23_P217468	NM_002025	AFF2	12.346	0.040646677
A_23_P45068	AF006822	MYT2	12.411	0.032305981
A_32_P199462	NM_001099334	LOC389073	12.423	0.030256049
A_23_P55099	NM_002737	PRKCA	12.464	0.001768482
A_24_P242440	NM_003780	B4GALT2	12.539	0.03817505
A_24_P206328	NM_005020	PDE1C	12.567	0.001689837
A_24_P857669	AB002438	AB002438	12.646	0.032553653
A_24_P926272	W95720	W95720	12.704	0.004265021
A_23_P130027	NM_017957	EPN3	12.803	0.02269279
A_23_P48022	NM_023918	TAS2R8	12.804	0.014602615
A_24_P118052	NM_199254	TPTE2	12.935	0.018290142
A_32_P28151	THC2670307	THC2670307	12.988	0.023000867
A_24_P270747	NM_153688	ZFP1	13.073	0.04454237
A_24_P937931	A_24_P937931	A_24_P937931	13.116	0.021567781
A_24_P922647	A_24_P922647	A_24_P922647	13.143	0.026723974
A_32_P234132	THC2752010	THC2752010	13.197	0.025817894
A_24_P924979	CB052856	CB052856	13.206	0.045383911
A_24_P247640	THC2489251	THC2489251	13.27	0.049723153
A_24_P123833	NM_012431	SEMA3E	13.307	0.032641545
A_23_P122052	NM_001008397	LOC493869	13.361	0.031957198
A_24_P912186	A_24_P912186	A_24_P912186	13.362	0.034536746
A_24_P910718	A_24_P910718	A_24_P910718	13.374	0.037034431
A_23_P122052	NM_001008397	LOC493869	13.423	0.03941416
A_23_P158851	NM_032961	PCDH10	13.442	0.029937011
A_23_P158555	NM_006514	SCN10A	13.524	0.015490486

A_32_P346172	NM_173479	WDR88	13.582	0.042226989
A_24_P246710	NM_017954	CADPS2	13.716	0.025268489
A_32_P113845	A_32_P113845	A_32_P113845	13.731	0.033812196
A_24_P818378	A_24_P818378	A_24_P818378	13.903	0.004679401
A_23_P203698	AK128620	MOGAT2	14.083	0.035206836
A_32_P88262	NM_020949	SLC7A14	14.123	0.009863368
A_32_P46571	NM_017821	RHBDL2	14.25	0.027627439
A_24_P937806	A_24_P937806	A_24_P937806	14.263	0.029383836
A_23_P56913	NM_001029881	CIB4	14.273	0.008925835
A_24_P918364	A_24_P918364	A_24_P918364	14.28	0.015028553
A_24_P922758	A_24_P922758	A_24_P922758	14.31	0.036240958
A_24_P216453	AY163814	SCAMPER	14.315	0.042988297
A_24_P941759	NM_017769	KIAA1333	14.354	0.021191812
A_32_P158875	AK091766	LOC255480	14.378	0.043162381
A_32_P40890	THC2659529	THC2659529	14.38	0.014697843
AT_P_M	AT_P_M	AT_P_M	14.391	0.026492769
A_32_P54128	THC2657493	THC2657493	14.415	0.031767637
A_23_P15619	NM_032391	C17orf92	14.435	0.032116835
(-)3xSLv1	NegativeControl	NegativeControl	14.499	0.030648254
A_24_P921862	A_24_P921862	A_24_P921862	14.544	0.03292804
A_32_P43769	BX095557	BX095557	14.594	0.032655308
A_24_P263878	NM_007314	ABL2	14.67	0.037152303
A_24_P940365	BC041481	FLJ35848	14.738	0.034717847
A_23_P29697	NM_001248	ENTPD3	14.738	0.030568975
A_24_P228978	AK094895	C1QTNF3	14.855	0.004445566
A_32_P141849	A_32_P141849	A_32_P141849	14.977	0.007437944
A_24_P935575	AY358233	UNQ6484	15.005	0.033765817
A_24_P937478	U49441	U49441	15.039	0.044296991
RC8	RC8	RC8	15.126	0.019869998
A_32_P218671	THC2672257	THC2672257	15.154	0.039029755
A_32_P17917	THC2777277	THC2777277	15.208	0.009157247
A_23_P141076	NM_033151	ABCC11	15.434	0.00861449
A_23_P34897	ENST00000325769	ENST00000325769	15.518	0.013554061
A_24_P709536	BC002644	MGC4859	15.677	0.029448337
A_24_P744259	BF692226	BF692226	15.688	0.027320733
A_24_P10444	NM_173623	TTL6	15.797	0.037882588
A_24_P239219	AF420438	AF420438	16.08	0.028539548
A_32_P839537	AF086464	AF086464	16.28	0.049075953
A_23_P68167	NM_001298	CNGA3	16.374	0.042397321
A_23_P93122	NM_005588	MEP1A	16.383	0.049306704
A_32_P5568	XM_001128764	LOC728904	16.404	0.023230713

A_23_P79591	NM_000384	APOB	16.481	0.041451643
A_23_P10995	NM_014483	RBMS3	16.548	0.045150891
A_24_P153898	NM_130803	MEN1	16.565	0.033902626
A_32_P65045	AF074982	AF074982	16.62	0.015929476
A_32_P140521	NM_173812	DPY19L2	16.758	0.033937536
A_32_P221774	BX099483	BX099483	16.81	0.011838221
A_32_P424932	AK023104	AK023104	16.959	0.046581286
A_23_P109785	NM_003889	NR1I2	17.011	0.033938283
A_32_P121350	BM681332	BM681332	17.059	0.02199862
A_32_P148616	THC2660032	THC2660032	17.067	0.028331528
AT_P_3	AT_P_3	AT_P_3	17.244	0.040901272
A_23_P134162	NM_016356	DCDC2	17.298	0.044335542
A_24_P845631	A_24_P845631	A_24_P845631	17.321	0.015832631
A_24_P391991	NM_001105282	LOC340286	17.657	0.007741406
A_32_P6868	NM_015472	WWTR1	17.701	0.049343106
A_32_P118847	NR_021491	FLJ42709	18.076	0.016162178
A_23_P166027	NM_012444	SPO11	18.125	0.012236313
A_23_P403488	NM_176821	NLRP10	18.128	0.035256772
A_24_P365955	AF258576	LOC200261	18.133	0.017411973
A_24_P796321	CR746510	LEUTX	18.675	0.017933293
A_24_P400842	NM_207517	ADAMTSL3	19.561	0.02456866
RC11	RC11	RC11	19.628	0.042299165
A_24_P919567	BG743700	BG743700	19.762	0.048948147
A_32_P156237	BC010054	RPSA	19.865	0.049733047
AT_L_5	AT_L_5	AT_L_5	19.895	0.032088432
A_32_P53433	BF956667	BF956667	20.229	0.032431547
A_32_P79648	BC005300	DTNA	20.246	0.028463944
A_23_P25150	NM_006897	HOXC9	20.635	0.005096861
A_23_P7250	NM_001263	CDS1	20.866	0.046281966
A_24_P492458	BX101405	BX101405	21.236	0.026462822
A_24_P585747	CR604826	CR604826	21.288	0.023444355
A_23_P39881	AL136789	C2orf14	21.523	0.025752097
A_23_P307161	AF118078	PRO1848	21.841	0.017533066
A_24_P673119	A_24_P673119	A_24_P673119	22.141	0.021134414
A_23_P167683	NM_000514	GDNF	22.746	0.002878573
A_24_P76981	AF119914	AF119914	23.479	0.046103716
A_23_P1173	NM_004132	HABP2	23.814	0.021305901
A_24_P918552	CK818049	CK818049	24.314	0.045675502
A_23_P382240	NM_178505	TMEM26	24.347	0.030470298
A_23_P325100	NM_021240	DMRT3	24.791	0.041238043
A_23_P118967	NM_005559	LAMA1	24.863	0.014320943

A_23_P7835	NM_004440	EPHA7	25.198	0.01860067
A_32_P91005	BM697215	BM697215	25.634	0.033293503
A_23_P119464	NM_033103	RHPN2	25.754	0.022732977
A_24_P365506	NM_017671	FERMT1	25.831	0.003032872
A_32_P114475	BQ045216	BQ045216	26.623	0.021202676
A_32_P81674	AK091593	LOC157627	27.235	0.001749581
A_23_P82868	NM_000930	PLAT	28.714	0.012124958
A_24_P315954	XR_018525	XR_018525	32.87	0.049666197
A_23_P215790	NM_005228	EGFR	33.961	0.033551345
A_23_P142849	NM_005168	RND3	35.687	0.023545167
A_23_P412515	NM_012129	CLDN12	38.12	0.032399248
A_24_P163168	NM_016205	PDGFC	38.937	0.036067665
A_23_P408376	NM_025015	HSPA12A	39.843	0.000536102
A_24_P824642	A_24_P824642	A_24_P824642	46.823	0.040604053
A_24_P931030	BC035145	LOC283624	51.405	0.041379762
A_32_P128952	A_32_P128952	A_32_P128952	53.374	0.032921336
A_32_P379105	NM_182699	DDX53	56.085	0.032513652
A_23_P351270	NM_002581	PAPPA	58.207	0.022804938
A_23_P90980	NM_005383	NEU2	59.58	0.001804918
A_23_P380309	NM_173629	C18orf26	81.657	0.025260445
A_24_P911051	THC2538873	THC2538873	94.682	0.017511095

[0067] A small number of genes (36) had more than one associated probe, of which one or more probes displayed up-regulation and one or more displayed down-regulation.

[0068] In a subsequent microarray analysis on RNA isolated from 150 female catheter lab patients enrolled in the PREDICT trial, six genes were selected for further evaluation via RT-qPCR due to their association with self-reported smoking status: SASH1; P2RY6; MUC1; LRRN3; MGAT3; AND CLDND1.

[0069] Among microarray probes that were biologically annotated and had non-zero expression, these were selected because they exhibited the strongest absolute correlation with smoking status ($r > 0.425$). All have higher expression with smoking status. Five of these six RT-qPCR probe designs were successful; the design for MGAT3 was not, and this gene was not included. These 5 genes are designated as Set 1. Corresponding Agilent Whole Genome Array probes and Gene Name for the Set 1 markers (and MGAT3) are provided in Table 2.

Table 2

Probe	Gene Name
A_23_P93442	SASH1

A_23_P64611	P2RY6
A_23_P137856	MUC1
A_23_P31376	LRRN3
A_24_P245838	MGAT3 (not used)
A_23_P155556	CLDND1

Phase II – RT-qPCR Analysis.

