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(54) **Title**: METHODS AND DEVICES FOR DETECTING KIDNEY TRANSPLANT REJECTION

(57) **Abstract**: Methods and devices for diagnosing, monitoring, or determining kidney transplant rejection or an associated disorder in a mammal are described. In particular, methods and devices for diagnosing, monitoring, or determining kidney transplant rejection or an associated disorder using measured concentrations of a combination of three or more analytes in a test sample taken from the mammal are described.

METHODS AND DEVICES FOR DETECTING KIDNEY TRANSPLANT REJECTION

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the priority of US provisional application serial no. 61/327,389, filed April 23, 2010, and US provisional application serial no. 61/232,091, filed August 7, 2009, each of which is hereby incorporated by reference in its entirety and is related to U.S. Patent Application Nos. [Not Yet Assigned], entitled Methods and Devices for Detecting Obstructive Uropathy and Associated Disorders, Methods and Devices for Detecting Kidney Damage, Devices for Detecting Renal Disorders, Computer Methods and Devices for Detecting Kidney Damage, Methods and Devices for Detecting Diabetic Nephropathy and Associated Disorders, and Methods and Devices for Detecting Glomerulonephritis and Associated Disorders, Attorney Docket Nos. 060075- , filed on the same date as this application, the entire contents of which are incorporated herein by reference..

FIELD OF THE INVENTION

[0002] The invention encompasses methods and devices for diagnosing, monitoring, or determining kidney transplant rejection or an associated disorder in a mammal. In particular, the present invention provides methods and devices for diagnosing, monitoring, or determining kidney transplant rejection or an associated disorder using measured concentrations of a combination of three or more analytes in a test sample taken from the mammal.

BACKGROUND OF THE INVENTION

[0003] The urinary system, in particular the kidneys, perform several critical functions such as maintaining electrolyte balance and eliminating toxins from the bloodstream. In the human body, the pair of kidneys together process roughly 20% of the total cardiac output, amounting to about 1 L/min in a 70-kg adult male. Because compounds in circulation are concentrated in the kidney up to 1000-fold relative to the plasma concentration, the kidney is especially vulnerable to injury due to exposure to toxic compounds.

[0004] Severe kidney damage that results in end-stage renal disease (ESRD) may be treated with a kidney transplant. ESRD is defined as a drop in the glomerular filtration rate (GFR) to 20–25% of normal. Common diseases leading to ESRD may include malignant hypertension, infections, diabetes mellitus, and focal segmental glomerulosclerosis; genetic causes include polycystic kidney disease, a number of inborn errors of metabolism, and autoimmune conditions such as lupus and Goodpasture's syndrome. Diabetes is the most common cause of kidney transplantation, accounting for approximately 25% of those in the US. Despite the success of a kidney transplant in extending the patient's life, rejection is still a significant complication to the procedure, and may result in failure of the transplant. Detecting early signs of a rejection may enable faster, more aggressive treatment, resulting in less damage to the kidney. Existing diagnostic tests such as BUN and serum creatine tests, however, typically detect only advanced stages of kidney damage. Other diagnostic tests such as kidney tissue biopsies or CAT scans have the advantage of enhanced sensitivity to earlier stages of kidney damage, but these tests are also generally costly, slow, and/or invasive.

[0005] A need exists in the art for a fast, simple, reliable, and sensitive method of detecting kidney transplant rejection or an associated disorder. In a clinical setting, the early detection of kidney damage would help medical practitioners to diagnose and treat kidney damage more quickly and effectively.

SUMMARY OF THE INVENTION

[0006] The present invention provides methods and devices for diagnosing, monitoring, or determining a renal disorder in a mammal. In particular, the present invention provides methods and devices for diagnosing, monitoring, or determining a renal disorder using measured concentrations of a combination of three or more analytes in a test sample taken from the mammal.

[0007] One aspect of the invention encompasses a method for diagnosing, monitoring, or determining kidney transplant rejection or an associated disorder in a mammal. The method typically comprises providing a test sample comprising a sample of bodily fluid taken from the mammal. Then, the method comprises determining a

combination of sample concentrations for three or more sample analytes in the test sample, wherein the sample analytes are selected from the group consisting of alpha-1 microglobulin, beta-2 microglobulin, calbindin, clusterin, CTGF, creatinine, cystatin C, GST-alpha, KIM-1, microalbumin, NGAL, osteopontin, THP, TIMP-1, TFF-3, VEGF, BLC, CD40, IGF BP2, MMP3, peptide YY, stem cell factor, TNF RII, AXL, Eotaxin 3, FABP, FGF basic, myoglobin, resistin, TRAIL R3, endothelin 1, NrCAM, Tenascin C, VCAM1, and cortisol. The combination of sample concentrations may be compared to a data set comprising at least one entry, wherein each entry of the data set comprises a list comprising three or more minimum diagnostic concentrations indicative of kidney transplant rejection or an associated disorder. Each minimum diagnostic concentration comprises a maximum of a range of analyte concentrations for a healthy mammal. Next, the method comprises determining a matching entry of the dataset in which all minimum diagnostic concentrations are less than the corresponding sample concentrations and identifying an indicated disorder comprising the particular disorder of the matching entry.

[0008] Another aspect of the invention encompasses a method for diagnosing, monitoring, or determining kidney transplant rejection or an associated disorder in a mammal. The method generally comprises providing a test sample comprising a sample of bodily fluid taken from the mammal. Then the method comprises determining the concentrations of three or more sample analytes in a panel of biomarkers in the test sample, wherein the sample analytes are selected from the group consisting of alpha-1 microglobulin, beta-2 microglobulin, calbindin, clusterin, CTGF, creatinine, cystatin C, GST-alpha, KIM-1, microalbumin, NGAL, osteopontin, THP, TIMP-1, TFF-3, VEGF, BLC, CD40, IGF BP2, MMP3, peptide YY, stem cell factor, TNF RII, AXL, Eotaxin 3, FABP, FGF basic, myoglobin, resistin, TRAIL R3, endothelin 1, NrCAM, Tenascin C, VCAM1, and cortisol. Diagnostic analytes are identified in the test sample, wherein the diagnostic analytes are the sample analytes whose concentrations are statistically different from concentrations found in a control group of humans who do not suffer from kidney transplant rejection or an associated disorder. The combination of diagnostic analytes is compared to a dataset comprising at least one entry, wherein each entry of the dataset comprises a combination of three or more diagnostic analytes reflective of

kidney transplant rejection or an associated disorder. The particular disorder having the combination of diagnostic analytes that essentially match the combination of sample analytes is then identified.

[0009] An additional aspect of the invention encompasses a method for diagnosing, monitoring, or determining kidney transplant rejection or an associated disorder in a mammal. The method usually comprises providing an analyte concentration measurement device comprising three or more detection antibodies. Each detection antibody comprises an antibody coupled to an indicator, wherein the antigenic determinants of the antibodies are sample analytes associated with kidney transplant rejection or an associated disorder. The sample analytes are generally selected from the group consisting of alpha-1 microglobulin, beta-2 microglobulin, calbindin, clusterin, CTGF, creatinine, cystatin C, GST-alpha, KIM-1, microalbumin, NGAL, osteopontin, THP, TIMP-1, TFF-3, VEGF, BLC, CD40, IGF BP2, MMP3, peptide YY, stem cell factor, TNF RII, AXL, Eotaxin 3, FABP, FGF basic, myoglobin, resistin, TRAIL R3, endothelin 1, NrCAM, Tenascin C, VCAM1, and cortisol. The method next comprises providing a test sample comprising three or more sample analytes and a bodily fluid taken from the mammal. The test sample is contacted with the detection antibodies and the detection antibodies are allowed to bind to the sample analytes. The concentrations of the sample analytes are determined by detecting the indicators of the detection antibodies bound to the sample analytes in the test sample. The concentrations of each sample analyte correspond to a corresponding minimum diagnostic concentration reflective of kidney transplant rejection or an associated disorder.

[0010] Other aspects and iterations of the invention are described in more detail below.

DESCRIPTION OF FIGURES

[0011] **FIG.1** depicts a sample clustering tree (dendrogram) together with set and status indicators. Below the tree the set that each sample belongs to (black encodes Set 1, red Set 2; see Examples) is shown, and the patient status (black encodes AR (acute rejection), red CAN (chronic allograft nephropathy), green TX(successful, non-rejected transplant)). The sample tree contains two large branches,

one of which corresponds to the Set 1 (the large black block in the set indicator color bar), and one that corresponds to Set 2 (the large red block in the set indicator color bar). This two-branch structure points to a batch effect.

[0012] **FIG. 2** depicts scatterplots of protein significance for the comparisons TX vs. AR, TX vs. CAN, AR vs. CAN (in each case, the samples belonging to the third group are ignored), and for the comparisons TX vs. all others, AR vs. all others, CAN vs. all others, in Set 2 (y-axis) vs. Set 1 (x-axis). Each dot represents a protein; protein significance is defined as biweight midcorrelation [1] of the protein level with status. The correlation and p-value, and a linear model fit line are also included.

[0013] **FIG. 3** depicts a scatterplot of protein significance for TX vs. AR in Set 2 (y-axis) vs. Set 1 (x-axis). Positive significance identifies proteins whose levels are higher in AR than TX, and negative the opposite. Each dot represents a protein; in this plot the negative logarithm of the association p-value multiplied by the sign of the robust correlation of the protein is plotted with TX vs. AR status. Kidney injury markers identified in previous work are plotted in blue, while all other proteins are black. Proteins with relatively high overall significance are labeled by their names or symbols. The green and red lines denote p-value thresholds of 0.01 and 0.05, respectively.

[0014] **FIG. 4** depicts a scatterplot of protein significance for TX vs. CAN in Set 2 (y-axis) vs. Set 1 (x-axis). Positive significance identifies proteins whose levels are higher in CAN than TX, and negative the opposite. Each dot represents a protein; in this plot the negative logarithm of the association p-value multiplied by the sign of the robust correlation of the protein is plotted with TX vs. CAN status. Kidney injury markers identified in previous work are plotted in blue, while all other proteins are black. Proteins with relatively high overall significance are labeled by their names or symbols. The green and red lines denote p-value thresholds of 0.01 and 0.05, respectively.

[0015] **FIG. 5** depicts a scatterplot of protein significance for AR vs. CAN in Set 2 (y-axis) vs. Set 1 (x-axis). Positive significance identifies proteins whose levels are higher in CAN than AR, and negative the opposite. Each dot represents a protein; in this plot the negative logarithm of the association p-value multiplied by the sign of the robust correlation of the protein is plotted with AR vs. CAN status. Kidney injury markers identified in previous work are plotted in blue, while all other proteins are black. Proteins

with relatively high overall significance are labeled by their names or symbols. The green and red lines denote p-value thresholds of 0.01 and 0.05, respectively.

[0016] **FIG. 6** depicts a scatterplot of protein significance for TX vs. all others in Set 2 (y-axis) vs. Set 1 (x-axis). Positive significance identifies proteins whose levels are higher in others than TX, and negative the opposite. Each dot represents a protein; in this plot the negative logarithm of the association p-value multiplied by the sign of the robust correlation of the protein is plotted with TX vs. all others status. Kidney injury markers identified in previous work are plotted in blue, while all other proteins are black. Proteins with relatively high overall significance are labeled by their names or symbols. The green and red lines denote p-value thresholds of 0.01 and 0.05, respectively.

[0017] **FIG. 7** depicts a scatterplot of protein significance for AR vs. all others in Set 2 (y-axis) vs. Set 1 (x-axis). Positive significance identifies proteins whose levels are higher in others than AR, and negative the opposite. Each dot represents a protein; in this plot the negative logarithm of the association p-value multiplied by the sign of the robust correlation of the protein is plotted with AR vs. all others status. Kidney injury markers identified in previous work are plotted in blue, while all other proteins are black. Proteins with relatively high overall significance are labeled by their names or symbols. The green and red lines denote p-value thresholds of 0.01 and 0.05, respectively.

[0018] **FIG. 8** depicts a scatterplot of protein significance for CAN vs. all others in Set 2 (y-axis) vs. Set 1 (x-axis). Positive significance identifies proteins whose levels are higher in others than CAN, and negative the opposite. Each dot represents a protein; in this plot the negative logarithm of the association p-value multiplied by the sign of the robust correlation of the protein is plotted with CAN vs. all others status. Kidney injury markers identified in previous work are plotted in blue, while all other proteins are black. Proteins with relatively high overall significance are labeled by their names or symbols. The green and red lines denote p-value thresholds of 0.01 and 0.05, respectively.

[0019] **FIG. 9** depicts a chart showing the p-values for finding the observed numbers of genes by chance. Each row corresponds to one significance level and sign

of the relationship between protein level and trait, while each column corresponds to a comparison. Thus, for example, the p-value of finding 9 genes with p-values less than 0.01 in the TX vs AR comparison (upper left square) is 0.0018.

DETAILED DESCRIPTION OF THE INVENTION

[0020] It has been discovered that a multiplexed panel of at least three, six, or preferably 16 biomarkers may be used to detect kidney transplant rejection and associated disorders. In particular, a panel or method of the invention may be used to detect acute kidney rejection or chronic allograft nephropathy. Importantly, a panel or method of the invention may be used to distinguish between an acute rejection reaction and a chronic allograft nephropathy. Alternatively, a panel or method of the invention may be used to distinguish between a successful transplant and rejection. As used herein, the term “rejection” refers to a recipient response to a foreign antigen derived from the transplanted kidney. The phrase “acute rejection” refers to an immune related response to the foreign kidney. The response is primarily T-cell driven and originates from an HLC mismatch between the donor and recipient. The phrase “chronic allograft nephropathy” refers to a chronic inflammatory and immune response mediated reaction to a foreign kidney. Chronic allograft nephropathy may result in damage to the kidney manifested by diffuse interstitial fibrosis glomerular changes, typically membranous and sclerotic in nature, as well as intimal fibrosis of the blood vessels with tubular atrophy and loss of tubular structures.

[0021] Additionally, the present invention encompasses biomarkers that may be used to detect a disorder associated with kidney transplant rejection. As used herein, the phrase “a disorder associated with kidney transplant rejection” refers to a disorder that stems from a host response to a foreign antigen derived from the transplated kidney. For instance, non-limiting examples of associated disorders may include chronic kidney failure and end-stage kidney disease.

[0022] The biomarkers included in a multiplexed panel of the invention are analytes known in the art that may be detected in the urine, serum, plasma and other bodily fluids of mammals. As such, the analytes of the multiplexed panel may be readily extracted from the mammal in a test sample of bodily fluid. The concentrations of the

analytes within the test sample may be measured using known analytical techniques such as a multiplexed antibody-based immunological assay. The combination of concentrations of the analytes in the test sample may be compared to empirically determined combinations of minimum diagnostic concentrations and combinations of diagnostic concentration ranges associated with healthy kidney function or kidney transplant rejection or an associated disorder to determine whether kidney transplant rejection, and if so, what type of rejection, is indicated in the mammal.

[0023] One embodiment of the present invention provides a method for diagnosing, monitoring, or determining kidney transplant rejection or an associated disorder in a mammal that includes determining the presence or concentration of a combination of three or more sample analytes in a test sample containing the bodily fluid of the mammal. The measured concentrations of the combination of sample analytes is compared to the entries of a dataset in which each entry contains the minimum diagnostic concentrations of a combination of three of more analytes reflective of kidney transplant rejection or an associated disorder. Other embodiments provide computer-readable media encoded with applications containing executable modules, systems that include databases and processing devices containing executable modules configured to diagnose, monitor, or determine a renal disorder in a mammal. Still other embodiments provide antibody-based devices for diagnosing, monitoring, or determining kidney transplant rejection or an associated disorder in a mammal.

[0024] The analytes used as biomarkers in the multiplexed assay, methods of diagnosing, monitoring, or determining a renal disorder using measurements of the analytes, systems and applications used to analyze the multiplexed assay measurements, and antibody-based devices used to measure the analytes are described in detail below.

I. Analytes in Multiplexed Assay

[0025] One embodiment of the invention measures the concentrations of three, six, sixteen, or more than 16 biomarker analytes within a test sample taken from a mammal and compares the measured analyte concentrations to minimum diagnostic concentrations to diagnose, monitor, or determine kidney transplant rejection or an

associated disorder in a mammal. In this aspect, the biomarker analytes are known in the art to occur in the urine, plasma, serum and other bodily fluids of mammals. The biomarker analytes are proteins that have known and documented associations with early renal damage in humans. As defined herein, the biomarker analytes may include but are not limited to alpha-1 microglobulin, beta-2 microglobulin, calbindin, clusterin, CTGF, creatinine, cystatin C, GST-alpha, KIM-1, microalbumin, NGAL, osteopontin, THP, TIMP-1, TFF-3, VEGF, BLC, CD40, IGF BP2, MMP3, peptide YY, stem cell factor, TNF RII, AXL, Eotaxin 3, FABP, FGF basic, myoglobin, resistin, TRAIL R3, endothelin 1, NrCAM, Tenascin C, VCAM1, and cortisol. A description of each biomarker analyte is given below.

(a) Alpha-1 Microglobulin (A1M)

[0026] Alpha-1microglobulin (A1M, Swiss-Prot Accession Number P02760) is a 26 kDa glycoprotein synthesized by the liver and reabsorbed in the proximal tubules. Elevated levels of A1M in human urine are indicative of glomerulotubular dysfunction. A1M is a member of the lipocalin super family and is found in all tissues. Alpha-1-microglobulin exists in blood in both a free form and complexed with immunoglobulin A (IgA) and heme. Half of plasma A1M exists in a free form, and the remainder exists in complexes with other molecules including prothrombin, albumin, immunoglobulin A and heme. Nearly all of the free A1M in human urine is reabsorbed by the megalin receptor in proximal tubular cells, where it is then catabolized. Small amounts of A1M are excreted in the urine of healthy humans. Increased A1M concentrations in human urine may be an early indicator of renal damage, primarily in the proximal tubule.

(b) Beta-2 Microglobulin (B2M)

[0027] Beta-2 microglobulin (B2M, Swiss-Prot Accession Number P61769) is a protein found on the surfaces of all nucleated cells and is shed into the blood, particularly by tumor cells and lymphocytes. Due to its small size, B2M passes through the glomerular membrane, but normally less than 1% is excreted due to reabsorption of B2M in the proximal tubules of the kidney. Therefore, high plasma levels of B2M occur

as a result of renal failure, inflammation, and neoplasms, especially those associated with B-lymphocytes.

(c) Calbindin

[0028] Calbindin (Calbindin D-28K, Swiss-Prot Accession Number P05937) is a Ca-binding protein belonging to the troponin C superfamily. It is expressed in the kidney, pancreatic islets, and brain. Calbindin is found predominantly in subpopulations of central and peripheral nervous system neurons, in certain epithelial cells involved in Ca2+ transport such as distal tubular cells and cortical collecting tubules of the kidney, and in enteric neuroendocrine cells.

(d) Clusterin

[0029] Clusterin (Swiss-Prot Accession Number P10909) is a highly conserved protein that has been identified independently by many different laboratories and named SGP2, S35-S45, apolipoprotein J, SP-40, 40, ADHC-9, gp80, GPIII, and testosterone-repressed prostate message (TRPM-2). An increase in clusterin levels has been consistently detected in apoptotic heart, brain, lung, liver, kidney, pancreas, and retinal tissue both *in vivo* and *in vitro*, establishing clusterin as a ubiquitous marker of apoptotic cell loss. However, clusterin protein has also been implicated in physiological processes that do not involve apoptosis, including the control of complement-mediated cell lysis, transport of beta-amyloid precursor protein, shuttling of aberrant beta-amyloid across the blood-brain barrier, lipid scavenging, membrane remodeling, cell aggregation, and protection from immune detection and tumor necrosis factor induced cell death.

(e) Connective Tissue Growth Factor (CTGF)

[0030] Connective tissue growth factor (CTGF, Swiss-Prot Accession Number P29279) is a 349–amino acid cysteine-rich polypeptide belonging to the CCN family. *In vitro* studies have shown that CTGF is mainly involved in extracellular matrix synthesis and fibrosis. Up-regulation of CTGF mRNA and increased CTGF levels have been observed in various diseases, including diabetic nephropathy and

cardiomyopathy, fibrotic skin disorders, systemic sclerosis, biliary atresia, liver fibrosis and idiopathic pulmonary fibrosis, and nondiabetic acute and progressive glomerular and tubulointerstitial lesions of the kidney. A recent cross-sectional study found that urinary CTGF may act as a progression promoter in diabetic nephropathy.

(f) Creatinine

[0031] Creatinine is a metabolite of creatine phosphate in muscle tissue, and is typically produced at a relatively constant rate by the body. Creatinine is chiefly filtered out of the blood by the kidneys, though a small amount is actively secreted by the kidneys into the urine. Creatinine levels in blood and urine may be used to estimate the creatinine clearance, which is representative of the overall glomerular filtration rate (GFR), a standard measure of renal function. Variations in creatinine concentrations in the blood and urine, as well as variations in the ratio of urea to creatinine concentration in the blood, are common diagnostic measurements used to assess renal function.

(g) Cystatin C (Cyst C)

[0032] Cystatin C (Cyst C, Swiss-Prot Accession Number P01034) is a 13 kDa protein that is a potent inhibitor of the C1 family of cysteine proteases. It is the most abundant extracellular inhibitor of cysteine proteases in testis, epididymis, prostate, seminal vesicles and many other tissues. Cystatin C, which is normally expressed in vascular wall smooth muscle cells, is severely reduced in both atherosclerotic and aneurismal aortic lesions.

(h) Glutathione S-Transferase alpha (GST-alpha)

[0033] Glutathione S-transferase alpha (GST-alpha, Swiss-Prot Accession Number P08263) belongs to a family of enzymes that utilize glutathione in reactions contributing to the transformation of a wide range of compounds, including carcinogens, therapeutic drugs, and products of oxidative stress. These enzymes play a key role in the detoxification of such substances.

(i) Kidney Injury Molecule-1 (KIM-1)

[0034] Kidney injury molecule–1 (KIM-1, Swiss-Prot Accession Number Q96D42) is an immunoglobulin superfamily cell-surface protein highly upregulated on the surface of injured kidney epithelial cells. It is also known as TIM-1 (T-cell immunoglobulin mucin domain–1), as it is expressed at low levels by subpopulations of activated T-cells and hepatitis A virus cellular receptor–1 (HAVCR-1). KIM-1 is increased in expression more than any other protein in the injured kidney and is localized predominantly to the apical membrane of the surviving proximal epithelial cells.

(j) Microalbumin

[0035] Albumin is the most abundant plasma protein in humans and other mammals. Albumin is essential for maintaining the osmotic pressure needed for proper distribution of body fluids between intravascular compartments and body tissues. Healthy, normal kidneys typically filter out albumin from the urine. The presence of albumin in the urine may indicate damage to the kidneys. Albumin in the urine may also occur in patients with long-standing diabetes, especially type 1 diabetes. The amount of albumin eliminated in the urine has been used to differentially diagnose various renal disorders. For example, nephrotic syndrome usually results in the excretion of about 3.0 to 3.5 grams of albumin in human urine every 24 hours. Microalbuminuria, in which less than 300mg of albumin is eliminated in the urine every 24 hours, may indicate the early stages of diabetic nephropathy.

(k) Neutrophil Gelatinase-Associated Lipocalin (NGAL)

[0036] Neutrophil gelatinase-associated lipocalin (NGAL, Swiss-Prot Accession Number P80188) forms a disulfide bond-linked heterodimer with MMP-9. It mediates an innate immune response to bacterial infection by sequestrating iron. Lipocalins interact with many different molecules such as cell surface receptors and proteases, and play a role in a variety of processes such as the progression of cancer and allergic reactions.

(l) Osteopontin (OPN)

[0037] Osteopontin (OPN, Swiss-Prot Accession Number P10451) is a cytokine involved in enhancing production of interferon-gamma and IL-12, and inhibiting the production of IL-10. OPN is essential in the pathway that leads to type I immunity. OPN appears to form an integral part of the mineralized matrix. OPN is synthesized within the kidney and has been detected in human urine at levels that may effectively inhibit calcium oxalate crystallization. Decreased concentrations of OPN have been documented in urine from patients with renal stone disease compared with normal individuals.

(m) Tamm-Horsfall Protein (THP)

[0038] Tamm-Horsfall protein (THP, Swiss-Prot Accession Number P07911), also known as uromodulin, is the most abundant protein present in the urine of healthy subjects and has been shown to decrease in individuals with kidney stones. THP is secreted by the thick ascending limb of the loop of Henley. THP is a monomeric glycoprotein of ~ 85 kDa with ~30% carbohydrate moiety that is heavily glycosylated. THP may act as a constitutive inhibitor of calcium crystallization in renal fluids.

(n) Tissue Inhibitor of Metalloproteinase-1 (TIMP-1)

[0039] Tissue inhibitor of metalloproteinase-1 (TIMP-1, Swiss-Prot Accession Number P01033) is a major regulator of extracellular matrix synthesis and degradation. A certain balance of MMPs and TIMPs is essential for tumor growth and health. Fibrosis results from an imbalance of fibrogenesis and fibrolysis, highlighting the importance of the role of the inhibition of matrix degradation role in renal disease.

(o) Trefoil Factor 3 (TFF3)

[0040] Trefoil factor 3 (TFF3, Swiss-Prot Accession Number Q07654), also known as intestinal trefoil factor, belongs to a small family of mucin-associated peptides that include TFF1, TFF2, and TFF3. TFF3 exists in a 60-amino acid monomeric form and a 118-amino acid dimeric form. Under normal conditions TFF3 is expressed by goblet cells of the intestine and the colon. TFF3 expression has also been observed in

the human respiratory tract, in human goblet cells and in the human salivary gland. In addition, TFF3 has been detected in the human hypothalamus.

(p) Vascular Endothelial Growth Factor (VEGF)

[0041] Vascular endothelial growth factor (VEGF, Swiss-Prot Accession Number P15692) is an important factor in the pathophysiology of neuronal and other tumors, most likely functioning as a potent promoter of angiogenesis. VEGF may also be involved in regulating blood-brain-barrier functions under normal and pathological conditions. VEGF secreted from the stromal cells may be responsible for the endothelial cell proliferation observed in capillary hemangioblastomas, which are typically composed of abundant microvasculature and primitive angiogenic elements represented by stromal cells.

(q) B-lymphocyte Chemoattractant (BLC)

[0042] B-lymphocyte chemoattractant (BLC, Swiss-Prot Accession Number 043927) is also referred to as C-X-C motif chemokine 13, Small-inducible cytokine B13, B lymphocyte chemoattractant, CXC chemokine BLC, and B cell-attracting chemokine 1. BLC functions as a potent chemoattractant for B lymphocytes, but not T lymphocytes, monocytes, or neutrophils. Its specific receptor BLR1 is a G protein-coupled receptor originally isolated from Burkitt's lymphoma cells. Among cells of the hematopoietic lineages, the expression of BRL1, now designated CXCR5, is restricted to B lymphocytes and a subpopulation of T helper memory cells.

(r) Cluster of Differentiation Surface Receptors 40 (CD40)

[0043] Cluster of Differentiation Surface Receptors 40 (CD40, Swiss Prot Accession Number P25942) is also referred to TNFRSF5 (Tumor necrosis factor receptor superfamily member 5. CD40 is a member of the tumor necrosis factor-receptor superfamily of proteins. CD40 has been found to be essential in mediating a broad variety of immune and inflammatory responses including T cell-dependent immunoglobulin class switching, memory B cell development, and germinal center formation.

(s) Insulin-like Growth Factor Binding Protein 2 (IGF BP2)

[0044] Insulin-like Growth Factor Binding Protein 2 (IGF BP2, Swiss Prot Accession Number P18065) functions to prolong the half-life of the insulin growth factors and have been shown to either inhibit or stimulate the growth promoting effects of the insulin growth factors on cell culture. Specifically, during development, insulin-like growth factor binding protein-2 is expressed in a number of tissues with the highest expression level found in the central nervous system. IGFBP-2 exhibits a 2-10 fold higher affinity for IGF II than for IGF I.

(t) Matrix Metalloproteinase-3 (MMP3)

[0045] Matrix Metalloproteinase-3 (MMP3, Swiss Prot Accession Number P08254) is also known as stromelysin-1 and Transin-1. MMP3 is involved in the breakdown of extracellular matrix in normal physiological processes, such as embryonic development, reproduction, and tissue remodeling, as well as in disease processes, such as arthritis and metastasis. Most MMP's are secreted as inactive proproteins which are activated when cleaved by extracellular proteinases. MMP3 encodes an enzyme which degrades fibronectin, laminin, collagens III, IV, IX, and X, and cartilage proteoglycans. The enzyme is thought to be involved in wound repair, progression of atherosclerosis, and tumor initiation. MMP3 is part of a cluster of MMP genes which localize to chromosome 11q22.3.

(u) Peptide YY (PYY)

[0046] Peptide YY (PYY, Swiss-Prot Accession Number P10082) is also known as peptide tyrosine tyrosine and pancreatic peptide YY_{3-36}. Peptide YY exerts its action through neuropeptide Y receptors, inhibits gastric motility and increases water and electrolyte absorption in the colon. PYY may also suppress pancreatic secretion. It is secreted by the neuroendocrine cells in the ileum and colon in response to a meal, and has been shown to reduce appetite. PYY works by slowing the gastric emptying; hence, it increases efficiency of digestion and nutrient absorption after meal. Research

has also indicated that PYY may be useful in removing aluminum accumulated in the brain.

(v) Stem Cell Factor (SCF)

[0047] Stem Cell Factor (SCF, UniProtKB/TrEMBL Q13528) is also known as kit-ligand, KL, and steel factor. SCF functions SCF plays an important role in the hematopoiesis during embryonic development. Sites where hematopoiesis takes place, such as the fetal liver and bone marrow, all express SCF. SCF may serve as guidance cues that direct hematopoietic stem cells (HSCs) to their stem cell niche (the microenvironment in which a stem cell resides), and it plays an important role in HSC maintenance. Non-lethal point mutants on the c-Kit receptor can cause anemia, decreased fertility, and decreased pigmentation. During development, the presence of the SCF also plays an important role in the localization of melanocytes, cells that produce melanin and control pigmentation. In melanogenisis, melanoblasts migrate from the neural crest to their appropriate locations in the epidermis. Melanoblasts express the Kit receptor, and it is believed that SCF guides these cells to their terminal locations. SCF also regulates survival and proliferation of fully differentiated melanocytes in adults. In spermatogenesis, c-Kit is expressed in primordial germ cells, spermatogonia, and in primordial oocytes. It is also expressed in the primordial germ cells of females. SCF is expressed along the pathways that the germ cells use to reach their terminal destination in the body. It is also expressed in the final destinations for these cells. Like for melanoblasts, this helps guide the cells to their appropriate locations in the body

(w) Tumor Necrosis Factor Receptor Type II (TNF RII)

[0048] Tumor Necrosis Factor Receptor Type II (TNF RII, Swiss-Prot Accession Number P20333) is also known as p75, p80 TNF alpha receptor, and TNFRSF1B. TNF RII is a protein that in humans is encoded by the TNFRSF1B gene. The protein encoded by this gene is a member of the Tumor necrosis factor receptor superfamily, which also contains TNFRSF1A. The protein encoded by this gene is a member of the TNF-receptor superfamily. This protein and TNF-receptor 1 form a

heterocomplex that mediates the recruitment of two anti-apoptotic proteins, c-IAP1 and c-IAP2, which possess E3 ubiquitin ligase activity. The function of IAPs in TNF-receptor signaling is unknown; however, c-IAP1 is thought to potentiate TNF-induced apoptosis by the ubiquitination and degradation of TNF-receptor-associated factor 2, which mediates anti-apoptotic signals. Knockout studies in mice also suggest a role of this protein in protecting neurons from apoptosis by stimulating antioxidative pathways.

(x) AXL Oncogene

[0049] AXL (Swiss-Prot Accession Number P30530) is also known as UFO, ARK, and tyrosine-protein kinase receptor UFO. The protein encoded by AXL is a member of the receptor tyrosine kinase subfamily. Although it is similar to other receptor tyrosine kinases, the AXL protein represents a unique structure of the extracellular region that juxtaposes IgL and FNIII repeats. AXL transduces signals from the extracellular matrix into the cytoplasm by binding growth factors like vitamin K-dependent protein growth-arrest-specific gene 6. It is involved in the stimulation of cell proliferation. This receptor can also mediate cell aggregation by homophilic binding. AXL is a chronic myelogenous leukemia-associated oncogene and also associated with colon cancer and melanoma.

(y) Eotaxin 3

[0050] Eotaxin 3 (Swiss-Prot Accession Number P51671) is also known as C-C motif chemokine 11 (CCL11), small inducible cytokine A11, and eosinophil chemotactic protein. Eotaxin 3 is a small cytokine belonging to the CC chemokine family that is also called Eotaxin-3, Macrophage inflammatory protein 4-alpha (MIP-4-alpha), Thymic stroma chemokine-1 (TSC-1), and IMAC. It is expressed by several tissues including heart, lung and ovary, and in endothelial cells that have been stimulated with the cytokine interleukin 4.[1][2] CCL26 is chemotactic for eosinophils and basophils and elicits its effects by binding to the cell surface chemokine receptor CCR3.

(z) Fatty Acid Binding Protein (FABP)

[0051] Fatty Acid Binding Protein (FABP, Swiss-Prot Accession Number Q01469) is also known as epidermal-type fatty acid binding protein, and fatty-acid binding protein 5. This gene encodes the fatty acid binding protein found in epidermal cells, and was first identified as being upregulated in psoriasis tissue. Fatty acid binding proteins are a family of small, highly conserved, cytoplasmic proteins that bind long-chain fatty acids and other hydrophobic ligands. It is thought that FABPs roles include fatty acid uptake, transport, and metabolism..

(aa) Basic Fibroblast Growth Factor (FGF basic)

[0052] Basic Fibroblast Growth Factor (FGF basic, Swiss-Prot Accession NumberP09038) is also known as heparin-binding growth factor. In normal tissue, basic fibroblast growth factor is present in basement membranes and in the subendothelial extracellular matrix of blood vessels. It stays membrane-bound as long as there is no signal peptide. It has been hypothesized that, during both wound healing of normal tissues and tumor development, the action of heparan sulfate-degrading enzymes activates FGF basic, thus mediating the formation of new blood vessels. Additionally, FGF basic is a critical component of human embryonic stem cell culture medium; the growth factor is necessary for the cells to remain in an undifferentiated state, although the mechanisms by which it does this are poorly defined. It has been demonstrated to induce gremlin expression which in turn is known to inhibit the induction of differentiation by bone morphogenetic proteins. It is necessary in mouse-feeder cell dependent culture systems, as well as in feeder and serum-free culture systems.

(bb) Myoglobin

[0053] Myoglobin (Swiss-Prot Accession Number P02144) is released from damaged muscle tissue (rhabdomyolysis), which has very high concentrations of myoglobin. The released myoglobin is filtered by the kidneys but is toxic to the renal tubular epithelium and so may cause acute renal failure. Myoglobin is a sensitive marker for muscle injury, making it a potential marker for heart attack in patients with chest pain.

(cc) Resistin (RETN)

[0054] Resistin (RETN, UniProtKB/TrEMBL Q76B53) is theorized to participate in the inflammatory response. Resistin has also been shown to increase transcriptional events leading to an increased expression of several pro-inflammatory cytokines including (but not limited to) interleukin-1 (IL-1), interleukin-6 (IL-6), interleukin-12 (IL-12), and tumor necrosis factor-α (TNF-α) in an NF-κB-mediated fashion. It has also been demonstrated that resistin upregulates intracellular adhesion molecule-1 (ICAM1) vascular cell-adhesion molecule-1 (VCAM1) and CCL2, all of which are occupied in chemotactic pathways involved in leukocyte recruitment to sites of infection. Resistin itself can be upregulated by interleukins and also by microbial antigens such as lipopolysaccharide, which are recognized by leukocytes. Taken together, because resistin is reputed to contribute to insulin resistance, results such as those mentioned suggest that resistin may be a link in the well-known association between inflammation and insulin resistance. In fact, recent data have shown positive correlations between obesity, insulin resistance, and chronic inflammation which is believed to be directed in part by resistin signaling.

(dd) Tumor Necrosis Factor-Related Apoptosis-Inducing Ligand Receptor 3 (TRAIL R3)

[0055] TRAIL R3 (Swiss-Prot Accession Number P83626 (mouse)) is also known as tumor necrosis factor-related apoptosis-inducing ligand receptor 3, and tumor necrosis factor receptor mouse homolog. TRAIL R3 is a decoy receptor for TRAIL, a member of the tumor necrosis factor family. In several cell types decoy receptors inhibit TRAIL-induced apoptosis by binding TRAIL and thus preventing its binding to proapoptotic TRAIL receptors.

(ee) Endothelin 1 (ET1)

[0056] Endothelin 1 (ET1, UniProtKB/TrEMBL Q6FH53) is also known as EDN1 and EDN1 protein. Endothelin 1 is a protein that constricts blood vessels and raises blood pressure. It is normally kept in balance by other mechanisms, but when

over-expressed, it contributes to high blood pressure (hypertension) and heart disease. Endothelin 1 peptides and receptors are implicated in the pathogenesis of a number of disease states, including cancer and heart disease.

(ff) Neuronal Cell Adhesion Molecule (NrCAM)

[0057] Neuronal Cell Adhesion Molecule (NrCAM, UniProtKB/TrEMBL Q14CA1) encodes a neuronal cell adhesion molecule with multiple immunoglobulin-like C2-type domains and fibronectin type-III domains. This ankyrin-binding protein is involved in neuron-neuron adhesion and promotes directional signaling during axonal cone growth. This gene is also expressed in non-neural tissues and may play a general role in cell-cell communication via signaling from its intracellular domain to the actin cytoskeleton during directional cell migration. Allelic variants of this gene have been associated with autism and addiction vulnerability.

(gg) Tenascin C (TN-C)

[0058] Tenascin C (TN-C, UniProt/TrEMBL Q99857) has anti-adhesive properties, causing cells in tissue culture to become rounded after it is added to the medium. One mechanism to explain this may come from its ability to bind to the extracellular matrix glycoprotein fibronectin and block fibronectin's interactions with specific syndecans. The expression of tenascin-C in the stroma of certain tumors is associated with a poor prognosis.

(hh) Vascular Cell Adhesion Molecule 1 (VCAM1)

[0059] Vascular Cell Adhesion Molecule 1 (VCAM1, Swiss-Prot Accession Number P19320) is also known as vascular cell adhesion protein 1. VCAM1 mediates the adhesion of lymphocytes, monocytes, eosinophils, and basophils to vascular endothelium. It also functions in leukocyte-endothelial cell signal transduction, and it may play a role in the development of atherosclerosis and rheumatoid arthritis. Upregulation of VCAM-1 in endothelial cells by cytokines occurs as a result of increased gene transcription (e.g., in response to Tumor necrosis factor-alpha (TNF-α) and

Interleukin-1 (IL-1)) and through stabilization of Messenger RNA (mRNA) (e.g., Interleukin-4 (IL-4)). The promoter region of the VCAM-1 gene contains functional tandem NF-κB (nuclear factor-kappa B) sites. The sustained expression of VCAM-1 lasts over 24 hours. Primarily, the VCAM-1 protein is an endothelial ligand for VLA-4 (Very Late Antigen-4 or α4β1) of the β1 subfamily of integrins, and for integrin α4β7. VCAM-1 expression has also been observed in other cell types (e.g., smooth muscle cells). It has also been shown to interact with EZR and Moesin. Certain melanoma cells can use VCAM-1 to adhere to the endothelium, and VCAM-1 may participate in monocyte recruitment to atherosclerotic sites.

(ii) Cortisol

[0060] Cortisol (Swiss-Prot Accession Number P08185) is also known as corticosteroid-binding globulin, transcortin, and Serpin A6. Cortisol is a steroid hormone or glucocorticoid produced by the adrenal gland. It is released in response to stress, and to a low level of blood glucocorticoids. Its primary functions are to increase blood sugar through gluconeogenesis, suppress the immune system, and aid in fat, protein and carbohydrate metabolism. It also decreases bone formation. In addition, cortisol can weaken the activity of the immune system. Cortisol prevents proliferation of T-cells by rendering the interleukin-2 producer T-cells unresponsive to interleukin-1 (IL-1), and unable to produce the T-cell growth factor. Cortisol also has a negative feedback effect on interleukin-1. IL-1 must be especially useful in combating some diseases; however, endotoxin bacteria have gained an advantage by forcing the hypothalamus to increase cortisol levels via forcing secretion of CRH hormone, thus antagonizing IL-1 in this case. The suppressor cells are not affected by GRMF, so that the effective set point for the immune cells may be even higher than the set point for physiological processes. It reflects leukocyte redistribution to lymph nodes, bone marrow, and skin.

II. Combinations of Analytes Measured by Multiplexed Assay

[0061] The method for diagnosing, monitoring, or determining a transplant rejection involves determining the presence or concentrations of a combination of sample analytes in a test sample. The combinations of sample analytes, as defined

herein, are any group of three or more analytes selected from the biomarker analytes, including but not limited to alpha-1 microglobulin, beta-2 microglobulin, calbindin, clusterin, CTGF, creatinine, cystatin C, GST-alpha, KIM-1, microalbumin, NGAL, osteopontin, THP, TIMP-1, TFF-3, VEGF, BLC, CD40, IGF BP2, MMP3, peptide YY, stem cell factor, TNF RII, AXL, Eotaxin 3, FABP, FGF basic, myoglobin, resistin, TRAIL R3, endothelin 1, NrCAM, Tenascin C, VCAM1, and cortisol. In one embodiment, the combination of analytes may be selected to provide a group of analytes associated with kidney transplant rejection or an associated disorder.

[0062] In one embodiment, the combination of sample analytes may be any three of the biomarker analytes. In other embodiments, the combination of sample analytes may be any four, any five, any six, any seven, any eight, any nine, any ten, any eleven, any twelve, any thirteen, any fourteen, any fifteen, any sixteen, any seventeen, any eighteen, any nineteen, any twenty, or more of biomarker analytes listed in Section I above. In some embodiments, the combination of sample analytes comprises B2M and VEGF. In another embodiment, the combination of sample analytes may be a combination listed in **Table A** below.