[0070] In an RT-qPCR analysis of RNA isolated from 1039 PREDICT patients, 261 genes, including the Set 1 genes, were assessed for association with smoking status (Table 3). The additional 255 genes were selected for association with coronary disease, associated traits (e.g., lipid levels) or as cell markers. Expression values for the 261 genes were normalized to the mean of ACLY and TFCP2; expression values for genes were truncated if values exceeded the 0.01 and 0.99 quantile. Of the genes, 135 showed a significant association with smoking status in an age- and sex-adjusted logistic regression model; 59 of the 80 significant array genes remained significant by qRT-PCR. Of this set, all but 3 (HIST1H2AC, NONO, PAPD4) agreed with the array data in directionality of gene expression. LRRN3 remained the gene most significantly associated with smoking status, followed by CLDND1, SASH1, and P2RY6 ($p < 0.001$). Note that in Table 3, below, for the genes GNAS and FTH1, an “x” suffix in the gene symbol denotes that the assay for the given gene was designed against an exonic sequence; an “n” suffix in the gene symbol denotes that the assay for the given gene was designed against an intronic sequence.

Table 3 – 261 Gene Set

ABCA1	ABCG1	ABLIM1	ACLY	ACOX2	ADORA3	AF086547
AF161365	AF289562	AGER	AGPAT3	AK2	AKAP8L	AKNA
ALS2CR2	AMN	ANAPC5	ANKRD55	ANP32C	APEX1	APOE
APOL4	AQP9	AR	ARG1	ARHGEF10L	ASGR1	ATP5G3
B3GAT1	BPNT1	C5AR1	C5orf4	C6ORF25	CALML4	CAPN10
CASP5	CAT	CCL2	CCL5	CCNB1	CCND2	CCR3
CCR7	CD11B	CD161	CD163	CD177	CD19	CD1D
CD248	CD33	CD34	CD3D	CD44	CD45RA	CD62P

CD63	CD79B	CD8	CD83	CD84	CD86	CDCA7
CENTB5	CLDND1	CLEC4E	CMTM5	COL13A1	COX4I1	COX6C
CPA3	CR2	CR596746	CREB1	CRIP1	CX3CR1	CXCR5
CXXC1	CYP4F2	DGKA	DGKH	DIAPH1	DIAPH2	DPYSL4
DTD1	DUSP6	E01979	ELF1	EMR1	ENPP3	EPHB1
ESR1	EXOC3L2	F11R	FAM20B	FANK1	FOXP3	FTH1n
FTH1x	GALNT3	GAPDH	GATA2	GFOD1	GNASn	GNASx
GOPC	GPBR	GPR56	GPX4	GTFCP2	GUSB	GZMB
HDAC10	HDC	HDLBP	HIST1H2AC	HMG3	HMOX1	HNRNPF
HNRNPH2	HNRPF	IFI27	IFIT3	IFNAR1	IL13RA1	IL17RC
IL18RAP	IL3RA	IL4	IL6	IL7R	IL8RB	ILK
IQCE	IRF7	ITGA2B	ITPK1	KCNE1	KCNE3	KLRC4
LDLR	LEF1	LEMD2	LIN9	LITAF	LOC440461	LPCAT1
LRP1	LRRC25	LRRN3	LTK	LY75	MBOAT7	MCM3
MFS9	MIER1	MPEG1	MRPL11	MRPS12	MS4A7	MSN
MTCH1	MUC1	MYLIP	NBP11	NCF4	NCOR2	ND3
NDUFA1	NDUFS7	NEFH	NELL2	NF1	NISCH	NME1
NMI	NONO	NRCAM	NUDT16	OLIG1	OPRL1	OSBPL6
P2RY6	PACSIN2	PAPD4	PDGFD	PDGFRB	PDK1	PECAM1
PECR	PFKFB2	PLA2G6	PLCD1	POLD3	PPP2R2B	PTX3
RAB32	RABGAP1L	RAD54B	RBM17	RHCE	RNPS1	RORC
RP9	RPL28	RPP14	RPS4Y1	S100A12	S100A8	SAMD3
SASH1	SCML4	SECISBP2	SEPX1	SERGEF	SERPINB2	SETD2
SF3B5	SFRS10	SILV	SIRT2	SIRT4	SLAMF7	SNRPA
SOAT2	SORCS3	SORT1	SPECC1	SPHAR	SPIB	SPOCK2
SREBF1	SRP9	SSRP1	STX10	SYNE1	TARDBP	TFCP2
TFIP11	TLR2	TLR4	TMC8	TMED9	TMEFF2	TMTC3
TNFAIP6	TNFRSF10C	TNFRSF17	TNXB	TOP2A	TP53BP1	TPOR

TRAF2	TREML4	TXNDC5	UCK2	VCAN	VEZF1	WDR18
ZNF16	ZNF3					

Determining Discriminating Threshold Values for Individual Markers.

[0071] In certain embodiments, smoking status is determined by analyzing the expression level of a single marker or a group of markers to determine whether the expression level is significantly different from a threshold level established by analysis of the expression level of the same marker or markers in a non-smoking subject or population of non-smoking subjects. A significant difference between a subject's value for the marker or markers and the threshold value indicates smoking status. Conversely, methods can be developed to set thresholds using a smoking subject or population of non-smoking subjects. In this embodiment a significant difference indicates non-smoking status of the subject providing the test sample.

Example 1 – Predictive Modeling.

[0072] A predictive model for smoking status was built using stepwise forward logistic regression (9), with smoking status as the dependent variable and age, sex, and gene expression as the independent variables. A patient was defined as a smoker if their self-reported smoking status was a current smoker or one who had recently quit (within the previous two months). Five genes were selected by the model, designated as Set 2. Three of the Set 1 genes were selected by the model (CLDND1, LRRN3, MUC1). The remaining 2 genes (GOPC, LEF1) were included in the 259 gene analysis due to CAD association and as a CD8⁺ naïve cell marker, respectively. The probe and primer sequences used to assess the expression levels of the Set 2 genes are given in Table 4.

Table 4

RefSeq	Gene Name	Forward Primer Sequence 5' → 3'	Reverse Primer Sequence 5' → 3'	Reporter Sequence 5' → 3'
NM_019895	CLDND1	GCCACGGGC ATTCTCCAT (SEQ ID NO:1)	CATAACAACCTTAC TGAGCCCAGTGT (SEQ ID NO:2)	CACAGACCT GCAAGGAG (SEQ ID NO:3)
NM_018334	LRRN3	CTGCCTCTCTC CAGAAATGAACT (SEQ ID NO:4)	CTCACCTAATGCA AAGGTTGGTTTC (SEQ ID NO:5)	ATAGCTGTGT CCACCATCAC (SEQ ID NO:6)
NM_016269	LEF1	CAAGAATGACAG CTGCCTACATCT (SEQ ID NO:7)	GCTGCCTT GGCTTTGCA (SEQ ID NO:8)	TCGTTTTCCA CCATGTTTC (SEQ ID NO:9)

NM_002456	MUC1	CCCCTAGCAGTA CCGATCGTA (SEQ ID NO:10)	GCTGCTGCCA CCATTACCT (SEQ ID NO:11)	CCCCTATGAG AAGGTTTC (SEQ ID NO:12)
NM_020399	GOPC	GTGCTAGTTGCA AAGACACAAGTG (SEQ ID NO:13)	ATGTGTGTCAGTT ACTGCCTTCTT (SEQ ID NO:14)	CTTGTAATACTT TGATTTCCC (SEQ ID NO:15)

[0073] The resulting model formula is:

$$\log(\text{Pr}(\text{Smoker})/(1-\text{Pr}(\text{Smoker}))) = 15.7306 + 0.3876 * \text{SEX} - 3.3368 * \text{CLDND1} - 3.4034 * \text{LRRN3} - 1.4847 * \text{MUC1} + 5.9209 * \text{GOPC} + 2.7166 * \text{LEF1},$$

where SEX = 1 if male, 0 if female; Pr = probability.

[0074] For predicting self-reported status, the model has a mean AUC of 0.932 in ten-fold cross-validation. At a cutoff probability of 0.5, the fitted sensitivity of the model was 0.784, with a specificity of 0.953. More details of model performance are provided in the Table 5. Model performance was validated using 180 independent PREDICT subjects, with an AUC of 0.82 (95% CI 0.65-0.94), a sensitivity of 0.63 and a specificity of 0.94.

Table 5

Self-Reported Status	Number of Patients	Predicted Status		Percent Agreement
		Smoker	Non-Smoker	
Current Smoker	195	157	38	81%
Quit Recently	27	17	10	62%
Former	341	29	312	91%
Never	476	9	467	98%
Total	1039			92%

Example 2 – Cross-Validated Sub-Model Development.

[0075] Ten-fold cross-validated sub-models were developed for all subsets of the Set 2 genes using the approach described in Example 1 (*i.e.*, stepwise forward logistic regression (9), with smoking status as the dependent variable and age, sex, and gene expression as the independent variables). The performance of these sub-models is set out in Table 6.

Table 6

CLDND1	LRRN3	MUC1	GOPC	LEF1	AUC
1					0.833
	1				0.859
1	1				0.884
		1			0.734
1		1			0.844
	1	1			0.878
1	1	1			0.888
			1		0.54
1			1		0.857
	1		1		0.879
1	1		1		0.915
		1	1		0.73
1		1	1		0.865
	1	1	1		0.897
1	1	1	1		0.917
				1	0.634
1				1	0.831
	1			1	0.912
1	1			1	0.918
		1		1	0.747
1		1		1	0.841
	1	1		1	0.923
1	1	1		1	0.924
			1	1	0.642
1			1	1	0.863
	1		1	1	0.916
1	1		1	1	0.928
		1	1	1	0.75
1		1	1	1	0.869
	1	1	1	1	0.926

[0076] The equations corresponding to these sub-models are set out below in Table 7.

They are applied in a similar manner as the equation set out in Example 1 and are used to solve for $\log(\text{Pr}(\text{Smoker})/(1-\text{Pr}(\text{Smoker})))$. For example, the formula associated with submodel 1 is:

$$\log(\text{Pr}(\text{Smoker})/(1-\text{Pr}(\text{Smoker}))) = 3.411334 + 0.5660 * \text{SEX} - 6.4940 * \text{CLDND1},$$

where SEX = 1 if male, 0 if female; Pr = probability.