Table A

BLC	CD40	IGF BP2
BLC	CD40	MMP3
BLC	CD40	peptide YY
BLC	CD40	stem cell factor
BLC	CD40	TNF RII
BLC	CD40	AXL
BLC	CD40	Eotaxin 3
BLC	CD40	FABP
BLC	CD40	FGF basic
BLC	CD40	myoglobin
BLC	CD40	resistin
BLC	CD40	TRAIL R3
BLC	CD40	endothilin 1
BLC	CD40	NrCAM
BLC	CD40	Tenascin C
BLC	CD40	VCAM1
BLC	CD40	cortisol
BLC	IGF BP2	MMP3
BLC	IGF BP2	peptide YY
BLC	IGF BP2	stem cell factor

BLC	IGF BP2	TNF RII
BLC	IGF BP2	AXL
BLC	IGF BP2	Eotaxin 3
BLC	IGF BP2	FABP
BLC	IGF BP2	FGF basic
BLC	IGF BP2	myoglobin
BLC	IGF BP2	resistin
BLC	IGF BP2	TRAIL R3
BLC	IGF BP2	endothilin 1
BLC	IGF BP2	NrCAM
BLC	IGF BP2	Tenascin C
BLC	IGF BP2	VCAM1
BLC	IGF BP2	cortisol
BLC	MMP3	peptide YY
BLC	MMP3	stem cell factor
BLC	MMP3	TNF RII
BLC	MMP3	AXL
BLC	MMP3	Eotaxin 3
BLC	MMP3	FABP
BLC	MMP3	FGF basic
BLC	MMP3	myoglobin
BLC	MMP3	resistin
BLC	MMP3	TRAIL R3
BLC	MMP3	endothilin 1
BLC	MMP3	NrCAM
BLC	MMP3	Tenascin C
BLC	MMP3	VCAM1
BLC	MMP3	cortisol
BLC	peptide YY	stem cell factor
BLC	peptide YY	TNF RII
BLC	peptide YY	AXL
BLC	peptide YY	Eotaxin 3
BLC	peptide YY	FABP
BLC	peptide YY	FGF basic
BLC	peptide YY	myoglobin
BLC	peptide YY	resistin
BLC	peptide YY	TRAIL R3
BLC	peptide YY	endothilin 1
BLC	peptide YY	NrCAM
BLC	peptide YY	Tenascin C
BLC	peptide YY	VCAM1
BLC	peptide YY	cortisol
BLC	stem cell factor	TNF RII
BLC	stem cell factor	AXL
BLC	stem cell factor	Eotaxin 3
BLC	stem cell factor	FABP
BLC	stem cell factor	FGF basic
BLC	stem cell factor	myoglobin

BLC	stem cell factor	resistin
BLC	stem cell factor	TRAIL R3
BLC	stem cell factor	endothilin 1
BLC	stem cell factor	NrCAM
BLC	stem cell factor	Tenascin C
BLC	stem cell factor	VCAM1
BLC	stem cell factor	cortisol
BLC	TNF RII	AXL
BLC	TNF RII	Eotaxin 3
BLC	TNF RII	FABP
BLC	TNF RII	FGF basic
BLC	TNF RII	myoglobin
BLC	TNF RII	resistin
BLC	TNF RII	TRAIL R3
BLC	TNF RII	endothilin 1
BLC	TNF RII	NrCAM
BLC	TNF RII	Tenascin C
BLC	TNF RII	VCAM1
BLC	TNF RII	cortisol
BLC	AXL	Eotaxin 3
BLC	AXL	FABP
BLC	AXL	FGF basic
BLC	AXL	myoglobin
BLC	AXL	resistin
BLC	AXL	TRAIL R3
BLC	AXL	endothilin 1
BLC	AXL	NrCAM
BLC	AXL	Tenascin C
BLC	AXL	VCAM1
BLC	AXL	cortisol
BLC	Eotaxin 3	FABP
BLC	Eotaxin 3	FGF basic
BLC	Eotaxin 3	myoglobin
BLC	Eotaxin 3	resistin
BLC	Eotaxin 3	TRAIL R3
BLC	Eotaxin 3	endothilin 1
BLC	Eotaxin 3	NrCAM
BLC	Eotaxin 3	Tenascin C
BLC	Eotaxin 3	VCAM1
BLC	Eotaxin 3	cortisol
BLC	FABP	FGF basic
BLC	FABP	myoglobin
BLC	FABP	resistin
BLC	FABP	TRAIL R3
BLC	FABP	endothilin 1
BLC	FABP	NrCAM
BLC	FABP	Tenascin C
BLC	FABP	VCAM1

BLC	FABP	cortisol
BLC	FGF basic	myoglobin
BLC	FGF basic	resistin
BLC	FGF basic	TRAIL R3
BLC	FGF basic	endothilin 1
BLC	FGF basic	NrCAM
BLC	FGF basic	Tenascin C
BLC	FGF basic	VCAM1
BLC	FGF basic	cortisol
BLC	myoglobin	resistin
BLC	myoglobin	TRAIL R3
BLC	myoglobin	endothilin 1
BLC	myoglobin	NrCAM
BLC	myoglobin	Tenascin C
BLC	myoglobin	VCAM1
BLC	myoglobin	cortisol
BLC	resistin	TRAIL R3
BLC	resistin	endothilin 1
BLC	resistin	NrCAM
BLC	resistin	Tenascin C
BLC	resistin	VCAM1
BLC	resistin	cortisol
BLC	TRAIL R3	endothilin 1
BLC	TRAIL R3	NrCAM
BLC	TRAIL R3	Tenascin C
BLC	TRAIL R3	VCAM1
BLC	TRAIL R3	cortisol
BLC	endothilin 1	NrCAM
BLC	endothilin 1	Tenascin C
BLC	endothilin 1	VCAM1
BLC	endothilin 1	cortisol
BLC	NrCAM	Tenascin C
BLC	NrCAM	VCAM1
BLC	NrCAM	cortisol
BLC	Tenascin C	VCAM1
BLC	Tenascin C	cortisol
BLC	VCAM1	cortisol
CD40	IGF BP2	MMP3
CD40	IGF BP2	peptide YY
CD40	IGF BP2	stem cell factor
CD40	IGF BP2	TNF RII
CD40	IGF BP2	AXL
CD40	IGF BP2	Eotaxin 3
CD40	IGF BP2	FABP
CD40	IGF BP2	FGF basic
CD40	IGF BP2	myoglobin
CD40	IGF BP2	resistin
CD40	IGF BP2	TRAIL R3

CD40	IGF BP2	endothilin 1
CD40	IGF BP2	NrCAM
CD40	IGF BP2	Tenascin C
CD40	IGF BP2	VCAM1
CD40	IGF BP2	cortisol
CD40	MMP3	peptide YY
CD40	MMP3	stem cell factor
CD40	MMP3	TNF RII
CD40	MMP3	AXL
CD40	MMP3	Eotaxin 3
CD40	MMP3	FABP
CD40	MMP3	FGF basic
CD40	MMP3	myoglobin
CD40	MMP3	resistin
CD40	MMP3	TRAIL R3
CD40	MMP3	endothilin 1
CD40	MMP3	NrCAM
CD40	MMP3	Tenascin C
CD40	MMP3	VCAM1
CD40	MMP3	cortisol
CD40	peptide YY	stem cell factor
CD40	peptide YY	TNF RII
CD40	peptide YY	AXL
CD40	peptide YY	Eotaxin 3
CD40	peptide YY	FABP
CD40	peptide YY	FGF basic
CD40	peptide YY	myoglobin
CD40	peptide YY	resistin
CD40	peptide YY	TRAIL R3
CD40	peptide YY	endothilin 1
CD40	peptide YY	NrCAM
CD40	peptide YY	Tenascin C
CD40	peptide YY	VCAM1
CD40	peptide YY	cortisol
CD40	stem cell factor	TNF RII
CD40	stem cell factor	AXL
CD40	stem cell factor	Eotaxin 3
CD40	stem cell factor	FABP
CD40	stem cell factor	FGF basic
CD40	stem cell factor	myoglobin
CD40	stem cell factor	resistin
CD40	stem cell factor	TRAIL R3
CD40	stem cell factor	endothilin 1
CD40	stem cell factor	NrCAM
CD40	stem cell factor	Tenascin C
CD40	stem cell factor	VCAM1
CD40	stem cell factor	cortisol
CD40	TNF RII	AXL

CD40	TNF RII	Eotaxin 3
CD40	TNF RII	FABP
CD40	TNF RII	FGF basic
CD40	TNF RII	myoglobin
CD40	TNF RII	resistin
CD40	TNF RII	TRAIL R3
CD40	TNF RII	endothilin 1
CD40	TNF RII	NrCAM
CD40	TNF RII	Tenascin C
CD40	TNF RII	VCAM1
CD40	TNF RII	cortisol
CD40	AXL	Eotaxin 3
CD40	AXL	FABP
CD40	AXL	FGF basic
CD40	AXL	myoglobin
CD40	AXL	resistin
CD40	AXL	TRAIL R3
CD40	AXL	endothilin 1
CD40	AXL	NrCAM
CD40	AXL	Tenascin C
CD40	AXL	VCAM1
CD40	AXL	cortisol
CD40	Eotaxin 3	FABP
CD40	Eotaxin 3	FGF basic
CD40	Eotaxin 3	myoglobin
CD40	Eotaxin 3	resistin
CD40	Eotaxin 3	TRAIL R3
CD40	Eotaxin 3	endothilin 1
CD40	Eotaxin 3	NrCAM
CD40	Eotaxin 3	Tenascin C
CD40	Eotaxin 3	VCAM1
CD40	Eotaxin 3	cortisol
CD40	FABP	FGF basic
CD40	FABP	myoglobin
CD40	FABP	resistin
CD40	FABP	TRAIL R3
CD40	FABP	endothilin 1
CD40	FABP	NrCAM
CD40	FABP	Tenascin C
CD40	FABP	VCAM1
CD40	FABP	cortisol
CD40	FGF basic	myoglobin
CD40	FGF basic	resistin
CD40	FGF basic	TRAIL R3
CD40	FGF basic	endothilin 1
CD40	FGF basic	NrCAM
CD40	FGF basic	Tenascin C
CD40	FGF basic	VCAM1

CD40	FGF basic	cortisol
CD40	myoglobin	resistin
CD40	myoglobin	TRAIL R3
CD40	myoglobin	endothilin 1
CD40	myoglobin	NrCAM
CD40	myoglobin	Tenascin C
CD40	myoglobin	VCAM1
CD40	myoglobin	cortisol
CD40	resistin	TRAIL R3
CD40	resistin	endothilin 1
CD40	resistin	NrCAM
CD40	resistin	Tenascin C
CD40	resistin	VCAM1
CD40	resistin	cortisol
CD40	TRAIL R3	endothilin 1
CD40	TRAIL R3	NrCAM
CD40	TRAIL R3	Tenascin C
CD40	TRAIL R3	VCAM1
CD40	TRAIL R3	cortisol
CD40	endothilin 1	NrCAM
CD40	endothilin 1	Tenascin C
CD40	endothilin 1	VCAM1
CD40	endothilin 1	cortisol
CD40	NrCAM	Tenascin C
CD40	NrCAM	VCAM1
CD40	NrCAM	cortisol
CD40	Tenascin C	VCAM1
CD40	Tenascin C	cortisol
CD40	VCAM1	cortisol
IGF BP2	MMP3	peptide YY
IGF BP2	MMP3	stem cell factor
IGF BP2	MMP3	TNF RII
IGF BP2	MMP3	AXL
IGF BP2	MMP3	Eotaxin 3
IGF BP2	MMP3	FABP
IGF BP2	MMP3	FGF basic
IGF BP2	MMP3	myoglobin
IGF BP2	MMP3	resistin
IGF BP2	MMP3	TRAIL R3
IGF BP2	MMP3	endothilin 1
IGF BP2	MMP3	NrCAM
IGF BP2	MMP3	Tenascin C
IGF BP2	MMP3	VCAM1
IGF BP2	MMP3	cortisol
IGF BP2	peptide YY	stem cell factor
IGF BP2	peptide YY	TNF RII
IGF BP2	peptide YY	AXL
IGF BP2	peptide YY	Eotaxin 3

IGF BP2	peptide YY	FABP
IGF BP2	peptide YY	FGF basic
IGF BP2	peptide YY	myoglobin
IGF BP2	peptide YY	resistin
IGF BP2	peptide YY	TRAIL R3
IGF BP2	peptide YY	endothilin 1
IGF BP2	peptide YY	NrCAM
IGF BP2	peptide YY	Tenascin C
IGF BP2	peptide YY	VCAM1
IGF BP2	peptide YY	cortisol
IGF BP2	stem cell factor	TNF RII
IGF BP2	stem cell factor	AXL
IGF BP2	stem cell factor	Eotaxin 3
IGF BP2	stem cell factor	FABP
IGF BP2	stem cell factor	FGF basic
IGF BP2	stem cell factor	myoglobin
IGF BP2	stem cell factor	resistin
IGF BP2	stem cell factor	TRAIL R3
IGF BP2	stem cell factor	endothilin 1
IGF BP2	stem cell factor	NrCAM
IGF BP2	stem cell factor	Tenascin C
IGF BP2	stem cell factor	VCAM1
IGF BP2	stem cell factor	cortisol
IGF BP2	TNF RII	AXL
IGF BP2	TNF RII	Eotaxin 3
IGF BP2	TNF RII	FABP
IGF BP2	TNF RII	FGF basic
IGF BP2	TNF RII	myoglobin
IGF BP2	TNF RII	resistin
IGF BP2	TNF RII	TRAIL R3
IGF BP2	TNF RII	endothilin 1
IGF BP2	TNF RII	NrCAM
IGF BP2	TNF RII	Tenascin C
IGF BP2	TNF RII	VCAM1
IGF BP2	TNF RII	cortisol
IGF BP2	AXL	Eotaxin 3
IGF BP2	AXL	FABP
IGF BP2	AXL	FGF basic
IGF BP2	AXL	myoglobin
IGF BP2	AXL	resistin
IGF BP2	AXL	TRAIL R3
IGF BP2	AXL	endothilin 1
IGF BP2	AXL	NrCAM
IGF BP2	AXL	Tenascin C
IGF BP2	AXL	VCAM1
IGF BP2	AXL	cortisol
IGF BP2	Eotaxin 3	FABP
IGF BP2	Eotaxin 3	FGF basic

IGF BP2	Eotaxin 3	myoglobin
IGF BP2	Eotaxin 3	resistin
IGF BP2	Eotaxin 3	TRAIL R3
IGF BP2	Eotaxin 3	endothilin 1
IGF BP2	Eotaxin 3	NrCAM
IGF BP2	Eotaxin 3	Tenascin C
IGF BP2	Eotaxin 3	VCAM1
IGF BP2	Eotaxin 3	cortisol
IGF BP2	FABP	FGF basic
IGF BP2	FABP	myoglobin
IGF BP2	FABP	resistin
IGF BP2	FABP	TRAIL R3
IGF BP2	FABP	endothilin 1
IGF BP2	FABP	NrCAM
IGF BP2	FABP	Tenascin C
IGF BP2	FABP	VCAM1
IGF BP2	FABP	cortisol
IGF BP2	FGF basic	myoglobin
IGF BP2	FGF basic	resistin
IGF BP2	FGF basic	TRAIL R3
IGF BP2	FGF basic	endothilin 1
IGF BP2	FGF basic	NrCAM
IGF BP2	FGF basic	Tenascin C
IGF BP2	FGF basic	VCAM1
IGF BP2	FGF basic	cortisol
IGF BP2	myoglobin	resistin
IGF BP2	myoglobin	TRAIL R3
IGF BP2	myoglobin	endothilin 1
IGF BP2	myoglobin	NrCAM
IGF BP2	myoglobin	Tenascin C
IGF BP2	myoglobin	VCAM1
IGF BP2	myoglobin	cortisol
IGF BP2	resistin	TRAIL R3
IGF BP2	resistin	endothilin 1
IGF BP2	resistin	NrCAM
IGF BP2	resistin	Tenascin C
IGF BP2	resistin	VCAM1
IGF BP2	resistin	cortisol
IGF BP2	TRAIL R3	endothilin 1
IGF BP2	TRAIL R3	NrCAM
IGF BP2	TRAIL R3	Tenascin C
IGF BP2	TRAIL R3	VCAM1
IGF BP2	TRAIL R3	cortisol
IGF BP2	endothilin 1	NrCAM
IGF BP2	endothilin 1	Tenascin C
IGF BP2	endothilin 1	VCAM1
IGF BP2	endothilin 1	cortisol
IGF BP2	NrCAM	Tenascin C

IGF BP2	NrCAM	VCAM1
IGF BP2	NrCAM	cortisol
IGF BP2	Tenascin C	VCAM1
IGF BP2	Tenascin C	cortisol
IGF BP2	VCAM1	cortisol
MMP3	peptide YY	stem cell factor
MMP3	peptide YY	TNF RII
MMP3	peptide YY	AXL
MMP3	peptide YY	Eotaxin 3
MMP3	peptide YY	FABP
MMP3	peptide YY	FGF basic
MMP3	peptide YY	myoglobin
MMP3	peptide YY	resistin
MMP3	peptide YY	TRAIL R3
MMP3	peptide YY	endothilin 1
MMP3	peptide YY	NrCAM
MMP3	peptide YY	Tenascin C
MMP3	peptide YY	VCAM1
MMP3	peptide YY	cortisol
MMP3	stem cell factor	TNF RII
MMP3	stem cell factor	AXL
MMP3	stem cell factor	Eotaxin 3
MMP3	stem cell factor	FABP
MMP3	stem cell factor	FGF basic
MMP3	stem cell factor	myoglobin
MMP3	stem cell factor	resistin
MMP3	stem cell factor	TRAIL R3
MMP3	stem cell factor	endothilin 1
MMP3	stem cell factor	NrCAM
MMP3	stem cell factor	Tenascin C
MMP3	stem cell factor	VCAM1
MMP3	stem cell factor	cortisol
MMP3	TNF RII	AXL
MMP3	TNF RII	Eotaxin 3
MMP3	TNF RII	FABP
MMP3	TNF RII	FGF basic
MMP3	TNF RII	myoglobin
MMP3	TNF RII	resistin
MMP3	TNF RII	TRAIL R3
MMP3	TNF RII	endothilin 1
MMP3	TNF RII	NrCAM
MMP3	TNF RII	Tenascin C
MMP3	TNF RII	VCAM1
MMP3	TNF RII	cortisol
MMP3	AXL	Eotaxin 3
MMP3	AXL	FABP
MMP3	AXL	FGF basic
MMP3	AXL	myoglobin

MMP3	AXL	resistin
MMP3	AXL	TRAIL R3
MMP3	AXL	endothilin 1
MMP3	AXL	NrCAM
MMP3	AXL	Tenascin C
MMP3	AXL	VCAM1
MMP3	AXL	cortisol
MMP3	Eotaxin 3	FABP
MMP3	Eotaxin 3	FGF basic
MMP3	Eotaxin 3	myoglobin
MMP3	Eotaxin 3	resistin
MMP3	Eotaxin 3	TRAIL R3
MMP3	Eotaxin 3	endothilin 1
MMP3	Eotaxin 3	NrCAM
MMP3	Eotaxin 3	Tenascin C
MMP3	Eotaxin 3	VCAM1
MMP3	Eotaxin 3	cortisol
MMP3	FABP	FGF basic
MMP3	FABP	myoglobin
MMP3	FABP	resistin
MMP3	FABP	TRAIL R3
MMP3	FABP	endothilin 1
MMP3	FABP	NrCAM
MMP3	FABP	Tenascin C
MMP3	FABP	VCAM1
MMP3	FABP	cortisol
MMP3	FGF basic	myoglobin
MMP3	FGF basic	resistin
MMP3	FGF basic	TRAIL R3
MMP3	FGF basic	endothilin 1
MMP3	FGF basic	NrCAM
MMP3	FGF basic	Tenascin C
MMP3	FGF basic	VCAM1
MMP3	FGF basic	cortisol
MMP3	myoglobin	resistin
MMP3	myoglobin	TRAIL R3
MMP3	myoglobin	endothilin 1
MMP3	myoglobin	NrCAM
MMP3	myoglobin	Tenascin C
MMP3	myoglobin	VCAM1
MMP3	myoglobin	cortisol
MMP3	resistin	TRAIL R3
MMP3	resistin	endothilin 1
MMP3	resistin	NrCAM
MMP3	resistin	Tenascin C
MMP3	resistin	VCAM1
MMP3	resistin	cortisol
MMP3	TRAIL R3	endothilin 1

MMP3	TRAIL R3	NrCAM
MMP3	TRAIL R3	Tenascin C
MMP3	TRAIL R3	VCAM1
MMP3	TRAIL R3	cortisol
MMP3	endothilin 1	NrCAM
MMP3	endothilin 1	Tenascin C
MMP3	endothilin 1	VCAM1
MMP3	endothilin 1	cortisol
MMP3	NrCAM	Tenascin C
MMP3	NrCAM	VCAM1
MMP3	NrCAM	cortisol
MMP3	Tenascin C	VCAM1
MMP3	Tenascin C	cortisol
MMP3	VCAM1	cortisol
peptide YY	stem cell factor	TNF RII
peptide YY	stem cell factor	AXL
peptide YY	stem cell factor	Eotaxin 3
peptide YY	stem cell factor	FABP
peptide YY	stem cell factor	FGF basic
peptide YY	stem cell factor	myoglobin
peptide YY	stem cell factor	resistin
peptide YY	stem cell factor	TRAIL R3
peptide YY	stem cell factor	endothilin 1
peptide YY	stem cell factor	NrCAM
peptide YY	stem cell factor	Tenascin C
peptide YY	stem cell factor	VCAM1
peptide YY	stem cell factor	cortisol
peptide YY	TNF RII	AXL
peptide YY	TNF RII	Eotaxin 3
peptide YY	TNF RII	FABP
peptide YY	TNF RII	FGF basic
peptide YY	TNF RII	myoglobin
peptide YY	TNF RII	resistin
peptide YY	TNF RII	TRAIL R3
peptide YY	TNF RII	endothilin 1
peptide YY	TNF RII	NrCAM
peptide YY	TNF RII	Tenascin C
peptide YY	TNF RII	VCAM1
peptide YY	TNF RII	cortisol
peptide YY	AXL	Eotaxin 3
peptide YY	AXL	FABP
peptide YY	AXL	FGF basic
peptide YY	AXL	myoglobin
peptide YY	AXL	resistin
peptide YY	AXL	TRAIL R3
peptide YY	AXL	endothilin 1
peptide YY	AXL	NrCAM
peptide YY	AXL	Tenascin C

peptide YY	AXL	VCAM1
peptide YY	AXL	cortisol
peptide YY	Eotaxin 3	FABP
peptide YY	Eotaxin 3	FGF basic
peptide YY	Eotaxin 3	myoglobin
peptide YY	Eotaxin 3	resistin
peptide YY	Eotaxin 3	TRAIL R3
peptide YY	Eotaxin 3	endothilin 1
peptide YY	Eotaxin 3	NrCAM
peptide YY	Eotaxin 3	Tenascin C
peptide YY	Eotaxin 3	VCAM1
peptide YY	Eotaxin 3	cortisol
peptide YY	FABP	FGF basic
peptide YY	FABP	myoglobin
peptide YY	FABP	resistin
peptide YY	FABP	TRAIL R3
peptide YY	FABP	endothilin 1
peptide YY	FABP	NrCAM
peptide YY	FABP	Tenascin C
peptide YY	FABP	VCAM1
peptide YY	FABP	cortisol
peptide YY	FGF basic	myoglobin
peptide YY	FGF basic	resistin
peptide YY	FGF basic	TRAIL R3
peptide YY	FGF basic	endothilin 1
peptide YY	FGF basic	NrCAM
peptide YY	FGF basic	Tenascin C
peptide YY	FGF basic	VCAM1
peptide YY	FGF basic	cortisol
peptide YY	myoglobin	resistin
peptide YY	myoglobin	TRAIL R3
peptide YY	myoglobin	endothilin 1
peptide YY	myoglobin	NrCAM
peptide YY	myoglobin	Tenascin C
peptide YY	myoglobin	VCAM1
peptide YY	myoglobin	cortisol
peptide YY	resistin	TRAIL R3
peptide YY	resistin	endothilin 1
peptide YY	resistin	NrCAM
peptide YY	resistin	Tenascin C
peptide YY	resistin	VCAM1
peptide YY	resistin	cortisol
peptide YY	TRAIL R3	endothilin 1
peptide YY	TRAIL R3	NrCAM
peptide YY	TRAIL R3	Tenascin C
peptide YY	TRAIL R3	VCAM1
peptide YY	TRAIL R3	cortisol
peptide YY	endothilin 1	NrCAM

peptide YY	endothilin 1	Tenascin C
peptide YY	endothilin 1	VCAM1
peptide YY	endothilin 1	cortisol
peptide YY	NrCAM	Tenascin C
peptide YY	NrCAM	VCAM1
peptide YY	NrCAM	cortisol
peptide YY	Tenascin C	VCAM1
peptide YY	Tenascin C	cortisol
peptide YY	VCAM1	cortisol
stem cell factor	TNF RII	AXL
stem cell factor	TNF RII	Eotaxin 3
stem cell factor	TNF RII	FABP
stem cell factor	TNF RII	FGF basic
stem cell factor	TNF RII	myoglobin
stem cell factor	TNF RII	resistin
stem cell factor	TNF RII	TRAIL R3
stem cell factor	TNF RII	endothilin 1
stem cell factor	TNF RII	NrCAM
stem cell factor	TNF RII	Tenascin C
stem cell factor	TNF RII	VCAM1
stem cell factor	TNF RII	cortisol
stem cell factor	AXL	Eotaxin 3
stem cell factor	AXL	FABP
stem cell factor	AXL	FGF basic
stem cell factor	AXL	myoglobin
stem cell factor	AXL	resistin
stem cell factor	AXL	TRAIL R3
stem cell factor	AXL	endothilin 1
stem cell factor	AXL	NrCAM
stem cell factor	AXL	Tenascin C
stem cell factor	AXL	VCAM1
stem cell factor	AXL	cortisol
stem cell factor	Eotaxin 3	FABP
stem cell factor	Eotaxin 3	FGF basic
stem cell factor	Eotaxin 3	myoglobin
stem cell factor	Eotaxin 3	resistin
stem cell factor	Eotaxin 3	TRAIL R3
stem cell factor	Eotaxin 3	endothilin 1
stem cell factor	Eotaxin 3	NrCAM
stem cell factor	Eotaxin 3	Tenascin C
stem cell factor	Eotaxin 3	VCAM1
stem cell factor	Eotaxin 3	cortisol
stem cell factor	FABP	FGF basic
stem cell factor	FABP	myoglobin
stem cell factor	FABP	resistin
stem cell factor	FABP	TRAIL R3
stem cell factor	FABP	endothilin 1
stem cell factor	FABP	NrCAM

stem cell factor	FABP	Tenascin C
stem cell factor	FABP	VCAM1
stem cell factor	FABP	cortisol
stem cell factor	FGF basic	myoglobin
stem cell factor	FGF basic	resistin
stem cell factor	FGF basic	TRAIL R3
stem cell factor	FGF basic	endothilin 1
stem cell factor	FGF basic	NrCAM
stem cell factor	FGF basic	Tenascin C
stem cell factor	FGF basic	VCAM1
stem cell factor	FGF basic	cortisol
stem cell factor	myoglobin	resistin
stem cell factor	myoglobin	TRAIL R3
stem cell factor	myoglobin	endothilin 1
stem cell factor	myoglobin	NrCAM
stem cell factor	myoglobin	Tenascin C
stem cell factor	myoglobin	VCAM1
stem cell factor	myoglobin	cortisol
stem cell factor	resistin	TRAIL R3
stem cell factor	resistin	endothilin 1
stem cell factor	resistin	NrCAM
stem cell factor	resistin	Tenascin C
stem cell factor	resistin	VCAM1
stem cell factor	resistin	cortisol
stem cell factor	TRAIL R3	endothilin 1
stem cell factor	TRAIL R3	NrCAM
stem cell factor	TRAIL R3	Tenascin C
stem cell factor	TRAIL R3	VCAM1
stem cell factor	TRAIL R3	cortisol
stem cell factor	endothilin 1	NrCAM
stem cell factor	endothilin 1	Tenascin C
stem cell factor	endothilin 1	VCAM1
stem cell factor	endothilin 1	cortisol
stem cell factor	NrCAM	Tenascin C
stem cell factor	NrCAM	VCAM1
stem cell factor	NrCAM	cortisol
stem cell factor	Tenascin C	VCAM1
stem cell factor	Tenascin C	cortisol
stem cell factor	VCAM1	cortisol
TNF RII	AXL	Eotaxin 3
TNF RII	AXL	FABP
TNF RII	AXL	FGF basic
TNF RII	AXL	myoglobin
TNF RII	AXL	resistin
TNF RII	AXL	TRAIL R3
TNF RII	AXL	endothilin 1
TNF RII	AXL	NrCAM
TNF RII	AXL	Tenascin C

TNF RII	AXL	VCAM1
TNF RII	AXL	cortisol
TNF RII	Eotaxin 3	FABP
TNF RII	Eotaxin 3	FGF basic
TNF RII	Eotaxin 3	myoglobin
TNF RII	Eotaxin 3	resistin
TNF RII	Eotaxin 3	TRAIL R3
TNF RII	Eotaxin 3	endothilin 1
TNF RII	Eotaxin 3	NrCAM
TNF RII	Eotaxin 3	Tenascin C
TNF RII	Eotaxin 3	VCAM1
TNF RII	Eotaxin 3	cortisol
TNF RII	FABP	FGF basic
TNF RII	FABP	myoglobin
TNF RII	FABP	resistin
TNF RII	FABP	TRAIL R3
TNF RII	FABP	endothilin 1
TNF RII	FABP	NrCAM
TNF RII	FABP	Tenascin C
TNF RII	FABP	VCAM1
TNF RII	FABP	cortisol
TNF RII	FGF basic	myoglobin
TNF RII	FGF basic	resistin
TNF RII	FGF basic	TRAIL R3
TNF RII	FGF basic	endothilin 1
TNF RII	FGF basic	NrCAM
TNF RII	FGF basic	Tenascin C
TNF RII	FGF basic	VCAM1
TNF RII	FGF basic	cortisol
TNF RII	myoglobin	resistin
TNF RII	myoglobin	TRAIL R3
TNF RII	myoglobin	endothilin 1
TNF RII	myoglobin	NrCAM
TNF RII	myoglobin	Tenascin C
TNF RII	myoglobin	VCAM1
TNF RII	myoglobin	cortisol
TNF RII	resistin	TRAIL R3
TNF RII	resistin	endothilin 1
TNF RII	resistin	NrCAM
TNF RII	resistin	Tenascin C
TNF RII	resistin	VCAM1
TNF RII	resistin	cortisol
TNF RII	TRAIL R3	endothilin 1
TNF RII	TRAIL R3	NrCAM
TNF RII	TRAIL R3	Tenascin C
TNF RII	TRAIL R3	VCAM1
TNF RII	TRAIL R3	cortisol
TNF RII	endothilin 1	NrCAM

TNF RII	endothilin 1	Tenascin C
TNF RII	endothilin 1	VCAM1
TNF RII	endothilin 1	cortisol
TNF RII	NrCAM	Tenascin C
TNF RII	NrCAM	VCAM1
TNF RII	NrCAM	cortisol
TNF RII	Tenascin C	VCAM1
TNF RII	Tenascin C	cortisol
TNF RII	VCAM1	cortisol
AXL	Eotaxin 3	FABP
AXL	Eotaxin 3	FGF basic
AXL	Eotaxin 3	myoglobin
AXL	Eotaxin 3	resistin
AXL	Eotaxin 3	TRAIL R3
AXL	Eotaxin 3	endothilin 1
AXL	Eotaxin 3	NrCAM
AXL	Eotaxin 3	Tenascin C
AXL	Eotaxin 3	VCAM1
AXL	Eotaxin 3	cortisol
AXL	FABP	FGF basic
AXL	FABP	myoglobin
AXL	FABP	resistin
AXL	FABP	TRAIL R3
AXL	FABP	endothilin 1
AXL	FABP	NrCAM
AXL	FABP	Tenascin C
AXL	FABP	VCAM1
AXL	FABP	cortisol
AXL	FGF basic	myoglobin
AXL	FGF basic	resistin
AXL	FGF basic	TRAIL R3
AXL	FGF basic	endothilin 1
AXL	FGF basic	NrCAM
AXL	FGF basic	Tenascin C
AXL	FGF basic	VCAM1
AXL	FGF basic	cortisol
AXL	myoglobin	resistin
AXL	myoglobin	TRAIL R3
AXL	myoglobin	endothilin 1
AXL	myoglobin	NrCAM
AXL	myoglobin	Tenascin C
AXL	myoglobin	VCAM1
AXL	myoglobin	cortisol
AXL	resistin	TRAIL R3
AXL	resistin	endothilin 1
AXL	resistin	NrCAM
AXL	resistin	Tenascin C
AXL	resistin	VCAM1

AXL	resistin	cortisol
AXL	TRAIL R3	endothilin 1
AXL	TRAIL R3	NrCAM
AXL	TRAIL R3	Tenascin C
AXL	TRAIL R3	VCAM1
AXL	TRAIL R3	cortisol
AXL	endothilin 1	NrCAM
AXL	endothilin 1	Tenascin C
AXL	endothilin 1	VCAM1
AXL	endothilin 1	cortisol
AXL	NrCAM	Tenascin C
AXL	NrCAM	VCAM1
AXL	NrCAM	cortisol
AXL	Tenascin C	VCAM1
AXL	Tenascin C	cortisol
AXL	VCAM1	cortisol
Eotaxin 3	FABP	FGF basic
Eotaxin 3	FABP	myoglobin
Eotaxin 3	FABP	resistin
Eotaxin 3	FABP	TRAIL R3
Eotaxin 3	FABP	endothilin 1
Eotaxin 3	FABP	NrCAM
Eotaxin 3	FABP	Tenascin C
Eotaxin 3	FABP	VCAM1
Eotaxin 3	FABP	cortisol
Eotaxin 3	FGF basic	myoglobin
Eotaxin 3	FGF basic	resistin
Eotaxin 3	FGF basic	TRAIL R3
Eotaxin 3	FGF basic	endothilin 1
Eotaxin 3	FGF basic	NrCAM
Eotaxin 3	FGF basic	Tenascin C
Eotaxin 3	FGF basic	VCAM1
Eotaxin 3	FGF basic	cortisol
Eotaxin 3	myoglobin	resistin
Eotaxin 3	myoglobin	TRAIL R3
Eotaxin 3	myoglobin	endothilin 1
Eotaxin 3	myoglobin	NrCAM
Eotaxin 3	myoglobin	Tenascin C
Eotaxin 3	myoglobin	VCAM1
Eotaxin 3	myoglobin	cortisol
Eotaxin 3	resistin	TRAIL R3
Eotaxin 3	resistin	endothilin 1
Eotaxin 3	resistin	NrCAM
Eotaxin 3	resistin	Tenascin C
Eotaxin 3	resistin	VCAM1
Eotaxin 3	resistin	cortisol
Eotaxin 3	TRAIL R3	endothilin 1
Eotaxin 3	TRAIL R3	NrCAM

Eotaxin 3	TRAIL R3	Tenascin C
Eotaxin 3	TRAIL R3	VCAM1
Eotaxin 3	TRAIL R3	cortisol
Eotaxin 3	endothilin 1	NrCAM
Eotaxin 3	endothilin 1	Tenascin C
Eotaxin 3	endothilin 1	VCAM1
Eotaxin 3	endothilin 1	cortisol
Eotaxin 3	NrCAM	Tenascin C
Eotaxin 3	NrCAM	VCAM1
Eotaxin 3	NrCAM	cortisol
Eotaxin 3	Tenascin C	VCAM1
Eotaxin 3	Tenascin C	cortisol
Eotaxin 3	VCAM1	cortisol
FABP	FGF basic	myoglobin
FABP	FGF basic	resistin
FABP	FGF basic	TRAIL R3
FABP	FGF basic	endothilin 1
FABP	FGF basic	NrCAM
FABP	FGF basic	Tenascin C
FABP	FGF basic	VCAM1
FABP	FGF basic	cortisol
FABP	myoglobin	resistin
FABP	myoglobin	TRAIL R3
FABP	myoglobin	endothilin 1
FABP	myoglobin	NrCAM
FABP	myoglobin	Tenascin C
FABP	myoglobin	VCAM1
FABP	myoglobin	cortisol
FABP	resistin	TRAIL R3
FABP	resistin	endothilin 1
FABP	resistin	NrCAM
FABP	resistin	Tenascin C
FABP	resistin	VCAM1
FABP	resistin	cortisol
FABP	TRAIL R3	endothilin 1
FABP	TRAIL R3	NrCAM
FABP	TRAIL R3	Tenascin C
FABP	TRAIL R3	VCAM1
FABP	TRAIL R3	cortisol
FABP	endothilin 1	NrCAM
FABP	endothilin 1	Tenascin C
FABP	endothilin 1	VCAM1
FABP	endothilin 1	cortisol
FABP	NrCAM	Tenascin C
FABP	NrCAM	VCAM1
FABP	NrCAM	cortisol
FABP	Tenascin C	VCAM1
FABP	Tenascin C	cortisol

FABP	VCAM1	cortisol
FGF basic	myoglobin	resistin
FGF basic	myoglobin	TRAIL R3
FGF basic	myoglobin	endothilin 1
FGF basic	myoglobin	NrCAM
FGF basic	myoglobin	Tenascin C
FGF basic	myoglobin	VCAM1
FGF basic	myoglobin	cortisol
FGF basic	resistin	TRAIL R3
FGF basic	resistin	endothilin 1
FGF basic	resistin	NrCAM
FGF basic	resistin	Tenascin C
FGF basic	resistin	VCAM1
FGF basic	resistin	cortisol
FGF basic	TRAIL R3	endothilin 1
FGF basic	TRAIL R3	NrCAM
FGF basic	TRAIL R3	Tenascin C
FGF basic	TRAIL R3	VCAM1
FGF basic	TRAIL R3	cortisol
FGF basic	endothilin 1	NrCAM
FGF basic	endothilin 1	Tenascin C
FGF basic	endothilin 1	VCAM1
FGF basic	endothilin 1	cortisol
FGF basic	NrCAM	Tenascin C
FGF basic	NrCAM	VCAM1
FGF basic	NrCAM	cortisol
FGF basic	Tenascin C	VCAM1
FGF basic	Tenascin C	cortisol
FGF basic	VCAM1	cortisol
myoglobin	resistin	TRAIL R3
myoglobin	resistin	endothilin 1
myoglobin	resistin	NrCAM
myoglobin	resistin	Tenascin C
myoglobin	resistin	VCAM1
myoglobin	resistin	cortisol
myoglobin	TRAIL R3	endothilin 1
myoglobin	TRAIL R3	NrCAM
myoglobin	TRAIL R3	Tenascin C
myoglobin	TRAIL R3	VCAM1
myoglobin	TRAIL R3	cortisol
myoglobin	endothilin 1	NrCAM
myoglobin	endothilin 1	Tenascin C
myoglobin	endothilin 1	VCAM1
myoglobin	endothilin 1	cortisol
myoglobin	NrCAM	Tenascin C
myoglobin	NrCAM	VCAM1
myoglobin	NrCAM	cortisol
myoglobin	Tenascin C	VCAM1

myoglobin	Tenascin C	cortisol
myoglobin	VCAM1	cortisol
resistin	TRAIL R3	endothilin 1
resistin	TRAIL R3	NrCAM
resistin	TRAIL R3	Tenascin C
resistin	TRAIL R3	VCAM1
resistin	TRAIL R3	cortisol
resistin	endothilin 1	NrCAM
resistin	endothilin 1	Tenascin C
resistin	endothilin 1	VCAM1
resistin	endothilin 1	cortisol
resistin	NrCAM	Tenascin C
resistin	NrCAM	VCAM1
resistin	NrCAM	cortisol
resistin	Tenascin C	VCAM1
resistin	Tenascin C	cortisol
resistin	VCAM1	cortisol
TRAIL R3	endothilin 1	NrCAM
TRAIL R3	endothilin 1	Tenascin C
TRAIL R3	endothilin 1	VCAM1
TRAIL R3	endothilin 1	cortisol
TRAIL R3	NrCAM	Tenascin C
TRAIL R3	NrCAM	VCAM1
TRAIL R3	NrCAM	cortisol
TRAIL R3	Tenascin C	VCAM1
TRAIL R3	Tenascin C	cortisol
TRAIL R3	VCAM1	cortisol
endothilin 1	NrCAM	Tenascin C
endothilin 1	NrCAM	VCAM1
endothilin 1	NrCAM	cortisol
endothilin 1	Tenascin C	VCAM1
endothilin 1	Tenascin C	cortisol
endothilin 1	VCAM1	cortisol
NrCAM	Tenascin C	VCAM1
NrCAM	Tenascin C	cortisol
NrCAM	VCAM1	cortisol
Tenascin C	VCAM1	cortisol

[0063] In one exemplary embodiment, the combination of sample analytes may include Beta 2 Microglobulin, BLC, CD40, IGF BP2, MMP3, Peptide YY, Stem Cell Factor, TNF RII, and VEGF. In another exemplary embodiment, the combination of sample analytes may include AXL, Beta 2 Microglobulin, CD40, Eotaxin 3, FABP, FGF basic, IGF BP2, MMP3, Myoglobin, Resistin, Stem Cell Factor, TNF RII, TRAIL R3, and

VEGF. In yet another exemplary embodiment, the combination of sample analytes may include AXL, Beta 2 Microglobulin, BLC, CD40, Endothelin 1, Eotaxin 3, FABP, FGF basic, IGF BP2, MMP3, Myoglobin, NrCAM, Peptide YY, Resistin, Stem Cell Factor, Tenascin C, TNF RII, TRAIL R3, VCAM 1, and VEGF. In still yet another exemplary embodiment, the combination of sample analytes may include Beta 2 Microglobulin, CD40, Cortisol, FGF.basic, Stem Cell Factor, TNF RII, and VEGF.

III. Test Sample

[0064] The method for diagnosing, monitoring, or determining a renal disorder involves determining the presence of sample analytes in a test sample. A test sample, as defined herein, is an amount of bodily fluid taken from a mammal. Non-limiting examples of bodily fluids include urine, blood, plasma, serum, saliva, semen, perspiration, tears, mucus, and tissue lysates. In an exemplary embodiment, the bodily fluid contained in the test sample is urine, plasma, or serum.

(a) Mammals

[0065] A mammal, as defined herein, is any organism that is a member of the class Mammalia. Non-limiting examples of mammals appropriate for the various embodiments may include humans, apes, monkeys, rats, mice, dogs, cats, pigs, and livestock including cattle and oxen. In an exemplary embodiment, the mammal is a human.

(b) Devices and Methods of Taking Bodily Fluids from Mammals

[0066] The bodily fluids of the test sample may be taken from the mammal using any known device or method so long as the analytes to be measured by the multiplexed assay are not rendered undetectable by the multiplexed assay. Non-limiting examples of devices or methods suitable for taking bodily fluid from a mammal include urine sample cups, urethral catheters, swabs, hypodermic needles, thin needle biopsies, hollow needle biopsies, punch biopsies, metabolic cages, and aspiration.

[0067] In order to adjust the expected concentrations of the sample analytes in the test sample to fall within the dynamic range of the multiplexed assay, the

test sample may be diluted to reduce the concentration of the sample analytes prior to analysis. The degree of dilution may depend on a variety of factors including but not limited to the type of multiplexed assay used to measure the analytes, the reagents utilized in the multiplexed assay, and the type of bodily fluid contained in the test sample. In one embodiment, the test sample is diluted by adding a volume of diluent ranging from about ½ of the original test sample volume to about 50,000 times the original test sample volume.

[0068] In one exemplary embodiment, if the test sample is human urine and the multiplexed assay is an antibody-based capture-sandwich assay, the test sample is diluted by adding a volume of diluent that is about 100 times the original test sample volume prior to analysis. In another exemplary embodiment, if the test sample is human serum and the multiplexed assay is an antibody-based capture-sandwich assay, the test sample is diluted by adding a volume of diluent that is about 5 times the original test sample volume prior to analysis. In yet another exemplary embodiment, if the test sample is human plasma and the multiplexed assay is an antibody-based capture-sandwich assay, the test sample is diluted by adding a volume of diluent that is about 2,000 times the original test sample volume prior to analysis.

[0069] The diluent may be any fluid that does not interfere with the function of the multiplexed assay used to measure the concentration of the analytes in the test sample. Non-limiting examples of suitable diluents include deionized water, distilled water, saline solution, Ringer's solution, phosphate buffered saline solution, TRIS-buffered saline solution, standard saline citrate, and HEPES-buffered saline.

IV. Multiplexed Assay Device

[0070] In one embodiment, the concentration of a combination of sample analytes is measured using a multiplexed assay device capable of measuring the concentrations of up to sixteen of the biomarker analytes. A multiplexed assay device, as defined herein, is an assay capable of simultaneously determining the concentration of three or more different sample analytes using a single device and/or method. Any known method of measuring the concentration of the biomarker analytes may be used for the multiplexed assay device. Non-limiting examples of measurement methods

suitable for the multiplexed assay device may include electrophoresis, mass spectrometry, protein microarrays, surface plasmon resonance and immunoassays including but not limited to western blot, immunohistochemical staining, enzyme-linked immunosorbent assay (ELISA) methods, and particle-based capture-sandwich immunoassays.

(a) Multiplexed Immunoassay Device

[0071] In one embodiment, the concentrations of the analytes in the test sample are measured using a multiplexed immunoassay device that utilizes capture antibodies marked with indicators to determine the concentration of the sample analytes.

(i) capture antibodies

[0072] In the same embodiment, the multiplexed immunoassay device includes three or more capture antibodies. Capture antibodies, as defined herein, are antibodies in which the antigenic determinant is one of the biomarker analytes. Each of the at least three capture antibodies has a unique antigenic determinant that is one of the biomarker analytes. When contacted with the test sample, the capture antibodies form antigen-antibody complexes in which the analytes serve as antigens.

[0073] The term “antibody,” as used herein, encompasses a monoclonal ab, an antibody fragment, a chimeric antibody, and a single-chain antibody.

[0074] In some embodiments, the capture antibodies may be attached to a substrate in order to immobilize any analytes captured by the capture antibodies. Non-limiting examples of suitable substrates include paper, cellulose, glass, or plastic strips, beads, or surfaces, such as the inner surface of the well of a microtitration tray. Suitable beads may include polystyrene or latex microspheres.

(ii) indicators

[0075] In one embodiment of the multiplexed immunoassay device, an indicator is attached to each of the three or more capture antibodies. The indicator, as defined herein, is any compound that registers a measurable change to indicate the

presence of one of the sample analytes when bound to one of the capture antibodies. Non-limiting examples of indicators include visual indicators and electrochemical indicators.

[0076] Visual indicators, as defined herein, are compounds that register a change by reflecting a limited subset of the wavelengths of light illuminating the indicator, by fluorescing light after being illuminated, or by emitting light via chemiluminescence. The change registered by visual indicators may be in the visible light spectrum, in the infrared spectrum, or in the ultraviolet spectrum. Non-limiting examples of visual indicators suitable for the multiplexed immunoassay device include nanoparticulate gold, organic particles such as polyurethane or latex microspheres loaded with dye compounds, carbon black, fluorophores, phycoerythrin, radioactive isotopes, nanoparticles, quantum dots, and enzymes such as horseradish peroxidase or alkaline phosphatase that react with a chemical substrate to form a colored or chemiluminescent product.

[0077] Electrochemical indicators, as defined herein, are compounds that register a change by altering an electrical property. The changes registered by electrochemical indicators may be an alteration in conductivity, resistance, capacitance, current conducted in response to an applied voltage, or voltage required to achieve a desired current. Non-limiting examples of electrochemical indicators include redox species such as ascorbate (vitamin C), vitamin E, glutathione, polyphenols, catechols, quercetin, phytoestrogens, penicillin, carbazole, murranes, phenols, carbonyls, benzoates, and trace metal ions such as nickel, copper, cadmium, iron and mercury.

[0078] In this same embodiment, the test sample containing a combination of three or more sample analytes is contacted with the capture antibodies and allowed to form antigen-antibody complexes in which the sample analytes serve as the antigens. After removing any uncomplexed capture antibodies, the concentrations of the three or more analytes are determined by measuring the change registered by the indicators attached to the capture antibodies.

[0079] In one exemplary embodiment, the indicators are polyurethane or latex microspheres loaded with dye compounds and phycoerythrin.

(b) Multiplexed Sandwich Immunoassay Device

[0080] In another embodiment, the multiplexed immunoassay device has a sandwich assay format. In this embodiment, the multiplexed sandwich immunoassay device includes three or more capture antibodies as previously described. However, in this embodiment, each of the capture antibodies is attached to a capture agent that includes an antigenic moiety. The antigenic moiety serves as the antigenic determinant of a detection antibody, also included in the multiplexed immunoassay device of this embodiment. In addition, an indicator is attached to the detection antibody.

[0081] In this same embodiment, the test sample is contacted with the capture antibodies and allowed to form antigen-antibody complexes in which the sample analytes serve as antigens. The detection antibodies are then contacted with the test sample and allowed to form antigen-antibody complexes in which the capture agent serves as the antigen for the detection antibody. After removing any uncomplexed detection antibodies the concentration of the analytes are determined by measuring the changes registered by the indicators attached to the detection antibodies.

(c) Multiplexing Approaches

[0082] In the various embodiments of the multiplexed immunoassay devices, the concentrations of each of the sample analytes may be determined using any approach known in the art. In one embodiment, a single indicator compound is attached to each of the three or more antibodies. In addition, each of the capture antibodies having one of the sample analytes as an antigenic determinant is physically separated into a distinct region so that the concentration of each of the sample analytes may be determined by measuring the changes registered by the indicators in each physically separate region corresponding to each of the sample analytes.

[0083] In another embodiment, each antibody having one of the sample analytes as an antigenic determinant is marked with a unique indicator. In this manner, a unique indicator is attached to each antibody having a single sample analyte as its antigenic determinant. In this embodiment, all antibodies may occupy the same physical space. The concentration of each sample analyte is determined by measuring the

change registered by the unique indicator attached to the antibody having the sample analyte as an antigenic determinant.

(d) Microsphere-Based Capture-Sandwich Immunoassay Device

[0084] In an exemplary embodiment, the multiplexed immunoassay device is a microsphere-based capture-sandwich immunoassay device. In this embodiment, the device includes a mixture of three or more capture-antibody microspheres, in which each capture-antibody microsphere corresponds to one of the biomarker analytes. Each capture-antibody microsphere includes a plurality of capture antibodies attached to the outer surface of the microsphere. In this same embodiment, the antigenic determinant of all of the capture antibodies attached to one microsphere is the same biomarker analyte.

[0085] In this embodiment of the device, the microsphere is a small polystyrene or latex sphere that is loaded with an indicator that is a dye compound. The microsphere may be between about 3 μm and about 5 μm in diameter. Each capture-antibody microsphere corresponding to one of the biomarker analytes is loaded with the same indicator. In this manner, each capture-antibody microsphere corresponding to a biomarker analyte is uniquely color-coded.

[0086] In this same exemplary embodiment, the multiplexed immunoassay device further includes three or more biotinylated detection antibodies in which the antigenic determinant of each biotinylated detection antibody is one of the biomarker analytes. The device further includes a plurality of streptaviden proteins complexed with a reporter compound. A reporter compound, as defined herein, is an indicator selected to register a change that is distinguishable from the indicators used to mark the capture-antibody microspheres.

[0087] The concentrations of the sample analytes may be determined by contacting the test sample with a mixture of capture-antigen microspheres corresponding to each sample analyte to be measured. The sample analytes are allowed to form antigen-antibody complexes in which a sample analyte serves as an antigen and a capture antibody attached to the microsphere serves as an antibody. In this manner, the sample analytes are immobilized onto the capture-antigen

microspheres. The biotinylated detection antibodies are then added to the test sample and allowed to form antigen-antibody complexes in which the analyte serves as the antigen and the biotinylated detection antibody serves as the antibody. The streptaviden-reporter complex is then added to the test sample and allowed to bind to the biotin moieties of the biotinylated detection antibodies. The antigen-capture microspheres may then be rinsed and filtered.

[0088] In this embodiment, the concentration of each analyte is determined by first measuring the change registered by the indicator compound embedded in the capture-antigen microsphere in order to identify the particular analyte. For each microsphere corresponding to one of the biomarker analytes, the quantity of analyte immobilized on the microsphere is determined by measuring the change registered by the reporter compound attached to the microsphere.

[0089] For example, the indicator embedded in the microspheres associated with one sample analyte may register an emission of orange light, and the reporter may register an emission of green light. In this example, a detector device may measure the intensity of orange light and green light separately. The measured intensity of the green light would determine the concentration of the analyte captured on the microsphere, and the intensity of the orange light would determine the specific analyte captured on the microsphere.

[0090] Any sensor device may be used to detect the changes registered by the indicators embedded in the microspheres and the changes registered by the reporter compound, so long as the sensor device is sufficiently sensitive to the changes registered by both indicator and reporter compound. Non-limiting examples of suitable sensor devices include spectrophotometers, photosensors, colorimeters, cyclic coulometry devices, and flow cytometers. In an exemplary embodiment, the sensor device is a flow cytometer.

V. Method for Diagnosing, Monitoring, or Determining a Renal Disorder

[0091] In one embodiment, a method is provided for diagnosing, monitoring, or determining kidney transplant rejection or an associated disorder that includes providing a test sample, determining the concentration of a combination of

three or more sample analytes, comparing the measured concentrations of the combination of sample analytes to the entries of a dataset, and identifying kidney transplant rejection or an associated disorder based on the comparison between the concentrations of the sample analytes and the minimum diagnostic concentrations contained within each entry of the dataset.

(a) Diagnostic Dataset

[0092] In an embodiment, the concentrations of the sample analytes are compared to the entries of a dataset. In this embodiment, each entry of the dataset includes a combination of three or more minimum diagnostic concentrations indicative of a particular renal disorder. A minimum diagnostic concentration, as defined herein, is the concentration of an analyte that defines the limit between the concentration range corresponding to normal, healthy renal function and the concentration reflective of a particular renal disorder. In one embodiment, each minimum diagnostic concentration is the maximum concentration of the range of analyte concentrations for a healthy, normal individual. The minimum diagnostic concentration of an analyte depends on a number of factors including but not limited to the particular analyte and the type of bodily fluid contained in the test sample. As an illustrative example, Table 1 lists the expected normal ranges of the biomarker analytes in human plasma, serum, and urine.

TABLE 1: Normal Concentration Ranges In Human Plasma, Serum, and Urine Samples

Analyte	Units	Plasma		Sera		Urine	
		low	high	low	high	low	high
Calbindin	ng/ml	-	< 5.0	-	< 2.6	4.2	233
Clusterin	µg/ml	86	134	37	152	-	< 0.089
CTGF	ng/ml	2.8	7.5	-	< 8.2	-	< 0.90
GST-alpha	ng/ml	6.7	62	1.2	52	-	< 26
KIM-1	ng/ml	0.053	0.57	-	< 0.35	0.023	0.67
VEGF	pg/ml	222	855	219	1630	69	517

Analyte	Units	Plasma		Sera		Urine	
		low	high	low	high	low	high
B2M	µg/ml	0.68	2.2	1.00	2.6		< 0.17
Cyst C	ng/ml	608	1170	476	1250	3.9	79
NGAL	ng/ml	89	375	102	822	2.9	81
OPN	ng/ml	4.1	25	0.49	12	291	6130
TIMP-1	ng/ml	50	131	100	246	-	< 3.9
A1M	µg/ml	6.2	16	5.7	17	-	< 4.2
THP	µg/ml	0.0084	0.052	0.007 9	0.053	0.39	2.6
TFF3	µg/ml	0.040	0.49	0.021	0.17	-	< 21
Creatinine	mg/dL	-	-	-	-	13	212
Microalbumin	µg/ml	-	-	-	-	-	>16

[0093] In one embodiment, the high values shown for each of the biomarker analytes in Table 1 for the analytic concentrations in human plasma, sera and urine are the minimum diagnostics values for the analytes in human plasma, sera, and urine, respectively. In one exemplary embodiment, the minimum diagnostic concentration in human plasma of alpha-1 microglobulin is about 16 µg/ml, beta-2 microglobulin is about 2.2 µg/ml, calbindin is greater than about 5 ng/ml, clusterin is about 134 µg/ml, CTGF is about 16 ng/ml, cystatin C is about 1170 ng/ml, GST-alpha is about 62 ng/ml, KIM-1 is about 0.57 ng/ml, NGAL is about 375 ng/ml, osteopontin is about 25 ng/ml, THP is about 0.052 µg/ml, TIMP-1 is about 131 ng/ml, TFF-3 is about 0.49 µg/ml, and VEGF is about 855 pg/ml.

[0094] In another exemplary embodiment, the minimum diagnostic concentration in human sera of alpha-1 microglobulin is about 17 µg/ml, beta-2 microglobulin is about 2.6 µg/ml, calbindin is greater than about 2.6 ng/ml, clusterin is about 152 µg/ml, CTGF is greater than about 8.2 ng/ml, cystatin C is about 1250 ng/ml, GST-alpha is about 52 ng/ml, KIM-1 is greater than about 0.35 ng/ml, NGAL is about 822 ng/ml, osteopontin is about 12 ng/ml, THP is about 0.053 µg/ml, TIMP-1 is about 246 ng/ml, TFF-3 is about 0.17 µg/ml, and VEGF is about 1630 pg/ml.

[0095] In yet another exemplary embodiment, the minimum diagnostic concentration in human urine of alpha-1 microglobulin is about 233 µg/ml, beta-2 microglobulin is greater than about 0.17 µg/ml, calbindin is about 233 ng/ml, clusterin is greater than about 0.089 µg/ml, CTGF is greater than about 0.90 ng/ml, cystatin C is about 1170 ng/ml, GST-alpha is greater than about 26 ng/ml, KIM-1 is about 0.67 ng/ml, NGAL is about 81 ng/ml, osteopontin is about 6130 ng/ml, THP is about 2.6 µg/ml, TIMP-1 is greater than about 3.9 ng/ml, TFF-3 is greater than about 21 µg/ml, and VEGF is about 517 pg/ml.

[0096] In one embodiment, the minimum diagnostic concentrations represent the maximum level of analyte concentrations falling within an expected normal range. Kidney transplant rejection or an associated disorder may be indicated if the concentration of an analyte is higher than the minimum diagnostic concentration for the analyte.

[0097] If diminished concentrations of a particular analyte are known to be associated with kidney transplant rejection or an associated disorder, the minimum diagnostic concentration may not be an appropriate diagnostic criterion for identifying kidney transplant rejection or an associated disorder indicated by the sample analyte concentrations. In these cases, a maximum diagnostic concentration may define the limit between the expected normal concentration range for the analyte and a sample concentration reflective of kidney transplant rejection or an associated disorder. In those cases in which a maximum diagnostic concentration is the appropriate diagnostic criterion, sample concentrations that fall below a maximum diagnostic concentration may indicate kidney transplant rejection or an associated disorder.

[0098] A critical feature of the method of the multiplexed analyte panel is that a combination of sample analyte concentrations may be used to diagnose kidney transplant rejection or an associated disorder. In addition to comparing subsets of the biomarker analyte concentrations to diagnostic criteria, the analytes may be algebraically combined and compared to corresponding diagnostic criteria. In one embodiment, two or more sample analyte concentrations may be added and/or subtracted to determine a combined analyte concentration. In another embodiment, two or more sample analyte concentrations may be multiplied and/or divided to determine a

combined analyte concentration. To identify kidney transplant rejection or an associated disorder, the combined analyte concentration may be compared to a diagnostic criterion in which the corresponding minimum or maximum diagnostic concentrations are combined using the same algebraic operations used to determine the combined analyte concentration.

[0099] In yet another embodiment, the analyte concentration measured from a test sample containing one type of body fluid may be algebraically combined with an analyte concentration measured from a second test sample containing a second type of body fluid to determine a combined analyte concentration. For example, the ratio of urine calbindin to plasma calbindin may be determined and compared to a corresponding minimum diagnostic urine: plasma calbindin ratio to identify a particular renal disorder.

[00100] A variety of methods known in the art may be used to define the diagnostic criteria used to identify kidney transplant rejection or an associated disorder. In one embodiment, any sample concentration falling outside the expected normal range indicates kidney transplant rejection or an associated disorder. In another embodiment, the multiplexed analyte panel may be used to evaluate the analyte concentrations in test samples taken from a population of patients having kidney transplant rejection or an associated disorder and compared to the normal expected analyte concentration ranges. In this same embodiment, any sample analyte concentrations that are significantly higher or lower than the expected normal concentration range may be used to define a minimum or maximum diagnostic concentration, respectively. A number of studies comparing the biomarker concentration ranges of a population of patients having a renal disorder to the corresponding analyte concentrations from a population of normal healthy subjects are described in the examples section below.

VI. Automated Method for Diagnosing, Monitoring, or Determining a Renal Disorder

[0100] In one embodiment, a system for diagnosing, monitoring, or determining kidney transplant rejection or an associated disorder in a mammal is

provided that includes a database to store a plurality of kidney transplant rejection or an associated disorder database entries, and a processing device that includes the modules of a kidney transplant rejection or an associated disorder determining application. In this embodiment, the modules are executable by the processing device, and include an analyte input module, a comparison module, and an analysis module.

[0101] The analyte input module receives three or more sample analyte concentrations that include the biomarker analytes. In one embodiment, the sample analyte concentrations are entered as input by a user of the application. In another embodiment, the sample analyte concentrations are transmitted directly to the analyte input module by the sensor device used to measure the sample analyte concentration via a data cable, infrared signal, wireless connection or other methods of data transmission known in the art.

[0102] The comparison module compares each sample analyte concentration to an entry of a kidney transplant rejection or an associated disorder database. Each entry of the kidney transplant rejection or an associated disorder database includes a list of minimum diagnostic concentrations reflective of a particular type of kidney transplant rejection or an associated disorder. The entries of the kidney transplant rejection or an associated disorder database may further contain additional minimum diagnostic concentrations to further define diagnostic criteria including but not limited to minimum diagnostic concentrations for additional types of bodily fluids, additional types of mammals, and severities of a particular kidney transplant rejection or an associated disorder.

[0103] The analysis module determines a most likely kidney transplant rejection or an associated disorder by combining the particular renal disorders identified by the comparison module for all of the sample analyte concentrations. In one embodiment, the most likely kidney transplant rejection or an associated disorder is the particular type of kidney transplant rejection or an associated disorder from the database entry having the most minimum diagnostic concentrations that are less than the corresponding sample analyte concentrations. In another embodiment, the most likely type of kidney transplant rejection or an associated disorder is the particular renal disorder from the database entry having minimum diagnostic concentrations that are all

less than the corresponding sample analyte concentrations. In yet other embodiments, the analysis module combines the sample analyte concentrations algebraically to calculate a combined sample analyte concentration that is compared to a combined minimum diagnostic concentration calculated from the corresponding minimum diagnostic criteria using the same algebraic operations. Other combinations of sample analyte concentrations from within the same test sample, or combinations of sample analyte concentrations from two or more different test samples containing two or more different bodily fluids may be used to determine a particular type of kidney transplant rejection or an associated disorder in still other embodiments.

[0104] The system includes one or more processors and volatile and/or nonvolatile memory and can be embodied by or in one or more distributed or integrated components or systems. The system may include computer readable media (CRM) on which one or more algorithms, software, modules, data, and/or firmware is loaded and/or operates and/or which operates on the one or more processors to implement the systems and methods identified herein. The computer readable media may include volatile media, nonvolatile media, removable media, non-removable media, and/or other media or mediums that can be accessed by a general purpose or special purpose computing device. For example, computer readable media may include computer storage media and communication media, including but not limited to computer readable media. Computer storage media further may include volatile, nonvolatile, removable, and/or non-removable media implemented in a method or technology for storage of information, such as computer readable instructions, data structures, program modules, and/or other data. Communication media may, for example, embody computer readable instructions, data structures, program modules, algorithms, and/or other data, including but not limited to as or in a modulated data signal. The communication media may be embodied in a carrier wave or other transport mechanism and may include an information delivery method. The communication media may include wired and wireless connections and technologies and may be used to transmit and/or receive wired or wireless communications. Combinations and/or sub-combinations of the above and systems, components, modules, and methods and processes described herein may be made.

[0105] The following examples are included to demonstrate preferred embodiments of the invention.

EXAMPLES

[0106] The following examples illustrate various iterations of the invention.

Example 1: Least Detectable Dose and Lower Limit of Quantitation of Assay for Analytes Associated with Renal Disorders

[0107] To assess the least detectable doses (LDD) and lower limits of quantitation (LLOQ) of a variety of analytes associated with renal disorders, the following experiment was conducted. The analytes measured were alpha-1 microglobulin (A1M), beta-2 microglobulin (B2M), calbindin, clusterin, CTGF, cystatin C, GST-alpha, KIM-1, NGAL, osteopontin (OPN), THP, TIMP-1, TFF-3, and VEGF.

[0108] The concentrations of the analytes were measured using a capture-sandwich assay using antigen-specific antibodies. For each analyte, a range of standard sample dilutions ranging over about four orders of magnitude of analyte concentration were measured using the assay in order to obtain data used to construct a standard dose response curve. The dynamic range for each of the analytes, defined herein as the range of analyte concentrations measured to determine its dose response curve, is presented below.

[0109] To perform the assay, 5 µL of a diluted mixture of capture-antibody microspheres were mixed with 5 µL of blocker and 10 µL of pre-diluted standard sample in each of the wells of a hard-bottom microtiter plate. After incubating the hard-bottom plate for 1 hour, 10 µL of biotinylated detection antibody was added to each well, and then the hard-bottom plate was incubated for an additional hour. 10 µL of diluted streptavidin-phycoerythrin was added to each well and then the hard-bottom plate was incubated for another 60 minutes.

[0110] A filter-membrane microtiter plate was pre-wetted by adding 100 µL wash buffer, and then aspirated using a vacuum manifold device. The contents of the wells of the hard-bottom plate were then transferred to the corresponding wells of the filter-membrane plate. All wells of the hard-bottom plate were vacuum-aspirated and the

contents were washed twice with 100 µL of wash buffer. After the second wash, 100 µL of wash buffer was added to each well, and then the washed microspheres were resuspended with thorough mixing. The plate was then analyzed using a Luminex 100 Analyzer (Luminex Corporation, Austin, Texas, USA). Dose response curves were constructed for each analyte by curve-fitting the median fluorescence intensity (MFI) measured from the assays of diluted standard samples containing a range of analyte concentrations.

[0111] The least detectable dose (LDD) was determined by adding three standard deviations to the average of the MFI signal measured for 20 replicate samples of blank standard solution (i.e. standard solution containing no analyte). The MFI signal was converted to an LDD concentration using the dose response curve and multiplied by a dilution factor of 2.

[0112] The lower limit of quantification (LLOQ), defined herein as the point at which the coefficient of variation (CV) for the analyte measured in the standard samples was 30%, was determined by the analysis of the measurements of increasingly diluted standard samples. For each analyte, the standard solution was diluted by 2 fold for 8 dilutions. At each stage of dilution, samples were assayed in triplicate, and the CV of the analyte concentration at each dilution was calculated and plotted as a function of analyte concentration. The LLOQ was interpolated from this plot and multiplied by a dilution factor of 2.

[0113] The LDD and LLOQ results for each analyte are summarized in **Table 2**:

TABLE 2: LDD, LLOQ, and Dynamic Range of Analyte Assay

Analyte	Units	LDD	LLOQ	Dynamic Range	
				minimum	maximum
Calbindin	ng/mL	1.1	3.1	0.516	2580
Clusterin	ng/mL	2.4	2.3	0.676	3378
CTGF	ng/mL	1.3	3.8	0.0794	400
GST-alpha	ng/mL	1.4	3.6	0.24	1,200

Analyte	Units	LDD	LLOQ	Dynamic Range	
				minimum	maximum
KIM-1	ng/mL	0.016	0.028	0.00478	24
VEGF	pg/mL	4.4	20	8.76	44,000
β-2 M	µg/mL	0.012	0.018	0.0030	15
Cystatin C	ng/mL	2.8	3.7	0.60	3,000
NGAL	ng/mL	4.1	7.8	1.2	6,000
Osteopontin	ng/mL	29	52	3.9	19,500
TIMP-1	ng/mL	0.71	1.1	0.073	365
A-1 M	µg/mL	0.059	0.29	0.042	210
THP	µg/mL	0.46	0.30	0.16	800
TFF-3	µg/mL	0.06	0.097	0.060	300

[0114] The results of this experiment characterized the least detectible dose and the lower limit of quantification for fourteen analytes associated with various renal disorders using a capture-sandwich assay.

Example 2: Precision of Assay for Analytes Associated with Renal Disorders

[0115] To assess the precision of an assay used to measure the concentration of analytes associated with renal disorders, the following experiment was conducted. The analytes measured were alpha-1 microglobulin (A1M), beta-2 microglobulin (B2M), calbindin, clusterin, CTGF, cystatin C, GST-alpha, KIM-1, NGAL, osteopontin (OPN), THP, TIMP-1, TFF-3, and VEGF. For each analyte, three concentration levels of standard solution were measured in triplicate during three runs using the methods described in Example 1. The percent errors for each run at each concentration are presented in **Table 3** for all of the analytes tested:

TABLE 3: Precision of Analyte Assay

Analyte	Average concentration (ng/mL)	Run 1 Error (%)	Run 2 Error (%)	Run 2 Error (%)	Interrun Error (%)

Analyte	Average concentration (ng/mL)	Run 1 Error (%)	Run 2 Error (%)	Run 2 Error (%)	Interrun Error (%)
Calbindin	4.0	6	2	6	13
	36	5	3	2	7
	281	1	6	0	3
Clusterin	4.4	4	9	2	6
	39	5	1	6	8
	229	1	3	0	2
CTGF	1.2	10	17	4	14
	2.5	19	19	14	14
	18	7	5	13	9
GST-alpha	3.9	14	7	5	10
	16	13	7	10	11
	42	1	16	6	8
KIM-1	0.035	2	0	5	13
	0.32	4	5	2	8
	2.9	0	5	7	4
VEGF	65	10	1	6	14
	534	9	2	12	7
	5,397	1	13	14	9
β-2 M	0.040	6	1	8	5
	0.43	2	2	0	10
	6.7	6	5	11	6
Cystatin C	10.5	4	1	7	13
	49	0	0	3	9
	424	2	6	2	5
NGAL	18.1	11	3	6	13
	147	0	0	6	5
	1,070	5	1	2	5
Osteopontin	44	1	10	2	11

Analyte	Average concentration (ng/mL)	Run 1 Error (%)	Run 2 Error (%)	Run 2 Error (%)	Interrun Error (%)
	523	9	9	9	7
	8,930	4	10	1	10
TIMP-1	2.2	13	6	3	13
	26	1	1	4	14
	130	1	3	1	4
A-1 M	1.7	11	7	7	14
	19	4	1	8	9
	45	3	5	2	4
THP	9.4	3	10	11	11
	15	3	7	8	6
	37	4	5	0	5
TFF-3	0.3	13	3	11	12
	4.2	5	8	5	7
	1.2	3	7	0	13

[0116] The results of this experiment characterized the precision of a capture-sandwich assay for fourteen analytes associated with various renal disorders over a wide range of analyte concentrations. The precision of the assay varied between about 1% and about 15% error within a given run, and between about 5% and about 15% error between different runs. The percent errors summarized in Table 2 provide information concerning random error to be expected in an assay measurement caused by variations in technicians, measuring instruments, and times of measurement.

Example 3: Linearity of Assay for Analytes Associated with Renal Disorders

[0117] To assess the linearity of an assay used to measure the concentration of analytes associated with renal disorders, the following experiment was conducted. The analytes measured were alpha-1 microglobulin (A1M), beta-2 microglobulin (B2M), calbindin, clusterin, CTGF, cystatin C, GST-alpha, KIM-1, NGAL, osteopontin (OPN), THP, TIMP-1, TFF-3, and VEGF. For each analyte, three

concentration levels of standard solution were measured in triplicate during three runs using the methods described in Example 1. Linearity of the assay used to measure each analyte was determined by measuring the concentrations of standard samples that were serially-diluted throughout the assay range. The % recovery was calculated as observed vs. expected concentration based on the dose-response curve. The results of the linearity analysis are summarized in **Table 4**.

TABLE 4: Linearity of Analyte Assay

Analyte	Dilution	Expected concentration	Observed concentration	Recovery (%)
Calbindin (ng/mL)	1:2	61	61	100
	1:4	30	32	106
	1:8	15	17	110
Clusterin (ng/mL)	1:2	41	41	100
	1:4	21	24	116
	1:8	10	11	111
CTGF (ng/mL)	1:2	1.7	1.7	100
	1:4	0.84	1.0	124
	1:8	0.42	0.51	122
GST-alpha (ng/mL)	1:2	25	25	100
	1:4	12	14	115
	1:8	6.2	8.0	129
KIM-1 (ng/mL)	1:2	0.87	0.87	100
	1:4	0.41	0.41	101
	1:8	0.21	0.19	93
VEGF (pg/mL)	1:2	2,525	2,525	100
	1:4	1,263	1,340	106
	1:8	631	686	109
β-2 M (µg/mL)	1:100	0.63	0.63	100
	1:200	0.31	0.34	106
	1:400	0.16	0.17	107

Analyte	Dilution	Expected concentration	Observed concentration	Recovery (%)
Cystatin C (ng/mL)	1:100	249	249	100
	1:200	125	122	102
	1:400	62	56	110
NGAL (ng/mL)	1:100	1,435	1,435	100
	1:200	718	775	108
	1:400	359	369	103
Osteopontin (ng/mL)	1:100	6,415	6,415	100
	1:200	3,208	3,275	102
	1:400	1,604	1,525	95
TIMP-1 (ng/mL)	1:100	35	35	100
	1:200	18	18	100
	1:400	8.8	8.8	100
A-1 M (µg/mL)	1:2000	37	37	100
	1:4000	18	18	99
	1:8000	9.1	9.2	99
THP (µg/mL)	1:2000	28	28	100
	1:4000	14	14	96
	1:8000	6.7	7.1	94
TFF-3 (µg/mL)	1:2000	8.8	8.8	100
	1:4000	3.8	4.4	86
	1:8000	1.9	2.2	86

[0118] The results of this experiment demonstrated reasonably linear responses of the sandwich-capture assay to variations in the concentrations of the analytes in the tested samples.

Example 4: Spike Recovery of Analytes Associated with Renal Disorders

[0119] To assess the recovery of analytes spiked into urine, serum, and plasma samples by an assay used to measure the concentration of analytes associated

with renal disorders, the following experiment was conducted. The analytes measured were alpha-1 microglobulin (A1M), beta-2 microglobulin (B2M), calbindin, clusterin, CTGF, cystatin C, GST-alpha, KIM-1, NGAL, osteopontin (OPN), THP, TIMP-1, TFF-3, and VEGF. For each analyte, three concentration levels of standard solution were spiked into known urine, serum, and plasma samples. Prior to analysis, all urine samples were diluted 1:2000 (sample: diluent), all plasma samples were diluted 1:5 (sample: diluent), and all serum samples were diluted 1:2000 (sample: diluent).

[0120] The concentrations of the analytes in the samples were measured using the methods described in Example 1. The average % recovery was calculated as the proportion of the measurement of analyte spiked into the urine, serum, or plasma sample (observed) to the measurement of analyte spiked into the standard solution (expected). The results of the spike recovery analysis are summarized in **Table 5**.

TABLE 5: Spike Recovery of Analyte Assay in Urine, Serum, and Plasma Samples

Analyte	Spike Concentration	Recovery in Urine Sample (%)	Recovery in Serum Sample (%)	Recovery in Plasma Sample (%)
Calbindin (ng/mL)	66	76	82	83
	35	91	77	71
	18	80	82	73
	average	82	80	76
Clusterin (ng/mL)	80	72	73	75
	37	70	66	72
	20	90	73	70
	average	77	70	72
CTGF (ng/mL)	8.4	91	80	79
	4.6	114	69	78
	2.4	76	80	69
	average	94	77	75
GST-alpha (ng/mL)	27	75	84	80
	15	90	75	81

Analyte	Spike Concentration	Recovery in Urine Sample (%)	Recovery in Serum Sample (%)	Recovery in Plasma Sample (%)
	7.1	82	84	72
	average	83	81	78
KIM-1 (ng/mL)	0.63	87	80	83
	.029	119	74	80
	0.14	117	80	78
	average	107	78	80
VEGF (pg/mL)	584	88	84	82
	287	101	77	86
	123	107	84	77
	average	99	82	82
β-2 M (µg/mL)	0.97	117	98	98
	0.50	124	119	119
	0.24	104	107	107
	average	115	108	105
Cystatin C (ng/mL)	183	138	80	103
	90	136	97	103
	40	120	97	118
	average	131	91	108
NGAL (ng/mL)	426	120	105	111
	213	124	114	112
	103	90	99	113
	average	111	106	112
Osteopontin (ng/mL)	1,245	204	124	68
	636	153	112	69
	302	66	103	67
	average	108	113	68
TIMP-1 (ng/mL)	25	98	97	113
	12	114	89	103

Analyte	Spike Concentration	Recovery in Urine Sample (%)	Recovery in Serum Sample (%)	Recovery in Plasma Sample (%)
	5.7	94	99	113
	average	102	95	110
A-1 M (µg/mL)	0.0028	100	101	79
	0.0012	125	80	81
	0.00060	118	101	82
	Average	114	94	81
THP (µg/mL)	0.0096	126	108	90
	0.0047	131	93	91
	0.0026	112	114	83
	average	123	105	88
TFF-3 (µg/mL)	0.0038	105	114	97
	0.0019	109	104	95
	0.0010	102	118	93
	average	105	112	95

[0121] The results of this experiment demonstrated that the sandwich-type assay is reasonably sensitive to the presence of all analytes measured, whether the analytes were measured in standard samples, urine samples, plasma samples, or serum samples.

Example 5: Matrix Interferences of Analytes Associated with Renal Disorders

[0122] To assess the matrix interference of hemoglobin, bilirubin, and triglycerides spiked into standard samples, the following experiment was conducted. The analytes measured were alpha-1 microglobulin (A1M), beta-2 microglobulin (B2M), calbindin, clusterin, CTGF, cystatin C, GST-alpha, KIM-1, NGAL, osteopontin (OPN), THP, TIMP-1, TFF-3, and VEGF. For each analyte, three concentration levels of standard solution were spiked into known urine, serum, and plasma samples. Matrix interference was assessed by spiking hemoglobin, bilirubin, and triglyceride into standard analyte samples and measuring analyte concentrations using the methods

described in Example 1. A % recovery was determined by calculating the ratio of the analyte concentration measured from the spiked sample (observed) divided by the analyte concentration measured form the standard sample (expected). The results of the matrix interference analysis are summarized in **Table 6**.

TABLE 6: Matrix Interference of Hemoglobin, Bilirubin, and Triglyceride on the Measurement of Analytes

Analyte	Matrix Compound Spiked into Sample	Maximum Spike Concentration	Overall Recovery (%)
Calbindin (mg/mL)	Hemoglobin	500	110
	Bilirubin	20	98
	Triglyceride	500	117
Clusterin (mg/mL)	Hemoglobin	500	125
	Bilirubin	20	110
	Triglyceride	500	85
CTGF (mg/mL)	Hemoglobin	500	91
	Bilirubin	20	88
	Triglyceride	500	84
GST-alpha (mg/mL)	Hemoglobin	500	100
	Bilirubin	20	96
	Triglyceride	500	96
KIM-1 (mg/mL)	Hemoglobin	500	108
	Bilirubin	20	117
	Triglyceride	500	84
VEGF (mg/mL)	Hemoglobin	500	112
	Bilirubin	20	85
	Triglyceride	500	114
β-2 M (µg/mL)	Hemoglobin	500	84
	Bilirubin	20	75

Analyte	Matrix Compound Spiked into Sample	Maximum Spike Concentration	Overall Recovery (%)
	Triglyceride	500	104
Cystatin C (ng/mL)	Hemoglobin	500	91
	Bilirubin	20	102
	Triglyceride	500	124
NGAL (ng/mL)	Hemoglobin	500	99
	Bilirubin	20	92
	Triglyceride	500	106
Osteopontin (ng/mL)	Hemoglobin	500	83
	Bilirubin	20	86
	Triglyceride	500	106
TIMP-1 (ng/mL)	Hemoglobin	500	87
	Bilirubin	20	86
	Triglyceride	500	93
A-1 M (µg/mL)	Hemoglobin	500	103
	Bilirubin	20	110
	Triglyceride	500	112
THP (µg/mL)	Hemoglobin	500	108
	Bilirubin	20	101
	Triglyceride	500	121
TFF-3 (µg/mL)	Hemoglobin	500	101
	Bilirubin	20	101
	Triglyceride	500	110

[0123] The results of this experiment demonstrated that hemoglobin, bilirubin, and triglycerides, three common compounds found in urine, plasma, and serum samples, did not significantly degrade the ability of the sandwich-capture assay to detect any of the analytes tested.

Example 6: Sample Stability of Analytes Associated with Renal Disorders

[0124] To assess the ability of analytes spiked into urine, serum, and plasma samples to tolerate freeze-thaw cycles, the following experiment was conducted. The analytes measured were alpha-1 microglobulin (A1M), beta-2 microglobulin (B2M), calbindin, clusterin, CTGF, cystatin C, GST-alpha, KIM-1, NGAL, osteopontin (OPN), THP, TIMP-1, TFF-3, and VEGF. Each analyte was spiked into known urine, serum, and plasma samples at a known analyte concentration. The concentrations of the analytes in the samples were measured using the methods described in Example 1 after the initial addition of the analyte, and after one, two and three cycles of freezing and thawing. In addition, analyte concentrations in urine, serum and plasma samples were measured immediately after the addition of the analyte to the samples as well as after storage at room temperature for two hours and four hours, and after storage at 4º C for 2 hours, four hours, and 24 hours.

[0125] The results of the freeze-thaw stability analysis are summarized in **Table 7**. The % recovery of each analyte was calculated as a percentage of the analyte measured in the sample prior to any freeze-thaw cycles.

TABLE 7: Freeze-Thaw Stability of the Analytes in Urine, Serum, and Plasma

Analyte	Period and Temp	Urine Sample		Serum Sample		Plasma Sample	
		Concen-tration	Recovery (%)	Concen-tration	Recovery (%)	Concen-tration	Recovery (%)
Calbindin (ng/mL)	Control	212	100	31	100	43	100
	1X	221	104	30	96	41	94
	2X	203	96	30	99	39	92
	3X	234	110	30	97	40	93
Clusterin (ng/mL)	0	315	100	232	100	187	100
	1X	329	104	227	98	177	95
	2X	341	108	240	103	175	94
	3X	379	120	248	107	183	98
CTGF (ng/mL)	0	6.7	100	1.5	100	1.2	100
	1X	7.5	112	1.3	82	1.2	94
	2X	6.8	101	1.4	90	1.2	100
	3X	7.7	115	1.2	73	1.3	107
GST-alpha (ng/mL)	0	12	100	23	100	11	100
	1X	13	104	24	105	11	101
	2X	14	116	21	92	11	97
	3X	14	111	23	100	12	108
KIM-1 (ng/mL)	0	1.7	100	0.24	100	0.24	100
	1X	1.7	99	0.24	102	0.22	91
	2X	1.7	99	0.22	94	0.19	78
	3X	1.8	107	0.23	97	0.22	93
VEGF (pg/mL)	0	1,530	100	1,245	100	674	100
	1X	1,575	103	1,205	97	652	97
	2X	1,570	103	1,140	92	612	91
	3X	1,700	111	1,185	95	670	99
β-2 M (µg/mL)	0	0.0070	100	1.2	100	15	100
	1X	0.0073	104	1.1	93	14	109
	2X	0.0076	108	1.2	103	15	104

Analyte	Period and Temp	Urine Sample		Serum Sample		Plasma Sample	
		Concen-tration	Recovery (%)	Concen-tration	Recovery (%)	Concen-tration	Recovery (%)
	3X	0.0076	108	1.1	97	13	116
Cystatin C (ng/mL)	0	1,240	100	1,330	100	519	100
	1X	1,280	103	1,470	111	584	113
	2X	1,410	114	1,370	103	730	141
	3X	1,420	115	1,380	104	589	113
NGAL (ng/mL)	0	45	100	245	100	84	100
	1X	46	102	179	114	94	112
	2X	47	104	276	113	91	108
	3X	47	104	278	113	91	109
Osteopontin (ng/mL)	0	38	100	1.7	100	5.0	100
	1X	42	110	1.8	102	5.5	110
	2X	42	108	1.5	87	5.5	109
	3X	42	110	1.3	77	5.4	107
TIMP-1 (ng/mL)	0	266	100	220	100	70	100
	1X	265	100	220	10	75	108
	2X	255	96	215	98	77	110
	3X	295	111	228	104	76	109
A-1 M (µg/mL)	0	14	100	26	100	4.5	100
	1X	13	92	25	96	4.2	94
	2X	15	107	25	96	4.3	97
	3X	16	116	23	88	4.0	90
THP (µg/mL)	0	4.6	100	31	100	9.2	100
	1X	4.4	96	31	98	8.8	95
	2X	5.0	110	31	100	9.2	100
	3X	5.2	114	27	85	9.1	99
TFF-3 (µg/mL)	0	4.6	100	24	100	22	100
	1X	4.4	96	23	98	22	103
	2X	5.0	110	24	103	22	101

Analyte	Period and Temp	Urine Sample		Serum Sample		Plasma Sample	
		Concen-tration	Recovery (%)	Concen-tration	Recovery (%)	Concen-tration	Recovery (%)
	3X	5.2	114	19	82	22	102

[0126] The results of the short-term stability assessment are summarized in **Table 8**. The % recovery of each analyte was calculated as a percentage of the analyte measured in the sample prior to any short-term storage.

TABLE 8: Short-Term Stability of Analytes in Urine, Serum, and Plasma

Analyte	Storage Time/ Temp	Urine Sample		Serum Sample		Plasma Sample	
		Sample Conc.	Recovery (%)	Sample Conc.	Recovery (%)	Sample Conc.	Recovery (%)
Cal-bindin (ng/mL)	Control	226	100	33	100	7	100
	2 hr/ room temp	242	107	30	90	6.3	90
	2 hr. @ 4° C	228	101	29	89	6.5	93
	4 hr @ room temp	240	106	28	84	5.6	79
	4 hr. @ 4° C	202	89	29	86	5.5	79
	24 hr. @ 4° C	199	88	26	78	7.1	101
Clus-terin (ng/mL)	Control	185	100	224	100	171	100
	2 hr @ room temp	173	94	237	106	180	105
	2 hr. @ 4° C	146	79	225	100	171	100
	4 hr @ room temp	166	89	214	96	160	94
	4 hr. @ 4° C	157	85	198	88	143	84
	24 hr. @ 4° C	185	100	207	92	162	94
CTGF	Control	1.9	100	8.8	100	1.2	100

Analyte (ng/mL)	Storage Time/ Temp	Urine Sample		Serum Sample		Plasma Sample	
		Sample Conc.	Recovery (%)	Sample Conc.	Recovery (%)	Sample Conc.	Recovery (%)
	2 hr @ room temp	1.9	99	6.7	76	1	83
	2 hr. @ 4˚ C	1.8	96	8.1	92	1.1	89
	4 hr @ room temp	2.1	113	5.6	64	1	84
	4 hr. @ 4˚ C	1.7	91	6.4	74	0.9	78
	24 hr. @ 4˚ C	2.2	116	5.9	68	1.1	89
GST-alpha (ng/mL)	Control	14	100	21	100	11	100
	2 hr @ room temp	11	75	23	107	11	103
	2 hr. @ 4˚ C	13	93	22	104	9.4	90
	4 hr @ room temp	11	79	21	100	11	109
	4 hr. @ 4˚ C	12	89	21	98	11	100
	24 hr. @ 4˚ C	13	90	22	103	14	129
KIM-1 (ng/mL)	Control	1.5	100	0.23	100	0.24	100
	2 hr @ room temp	1.2	78	0.2	86	0.22	90
	2 hr. @ 4˚ C	1.6	106	0.23	98	0.21	85
	4 hr @ room temp	1.3	84	0.19	82	0.2	81
	4 hr. @ 4˚ C	1.4	90	0.22	93	0.19	80
	24 hr. @ 4˚ C	1.1	76	0.18	76	0.23	94
VEGF	Control	851	100	1215	100	670	100

Analyte (pg/mL)	Storage Time/ Temp	Urine Sample		Serum Sample		Plasma Sample	
		Sample Conc.	Recovery (%)	Sample Conc.	Recovery (%)	Sample Conc.	Recovery (%)
	2 hr @ room temp	793	93	1055	87	622	93
	2 hr. @ 4° C	700	82	1065	88	629	94
	4 hr @ room temp	704	83	1007	83	566	84
	4 hr. @ 4° C	618	73	1135	93	544	81
	24 hr. @ 4° C	653	77	1130	93	589	88
β-2 M (µg/mL)	Control	0.064	100	2.6	100	1.2	100
	2 hr @ room temp	0.062	97	2.4	92	1.1	93
	2 hr. @ 4° C	0.058	91	2.2	85	1.2	94
	4 hr @ room temp	0.064	101	2.2	83	1.2	94
	4 hr. @ 4° C	0.057	90	2.2	85	1.2	98
	24 hr. @ 4° C	0.06	94	2.5	97	1.3	103
Cys-tatin C (ng/mL)	Control	52	100	819	100	476	100
	2 hr @ room temp	50	96	837	102	466	98
	2 hr. @ 4° C	44	84	884	108	547	115
	4 hr @ room temp	49	93	829	101	498	105
	4 hr. @ 4° C	46	88	883	108	513	108
	24 hr. @ 4° C	51	97	767	94	471	99
NGAL	Control	857	100	302	100	93	100

Analyte (ng/mL)	Storage Time/ Temp	Urine Sample		Serum Sample		Plasma Sample	
		Sample Conc.	Recovery (%)	Sample Conc.	Recovery (%)	Sample Conc.	Recovery (%)
	2 hr @ room temp	888	104	287	95	96	104
	2 hr. @ 4° C	923	108	275	91	92	100
	4 hr @ room temp	861	101	269	89	88	95
	4 hr. @ 4° C	842	98	283	94	94	101
	24 hr. @ 4° C	960	112	245	81	88	95
Osteo-pontin (ng/mL)	Control	2243	100	6.4	100	5.2	100
	2 hr @ room temp	2240	100	6.8	107	5.9	114
	2 hr. @ 4° C	2140	95	6.4	101	6.2	120
	4 hr @ room temp	2227	99	6.9	108	5.8	111
	4 hr. @ 4° C	2120	95	7.7	120	5.2	101
	24 hr. @ 4° C	2253	100	6.5	101	6	116
TIMP-1 (ng/mL)	Control	17	100	349	100	72	100
	2 hr @ room temp	17	98	311	89	70	98
	2 hr. @ 4° C	16	94	311	89	68	95
	4 hr @ room temp	17	97	306	88	68	95
	4 hr. @ 4° C	16	93	329	94	74	103
	24 hr. @ 4° C	18	105	349	100	72	100
A-1 M	Control	3.6	100	2.2	100	1	100

Analyte (µg/mL)	Storage Time/ Temp	Urine Sample		Serum Sample		Plasma Sample	
		Sample Conc.	Recovery (%)	Sample Conc.	Recovery (%)	Sample Conc.	Recovery (%)
	2 hr @ room temp	3.5	95	2	92	1	105
	2 hr. @ 4˚ C	3.4	92	2.1	97	0.99	99
	4 hr @ room temp	3.2	88	2.2	101	0.99	96
	4 hr. @ 4˚ C	3	82	2.2	99	0.97	98
	24 hr. @ 4˚ C	3	83	2.2	100	1	101
THP (µg/mL)	Control	1.2	100	34	100	2.1	100
	2 hr @ room temp	1.2	99	34	99	2	99
	2 hr. @ 4˚ C	1.1	90	34	100	2	98
	4 hr @ room temp	1.1	88	27	80	2	99
	4 hr. @ 4˚ C	0.95	79	33	97	2	95
	24 hr. @ 4˚ C	0.91	76	33	98	2.4	116
TFF-3 (µg/mL)	Control	1230	100	188	100	2240	100
	2 hr @ room temp	1215	99	179	95	2200	98
	2 hr. @ 4˚ C	1200	98	195	104	2263	101
	4 hr @ room temp	1160	94	224	119	2097	94
	4 hr. @ 4˚ C	1020	83	199	106	2317	103
	24 hr. @ 4˚ C	1030	84	229	122	1940	87

[0127] The results of this experiment demonstrated that the analytes associated with renal disorders tested were suitably stable over several freeze/thaw cycles, and up to 24 hrs of storage at a temperature of 4° C.

Example 8: Diagnosis of Renal Damage Using Detection of Analytes in Human Plasma Samples

[0128] To assess the effectiveness of a human kidney toxicity panel to detect renal damage due to disease states, the following experiment was conducted. Plasma samples were obtained from healthy control patients as well as patients experiencing acute kidney rejection (AR) or chronic allograft nephropathy (CAN). All plasma samples were diluted as described in Example 4 and subjected to a sandwich-capture assay as described in Example 1. Plasma concentrations of analytes included in a human kidney toxicity panel were measured by the assay, including alpha-1 microglobulin (A1M), beta-2 microglobulin (B2M), calbindin, clusterin, CTGF, cystatin C, GST-alpha, KIM-1, NGAL, osteopontin (OPN), THP, TIMP-1, TFF-3, and VEGF.

[0129] **FIG. 1** summarizes the plasma concentrations of those analytes that differed significantly from control plasma concentrations. The plasma analyte concentrations of the AR and CAN groups are expressed as a percentage difference relative to the corresponding control plasma analyte concentrations. The A1M plasma concentrations of the CAN and AR groups were both significantly lower than control concentrations. Plasma levels of B2M, KIM-1, NGAL, and OPN had changes between about 100% and 200% of control levels for both the CAN and AR groups. VEGF and Cyst C plasma levels were between about 30% and about 100% higher than control levels for both the CAN and AR groups.

[0130] The results of this experiment demonstrated that panels of analytes detected in plasma samples were capable of identifying patients having renal damage caused by CAN and AR conditions.

Example 9: Analysis of the statistical importance of proteins associated with kidney transplant.

[0131] To assess the statistical importance of the proteins associated with kidney transplant success, the following experiments were conducted. Six two-way comparisons were performed: TX vs. AR, TX vs. CAN, AR vs. CAN. TX vs. all other, AR vs. all other, and CAN vs. all other where TX= successful, non-rejected transplant, AR=acute rejection, and CAN=chronic allograft nephropathy. Two different sets of patient data were evaluated. Set characterics are in **Table 9** below.

Table 9

Set 1	Set 2		total
AR	25	20	45
CAN/IFTA	25	48	73
TX	18	3	21
acute dysfunction no rejection (ADNR)	0	47	47
	68	118	**186**

[0132] In **FIG. 2**, samples were clustered to check for batch effects. A moderate batch effect was identified. Because robust statistics are used to identify proteins associated with status, there is no attempt to remove outliers. All protein levels are scaled to mean zero and variance one to equalize their units. The resulting sample dendrogram is shown in **FIG. 2**. The sample dendrogram shows evidence of a moderate batch effect since samples tend to cluster together with other samples from the same data set.