Table 7

Submodel	Intercept	Sex	CLDND1	LRRN3	MUC1	GOPC	LEF1
1	3.411334	0.565969	-6.49396	NA	NA	NA	NA
2	2.61478	0.780253	NA	-2.10677	NA	NA	NA
3	4.59527	0.77818	-4.1712	-1.57259	NA	NA	NA
4	12.42875	0.737512	NA	NA	-2.17005	NA	NA
5	10.20879	0.720202	-5.61562	NA	-1.18637	NA	NA
6	14.47653	1.083409	NA	-2.00953	-1.93001	NA	NA
7	12.45022	0.974022	-3.09362	-1.62647	-1.36313	NA	NA
8	-0.38902	0.418774	NA	NA	NA	-1.10845	NA
9	1.325027	0.380818	-7.88323	NA	NA	4.903013	NA

10	0.111031	0.596036	NA	-2.50111	NA	5.231238	NA
11	1.244433	0.489895	-5.84709	-2.00238	NA	8.606524	NA
12	12.67808	0.759998	NA	NA	-2.15908	-0.51445	NA
13	7.773203	0.526467	-7.04575	NA	-1.11259	4.773315	NA
14	12.25793	0.896207	NA	-2.44872	-2.01558	5.763504	NA
15	8.447132	0.668232	-4.84284	-2.04127	-1.2398	8.471973	NA
16	-2.17829	0.638749	NA	NA	NA	NA	-1.08098
17	2.884638	0.642944	-6.26935	NA	NA	NA	-0.3679
18	9.671707	0.281206	NA	-4.00991	NA	NA	3.595369
19	10.37175	0.348651	-3.40865	-3.29712	NA	NA	3.179526
20	11.03694	0.960992	NA	NA	-2.10223	NA	-0.94278
21	9.67367	0.793541	-5.41932	NA	-1.17746	NA	-0.33745
22	21.94679	0.513516	NA	-3.91827	-1.96486	NA	3.721327
23	20.054	0.495412	-2.06062	-3.48288	-1.59925	NA	3.436186
24	-3.00575	0.623444	NA	NA	NA	1.096089	-1.22835
25	-1.1565	0.541509	-7.78844	NA	NA	6.953846	-1.13715
26	7.568068	0.186808	NA	-4.12955	NA	3.364823	3.332477
27	6.490723	0.234579	-4.69859	-3.21159	NA	6.318137	2.42355
28	10.076	0.94251	NA	NA	-2.11189	1.354226	-1.12336
29	5.007036	0.6789	-7.00759	NA	-1.03156	6.641832	-1.06194
30	19.86698	0.431392	NA	-4.06979	-2.02711	3.946928	3.407628

Example 3 – Cross-Validated Models using Highly-Correlated Substitute Markers.

[0077] Models were developed based on the model described in Example 1, in which one of the markers was substituted with a highly correlated marker; the criterion for selecting the highly correlated marker was maximum (Pearson) correlation R to the original gene. Table 8 shows the mean AUC in ten-fold cross-validated models where each gene in the smoking model was replaced by a gene selected from 253 study genes that was not already included in the smoking model. Correlations (expressed as R values) are also included in Table 8.

Table 8

Original	Substitute	AUC	R ²
CLDND1	IL7R	0.928	0.5127363
LRRN3	CCR7	0.868	0.703982
MUC1	FOXP3	0.927	0.4166257
GOPC	MCM3	0.925	0.7775874
LEF1	CCR7	0.928	0.944785

Example 4 – Threshold Determinations for Informative Markers.

[0078] The reported mean Cts and standard deviations of the informative set of 259 markers in the smoking and non-smoking population are as shown in Table 9. These values have been normalized and truncated as described above in the “Phase II – RT-qPCR Analysis” section.

Table 9

Gene	Non-Smoking Mean	Non-Smoking St Dev	Smoking Mean	Smoking St Dev
TFCP2	1.125596	0.146217	1.105504054	0.148529952
RPS4Y1	-0.58487	3.237528	-0.976826087	2.669099207
GTFCP2	8.710473	0.735477	8.733363964	0.757677366
TNFRSF10C	-4.27986	0.431794	-4.388873423	0.4331237
ARHGEF10L	2.367465	0.336897	2.373927477	0.312019963
B3GAT1	2.755056	0.910727	3.151548198	0.919998385
NCF4	-2.16508	0.393844	-2.307054955	0.393445844
HNRPF	-1.5215	0.144993	-1.556747072	0.139517389
ARG1	1.896007	0.874045	1.784203829	0.93971967
ADORA3	3.659335	0.778664	3.622131757	0.814026083
NDUFS7	0.084403	0.135686	0.089475676	0.120693414
APOL4	-0.28188	0.268937	-0.255613739	0.254215689
IL4	7.562976	0.786824	7.549558559	0.852439085
LTK	3.114488	0.753085	3.043172072	0.67187502
CD79B	0.250163	0.569544	0.208981757	0.527849968
IL8RB	-4.71562	0.442697	-4.816301577	0.432829152
AGPAT3	0.390438	0.263195	0.484493243	0.254724623
SLAMF7	-0.26956	0.414154	-0.046911036	0.423108735
CASP5	2.893515	0.7591	2.706239189	0.77556682
AQP9	-3.43946	0.462339	-3.556288288	0.475855099
NEFH	6.085764	0.514344	6.031367117	0.443362656
CLDND1	0.829002	0.181864	0.561819144	0.214623193
APOE	8.127503	0.709796	8.113110135	0.673617206
CD86	1.959998	0.302797	2.046366441	0.298524984
SF3B5	0.095047	0.108356	0.100627928	0.096233737
OSBPL6	7.668752	0.804047	7.788405631	0.857836177
DIAPH1	-1.49705	0.149158	-1.473285586	0.155703854
KCNE1	6.368764	0.603992	6.46412973	0.571747072
ITGA2B	0.1201	0.773454	0.441109009	0.831043434
SPECC1	1.06176	0.413616	1.255337838	0.38707037
RAD54B	6.403795	0.489584	6.311536486	0.518046685
KCNE3	0.166354	0.393329	0.140327027	0.357144726
ATP5G3	-1.42123	0.145889	-1.418379279	0.143869165
DGKH	3.37517	0.307179	3.30683964	0.291443203
CD8	-0.69421	0.74527	-0.759033108	0.65653581
TLR4	-1.67978	0.429446	-1.725411261	0.422643199
GFOD1	2.834806	0.359844	3.040817342	0.36979134

Gene	Non-Smoking Mean	Non-Smoking St Dev	Smoking Mean	Smoking St Dev
TXNDC5	0.753651	0.533727	0.572440315	0.570311476
CD163	3.743367	0.430262	3.726241441	0.436296063
SYNE1	2.892392	0.46739	2.990459459	0.468410152
LRRN3	2.299103	0.628185	1.285129955	0.73670413
NCOR2	1.384834	0.140541	1.404293243	0.133145991
CD161	-0.08199	0.475383	0.14259009	0.425363955
MUC1	6.462191	0.40658	6.144355856	0.39716938
NUDT16	1.923331	0.291711	1.976746622	0.280701617
MSN	-4.0388	0.193462	-4.027445946	0.201631799
CRIP1	-2.36444	0.378105	-2.382880405	0.35234144
PFKFB2	3.664807	0.394426	3.727288063	0.37890164
KLRC4	0.377383	0.672051	0.540327928	0.661954652
RAB32	1.562078	0.267471	1.571133333	0.252166164
S100A12	-2.76593	0.677066	-3.010933784	0.69557978
LPCAT1	-1.48829	0.231926	-1.418833784	0.211848873
DUSP6	-1.29352	0.297617	-1.239263964	0.308498732
ESR1	7.119984	0.558057	7.205291892	0.612637061
CR2	4.48686	0.754381	4.386742342	0.68565516
IL6	8.632731	0.937011	8.512101802	0.785070037
ACLY	-1.02098	0.068758	-1.014087838	0.060962216
GPX4	-0.88231	0.32922	-0.823274324	0.30745841
CLEC4E	-1.13914	0.597314	-1.032295946	0.610510227
CD248	6.698602	0.849312	6.458838964	0.789709524
CAT	-2.26215	0.405814	-2.243329505	0.430694321
PDGFRB	3.577047	0.772309	3.776035135	0.847678191
IL18RAP	-1.22419	0.768513	-1.265853829	0.777313528
CD45RA	-4.42276	0.214768	-4.436934234	0.216347649
TNFRSF17	5.601019	0.87457	5.292971171	0.843997637
CD33	1.214859	0.413968	1.242921622	0.409814846
CXCR5	2.855219	0.674005	2.66262455	0.606519631
IL7R	-2.14918	0.416869	-2.345188739	0.346727152
LITAF	-3.41176	0.374577	-3.508939865	0.364043265
RPP14	1.878987	0.122101	1.869304955	0.111592671
HMOX1	2.681434	0.375634	2.814602928	0.396654231
AF289562	5.437364	0.508596	5.043204955	0.499503353
CD3D	-0.10736	0.391777	-0.217402027	0.336372984
TNFAIP6	0.680172	0.76847	0.54751036	0.76836694
RPL28	-5.753	0.196765	-5.816542793	0.192424138
AF161365	4.458622	1.613475	4.409285135	1.560077908
ACOX2	7.980393	0.812675	8.10778536	0.857615003
GPFR	8.049317	0.95915	8.113020495	0.842408025
ASGR1	4.751193	0.421625	4.700075676	0.390829125
P2RY6	6.372312	0.544723	5.775368919	0.647766148
NRCAM	8.080202	1.387639	7.662772297	1.24874828
S100A8	-6.87861	0.444134	-7.01310518	0.455958669