[0133] In **FIGS. 4-9**, the statistical association of protein levels with status is studied. The following proteins were found to be related to clinical status at the level of 0.01:

Table 10

Comparison	Significant Proteins
TX vs. AR	Beta.2.Microglobulin, BLC, CD40, IGF.BP.2, MMP.3, Peptide.YY, Stem.Cell.Factor, TNF.RII, VEGF
TX vs. CAN	AXL, Beta.2.Microglobulin, CD40, Eotaxin.3, FABP, FGF.basic, IGF.BP.2, MMP.3, Myoglobin, Resistin, Stem.Cell.Factor, TNF.RII, TRAIL.R3, VEGF
AR vs. CAN	None
TX vs. all Other	AXL, Beta.2.Microglobulin, BLC, CD40, Endothelin.1, Eotaxin.3, FABP, FGF.basic, IGF.BP.2, MMP.3, Myoglobin, NrCAM, Peptide.YY, Resistin, Stem.Cell.Factor, Tenascin.C, TNF.RII, TRAIL.R3, VCAM.1, VEGF
AR vs. all Other	None
CAN vs. all Other	Beta.2.Microglobulin, CD40, Cortisol, FGF.basic, Stem.Cell.Factor, TNF.RII, VEGF

[0134] The necessary variables for calculation of protein significances were prepared and then the clinical traits for two-way comparisons were defined. One clinical trait is defined for each of the three comparisons TX vs. AR, TX vs. CAN, AR vs. CAN (in each case, the samples belonging to the third group are ignored), and for the comparisons TX vs. all others, AR vs. all others, and CAN vs. all others. The protein significances for each of the 6 “clinical traits" are checked to see how well they agree in the two data sets. The significance scatterplots are shown in **FIG. 3**. In the analysis of gene expression data it was found that subtracting several principal components from the full matrices of the expression data in Test and Validation sets improved the concordance of gene significance for status in the two data sets. Another reason to perform subtraction of principal components was that the histograms of association p-values exhibited anomalies suggesting that the data contained systematic bias(es) that may be removed by subtracting the first few principal components. No significant

evidence of such anomalies in the protein data was found, however, and the concordance of protein significance in the Test and Validation data does not improve significantly upon subtracting principal components of the data. Hence, such a subtraction is not performed here.

[0135] For each protein and clinical trait, the following information is contained in **Table 11**: correlation with the trait in set 1, correlation with the trait in set 2, the corresponding Z scores in sets 1 and 2, a combined ("meta-analysis") Z score determined using the formula

$$Z = \frac{Z_1 + Z_2}{\sqrt{2}}, \quad (1)$$

p-values in set 1 and 2, and meta-analysis determined from the Z scores, and q-values in set 1, set 2, and meta-analysis determined from the corresponding p-values. The q-values are estimates of false discovery rate (FDR). All correlations reported in Table 10 are robust (that is, outlier resistant) biweight midcorrelations. The results are presented in graphical form in **FIGS. 4-9**.

[0136] Lastly, the statistical significance of the observed significant proteins was studied. For example, in the TX vs. AR comparison 9 proteins were found to be significant at the level of 0.01 or better in both data sets. Provided herein, in **FIG. 10** are the p-values for the null hypothesis that the protein significances in the two data sets are not related and the 9 proteins were significant in both sets by chance. The p-values were calculated in the plotting code above and are contained in the variable pTable. **FIG. 10** illustrates that most of the findings are highly significant.

[0137] The results of this experiment demonstrate that the three kidney transplant success options (AR, CAN, and TX) can be distinguished via a limited set of significant proteins differentially expressed between the three transplant options.

Table 11

probeID	cor.TX-vs-AR.Set_1	cor.TX-vs-AR.Set_2	Z.TX-vs-AR.Set_1	Z.TX-vs-AR.Set_2	Z.TX-vs-AR.Meta
Alpha.1.Antitrypsin	0.19651782	0.544745877	1.365014973	3.863540936	3.697147339
ACE..Angiotensin.Converting.Enzyme.	-0.056591672	-0.039749567	0.388387932	0.251530867	0.452490922
ACTH..Adrenocorticotropic.Hormone.	0.029720353	0.223744359	0.203812495	1.439433005	1.161950036
Adiponectin	0.010447683	0.145646186	0.071628312	0.92774491	0.706663583
AgRP..Agouti.related.Protein.	0.213314725	0.234643509	1.485219539	1.51218797	2.119487175
Alpha.2.Macroglobulin	-0.244305568	0.07626922	1.709442987	0.483307489	1.55050873
Alpha.Fetoprotein	0.044502555	0.062135881	0.3052958	0.39348874	0.494115287
Amphiregulin	-0.032895242	-0.095582587	0.225599813	0.60636848	0.588290422
ANG.2..Angiopoietin.2.	0.192265313	0.360428016	1.334716268	2.386746362	2.631471461
Angiotensinogen	0.189583743	0.190254475	1.315636851	1.218116867	1.791634436
Apolipoprotein.A1	-0.056282705	-0.160553086	0.386262988	1.02428934	0.997411116
Apolipoprotein.CIII	0.140143385	0.425209453	0.967139742	2.871564279	2.714373645
Apolipoprotein.H	-0.086880527	-0.045498485	0.597128338	0.287956498	0.62584949
AXL	0.554118882	0.387462077	4.280025149	2.585543542	4.854690178
Beta.2.Microglobulin	0.603466542	0.596675835	4.789232561	4.351099666	6.4631909
Betacellulin	-0.015920759	-0.169877855	0.109156446	1.084919821	0.844339426
BLC..B.Lymphocyte.Chemoattractant.	0.370923325	0.415254861	2.670231546	2.795101853	3.864574308
BMP.6	0.097069574	-0.162008604	0.667577519	1.033740689	1.203013642
BDNF..Brain.Derived.Neurotrophic.Factor.	-0.286713691	-0.203614904	2.022294107	1.306026587	2.353478133
Complement.3	0.045145682	0.269820563	0.309713726	1.749816529	1.45630781
C.Reactive.Protein	0.127880901	0.325559186	0.881533821	2.13676921	2.134262541
Calcitonin	0.250584789	0.418596757	1.755299073	2.820684937	3.235709324
Cancer.Antigen.125	-0.203022866	-0.006483253	1.411465258	0.041004264	1.027051049
Cancer.Antigen.19.9	-0.114647199	0.205070411	0.789452655	1.315633155	1.488520451
Carcinoembryonic.Antigen	0.039388379	0.085216233	0.270172896	0.540265091	0.573066196
CD40	0.381789854	0.687101268	2.757023753	5.328082139	5.717033203
CD40.Ligand	-0.219592046	0.108533326	1.530370269	0.689139481	1.569430395
CgA..Chromogranin.A.	0.436070921	0.341187247	3.204119198	2.247971959	3.855210629
CNTF..Ciliary.Neurotrophic.Factor.	0.116635413	-0.26836516	0.803267918	1.739893195	1.798286468
Cortisol	-0.167877174	0.157496866	1.161906421	1.00445859	1.53185139
Creatine.Kinase.MB	0.13826237	0.116509942	0.953989327	0.740235241	1.197997681
CTGF..Connective.Tissue.Growth.Factor.	0.247052383	0.1578506	1.729483843	1.006752835	1.93481151
EGF	-0.137649862	0.028490054	0.94970872	0.180235695	0.798991358
EGF.R	-0.342512876	-0.236710848	2.447034166	1.52603192	2.809381972

ENA.78	-0.163250369	-0.108029871	1.129292592	0.685917574	1.283547418
Endothelin.1	0.147454702	0.406768863	1.018322217	2.730521359	2.650832715
EN.RAGE	0.292001087	0.044015515	2.061855147	0.278558546	1.654922392
Eotaxin	0.029235107	0.068717319	0.200482927	0.435292511	0.449561124
Eotaxin.3	0.2720196	0.565748629	1.913025953	4.05560777	4.22046138
Epiregulin	0.192670037	-0.192386614	1.337597654	1.232114051	1.817060572
Erythropoietin	-0.189360236	-0.00534035	1.314047505	0.033775662	0.953054901
Factor.VII	-0.017829181	0.02127869	0.122243658	0.13459857	0.181614881
Fas	0.395920739	0.12113867	2.871162164	0.769929203	2.574640396
Fas.Ligand	0.169381265	-0.073827426	1.172519757	0.467776749	1.159864782
FABP	0.31695717	0.569528815	2.250442714	4.090881595	4.48399342
Ferritin	0.235522216	0.427630472	1.645549201	2.890279169	3.207314998

probeID	p.TX-vs-AR.Set_1	p.TX-vs-AR.Set_2	p.TX-vs-AR.Meta	q.TX-vs-AR.Set_1	q.TX-vs-AR.Set_2	q.TX-vs-AR.Meta
Alpha.1.Antitrypsin	0.171367015	0.000158886	0.000218036	0.177198839	0.001563766	0.000106
ACE..Angiotensin.Converting.Enzyme.	0.696273788	0.800210605	0.65091536	0.332945168	0.500045635	0.042832
ACTH..Adrenocorticotropic.Hormone.	0.837662442	0.149213752	0.245255761	0.366221249	0.204283128	0.022133
Adiponectin	0.942594229	0.351385527	0.479775566	0.382906795	0.321707586	0.035171
AgRP..Agouti.related.Protein.	0.136911446	0.129885276	0.034049316	0.152674292	0.182619764	0.005401
Alpha.2.Macroglobulin	0.087298478	0.626894564	0.12101946	0.112836688	0.440709451	0.013535
Alpha.Fetoprotein	0.758939672	0.692231429	0.621224762	0.34808227	0.465740328	0.042338
Amphiregulin	0.820592822	0.542056445	0.556337373	0.364597827	0.395181531	0.039139
ANG.2..Angiopoietin.2.	0.181009349	0.017584436	0.008501601	0.18060197	0.041955643	0.001766
Angiotensinogen	0.187286716	0.221700639	0.073191543	0.181041825	0.252984397	0.009121
Apolipoprotein.A1	0.697852653	0.303721912	0.318564998	0.332945168	0.297054343	0.027245
Apolipoprotein.CIII	0.331697419	0.004477577	0.006640123	0.227793158	0.018555187	0.001448
Apolipoprotein.H	0.548548959	0.772036613	0.531413667	0.308880402	0.500045635	0.037998
AXL	2.98E-05	0.010257245	1.21E-06	0.000378445	0.027848938	1.75E-06
Beta.2.Microglobulin	3.50E-06	2.41E-05	1.03E-10	0.000199245	0.000632919	8.94E-10
Betacellulin	0.912618541	0.276119505	0.398479761	0.374357111	0.292391201	0.030762
BLC..B.Lymphocyte.Chemoattractant.	0.00800596	0.005622454	0.000111283	0.023963826	0.020122369	6.90E-05
BMP.6	0.502468214	0.299301108	0.228971041	0.294600304	0.297054343	0.02162
BDNF..Brain.Derived.Neurotrophic.Factor.	0.043518996	0.19032556	0.018598702	0.075	0.23124681	0.003245
Complement.3	0.755562875	0.080150828	0.145307548	0.34808227	0.129706391	0.015327
C.Reactive.Protein	0.376143256	0.03314323	0.032821296	0.245541216	0.069889867	0.005302

Calcitonin	0.079223506	0.005212604	0.001213409	0.107275636	0.019870757	0.000407
Cancer.Antigen.125	0.157346199	0.967087687	0.304396427	0.166042746	0.551302217	0.026291
Cancer.Antigen.19.9	0.427898478	0.187108314	0.136613693	0.267421106	0.23124681	0.014713
Carcinoembryonic.Antigen	0.78594594	0.586906775	0.566599874	0.351953498	0.416314969	0.039324
CD40	0.006221717	3.61E-07	1.08E-08	0.020543178	2.84E-05	3.15E-08
CD40.Ligand	0.12546158	0.488447891	0.116547686	0.14561664	0.367796104	0.013204
CgA..Chromogranin.A.	0.001547727	0.02515291	0.00011563	0.007335157	0.056584317	6.90E-05
CNTF..Ciliary.Neurotrophic.Factor.	0.419876518	0.081857321	0.072131623	0.265323312	0.129706391	0.009119
Cortisol	0.243881693	0.313139689	0.125559111	0.203970152	0.297054343	0.013865
Creatine.Kinase.MB	0.338292712	0.456856369	0.23091792	0.227793158	0.360957043	0.02162
CTGF..Connective.Tissue.Growth.Factor.	0.083690413	0.312040284	0.05301343	0.110688776	0.297054343	0.007226
EGF	0.340457785	0.856090208	0.424295423	0.227793158	0.526605563	0.032468
EGF.R	0.014899123	0.126440621	0.004963672	0.040349463	0.181008852	0.001203
ENA.78	0.257307978	0.490479139	0.199300358	0.204286052	0.367796104	0.019318
Endothelin.1	0.306833111	0.006791176	0.00802936	0.227793158	0.020565891	0.001708
EN.RAGE	0.039626912	0.779278196	0.097940241	0.072698402	0.500045635	0.011537
Eotaxin	0.840278075	0.661495266	0.653026925	0.366221249	0.456875397	0.042832
Eotaxin.3	0.056001109	7.70E-05	2.44E-05	0.086356261	0.001212281	1.93E-05
Epiregulin	0.180075217	0.216468259	0.069207839	0.18060197	0.25064624	0.009011
Erythropoietin	0.18781687	0.972887263	0.340562255	0.181041825	0.551302217	0.028844
Factor.VII	0.902192356	0.892266152	0.855884969	0.374357111	0.533558766	0.054104
Fas	0.004426033	0.439044296	0.010034435	0.015765461	0.360091599	0.001989
Fas.Ligand	0.239621608	0.638000542	0.246103863	0.203970152	0.444547822	0.022133
FABP	0.024915474	6.72E-05	7.33E-06	0.052262132	0.001212281	7.92E-06
Ferritin	0.099655777	0.004232034	0.001339802	0.120587128	0.018511967	0.000433

probeID	cor.TX-vs-CAN.Set_1	cor.TX-vs-CAN.Set_2	Z.TX-vs-CAN.Set_1	Z.TX-vs-CAN.Set_2	Z.TX-vs-CAN.Meta
Alpha.1.Antitrypsin	0.403528206	0.286268152	2.933234801	1.862559632	3.391138765
ACE..Angiotensin.Converting.Enzyme.	0.249434132	-0.139050564	1.746884618	0.885167625	1.86114199
ACTH..Adrenocorticotropic.Hormone.	-0.075783974	0.314686872	0.520546819	2.060154139	1.824831148
Adiponectin	0.312608285	0.293823322	2.217348989	1.91473215	2.921822594
AgRP..Agouti.related.Protein.	0.312389911	0.275500502	2.215689871	1.788624921	2.831478143
Alpha.2.Macroglobulin	0.183884999	0.052359602	1.27515657	0.331454316	1.136045452
Alpha.Fetoprotein	-0.006831019	0.037721445	0.046831837	0.238684616	0.201890621

Amphiregulin	-0.007138139	-0.081358506	0.048937449	0.515696219	0.399256295
ANG.2..Angiopoietin.2.	0.232399349	0.309748595	1.62290013	2.025548253	2.579842592
Angiotensinogen	-0.057492856	0.170215517	0.394586302	1.087118979	1.047723852
Apolipoprotein.A1	0.057734809	0.249520832	0.396250578	1.612140311	1.420146817
Apolipoprotein.CIII	0.074687063	0.420587018	0.512983964	2.835962121	2.368062487
Apolipoprotein.H	-0.012802317	-0.015198422	0.087773059	0.096130665	0.130039571
AXL	0.48432	0.4861663	3.623986832	3.35851425	4.937373865
Beta.2.Microglobulin	0.708882508	0.704831924	6.066801827	5.545613163	8.211217385
Betacellulin	0.25521347	0.238464408	1.789200026	1.537785902	2.352534311
BLC..B.Lymphocyte.Chemoattractant.	0.231502704	0.494793252	1.616403509	3.430361128	3.568601498
BMP.6	0.365975701	0.113504072	2.630984183	0.72096962	2.370189265
BDNF..Brain.Derived.Neurotrophic.Factor.	-0.469665334	-0.018371957	3.493921767	0.116207535	2.55274691
Complement.3	-0.604283485	0.08099202	4.798047873	0.513362986	3.755734637
C.Reactive.Protein	0.000771532	0.159532746	0.005289357	1.017666508	0.723339029
Calcitonin	0.183886745	0.187188875	1.275168955	1.19801225	1.748803201
Cancer.Antigen.125	-0.130092925	0.115908416	0.896955278	0.736378779	1.154941588
Cancer.Antigen.19.9	-0.178600465	0.167765145	1.237697025	1.07116587	1.63261261
Carcinoembryonic.Antigen	0.423344093	0.366571377	3.09710585	2.431516135	3.909326096
CD40	0.647728239	0.720128266	5.288280108	5.742135675	7.7996818
CD40.Ligand	-0.254880457	0.183465098	1.786758159	1.173623322	2.09330582
CgA..Chromogranin.A.	0.577392073	0.333524738	4.514734138	2.193285808	4.743286392
CNTF..Ciliary.Neurotrophic.Factor.	0.086442548	-0.013245829	0.594102988	0.083778879	0.479334865
Cortisol	-0.478326963	-0.23121892	3.570511538	1.489286369	3.577817412
Creatine.Kinase.MB	0.269727283	0.051127151	1.896066231	0.323638689	1.569568401
CTGF..Connective.Tissue.Growth.Factor.	0.270754049	-0.092497474	1.903659952	0.586682401	1.760937966
EGF	-0.0140503	0.159857205	0.096330346	1.019772265	0.789203724
EGF.R	-0.190238772	-0.189118241	1.320295523	1.210662477	1.789657565
ENA.78	-0.170335194	0.012874577	1.179253854	0.081430475	0.891438438
Endothelin.1	0.461212433	0.318755037	3.419944788	2.088752274	3.895237048
EN.RAGE	0.183565096	0.128343284	1.272886808	0.816215627	1.477218499
Eotaxin	0.08500313	0.083306843	0.584161781	0.528102688	0.786489749
Eotaxin.3	0.472591422	0.549187985	3.519704939	3.903628615	5.249089495
Epiregulin	0.364310979	-0.169763681	2.61781567	1.084176283	2.617703614
Erythropoietin	-0.021159826	0.106709643	0.145086112	0.677470332	0.581635239
Factor.VII	0.280903304	0.101899999	1.978970326	0.646716832	1.856641194
Fas	0.556635954	0.247374844	4.304977883	1.597674992	4.173805875

Fas.Ligand	0.416300541	0.107624193	3.038485324	0.683321657	2.631714955	
FABP	0.516340296	0.536936453	3.916887217	3.79372791	5.452228244	
Ferritin	0.106030964	0.199676933	0.729654311	1.280065005	1.421086156	

probeID	p.TX-vs-CAN.Set_1	p.TX-vs-CAN.Set_2	p.TX-vs-CAN.Meta	q.TX-vs-CAN.Set_1	q.TX-vs-CAN.Set_2	q.TX-vs-CAN.Meta
Alpha.1.Antitrypsin	0.003662189	0.062739931	0.000696029	0.007837826	0.082680224	0.000167
ACE..Angiotensin.Converting.Enzyme.	0.080657463	0.373853681	0.062724128	0.092951011	0.246336788	0.00693
ACTH..Adrenocorticotropic.Hormone.	0.600923403	0.039852544	0.068026514	0.39833304	0.059364258	0.007256
Adiponectin	0.027085358	0.055824398	0.003479897	0.038440557	0.076910709	0.000683
AgRP..Agouti.related.Protein.	0.027198354	0.073755746	0.00463334	0.038440557	0.095129113	0.00089
Alpha.2.Macroglobulin	0.201140587	0.73878983	0.255937542	0.171894045	0.370044586	0.019229
Alpha.Fetoprotein	0.962448347	0.810211967	0.840002235	0.522421762	0.377853768	0.052593
Amphiregulin	0.960761329	0.604009183	0.689704367	0.522421762	0.321288138	0.044142
ANG.2..Angiopoietin.2.	0.104360888	0.043246653	0.009884536	0.11156188	0.062419265	0.001675
Angiotensinogen	0.691675916	0.275151949	0.294765855	0.431761907	0.206125327	0.021583
Apolipoprotein.A1	0.690443323	0.106605017	0.155564943	0.431761907	0.129247776	0.013577
Apolipoprotein.CIII	0.606217218	0.004981073	0.017881516	0.39833304	0.015097616	0.002628
Apolipoprotein.H	0.929685968	0.922939664	0.89653512	0.519702006	0.407633958	0.055728
AXL	0.00036546	0.000948795	7.92E-07	0.001244342	0.004424299	4.89E-07
Beta.2.Microglobulin	8.38E-09	1.32E-07	2.19E-16	2.09E-07	2.67E-06	9.46E-16
Betacellulin	0.073656939	0.123572863	0.018645969	0.086666091	0.144057278	0.002641
BLC..B.Lymphocyte.Chemoattractant.	0.10574291	0.000743778	0.000358892	0.11156188	0.003757316	9.12E-05
BMP.6	0.008955433	0.468629468	0.017778982	0.016361596	0.289880472	0.002628
BDNF..Brain.Derived.Neurotrophic.Factor.	0.000579461	0.906913337	0.010687713	0.001669452	0.404242826	0.001742
Complement.3	3.37E-06	0.605645066	0.000172834	1.80E-05	0.321288138	5.15
C.Reactive.Protein	0.995757217	0.306845734	0.46947162	0.53505063	0.216290319	0.03
Calcitonin	0.201136236	0.229375635	0.080325043	0.171894045	0.193127626	0.00
Cancer.Antigen.125	0.367873357	0.459199476	0.248114347	0.272834871	0.286975678	0.01
Cancer.Antigen.19.9	0.21462049	0.282224043	0.102550497	0.18063591	0.206125327	0.00
Carcinoembryonic.Antigen	0.002189573	0.015616193	9.26E-05	0.005290792	0.032643191	3.03
CD40	3.69E-07	5.23E-08	6.21E-15	3.95E-06	1.58E-06	1.34
CD40.Ligand	0.074046795	0.238940751	0.036321863	0.086666091	0.193127626	0.00
CgA..Chromogranin.A.	1.13E-05	0.028842796	2.10E-06	5.31E-05	0.049955667	1.14
CNTF..Ciliary.Neurotrophic.Factor.	0.550574078	0.932815641	0.631700423	0.375560341	0.407633958	0.04
Cortisol	0.000442371	0.135745025	0.000346475	0.001380698	0.146793727	9.07

Creatine.Kinase.MB	0.058185878	0.744729306	0.116515555	0.073873469	0.370044586	0.01071
CTGF..Connective.Tissue.Growth.Factor.	0.057198956	0.555230637	0.078248903	0.073872538	0.314561151	0.008049
EGF	0.922851486	0.305850175	0.429992945	0.519702006	0.216290319	0.029832
EGF.R	0.185739167	0.224524361	0.073508978	0.165633097	0.193127626	0.007746
ENA.78	0.236946251	0.93469456	0.372694004	0.190799565	0.407633958	0.02618
Endothelin.1	0.000749031	0.037222795	9.81E-05	0.002078064	0.057945364	3.03E-05
EN.RAGE	0.20193918	0.412099983	0.139617077	0.171894045	0.268617986	0.012436
Eotaxin	0.557254626	0.595344675	0.431580622	0.37605695	0.321288138	0.029832
Eotaxin.3	0.000529376	0.000136858	1.53E-07	0.00158616	0.001185187	1.32E-07
Epiregulin	0.009296074	0.276447168	0.008852366	0.016579567	0.206125327	0.00153
Erythropoietin	0.884036307	0.495826451	0.560812401	0.501671103	0.291815199	0.037273
Factor.VII	0.048150986	0.515557342	0.063362219	0.063278073	0.295470986	0.00693
Fas	2.70E-05	0.109750897	3.00E-05	0.000118763	0.130452782	1.13E-05
Fas.Ligand	0.00263811	0.49211907	0.008495511	0.006026802	0.291815199	0.001498
FABP	0.000123838	0.000205523	4.97E-08	0.000488227	0.001557347	5.37E-08
Ferritin	0.463644768	0.199226142	0.155291714	0.330649678	0.182985986	0.013577

probeID	cor.AR-vs-CAN.Set_1	cor.AR-vs-CAN.Set_2	Z.AR-vs-CAN.Set_1	Z.AR-vs-CAN.Set_2	Z.AR-vs-CAN.Meta
Alpha.1.Antitrypsin	0.136992841	-0.14875832	0.945117837	1.027459807	1.394823029
ACE..Angiotensin.Converting.Enzyme.	0.232155898	-0.097879991	1.621135924	0.673186751	1.622331122
ACTH..Adrenocorticotropic.Hormone.	-0.169924977	0.124075593	1.176357722	0.855025205	1.436404643
Adiponectin	0.330238709	0.178540172	2.352148761	1.237270059	2.538102388
AgRP..Agouti.related.Protein.	0.253734302	0.093056001	1.778357211	0.639810884	1.709903059
Alpha.2.Macroglobulin	0.431188103	-0.033871249	3.162891986	0.23229845	2.40076218
Alpha.Fetoprotein	-0.06999934	-0.010748584	0.480677417	0.073691417	0.391997961
Amphiregulin	0.050159657	-0.027988775	0.344166116	0.1919315	0.37907826
ANG.2..Angiopoietin.2.	0.055405474	0.013407126	0.380230183	0.091920133	0.33386069
Angiotensinogen	-0.251895593	0.03412023	1.764890946	0.234007352	1.413434541
Apolipoprotein.A1	0.120303498	0.367502109	0.828773036	2.643074881	2.454967206
Apolipoprotein.CIII	-0.07300405	-0.010749203	0.501382539	0.073695664	0.406641697
Apolipoprotein.H	0.043364499	0.039796017	0.297478586	0.272971913	0.403369416
AXL	0.033240726	0.125177011	0.227970923	0.862695276	0.771217466
Beta.2.Microglobulin	0.1402783	0.254781493	0.968083226	1.786032577	1.94745396
Betacellulin	0.225867951	0.253082628	1.575641742	1.773582976	2.36825951

BLC..B.Lymphocyte.Chemoattractant.	-0.074356718	0.090476337	0.510706586	0.621975394	0.800927109	
BMP.6	0.353408403	0.245916539	2.532021413	1.721193193	3.007476889	
BDNF..Brain.Derived.Neurotrophic.Factor.	-0.120532581	0.169252235	0.830366659	1.171609057	1.415610604	
Complement.3	-0.556801163	-0.285627368	4.306619204	2.014182349	4.469481641	
C.Reactive.Protein	-0.144505591	-0.217864375	0.997663879	1.517930818	1.778794069	
Calcitonin	-0.019739972	-0.204916753	0.135348013	1.425012717	1.103341653	
Cancer.Antigen.125	0.083343568	0.151902623	0.572703209	1.049514502	1.147081144	
Cancer.Antigen.19.9	-0.061310956	-0.045948962	0.420854605	0.315232191	0.520491965	
Carcinoembryonic.Antigen	0.316075125	0.248096186	2.243722466	1.737107046	2.814871543	
CD40	0.113278859	0.104709925	0.77994835	0.720496039	1.060974402	
CD40.Ligand	0.001134959	0.083705309	0.007780892	0.575200599	0.412230166	
CgA..Chromogranin.A.	0.193956508	0.069870528	1.346759641	0.479789984	1.291565627	
CNTF..Ciliary.Neurotrophic.Factor.	-0.052357978	0.233851704	0.359276756	1.633429205	1.409055898	
Cortisol	-0.223298671	-0.442328039	1.55709203	3.257268465	3.404266953	
Creatine.Kinase.MB	0.100819535	-0.118353967	0.69354016	0.815214661	1.066850765	
CTGF..Connective.Tissue.Growth.Factor.	0.012853541	-0.030586603	0.088124288	0.209756617	0.210633608	
EGF	0.131457611	0.284173355	0.906473883	2.003333557	2.057544572	
EGF.R	0.135750136	0.037557578	0.936436835	0.257602948	0.844313628	
ENA.78	0.021290661	0.21978659	0.145983481	1.531771632	1.186352018	
Endothelin.1	0.278121163	0.010337303	1.958280469	0.070871504	1.43482712	
EN.RAGE	-0.270341451	0.134778632	1.900607929	0.929652409	2.001296278	
Eotaxin	0.055013877	0.006065001	0.37753732	0.04158006	0.296360741	
Eotaxin.3	0.229327065	0.043924253	1.600651801	0.301323395	1.344899559	
Epiregulin	0.138407422	0.036299336	0.955003154	0.2489651	0.851334117	
Erythropoietin	0.192826	0.079081482	1.338708136	0.543289776	1.330773486	
Factor.VII	0.329855758	0.099473564	2.349202438	0.684219165	2.144952985	
Fas	0.173030867	0.081557022	1.198295729	0.560371431	1.243565475	
Fas.Ligand	0.246060385	0.147903054	1.722242865	1.021464491	1.940094077	
FABP	0.350453011	0.034267974	2.508896037	0.235021418	1.94024264	
Ferritin	-0.170380908	-0.124416508	1.179576616	0.857399044	1.440359303	

probeID	p.AR-vs-CAN.Set_1	p.AR-vs-CAN.Set_2	p.AR-vs-CAN.Meta	q.AR-vs-CAN.Set_1	q.AR-vs-CAN.Set_2	q.AR-vs-CAN.Meta
Alpha.1.Antitrypsin	0.342789738	0.302528826	0.163069213	0.417256265	0.718387019	0.012314
ACE..Angiotensin.Converting.Enzyme.	0.104734745	0.498890163	0.104732468	0.253213935	0.797303461	0.010453

ACTH..Adrenocorticotropic.Hormone.	0.238094216	0.390627196	0.150887233	0.393405488	0.718387019	0.012314
Adiponectin	0.019169947	0.214777839	0.011145537	0.119167562	0.707339939	0.003576
AgRP..Agouti.related.Protein.	0.075401087	0.5203802	0.087283801	0.218272788	0.821380598	0.009256
Alpha.2.Macroglobulin	0.001770857	0.815361479	0.016360966	0.027309377	0.865859107	0.003955
Alpha.Fetoprotein	0.629064408	0.940943787	0.69505972	0.54399002	0.886846611	0.027007
Amphiregulin	0.729395862	0.847003984	0.70462975	0.592022265	0.866331559	0.027171
ANG.2..Angiopoietin.2.	0.702342308	0.926373122	0.738484684	0.581902126	0.886846611	0.027883
Angiotensinogen	0.077614516	0.814028221	0.157527995	0.218272788	0.865859107	0.012314
Apolipoprotein.A1	0.405303538	0.008652634	0.014089744	0.446458098	0.348403945	0.003955
Apolipoprotein.CIII	0.614378627	0.94094039	0.684271167	0.54399002	0.886846611	0.027007
Apolipoprotein.H	0.764926039	0.7837837	0.686676482	0.599814602	0.865859107	0.027007
AXL	0.818740153	0.386401575	0.440578043	0.626095116	0.718387019	0.020733
Beta.2.Microglobulin	0.331227487	0.074162966	0.051480334	0.417256265	0.554575803	0.006835
Betacellulin	0.114751891	0.076179789	0.017871995	0.253213935	0.554575803	0.003955
BLC..B.Lymphocyte.Chemoattractant.	0.607815447	0.532058689	0.423173845	0.54399002	0.829572568	0.020321
BMP.6	0.011816011	0.085167951	0.002634262	0.097098932	0.554575803	0.001341
BDNF..Brain.Derived.Neurotrophic.Factor.	0.404403234	0.23998506	0.156889545	0.446458098	0.707339939	0.012314
Complement.3	2.68E-05	0.044356141	7.84E-06	0.001238694	0.554575803	3.99E-05
C.Reactive.Protein	0.316714685	0.128538176	0.07527353	0.417256265	0.566686451	0.008329
Calcitonin	0.891769567	0.153427033	0.269878824	0.63965019	0.618687053	0.015435
Cancer.Antigen.125	0.565004005	0.292307793	0.251348086	0.520281791	0.718387019	0.014706
Cancer.Antigen.19.9	0.67231939	0.751351518	0.602720727	0.576011929	0.865859107	0.025147
Carcinoembryonic.Antigen	0.025343376	0.082350396	0.004879673	0.123421399	0.554575803	0.001911
CD40	0.433469212	0.469264154	0.288701534	0.459053854	0.789427922	0.015801
CD40.Ligand	0.993758703	0.563310577	0.680170729	0.661673607	0.841835746	0.027007
CgA..Chromogranin.A.	0.177128993	0.629697231	0.196507614	0.339367833	0.85129144	0.01
CNTF..Ciliary.Neurotrophic.Factor.	0.718016792	0.102151863	0.15881864	0.587943717	0.554575803	0.01
Cortisol	0.119048819	0.001298593	0.000663419	0.256174698	0.166028116	0.00
Creatine.Kinase.MB	0.486022727	0.413012072	0.286039231	0.48356318	0.733396688	0.01
CTGF..Connective.Tissue.Growth.Factor.	0.929405344	0.832997399	0.833173185	0.645312732	0.865859107	0.0
EGF	0.362826467	0.045497182	0.039633872	0.427173306	0.554575803	0.00
EGF.R	0.347227406	0.795676579	0.398494173	0.417256265	0.865859107	0.01
ENA.78	0.883324234	0.125118652	0.235483312	0.638542447	0.566686451	0.01
Endothelin.1	0.050506748	0.943199723	0.151336368	0.186934299	0.886846611	0.01
EN.RAGE	0.05759391	0.350721153	0.045360471	0.197375114	0.718387019	0.00
Eotaxin	0.704349759	0.9666568	0.766954603	0.581902126	0.892409011	0.02

Eotaxin.3	0.109154691	0.761979913	0.178657673	0.253213935	0.865859107	0.012673
Epiregulin	0.337781243	0.802382069	0.394583778	0.417256265	0.865859107	0.0195
Erythropoietin	0.179716172	0.585132507	0.183263555	0.339367833	0.841835746	0.012673
Factor.VII	0.019318336	0.49189285	0.031956606	0.119167562	0.796071569	0.005887
Fas	0.229496835	0.573401992	0.213659529	0.393244392	0.841835746	0.013656
Fas.Ligand	0.08497971	0.305348334	0.052368258	0.21841997	0.718387019	0.006835
FABP	0.01259262	0.81323732	0.052350209	0.097098932	0.865859107	0.006835
Ferritin	0.236818561	0.389316371	0.149765771	0.393405488	0.718387019	0.012314

probeID	cor.TX-vs-allOther.Set_1	cor.TX-vs-allOther.Set_2	Z.TX-vs-allOther.Set_1	Z.TX-vs-allOther.Set_2	Z.TX-vs-allOther.Meta
Alpha.1.Antitrypsin	0.279845384	0.37852713	2.439639828	3.211514328	3.995969425
ACE..Angiotensin.Converting.Enzyme.	0.096793335	-0.07453388	0.823898167	0.60202782	1.008281935
ACTH..Adrenocorticotropic.Hormone.	-0.008857328	0.243255635	0.075158883	2.001307259	1.46828329
Adiponectin	0.150760242	0.193249538	1.289069248	1.577869157	2.027231587
AgRP..Agouti.related.Protein.	0.244110103	0.218743366	2.114023215	1.792529679	2.762350042
Alpha.2.Macroglobulin	-0.029520198	0.053719288	0.250559987	0.433516077	0.483714823
Alpha.Fetoprotein	0.013300076	0.0420251	0.112861545	0.339016865	0.319526288
Amphiregulin	-0.021654836	-0.106406644	0.183776104	0.8611377	0.738865637
ANG.2..Angiopoietin.2.	0.200518646	0.311350656	1.724827486	2.596372357	3.055549712
Angiotensinogen	0.06674839	0.164801807	0.567222262	1.340903321	1.349248539
Apolipoprotein.A1	-0.005345643	0.046367386	0.045359717	0.374094066	0.296598614
Apolipoprotein.CIII	0.101490396	0.362351782	0.864149763	3.060356401	2.775044921
Apolipoprotein.H	-0.053080003	-0.025333444	0.450822475	0.204288469	0.463233391
AXL	0.461681682	0.376089168	4.23794338	3.188596164	5.251356472
Beta.2.Microglobulin	0.605006599	0.578746564	5.948242023	5.325733403	7.971904475
Betacellulin	0.105269722	0.092410471	0.896564881	0.747168765	1.162295208
BLC..B.Lymphocyte.Chemoattractant.	0.297784477	0.411667496	2.605717357	3.528183612	4.337322971
BMP.6	0.180999006	-0.010129333	1.552936642	0.081668085	1.155840087
BDNF..Brain.Derived.Neurotrophic.Factor.	-0.349230415	-0.092979006	3.093453605	0.751792171	2.718999363
Complement.3	-0.2706015	0.17998084	2.354773631	1.467031696	2.702424464
C.Reactive.Protein	0.05320534	0.208196643	0.451889004	1.703438464	1.524046668
Calcitonin	0.234709966	0.250195483	2.029409834	2.060885113	2.892275294
Cancer.Antigen.125	-0.155863586	0.058945623	1.333414996	0.475786373	1.279298556
Cancer.Antigen.19.9	-0.133090685	0.163958853	1.136051568	1.333918472	1.746532565

Carcinoembryonic.Antigen	0.2251489	0.220092828	1.943752193	1.803959686	2.650032484
CD40	0.474698782	0.598050125	4.379411479	5.563812856	7.030921354
CD40.Ligand	-0.222090096	0.129578406	1.916431141	1.050601135	2.098008642
CgA..Chromogranin.A.	0.471759454	0.298897829	4.347273166	2.485665551	4.831617302
CNTF..Ciliary.Neurotrophic.Factor.	0.089789189	-0.13317264	0.763943961	1.08008773	1.303927314
Cortisol	-0.307729535	-0.04205582	2.698620745	0.339264977	2.148109594
Creatine.Kinase.MB	0.20812614	0.072874268	1.792191902	0.588574521	1.683456082
CTGF..Connective.Tissue.Growth.Factor.	0.232700389	0.019731599	2.011372848	0.159101889	1.534757405
EGF	-0.08973474	0.025948738	0.763478194	0.209252389	0.687824392
EGF.R	-0.25408677	-0.19796983	2.204279389	1.617439541	2.702363371
ENA.78	-0.154268945	-0.062454233	1.319550638	0.504178328	1.289571119
Endothelin.1	0.298151046	0.328411061	2.609130868	2.749602207	3.789196496
EN.RAGE	0.200737016	0.084824994	1.726758132	0.685528324	1.705744112
Eotaxin	0.049731896	0.067289204	0.422337541	0.543323925	0.682825771
Eotaxin.3	0.350311634	0.499539074	3.103906907	4.423694432	5.322817953
Epiregulin	0.255240675	-0.183283852	2.214749624	1.494569957	2.622885029
Erythropoietin	-0.103689303	0.039769296	0.883006573	0.32079951	0.851219444
Factor.VII	0.130171342	0.046297232	1.110843322	0.37352725	1.049608497
Fas	0.432201918	0.192532372	3.925301664	1.571863743	3.887082936
Fas.Ligand	0.285196169	0.007882392	2.488981239	0.063551189	1.804912989
FABP	0.400382262	0.476220161	3.598642512	4.176929622	5.498159783
Ferritin	0.147124719	0.309648215	1.257520911	2.581182369	2.71437312

probeID	p.TX-vs-allOther.Set_1	p.TX-vs-allOther.Set_2	p.TX-vs-allOther.Meta	q.TX-vs-allOther.Set_1	q.TX-vs-allOther.Set_2	q.TX-vs-allOther.Meta
Alpha.1.Antitrypsin	0.015031282	0.001458204	6.44E-05	0.029332251	0.004336026	1.16E-06
ACE..Angiotensin.Converting.Enzyme.	0.408737237	0.545798246	0.313319133	0.307990131	0.321376701	0.001164
ACTH..Adrenocorticotropic.Hormone.	0.939880702	0.045621081	0.142027288	0.525954037	0.057739158	0.000658
Adiponectin	0.19667374	0.114346203	0.042638734	0.196945813	0.109239885	0.000266
AgRP..Agouti.related.Protein.	0.034807476	0.073111562	0.005738692	0.055188078	0.080518547	5.62E-05
Alpha.2.Macroglobulin	0.801494611	0.663502761	0.628588272	0.487982854	0.34919492	0.002099
Alpha.Fetoprotein	0.90983043	0.733650722	0.74932746	0.517096004	0.357651942	0.002339
Amphiregulin	0.8536933	0.387786017	0.45998859	0.503646861	0.250673222	0.001638
ANG.2..Angiopoietin.2.	0.084537923	0.009753545	0.002246484	0.102123336	0.017895869	2.48E-05
Angiotensinogen	0.569366912	0.179272495	0.177257149	0.388933497	0.149947391	0.000777
Apolipoprotein.A1	0.963694925	0.707312058	0.766772969	0.531464737	0.356691103	0.002376

Apolipoprotein.CIII	0.38626523	0.00239305	0.005519408	0.29396768	0.006468933	5.53E-05
Apolipoprotein.H	0.651064027	0.837521539	0.643197084	0.416380812	0.382039757	0.002115
AXL	3.06E-05	0.00157379	1.51E-07	0.000193849	0.004456883	5.42E-09
Beta.2.Microglobulin	8.97E-09	2.35E-07	1.56E-15	6.04E-07	3.49E-06	6.73E-16
Betacellulin	0.368731918	0.453547364	0.245115573	0.286350948	0.280966823	0.000987
BLC..B.Lymphocyte.Chemoattractant.	0.009466628	0.000487057	1.44E-05	0.020584543	0.002602755	3.27E-07
BMP.6	0.120175908	0.934660958	0.247746573	0.13650752	0.408713347	0.000987
BDNF..Brain.Derived.Neurotrophic.Factor.	0.002133873	0.4507619	0.006547973	0.006246105	0.280966823	6.05E-05
Complement.3	0.018869074	0.141923213	0.006883582	0.035900836	0.122322957	6.05E-05
C.Reactive.Protein	0.650293852	0.088431877	0.127497054	0.416380812	0.092265134	0.000604
Calcitonin	0.042670902	0.039612565	0.003824627	0.064949496	0.052682717	3.92E-05
Cancer.Antigen.125	0.181770358	0.633019083	0.200791941	0.194262302	0.339154396	0.000832
Cancer.Antigen.19.9	0.254989931	0.181538098	0.080718454	0.223057971	0.149947391	0.000433
Carcinoembryonic.Antigen	0.052123571	0.071314727	0.008048403	0.073460583	0.080021554	6.80E-05
CD40	1.69E-05	7.23E-08	2.05E-12	0.000128322	3.49E-06	2.21E-13
CD40.Ligand	0.055487099	0.29226379	0.035904382	0.07677915	0.213937108	0.000227
CgA..Chromogranin.A.	1.93E-05	0.013287693	1.35E-06	0.00013371	0.022577984	3.89E-08
CNTF..Ciliary.Neurotrophic.Factor.	0.443625148	0.278967894	0.192258367	0.327992983	0.213937108	0.000812
Cortisol	0.007236427	0.733463263	0.03170505	0.01776546	0.357651942	0.000204
Creatine.Kinase.MB	0.073160397	0.554800902	0.092286834	0.092798033	0.323474919	0.000479
CTGF..Connective.Tissue.Growth.Factor.	0.044529964	0.873109673	0.124843429	0.066325284	0.385246844	0.000603
EGF	0.443902722	0.833631007	0.491563374	0.327992983	0.382039757	0.001733
EGF.R	0.027825734	0.105598873	0.006884847	0.047059585	0.105875255	6.05E-05
ENA.78	0.18633628	0.612886861	0.197199609	0.194262302	0.33828268	0.000825
Endothelin.1	0.009374834	0.006252799	0.000151135	0.020584543	0.013772549	2.25E-06
EN.RAGE	0.084192861	0.491605456	0.088055733	0.102123336	0.298328157	0.00
Eotaxin	0.671770502	0.585607616	0.494716943	0.426043214	0.334870587	0.00
Eotaxin.3	0.002062402	1.45E-05	1.02E-07	0.006246105	0.000143365	4.31
Epiregulin	0.027100436	0.134632362	0.008718869	0.046874599	0.118264344	6.9€
Erythropoietin	0.376004089	0.747457718	0.394647463	0.289048914	0.361397502	0.00
Factor.VII	0.265654088	0.707734974	0.293898149	0.224640451	0.356691103	0.00
Fas	0.000107887	0.115722593	0.000101456	0.00051317	0.109239885	1.5€
Fas.Ligand	0.01313349	0.949132864	0.071088299	0.027764612	0.409026599	0.00
FABP	0.000371847	4.05E-05	3.84E-08	0.001572192	0.000343725	2.3€
Ferritin	0.207812107	0.010182338	0.006640133	0.19769461	0.017895869	6.05

probeID	cor.AR-vs-allOther.Set_1	cor.AR-vs-allOther.Set_2	Z.AR-vs-allOther.Set_1	Z.AR-vs-allOther.Set_2	Z.AR-vs-allOther.Meta
Alpha.1.Antitrypsin	-0.015020208	-0.307755635	0.127460281	2.564316643	1.903373716
ACE..Angiotensin.Converting.Enzyme.	0.131089293	-0.041373071	1.118767622	0.333750881	1.027085684
ACTH..Adrenocorticotropic.Hormone.	-0.098596298	-0.01976877	0.83934424	0.159401686	0.706220017
Adiponectin	0.154783528	-0.021205629	1.324023829	0.170990882	1.05713504
AgRP..Agouti.related.Protein.	0.032147075	-0.035899665	0.272871003	0.289556788	0.397696505
Alpha.2.Macroglobulin	0.321309921	-0.053016296	2.8265079	0.427832184	2.301165942
Alpha.Fetoprotein	-0.051408652	-0.029073126	0.436601772	0.234461112	0.474513117
Amphiregulin	0.031598383	0.028128856	0.268210458	0.22684193	0.3500549
ANG.2..Angiopoietin.2.	-0.061621128	-0.132504236	0.523535935	1.074602085	1.130054232
Angiotensinogen	-0.213724215	-0.057191036	1.841905004	0.461592571	1.628818756
Apolipoprotein.A1	0.070827041	0.273180253	0.601995356	2.259829403	2.023615694
Apolipoprotein.CIII	-0.103374911	-0.165591258	0.880309966	1.347446642	1.575261805
Apolipoprotein.H	0.064692791	0.040509472	0.54970426	0.326776632	0.619765582
AXL	-0.215531099	-0.077721104	1.857977295	0.627873852	1.757762203
Beta.2.Microglobulin	-0.193725087	-0.085647421	1.664851473	0.692207466	1.666692359
Betacellulin	0.126547444	0.176609189	1.079578372	1.438956049	1.780872767
BLC..B.Lymphocyte.Chemoattractant.	-0.220523901	-0.172981467	1.902457135	1.408786602	2.3414029
BMP.6	0.184340403	0.195886242	1.582268107	1.599963372	2.250177459
BDNF..Brain.Derived.Neurotrophic.Factor.	0.071041332	0.170791175	0.603822865	1.390590282	1.410263061
Complement.3	-0.266162383	-0.277991552	2.314182666	2.301807578	3.263998004
C.Reactive.Protein	-0.130290384	-0.316680813	1.11187086	2.644046582	2.655834693
Calcitonin	-0.165940828	-0.258618175	1.42119667	2.133490824	2.513543632
Cancer.Antigen.125	0.132940363	0.084656334	1.134753067	0.684158704	1.286164847
Cancer.Antigen.19.9	0.02159707	-0.109321988	0.183285715	0.884918657	0.755334555
Carcinoembryonic.Antigen	0.134925791	0.06625662	1.151907711	0.534961681	1.192796787
CD40	-0.119795444	-0.196292102	1.02140292	1.603366376	1.855992169
CD40.Ligand	0.11006274	0.005028794	0.93771205	0.040543776	0.691731328
CgA..Chromogranin.A.	-0.107762746	-0.100729093	0.917961667	0.814867384	1.225295172
CNTF..Ciliary.Neurotrophic.Factor.	-0.086620159	0.251013443	0.736842977	2.067921627	1.983268071
Cortisol	-0.03013108	-0.328388361	0.255748105	2.749397073	2.124958533
Creatine.Kinase.MB	-0.05296598	-0.092535283	0.449852228	0.748183708	0.847139335
CTGF..Connective.Tissue.Growth.Factor.	-0.104714625	-0.179620584	0.891802224	1.464030188	1.665825074
EGF	0.141901042	0.191277863	1.212251015	1.561362838	1.961241164

EGF.R	0.227598963	0.118434867	1.965664577	0.95935489	2.0683011
ENA.78	0.085011001	0.176339171	0.723087518	1.436709119	1.527206848
Endothelin.1	0.031548778	-0.142378563	0.267789125	1.155744966	1.006590609
EN.RAGE	-0.246965422	0.058022258	2.139805826	0.468316413	1.844220921
Eotaxin	0.015384566	-0.024153432	0.130552669	0.194769079	0.230037214
Eotaxin.3	-0.020265865	-0.201668158	0.17198511	1.64849649	1.287274885
Epiregulin	-0.023343932	0.103359423	0.198115821	0.836296943	0.73144028
Erythropoietin	0.175989425	0.04664348	1.509029962	0.37632483	1.333147158
Factor.VII	0.164819084	0.047190003	1.411410704	0.380740761	1.267242454
Fas	-0.086941287	-0.021388199	0.739588515	0.172463478	0.644918149
Fas.Ligand	0.037921142	0.104568491	0.321925926	0.84615127	0.825955306
FABP	-0.011280521	-0.194764318	0.095722456	1.590559354	1.192381303
Ferritin	-0.181175703	-0.240084582	1.554486802	1.974155604	2.495126974

probeID	p.AR-vs-allOther.Set_1	p.AR-vs-allOther.Set_2	p.AR-vs-allOther.Meta	q.AR-vs-allOther.Set_1	q.AR-vs-allOther.Set_2	q.AR-vs-allOther.Meta
Alpha.1.Antitrypsin	0.898227154	0.010678177	0.056991798	0.652419976	0.202616126	0.041592
ACE..Angiotensin.Converting.Enzyme.	0.262268954	0.737633147	0.304380119	0.497506659	0.761984693	0.077566
ACTH..Adrenocorticotropic.Hormone.	0.400022698	0.872872619	0.480051324	0.531527436	0.77994156	0.098993
Adiponectin	0.1848539	0.863717909	0.290449961	0.453458513	0.77994156	0.076046
AgRP..Agouti.related.Protein.	0.784240954	0.771325554	0.690853914	0.63490951	0.770308729	0.122888
Alpha.2.Macroglobulin	0.004941305	0.667646372	0.021382253	0.236366098	0.756466542	0.027681
Alpha.Fetoprotein	0.661368837	0.813938592	0.635134047	0.596913512	0.77994156	0.116182
Amphiregulin	0.787836566	0.819878632	0.726297497	0.63490951	0.77994156	0.128214
ANG.2..Angiopoietin.2.	0.599450473	0.281409536	0.258453374	0.572272522	0.528322812	0.06
Angiotensinogen	0.065598927	0.643188567	0.103351393	0.298848437	0.754909175	0.04
Apolipoprotein.A1	0.545952043	0.024196331	0.043009709	0.553515905	0.30608012	0.04
Apolipoprotein.CIII	0.377461007	0.177169383	0.115196026	0.531527436	0.438489264	0.04
Apolipoprotein.H	0.581342959	0.742918381	0.535412131	0.572272522	0.761984693	0.10
AXL	0.063297639	0.52871003	0.078787979	0.298848437	0.684670431	0.04
Beta.2.Microglobulin	0.095843577	0.48739986	0.095575593	0.356984243	0.667465551	0.04
Betacellulin	0.279304848	0.149667163	0.074933238	0.513864574	0.419530935	0.04
BLC..B.Lymphocyte.Chemoattractant.	0.057276687	0.158346378	0.019211423	0.298848437	0.419530935	0.02
BMP.6	0.113370866	0.10939383	0.024437683	0.384790107	0.409993732	0.02
BDNF..Brain.Derived.Neurotrophic.Factor.	0.544734889	0.163763747	0.158462022	0.553515905	0.419530935	0.05

Complement.3	0.020992334	0.021714687	0.001098519	0.256481419	0.30608012	0.012799
C.Reactive.Protein	0.265213438	0.008511066	0.007911238	0.497506659	0.202616126	0.02106
Calcitonin	0.154783076	0.033216727	0.011952499	0.425139878	0.336242863	0.02106
Cancer.Antigen.125	0.255531823	0.492470272	0.198385536	0.497506659	0.667465551	0.061579
Cancer.Antigen.19.9	0.854079287	0.374840671	0.45004827	0.643380681	0.652574559	0.09809
Carcinoembryonic.Antigen	0.248437681	0.591387107	0.232948969	0.497506659	0.723964092	0.063162
CD40	0.305964634	0.108646469	0.063454674	0.528950714	0.409993732	0.044623
CD40.Ligand	0.347206367	0.967535124	0.489106069	0.528950714	0.80403378	0.099106
CgA..Chromogranin.A.	0.357436112	0.413748276	0.220464027	0.528950714	0.652574559	0.063162
CNTF..Ciliary.Neurotrophic.Factor.	0.459941265	0.038949744	0.047337494	0.553515905	0.336242863	0.041592
Cortisol	0.797473465	0.006256602	0.033590073	0.63578246	0.202616126	0.037272
Creatine.Kinase.MB	0.651765	0.452935054	0.396917463	0.594262315	0.663885683	0.091697
CTGF..Connective.Tissue.Growth.Factor.	0.37127633	0.142735998	0.095748261	0.531527436	0.419530935	0.044623
EGF	0.224589331	0.118160814	0.049850897	0.497506659	0.409993732	0.041592
EGF.R	0.049551513	0.336088159	0.038611718	0.298848437	0.607352446	0.040897
ENA.78	0.468350416	0.150300693	0.126709584	0.553515905	0.419530935	0.050907
Endothelin.1	0.78816185	0.246770855	0.314131549	0.63490951	0.528322812	0.078709
EN.RAGE	0.032673898	0.63836256	0.065150951	0.298848437	0.754909175	0.044623
Eotaxin	0.895772005	0.844993606	0.818062852	0.652419976	0.77994156	0.142019
Eotaxin.3	0.862983608	0.099115132	0.197998494	0.64500952	0.409993732	0.061579
Epiregulin	0.842422405	0.401597571	0.464510269	0.643380681	0.652574559	0.0984
Erythropoietin	0.130959409	0.705648514	0.182483516	0.404155562	0.756466542	0.059059
Factor.VII	0.157630552	0.702359613	0.20506861	0.425139878	0.756466542	0.062059
Fas	0.458273075	0.862555946	0.51898023	0.553515905	0.77994156	0.102045
Fas.Ligand	0.746689919	0.396083288	0.408829445	0.63490951	0.652574559	0.09256
FABP	0.923477385	0.11148043	0.233111768	0.652723645	0.409993732	0.06
Ferritin	0.11980838	0.048606235	0.012591207	0.384790107	0.336242863	0.0

probeID	cor.CAN-vs-allOther.Set_1	cor.CAN-vs-allOther.Set_2	Z.CAN-vs-allOther.Set_1	Z.CAN-vs-allOther.Set_2	Z.CAN-vs-allOther.Meta
Alpha.1.Antitrypsin	-0.264825175	-0.038593443	2.301975644	0.311304902	1.847868395
ACE..Angiotensin.Converting.Enzyme.	-0.227882629	0.109570932	1.968203233	0.886950041	2.018898241
ACTH..Adrenocorticotropic.Hormone.	0.107453626	-0.20280805	0.915307965	1.658078499	1.819659019
Adiponectin	-0.30554377	-0.15561604	2.678149022	1.26489378	2.788152303
AgRP..Agouti.related.Protein.	-0.276257178	-0.164248638	2.406641679	1.336319453	2.646673198

Alpha.2.Macroglobulin	-0.291789723	0.003863608	2.550008918	0.03114956	1.825154663
Alpha.Fetoprotein	0.038108576	-0.00937948	0.323518659	0.075622002	0.282235068
Amphiregulin	-0.009943547	0.06923231	0.084376575	0.55906309	0.454980551
ANG.2..Angiopoietin.2.	-0.138897518	-0.152378943	1.186252769	1.238161483	1.714319758
Angiotensinogen	0.146975825	-0.093601204	1.256229583	0.756852528	1.423464012
Apolipoprotein.A1	-0.065481399	-0.315606014	0.556424284	2.634419033	2.256266947
Apolipoprotein.CIII	0.001884515	-0.165957515	0.015990657	1.350482943	0.966242749
Apolipoprotein.H	-0.011612788	-0.017329588	0.098542204	0.139729592	0.168483603
AXL	-0.246150583	-0.266397259	2.132444166	2.200849981	3.064101676
Beta.2.Microglobulin	-0.411281512	-0.44390072	3.709363342	3.846328724	5.342681096
Betacellulin	-0.231817166	-0.261163977	2.003451129	2.155502494	2.94082431
BLC..B.Lymphocyte.Chemoattractant.	-0.077260576	-0.203690761	0.656886839	1.665501802	1.642176756
BMP.6	-0.365339409	-0.186617989	3.250151157	1.522402727	3.374705214
BDNF..Brain.Derived.Neurotrophic.Factor.	0.278189084	-0.085716181	2.424399154	0.692765928	2.204168568
Complement.3	0.536763883	0.113310627	5.087762893	0.917479613	4.246347699
C.Reactive.Protein	0.077085045	0.12618267	0.655388485	1.02276865	1.18663629
Calcitonin	-0.068769139	0.029691454	0.584447978	0.239450541	0.58258423
Cancer.Antigen.125	0.022923224	-0.138591073	0.194544084	1.124594421	0.932771782
Cancer.Antigen.19.9	0.111493615	-0.040698956	0.950004276	0.328306827	0.903902449
Carcinoembryonic.Antigen	-0.360074691	-0.26763967	3.198711085	2.211635624	3.825692846
CD40	-0.354903338	-0.350918632	3.148400966	2.954745005	4.315575903
CD40.Ligand	0.112027355	-0.123591924	0.954590497	1.00155044	1.383200522
CgA..Chromogranin.A.	-0.363996708	-0.172759857	3.23701047	1.406944884	3.283772322
CNTF..Ciliary.Neurotrophic.Factor.	-0.00316903	-0.12916162	0.026890203	1.047183696	0.759484937
Cortisol	0.337860615	0.366869076	2.98406547	3.102360109	4.3037528
Creatine.Kinase.MB	-0.15516016	0.025855952	1.3272983	0.208503822	1.085976096
CTGF..Connective.Tissue.Growth.Factor.	-0.127985764	0.16156634	1.091983849	1.314104502	1.701361388
EGF	-0.052166302	-0.215020735	0.443047934	1.761035409	1.558522278
EGF.R	0.026487808	0.062705829	0.224809088	0.506214736	0.516911904
ENA.78	0.069257945	-0.119194084	0.588615484	0.965563542	1.098970528
Endothelin.1	-0.329699824	-0.15811474	2.906136164	1.285547171	2.963967711
EN.RAGE	0.046228406	-0.1356364	0.39254082	1.100316638	1.055609632
Eotaxin	-0.065116461	-0.037415612	0.553314428	0.301795189	0.604653809
Eotaxin.3	-0.33004577	-0.255405809	2.909430038	2.105760115	3.546274966
Epiregulin	-0.231896743	0.064343729	2.004164719	0.519473417	1.784481639
Erythropoietin	-0.072300123	-0.083032045	0.61455921	0.670970553	0.909006813

Factor.VII	-0.294990425	-0.089551574	2.579725775	0.723927199	2.336035421	
Fas	-0.345260631	-0.15477727	3.055150186	1.257964499	3.049832642	
Fas.Ligand	-0.323117311	-0.111780811	2.843620811	0.904987614	2.650666437	
FABP	-0.389101741	-0.240973044	3.485253628	1.981758475	3.865761331	
Ferritin	0.034050984	-0.043240878	0.28904393	0.348836628	0.451049669	

probeID	p.CAN-vs-allOther.Set_1	p.CAN-vs-allOther.Set_2	p.CAN-vs-allOther.Meta	q.CAN-vs-allOther.Set_1	q.CAN-vs-allOther.Set_2	q.CAN-vs-allOther.Meta
Alpha.1.Antitrypsin	0.02167059	0.754686534	0.064621384	0.031409745	0.409435518	0.000178
ACE..Angiotensin.Converting.Enzyme.	0.049260576	0.373747487	0.043497797	0.05367358	0.309219617	0.000127
ACTH..Adrenocorticotropic.Hormone.	0.35882502	0.097180608	0.068810948	0.244729503	0.178671735	0.000181
Adiponectin	0.00768246	0.205088234	0.005300962	0.015391274	0.250612008	2.75E-05
AgRP..Agouti.related.Protein.	0.016432536	0.180756914	0.008128787	0.027331201	0.249248427	3.69E-05
Alpha.2.Macroglobulin	0.011083135	0.975054572	0.067977693	0.020858575	0.467658228	0.000181
Alpha.Fetoprotein	0.745480251	0.939488433	0.77776327	0.367452772	0.457226373	0.001017
Amphiregulin	0.93252426	0.574801897	0.649123231	0.426132272	0.355892534	0.000891
ANG.2..Angiopoietin.2.	0.234654162	0.21478613	0.086470016	0.186839884	0.250612008	0.000214
Angiotensinogen	0.208277639	0.447724403	0.154601687	0.170202128	0.336477099	0.000319
Apolipoprotein.A1	0.576734855	0.00874984	0.024053918	0.326829083	0.052648521	8.74E-05
Apolipoprotein.CIII	0.987197478	0.176199789	0.333922726	0.438634338	0.249248427	0.000547
Apolipoprotein.H	0.921230499	0.888450989	0.866202842	0.426132272	0.443264974	0.001124
AXL	0.033271279	0.028099977	0.002183247	0.042170558	0.094656849	1.42E-05
Beta.2.Microglobulin	0.000246756	0.000149614	9.16E-08	0.00139319	0.003300871	5.55E-09
Betacellulin	0.045367942	0.0314627	0.003273401	0.05122976	0.094656849	1.80E-05
BLC..B.Lymphocyte.Chemoattractant.	0.509995976	0.095702913	0.100553378	0.317338943	0.178671735	0.000237
BMP.6	0.001268653	0.127563356	0.000738948	0.004335056	0.211078835	5.84
BDNF..Brain.Derived.Neurotrophic.Factor.	0.015664739	0.487049107	0.027512491	0.027024434	0.338260484	9.8(
Complement.3	6.90E-07	0.357558257	2.17E-05	1.43E-05	0.30898559	3.5(
C.Reactive.Protein	0.510960633	0.305201338	0.235371115	0.317338943	0.296895462	0.00
Calcitonin	0.557707556	0.810054562	0.560173224	0.326070399	0.425522443	0.00
Cancer.Antigen.125	0.845226816	0.259694965	0.350937813	0.400717124	0.296356379	0.00
Cancer.Antigen.19.9	0.340935248	0.741757711	0.36604713	0.243382071	0.405747117	0.0
Carcinoembryonic.Antigen	0.001508097	0.027347712	0.000130405	0.004683118	0.094656849	1.3(
CD40	0.001782239	0.003346014	1.59E-05	0.005031289	0.024607303	3.0(
CD40.Ligand	0.338614323	0.315317778	0.16660339	0.243382071	0.296895462	0.0
CgA..Chromogranin.A.	0.00132621	0.158888392	0.001024276	0.004335056	0.239011192	7.7(

CNTF..Ciliary.Neurotrophic.Factor.	0.978472728	0.293832046	0.447562521	0.438634338	0.296895462	0.000656
Cortisol	0.00303159	0.002089145	1.68E-05	0.007845039	0.019753734	3.05E-07
Creatine.Kinase.MB	0.183774349	0.834217445	0.277489568	0.15423719	0.433193936	0.000485
CTGF..Connective.Tissue.Growth.Factor.	0.273832013	0.18808138	0.088875147	0.207398828	0.250612008	0.000215
EGF	0.656689569	0.078256414	0.119109491	0.339871542	0.167084819	0.000263
EGF.R	0.821529763	0.611453887	0.605217658	0.392478508	0.35814922	0.000839
ENA.78	0.554904422	0.33297754	0.271780921	0.326070399	0.297476426	0.000482
Endothelin.1	0.003870077	0.197818186	0.003037002	0.008902085	0.250612008	1.72E-05
EN.RAGE	0.693702006	0.270089791	0.291146598	0.345474026	0.296895462	0.000501
Eotaxin	0.578865212	0.76194862	0.545409045	0.326829083	0.410014597	0.000774
Eotaxin.3	0.003830725	0.035545968	0.000390718	0.008902085	0.101743848	3.74E-06
Epiregulin	0.045291913	0.602160863	0.074345436	0.05122976	0.35814922	0.00019
Erythropoietin	0.537611812	0.500839528	0.36334653	0.326070399	0.338260484	0.00057
Factor.VII	0.010192464	0.467697012	0.019489396	0.01978177	0.336477099	7.38E-05
Fas	0.002415748	0.207570681	0.002289689	0.006523185	0.250612008	1.43E-05
Fas.Ligand	0.004690577	0.364128008	0.008033314	0.01004533	0.30898559	3.69E-05
FABP	0.00056027	0.047754136	0.000110743	0.002298337	0.117064704	1.26E-06
Ferritin	0.771799924	0.72624381	0.651953752	0.37448178	0.401863318	0.000891

probeID	cor.TX-vs-AR.Set_1	cor.TX-vs-AR.Set_2	Z.TX-vs-AR.Set_1	Z.TX-vs-AR.Set_2	Z.TX-vs-AR.Meta
FGF.basic	0.219765	0.280834	1.531617	1.825185	2.3736178
FGF.4	-0.09574	-0.09341	0.658352	0.592513	0.884495(
Fibrinogen	0.147901	0.355842	1.021453	2.353476	2.3864352
FSH..Follicle.Stimulating.Hormone.	-0.04907	0.042841	0.336711	0.271115	0.4297977
G.CSF	-0.067	0.297749	0.460046	1.941938	1.698459
GLP.1.Total	0.271827	0.209249	1.911599	1.343247	2.3015233
Glucagon	0.179278	0.128055	1.242499	0.814361	1.4544194
GST	0.084586	-0.1146	0.581283	0.727987	0.9257942
GM.CSF	-0.05902	-0.12861	0.405107	0.817916	0.8648080
GRO.alpha	-0.04953	0.047844	0.339806	0.30282	0.4544055
Growth.Hormone	0.175739	0.158776	1.217445	1.012758	1.5769915
Haptoglobin	-0.1762	0.437479	1.220683	2.966907	2.9610735
HB.EGF	0.571612	0.126062	4.45559	0.801549	3.7173583
HCC.4	0.294018	0.443851	2.07698	3.016915	3.6019274

HGF..Hepatocyte.growth.factor.	0.108491	0.516245	0.746715	3.612628	3.082520
I.309	0.275878	-0.14381	1.941623	0.915873	2.020555
ICAM.1	0.019896	0.1718	0.136418	1.097441	0.872698
IFN.gamma	0.263659	-0.17397	1.851278	1.111559	2.095042
IgA	-0.07277	-0.00945	0.499804	0.059789	0.395691
IgE	0.329333	-0.1608	2.34518	1.025895	2.383710
IGF.BP.2	0.419807	0.550135	3.067613	3.912215	4.935483
IGF.1	0.072756	0.067393	0.499675	0.426875	0.655169
IgM	0.137752	-0.1032	0.950423	0.655044	1.135236
IL.10	0.551368	0.256702	4.252866	1.660665	4.181497
IL.12p40	0.305293	0.135979	2.161907	0.86537	2.140607
IL.13	0.154889	-0.32294	1.070484	2.118248	2.254773
IL.15	0.111104	0.005267	0.764845	0.033312	0.564382
IL.16	0.057034	-0.03483	0.39143	0.220367	0.432606
IL.18	0.379917	0.243251	2.742004	1.569923	3.048992
IL.1alpha	-0.12688	-0.25815	0.874532	1.670507	1.799614
IL.1beta	0.209684	-0.20336	1.45916	1.304315	1.954071
IL.1ra	0.14329	0.439819	0.989152	2.985227	2.810310
IL.2	-0.25366	0.14853	1.777779	0.946386	1.926275
IL.3	-0.01549	-0.40686	0.106214	2.731189	2.006346
IL.4	0.063458	0.123913	0.435629	0.787744	0.865054
IL.5	0.140371	-0.11078	0.968729	0.703536	1.182470
IL.6	0.173364	0.194216	1.200654	1.244133	1.728725
IL.7	0.163832	-0.02217	1.133391	0.140247	0.900598
IL.8	0.214186	0.506815	1.491476	3.531852	3.552029
Insulin	-0.1697	-0.01107	1.174786	0.070041	0.880225
Leptin	-0.01574	0.011589	0.107883	0.073299	0.128115
LH..Luteinizing.Hormone.	-0.07687	0.020608	0.528024	0.130355	0.465544
Lymphotactin	-0.07625	-0.18185	0.52376	1.163044	1.192751
MCP.1	-0.23898	0.169045	1.67065	1.079496	1.944667
MCP.3	-0.10347	-0.06091	0.711899	0.385735	0.776144
M.CSF	0.202873	0.308927	1.410397	2.019803	2.425174

probeID	p.TX-vs-AR.Set_1	p.TX-vs-AR.Set_2	p.TX-vs-AR.Meta	q.TX-vs-AR.Set_1	q.TX-vs-AR.Set_2
FGF.basic	0.125156	0.068123	0.017615	0.145617	0.116603
FGF.4	0.508383	0.551312	0.376429	0.295027	0.398241
Fibrinogen	0.305354	0.019187	0.017013	0.227793	0.044431
FSH..Follicle.Stimulating.Hormone.	0.735032	0.785028	0.667343	0.342644	0.500045
G.CSF	0.643847	0.052481	0.089421	0.324042	0.098384
GLP.1.Total	0.056182	0.178087	0.021362	0.086356	0.226160
Glucagon	0.212857	0.41316	0.14583	0.198451	0.353952
GST	0.559196	0.464321	0.354553	0.309054	0.360957
GM.CSF	0.683898	0.411129	0.387144	0.332945	0.353952
GRO.alpha	0.73269	0.760625	0.649537	0.342644	0.49907
Growth.Hormone	0.222177	0.309175	0.114797	0.200565	0.297054
Haptoglobin	0.220956	0.00335	0.003066	0.200565	0.015516
HB.EGF	1.45E-05	0.420528	0.000201	0.000356	0.356031
HCC.4	0.03822	0.00287	0.000316	0.072454	0.015516
HGF..Hepatocyte.growth.factor.	0.453278	0.000395	0.002053	0.274242	0.003452
I.309	0.052474	0.357561	0.043326	0.086356	0.323599
ICAM.1	0.890919	0.270642	0.382952	0.374357	0.291909
IFN.gamma	0.064302	0.264557	0.036167	0.096236	0.289309
IgA	0.615493	0.952025	0.692332	0.312583	0.551169
IgE	0.019523	0.302968	0.017139	0.046262	0.297054
IGF.BP.2	0.002406	0.000133	8.00E-07	0.010524	0.001490
IGF.1	0.615584	0.66764	0.512359	0.312583	0.45710
IgM	0.340096	0.510174	0.256276	0.227793	0.375414
IL.10	3.33E-05	0.096577	2.90E-05	0.000378	0.143474
IL.12p40	0.031091	0.384601	0.032306	0.060972	0.34411
IL.13	0.28281	0.034669	0.024148	0.21735	0.06999
IL.15	0.442408	0.97326	0.572494	0.272928	0.551302
IL.16	0.694016	0.824527	0.665301	0.332945	0.511183
IL.18	0.006502	0.115994	0.002296	0.020543	0.169128
IL.1alpha	0.379936	0.094639	0.071922	0.245541	0.143299
IL.1beta	0.143881	0.190903	0.050693	0.157361	0.23124

IL.1ra	0.320847	0.003166	0.004949	0.227793	0.015516
IL.2	0.075495	0.341827	0.05407	0.10472	0.316638
IL.3	0.914965	0.006778	0.044819	0.374357	0.020565
IL.4	0.661527	0.428555	0.387009	0.330019	0.358782
IL.5	0.330906	0.479428	0.237019	0.227793	0.366489
IL.6	0.228586	0.212047	0.083858	0.203126	0.250432
IL.7	0.255593	0.887775	0.367802	0.204286	0.533558
IL.8	0.135278	0.000524	0.000382	0.152674	0.003751
Insulin	0.238719	0.943812	0.378737	0.20397	0.550462
Leptin	0.913634	0.941203	0.898058	0.374357	0.550462
LH..Luteinizing.Hormone.	0.59571	0.895643	0.641542	0.312583	0.533558
Lymphotactin	0.59868	0.243177	0.232967	0.312583	0.269674
MCP.1	0.094643	0.278516	0.051818	0.117011	0.292391
MCP.3	0.474574	0.697991	0.437664	0.281144	0.465740
M.CSF	0.157658	0.043833	0.015287	0.166043	0.084177

probeID	cor.TX-vs-CAN.Set_1	cor.TX-vs-CAN.Set_2	Z.TX-vs-CAN.Set_1	Z.TX-vs-CAN.Set_2	Z.TX-vs-CAN.Meta
FGF.basic	0.523011	0.450677	3.979537	3.070885	4.98540
FGF.4	0.19822	0.140206	1.377157	0.892622	1.604976
Fibrinogen	0.133795	0.213512	0.922786	1.371466	1.622280
FSH..Follicle.Stimulating.Hormone.	0.055921	0.080129	0.383775	0.507869	0.630487
G.CSF	0.033182	0.555745	0.22757	3.963316	2.963403
GLP.1.Total	0.237364	0.107079	1.658923	0.679835	3751
Glucagon	0.230253	0.1744	1.607354	1.114393	4566
GST	-0.2575	-0.27313	1.805987	1.772432	0323
GM.CSF	0.244815	-0.19464	1.713154	1.246921	3089
GRO.alpha	-0.26424	0.185897	1.855569	1.189547	3222
Growth.Hormone	0.227667	0.039176	1.588642	0.247895	8628
Haptoglobin	-0.15782	0.168342	1.091104	1.07492	1610
HB.EGF	0.726564	0.156639	6.316865	0.998894	7302
HCC.4	0.061449	0.227028	0.421805	1.461314	1566
HGF..Hepatocyte.growth.factor.	0.118935	0.378144	0.819253	2.516489	8726

I.309	0.641185	0.07338	5.21155	0.46493	4.013877
ICAM.1	-0.09089	-0.02329	0.624859	0.147308	0.546004
IFN.gamma	0.256517	-0.17739	1.798762	1.133885	2.073694
IgA	0.086241	0.054202	0.592714	0.343138	0.661747
IgE	0.231625	-0.18461	1.617289	1.181108	1.978765
IGF.BP.2	0.439736	0.457948	3.23521	3.128831	4.500057
IGF.1	0.079227	0.226027	0.544291	1.45464	1.413457
IgM	0.389396	0.356356	2.818277	2.3572	3.659614
IL.10	0.69784	0.229915	5.916964	1.480573	5.230848
IL.12p40	0.414912	-0.00237	3.026981	0.014993	2.151000
IL.13	0.636678	-0.20022	5.159341	1.283613	4.555856
IL.15	0.415472	0.118059	3.031616	0.750169	2.674126
IL.16	0.221892	0.206032	1.546943	1.321984	2.028637
IL.18	0.436546	0.349692	3.208145	2.30905	3.901246
IL.1alpha	0.033517	-0.23162	0.22987	1.491993	1.217541
IL.1beta	0.092569	-0.15227	0.636445	0.970606	1.136356
IL.1ra	0.213197	0.517812	1.48437	3.626157	3.613688
IL.2	-0.04594	-0.03644	0.315167	0.230572	0.385895
IL.3	0.191177	-0.43052	1.32697	2.91265	2.997864
IL.4	0.070873	0.193002	0.486699	1.236155	1.218241
IL.5	0.175286	-0.17177	1.21424	1.097247	1.634467
IL.6	0.193244	0.081119	1.341682	0.514173	1.312287
IL.7	0.367248	-0.08808	2.641063	0.558525	2.262450
IL.8	0.172353	0.367558	1.193504	2.438725	2.568374
Insulin	0.162448	-0.05786	1.123641	0.36632	1.053561
Leptin	-0.01036	-0.10244	0.071	0.650197	0.509962
LH..Luteinizing.Hormone.	-0.02933	0.046301	0.201117	0.29304	0.349421
Lymphotactin	-0.19403	-0.03644	1.347266	0.230572	1.115706
MCP.1	0.02529	0.121622	0.173415	0.773029	0.669
MCP.3	0.208628	0.124022	1.451591	0.788443	1.583943
M.CSF	0.348659	0.523007	2.494882	3.671215	4.360088

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probeID	p.TX-vs-CAN.Set_1	p.TX-vs-CAN.Set_2	p.TX-vs-CAN.Meta	q.TX-vs-CAN.Set_1	q.TX-vs-CAN.Set_2
FGF.basic	9.75E-05	0.002423	6.18E-07	0.000406	0.009012
FGF.4	0.167614	0.369856	0.108499	0.15893	0.246336
Fibrinogen	0.35428	0.169211	0.104743	0.265381	0.165444
FSH..Follicle.Stimulating.Hormone.	0.699703	0.609505	0.528376	0.433163	0.321288
G.CSF	0.819054	0.000109	0.003043	0.483094	0.00110
GLP.1.Total	0.096959	0.494326	0.098178	0.106807	0.291815
Glucagon	0.107692	0.263347	0.054284	0.112041	0.206125
GST	0.071023	0.076371	0.011396	0.086666	0.096450
GM.CSF	0.086621	0.211032	0.036341	0.098311	0.190936
GRO.alpha	0.063693	0.232664	0.031301	0.079518	0.193127
Growth.Hormone	0.111815	0.803038	0.194072	0.114736	0.377853
Haptoglobin	0.273677	0.280549	0.125619	0.213546	0.206125
HB.EGF	2.33E-09	0.315817	2.30E-07	8.72E-08	0.220055
HCC.4	0.671623	0.14318	0.183003	0.428923	0.14898
HGF..Hepatocyte.growth.factor.	0.410707	0.012412	0.018338	0.298688	0.027868
I.309	5.26E-07	0.640046	5.97E-05	4.38E-06	0.328809
ICAM.1	0.530162	0.882165	0.585063	0.367712	0.402081
IFN.gamma	0.072147	0.25513	0.038108	0.086666	0.203499
IgA	0.551505	0.729941	0.508133	0.37556	0.368741
IgE	0.105554	0.235976	0.047842	0.111562	0.193127
IGF.BP.2	0.001397	0.002016	6.79E-06	0.003738	0.008145
IGF.1	0.584442	0.145	0.157521	0.390883	0.14898
IgM	0.005189	0.019001	0.000253	0.010797	7156
IL.10	1.78E-08	0.138028	1.69E-07	3.33E-07	6793
IL.12p40	0.002736	0.987963	0.031476	0.006027	7787
IL.13	6.69E-07	0.197992	5.22E-06	5.01E-06	2985
IL.15	0.002696	0.450852	0.007492	0.006027	4694
IL.16	0.121453	0.185004	0.042495	0.121303	8014
IL.18	0.001527	0.021527	9.57E-05	0.003945	0779
IL.1alpha	0.817257	0.135042	0.223398	0.483094	6793
IL.1beta	0.522574	0.329661	0.255807	0.365836	4918
IL.1ra	0.137134	0.000376	0.000302	0.135162	0228

IL.2	0.751401	0.816544	0.699574	0.453914	0.377853
IL.3	0.183539	0.003955	0.002719	0.165633	0.012617
IL.4	0.624778	0.214975	0.223132	0.406959	0.191643
IL.5	0.22339	0.270726	0.102161	0.185928	0.206125
IL.6	0.178757	0.605077	0.189423	0.163295	0.321288
IL.7	0.008702	0.574345	0.02367	0.016297	0.321288
IL.8	0.231355	0.015318	0.010218	0.190441	0.032643
Insulin	0.259686	0.71249	0.292084	0.204762	0.362950
Leptin	0.943097	0.513304	0.610077	0.521567	0.295470
LH..Luteinizing.Hormone.	0.839779	0.768128	0.726773	0.487639	0.372511
Lymphotactin	0.176967	0.816544	0.26455	0.163295	0.377853
MCP.1	0.861606	0.437208	0.503344	0.492675	0.278984
MCP.3	0.145957	0.428146	0.113207	0.140169	0.276108
M.CSF	0.013085	0.00032	1.30E-05	0.021782	0.002157

probeID	cor.AR-vs-CAN.Set_1	cor.AR-vs-CAN.Set_2	Z.AR-vs-CAN.Set_1	Z.AR-vs-CAN.Set_2	Z.AR-vs-CAN.Meta
FGF.basic	0.366515	0.234035	2.635256	1.634758	3.019355
FGF.4	0.275622	0.204225	1.939727	1.420062	2.375729
Fibrinogen	-0.0223	-0.12613	0.152872	0.869299	0.722784
FSH..Follicle.Stimulating.Hormone.	0.13974	0.012692	0.964316	0.087017	0.743404
G.CSF	0.09501	0.284384	0.653326	2.004906	1.879653
GLP.1.Total	0.161859	-0.07719	1.119494	0.530258	1.166550
Glucagon	0.14622	0.030897	1.009673	0.211889	3774
GST	-0.31924	-0.15219	2.267855	1.051507	7143
GM.CSF	0.284358	-0.05099	2.004708	0.349847	4922
GRO.alpha	-0.12571	0.158639	0.866405	1.096836	8220
Growth.Hormone	0.045327	-0.10947	0.31096	0.753501	2687
Haptoglobin	0.028959	-0.26489	0.19859	1.860386	5916
HB.EGF	0.208938	0.007886	1.453811	0.054066	6230
HCC.4	-0.24625	-0.15785	1.723613	1.09132	0458
HGF..Hepatocyte.growth.factor.	0.009374	-0.07342	0.06427	0.504256	2008
I.309	0.178034	0.18999	1.233687	1.318526	4686

probeID	p.AR-vs-CAN.Set_1	p.AR-vs-CAN.Set_2	p.AR-vs-CAN.Meta	q.AR-vs-CAN.Set_1	q.AR-vs-CAN.Set_2
ICAM.1	-0.1297	-0.1094	0.894223	0.752996	1.164760(
IFN.gamma	-0.14298	0.040963	0.986954	0.280989	0.896570(
IgA	0.154911	0.074028	1.070634	0.508437	1.116572
IgE	-0.19691	0.050105	1.367807	0.343791	1.210282
IGF.BP.2	-0.04179	0.033413	0.286672	0.229151	0.364741(
IGF.1	0.070726	0.224356	0.485684	1.564724	1.449857
IgM	0.168308	0.416427	1.164944	3.039532	2.973013
IL.10	0.253973	-0.00542	1.780104	0.037135	1.28498
IL.12p40	0.070853	-0.14277	0.486561	0.985502	1.040905
IL.13	0.509434	0.169467	3.852638	1.173125	3.553751
IL.15	0.261816	0.103229	1.837707	0.710231	1.801663
IL.16	0.098611	0.346756	0.678245	2.480047	2.233250
IL.18	-0.00769	0.131812	0.052689	0.908949	0.679980
IL.1alpha	0.160743	0.048178	1.111642	0.330545	1.019780
IL.1beta	-0.11252	0.232568	0.774667	1.62412	1.696198
IL.1ra	-0.01402	0.05154	0.096101	0.353653	0.318024(
IL.2	0.246858	-0.18707	1.728061	1.297802	2.139608
IL.3	0.209462	0.046199	1.457568	0.316949	1.254772
IL.4	0.018434	0.06579	0.126393	0.451689	0.408765(
IL.5	-0.01354	-0.06831	0.092799	0.469043	0.397282(
IL.6	-0.03488	-0.1224	0.23921	0.843345	0.765482
IL.7	0.217022	-0.05833	1.511867	0.400359	1.352148(
IL.8	-0.08272	-0.05253	0.568424	0.36049	0.6568
Insulin	0.310197	-0.06794	2.19904	0.466501	1.884822
Leptin	-0.00109	-0.13677	0.007501	0.943564	0.67250
LH..Luteinizing.Hormone.	0.028652	0.088215	0.196485	0.606351	0.567910
Lymphotactin	-0.14318	0.142857	0.988402	0.986124	1.396200
MCP.1	0.251706	0.017496	1.763503	0.11996	1.331809(
MCP.3	0.366232	0.162495	2.633011	1.123976	2.656591
M.CSF	0.185109	0.243428	1.283843	1.703048	2.112050

FGF.basic	0.008847	0.101876	0.002533	0.082388	0.554575
FGF.4	0.052702	0.15485	0.017514	0.187555	0.618687
Fibrinogen	0.877861	0.382786	0.469812	0.638542	0.718387
FSH..Follicle.Stimulating.Hormone.	0.333107	0.93029	0.457237	0.417256	0.886846
G.CSF	0.511621	0.04533	0.060155	0.493124	0.554575
GLP.1.Total	0.261441	0.594157	0.243392	0.39584	0.841835
Glucagon	0.310945	0.831325	0.387712	0.417256	0.865859
GST	0.023836	0.291396	0.018918	0.123421	0.718387
GM.CSF	0.045351	0.72511	0.095928	0.182449	0.865859
GRO.alpha	0.384368	0.271176	0.16507	0.43615	0.713841
Growth.Hormone	0.754611	0.449192	0.451638	0.596784	0.776608
Haptoglobin	0.841766	0.063016	0.145416	0.628537	0.554575
HB.EGF	0.145346	0.956653	0.28632	0.292364	0.892409
HCC.4	0.084735	0.273583	0.04654	0.21842	0.713841
HGF..Hepatocyte.growth.factor.	0.948483	0.612353	0.687678	0.645313	0.841835
I.309	0.216102	0.186326	0.071124	0.377278	0.680634
ICAM.1	0.36933	0.449495	0.244116	0.427173	0.776608
IFN.gamma	0.32192	0.7776	0.369948	0.417256	0.865859
IgA	0.282742	0.60941	0.264177	0.415269	0.841835
IgE	0.170498	0.729679	0.22617	0.335662	0.865859
IGF.BP.2	0.773225	0.817819	0.715304	0.601227	0.865859
IGF.1	0.6255	0.117266	0.147098	0.54399	0.566686
IgM	0.242657	0.002629	0.002949	0.39391	0.168087
IL.10	0.075118	0.97022	0.198798	0.218273	0.892409
IL.12p40	0.624876	0.32263	0.29792	0.54399	0.718387
IL.13	0.000158	0.23938	0.00038	0.004868	0.707339
IL.15	0.066258	0.475608	0.071598	0.218273	0.789708
IL.16	0.495675	0.013625	0.025532	0.48792	0.348403
IL.18	0.957756	0.361521	0.496517	0.646866	0.718387
IL.1alpha	0.264787	0.739705	0.307833	0.39584	0.865859
IL.1beta	0.436583	0.104103	0.089848	0.459054	0.554575
IL.1ra	0.923034	0.722244	0.750466	0.645313	0.865859
IL.2	0.083942	0.1933	0.032386	0.21842	0.686496

IL.3	0.144316	0.750043	0.209561	0.292364	0.865859
IL.4	0.89889	0.649876	0.682712	0.639798	0.856578
IL.5	0.925671	0.637383	0.691159	0.645313	0.85129
IL.6	0.809972	0.397116	0.443984	0.624552	0.718387
IL.7	0.130059	0.687404	0.176328	0.273507	0.865859
IL.8	0.567911	0.717106	0.511283	0.520282	0.865859
Insulin	0.028355	0.639206	0.059454	0.126639	0.85129
Leptin	0.993983	0.343582	0.501263	0.661674	0.718387
LH..Luteinizing.Hormone.	0.843421	0.542398	0.570245	0.628537	0.835504
Lymphotactin	0.321213	0.322325	0.162654	0.417256	0.718387
MCP.1	0.077846	0.904011	0.182923	0.218273	0.886846
MCP.3	0.008904	0.259545	0.007894	0.082388	0.707339
M.CSF	0.198106	0.088476	0.034682	0.352512	0.554575

probeID	cor.TX-vs-allOther.Set_1	cor.TX-vs-allOther.Set_2	Z.TX-vs-allOther.Set_1	Z.TX-vs-allOther.Set_2	Z.TX-vs-allOther.Meta
FGF.basic	0.356752	0.316687	3.166363	2.644104	4.108620
FGF.4	0.06623	0.008563	0.562808	0.069042	0.446785
Fibrinogen	0.132147	0.249889	1.127901	2.058246	2.252945
FSH..Follicle.Stimulating.Hormone.	0.012906	0.061867	0.109517	0.499429	0.430590
G.CSF	-0.01698	0.405008	0.144122	3.46375	2.551150
GLP.1.Total	0.241127	0.162682	2.087127	1.323338	2.411563
Glucagon	0.185841	0.131348	1.595454	1.065118	1.881308
GST	-0.0809	-0.16161	0.687938	1.314491	1.415930
GM.CSF	0.088836	-0.14659	0.755793	1.190439	1.376193
GRO.alpha	-0.14033	0.107268	1.198624	0.868159	1.461436
Growth.Hormone	0.188339	0.111215	1.617414	0.900372	1.780343
Haptoglobin	-0.1792	0.264684	1.537199	2.185987	2.632690
HB.EGF	0.596784	0.123921	5.83904	1.004246	4.838934
HCC.4	0.165811	0.293487	1.420061	2.437845	2.727950
HGF..Hepatocyte.growth.factor.	0.108858	0.405882	0.927364	3.472177	3.110945
I.309	0.457165	-0.0519	4.189365	0.418845	3.258496
ICAM.1	-0.03442	0.061185	0.292143	0.493903	0.555819

IFN.gamma	0.22996	-0.19664	1.986801	1.606287	2.540696
IgA	0.001203	0.024518	0.010208	0.197706	0.1470177
IgE	0.204969	-0.18301	1.764207	1.492286	2.3026883
IGF.BP.2	0.408558	0.441961	3.681589	3.826873	5.3092843
IGF.1	0.064733	0.121021	0.55005	0.980509	1.0822685
IgM	0.256502	0.128106	2.226198	1.03853	2.308511
IL.10	0.581771	0.2282	5.643864	1.872776	5.3150671
IL.12p40	0.321709	0.064355	2.830287	0.519561	2.3687006
IL.13	0.382378	-0.23417	3.418226	1.923601	3.7772421
IL.15	0.247069	0.060215	2.140746	0.486057	1.8574300
IL.16	0.12106	0.08091	1.032293	0.653747	1.1922102
IL.18	0.382994	0.253633	3.424348	2.090475	3.8995684
IL.1alpha	-0.04039	-0.22307	0.342891	1.829202	1.5359015
IL.1beta	0.140032	-0.19632	1.196074	1.603589	1.9796605
IL.1ra	0.14626	0.419959	1.250024	3.609005	3.4358524
IL.2	-0.13059	0.062868	1.114424	0.507524	1.1468903
IL.3	0.07995	-0.40659	0.679847	3.47906	2.9407910
IL.4	0.074635	0.14047	0.634481	1.140043	1.254777
IL.5	0.147486	-0.12791	1.260655	1.036912	1.624625
IL.6	0.154938	0.12264	1.32537	0.993758	1.6398710
IL.7	0.252337	-0.04699	2.188413	0.379134	1.8155305
IL.8	0.181431	0.400897	1.556724	3.424176	3.5220287
Insulin	-0.04682	-0.03783	0.397611	0.305102	0.4968928
Leptin	-0.02293	-0.04998	0.194563	0.403321	0.4227678
LH..Luteinizing.Hormone.	-0.06446	0.002961	0.547687	0.023871	0.4041524
Lymphotactin	-0.1349	-0.09284	1.15168	0.750673	1.3451668
MCP.1	-0.1098	0.114035	0.935437	0.923398	1.3143948
MCP.3	0.053832	0.022672	0.457225	0.182822	0.4525815
M.CSF	0.26953	0.378849	2.344968	3.214547	3.9311712

probeID	p.TX-vs-allOther.Set_1	p.TX-vs-allOther.Set_2	p.TX-vs-allOther.Meta	q.TX-vs-allOther.Set_1	q.TX-vs-allOther.Set_
FGF.basic	0.001679	0.00851	3.98E-05	0.005437	0.016869