Gene	Non-Smoking Mean	Non-Smoking St Dev	Smoking Mean	Smoking St Dev
SASH1	4.045093	0.606764	3.364506982	0.608530939
LRRC25	-1.12352	0.307479	-1.11460518	0.305827143
SPIB	6.591512	0.707007	6.469470721	0.616648066
GUSB	1.391091	0.157754	1.403323649	0.15751305
SIRT4	6.620658	0.33789	6.515320721	0.312679991
PECAM1	-1.04633	0.374087	-1.060084234	0.370758328
TMC8	-0.40109	0.251376	-0.43226509	0.226331544
CD11B	-0.53127	0.344585	-0.569431081	0.352877908
SERPINB2	4.522124	0.59019	4.325362387	0.618927823
LEMD2	2.978249	0.154894	2.935083559	0.149951186
EPHB1	3.085858	0.447108	3.047672523	0.448540067
HDLBP	-0.51087	0.254057	-0.466999775	0.238503356
SPHAR	4.240357	0.256746	4.254421847	0.258094618
IQCE	2.379599	0.301142	2.411414189	0.312543713
WDR18	2.22436	0.255728	2.187703604	0.238715854
AF086547	6.523929	0.669136	6.286678604	0.605289131
CD34	10.44413	0.902898	10.63648287	0.956125811
OPRL1	1.441805	0.302414	1.415645045	0.304292652
IFI27	0.508477	1.519958	0.632646396	1.842287337
MIER1	4.027133	0.306648	4.035628378	0.293707719
RHCE	7.279536	0.838124	7.589659459	0.965013379
LY75	0.691582	0.299268	0.697472748	0.304303778
ND3	-3.54007	0.48996	-3.409531952	0.504735744
CCL5	-3.36958	0.413112	-3.218958559	0.423076316
SIRT2	-0.04306	0.138889	0.010926351	0.136992705
SETD2	0.476999	0.155674	0.475031081	0.157287376
CD44	-4.02499	0.173881	-4.064556532	0.192543812
MRPS12	2.080735	0.223968	2.064821847	0.20866223
SCML4	4.63569	0.316513	4.528416441	0.306553769
MBOAT7	-3.98951	0.370947	-4.066620721	0.381900653
MS4A7	0.626127	0.468409	0.940858108	0.484871439
MCM3	1.07203	0.201976	1.043799324	0.184269323
STX10	-1.55852	0.282992	-1.606639414	0.289111205
EXOC3L2	6.625546	0.700683	6.828664865	0.741545034
HIST1H2AC	-2.27576	0.373767	-2.171192117	0.366012602
RNPS1	2.634163	0.199824	2.602028604	0.17485955
PDK1	0.090928	0.273011	0.055498649	0.285614552
DTD1	3.321172	0.236266	3.331502027	0.226797101
FAM20B	1.00578	0.414103	1.169663739	0.421967935
CD19	2.053676	0.750295	1.980651577	0.666407872
PACSIN2	-0.30731	0.326557	-0.35651036	0.341105287
RP9	3.565285	0.24521	3.548375676	0.22211064
TARDBP	-1.02328	0.119876	-1.053574099	0.116215742
ALS2CR2	-4.54852	0.561263	-4.236203153	0.627862018
CXXC1	0.110369	0.132436	0.067280631	0.118963183

Gene	Non-Smoking Mean	Non-Smoking St Dev	Smoking Mean	Smoking St Dev
COX6C	3.640311	0.269763	3.644170946	0.252033897
OLIG1	0.988353	0.534205	1.05028964	0.535547788
TPOR	4.40245	0.74843	4.697403604	0.773724715
SFRS10	0.168181	0.152397	0.16718964	0.149542633
MTCH1	-1.09532	0.169724	-1.063543018	0.175957267
CD177	5.014015	1.818601	4.498923198	1.891294359
GOPC	0.646138	0.12817	0.643237838	0.124815442
LOC440461	5.207979	0.474061	5.134113288	0.454574163
HNRNPH2	-1.30821	0.266402	-1.330696622	0.269339044
SAMD3	1.319707	0.434309	1.488155856	0.409620231
CALML4	1.773353	0.261768	1.845455856	0.252942821
GAPDH	-2.61194	0.243281	-2.699326577	0.259566984
AMN	7.202804	0.536499	7.077812613	0.490848497
PAPD4	-0.31633	0.183545	-0.273289865	0.183674711
AKNA	-2.55266	0.166677	-2.570526351	0.160783134
LIN9	4.832509	0.237713	4.834842342	0.234018534
CD83	3.311019	0.373875	3.394490766	0.372174066
SRP9	2.858857	0.28931	2.884091441	0.290261374
RBM17	0.871725	0.141758	0.841051126	0.145092009
IFNAR1	-0.35189	0.32553	-0.430553829	0.337870386
SECISBP2	0.580786	0.189824	0.622390541	0.185196636
SSRP1	0.479218	0.179224	0.439537162	0.168708193
EMR1	0.418363	0.520399	0.523793468	0.527656388
C6ORF25	-1.23839	0.652059	-0.972559459	0.69920626
NISCH	0.77996	0.13702	0.729527027	0.137049257
F11R	-1.02868	0.289412	-0.997102928	0.281548075
CMTM5	1.223707	0.623909	1.53599482	0.696096375
IL3RA	2.855232	0.721332	2.939437838	0.696488388
RABGAP1L	-1.53732	0.432924	-1.383878378	0.393545877
PPP2R2B	3.781557	0.552527	3.995704955	0.538368454
GALNT3	1.388498	0.308642	1.407643018	0.304585505
ILK	-0.74977	0.246929	-0.65746509	0.253023787
CCR3	7.841666	0.889357	7.86578018	0.91647511
ELF1	-2.53641	0.182335	-2.54412973	0.190380181
FOXP3	2.035403	0.463382	1.697540541	0.494839978
NMI	-0.56271	0.360461	-0.613682432	0.376996873
SNRPA	0.105145	0.146042	0.055614865	0.138100561
AKAP8L	-0.60328	0.163987	-0.587923423	0.163914758
C5AR1	-2.61855	0.399434	-2.662788514	0.403387089
NDUFA1	-0.67182	0.162867	-0.660734685	0.148177014
E01979	-2.67616	0.259085	-2.665088063	0.249054895
SEPX1	-0.41993	0.406557	-0.493091892	0.38564448
CD62P	3.721248	0.649737	4.118711486	0.729052333
IFIT3	0.23842	1.18242	0.283440991	1.339833454
COX4I1	-2.39436	0.174301	-2.446354054	0.163642322

Gene	Non-Smoking Mean	Non-Smoking St Dev	Smoking Mean	Smoking St Dev
TREML4	4.697655	2.126498	4.64068964	2.084084981
RORC	3.63029	0.696619	3.4194	0.685704776
MRPL11	2.532977	0.187339	2.484686261	0.180963152
CD63	-2.35276	0.250825	-2.370822072	0.250794382
SOAT2	6.686092	0.806516	6.242241216	0.798995643
DIAPH2	3.474493	0.212862	3.472038288	0.19935658
MFSD9	2.573817	0.52283	2.564026351	0.542160873
CAPN10	2.830346	0.166177	2.791031982	0.153554063
CD1D	1.050567	0.316671	1.040843018	0.330610282
TMED9	-0.21229	0.130832	-0.211245721	0.118317659
ZNF16	4.413172	0.221988	4.373307883	0.204724333
TFIP11	2.28308	0.22865	2.249861937	0.204377495
IL17RC	6.244819	0.563749	6.349556757	0.53490333
DPYSL4	6.707837	1.504658	6.688766892	1.432249514
SREBF1	6.569555	0.38363	6.448862613	0.411325066
LRP1	0.36794	0.312214	0.33545473	0.304482084
LEF1	-0.79958	0.504772	-0.997103604	0.448617038
GNASx	-4.06309	0.36153	-3.939269369	0.368916188
TRAF2	3.207773	0.202676	3.146210811	0.190548656
TNXB	3.631028	0.641216	3.895052703	0.656759548
FTH1n	0.086012	0.326464	0.049940541	0.345079008
ANKRD55	4.234666	0.453042	4.296562387	0.469057567
NME1	2.191169	0.300938	2.113855631	0.28579282
ABCG1	0.795011	0.574699	0.618190541	0.498685501
CREB1	-1.0601	0.186553	-1.016782432	0.179594748
FANK1	8.816375	0.668986	8.401322072	0.652855298
UCK2	3.130967	0.227908	3.164131306	0.232735251
TLR2	-1.11483	0.451642	-1.125605631	0.473311795
CYP4F2	-2.15939	0.576827	-2.237032658	0.546386676
NELL2	1.129627	0.570065	0.88444009	0.521224197
PLCD1	2.158703	0.214572	2.099186486	0.194407111
SPOCK2	-1.29809	0.306079	-1.402984685	0.256893671
GATA2	1.273369	0.55071	1.295314865	0.596428823
CCR7	0.156229	0.56791	0.02839009	0.498479516
IL13RA1	-0.96071	0.410738	-0.980468468	0.43047763
DGKA	-1.64074	0.300994	-1.751491892	0.27504889
GPR56	-0.92342	0.64933	-0.527438063	0.648358113
ITPK1	7.333648	0.612266	7.396810586	0.585007453
ENPP3	5.341159	0.668836	5.311447072	0.666695156
POLD3	2.040477	0.194494	2.071801802	0.18729534
CD84	0.047531	0.239851	0.043278604	0.215592269
VCAN	-0.86714	0.384889	-0.938474775	0.388425453
APEX1	1.429239	0.203455	1.390574324	0.190065635
SERGEF	3.37937	0.170243	3.339512162	0.161181778
CENTB5	3.529176	0.187672	3.458763964	0.187462574

Gene	Non-Smoking Mean	Non-Smoking St Dev	Smoking Mean	Smoking St Dev
PLA2G6	2.834793	0.214971	2.806927252	0.19310565
C5orf4	0.738108	0.682775	1.144945495	0.711108489
SORCS3	7.373485	1.000594	7.37939009	0.939232025
PTX3	5.298692	0.390884	5.291436937	0.412715615
TOP2A	5.19909	0.392742	5.302955405	0.42955525
BPNT1	2.155689	0.167464	2.12165518	0.153651361
CDCA7	4.126752	0.397615	4.039365991	0.387128426
TP53BP1	2.634165	0.173978	2.584755405	0.150807134
CCL2	6.833726	1.067369	6.733059955	1.16394245
PDGFD	4.513274	0.524896	4.875308559	0.520526123
FTH1x	-6.87578	0.354032	-6.81383018	0.353371039
COL13A1	7.693673	1.1374	8.254777477	1.340729243
ANAPC5	0.032274	0.150999	0.051391216	0.133450456
ABLIM1	-0.17644	0.367444	-0.253376802	0.329312755
ZNF3	2.035715	0.151311	2.054795721	0.144119692
GZMB	-1.05518	0.624452	-0.731598423	0.624933093
NONO	-1.62749	0.100734	-1.655666216	0.095555294
ANP32C	-1.5067	0.331052	-1.562725676	0.329978103
IRF7	-1.30634	0.443322	-1.362412838	0.501576497
SORT1	0.920913	0.328125	1.019922973	0.317628966
MYLIP	1.088378	0.348307	1.012116441	0.318602651
PECR	3.488009	0.19168	3.399232658	0.185450566
MPEG1	-2.09217	0.301773	-2.074497297	0.277890276
VEZF1	-0.05276	0.132662	-0.073274324	0.131847334
HDC	1.560602	0.690624	1.625079054	0.738798879
AK2	0.544261	0.13758	0.539173423	0.134652631
CX3CR1	-1.63698	0.387206	-1.362444144	0.435806138
NBPF11	-3.13942	0.239579	-3.21753491	0.225299542
TMTC3	4.02985	0.206131	4.011082658	0.196227961
CCNB1	5.382786	0.330228	5.398343694	0.337211144
NF1	1.12147	0.211252	1.063884685	0.195504155
GNASn	3.615647	0.186252	3.554693243	0.161860477
LDLR	2.695296	0.392241	2.661415766	0.40418233
HMGN3	1.341151	0.226634	1.373718468	0.221852704
AGER	0.292687	0.267322	0.208092568	0.249055818
CPA3	3.98113	0.674483	3.986708559	0.706708609
AR	6.420052	0.782809	7.024873874	0.833609715
CCND2	-0.30664	0.25641	-0.425374324	0.231373464
ABCA1	2.431074	0.659182	2.240588739	0.61039595
HDAC10	0.429343	0.166129	0.38398964	0.149463325
CR596746	1.470934	0.223389	1.43511464	0.217549784
HNRNPF	-1.16791	0.145766	-1.202212162	0.138139227

Example 5 – Biochemical Validation of Predictive Models.

[0079] To check on the accuracy of self-reported smoking status, a biochemical method was used. Levels of cotinine, a relatively stable metabolite of nicotine, have been shown to correlate with self-reported smoking status and can be easily measured by enzyme-linked immunoassays (ELISA)(10). Twenty samples were assayed in total: Ten samples from self-reported non-smokers with less than 0.3% fitted probability of smoking by gene expression, and ten samples from self-reported smokers with a greater than 99% fitted probability of smoking by gene expression. Strong concordance was seen between self-reported status and cotinine levels with the exception of 1 self-reported smoker with lower cotinine levels (Figure 1).

[0080] Using a threshold of 10 ng/ml, cotinine levels provided an AUC of 0.89 (95% CI 0.81-0.97), a sensitivity of 0.81 and a specificity of 0.97. Moderate concordance was observed between the gene expression model and cotinine (91% agreement, 95% CI 85.97-94.83, kappa = 0.53); where both methods reported positive smoking status, 85% (11) subjects were self-reported smokers, 1 had recently quit, and 1 was a former smoker.

Incorporation by reference statement

[0081] All references cited in this specification, including scientific publications, published patent applications, and issued patents, are hereby incorporated in their entirety for all purposes.

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What is claimed is:

1. A computer-implemented method for scoring a sample obtained from a subject, wherein said score indicates said subject's smoking status, comprising:

obtaining a dataset associated with said sample, wherein said dataset comprises quantitative expression data for one or more of marker 1, marker 2, marker 3, marker 4, and/or marker 5, wherein marker 1 is CLDND1 or IL7R, wherein marker 2 is LRRN3 or CCR7, wherein marker 3 is MUC1 or FOXP3, wherein marker 4 is GOPC or MCM3, and wherein marker 5 is LEF1 or CCR7; and

determining, by a computer processor, a score from said dataset using an interpretation function, wherein said score is indicative of said subject's smoking status.

2. The method of claim 1, wherein said dataset comprises quantitative expression data for marker 1, marker 2, marker 3, marker 4 and marker 5, wherein marker 1 is CLDND1, wherein marker 2 is LRRN3, wherein marker 3 is MUC1, wherein marker 4 is GOPC, and wherein marker 5 is LEF1.

3. The method of claim 1, wherein said dataset comprises quantitative expression data for two or more of marker 1, marker 2, marker 3, marker 4, and marker 5.

4. The method of claim 1, wherein said dataset comprises quantitative expression data for three or more of marker 1, marker 2, marker 3, marker 4, and marker 5.

5. The method of claim 1, wherein said dataset comprises quantitative expression data for four or more of marker 1, marker 2, marker 3, marker 4, and marker 5.

6. The method of claim 1, wherein said dataset comprises quantitative expression data for marker 1, marker 2, marker 3, marker 4, and marker 5.

7. The method of any one of claims 1-6, further comprising, determining, by a computer processor, the subject's risk for developing a smoking-related disease, based on said score.

8. The method of claim 7, wherein said smoking-related disease is chronic obstructive pulmonary disease, chronic bronchitis, emphysema, lung cancer, and/or asthma.

9. The method of any one of claims 1-8, wherein the dataset comprises quantitative expression data for at least one, two, three, four, five, six, seven, eight, nine, ten, eleven,

twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty or more additional markers selected from Table 1.

10. The method of any one of claims 1-9, wherein the dataset further comprises a clinical factor used to calculate the score.

11. The method of claim 10, wherein the clinical factor is selected from the group consisting of: gender and hypertension.

12. The method of claim 11, wherein the clinical factor is gender.

13. The method of any one of claims 1-12, wherein said interpretation function is based on a predictive model.

14. The method of claim 13, wherein said predictive model is selected from the group consisting of a partial least squares model, a logistic regression model, a linear regression model, a linear discriminant analysis model, a ridge regression model, and a tree-based recursive partitioning model.

15. The method of any one of claims 1-14, wherein said interpretation function is $\log(\text{pr}(\text{Smoker})/(1-\text{Pr}(\text{Smoker}))) = 15.78306 + 0.3876 * \text{SEX} - 3.3368 * \text{CLDND1} - 3.4034 * \text{LRRN3} - 1.4847 * \text{MUC1} + 5.9209 * \text{GOPC} + 2.27166 * \text{LEF1}$, wherein SEX = 1 if male, and 0 if female and Pr is probability.

16. The method of any one of claims 1-15, wherein said interpretation function is an interpretation function selected from the group of interpretation functions consisting of those set out in Table 7.

17. The method of any one of claims 1-16, wherein obtaining said dataset associated with said sample comprises obtaining said sample and processing said sample to experimentally determine said dataset.

18. The method of any one of claims 1-17, wherein obtaining said dataset associated with said sample comprises receiving said dataset directly or indirectly from a third party that has processed said sample to experimentally determine said dataset.

19. The method of any one of claims 1-18, wherein the dataset is obtained stored on a storage memory.

20. The method of any one of claims 1-19, wherein said quantitative expression data are from hybridization data.

- 21.** The method of any one of claims 1-20, wherein said quantitative expression data are from polymerase chain reaction data.
- 22.** The method of any one of claims 1-21, wherein said quantitative expression data are from sequence data.
- 23.** A computer-implemented method for scoring a sample obtained from a subject, comprising:
- obtaining a dataset associated with the sample, wherein the dataset comprises a clinical factor used to calculate a score and quantitative expression level values for at least one marker selected from the group consisting of CLDND1, IL7R, LRRN3, CCR7, MUC1, FOXP3, GOPC, MCM3, LEF1, and CCR7; and
 - determining, by a computer processor, the score from the dataset using an interpretation function, wherein the score is indicative of said subject's smoking status.
- 24.** The method of claim 23, wherein said dataset comprises quantitative expression data for CLDND1, LRRN3, MUC1, GOPC, and LEF1.
- 25.** The method of claim 23, wherein said dataset comprises quantitative expression data for two or more markers.
- 26.** The method of claim 23, wherein said dataset comprises quantitative expression data for three or more markers.
- 27.** The method of claim 23, wherein said dataset comprises quantitative expression data for four or more markers.
- 28.** The method of claim 23, wherein said dataset comprises quantitative expression data for five or more markers.
- 29.** The method of any one of claims 23-28, further comprising, determining, by a computer processor, the subject's risk for developing a smoking-related disease, based on said score.
- 30.** The method of claim 29, wherein said smoking-related disease is chronic obstructive pulmonary disease, chronic bronchitis, emphysema, lung cancer, and/or asthma.
- 31.** The method of any one of claims 23-30, wherein the dataset comprises quantitative expression data for at least one, two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty or more additional markers selected from Table 1.

32. The method of any one of claims 23-31, wherein the clinical factor is selected from the group consisting of: gender and hypertension.

33. The method of claim 32, wherein the clinical factor is gender.

34. The method of any one of claims 23-33, wherein said interpretation function is based on a predictive model.

35. The method of claim 34, wherein said predictive model is selected from the group consisting of a partial least squares model, a logistic regression model, a linear regression model, a linear discriminant analysis model, a ridge regression model, and a tree-based recursive partitioning model.

36. The method of any one of claims 23-35, wherein said interpretation function is $\log(\text{pr}(\text{Smoker})/(1-\text{Pr}(\text{Smoker}))) = 15.78306 + 0.3876 * \text{SEX} - 3.3368 * \text{CLDND1} - 3.4034 * \text{LRRN3} - 1.4847 * \text{MUC1} + 5.9209 * \text{GOPC} + 2.27166 * \text{LEF1}$, wherein SEX = 1 if male, and 0 if female and Pr is probability.

37. The method of any one of claims 23-36, wherein said interpretation function is an interpretation function selected from the group of interpretation functions consisting of those set out in Table 7.

38. The method of any one of claims 23-37, wherein obtaining said dataset associated with said sample comprises obtaining said sample and processing said sample to experimentally determine said dataset.

39. The method of any one of claims 23-38, wherein obtaining said dataset associated with said sample comprises receiving said dataset directly or indirectly from a third party that has processed said sample to experimentally determine said dataset.

40. The method of any one of claims 23-39, wherein the dataset is obtained stored on a storage memory.

41. The method of any one of claims 23-40, wherein said quantitative expression data are from hybridization data.

42. The method of any one of claims 23-41, wherein said quantitative expression data are from polymerase chain reaction data.

43. The method of any one of claims 23-42, wherein said quantitative expression data are from sequence data.

44. A system for scoring a sample obtained from a subject, wherein said score indicates said subject's smoking status, comprising:

a storage memory for storing a dataset associated with said sample, wherein said dataset comprises quantitative expression data for one or more of marker 1, marker 2, marker 3, marker 4, and/or marker 5, wherein marker 1 is CLDND1 or IL7R, wherein marker 2 is LRRN3 or CCR7, wherein marker 3 is MUC1 or FOXP3, wherein marker 4 is GOPC or MCM3, and wherein marker 5 is LEF1 or CCR7; and

a processor communicatively coupled to the storage memory for determining a score from said dataset using an interpretation function, wherein said score is indicative of said subject's smoking status.

45. The system of claim 44, wherein said dataset comprises quantitative expression data for marker 1, marker 2, marker 3, marker 4 and marker 5, wherein marker 1 is CLDND1, wherein marker 2 is LRRN3, wherein marker 3 is MUC1, wherein marker 4 is GOPC, and wherein marker 5 is LEF1.