FGF.4	0.572373	0.944745	0.65503	0.388933	0.4090265
Fibrinogen	0.258405	0.039864	0.024263	0.223477	0.0526827
FSH..Follicle.Stimulating.Hormone.	0.912491	0.616235	0.666766	0.517096	0.338282
G.CSF	0.885011	0.000613	0.010737	0.511167	0.0026027
GLP.1.Total	0.03716	0.185011	0.015884	0.057715	0.1507222
Glucagon	0.110413	0.285665	0.05993	0.129277	0.2139371
GST	0.490223	0.187952	0.156796	0.349051	0.1510495
GM.CSF	0.448497	0.232919	0.168762	0.328201	0.1846914
GRO.alpha	0.229825	0.383935	0.143896	0.209121	0.2506732
Growth.Hormone	0.105623	0.366574	0.07502	0.125601	0.2422273
Haptoglobin	0.123958	0.029166	0.008471	0.138732	0.0456453
HB.EGF	1.60E-08	0.314021	1.31E-06	6.04E-07	0.2200194
HCC.4	0.155112	0.015139	0.006373	0.171084	0.0250091
HGF..Hepatocyte.growth.factor.	0.352543	0.000595	0.001865	0.279482	0.0026027
I.309	3.74E-05	0.674219	0.00112	0.000219	0.3517222
ICAM.1	0.769422	0.62014	0.578335	0.472234	0.338282
IFN.gamma	0.047173	0.108008	0.011063	0.067738	0.1058752
IgA	0.991827	0.842686	0.883118	0.543044	0.3820397
IgE	0.077724	0.135226	0.021296	0.09697	0.1182643
IGF.BP.2	0.000274	0.000161	1.10E-07	0.001225	0.0011981
IGF.1	0.581105	0.325567	0.279133	0.389024	0.2200194
IgM	0.026326	0.297829	0.020971	0.046594	0.2139371
IL.10	4.40E-08	0.061252	1.07E-07	6.70E-07	0.0714255
IL.12p40	0.004885	0.602099	0.017851	0.01282	0.338282
IL.13	0.00071	0.054605	0.000159	0.002704	0.064948
IL.15	0.032598	0.625704	0.06325	0.052785	0.338282
IL.16	0.300849	0.511883	0.233179	0.248871	0.304420
IL.18	0.000695	0.036889	9.64E-05	0.002704	0.0525834
IL.1alpha	0.730818	0.067476	0.124563	0.452187	0.0771697
IL.1beta	0.230815	0.108598	0.047742	0.209121	0.1058752
IL.1ra	0.210525	0.000364	0.000591	0.197803	0.0021620
IL.2	0.264121	0.610534	0.251427	0.22464	0.338282
IL.3	0.495335	0.00058	0.003274	0.349051	0.0026027

IL.4	0.524521	0.253228	0.209559	0.366227	0.19815
IL.5	0.206685	0.29858	0.104242	0.197695	0.213937
IL.6	0.184409	0.319088	0.101032	0.194262	0.220019
IL.7	0.028957	0.703555	0.069442	0.047908	0.356691
IL.8	0.119279	0.000704	0.000428	0.136508	0.00279
Insulin	0.689952	0.759421	0.619265	0.433957	0.364220
Leptin	0.845212	0.685631	0.672465	0.502539	0.354565
LH..Luteinizing.Hormone.	0.58273	0.980882	0.686101	0.389024	0.416807
Lymphotactin	0.248531	0.451435	0.178571	0.222398	0.280966
MCP.1	0.348375	0.354472	0.188713	0.279482	0.236862
MCP.3	0.646446	0.854391	0.65085	0.416381	0.382039
M.CSF	0.019364	0.001444	8.45E-05	0.035944	0.004336

probeID	cor.AR-vs-allOther.Set_1	cor.AR-vs-allOther.Set_2	Z.AR-vs-allOther.Set_1	Z.AR-vs-allOther.Set_2	Z.AR-vs-allOther.Met
FGF.basic	0.077346	0.043972	0.657616	0.354742	0.715844
FGF.4	0.180766	0.150036	1.550891	1.218826	1.958485
Fibrinogen	-0.08417	-0.2218	0.715929	1.818409	1.792047
FSH..Follicle.Stimulating.Hormone.	0.09398	0.00072	0.799805	0.005806	0.569653
G.CSF	0.078596	0.011635	0.668291	0.093809	0.538886
GLP.1.Total	-0.02292	-0.14895	0.19453	1.20989	0.993074
Glucagon	-0.00253	-0.03584	0.021437	0.289062	0.219555
GST	-0.19299	-0.05798	1.658401	0.467994	1.50358
GM.CSF	0.162092	0.030194	1.387639	0.243502	1.153390
GRO.alpha	-0.0411	0.06681	0.348935	0.53944	0.628175
Growth.Hormone	-0.05927	-0.12021	0.503544	0.97387	1.04468
Haptoglobin	0.108033	-0.32387	0.920281	2.708659	2.566048
HB.EGF	-0.16269	-0.03826	1.392849	0.308631	1.203127
HCC.4	-0.26526	-0.24324	2.305957	2.001176	3.045602
HGF..Hepatocyte.growth.factor.	-0.04898	-0.24028	0.415941	1.975811	1.691223
I.309	-0.07944	0.169972	0.675508	1.383789	1.456142
ICAM.1	-0.07212	-0.13676	0.613012	1.109506	1.218004
IFN.gamma	-0.16881	0.086655	1.446227	0.70039	1.517887

IgA	0.109341	0.045344	0.931511	0.365824	0.917354
IgE	-0.27505	0.116888	2.395516	0.946706	2.3633078
IGF.BP.2	-0.22848	-0.19373	1.973557	1.581898	2.5140865
IGF.1	-0.00761	0.107491	0.064549	0.869985	0.6608153
IgM	0.008175	0.282064	0.069372	2.337435	1.7018699
IL.10	-0.13785	-0.10496	1.177176	0.849368	1.432982
IL.12p40	-0.12047	-0.14403	1.027189	1.169301	1.5531526
IL.13	0.194134	0.230269	1.668458	1.89039	2.5164851
IL.15	0.072723	0.049583	0.618166	0.400082	0.7200102
IL.16	0.036664	0.216975	0.311242	1.777558	1.4770047
IL.18	-0.19097	-0.02089	1.640597	0.168406	1.2791581
IL.1alpha	0.131015	0.136905	1.118128	1.110737	1.5760452
IL.1beta	-0.15057	0.136774	1.287437	1.109661	1.695004
IL.1ra	-0.0782	-0.1333	0.664886	1.081138	1.2346251
IL.2	0.238462	-0.1795	2.063134	1.463062	2.4933971
IL.3	0.111105	0.214391	0.946666	1.755711	1.9108691
IL.4	-0.0262	-0.01034	0.22234	0.08333	0.2161413
IL.5	-0.06083	0.007354	0.516792	0.059292	0.4073530
IL.6	-0.09943	-0.1447	0.846526	1.174848	1.4293272
IL.7	0.021694	-0.02205	0.18411	0.17778	0.2558948
IL.8	-0.14541	-0.23241	1.242657	1.908651	2.2283109
Insulin	0.224752	-0.03302	1.940204	0.266341	1.5602624
Leptin	0.031308	-0.07819	0.265743	0.631708	0.634593
LH..Luteinizing.Hormone.	0.079306	0.051326	0.67435	0.414169	0.7696996
Lymphotactin	-0.01584	0.132733	0.134411	1.076479	0.8562283
MCP.1	0.234783	-0.0559	2.030067	0.451177	1.7545044
MCP.3	0.219624	0.09841	1.894437	0.795985	1.902415
M.CSF	-0.00806	0.006047	0.068372	0.048756	0.082821

probeID	p.AR-vs-allOther.Set_1	p.AR-vs-allOther.Set_2	p.AR-vs-allOther.Meta	q.AR-vs-allOther.Set_1	q.AR-vs-allOther.Set_
FGF.basic	0.509527	0.721802	0.474087	0.553516	0.7564665
FGF.4	0.120662	0.222005	0.050173	0.38479	0.5237050

Fibrinogen	0.472761	0.069096	0.073125	0.553516	0.364263
FSH..Follicle.Stimulating.Hormone.	0.422555	0.99535	0.568913	0.54787	0.811088
G.CSF	0.502685	0.924974	0.589965	0.553516	0.797781
GLP.1.Total	0.845238	0.2254	0.320674	0.643381	0.523705
Glucagon	0.982838	0.771706	0.826217	0.671626	0.770308
GST	0.097129	0.638593	0.132687	0.356984	0.754909
GM.CSF	0.164714	0.806904	0.24875	0.42514	0.7799
GRO.alpha	0.726264	0.588289	0.529889	0.631649	0.723964
Growth.Hormone	0.613455	0.328845	0.296167	0.575382	0.603848
Haptoglobin	0.356225	0.007055	0.010286	0.528951	0.202616
HB.EGF	0.163141	0.756727	0.228927	0.42514	0.769217
HCC.4	0.021447	0.045635	0.002322	0.256481	0.336242
HGF..Hepatocyte.growth.factor.	0.676456	0.04842	0.090794	0.604824	0.336242
I.309	0.498088	0.165824	0.145353	0.553516	0.419530
ICAM.1	0.538635	0.266122	0.223222	0.553516	0.528322
IFN.gamma	0.147679	0.482274	0.129043	0.42514	0.667465
IgA	0.350398	0.713491	0.358957	0.528951	0.756466
IgE	0.01693	0.342484	0.018113	0.256481	0.609239
IGF.BP.2	0.048652	0.11343	0.011934	0.298848	0.409993
IGF.1	0.948354	0.382938	0.508731	0.652724	0.652574
IgM	0.944501	0.019787	0.08878	0.652724	0.30608
IL.10	0.238243	0.394293	0.151863	0.497507	0.652574
IL.12p40	0.30324	0.241291	0.120387	0.528951	0.528322
IL.13	0.095131	0.058876	0.011853	0.356984	0.336242
IL.15	0.535229	0.688021	0.471519	0.553516	0.756466
IL.16	0.754821	0.075521	0.139674	0.63491	0.364263
IL.18	0.100749	0.865759	0.200841	0.356984	0.7799
IL.1alpha	0.262541	0.265594	0.115015	0.497507	0.528322
IL.1beta	0.197239	0.266055	0.090075	0.471744	0.528322
IL.1ra	0.504862	0.278502	0.21697	0.553516	0.528322
IL.2	0.039372	0.142999	0.012653	0.298848	0.419530
IL.3	0.342631	0.079155	0.056021	0.528951	0.364263
IL.4	0.823457	0.933334	0.828878	0.643381	0.798939

IL.5	0.604158	0.952538	0.683749	0.572273	0.80403
IL.6	0.396009	0.239073	0.15291	0.531527	0.528322
IL.7	0.85343	0.858364	0.798032	0.643381	0.77994
IL.8	0.213217	0.056494	0.02586	0.497507	0.336242
Insulin	0.05255	0.789205	0.118698	0.298848	0.774569
Leptin	0.789742	0.526199	0.525693	0.63491	0.684670
LH..Luteinizing.Hormone.	0.498824	0.677648	0.441478	0.553516	0.756465
Lymphotactin	0.89271	0.280572	0.391871	0.65242	0.528322
MCP.1	0.042604	0.650694	0.079344	0.298848	0.75592
MCP.3	0.058325	0.424634	0.057117	0.298848	0.652574
M.CSF	0.945301	0.960964	0.933993	0.652724	0.80403

probeID	cor.CAN-vs-allOther.Set_1	cor.CAN-vs-allOther.Set_2	Z.CAN-vs-allOther.Set_1	Z.CAN-vs-allOther.Set_2	Z.CAN-vs-allOther.Me
FGF.basic	-0.4341	-0.33374	3.945108	2.797836	4.767981
FGF.4	-0.247	-0.15787	2.140085	1.283531	2.420862
Fibrinogen	-0.04797	-0.00685	0.407382	0.055214	0.327105
FSH..Follicle.Stimulating.Hormone.	-0.10689	-0.05733	0.910434	0.462703	0.970954
G.CSF	-0.06161	-0.38221	0.523468	3.246267	2.665605
GLP.1.Total	-0.21821	9.97E-05	1.88179	0.000804	1.331194
Glucagon	-0.18331	-0.08434	1.573261	0.681625	1.594452
GST	0.27389	0.205857	2.384914	1.683731	2.876966
GM.CSF	-0.25093	0.103937	2.175656	0.841003	2.133100
GRO.alpha	0.181426	-0.16496	1.556685	1.342202	2.049822
Growth.Hormone	-0.12906	0.018448	1.101294	0.148753	0.883916
Haptoglobin	0.071172	0.08169	0.604934	0.660073	0.894495
HB.EGF	-0.43409	-0.07512	3.945064	0.606817	3.218665
HCC.4	0.099451	-0.0253	0.846667	0.203999	0.742933
HGF..Hepatocyte.growth.factor.	-0.05988	-0.1311	0.50869	1.063082	1.111410
I.309	-0.37772	-0.12248	3.372064	0.992446	3.086174
ICAM.1	0.106535	0.080772	0.907419	0.652623	1.103116
IFN.gamma	-0.06115	0.093269	0.519536	0.754154	0.900634
IgA	-0.11054	-0.06778	0.941844	0.547276	1.052966

IgE	0.070077	0.050565	0.595598	0.408016	0.7096624
IGF.BP.2	-0.18008	-0.21066	1.544854	1.724209	2.3115769
IGF.1	-0.05713	-0.21822	0.485261	1.788138	1.6075360
IgM	-0.26468	-0.39928	2.300624	3.408658	4.0370718
IL.10	-0.44392	-0.10384	4.048377	0.840194	3.4567416
IL.12p40	-0.20124	0.085142	1.731222	0.688099	1.7107185
IL.13	-0.57651	-0.01601	5.576717	0.129079	4.0346071
IL.15	-0.31979	-0.10468	2.812157	0.847057	2.5874548
IL.16	-0.15772	-0.29101	1.349599	2.415981	2.6626673
IL.18	-0.19202	-0.21119	1.649835	1.728653	2.3889522
IL.1alpha	-0.09063	0.067202	0.771112	0.54262	0.9289487
IL.1beta	0.01054	0.042856	0.089437	0.345728	0.3077078
IL.1ra	-0.06806	-0.25096	0.578425	2.067446	1.8709130
IL.2	-0.10788	0.121981	0.918932	0.988365	1.3486623
IL.3	-0.19105	0.15764	1.641322	1.281618	2.0668310
IL.4	-0.04844	-0.11819	0.411334	0.95738	0.9678267
IL.5	-0.08666	0.109681	0.737155	0.887849	1.1490518
IL.6	-0.0555	0.032485	0.471452	0.261992	0.5186228
IL.7	-0.27403	0.065044	2.386205	0.525142	2.0586329
IL.8	-0.03602	-0.1344	0.305775	1.090194	0.9870989
Insulin	-0.17793	0.067633	1.526005	0.54611	1.4652063
Leptin	-0.00838	0.123929	0.071129	1.004309	0.7604492
LH..Luteinizing.Hormone.	-0.01485	-0.05404	0.126016	0.436072	0.3974564
Lymphotactin	0.150739	-0.04778	1.288881	0.385539	1.1839940
MCP.1	-0.12499	-0.04844	1.06611	0.390825	1.0302088
MCP.3	-0.27346	-0.11916	2.380938	0.965246	2.3661096
M.CSF	-0.26147	-0.35269	2.271413	2.971055	3.7069845

probeID	p.CAN-vs-allOther.Set_1	p.CAN-vs-allOther.Set_2	p.CAN-vs-allOther.Meta	q.CAN-vs-allOther.Set_1	q.CAN-vs-allOther.Se
FGF.basic	9.98E-05	0.005415	1.86E-06	0.000689	0.0358380
FGF.4	0.032651	0.198519	0.015484	0.042171	0.2506120
Fibrinogen	0.682744	0.955798	0.743588	0.344738	0.461768

FSH..Follicle.Stimulating.Hormone.	0.361385	0.64239	0.331571	0.24473	0.372969
G.CSF	0.599498	0.001298	0.007685	0.333955	0.014317
GLP.1.Total	0.060012	0.999356	0.183125	0.064261	0.472466
Glucagon	0.115427	0.494072	0.110836	0.110289	0.338260
GST	0.017417	0.092151	0.004015	0.027331	0.178671
GM.CSF	0.029895	0.398958	0.032917	0.039504	0.314716
GRO.alpha	0.119289	0.178854	0.040382	0.112251	0.249248
Growth.Hormone	0.269773	0.8813	0.376741	0.206847	0.443264
Haptoglobin	0.543995	0.507812	0.371057	0.32607	0.339284
HB.EGF	9.98E-05	0.542611	0.001288	0.000689	0.345330
HCC.4	0.395931	0.837748	0.457522	0.261594	0.433193
HGF..Hepatocyte.growth.factor.	0.609837	0.286585	0.266392	0.335174	0.296895
I.309	0.000835	0.319726	0.002027	0.003051	0.296895
ICAM.1	0.362974	0.512608	0.269977	0.24473	0.339284
IFN.gamma	0.602241	0.449343	0.367783	0.333955	0.336477
IgA	0.34509	0.582885	0.292356	0.243549	0.355892
IgE	0.550223	0.682172	0.477913	0.32607	0.389237
IGF.BP.2	0.122107	0.084645	0.020801	0.113188	0.16977
IGF.1	0.626388	0.073812	0.107937	0.337728	0.162848
IgM	0.021747	0.000744	5.41E-05	0.03141	0.011747
IL.10	6.63E-05	0.399411	0.000547	0.000588	0.314716
IL.12p40	0.083399	0.489984	0.087133	0.08779	0.338260
IL.13	6.20E-08	0.896904	5.47E-05	1.93E-06	0.443264
IL.15	0.005161	0.395579	0.009669	0.010684	4716
IL.16	0.176547	0.016059	0.007752	0.152287	7675
IL.18	0.098857	0.083852	0.016896	0.100407	6977
IL.1alpha	0.439366	0.586093	0.352916	0.284244	5892
IL.1beta	0.928488	0.728586	0.758305	0.426132	1863
IL.1ra	0.561771	0.038994	0.061357	0.32607	3238
IL.2	0.356929	0.321715	0.177445	0.24473	6895
IL.3	0.100599	0.199186	0.03875	0.100407	0612
IL.4	0.679838	0.337082	0.333131	0.344738	7476
IL.5	0.459751	0.373264	0.250535	0.294366	9219

IL.6	0.636234	0.792567	0.604024	0.337728	0.419667
IL.7	0.017357	0.598208	0.039529	0.027331	0.35814
IL.8	0.758992	0.274508	0.323594	0.371167	0.296895
Insulin	0.126704	0.583688	0.142865	0.115722	0.355892
Leptin	0.943099	0.31399	0.446986	0.427536	0.296895
LH..Luteinizing.Hormone.	0.899374	0.661643	0.691031	0.423158	0.380806
Lymphotactin	0.196739	0.698792	0.236415	0.162916	0.391962
MCP.1	0.285331	0.69487	0.302912	0.213504	0.391962
MCP.3	0.017603	0.333136	0.017976	0.027331	0.297476
M.CSF	0.023454	0.003179	0.00021	0.033105	0.024607

probeID	cor.TX-vs-AR.Set_1	cor.TX-vs-AR.Set_2	Z.TX-vs-AR.Set_1	Z.TX-vs-AR.Set_2	Z.TX-vs-AR.Meta
MDC	0.020738	-0.00217	0.14219	0.01375	0.110266
MIF	0.141713	0.364004	0.978121	2.412778	2.397727
MIP.1alpha	0.271918	0.311548	1.912272	2.038147	2.793368
MIP.1beta	0.022338	0.272983	0.153165	1.771405	1.360876
MMP.2	0.166311	0.184576	1.150864	1.180899	1.648805
MMP.3	0.441913	0.448621	3.253728	3.054585	4.460651
MMP.9	0.02408	0.115966	0.165113	0.73675	0.637713
Myeloperoxidase	0.040536	0.113764	0.278052	0.722634	0.707592
Myoglobin	0.315895	0.324539	2.242354	2.129553	3.091405
NGF.beta	-0.14286	0.117298	0.986124	0.745286	1.224292
NrCAM	0.334256	0.394634	2.383111	2.63909	3.551232
PAI.1	-0.07952	-0.04094	0.5463	0.259099	0.569503
Pancreatic.Polypeptide	0.110162	0.119287	0.758313	0.758045	1.072227
PAPP.A	0.260508	0.148734	1.828085	0.947706	1.96278
PDGF	-0.24143	-0.10628	1.688463	0.674692	1.671003
Progesterone	0.162804	0.408228	1.126152	2.741585	2.734903
Prolactin	0.365822	0.193777	2.629764	1.241247	2.737218
Prostate.Specific.Antigen..Free	0.07475	0.122761	0.513415	0.780348	0.914828

Prostatic. Acid.Phos phatase	0.090012	-0.21533	0.618763	1.383534	1.415838
PARC	0.160196	0.160555	1.107793	1.024304	1.50762
Peptide.Y Y	0.454903	0.412226	3.365202	2.771987	4.339648
RANTES	-0.074	-0.08958	0.508249	0.568059	0.761065
Resistin	0.445155	0.265246	3.281401	1.718656	3.535574
Secretin	0.084473	0.219683	0.580499	1.412419	1.409206
Serum.Am yloid.P	0.055371	0.388127	0.379994	2.59049	2.100449
SGOT	0.138216	-0.16549	0.953667	1.056337	1.421288
SHBG	-0.16855	-0.22307	1.166651	1.434921	1.839589
SOD	-0.02863	0.04003	0.196302	0.253307	0.317921
Sortilin	0.105133	0.061774	0.723429	0.391191	0.788156
sRAGE	-0.25618	0.01949	1.796305	0.12328	1.357352
Stem.Cell. Factor	0.414095	0.511028	3.020215	3.567812	4.658439
Tenascin. C	0.315288	0.380769	2.237727	2.535887	3.375455
Testostero ne	0.07893	0.021649	0.542242	0.136939	0.480253
TGF.alpha	-0.13341	0.285182	0.920091	1.855082	1.962343
TGF.b3	-0.08839	0.132805	0.607575	0.844925	1.027072
Thrombop oietin	-0.39584	-0.2175	2.870466	1.397888	3.018182
TECK	0.187007	0.440059	1.297326	2.987114	3.029556
Thyroid.St imulating. Hormone	-0.04246	-0.26793	0.291238	1.73696	1.434152
Thyroxine. Binding.Gl obulin	-0.31751	-0.29424	2.254635	1.917629	2.950236
TIMP.1	0.287496	0.473723	2.02814	3.256258	3.736634
Tissue.Fa ctor	0.073635	-0.05403	0.505732	0.342037	0.599463
TNF.RII	0.565472	0.609502	4.393389	4.478595	6.273439
TNF.alpha	0.33396	0.380832	2.380825	2.536354	3.476971
TNF.beta	0.055466	-0.13252	0.380644	0.843087	0.865309

TRAIL.R3	0.437182	0.291242	3.213527	1.89688	3.613604
VCAM.1	0.444814	0.329508	3.278484	2.164746	3.848945
VEGF	0.515781	0.550142	3.911663	3.912274	5.532359
von.Willebrand.Factor	0.122292	0.417867	0.842611	2.815093	2.586388

probeID	p.TX-vs-AR.Set_1	p.TX-vs-AR.Set_2	p.TX-vs-AR.Meta	q.TX-vs-AR.Set_1	q.TX-vs-AR.Set_2	q.TX-vs-AR.Meta
MDC	0.886335	0.988961	0.912198	0.374357	0.556195	0.05684
MIF	0.326255	0.016415	0.016497	0.227793	0.040389	0.003115
MIP.1alpha	0.056097	0.041983	0.005216	0.086356	0.082641	0.00123
MIP.1beta	0.877629	0.076539	0.173553	0.374357	0.128222	0.017121
MMP.2	0.248371	0.236058	0.099188	0.204286	0.26552	0.011537
MMP.3	0.001314	0.002551	8.17E-06	0.007335	0.015448	7.92E-06
MMP.9	0.868168	0.458974	0.52366	0.374047	0.360957	0.037754
Myeloperoxidase	0.779864	0.467606	0.479199	0.351953	0.360957	0.035171
Myoglobin	0.025431	0.03373	0.001992	0.052262	0.06989	0.000617
NGF.beta	0.322325	0.453798	0.220842	0.227793	0.360957	0.021171
NrCAM	0.01767	0.008825	0.000383	0.043958	0.025734	0.000152
PAI.1	0.583057	0.794334	0.569015	0.312583	0.500046	0.039324
Pancreatic.Polypeptide	0.446307	0.446124	0.283618	0.272928	0.360957	0.024991
PAPP.A	0.067674	0.341157	0.049672	0.098686	0.316638	0.007111
PDGF	0.091211	0.497592	0.094721	0.115273	0.36961	0.011319
Progesterone	0.258628	0.006576	0.00624	0.204286	0.020566	0.001396
Prolactin	0.008987	0.213103	0.006196	0.025554	0.250433	0.001396
Prostate.Specific.Antigen..Free	0.605915	0.432892	0.360282	0.312583	0.358783	0.029933
Prostatic.Acid.Phosphatase	0.534176	0.165519	0.156823	0.306864	0.213645	0.015908
PARC	0.266437	0.303715	0.131652	0.207572	0.297054	0.014356

Peptide.YY	0.000903	0.006018	1.43E-05	0.007335	0.020566	1.24E-05
RANTES	0.609542	0.567838	0.446618	0.312583	0.40645	0.0333
Resistin	0.001198	0.08561	0.000407	0.007335	0.132169	0.000154
Secretin	0.559726	0.156931	0.158774	0.309054	0.209428	0.01592
Serum.Amyloid.P	0.702518	0.010117	0.035689	0.332945	0.027849	0.005535
SGOT	0.338455	0.288909	0.155233	0.227793	0.297054	0.015908
SHBG	0.241971	0.150482	0.065829	0.20397	0.204283	0.008701
SOD	0.843565	0.798831	0.750545	0.366221	0.500046	0.047791
Sortilin	0.46746	0.693936	0.430606	0.279845	0.46574	0.032664
sRAGE	0.072532	0.901276	0.17467	0.103126	0.533559	0.017121
Stem.Cell.Factor	0.002794	0.000462	3.19E-06	0.011351	0.003639	3.97E-06
Tenascin.C	0.025731	0.011769	0.000737	0.052262	0.029893	0.000257
Testosterone	0.585856	0.890405	0.631047	0.312583	0.533559	0.042674
TGF.alpha	0.355683	0.063788	0.049723	0.235213	0.111609	0.007111
TGF.b3	0.541585	0.395898	0.304386	0.308009	0.347248	0.026291
Thrombopoietin	0.004435	0.161208	0.002543	0.015765	0.211549	0.000693
TECK	0.193463	0.003148	0.002449	0.183376	0.015517	0.000689
Thyroid.Stimulating.Hormone	0.769716	0.082367	0.151529	0.3502	0.129706	0.015737
Thyroxine.Binding.Globulin	0.024652	0.05546	0.003175	0.052262	0.101552	0.000815
TIMP.1	0.042924	0.001333	0.000186	0.075	0.008748	0.000102
Tissue.Factor	0.611313	0.730772	0.548864	0.312583	0.483516	0.038927
TNF.RII	1.88E-05	1.44E-05	3.53E-10	0.000356	0.000566	1.54E-09
TNF.alpha	0.017777	0.011754	0.000507	0.043958	0.029893	0.000184
TNF.beta	0.702034	0.396923	0.386869	0.332945	0.347248	0.030154
TRAIL.R3	0.001501	0.058115	0.000302	0.007335	0.103994	0.000138
VCAM.1	0.00121	0.03095	0.000119	0.007335	0.067691	6.90E-05
VEGF	0.000126	0.000133	3.16E-08	0.001197	0.001491	6.89E-08
von.Willeb	0.397526	0.0053	0.009699	0.254022	0.019871	0.001968

rand.Factor

probeID	cor.TX-vs-CAN.Set_1	cor.TX-vs-CAN.Set_2	Z.TX-vs-CAN.Set_1	Z.TX-vs-CAN.Set_2	Z.TX-vs-CAN.Meta
MDC	0.184673	-0.20418	1.280746	1.30977	1.831771
MIF	-0.03028	0.173263	0.207656	1.106978	0.929587
MIP.1alpha	0.313204	0.271348	2.221875	1.760243	2.815783
MIP.1beta	-0.04866	0.217295	0.333889	1.396561	1.223613
MMP.2	0.289563	0.218129	2.043599	1.402093	2.436472
MMP.3	0.590033	0.498382	4.646195	3.460484	5.732288
MMP.9	0.147526	-0.0469	1.018823	0.29681	0.930293
Myeloperoxidase	-0.32289	0.164726	2.295728	1.051399	2.366777
Myoglobin	0.485366	0.439982	3.633357	2.986508	4.680952
NGF.beta	-0.14286	0.289265	0.986124	1.883221	2.028934
NrCAM	0.4261	0.387812	3.120157	2.588144	4.036379
PAI.1	-0.24008	0.078037	1.678639	0.494557	1.536681
Pancreatic.Polypeptide	0.334016	0.318936	2.381255	2.090024	3.161671
PAPP.A	0.371781	0.036952	2.677054	0.233814	2.058295
PDGF	-0.35852	0.1521	2.572147	0.969488	2.504314
Progesterone	0.112085	0.140025	0.771657	0.891451	1.175995
Prolactin	0.606472	0.30348	4.821735	1.981791	4.810819
Prostate.Specific.Antigen..Free	0.171232	0.083955	1.185586	0.532233	1.214682
Prostatic.Acid.Phosphatase	0.125276	-0.34453	0.863383	2.271932	2.217002
PARC	0.155144	-0.10163	1.072272	0.645016	1.214306
Peptide.YY	0.305702	0.359425	2.165	2.379455	3.213415
RANTES	-0.37216	0.036513	2.680046	0.231032	2.058443

Resistin	0.741489	0.465578	6.538783	3.190168	6.879407
Secretin	0.223501	0.236074	1.558552	1.521769	2.178115
Serum.Amyloid.P	-0.10503	0.184815	0.722717	1.182458	1.347162
SGOT	0.478992	-0.11072	3.576428	0.703143	3.026114
SHBG	0.361378	0.086673	2.594657	0.549548	2.223289
SOD	-0.64202	0.10839	5.221275	0.688222	4.178645
Sortilin	-0.20894	0.031076	1.453793	0.196605	1.167008
sRAGE	0.194518	0.018859	1.350757	0.119287	1.039478
Stem.Cell.Factor	0.621128	0.653251	4.982956	4.939153	7.01599
Tenascin.C	0.315348	0.448986	2.238184	3.057479	3.744599
Testosterone	-0.06065	-0.233	0.41628	1.50117	1.355842
TGF.alpha	-0.06146	0.318665	0.421897	2.08812	1.774849
TGF.b3	0.026359	0.185642	0.180747	1.187878	0.967764
Thrombopoietin	-0.31356	-0.38236	2.224602	2.547646	3.374489
TECK	0.32947	0.334517	2.346236	2.200346	3.214919
Thyroid.Stimulating.Hormone	0.050745	-0.31956	0.348192	2.094415	1.727184
Thyroxine.Binding.Globulin	0.043194	-0.07695	0.29631	0.487635	0.554333
TIMP.1	0.169449	0.399849	1.172995	2.678252	2.723243
Tissue.Factor	0.297355	0.047158	2.10205	0.298473	1.697426
TNF.RII	0.68866	0.680426	5.795793	5.248792	7.8097
TNF.alpha	0.386616	0.31424	2.795844	2.057015	3.431489
TNF.beta	2.08E-17	-0.02166	0	0.136981	0.09686
TRAIL.R3	0.607785	0.409098	4.835988	2.748192	5.362825
VCAM.1	0.510293	0.382044	3.860593	2.545326	4.529669
VEGF	0.691197	0.727241	5.828977	5.83659	8.248802
von.Willebrand.Factor	0.009654	0.412935	0.066189	2.777391	2.010714

probeID	p.TX-vs-CAN.Set_1	p.TX-vs-CAN.Set_2	p.TX-vs-CAN.Meta	q.TX-vs-CAN.Set_1	q.TX-vs-CAN.Set_2	q.TX-vs-CAN.Meta
MDC	0.199184	0.189067	0.066986	0.171894	0.179082	0.007235
MIF	0.834645	0.266521	0.352585	0.487639	0.206125	0.024971
MIP.1alpha	0.026779	0.078389	0.004866	0.038441	0.096979	0.000914
MIP.1beta	0.73717	0.161603	0.221098	0.448937	0.160596	0.017644
MMP.2	0.041384	0.159961	0.014831	0.055357	0.160596	0.002288
MMP.3	6.50E-06	0.000671	9.91E-09	3.25E-05	0.003697	1.22E-08
MMP.9	0.306596	0.765233	0.352219	0.234349	0.372511	0.024971
Myeloperoxidase	0.022193	0.291158	0.017944	0.034634	0.210119	0.002628
Myoglobin	0.000353	0.003154	2.86E-06	0.001244	0.010621	1.45E-06
NGF.beta	0.322325	0.05992	0.042465	0.243883	0.080719	0.004962
NrCAM	0.002033	0.010183	5.43E-05	0.005077	0.025721	1.95E-05
PAI.1	0.093091	0.618903	0.124371	0.104077	0.323211	0.011306
Pancreatic.Polypeptide	0.017757	0.037109	0.001569	0.028916	0.057945	0.000339
PAPP.A	0.007851	0.814012	0.039562	0.015078	0.377854	0.004748
PDGF	0.01057	0.330217	0.012269	0.017994	0.224918	0.001927
Progesterone	0.438363	0.370482	0.239597	0.315736	0.246337	0.01865
Prolactin	3.04E-06	0.04789	1.50E-06	1.75E-05	0.067513	8.66E-07
Prostate.Specific.Antigen..Free	0.23445	0.592473	0.224487	0.1908	0.321288	0.017644
Prostatic.Acid.Phosphatase	0.386024	0.023671	0.026623	0.28349	0.043483	0.003594
PARC	0.282009	0.516661	0.224631	0.217778	0.295471	0.017644
Peptide.YY	0.030854	0.017925	0.001312	0.0428	0.03622	0.000291
RANTES	0.007783	0.816185	0.039548	0.015078	0.377854	0.004748
Resistin	7.31E-10	0.001654	6.01E-12	5.47E-08	0.007164	8.65E-12
Secretin	0.118706	0.127494	0.029397	0.120161	0.145824	0.003908
Serum.Am	0.467898	0.235443	0.177928	0.33065	0.193128	0.015072

yloid.P						
SGOT	0.000433	0.479673	0.002477	0.001381	0.291815	0.000522
SHBG	0.009924	0.580505	0.026196	0.017287	0.321288	0.003593
SOD	5.03E-07	0.489026	2.93E-05	4.38E-06	0.291815	1.13E-05
Sortilin	0.145351	0.843184	0.243207	0.140169	0.387226	0.018762
sRAGE	0.175855	0.904459	0.298582	0.163295	0.404243	0.021679
Stem.Cell. Factor	1.49E-06	2.05E-06	2.28E-12	1.01E-05	2.48E-05	3.95E-12
Tenascin. C	0.025701	0.002527	0.000181	0.038441	0.009013	5.20E-05
Testostero ne	0.675675	0.132679	0.17515	0.428923	0.146794	0.014983
TGF.alpha	0.671556	0.037279	0.075923	0.428923	0.057945	0.007903
TGF.b3	0.855818	0.233316	0.333162	0.492675	0.193128	0.023988
Thrombop oietin	0.026596	0.011394	0.00074	0.038441	0.026737	0.000173
TECK	0.019469	0.028341	0.001305	0.031029	0.049956	0.000291
Thyroid.St imulating. Hormone	0.726358	0.03672	0.084135	0.445978	0.057945	0.008453
Thyroxine. Binding.Gl obulin	0.765822	0.623815	0.579351	0.458924	0.323211	0.038212
TIMP.1	0.239432	0.007894	0.006464	0.1908	0.020807	0.001188
Tissue.Fa ctor	0.035982	0.763957	0.089616	0.049006	0.372511	0.0089
TNF.RII	3.24E-08	5.17E-07	5.73E-15	4.04E-07	7.84E-06	1.34E-14
TNF.alpha	0.005548	0.040151	0.0006	0.011231	0.059364	0.000148
TNF.beta	1	0.890371	0.922837	0.535051	0.402793	0.056954
TRAIL.R3	2.85E-06	0.006451	8.19E-08	1.75E-05	0.017776	7.87E-08
VCAM.1	0.000153	0.011467	5.91E-06	0.000574	0.026737	2.69E-06
VEGF	2.75E-08	3.33E-08	1.60E-16	4.04E-07	1.58E-06	9.46E-16
von.Willeb rand.Fact or	0.946947	0.005923	0.044356	0.521567	0.017098	0.00511

probeID	cor.AR-vs- CAN.Set_	cor.AR-vs- CAN.Set_	Z.AR-vs- CAN.Set_	Z.AR-vs- CAN.Set_	Z.AR-vs-CAN.Meta

	1	2	1	2	
MDC	0.103413	-0.167	0.711505	1.155692	1.320308
MIF	-0.10158	-0.1924	0.698807	1.335643	1.438573
MIP.1alpha	0.045648	-0.02223	0.313167	0.152442	0.329236
MIP.1beta	-0.04728	-0.04417	0.324356	0.303	0.443608
MMP.2	0.161158	0.121929	1.114561	0.840083	1.382142
MMP.3	0.125146	0.076195	0.862482	0.523379	0.979952
MMP.9	0.110438	-0.14408	0.760225	0.994719	1.240933
Myeloperoxidase	-0.4953	0.040019	3.723039	0.274501	2.826688
Myoglobin	0.280657	0.197606	1.977136	1.37278	2.368748
NGF.beta	NA	0.017836	NA	0.12229	0.12229
NrCAM	0.087839	0.028086	0.603747	0.192599	0.563102
PAI.1	-0.16141	0.128355	1.116356	0.88484	1.415059
Pancreatic.Polypeptide	0.187375	0.17151	1.299934	1.187552	1.758919
PAPP.A	0.092539	-0.14486	0.636233	1.000163	1.157106
PDGF	-0.02785	0.241131	0.190953	1.686315	1.327429
Progesterone	-0.07019	-0.25156	0.481967	1.76246	1.58705
Prolactin	0.442612	0.162334	3.259687	1.122836	3.098911
Prostate.Specific.Antigen..Free	0.145264	-0.35282	1.002975	2.527376	2.496336
Prostatic.Acid.Phosphatase	-0.02486	-0.13245	0.170494	0.913422	0.766444
PARC	-0.0276	-0.16478	0.189263	1.140064	0.939976
Peptide.YY	0.011431	-0.05506	0.078371	0.377834	0.322586
RANTES	-0.22576	0.137612	1.574834	0.949447	1.784936
Resistin	0.300631	0.209598	2.126714	1.458547	2.535163
Secretin	0.086681	-0.01147	0.595753	0.078617	0.476852
Serum.Amyloid.P	-0.15056	-0.27262	1.040095	1.917472	2.091316
SGOT	0.258178	0.048635	1.810955	0.333687	1.516491

SHBG	0.424867	0.224435	3.109835	1.565293	3.305814
SOD	-0.58662	0.125594	4.610396	0.865603	3.872116
Sortilin	-0.31869	-0.03931	2.263645	0.269604	1.791278
sRAGE	0.316927	0.001461	2.25021	0.010013	1.598219
Stem.Cell.Factor	0.236723	0.24356	1.654269	1.704009	2.374661
Tenascin.C	0.058677	0.182305	0.402735	1.263948	1.178523
Testosterone	-0.16059	-0.29424	1.110594	2.078635	2.255126
TGF.alpha	0.18877	0.032865	1.309849	0.22539	1.085578
TGF.b3	0.115033	0.085377	0.792132	0.586742	0.975012
Thrombopoietin	0.138222	-0.17447	0.953708	1.208463	1.528886
TECK	0.117975	-0.01031	0.812578	0.070668	0.624549
Thyroid.Stimulating.Hormone	0.105729	-0.10608	0.72756	0.730024	1.030667
Thyroxine.Binding.Globulin	0.399715	0.22207	2.902068	1.548231	3.146837
TIMP.1	-0.14848	-0.03518	1.025495	0.241276	0.895742
Tissue.Factor	0.309481	0.100877	2.193614	0.69394	2.041809
TNF.RII	0.150577	0.272693	1.040216	1.918015	2.091785
TNF.alpha	0.095617	-0.07475	0.657525	0.513393	0.827964
TNF.beta	-0.05864	0.077571	0.402446	0.532868	0.661367
TRAIL.R3	0.228393	0.175987	1.593894	1.219199	1.989157
VCAM.1	-0.01033	0.122415	0.070845	0.843465	0.646515
VEGF	0.344022	0.269567	2.458765	1.894885	3.078495
von.Willebrand.Factor	-0.13041	-0.01308	0.899169	0.089651	0.699201

probeID	p.AR-vs-CAN.Set_1	p.AR-vs-CAN.Set_2	p.AR-vs-CAN.Meta	q.AR-vs-CAN.Set_1	q.AR-vs-CAN.Set_2	q.AR-vs-CAN.Meta
MDC	0.474818	0.246401	0.186732	0.482798	0.70734	0.012673

MIF	0.482723	0.180709	0.150272	0.483563	0.67953	0.012314
MIP.1alpha	0.752927	0.878202	0.741978	0.596784	0.886847	0.027883
MIP.1beta	0.744405	0.760696	0.657326	0.596784	0.865859	0.026983
MMP.2	0.26354	0.398941	0.166928	0.39584	0.718387	0.012314
MMP.3	0.386519	0.598946	0.32711	0.43615	0.841836	0.017117
MMP.9	0.445164	0.31814	0.214631	0.462817	0.718387	0.013656
Myeloperoxidase	0.000255	0.782603	0.004703	0.005903	0.865859	0.001911
Myoglobin	0.048356	0.16896	0.017848	0.186431	0.654602	0.003955
NGF.beta	NA	0.902155	0.902669	NA	0.886847	0.032819
NrCAM	0.544132	0.846478	0.573366	0.513556	0.866332	0.02412
PAI.1	0.262774	0.374361	0.157051	0.39584	0.718387	0.012314
Pancreatic.Polypeptide	0.192574	0.233679	0.078591	0.349387	0.70734	0.008511
PAPP.A	0.522712	0.315508	0.247229	0.498621	0.718387	0.014633
PDGF	0.847774	0.091619	0.184367	0.628537	0.554576	0.012673
Progesterone	0.628145	0.07802	0.112501	0.54399	0.554576	0.010805
Prolactin	0.001288	0.260026	0.001942	0.023839	0.70734	0.001324
Prostate.Specific.Antigen..Free	0.314154	0.011968	0.012548	0.417256	0.348404	0.003757
Prostatic.Acid.Phosphatase	0.863914	0.35917	0.443412	0.634424	0.718387	0.020733
PARC	0.849105	0.252817	0.34723	0.628537	0.70734	0.017853
Peptide.YY	0.937201	0.704128	0.747009	0.645313	0.865859	0.027883
RANTES	0.114936	0.340591	0.074272	0.253214	0.718387	0.008329
Resistin	0.033892	0.144049	0.01124	0.142544	0.613899	0.003576
Secretin	0.549469	0.937005	0.633468	0.513556	0.886847	0.026215
Serum.Amyloid.P	0.296644	0.05544	0.0365	0.417256	0.554576	0.005993
SGOT	0.070258	0.737323	0.129395	0.218273	0.865859	0.011975
SHBG	0.002102	0.117134	0.000947	0.027785	0.566686	0.000964
SOD	7.57E-06	0.384807	0.000108	0.000701	0.718387	0.000275

Sortilin	0.024093	0.786385	0.073249	0.123421	0.865859	0.008329
sRAGE	0.02493	0.991968	0.109994	0.123421	0.905896	0.010767
Stem.Cell.Factor	0.097891	0.088298	0.017565	0.244804	0.554576	0.003955
Tenascin.C	0.685649	0.205107	0.238588	0.576931	0.70734	0.014618
Testosterone	0.265235	0.038068	0.024125	0.39584	0.554576	0.004912
TGF.alpha	0.189223	0.820757	0.277666	0.349387	0.865859	0.015704
TGF.b3	0.426336	0.555517	0.329555	0.458704	0.841836	0.017117
Thrombopoietin	0.338435	0.225589	0.126293	0.417256	0.70734	0.011904
TECK	0.414521	0.943363	0.532267	0.45124	0.886847	0.022767
Thyroid.Stimulating.Hormone	0.464926	0.463419	0.302697	0.477993	0.789428	0.016218
Thyroxine.Binding.Globulin	0.004029	0.121146	0.00165	0.046602	0.566686	0.001324
TIMP.1	0.303451	0.808363	0.37039	0.417256	0.865859	0.018666
Tissue.Factor	0.028741	0.485772	0.04117	0.126639	0.796072	0.00635
TNF.RII	0.296588	0.055372	0.036458	0.417256	0.554576	0.005993
TNF.alpha	0.508915	0.605931	0.407691	0.493124	0.841836	0.019764
TNF.beta	0.685862	0.592344	0.508377	0.576931	0.841836	0.022243
TRAIL.R3	0.110645	0.221515	0.046684	0.253214	0.70734	0.006601
VCAM.1	0.943221	0.397049	0.517946	0.645313	0.718387	0.022342
VEGF	0.014435	0.058341	0.00208	0.102742	0.554576	0.001324
von.Willebrand.Factor	0.366696	0.928185	0.484426	0.427173	0.886847	0.021821

probeID	cor.TX-vs-allOther.Set_1	cor.TX-vs-allOther.Set_2	Z.TX-vs-allOther.Set_1	Z.TX-vs-allOther.Set_2	Z.TX-vs-allOther.Meta
MDC	0.085351	-0.08747	0.725997	0.706989	1.013274
MIF	0.016748	0.262886	0.142128	2.170413	1.635214
MIP.1alph	0.28169	0.253312	2.456629	2.087715	3.213336