46. The system of claim 44, wherein said dataset comprises quantitative expression data for two or more of marker 1, marker 2, marker 3, marker 4, and marker 5.

47. The system of claim 44, wherein said dataset comprises quantitative expression data for three or more of marker 1, marker 2, marker 3, marker 4, and marker 5.

48. The system of claim 44, wherein said dataset comprises quantitative expression data for four or more of marker 1, marker 2, marker 3, marker 4, and marker 5.

49. The system of claim 44, wherein said dataset comprises quantitative expression data for marker 1, marker 2, marker 3, marker 4, and marker 5.

50. The system of any one of claims 44-49, further comprising, determining, by a computer processor, the subject's risk for developing a smoking-related disease, based on said score.

51. The system of claim 50, wherein said smoking-related disease is chronic obstructive pulmonary disease, chronic bronchitis, emphysema, lung cancer, and/or asthma.

52. The system of any one of claims 44-51, wherein the dataset comprises quantitative expression data for at least one, two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty or more additional markers selected from Table 1.

- 53.** The system of any one of claims 44-52, wherein the dataset further comprises a clinical factor used to calculate the score.
- 54.** The system of claim 53, wherein the clinical factor is selected from the group consisting of: gender and hypertension.
- 55.** The system of claim 54, wherein the clinical factor is gender.
- 56.** The system of any one of claims 44-55, wherein said interpretation function is based on a predictive model.
- 57.** The system of claim 56, wherein said predictive model is selected from the group consisting of a partial least squares model, a logistic regression model, a linear regression model, a linear discriminant analysis model, a ridge regression model, and a tree-based recursive partitioning model.
- 58.** The system of any one of claims 44-57, wherein said interpretation function is $\log(\text{pr}(\text{Smoker})/(1-\text{Pr}(\text{Smoker}))) = 15.78306 + 0.3876 * \text{SEX} - 3.3368 * \text{CLDND1} - 3.4034 * \text{LRRN3} - 1.4847 * \text{MUC1} + 5.9209 * \text{GOPC} + 2.27166 * \text{LEF1}$, wherein SEX = 1 if male, and 0 if female and Pr is probability.
- 59.** The system of any one of claims 44-58, wherein said interpretation function is an interpretation function selected from the group of interpretation functions consisting of those set out in Table 7.
- 60.** The system of any one of claims 44-59, wherein obtaining said dataset associated with said sample comprises obtaining said sample and processing said sample to experimentally determine said dataset.
- 61.** The system of any one of claims 44-60, wherein obtaining said dataset associated with said sample comprises receiving said dataset directly or indirectly from a third party that has processed said sample to experimentally determine said dataset.
- 62.** The system of any one of claims 44-61, wherein the dataset is obtained stored on a storage memory.
- 63.** The system of any one of claims 44-62, wherein said quantitative expression data are from hybridization data.
- 64.** The system of any one of claims 44-63, wherein said quantitative expression data are from polymerase chain reaction data.

65. The system of any one of claims 44-64, wherein said quantitative expression data are from sequence data.

66. A computer-readable storage medium storing computer-executable program code, the program code comprising:

program code for storing a dataset associated with said sample, wherein said dataset comprises quantitative expression data for one or more of marker 1, marker 2, marker 3, marker 4, and/or marker 5, wherein marker 1 is CLDND1 or IL7R, wherein marker 2 is LRRN3 or CCR7, wherein marker 3 is MUC1 or FOXP3, wherein marker 4 is GOPC or MCM3, and wherein marker 5 is LEF1 or CCR7; and

program code for determining a score from said dataset using an interpretation function, wherein said score is indicative of said subject's smoking status.

67. The medium of claim 66, wherein said dataset comprises quantitative expression data for marker 1, marker 2, marker 3, marker 4 and marker 5, wherein marker 1 is CLDND1, wherein marker 2 is LRRN3, wherein marker 3 is MUC1, wherein marker 4 is GOPC, and wherein marker 5 is LEF1.

68. The medium of claim 66, wherein said dataset comprises quantitative expression data for two or more of marker 1, marker 2, marker 3, marker 4, and marker 5.

69. The medium of claim 66, wherein said dataset comprises quantitative expression data for three or more of marker 1, marker 2, marker 3, marker 4, and marker 5.

70. The medium of claim 66, wherein said dataset comprises quantitative expression data for four or more of marker 1, marker 2, marker 3, marker 4, and marker 5.

71. The medium of claim 66, wherein said dataset comprises quantitative expression data for marker 1, marker 2, marker 3, marker 4, and marker 5.

72. The medium of any one of claims 66-71, further comprising, determining, by a computer processor, the subject's risk for developing a smoking-related disease, based on said score.

73. The medium of claim 72, wherein said smoking-related disease is chronic obstructive pulmonary disease, chronic bronchitis, emphysema, lung cancer, and/or asthma.

74. The medium of any one of claims 66-73, wherein the dataset comprises quantitative expression data for at least one, two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty or more additional markers selected from Table 1.

- 75.** The medium of any one of claims 66-74, wherein the dataset further comprises a clinical factor used to calculate the score.
- 76.** The medium of claim 75, wherein the clinical factor is selected from the group consisting of: gender and hypertension.
- 77.** The medium of claim 76, wherein the clinical factor is gender.
- 78.** The medium of any one of claims 66-77, wherein said interpretation function is based on a predictive model.
- 79.** The medium of claim 78, wherein said predictive model is selected from the group consisting of a partial least squares model, a logistic regression model, a linear regression model, a linear discriminant analysis model, a ridge regression model, and a tree-based recursive partitioning model.
- 80.** The medium of any one of claims 66-79, wherein said interpretation function is $\log(\text{pr}(\text{Smoker})/(1-\text{Pr}(\text{Smoker}))) = 15.78306 + 0.3876 * \text{SEX} - 3.3368 * \text{CLDND1} - 3.4034 * \text{LRRN3} - 1.4847 * \text{MUC1} + 5.9209 * \text{GOPC} + 2.27166 * \text{LEF1}$, wherein SEX = 1 if male, and 0 if female and Pr is probability.
- 81.** The medium of any one of claims 66-80, wherein said interpretation function is an interpretation function selected from the group of interpretation functions consisting of those set out in Table 7.
- 82.** The medium of any one of claims 66-81, wherein obtaining said dataset associated with said sample comprises obtaining said sample and processing said sample to experimentally determine said dataset.
- 83.** The medium of any one of claims 66-82, wherein obtaining said dataset associated with said sample comprises receiving said dataset directly or indirectly from a third party that has processed said sample to experimentally determine said dataset.
- 84.** The medium of any one of claims 66-83, wherein the dataset is obtained stored on a storage memory.
- 85.** The medium of any one of claims 66-84, wherein said quantitative expression data are from hybridization data.
- 86.** The medium of any one of claims 66-85, wherein said quantitative expression data are from polymerase chain reaction data.

87. The medium of any one of claims 66-86, wherein said quantitative expression data are from sequence data.

88. A method for scoring a sample obtained from a subject, wherein said score indicates said subject's smoking status, comprising:

obtaining a sample from the subject, wherein the sample comprises a plurality of analytes;

contacting the sample with a reagent;

generating a plurality of complexes between the reagent and the plurality of analytes;

detecting the plurality of complexes to obtain a dataset associated with said sample, wherein said dataset comprises quantitative expression data for one or more of marker 1, marker 2, marker 3, marker 4, and/or marker 5, wherein marker 1 is CLDND1 or IL7R, wherein marker 2 is LRRN3 or CCR7, wherein marker 3 is MUC1 or FOXP3, wherein marker 4 is GOPC or MCM3, and wherein marker 5 is LEF1 or CCR7; and determining a score from the dataset using an interpretation function, wherein said score is indicative of said subject's smoking status.

89. The method of claim 88, wherein said dataset comprises quantitative expression data for marker 1, marker 2, marker 3, marker 4 and marker 5, wherein marker 1 is CLDND1, wherein marker 2 is LRRN3, wherein marker 3 is MUC1, wherein marker 4 is GOPC, and wherein marker 5 is LEF1.

90. The method of claim 88, wherein said dataset comprises quantitative expression data for two or more of marker 1, marker 2, marker 3, marker 4, and marker 5.

91. The method of claim 88, wherein said dataset comprises quantitative expression data for three or more of marker 1, marker 2, marker 3, marker 4, and marker 5.

92. The method of claim 88, wherein said dataset comprises quantitative expression data for four or more of marker 1, marker 2, marker 3, marker 4, and marker 5.

93. The method of claim 88, wherein said dataset comprises quantitative expression data for marker 1, marker 2, marker 3, marker 4, and marker 5.

94. The method of any one of claims 88-93, further comprising, determining, by a computer processor, the subject's risk for developing a smoking-related disease, based on said score.

95. The method of claim 94, wherein said smoking-related disease is chronic obstructive pulmonary disease, chronic bronchitis, emphysema, lung cancer, and/or asthma.

96. The method of any one of claims 88-95, wherein the dataset comprises quantitative expression data for at least one, two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty or more additional markers selected from Table 1.

97. The method of any one of claims 88-96, wherein the dataset further comprises a clinical factor used to calculate the score.

98. The method of claim 97, wherein the clinical factor is selected from the group consisting of: gender and hypertension.

99. The method of claim 98, wherein the clinical factor is gender.

100. The method of any one of claims 88-99, wherein said interpretation function is based on a predictive model.

101. The method of claim 100, wherein said predictive model is selected from the group consisting of a partial least squares model, a logistic regression model, a linear regression model, a linear discriminant analysis model, a ridge regression model, and a tree-based recursive partitioning model.

102. The method of any one of claims 88-101, wherein said interpretation function is $\log(\text{pr}(\text{Smoker})/(1-\text{Pr}(\text{Smoker}))) = 15.78306 + 0.3876 * \text{SEX} - 3.3368 * \text{CLDND1} - 3.4034 * \text{LRRN3} - 1.4847 * \text{MUC1} + 5.9209 * \text{GOPC} + 2.27166 * \text{LEF1}$, wherein SEX = 1 if male, and 0 if female and Pr is probability.

103. The method of any one of claims 88-102, wherein said interpretation function is an interpretation function selected from the group of interpretation functions consisting of those set out in Table 7.

104. The method of any one of claims 88-103, wherein said quantitative expression data are from hybridization data.

105. The method of any one of claims 88-104, wherein said quantitative expression data are from polymerase chain reaction data.