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MIP.1beta	-0.0122	0.213583	0.103531	1.748883	1.309854
MMP.2	0.216655	0.190024	1.867983	1.550873	2.417496
MMP.3	0.477651	0.433179	4.411809	3.7393	5.763705
MMP.9	0.080224	0.024681	0.682187	0.199023	0.62311
Myeloperoxidase	-0.14194	0.121186	1.212547	0.981862	1.551681
Myoglobin	0.370785	0.34722	3.303594	2.920786	4.401301
NGF.beta	-0.1644	0.130386	1.407747	1.057225	1.742999
NrCAM	0.356109	0.343946	3.160111	2.890808	4.278646
PAI.1	-0.15094	0.024729	1.290667	0.199409	1.053643
Pancreatic.Polypeptide	0.23187	0.210082	2.003922	1.719335	2.63274
PAPP.A	0.306516	0.191152	2.687255	1.560309	3.003482
PDGF	-0.28215	0.025756	2.460882	0.207698	1.886971
Progesterone	0.150933	0.242195	1.290568	1.99222	2.321282
Prolactin	0.454698	0.199473	4.162936	1.630054	4.096262
Prostate.Specific.Antigen..Free	0.109009	-0.04202	0.928658	0.338956	0.896338
Prostatic.Acid.Phosphatase	0.072363	-0.25033	0.615094	2.062057	1.893032
PARC	0.148516	0.043472	1.269588	0.350704	1.14572
Peptide.YY	0.363236	0.34968	3.229568	2.943362	4.364921
RANTES	-0.20822	-0.02349	1.793052	0.189391	1.401799
Resistin	0.518695	0.323071	4.875244	2.701438	5.357523
Secretin	0.125258	0.189078	1.068462	1.542963	1.846556
Serum.Amyloid.P	-0.01967	0.242773	0.166901	1.997174	1.530232
SGOT	0.264746	-0.12352	2.301251	1.000984	2.335033
SHBG	0.112484	-0.06857	0.958512	0.553691	1.069289
SOD	-0.30918	0.08366	2.712198	0.676069	2.395867
Sortilin	-0.04429	0.034962	0.376087	0.28199	0.465331
sRAGE	-0.05465	0.019511	0.464221	0.15732	0.439496

Stem.Cell.Factor	0.485245	0.5154	4.49569	4.595932	6.428748
Tenascin.C	0.304279	0.39645	2.66632	3.381555	4.276493
Testosterone	0.007738	-0.09854	0.065663	0.797077	0.61005
TGF.alpha	-0.10708	0.274568	0.912099	2.271924	2.251444
TGF.b3	-0.02423	0.129616	0.205642	1.050909	0.888516
Thrombopoietin	-0.33237	-0.23915	2.931586	1.966158	3.463228
TECK	0.214433	0.339491	1.848212	2.850142	3.322237
Thyroid.Stimulating.Hormone	1.53E-05	-0.25996	0.000129	2.145112	1.516914
Thyroxine.Binding.Globulin	-0.13412	-0.17346	1.144912	1.412786	1.808566
TIMP.1	0.21861	0.391884	1.88539	3.33797	3.693474
Tissue.Factor	0.149151	0.002911	1.275101	0.023467	0.918226
TNF.RII	0.58186	0.578802	5.645007	5.326405	7.757959
TNF.alpha	0.342067	0.309458	3.024426	2.579487	3.962565
TNF.beta	0.027471	-0.05735	0.233157	0.462882	0.492174
TRAIL.R3	0.480544	0.32049	4.443666	2.67823	5.035941
VCAM.1	0.441897	0.315102	4.026989	2.62991	4.707138
VEGF	0.590959	0.581946	5.76268	5.364633	7.868198
von.Willebrand.Factor	0.060914	0.38273	0.51751	3.251136	2.664835

probeID	p.TX-vs-allOther.Set_1	p.TX-vs-allOther.Set_2	p.TX-vs-allOther.Meta	q.TX-vs-allOther.Set_1	q.TX-vs-allOther.Set_2	q.TX-vs-allOther.Meta
MDC	0.466565	0.478162	0.310929	0.338171	0.293162	0.001164
MIF	0.886591	0.030321	0.102004	0.511167	0.046236	0.000517
MIP.1alpha	0.014352	0.037136	0.001312	0.028744	0.052583	1.53E-05
MIP.1beta	0.917257	0.080319	0.190245	0.517096	0.086848	0.000811

MMP.2	0.061899	0.120637	0.015628	0.082646	0.110375	0.000118
MMP.3	1.47E-05	0.000224	8.23E-09	0.000124	0.001483	5.91E-10
MMP.9	0.493853	0.841653	0.533212	0.349051	0.38204	0.001852
Myeloperoxidase	0.224477	0.324901	0.120739	0.208339	0.220019	0.000598
Myoglobin	0.001058	0.00372	1.08E-05	0.003833	0.009217	2.73E-07
NGF.beta	0.158707	0.28924	0.081334	0.172549	0.213937	0.000433
NrCAM	0.001715	0.004081	1.88E-05	0.005437	0.009708	3.89E-07
PAI.1	0.196122	0.841349	0.292046	0.196946	0.38204	0.001111
Pancreatic.Polypeptide	0.045318	0.085522	0.00847	0.066325	0.090822	6.89E-05
PAPP.A	0.007481	0.118408	0.002669	0.017792	0.110028	2.87E-05
PDGF	0.014186	0.834849	0.059164	0.028744	0.38204	0.000354
Progesterone	0.196156	0.046602	0.020272	0.196946	0.057739	0.000141
Prolactin	4.16E-05	0.102926	4.20E-05	0.000226	0.105536	7.86E-07
Prostate.Specific.Antigen..Free	0.351872	0.733697	0.370072	0.279482	0.357652	0.001351
Prostatic.Acid.Phosphatase	0.537258	0.039502	0.058354	0.37171	0.052683	0.000354
PARC	0.203498	0.724838	0.251911	0.197695	0.357652	0.000987
Peptide.YY	0.00136	0.003467	1.27E-05	0.004704	0.008965	3.04E-07
RANTES	0.073024	0.849221	0.160975	0.092798	0.38204	0.000722
Resistin	1.87E-06	0.007206	8.44E-08	2.37E-05	0.015304	4.31E-09
Secretin	0.284272	0.122531	0.064811	0.237743	0.110409	0.000372
Serum.Amyloid.P	0.866995	0.046065	0.125959	0.50756	0.057739	0.000603
SGOT	0.021711	0.315591	0.019542	0.039342	0.220019	0.000138
SHBG	0.336638	0.57848	0.284939	0.275482	0.334006	0.001096
SOD	0.006954	0.497595	0.016581	0.01764	0.298913	0.000121
Sortilin	0.705926	0.77714	0.641695	0.440365	0.369737	0.002115
sRAGE	0.641416	0.874519	0.660302	0.416381	0.385247	0.002123
Stem.Cell.Factor	1.02E-05	6.87E-06	1.29E-10	0.000111	8.18E-05	1.11E-11

Tenascin.C	0.007951	0.000817	1.90E-05	0.018338	0.003038	3.89E-07
Testosterone	0.947465	0.424	0.541829	0.526328	0.271136	0.001867
TGF.alpha	0.360509	0.023457	0.024357	0.282852	0.037703	0.000159
TGF.b3	0.83652	0.292123	0.374263	0.501287	0.213937	0.001355
Thrombopoietin	0.003575	0.049516	0.000534	0.009718	0.060098	6.97E-06
TECK	0.064688	0.004622	0.000893	0.084881	0.010573	1.10E-05
Thyroid.Stimulating.Hormone	0.999896	0.03228	0.129288	0.543552	0.047994	0.000605
Thyroxine.Binding.Globulin	0.251314	0.157174	0.070519	0.222398	0.133532	0.000393
TIMP.1	0.059528	0.00095	0.000221	0.080899	0.003324	3.07E-06
Tissue.Factor	0.20155	0.981206	0.3585	0.197695	0.416808	0.00132
TNF.RII	4.38E-08	2.34E-07	8.63E-15	6.70E-07	3.49E-06	1.24E-15
TNF.alpha	0.002666	0.010231	7.41E-05	0.007515	0.017896	1.28E-06
TNF.beta	0.815021	0.642262	0.622596	0.49228	0.341034	0.002095
TRAIL.R3	1.28E-05	0.00771	4.76E-07	0.000122	0.015811	1.58E-08
VCAM.1	7.22E-05	0.008864	2.51E-06	0.000366	0.017004	6.76E-08
VEGF	2.38E-08	1.94E-07	3.60E-15	6.04E-07	3.49E-06	7.75E-16
von.Willebrand.Factor	0.603656	0.001277	0.007703	0.39949	0.004218	6.64E-05

probeID	cor.AR-vs-allOther.Set_1	cor.AR-vs-allOther.Set_2	Z.AR-vs-allOther.Set_1	Z.AR-vs-allOther.Set_2	Z.AR-vs-allOther.Meta
MDC	0.044152	-0.10158	0.374886	0.821797	0.846182
MIF	-0.07082	-0.26011	0.601937	2.146353	1.943335
MIP.1alpha	-0.11093	-0.13617	0.945173	1.104693	1.449474
MIP.1beta	-0.03377	-0.13205	0.286655	1.07088	0.959922
MMP.2	0.01271	-0.00345	0.107854	0.027818	0.095934
MMP.3	-0.14378	-0.14949	1.228546	1.214319	1.727366

MMP.9	0.035644	-0.09215	0.302578	0.745027	0.740768
Myeloperoxidase	-0.25356	-0.02434	2.199488	0.196244	1.694038
Myoglobin	-0.01328	-0.01769	0.112693	0.142663	0.180564
NGF.beta	0.082199	-0.04409	0.699063	0.355716	0.745841
NrCAM	-0.09995	-0.1394	0.85092	1.131277	1.401625
PAI.1	-0.03942	0.09006	0.334695	0.72806	0.751481
Pancreatic.Polypeptide	0.024146	0.071138	0.204922	0.574506	0.551139
PAPP.A	-0.0615	-0.19526	0.522541	1.594702	1.497117
PDGF	0.11224	0.175323	0.956416	1.428259	1.68622
Progesterone	-0.10165	-0.31134	0.865538	2.596236	2.447844
Prolactin	0.052892	0.016995	0.449223	0.137034	0.414547
Prostate.Specific.Antigen..Free	0.047086	-0.2301	0.399836	1.888941	1.61841
Prostatic.Acid.Phosphatase	-0.01399	0.000403	0.118733	0.003249	0.086255
PARC	-0.09259	-0.17231	0.787868	1.403169	1.549298
Peptide.YY	-0.21813	-0.21381	1.881145	1.750815	2.568184
RANTES	-0.07018	0.105098	0.596467	0.850469	1.023138
Resistin	-0.07343	-0.00506	0.624197	0.0408	0.470224
Secretin	0.00886	-0.0961	0.075181	0.777203	0.602727
Serum.Amyloid.P	-0.10016	-0.32046	0.852751	2.677962	2.496591
SGOT	0.060979	0.097092	0.518064	0.785253	0.921585
SHBG	0.287531	0.214779	2.510558	1.758993	3.019029
SOD	-0.26796	0.04512	2.330599	0.364018	1.905381
Sortilin	-0.19383	-0.04644	1.665734	0.37466	1.442776
sRAGE	0.2925	-0.0175	2.556594	0.141099	1.907557
Stem.Cell.Factor	-0.08241	-0.07763	0.700877	0.627097	0.939019
Tenascin.C	-0.13667	-0.08143	1.166982	0.657936	1.290412
Testostero	-0.1135	-0.17285	0.967285	1.407653	1.679335

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TGF.alpha	0.108733	-0.09836	0.926292	0.795538	1.217517
TGF.b3	0.089999	0.015428	0.765735	0.124393	0.629415
Thrombopoietin	0.240406	-0.03481	2.080632	0.280745	1.669746
TECK	-0.02747	-0.18083	0.233126	1.474139	1.207218
Thyroid.Stimulating.Hormone	0.072018	0.043569	0.612154	0.351487	0.681397
Thyroxine.Binding.Globulin	0.334454	0.248786	2.951476	2.048769	3.535707
TIMP.1	-0.20876	-0.2303	1.797789	1.890625	2.608103
Tissue.Factor	0.131736	0.075439	1.12435	0.609366	1.225922
TNF.RII	-0.16053	-0.08516	1.374063	0.688222	1.458256
TNF.alpha	-0.10733	-0.19093	0.914248	1.558468	1.748474
TNF.beta	-0.05494	0.086686	0.466667	0.700646	0.825415
TRAIL.R3	-0.09299	-0.02429	0.791365	0.195899	0.698101
VCAM.1	-0.17067	-0.06317	1.462463	0.510008	1.394748
VEGF	-0.06845	-0.06687	0.581686	0.53991	0.793088
von.Willebrand.Factor	-0.11453	-0.17101	0.976073	1.392382	1.674751

probeID	p.AR-vs-allOther.Set_1	p.AR-vs-allOther.Set_2	p.AR-vs-allOther.Meta	q.AR-vs-allOther.Set_1	q.AR-vs-allOther.Set_2	q.AR-vs-allOther.Meta
MDC	0.706821	0.409795	0.397451	0.620378	0.652575	0.091697
MIF	0.545991	0.032182	0.051976	0.553516	0.336243	0.041592
MIP.1alpha	0.343391	0.268195	0.147205	0.528951	0.528323	0.052399
MIP.1beta	0.773634	0.283075	0.337095	0.63491	0.528323	0.082684
MMP.2	0.913815	0.977722	0.923573	0.65242	0.806612	0.155457
MMP.3	0.218442	0.223713	0.084102	0.497507	0.523705	0.044623
MMP.9	0.761434	0.454841	0.458834	0.63491	0.663886	0.09809
Myeloperoxidase	0.028163	0.843835	0.090258	0.298848	0.779942	0.044623

Myoglobin	0.909965	0.886125	0.85671	0.65242	0.779942	0.145716
NGF.beta	0.483241	0.72107	0.455763	0.553516	0.756467	0.09809
NrCAM	0.393566	0.256883	0.161027	0.531527	0.528323	0.053526
PAI.1	0.73701	0.465163	0.452363	0.63491	0.667466	0.09809
Pancreatic.Polypeptide	0.837084	0.564293	0.581538	0.643381	0.713822	0.108408
PAPP.A	0.600144	0.110557	0.134363	0.572273	0.409994	0.051327
PDGF	0.337693	0.152702	0.091753	0.528951	0.419531	0.044623
Progesterone	0.385504	0.009757	0.014371	0.531527	0.202616	0.022325
Prolactin	0.65222	0.890589	0.678474	0.594262	0.779942	0.122557
Prostate.Specific.Antigen..Free	0.688308	0.059068	0.105574	0.609723	0.336243	0.04731
Prostatic.Acid.Phosphatase	0.905161	0.997397	0.931264	0.65242	0.811089	0.155457
PARC	0.429502	0.160004	0.12131	0.54787	0.419531	0.049593
Peptide.YY	0.060099	0.079989	0.010223	0.298848	0.364264	0.02106
RANTES	0.549642	0.393682	0.306242	0.553516	0.652575	0.077566
Resistin	0.531258	0.96733	0.638195	0.553516	0.804034	0.116182
Secretin	0.939863	0.435628	0.54669	0.652724	0.652575	0.103569
Serum.Amyloid.P	0.392551	0.007716	0.012539	0.531527	0.202616	0.02106
SGOT	0.603269	0.430896	0.356745	0.572273	0.652575	0.085351
SHBG	0.012373	0.0786	0.002536	0.256481	0.364264	0.014773
SOD	0.02011	0.714844	0.056731	0.256481	0.756467	0.041592
Sortilin	0.095669	0.70689	0.149084	0.356984	0.756467	0.052399
sRAGE	0.01088	0.887365	0.056449	0.256481	0.779942	0.041592
Stem.Cell.Factor	0.482107	0.52922	0.347721	0.553516	0.68467	0.084402
Tenascin.C	0.242319	0.509185	0.196908	0.497507	0.682001	0.061579
Testosterone	0.332243	0.15868	0.093087	0.528951	0.419531	0.044623
TGF.alpha	0.353098	0.424894	0.223407	0.528951	0.652575	0.063162
TGF.b3	0.442559	0.900627	0.529077	0.553516	0.782712	0.102045

Thrombopoietin	0.037748	0.778098	0.09497	0.298848	0.770309	0.044623
TECK	0.815046	0.140013	0.227348	0.643381	0.419531	0.063162
Thyroid.Stimulating.Hormone	0.539204	0.724249	0.49562	0.553516	0.756467	0.09956
Thyroxine.Binding.Globulin	0.00336	0.040776	0.000407	0.236366	0.336243	0.009477
TIMP.1	0.072275	0.058845	0.009105	0.314295	0.336243	0.02106
Tissue.Factor	0.259902	0.540919	0.220228	0.497507	0.691943	0.063162
TNF.RII	0.168866	0.489907	0.14477	0.42514	0.667466	0.052399
TNF.alpha	0.359381	0.11884	0.080382	0.528951	0.409994	0.044623
TNF.beta	0.639661	0.482114	0.409136	0.594137	0.667466	0.09256
TRAIL.R3	0.42746	0.844106	0.485114	0.54787	0.779942	0.099106
VCAM.1	0.143207	0.608788	0.163092	0.42514	0.737338	0.053526
VEGF	0.559569	0.587964	0.427726	0.557643	0.723964	0.095835
von.Willebrand.Factor	0.327879	0.163224	0.093983	0.528951	0.419531	0.044623

probeID	cor.CAN-vs-allOther.Set_1	cor.CAN-vs-allOther.Set_2	Z.CAN-vs-allOther.Set_1	Z.CAN-vs-allOther.Set_2	Z.CAN-vs-allOther.Meta
MDC	-0.1295	0.181611	1.105078	1.480622	1.828367
MIF	0.054072	0.019567	0.459262	0.157778	0.436313
MIP.1alpha	-0.17076	-0.09561	1.463268	0.77319	1.581414
MIP.1beta	0.04597	-0.06338	0.390347	0.511637	0.637798
MMP.2	-0.22937	-0.17042	1.981477	1.387508	2.382232
MMP.3	-0.33387	-0.24687	2.945889	2.032273	3.520092
MMP.9	-0.11587	0.069564	0.987606	0.561753	1.095563
Myeloperoxidase	0.395494	-0.08655	3.549356	0.699525	3.004413
Myoglobin	-0.3575	-0.30001	3.173678	2.495514	4.008724
NGF.beta	0.082199	-0.07521	0.699063	0.607507	0.923885

NrCAM	-0.25616	-0.1753	2.223113	1.428091	2.581792
PAI.1	0.190368	-0.11269	1.635274	0.912383	1.801466
Pancreatic.Polypeptide	-0.25602	-0.26336	2.221782	2.17453	3.108662
PAPP.A	-0.24501	0.020356	2.122164	0.16414	1.616661
PDGF	0.169911	-0.19889	1.455865	1.625162	2.178615
Progesterone	-0.04928	0.089729	0.418499	0.725371	0.808838
Prolactin	-0.50759	-0.19951	4.747326	1.630377	4.509717
Prostate.Specific.Antigen..Free	-0.15609	0.268545	1.335426	2.2195	2.513712
Prostatic.Acid.Phosphatase	-0.05837	0.228648	0.495857	1.876594	1.677576
PARC	-0.05593	0.132529	0.475082	1.074804	1.095935
Peptide.YY	-0.1451	-0.10614	1.239988	0.858987	1.484199
RANTES	0.278402	-0.08361	2.426357	0.675646	2.193447
Resistin	-0.44527	-0.29055	4.062575	2.41193	4.578167
Secretin	-0.13412	-0.0769	1.144928	0.621232	1.248864
Serum.Amyloid.P	0.119828	0.098325	1.02168	0.795292	1.284793
SGOT	-0.32572	0.01593	2.868346	0.128445	2.119051
SHBG	-0.40001	-0.15204	3.594924	1.235355	3.415524
SOD	0.577136	-0.12167	5.584658	0.985806	4.646019
Sortilin	0.238118	0.014447	2.060044	0.116485	1.539038
sRAGE	-0.23785	-0.00035	2.057585	0.002844	1.456944
Stem.Cell.Factor	-0.40283	-0.39396	3.62344	3.357771	4.936462
Tenascin.C	-0.16761	-0.28132	1.435763	2.330941	2.663461
Testosterone	0.105766	0.263012	0.900824	2.171504	2.172464
TGF.alpha	-0.00165	-0.15287	0.014028	1.242231	0.888309
TGF.b3	-0.06577	-0.13403	0.558868	1.087087	1.163866
Thrombopoietin	0.091965	0.253628	0.782556	2.090432	2.031509

TECK	-0.18697	-0.1298	1.605344	1.052396	1.879306
Thyroid.Stimulating.Hormone	-0.07203	0.194295	0.612284	1.586624	1.554863
Thyroxine.Binding.Globulin	-0.20034	-0.09007	1.723227	0.728136	1.733376
TIMP.1	-0.00985	-0.12827	0.083603	1.039904	0.794439
Tissue.Factor	-0.28089	-0.0781	2.449232	0.630965	2.178028
TNF.RII	-0.42133	-0.44444	3.812464	3.851766	5.419429
TNF.alpha	-0.23474	-0.09222	2.029656	0.745616	1.962414
TNF.beta	0.027471	-0.03421	0.233157	0.275927	0.359977
TRAIL.R3	-0.38755	-0.26895	3.469748	2.223041	4.02541
VCAM.1	-0.27123	-0.22514	2.360531	1.846785	2.975022
VEGF	-0.52251	-0.46561	4.919693	4.066991	6.354545
von.Willebrand.Factor	0.053613	-0.17919	0.455358	1.460421	1.35466

probeID	p.CAN-vs-allOther.Set_1	p.CAN-vs-allOther.Set_2	p.CAN-vs-allOther.Meta	q.CAN-vs-allOther.Set_1	q.CAN-vs-allOther.Set_2	q.CAN-vs-allOther.Meta
MDC	0.268136	0.138288	0.067495	0.206847	0.223243	0.000181
MIF	0.64498	0.874157	0.662609	0.338084	0.443265	0.000898
MIP.1alpha	0.142988	0.437998	0.113783	0.128659	0.336477	0.000255
MIP.1beta	0.695328	0.607646	0.523605	0.345474	0.358149	0.000749
MMP.2	0.047763	0.164695	0.017208	0.052971	0.242241	6.80E-05
MMP.3	0.003419	0.042408	0.000431	0.008494	0.107958	3.92E-06
MMP.9	0.322208	0.572964	0.27327	0.235426	0.355893	0.000482
Myeloperoxidase	0.000445	0.482815	0.002661	0.001974	0.33826	1.61E-05
Myoglobin	0.001639	0.012932	6.10E-05	0.004848	0.071331	7.39E-07
NGF.beta	0.483241	0.542153	0.355546	0.306248	0.34533	0.000567
NrCAM	0.026533	0.15275	0.009829	0.035944	0.23512	4.25E-05
PAI.1	0.101852	0.360229	0.07163	0.100407	0.308986	0.000186

Pancreatic.Polypeptide	0.026623	0.030012	0.001879	0.035944	0.094657	1.31E-05
PAPP.A	0.034121	0.869127	0.105951	0.042383	0.443265	0.000247
PDGF	0.145011	0.103956	0.02936	0.128659	0.181069	9.85E-05
Progesterone	0.674581	0.466811	0.418609	0.344738	0.336477	0.000629
Prolactin	3.35E-06	0.102858	6.49E-06	4.16E-05	0.181069	1.47E-07
Prostate.Specific.Antigen..Free	0.181115	0.02681	0.011947	0.154088	0.094657	5.05E-05
Prostatic.Acid.Phosphatase	0.618878	0.06073	0.09343	0.33716	0.143558	0.000223
PARC	0.63364	0.281319	0.273107	0.337728	0.296895	0.000482
Peptide.YY	0.214198	0.38897	0.137756	0.172767	0.314717	0.000294
RANTES	0.015582	0.497864	0.028275	0.027024	0.33826	9.85E-05
Resistin	6.26E-05	0.016235	4.69E-06	0.000588	0.076754	1.22E-07
Secretin	0.251307	0.533075	0.211715	0.197567	0.34533	0.000409
Serum.Amyloid.P	0.305834	0.425037	0.198865	0.226122	0.330969	0.000389
SGOT	0.004349	0.897407	0.034086	0.009646	0.443265	0.000109
SHBG	0.000377	0.215823	0.000637	0.001801	0.250612	5.26E-06
SOD	5.96E-08	0.322966	3.38E-06	1.93E-06	0.296895	1.02E-07
Sortilin	0.039665	0.906914	0.123795	0.047654	0.444643	0.000268
sRAGE	0.039899	0.997722	0.145132	0.047654	0.472467	0.000303
Stem.Cell.Factor	0.00034	0.000887	7.96E-07	0.001757	0.011747	3.61E-08
Tenascin.C	0.150618	0.020126	0.007734	0.131751	0.088808	3.69E-05
Testosterone	0.366466	0.030238	0.029821	0.24473	0.094657	9.85E-05
TGF.alpha	0.988769	0.213289	0.374374	0.438634	0.250612	0.00057
TGF.b3	0.575063	0.275874	0.244478	0.326829	0.296895	0.000458
Thrombopoietin	0.432615	0.036893	0.042203	0.282823	0.101744	0.000126
TECK	0.108235	0.291443	0.060203	0.105032	0.296895	0.000171
Thyroid.St	0.539117	0.112363	0.119979	0.32607	0.190694	0.000263

imulating. Hormone						
Thyroxine. Binding.Gl obulin	0.084825	0.465116	0.083029	0.087803	0.336477	0.00021
TIMP.1	0.933141	0.297192	0.42694	0.426132	0.296895	0.000636
Tissue.Fa ctor	0.014644	0.526685	0.029404	0.02675	0.34515	9.85E-05
TNF.RII	0.000167	0.000147	5.98E-08	0.001037	0.003301	5.43E-09
TNF.alpha	0.042646	0.454485	0.049714	0.049973	0.336477	0.000143
TNF.beta	0.815021	0.781808	0.718864	0.392387	0.417308	0.00096
TRAIL.R3	0.000592	0.026571	5.69E-05	0.002298	0.094657	7.38E-07
VCAM.1	0.018584	0.064904	0.00293	0.02815	0.148133	1.72E-05
VEGF	1.52E-06	6.31E-05	2.09E-10	2.36E-05	0.003301	3.80E-11
von.Willeb rand.Fact or	0.647791	0.143718	0.175526	0.338084	0.226486	0.000354

[0138] It should be appreciated by those of skill in the art that the techniques disclosed in the examples above represent techniques discovered by the inventors to function well in the practice of the invention. Those of skill in the art should, however, in light of the present disclosure, appreciate that many changes can be made in the specific embodiments that are disclosed and still obtain a like or similar result without departing from the spirit and scope of the invention, therefore all matter set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

CLAIMS

What is claimed is:

1. A method for diagnosing, monitoring, or determining kidney transplant rejection or an associated disorder in a mammal, the method comprising:
    a. providing a test sample comprising a sample of bodily fluid taken from the mammal;
    b. determining sample concentrations for sample analytes in the test sample, wherein the sample analytes are microalbumin, VEGF, BLC, CD40, IGF BP2, MMP3, peptide YY, stem cell factor, TNF RII, AXL, Eotaxin 3, FABP, FGF basic, myoglobin, resistin, TRAIL R3, endothelin 1, NrCAM, Tenascin C, VCAM1, and cortisol;
    c. comparing the combination of sample concentrations to a data set comprising at least one entry, wherein each entry of the data set comprises a list comprising three or more minimum diagnostic concentrations indicative of kidney transplant rejection or an associated disorder, wherein each minimum diagnostic concentration comprises a maximum of a range of analyte concentrations for a healthy mammal;
    d. determining a matching entry of the dataset in which all minimum diagnostic concentrations are less than the corresponding sample concentrations; and,
    e. identifying an indicated disorder comprising the particular disorder of the matching entry.
2. A method for diagnosing, monitoring, or determining kidney transplant rejection or an associated disorder in a mammal, the method comprising:
    a. providing a test sample comprising a sample of bodily fluid taken from the mammal;
    b. determining a combination of sample concentrations for three or more sample analytes in the test sample, wherein the sample analytes are selected from the group consisting of alpha-1 microglobulin, beta-2

microglobulin, calbindin, clusterin, CTGF, creatinine, cystatin C, GST-alpha, KIM-1, microalbumin, NGAL, osteopontin, THP, TIMP-1, TFF-3, VEGF, BLC, CD40, IGF BP2, MMP3, peptide YY, stem cell factor, TNF RII, AXL, Eotaxin 3, FABP, FGF basic, myoglobin, resistin, TRAIL R3, endothelin 1, NrCAM, Tenascin C, VCAM1, and cortisol;

c. comparing the combination of sample concentrations to a data set comprising at least one entry, wherein each entry of the data set comprises a list comprising three or more minimum diagnostic concentrations indicative of kidney transplant rejection or an associated disorder, wherein each minimum diagnostic concentration comprises a maximum of a range of analyte concentrations for a healthy mammal;

d. determining a matching entry of the dataset in which all minimum diagnostic concentrations are less than the corresponding sample concentrations; and,

e. identifying an indicated disorder comprising the particular disorder of the matching entry.

3. The method of claim 2, wherein the mammal is selected from the group consisting of humans, apes, monkeys, rats, mice, dogs, cats, pigs, and livestock including cattle and oxen.

4. The method of claim 2, wherein the bodily fluid is selected from the group consisting of urine, blood, plasma, serum, saliva, semen, and tissue lysates.

5. The method of claim 2, wherein the minimum diagnostic concentration in human plasma of alpha-1 microglobulin is about 16 µg/ml, beta-2 microglobulin is about 2.2 µg/ml, calbindin is greater than about 5 ng/ml, clusterin is about 134 µg/ml, CTGF is about 16 ng/ml, cystatin C is about 1170 ng/ml, GST-alpha is about 62 ng/ml, KIM-1 is about 0.57 ng/ml, NGAL is about 375 ng/ml, osteopontin is about 25 ng/ml, THP is about 0.052 µg/ml, TIMP-1 is about 131 ng/ml, TFF-3 is about 0.49 µg/ml, and VEGF is about 855 pg/ml.

6. The method of claim 2, wherein the minimum diagnostic concentration in human sera of alpha-1 microglobulin is about 17 µg/ml, beta-2 microglobulin is about 2.6

µg/ml, calbindin is greater than about 2.6 ng/ml, clusterin is about 152 µg/ml, CTGF is greater than about 8.2 ng/ml, cystatin C is about 1250 ng/ml, GST-alpha is about 52 ng/ml, KIM-1 is greater than about 0.35 ng/ml, NGAL is about 822 ng/ml, osteopontin is about 12 ng/ml, THP is about 0.053 µg/ml, TIMP-1 is about 246 ng/ml, TFF-3 is about 0.17 µg/ml, and VEGF is about 1630 pg/ml.

7. The method of claim 2, wherein the minimum diagnostic concentration in human urine of alpha-1 microglobulin is about 233 µg/ml, beta-2 microglobulin is greater than about 0.17 µg/ml, calbindin is about 233 ng/ml, clusterin is greater than about 0.089 µg/ml, CTGF is greater than about 0.90 ng/ml, cystatin C is about 1170 ng/ml, GST-alpha is greater than about 26 ng/ml, KIM-1 is about 0.67 ng/ml, NGAL is about 81 ng/ml, osteopontin is about 6130 ng/ml, THP is about 2.6 µg/ml, TIMP-1 is greater than about 3.9 ng/ml, TFF-3 is greater than about 21 µg/ml, and VEGF is about 517 pg/ml.

8. The method of claim 2, wherein a combination of sample concentrations for six or more sample analytes in the test sample are determined.

9. The method of claim 8, wherein sample concentrations are determined for the analytes selected from the group consisting of BLC, CD40, IGF BP2, MMP3, peptide YY, stem cell factor, TNF RII, AXL, Eotaxin 3, FABP, FGF basic, myoglobin, resistin, TRAIL R3, endothelin 1, NrCAM, Tenascin C, VCAM1, and cortisol.

10. The method of claim 2, wherein the kidney transplant rejection is acute rejection.

11. The method of claim 2, wherein the kidney transplant rejection is chronic allograft nephropathy.

12. A method for diagnosing, monitoring, or determining kidney transplant rejection or an associated disorder in a mammal, the method comprising:
    a. providing a test sample comprising a sample of bodily fluid taken from the mammal;
    b. determining the concentrations of three or more sample analytes in a panel of biomarkers in the test sample, wherein the sample analytes are selected from the group consisting of alpha-1 microglobulin, beta-2

microglobulin, calbindin, clusterin, CTGF, creatinine, cystatin C, GST-alpha, KIM-1, microalbumin, NGAL, osteopontin, THP, TIMP-1, TFF-3, VEGF, BLC, CD40, IGF BP2, MMP3, peptide YY, stem cell factor, TNF RII, AXL, Eotaxin 3, FABP, FGF basic, myoglobin, resistin, TRAIL R3, endothelin 1, NrCAM, Tenascin C, VCAM1, and cortisol;

c. identifying diagnostic analytes in the test sample, wherein the diagnostic analytes are the sample analytes whose concentrations are statistically different from concentrations found in a control group of humans who do not suffer from kidney transplant rejection or an associated disorder;

d. comparing the combination of diagnostic analytes to a dataset comprising at least one entry, wherein each entry of the dataset comprises a combination of three or more diagnostic analytes reflective of kidney transplant rejection or an associated disorder; and,

e. identifying the particular disorder having the combination of diagnostic analytes that essentially match the combination of sample analytes.

13. The method of claim 12, wherein the mammal is selected from the group consisting of humans, apes, monkeys, rats, mice, dogs, cats, pigs, and livestock including cattle and oxen.

14. The method of claim 12, wherein the bodily fluid is selected from the group consisting of urine, blood, plasma, serum, saliva, semen, and tissue lysates.

15. The method of claim 12, wherein the kidney transplant rejection is acute rejection.

16. The method of claim 12, wherein the kidney transplant rejection is chronic allograft nephropathy.

17. A method for diagnosing, monitoring, or determining kidney transplant rejection or an associated disorder in a mammal, the method comprising:

a. providing an analyte concentration measurement device comprising three or more detection antibodies , wherein each detection antibody comprises an antibody coupled to an indicator, wherein the antigenic determinants of the antibodies are sample analytes associated with kidney transplant

rejection or an associated disorder, and wherein the sample analytes are selected from the group consisting of alpha-1 microglobulin, beta-2 microglobulin, calbindin, clusterin, CTGF, creatinine, cystatin C, GST-alpha, KIM-1, microalbumin, NGAL, osteopontin, THP, TIMP-1, TFF-3, VEGF, BLC, CD40, IGF BP2, MMP3, peptide YY, stem cell factor, TNF RII, AXL, Eotaxin 3, FABP, FGF basic, myoglobin, resistin, TRAIL R3, endothelin 1, NrCAM, Tenascin C, VCAM1, and cortisol;

b. providing a test sample comprising three or more sample analytes and a bodily fluid taken from the mammal;

c. contacting the test sample with the detection antibodies and allowing the detection antibodies to bind to the sample analytes;

d. determining the concentrations of the sample analytes by detecting the indicators of the detection antibodies bound to the sample analytes in the test sample; and,

e. comparing the concentrations of each sample analyte to a corresponding minimum diagnostic concentration reflective of kidney transplant rejection or an associated disorder.

18. The method of claim 17, wherein the bodily fluid is selected from the group consisting of urine, blood, plasma, serum, saliva, semen, and tissue lysates.

19. The method of claim 17, wherein the analyte concentration measurement device comprises six or more detection antibodies.

20. The method of claim 17, wherein the analyte concentration measurement device comprises sixteen detection antibodies.

21. The method of claim 17, wherein the sample analytes are selected from the group consisting of alpha-1 microglobulin, beta-2 microglobulin, cystatin C, KIM-1, THP, and TIMP-1.

22. The method of claim 17, wherein the kidney transplant rejection is acute rejection.

23. The method of claim 17, wherein the kidney transplant rejection is chronic allograft nephropathy.

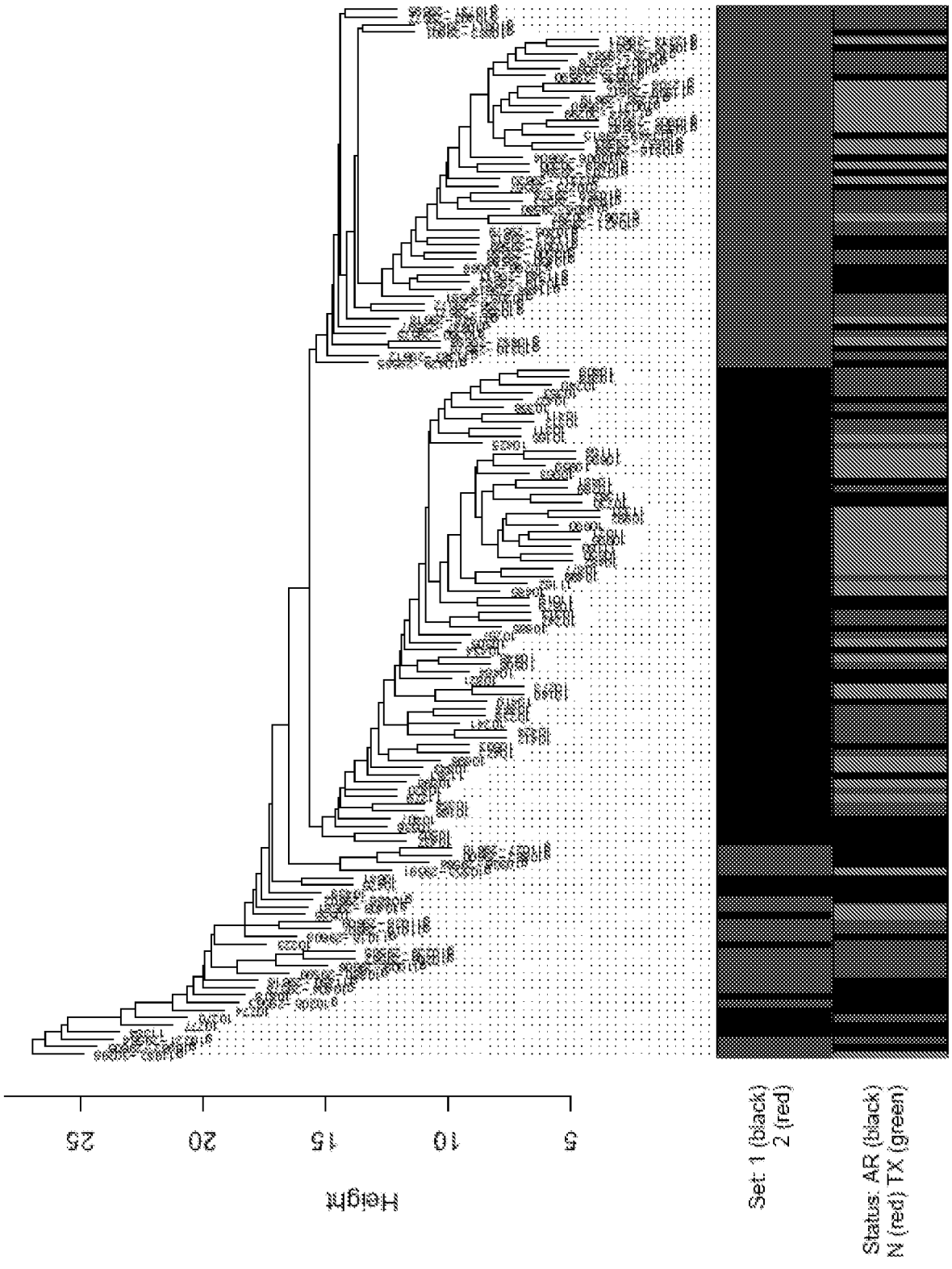
24. A method for diagnosing, monitoring, or determining kidney transplant rejection or an associated disorder in a mammal, the method comprising:
    a. providing a test sample comprising a sample of bodily fluid taken from the mammal;
    b. determining sample concentrations for sample analytes in the test sample, wherein the sample analytes are microalbumin, VEGF, BLC, CD40, IGF BP2, MMP3, peptide YY, stem cell factor, TNF RII, AXL, Eotaxin 3, FABP, FGF basic, myoglobin, resistin, TRAIL R3, endothelin 1, NrCAM, Tenascin C, VCAM1, and cortisol;
    c. comparing the combination of sample concentrations to a data set comprising at least one entry, wherein each entry of the data set comprises a list comprising three or more minimum diagnostic concentrations indicative of kidney transplant rejection or an associated disorder, wherein each minimum diagnostic concentration comprises a maximum of a range of analyte concentrations for a healthy mammal;
    d. determining a matching entry of the dataset in which all minimum diagnostic concentrations are less than the corresponding sample concentrations; and,
    e. identifying an indicated disorder comprising the particular disorder of the matching entry.

25. A method for diagnosing, monitoring, or determining kidney transplant rejection or an associated disorder in a mammal, the method comprising:
    a. providing a test sample comprising a sample of bodily fluid taken from the mammal;
    b. determining sample concentrations for sample analytes in the test sample, wherein the sample analytes are alpha-1 microglobulin, beta-2 microglobulin, calbindin, clusterin, CTGF, creatinine, cystatin C, GST-alpha, KIM-1, microalbumin, NGAL, osteopontin, THP, TIMP-1, TFF-3, VEGF, BLC, CD40, IGF BP2, MMP3, peptide YY, stem cell factor, TNF

RII, AXL, Eotaxin 3, FABP, FGF basic, myoglobin, resistin, TRAIL R3, endothelin 1, NrCAM, Tenascin C, VCAM1, and cortisol;

c. comparing the combination of sample concentrations to a data set comprising at least one entry, wherein each entry of the data set comprises a list comprising three or more minimum diagnostic concentrations indicative of kidney transplant rejection or an associated disorder, wherein each minimum diagnostic concentration comprises a maximum of a range of analyte concentrations for a healthy mammal;
d. determining a matching entry of the dataset in which all minimum diagnostic concentrations are less than the corresponding sample concentrations; and,
e. identifying an indicated disorder comprising the particular disorder of the matching entry.