106. The method of any one of claims 88-105, wherein said quantitative expression data are from sequence data.

107. A kit for scoring a sample obtained from a subject, wherein said score indicates said subject's smoking status, comprising:

a set of reagents comprising a plurality of reagents for determining from a sample obtained from the subject quantitative expression data for one or more of marker 1, marker 2, marker 3, marker 4, and/or marker 5, wherein marker 1 is CLDND1 or IL7R, wherein marker 2 is LRRN3 or CCR7, wherein marker 3 is MUC1 or FOXP3, wherein marker 4 is GOPC or MCM3, and wherein marker 5 is LEF1 or CCR7; and

instructions for using the plurality of reagents to determine quantitative expression data in a dataset from the sample, wherein the instructions comprise instructions for determining, by a computer processor, a score from said dataset using an interpretation function, wherein said score is indicative of said subject's smoking status.

108. The kit of claim 107, wherein said dataset comprises quantitative expression data for marker 1, marker 2, marker 3, marker 4 and marker 5, wherein marker 1 is CLDND1, wherein marker 2 is LRRN3, wherein marker 3 is MUC1, wherein marker 4 is GOPC, and wherein marker 5 is LEF1.

109. The kit of claim 107, wherein said dataset comprises quantitative expression data for two or more of marker 1, marker 2, marker 3, marker 4, and marker 5.

110. The kit of claim 107, wherein said dataset comprises quantitative expression data for three or more of marker 1, marker 2, marker 3, marker 4, and marker 5.

111. The kit of claim 107, wherein said dataset comprises quantitative expression data for four or more of marker 1, marker 2, marker 3, marker 4, and marker 5.

112. The kit of claim 107, wherein said dataset comprises quantitative expression data for marker 1, marker 2, marker 3, marker 4, and marker 5.

113. The kit of any one of claims 107-112, further comprising, instructions for determining, by a computer processor, the subject's risk for developing a smoking-related disease, based on said score.

114. The kit of claim 113, wherein said smoking-related disease is chronic obstructive pulmonary disease, chronic bronchitis, emphysema, lung cancer, and/or asthma.

115. The kit of any one of claims 107-114, wherein the dataset comprises quantitative expression data for at least one, two, three, four, five, six, seven, eight, nine, ten, eleven,

twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty or more additional markers selected from Table 1.

116. The kit of any one of claims 107-115, wherein the dataset further comprises a clinical factor used to calculate the score.

117. The kit of claim 116, wherein the clinical factor is selected from the group consisting of: gender and hypertension.

118. The kit of claim 117, wherein the clinical factor is gender.

119. The kit of any one of claims 107-118, wherein said interpretation function is based on a predictive model.

120. The kit of claim 119, wherein said predictive model is selected from the group consisting of a partial least squares model, a logistic regression model, a linear regression model, a linear discriminant analysis model, a ridge regression model, and a tree-based recursive partitioning model.

121. The kit of any one of claims 1-120, wherein said interpretation function is $\log(\text{pr}(\text{Smoker})/(1-\text{Pr}(\text{Smoker}))) = 15.78306 + 0.3876 * \text{SEX} - 3.3368 * \text{CLDND1} - 3.4034 * \text{LRRN3} - 1.4847 * \text{MUC1} + 5.9209 * \text{GOPC} + 2.27166 * \text{LEF1}$, wherein SEX = 1 if male, and 0 if female and Pr is probability.

122. The kit of any one of claims 107-121, wherein said interpretation function is an interpretation function selected from the group of interpretation functions consisting of those set out in Table 7.

123. The kit of any one of claims 107-122, wherein said quantitative expression data are from hybridization data.

124. The kit of any one of claims 107-123, wherein said quantitative expression data are from polymerase chain reaction data.

125. The kit of any one of claims 107-124, wherein said quantitative expression data are from sequence data.

126. A method for determining the smoking status of a subject, comprising:

obtaining a dataset associated with a sample obtained from said subject, wherein said dataset comprises quantitative expression data for a marker selected from Table 1; and

analyzing said dataset to determine an expression level of said marker, wherein said expression level of said marker positively or negatively correlates with said smoking status of said subject, thereby determining said subject's smoking status.

127. The method of claim 126, further comprising using said determined smoking status of said subject to assess said subject's risk for developing a smoking-related disease.

128. The method of claim 127, wherein said smoking-related disease is selected from the group consisting of chronic obstructive pulmonary disease, chronic bronchitis, emphysema, lung cancer, and asthma.

129. The method of claim 126, wherein said analyzing step further comprises comparing said determined expression level of said marker to a threshold value, wherein a difference between said determined expression level and said threshold value indicates positive smoking status.

130. The method of claim 129, wherein said threshold value is associated with expression data obtained from a non-smoking subject or a non-smoking population of subjects.

131. The method of claim 126, wherein said analyzing step further comprises applying an interpretation function to said determined level of said marker to generate a score, wherein said score is indicative of said subject's smoking status.

132. The method of claim 131, further comprising using said determined smoking status of said subject to assess said subject's risk for developing a smoking-related disease.

133. The method of claim 132, wherein said smoking-related disease is selected from the group consisting of chronic obstructive pulmonary disease, chronic bronchitis, emphysema, lung cancer, and asthma.

134. The method of claim 131, wherein said interpretation function is an interpretation function selected from the group consisting of the interpretation functions set out in Table 7.

135. The method of claim 126, wherein said dataset comprises quantitative expression data for at least two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty or more markers selected from Table 1.

136. The method of claim 135, wherein said analyzing step further comprises applying an interpretation function to said determined level of said markers to generate a score, wherein said score is indicative of said subject's smoking status.

- 137.** The method of claim 136, wherein said interpretation function is an interpretation function selected from the group consisting of the interpretation functions set out in Table 7.
- 138.** The method of claim 136, wherein said interpretation function is $\log(\text{pr}(\text{Smoker})/(1 - \text{Pr}(\text{Smoker}))) = 15.78306 + 0.3876 * \text{SEX} - 3.3368 * \text{CLDND1} - 3.4034 * \text{LRRN3} - 1.4847 * \text{MUC1} + 5.9209 * \text{GOPC} + 2.27166 * \text{LEF1}$, wherein $\text{SEX} = 1$ if male, and 0 if female and Pr is probability.
- 139.** The method of claim 126, wherein said expression level of said marker positively correlates with said smoking status of said subject.
- 140.** The method of claim 129, wherein said expression level of said marker is significantly greater than said threshold value.
- 141.** The method of claim 126, wherein said expression level of the marker negatively correlates with said smoking status of said subject.
- 142.** The method of claim 129, wherein said expression level of said marker is significantly less than said threshold value.
- 143.** The method of claim 126, wherein said method is implemented on one or more computers.
- 144.** The method of claim 126, wherein obtaining said dataset associated with said sample comprises obtaining said sample and processing said sample to experimentally determine said dataset.
- 145.** The method of claim 126, wherein obtaining said dataset associated with said sample comprises receiving said dataset directly or indirectly from a third party that has processed said sample to experimentally determine said dataset.
- 146.** The method of claim 126, wherein said quantitative expression data is obtained from a nucleotide-based assay.
- 147.** The method of claim 146, wherein said quantitative expression data is obtained from an qRT-PCR assay, a hybridization assay, or by a sequencing reaction.
- 148.** A method for determining smoking status of a subject, comprising:
obtaining a sample from said subject, wherein said sample comprises a marker selected from Table 1;

contacting said sample with a reagent;

generating a complex between said reagent and said marker;

detecting said complex to obtain a dataset associated with said sample, wherein said dataset comprises quantitative expression data for the marker; and

analyzing said dataset to determine an expression level of said marker, wherein said expression level of said marker positively or negatively correlates with said subject's smoking status, thereby determining said subject's smoking status.

149. The method of claim 148, further comprising using said subject's determined smoking status to assess said subject's risk for developing a smoking-related disease.

150. The method of claim 149, wherein said smoking-related disease is selected from the group consisting of chronic obstructive pulmonary disease, chronic bronchitis, emphysema, lung cancer, and asthma.

151. The method of claim 148, wherein said analyzing step further comprises comparing said determined expression level of said marker to a threshold value, wherein a difference between said determined expression level and said threshold value indicates positive smoking status.

152. The method of claim 151, wherein said threshold value is associated with expression data obtained from a non-smoking subject or a non-smoking population of subjects.

153. The method of claim 148, wherein said analyzing step further comprises applying an interpretation function to said determined level of said marker to generate a score, wherein said score is indicative of said smoking status of said subject.

154. The method of claim 153, wherein said interpretation function is an interpretation function selected from the group consisting of the interpretation functions set out in Table 7.

155. The method of claim 148, wherein said dataset comprises quantitative expression data for at least two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty or more markers selected from Table 1.

156. The method of claim 155, wherein said analyzing step further comprises applying an interpretation function to said determined level of said markers to generate a score, wherein said score is indicative of said smoking status of said subject.

157. The method of claim 156, wherein said interpretation function is an interpretation function selected from the group consisting of the interpretation functions set out in Table 7.

158. The method of claim 156, wherein said interpretation function is $\log(\text{pr}(\text{Smoker})/(1 - \text{Pr}(\text{Smoker}))) = 15.78306 + 0.3876 * \text{SEX} - 3.3368 * \text{CLDND1} - 3.4034 * \text{LRRN3} - 1.4847 * \text{MUC1} + 5.9209 * \text{GOPC} + 2.27166 * \text{LEF1}$, wherein $\text{SEX} = 1$ if male, and 0 if female and Pr is probability.

159. The method of claim 148, wherein said expression level of said marker positively correlates with said smoking status of said subject.

160. The method of claim 151, wherein said expression level of said marker is significantly greater than said threshold value.

161. The method of claim 148, wherein said expression level of said marker negatively correlates with said smoking status of said subject.

162. The method of claim 151, wherein said expression level of said marker is significantly less than said threshold value.

163. A computer-implemented method for determining smoking status of a subject, comprising:

storing, in a storage memory, a dataset associated with a sample obtained from said subject, wherein said dataset comprises quantitative expression data for a marker selected from Table 1; and

analyzing, by a computer processor, said dataset to determine said expression level of said marker, wherein said expression level of said marker positively or negatively correlates with said subject's smoking status, thereby determining said subject's smoking status.

164. The method of claim 163, further comprising using said subject's determined smoking status to assess said subject's risk for developing a smoking-related disease.

165. The method of claim 164, wherein said smoking-related disease is selected from the group consisting of chronic obstructive pulmonary disease, chronic bronchitis, emphysema, lung cancer, and asthma.

166. The method of claim 163, wherein said analyzing step further comprises comparing said expression level of said marker to a threshold value, wherein a difference between said expression level and said threshold value indicates positive smoking status.

167. The method of claim 166, wherein said threshold value is associated with expression data obtained from a non-smoking subject or a non-smoking population of subjects.

168. The method of claim 163, wherein said analyzing step further comprises applying an interpretation function to said determined level of said marker to generate a score, wherein said score is indicative of said smoking status of said subject.

169. The method of claim 168, wherein said interpretation function is an interpretation function selected from the group consisting of the interpretation functions set out in Table 7.

170. The method of claim 163, wherein said dataset comprises quantitative expression data for at least two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty or more markers selected from Table 1.

171. The method of claim 170, wherein said analyzing step further comprises applying an interpretation function to said determined level of said markers to generate a score, wherein said score is indicative of said smoking status of said subject.

172. The method of claim 171, wherein said interpretation function is an interpretation function selected from the group consisting of the interpretation functions set out in Table 7.

173. The method of claim 171, wherein said interpretation function is $\log(\text{pr}(\text{Smoker})/(1 - \text{Pr}(\text{Smoker}))) = 15.78306 + 0.3876 * \text{SEX} - 3.3368 * \text{CLDND1} - 3.4034 * \text{LRRN3} - 1.4847 * \text{MUC1} + 5.9209 * \text{GOPC} + 2.27166 * \text{LEF1}$, wherein $\text{SEX} = 1$ if male, and 0 if female and Pr is probability.

174. The method of claim 163, wherein said expression level of said marker positively correlates with said subject's smoking status.

175. The method of claim 166, wherein said expression level of said marker is significantly greater than said threshold value.

176. The method of claim 163, wherein said expression level of said marker negatively correlates with said subject's smoking status.

177. The method of claim 166, wherein said expression level of said marker is significantly less than said threshold value.

178. A system for determining smoking status of a subject, said system comprising:

a storage memory for storing a dataset associated with a sample obtained from the subject, wherein said dataset comprises quantitative expression data for a marker selected from Table 1; and

a processor communicatively coupled to the storage memory for analyzing said dataset to determine the expression level of said marker, wherein said expression level of said marker positively or negatively correlates with said subject's smoking status, and thereby determine said subject's smoking status.

179. The system of claim 178, wherein said processor is programmed to use said determined smoking status of said subject to assess said subject's risk for developing a smoking-related disease.

180. The system of claim 179, wherein said smoking-related disease is selected from the group consisting of chronic obstructive pulmonary disease, chronic bronchitis, emphysema, lung cancer, and asthma.

181. The system of claim 178, further comprising a storage memory for storing a dataset comprising a threshold value for a marker selected from Table 1.

182. The system of claim 181, wherein said threshold value is associated with expression data obtained from a non-smoking subject or a non-smoking population of subjects.

183. The system of claim 178, wherein said dataset associated with said sample comprises quantitative expression data for at least two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty or more markers selected from Table 1.

184. The system of claim 178, wherein said processor is programmed to apply an interpretation function to said determined expression level of said marker and generate a score, wherein said score is indicative of said subject's smoking status.

185. The system of claim 184, wherein said interpretation function is an interpretation function selected from the group of interpretation functions set out in Table 7.

186. The system of claim 183, wherein said processor is programmed to apply an interpretation function to said determined expression level and generate a score, wherein said score is indicative of said subject's smoking status.

187. The system of claim 186, wherein said interpretation function is $\log(\text{pr}(\text{Smoker})/(1-\text{Pr}(\text{Smoker}))) = 15.78306 + 0.3876 * \text{SEX} - 3.3368 * \text{CLDND1} - 3.4034 * \text{LRRN3} - 1.4847 * \text{MUC1} + 5.9209 * \text{GOPC} + 2.27166 * \text{LEF1}$, wherein $\text{SEX} = 1$ if male, and 0 if female and Pr is probability.

188. A computer-readable storage medium storing computer-executable program code, said program code comprising:

program code for storing a dataset associated with a sample obtained from a subject, wherein said dataset comprises quantitative expression data for a marker selected from Table 1; and

program code for analyzing said dataset to determine an expression level of said marker, wherein said expression level of said marker positively or negatively correlates with the subject's smoking status, and thereby determine said subject's smoking status.

189. The computer-readable storage medium of claim 188, further comprising program code for assessing said subject's risk for developing a smoking-related disease based on said determined smoking status.

190. The computer-readable storage medium of claim 189, wherein said smoking-related disease is selected from the group consisting of chronic obstructive pulmonary disease, chronic bronchitis, emphysema, lung cancer, and asthma.

191. The computer-readable storage medium of claim 188, further comprising program code for applying an interpretation function to said determined expression level to generate a score, wherein said score is indicative of said subject's smoking status.

192. The computer-readable storage medium of claim 191, wherein said interpretation function is an interpretation function selected from the group of interpretation functions set out in Table 7.

193. The computer-readable storage medium of claim 191, wherein said interpretation function is $\log(\text{pr}(\text{Smoker})/(1-\text{Pr}(\text{Smoker}))) = 15.78306 + 0.3876 * \text{SEX} - 3.3368 * \text{CLDND1} - 3.4034 * \text{LRRN3} - 1.4847 * \text{MUC1} + 5.9209 * \text{GOPC} + 2.27166 * \text{LEF1}$, wherein $\text{SEX} = 1$ if male, and 0 if female and Pr is probability.

194. A kit for use in determining a subject's smoking status, comprising:

a set of reagents for determining from a sample obtained from said subject quantitative expression data for a marker selected from Table 1; and

instructions for using said set of reagents to determine quantitative expression data from said sample and analyzing said dataset to determine an expression level of said marker, wherein said expression level of said marker positively or negatively correlates with the subject's smoking status and thereby determines said subject's smoking status.

195. The kit of claim 194, wherein said instructions further comprise instructions for using said subject's determined smoking status to assess said subject's risk for developing a smoking-related disease.

196. The kit of claim 195, wherein said smoking-related disease is selected from the group consisting of chronic obstructive pulmonary disease, chronic bronchitis, emphysema, lung cancer, and asthma.

197. The kit of claim 194, wherein the instructions further comprise instructions for conducting a nucleotide-based assay.

198. The kit of claim 194, wherein said quantitative expression data comprises data for at least two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty or more markers selected from Table 1.

199. A kit for use in determining a subject's smoking status, comprising:

a set of reagents consisting essentially of a plurality of reagents for determining from a sample obtained from said subject quantitative expression data for a marker selected from Table 1; and

instructions for using said plurality of reagents to determine quantitative expression data from said sample and analyzing said dataset to determine an expression level of said marker, wherein said expression level of said marker positively or negatively correlates with the subject's smoking status to thereby determine said subject's smoking status.

200. The kit of claim of claim 199, wherein said instructions further comprise instructions for using said subject's determined smoking status to assess said subject's risk for developing a smoking-related disease.

201. The kit of claim 200, wherein said smoking-related disease is selected from the group consisting of chronic obstructive pulmonary disease, chronic bronchitis, emphysema, lung cancer, and asthma.

202. The kit of claim 36, wherein said instructions further comprise instructions for conducting a nucleotide-based assay.

203. The kit of claim 36, wherein said quantitative expression data comprises data for at least two, three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty or more markers selected from Table 1.

204. A computer-implemented method for scoring a sample obtained from a subject, wherein said score indicates said subject's smoking status, comprising:

obtaining a dataset associated with said sample, wherein said dataset comprises quantitative expression data for a plurality of markers selected from Table 1; and

determining, by a computer processor, a score from said dataset using an interpretation function, wherein said score is indicative of said subject's smoking status.

205. The method of claim 204, further comprising, determining, by a computer processor, the subject's risk for developing a smoking-related disease, based on said score.

206. The method of claim 204, wherein said smoking-related disease is selected from the group consisting of chronic obstructive pulmonary disease, chronic bronchitis, emphysema, lung cancer, and asthma.

207. The method of claim 204, wherein the dataset comprises quantitative expression data for at least three, four, five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty or more markers selected from Table 1.

208. The method of claim 204, wherein said interpretation function is based on a predictive model.

209. The method of claim 208, wherein said predictive model is selected from the group consisting of a partial least squares model, a logistic regression model, a linear regression model, a linear discriminant analysis model, a ridge regression model, and a tree-based recursive partitioning model.

210. The method of claim 204, wherein obtaining said dataset associated with said sample comprises obtaining said sample and processing said sample to experimentally determine said dataset.

- 211.** The method of claim 204, wherein obtaining said dataset associated with said sample comprises receiving said dataset directly or indirectly from a third party that has processed said sample to experimentally determine said dataset.
- 212.** The method of claim 204, wherein said quantitative expression data are derived from hybridization data.
- 213.** The method of claim 204, wherein said quantitative expression data are derived from polymerase chain reaction data.
- 214.** The method of claim 204, wherein said quantitative expression data are derived from sequence data.
- 215.** The method of claim 204, wherein said dataset comprises data from at least one, at least two, at least three, at least four, or at least five markers selected from Table 1
- 216.** The method of claim 215, wherein said markers comprise CDND1, LRRN3, MUC1, GOPC, or LEF1, or markers selected from Table 1 whose expression is correlated with CDND1, LRRN3, MUC1, GOPC, and LEF1.
- 217.** The method of claim 216, wherein said marker whose expression is correlated with CLDND1 is IL7R.
- 218.** The method of claim 216, wherein said marker whose expression is correlated with LRRN3 is CCR7.
- 219.** The method of claim 216, wherein said marker whose expression is correlated with MUC1 is FOXP3
- 220.** The method of claim 216, wherein said marker whose expression is correlated with GOPC is MCM3.
- 221.** The method of claim 216, wherein said marker whose expression is correlated with LEF1 is CCR7.
- 222.** The method of claim 215, wherein said dataset comprises at least five markers selected from Table 1
- 223.** The method of claim 222, wherein said at least five markers are CLDND1, LRRN3, MUC1, GOPC, and LEF1, or markers whose expression is correlated with CLDND1, LRRN3, MUC1, GOPC, and LEF1.

224. The method of claim 222, wherein said interpretation function is $\log(\text{pr}(\text{Smoker})/(1 - \text{Pr}(\text{Smoker}))) = 15.78306 + 0.3876 * \text{SEX} - 3.3368 * \text{CLDND1} - 3.4034 * \text{LRRN3} - 1.4847 * \text{MUC1} + 5.9209 * \text{GOPC} + 2.27166 * \text{LEF1}$, wherein $\text{SEX} = 1$ if male, and 0 if female and Pr is probability.

225. The method of claim 215, wherein said interpretation function is an interpretation function selected from the group of interpretation functions consisting of those set out in Table 7.