FIG. 1


Height
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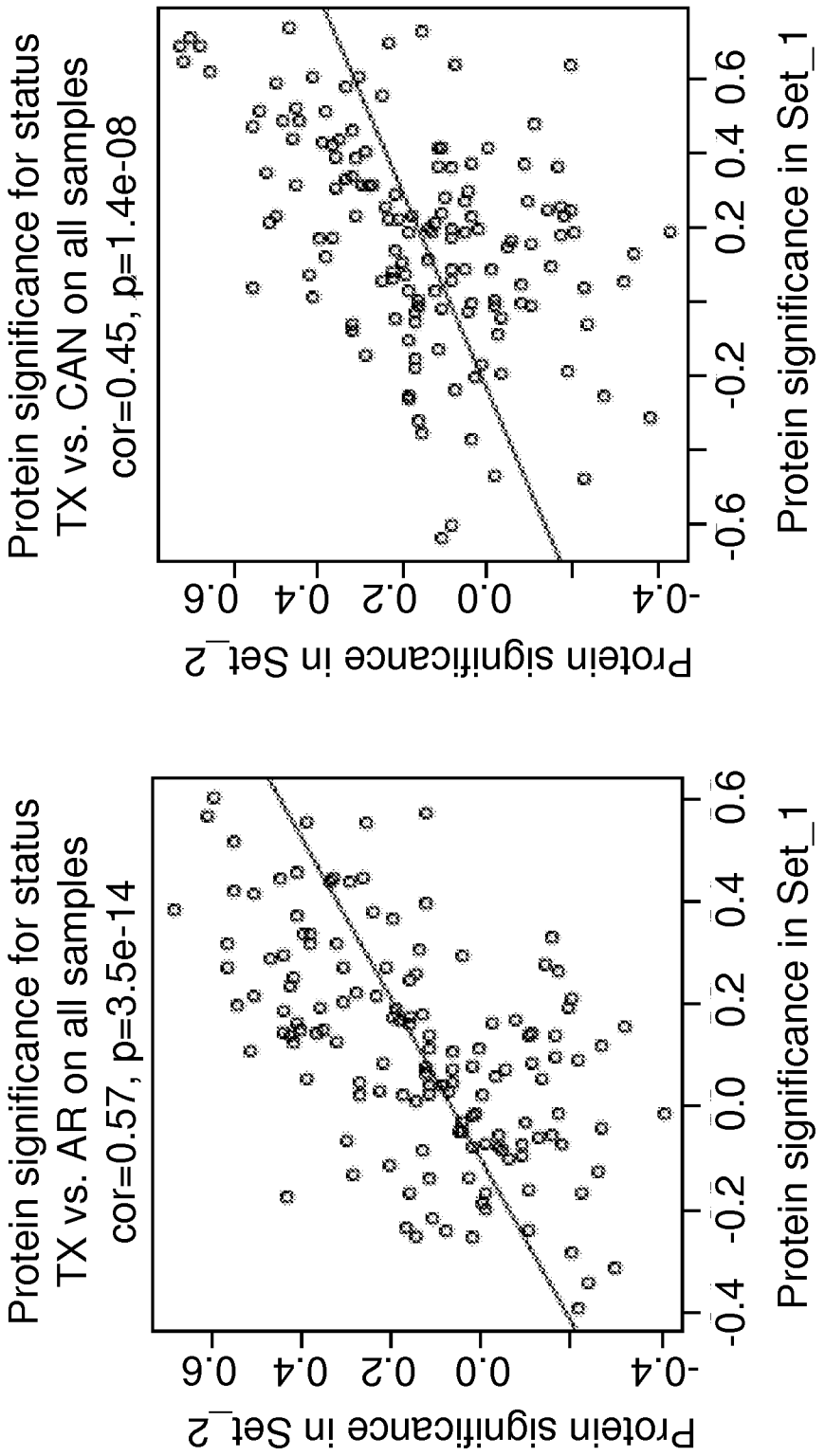
20
15
10
5
Set: 1 (black)
2 (red)
Status: AR (black)
N (red) TX (green)

FIG. 2A


Protein significance for status
TX vs. AR on all samples
cor=0.57, p=3.5e-14
Protein significance in Set_2
Protein significance in Set_1
-0.4
0.0
0.2
0.4
0.6
-0.4
-0.2
0.0
0.2
0.4
0.6
Protein significance for status
TX vs. CAN on all samples
cor=0.45, p=1.4e-08
Protein significance in Set_2
Protein significance in Set_1
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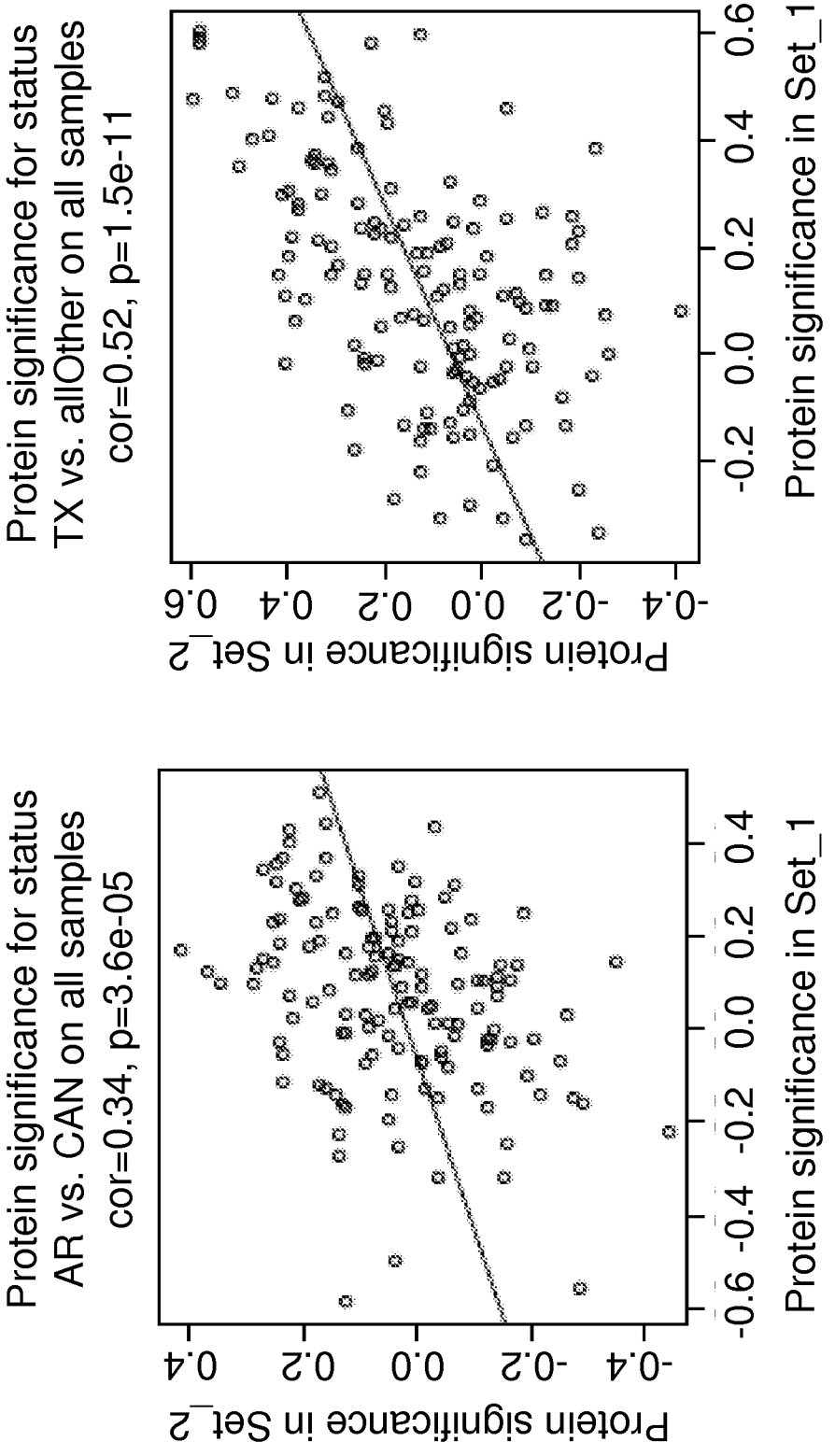
0.2
0.4
0.6
-0.6
-0.2
0.2
0.4
0.6

FIG. 2B


Protein significance for status
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cor=0.34, p=3.6e-05
Protein significance in Set_2
Protein significance in Set_1
-0.6 -0.4 -0.2 0.0 0.2 0.4
-0.4 -0.2 0.0 0.2 0.4
Protein significance for status
TX vs. allOther on all samples
cor=0.52, p=1.5e-11
Protein significance in Set_2
Protein significance in Set_1
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-0.4 -0.2 0.0 0.2 0.4 0.6

FIG. 2C

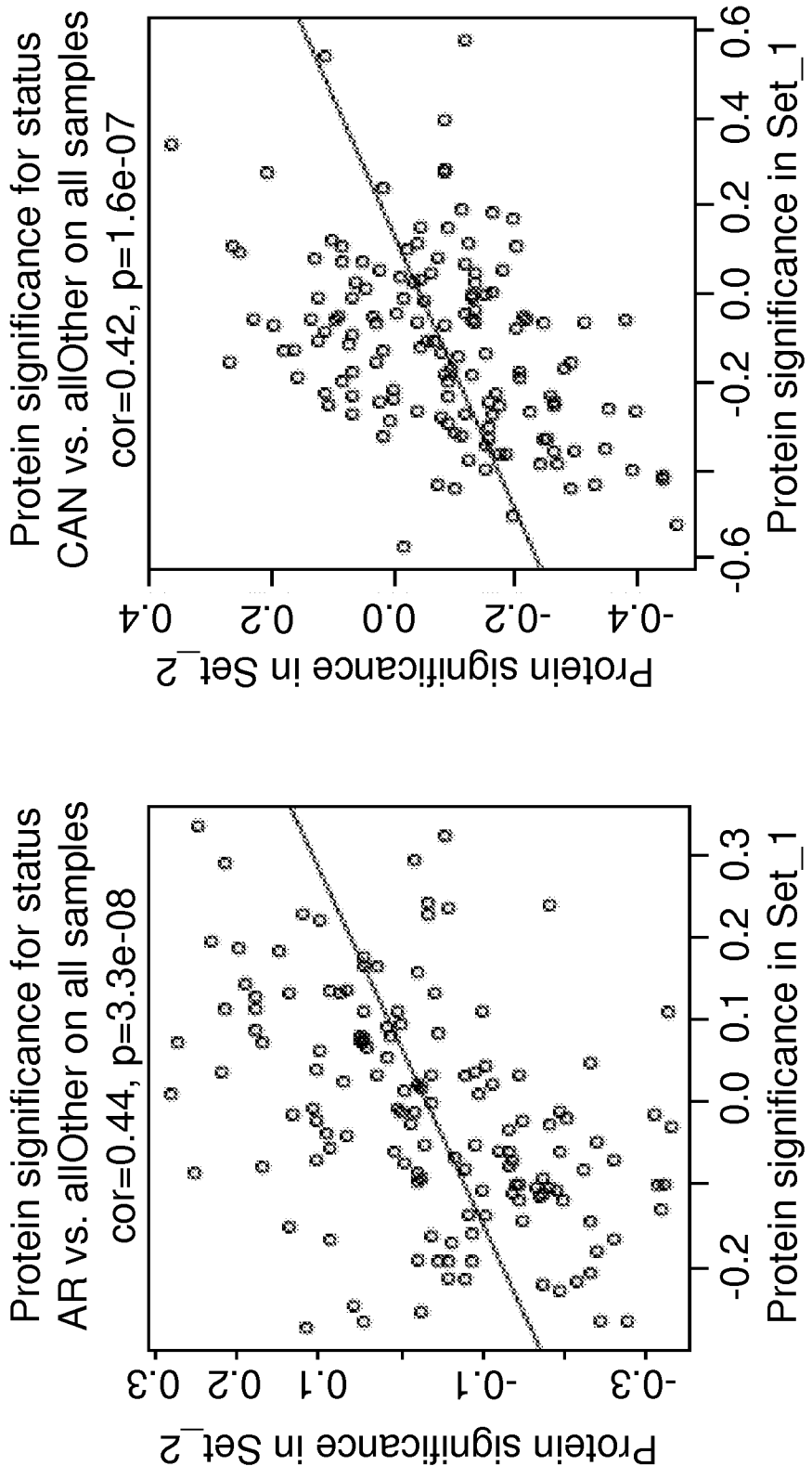

Protein significance for status
AR vs. allOther on all samples
cor=0.44, p=3.3e-08
Protein significance in Set_1
Protein significance in Set_2
-0.2
0.0
0.1
0.2
0.3
-0.3
-0.1
0.1
0.2
0.3
Protein significance for status
CAN vs. allOther on all samples
cor=0.42, p=1.6e-07
Protein significance in Set_1
Protein significance in Set_2
-0.6
-0.2
0.0
0.2
0.4
0.6
-0.4
-0.2
0.0
0.2
0.4

FIG. 3

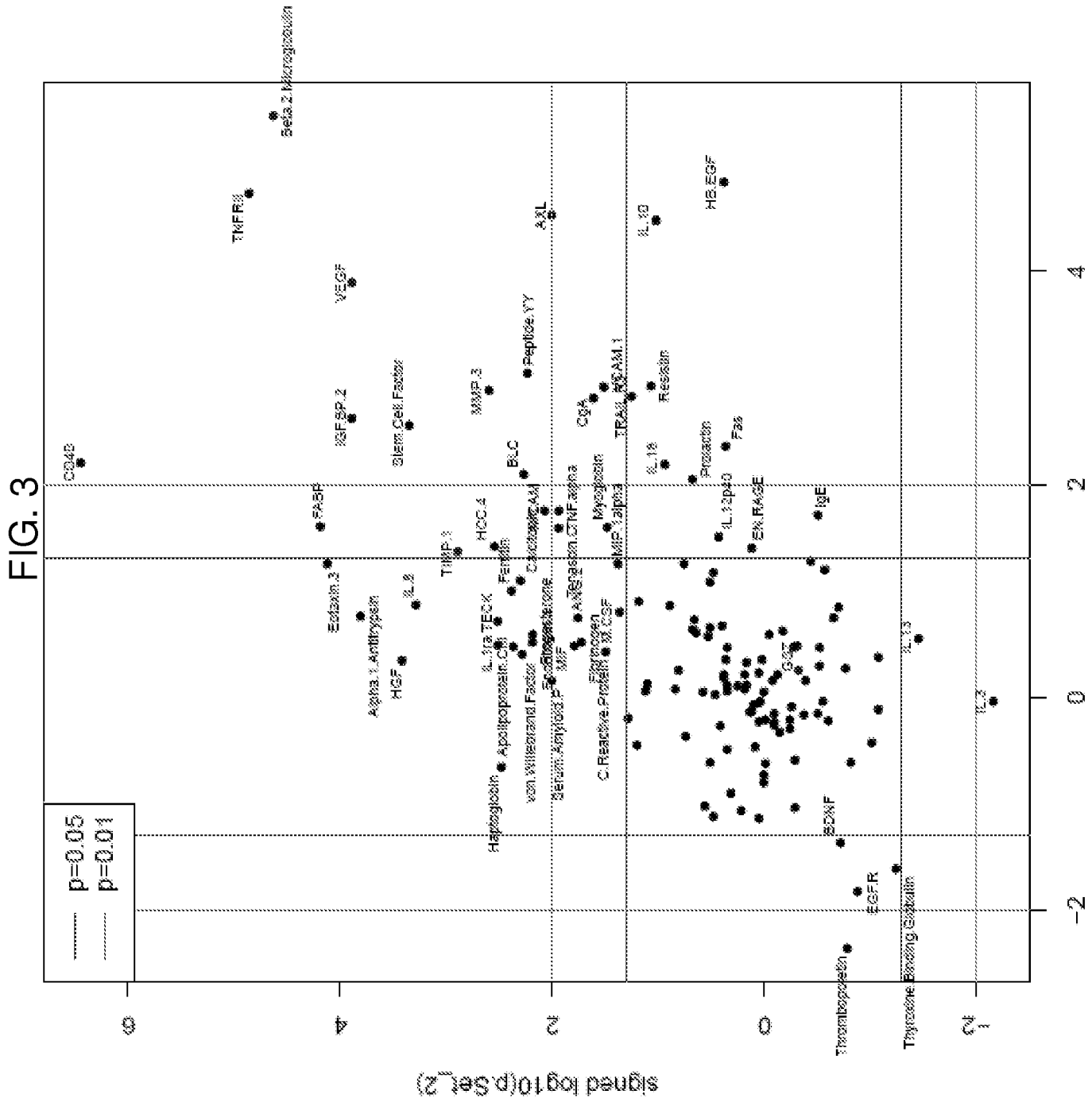

p=0.05
p=0.01
signed log10(p.Sel_2)
6
4
2
0
−2
Beta.2.Microglobulin
TNFRI
VEGF
AXL
IL.18
HB.EGF
IGFBP.2
Stem.Cell.Factor
MMP.3
Peptide.YY
CD40
FASR
BLC
Fas
Eotaxin.2
HCC.4
Ferritin
IL.8
HGF
Apolipoprotein.CIII
Haptoglobin
von.Willebrand.Factor
C.Reactive.Protein
IgE
IL.13
BDNF
EGFR
Thrombopoietin
Tyrosine.Binding.Protein

FIG. 4

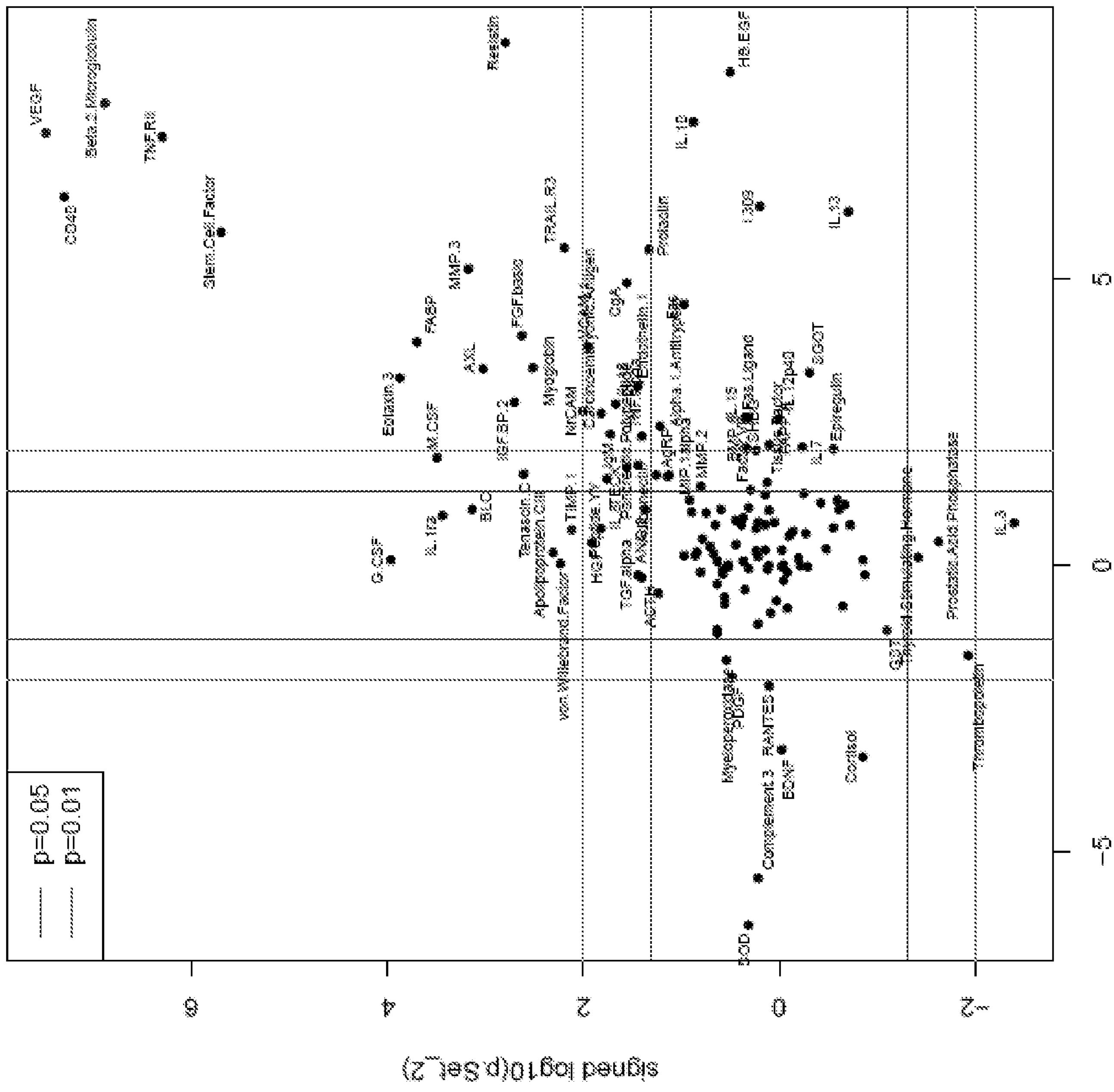

p=0.05
p=0.01
signed log10(p.Sel_2)
VEGF
Beta.2.Microglobulin
TNF.RII
CD40
Stem.Cell.Factor
Resistin
HB.EGF
IL.18
I.309
IL.13
TRAIL.R3
MMP.3
FABP
FGF.basic
AXL
Eotaxin.3
M.CSF
G.CSF
IL.1ra
BLC
IGF.BP.2
Myoglobin
MCAM
Prolactin
CgA
SGOT
Epiregulin
IL.7
MMP.2
AgRP
Tenascin.C
TIMP.1
Apolipoprotein.CIII
von.Willebrand.Factor
TGF.alpha
ACTH
GST
Thyroid.Stimulating.Hormone
Prostatic.Acid.Phosphatase
IL.3
Thrombospondin
Myeloperoxidase
PDGF
RANTES
BDNF
Cortisol
Complement.3
SOD
−5
0
5
6
4
2
0
−2

FIG. 5

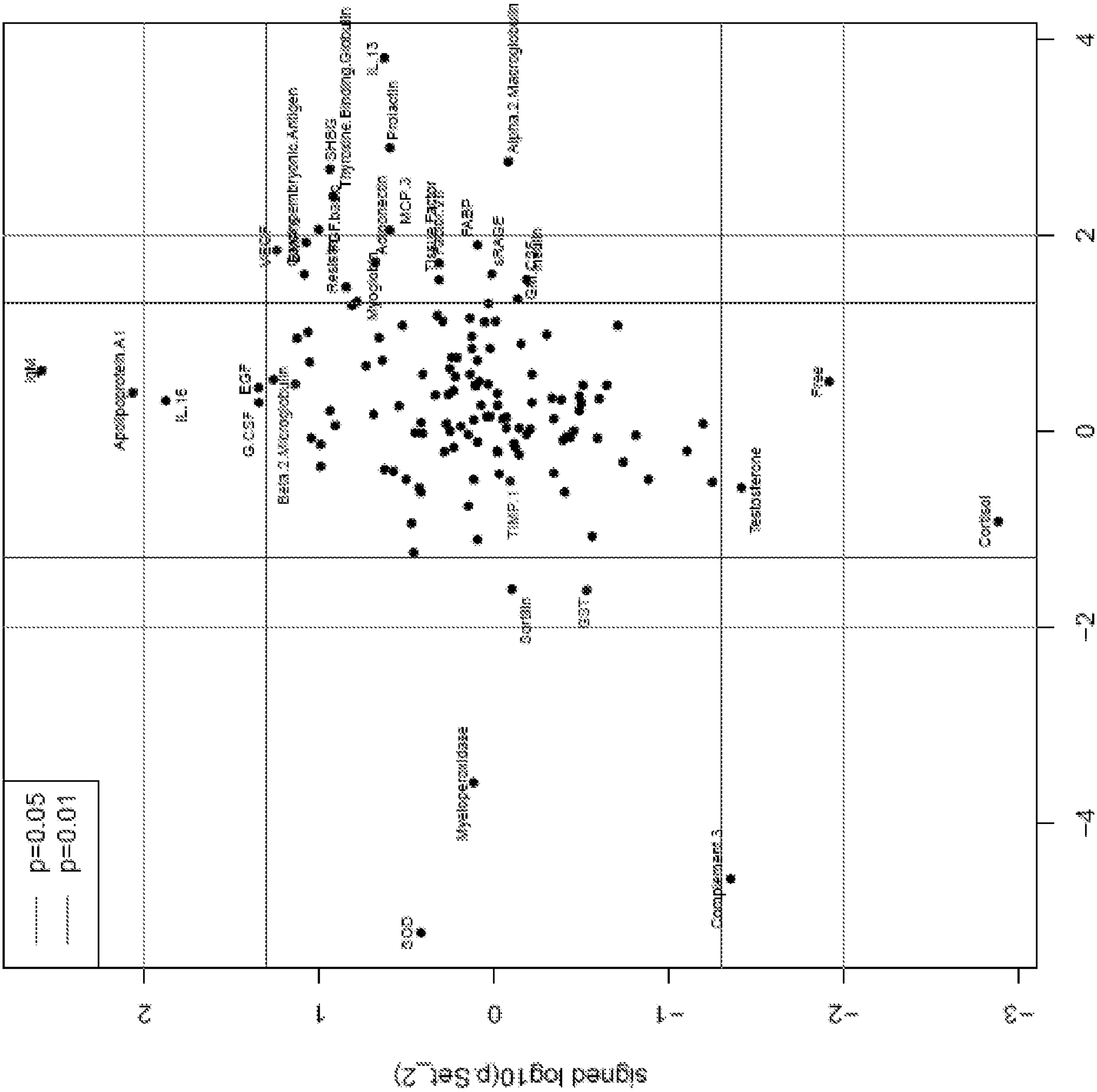

p=0.05
p=0.01
signed log10(p.Set_2)
Cortisol
Testosterone
Myeloperoxidase
Complement 3
SOD
GST
Prolactin
IL 13
Alpha 2 Macroglobulin
SHBG
Thyroxine Binding Globulin
Carcinoembryonic Antigen
MCP 3
FABP
sRAGE
Insulin
Resistin
Myoglobin
Adiponectin
Tissue Factor
VEGF
Apolipoprotein A1
IL 16
EGF
G CSF
Beta 2 Microglobulin
TIMP 1

FIG. 6

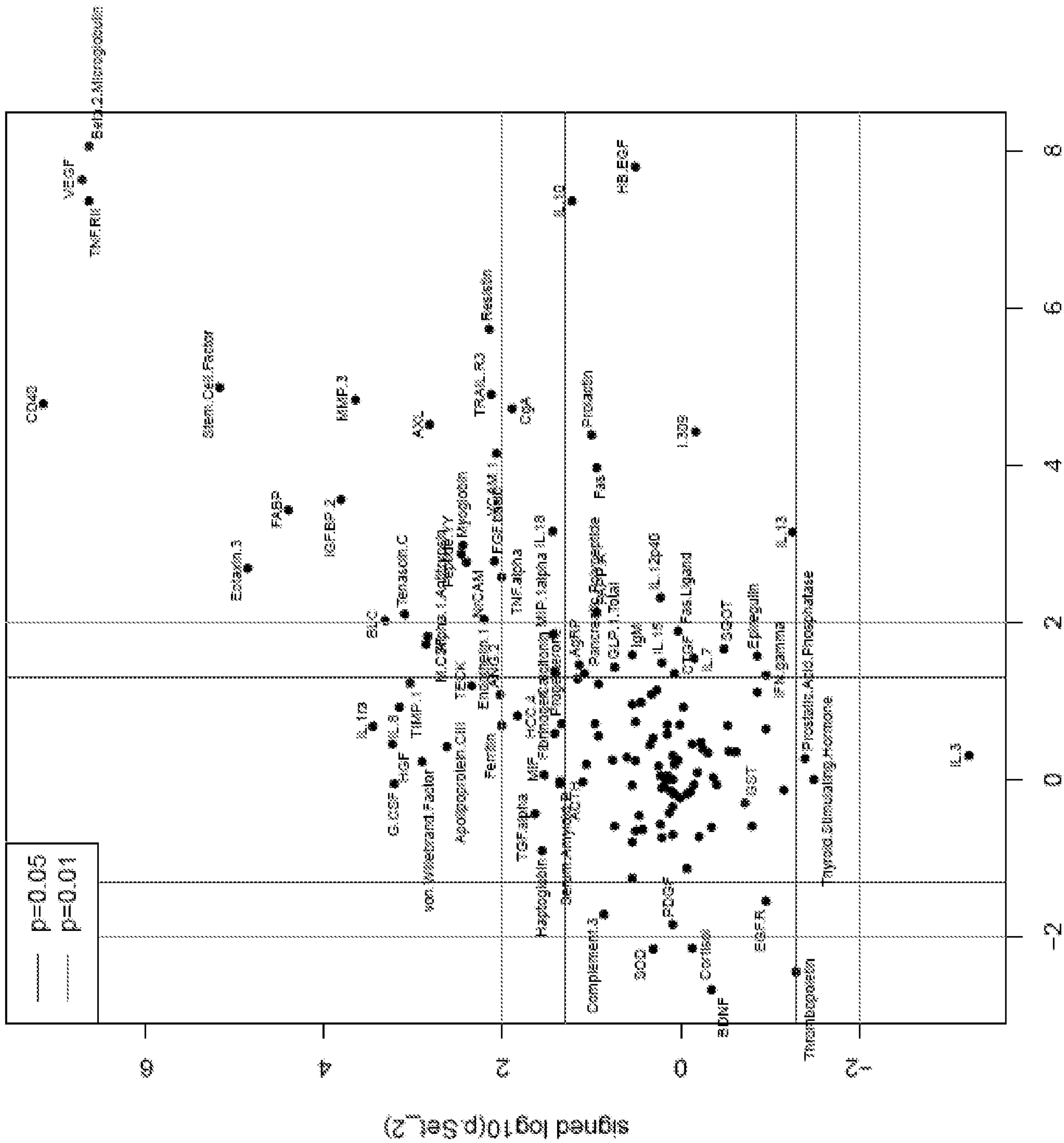

p=0.05
p=0.01
signed log10(p.Sel_2)
6
4
2
0
-2
-2
0
2
4
6
8
CD40
Stem.Cell.Factor
MMP.3
TRAIL.R3
Resistin
VEGF
TNF.RII
Beta.2.Microglobulin
IL.10
HB.EGF
Prolactin
I.309
Fas
IL.13
IL.3
Eotaxin.3
FABP
IGF.BP.2
AXL
Tenascin.C
Myoglobin
TNF.alpha
NrCAM
CgA
AgRP
IL.12p40
Fas.Ligand
SGOT
Epiregulin
IgM
IL.15
IL.7
IFN.gamma
Prostatic.Acid.Phosphatase
Thyroid.Stimulating.Hormone
Thrombopoietin
BDNF
Cortisol
SOD
Complement.3
PDGF
EGF.R
Haptoglobin
G.CSF
HGF
IL.8
TIMP.1
von.Willebrand.Factor
Apolipoprotein.CIII
Ferritin
MIF
TGF.alpha
Serum.Amyloid.P

FIG. 7

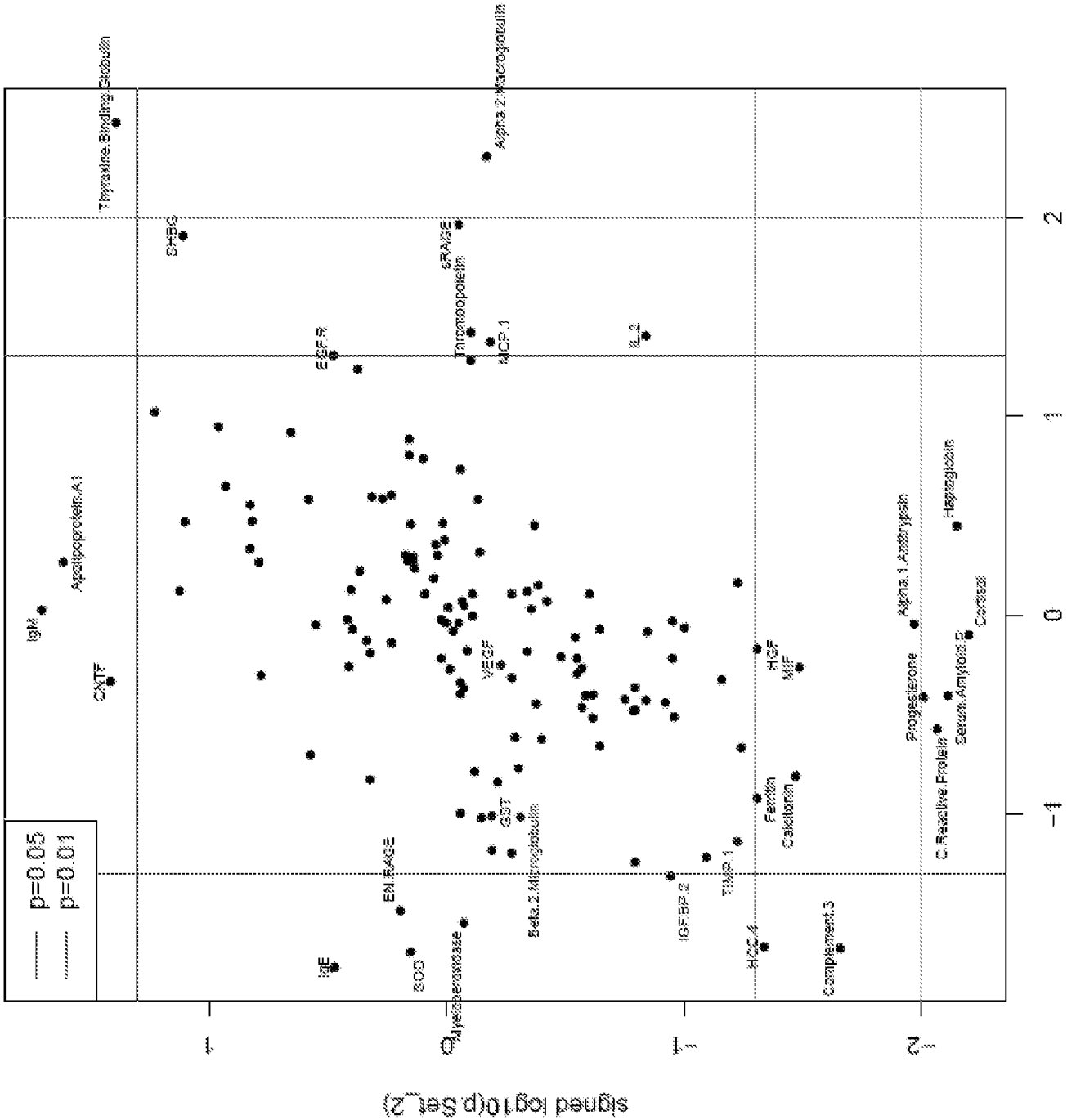

p=0.05
p=0.01
Thyroxine.Binding.Globulin
Alpha.2.Macroglobulin
SHBG
sRAGE
EGFR
Thrombopoietin
MCP.1
IL2
IgM
Apolipoprotein.A1
CKTF
VEGF
HGF
MIF
GST
Ferritin
Calcitonin
EN.RAGE
Beta.2.Microglobulin
IGFBP.2
TIMP.1
HCC.4
IgE
SOD
Myeloperoxidase
Complement.3
Progesterone
Alpha.1.Antitrypsin
Haptoglobin
Cortisol
Serum.Amyloid.P
C.Reactive.Protein
signed log10(p.Set_2)
−1
0
1
2

FIG. 8

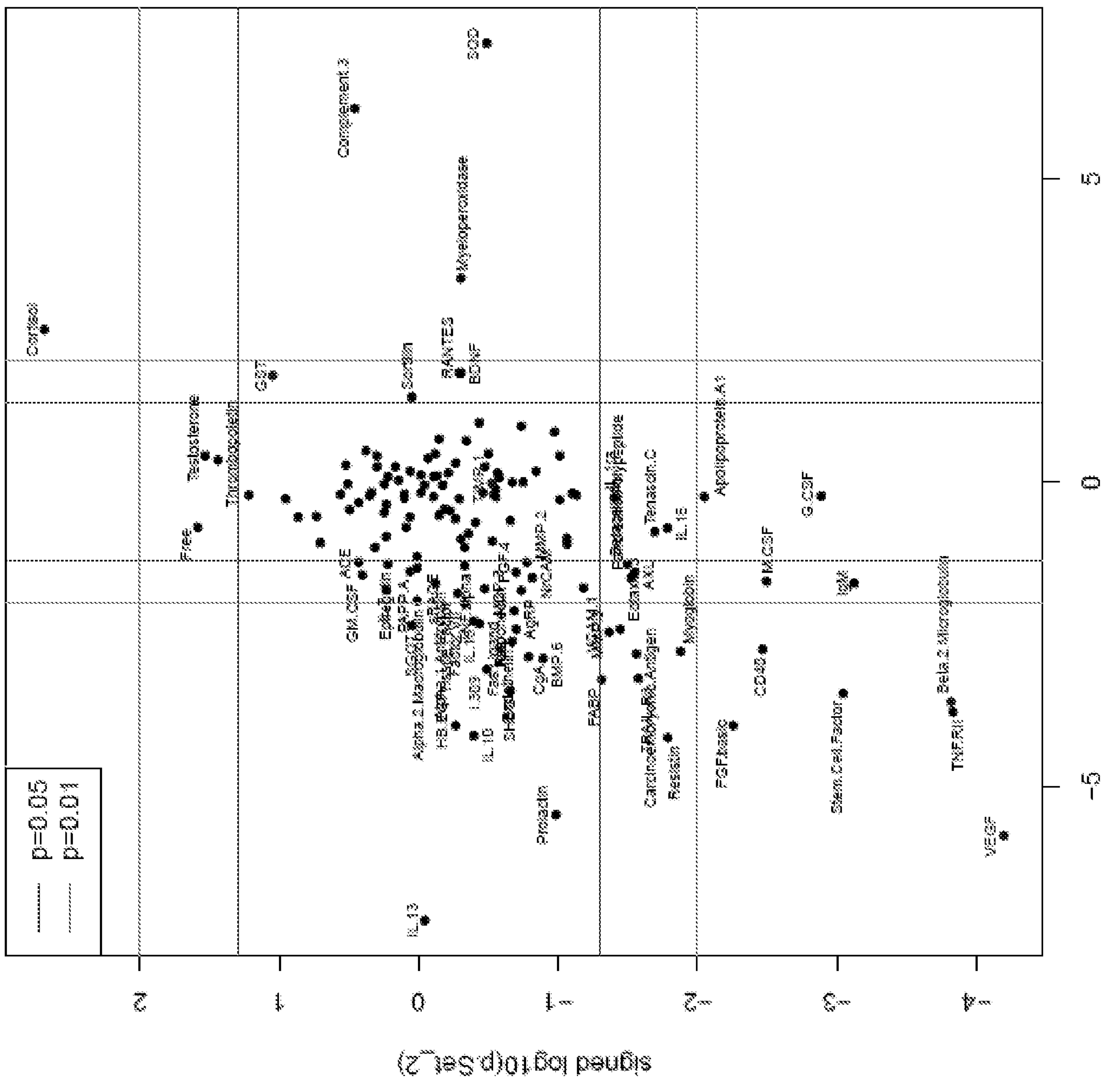
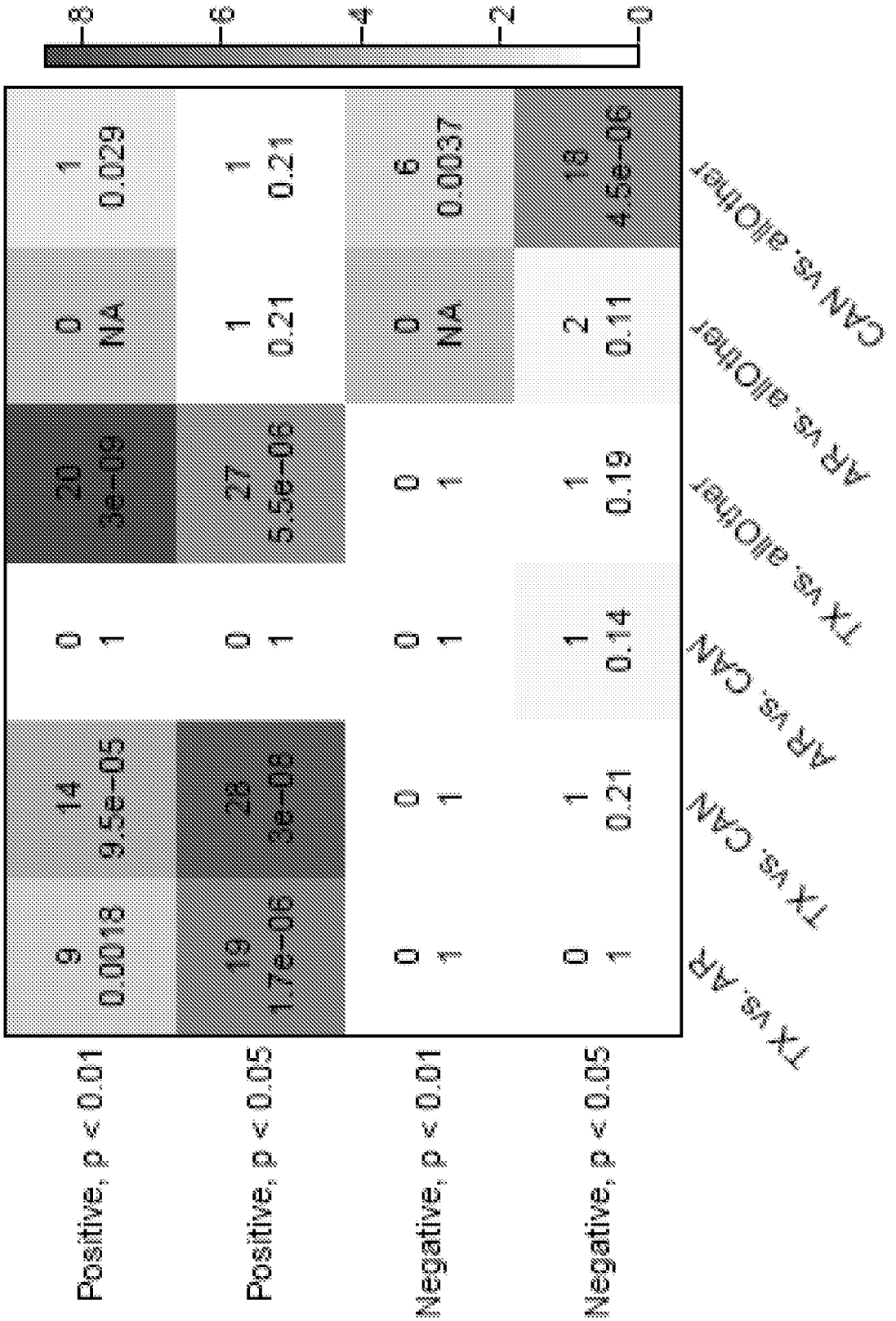

p=0.05
p=0.01
signed log10(p.Sel_2)
Cortisol
Complement.3
SOD
Myeloperoxidase
RANTES
BDNF
GST
Sortilin
Testosterone
Thrombopoietin
Free
Apolipoprotein.A1
Tenascin.C
IL.18
G.CSF
M.CSF
IgM
CD40
Stem.Cell.Factor
Beta.2.Microglobulin
TNF.RII
VEGF
FGF.basic
Resistin
Myoglobin
Prolactin
IL.13
FABP
BMP.6
Cg4
IL.10
GM.CSF
Eotaxin
AXL
0
5
−5
2
1
−1
−2
−3
−4

FIG. 9


8
6
4
2
0
Positive, p < 0.01
Positive, p < 0.05
Negative, p < 0.01
Negative, p < 0.05
TX vs. AR
TX vs. CAN
AR vs. CAN
TX vs. allOther
AR vs. allOther
CAN vs. allOther
9 14 0.0018 9.5e−05
0 1
0 NA 1 0.029
30 3e−09 0 1
27 5.5e−05 1 0.21
1 0.21 1 0.21
0 0 1 0.14 1 0.19 2 0.11
0 NA 6 0.0037
19 1.7e−06 28 2e−08
0 1 1 0.21
0 0 1 1
0 0 1 1
18 4.5e−06

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 10/44814

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - G01N 33/48 (2010.01)
USPC - 436/63; 436/86
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
USPC: 436/63; 436/86

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC: 436/63; 436/86
(keyword limited; terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PubWEST (PGPB,USPT,USOC,EPAB,JPAB); Google; PubMed
Search terms: kidney, renal, transplant, rejection, biomarker, marker, microalbumin, VEGF, BLC, IGF BP2, MMP3, peptide YY, stem cell factor, TNF RII, AXL, Eotaxin 3, FABP5, FGF basic, myoglobin, resistin, TRAIL R3, endothelin 1, NrCAM, cortisol

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y --- A	US 2006/0269949 A1 (HALLORAN et al.) 30 November 2006 (30.11.2006) Tables 2, 7, 10, 11; para [0004], [0009]-[0011], [0027], [0031], [0039]-[0040], [0073], [0078], [0094]-[0095]	2-8, 10-23 --- 9 --- 1, 24-25
Y	US 2009/0197287 A1 (HU et al.) 6 August 2009 (06.08.2009) para [0007], [0010], [0023]	9
A	US 7,235,358 B2 (WOHLGEMUTH et al.) 26 June 2007 (26.06.2007); abstract, col 4, ln 25-27; Table 2, Table 3a, Table 8	1-25
A	PENG et al. Prediction of subclinical renal allograft rejection by vascular endothelial growth factor in serum and urine. J. Nephrol. July-August 2008 (07-08.2008), Vol. 21, No. 4, pages 535-542	1-25
A	US 2008/0090304 A1 (BARASCH et al.) 17 April 2008 (17.04.2008)	1-25
A	SIMONSON et al. Elevated neointimal endothelin-1 in transplantation-associated arteriosclerosis of renal allograft recipients. Kidney Int. September 1998 (09.1998), Vol. 53, No. 3, pages 960-971	1-25
A	US 2008/0153092 A1 (KIENLE et al.) 26 June 2008 (26.06.2008)	1-25
A	WO 2004/030521 A2 (CLARKE et al.) 15 April 2004 (15.04.2004)	1-25
A	US 2007/0087448 A1 (NELSESTUEN et al.) 19 April 2007 (19.04.2007)	1-25

☒ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
27 September 2010 (27.09.2010)	25 OCT 2010
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 10/44814

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2007/000466 A1 (MISCHAK et al.) 4 January 2007 (04.01.2007)	1-25
A	WO 2007/121922 A2 (GRASS) 1 November 2007 (01.11.2007)	1-25
A	WO 2007/138011 A1 (BROUARD et al.) 6 December 2007 (06.12.2007)	1-25
A	US 2007/0287188 A1 (HU et al.) 13 December 2007 (13.12.2007)	1-25
A	US 2008/0318803 A1 (JAIN et al.) 25 December 2008 (25.12.2008)	1-25
A	US 2009/0081713 A1 (KLEIN et al.) 26 March 2009 (26.03.2009)	1-25
A	LI et al. Interference of globin genes with biomarker discovery for allograft rejection in peripheral blood samples. Physiol. Genomics. 17 January 2008 (17.01.2008), Vol. 32, No. 2, pages 190-197	1-25
A	KIM et al. Urinary HLA-DR and CD54 expression--indicators for inflammatory activity in decoy cell shedding patients. Nephrol. Dial. Transplant. September 2006 (09.2006), Vol. 21, No. 9, pages 2601-2606	1-25
A	BOONSTRA et al. Expression and function of Fas (CD95) on human renal tubular epithelial cells. J. Am. Soc. Nephrol. October 1997 (10.1997), Vol. 8, No. 10, pages 1517-1524	1-25
A	NOSSEL et al. The generation of fibrinopeptide A in clinical blood samples: evidence for thrombin activity. J. Clin. Invest. November 1976 (11.1976), Vol. 58, No. 5, pages 1136-1144	1-25
A	SERERGER et al. The Duffy antigen receptor for chemokines is up-regulated during acute renal transplant rejection and crescentic glomerulonephritis. Kidney Int. October 2000 (10.2000), Vol. 58, No. 4, pages 1546-1556	1-25
A	CLARKE et al. Characterization of renal allograft rejection by urinary proteomic analysis. Ann. Surg. May 2003 (05.2003), Vol. 237, No. 5, pages 660-665	1-25
A	ANGLICHEAU et al. MicroRNA expression profiles predictive of human renal allograft status. Proc. Natl. Acad. Sci. USA. 31 March 2009 (31.03.2009), Vol. 106, No. 13, pages 5330-5335	1-25
A	RODRIGO et al. Circulating levels of matrix metalloproteinases MMP-3 and MMP-2 in renal transplant recipients with chronic transplant nephropathy. Nephrol. Dial. Transplant. December 2000 (12.2000), Vol. 15, No. 12, pages 2041-2045	1-25
A	BENKALI et al. A new strategy for faster urinary biomarkers identification by Nano-LC-MALDI-TOF/TOF mass spectrometry. BMC Genomics. 14 November 2008 (14.11.2008), Vol. 9, No. 541, pages 1-9	1-25

专利名称(译)	用于检测肾移植排斥的方法和装置		
公开(公告)号	EP2462438A1	公开(公告)日	2012-06-13
申请号	EP2010807278	申请日	2010-08-06
申请(专利权)人(译)	规则为基础的医学，INC.		
[标]发明人	SPAIN MICHAEL MAPES JAMES P LABRIE SAMUEL MCDADE RALPH EISINGER DOMINIC BALLARD KARRI SALOMON DANIEL ABECASSIS MICHAEL		
发明人	SPAIN, MICHAEL MAPES, JAMES, P. LABRIE, SAMUEL MCDADE, RALPH EISINGER, DOMINIC BALLARD, KARRI SALOMON, DANIEL ABECASSIS, MICHAEL		
IPC分类号	G01N33/48 G01N33/53 G01N33/68		
CPC分类号	G01N33/6893 G01N33/5302 G01N33/566 G01N2333/47 G01N2333/4703 G01N2333/4706 G01N2333/4725 G01N2333/4727 G01N2333/475 G01N2333/52 G01N2333/70503 G01N2333/70539 G01N2333/765 G01N2333/775 G01N2333/8139 G01N2333/8146 G01N2333/82 G01N2333/91177 G01N2800/34 G01N2800/347 G01N2800/52 G01N2800/56 G01N2800/60 Y10T436/147777		
代理机构(译)	法思博事务所		
优先权	61/232091 2009-08-07 US 61/327389 2010-04-23 US		
其他公开文献	EP2462438A4		
外部链接	Espacenet		

摘要(译)

描述了用于诊断，监测或确定哺乳动物中肾移植排斥或相关病症的方法和装置。具体地，描述了使用测量样品中测量的三种或更多种分析物的组合来诊断，监测或确定肾移植排斥或相关病症的方法和装置。