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ORIGINAL RESEARCH

Proteomic Signatures of Lifestyle Risk Factors for Cardiovascular Disease: A Cross-Sectional Analysis of the Plasma Proteome in the Framingham Heart Study

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BACKGROUND: Proteomic biomarkers related to cardiovascular disease risk factors may offer insights into the pathogenesis of cardiovascular disease. We investigated whether modifiable lifestyle risk factors for cardiovascular disease are associated with distinctive proteomic signatures.

METHODS AND RESULTS: We analyzed 1305 circulating plasma proteomic biomarkers (assayed using the SomaLogic platform) in 897 FHS (Framingham Heart Study) Generation 3 participants (mean age 46±8 years; 56% women; discovery sample) and 1121 FOS (Framingham Offspring Study) participants (mean age 52 years; 54% women; validation sample). Participants were free of hypertension, diabetes mellitus, and clinical cardiovascular disease. We used linear mixed effects models (adjusting for age, sex, body mass index, and family structure) to relate levels of each inverse-log transformed protein to 3 lifestyle factors (ie, smoking, alcohol consumption, and physical activity). A Bonferroni-adjusted P value indicated statistical significance (based on number of proteins and traits tested, $P<4.2\times10^{-6}$ in the discovery sample; $P<6.85\times10^{-4}$ in the validation sample). We observed statistically significant associations of 60 proteins with smoking (37/40 top proteins validated in FOS), 30 proteins with alcohol consumption (23/30 proteins validated), and 5 proteins with physical activity (2/3 proteins associated with the physical activity index validated). We assessed the associations of protein concentrations with previously identified genetic variants (protein quantitative trait loci) linked to lifestyle-related disease traits in the genome-wide-association study catalogue. The protein quantitative trait loci were associated with coronary artery disease, inflammation, and age-related mortality.

CONCLUSIONS: Our cross-sectional study from a community-based sample elucidated distinctive sets of proteins associated with 3 key lifestyle factors.

Key Words: alcohol consumption ■ lifestyle ■ physical activity ■ proteomics ■ smoking

Modifiable lifestyle factors (eg, smoking, diet, physical activity, and alcohol consumption) are associated with at least 50% of the burden of myocardial infarction.[1] Previous studies reported associations between specific genotypes and gene expression patterns with select cardiovascular disease (CVD) risk factors.[2–6] However, how established CVD risk factors affect the pathogenesis of subclinical and clinical disease progression at the molecular level remains incompletely understood.[7–9] Subclinical CVD progression is a complex process involving changes at the level of target tissues and circulating proteins.[10–12] Until recently, technological limitations have challenged our ability to study systemic responses at the

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CLINICAL PERSPECTIVE

What Is New?

- Using data from 2 generations of Framingham Heart Study participants, we identified associations between 3 modifiable lifestyle risk factors (smoking, alcohol consumption, and physical activity) and distinct sets of plasma protein concentrations related to known biological pathways.
- The proteomic signature of smoking showed high representation of proteins related to cytokine–cytokine receptor interaction, Th1 and Th2 cell differentiation, interleukin-17 signaling pathway, chemokine signaling pathway, and complement and coagulation cascades.

What Are the Clinical Implications?

- Our analysis integrates information from high-throughput proteomics assays, genetic associations, biological pathways, and weighted predictive models to identify possible mechanisms by which modifiable lifestyle factors may affect the risk of chronic disease.

Nonstandard Abbreviations and Acronyms

FHS	Framingham Heart Study
FOS	Framingham Offspring Study
GWAS	genome-wide association
PAI	physical activity index
pQTL	protein quantitative trait loci

level of circulating proteins. The recent availability of high-throughput aptamer-based proteomics assays have enabled us to identify sets of circulating proteins statistically associated with specific CVD risk factors (herein referred to as "proteomic signatures"), including those associated with modifiable lifestyle factors. Such proteomic studies could identify new plasma biomarkers of disease risk and potential therapeutic pathways and molecular targets.[13]

We performed a cross-sectional analysis of data from 2 generations of FHS (Framingham Heart Study) participants to assess the relations between plasma concentrations of >1300 proteins and CVD risk factors. We focused on the relations between circulating proteins and 3 modifiable behavioral risk factors (ie, smoking, alcohol consumption, and physical activity) for which the directionality of association is more likely to be from the risk factor to the protein concentrations (rather than vice versa). We also examined the biological pathways enriched with proteins associated with CVD risk factors and the association of protein concentrations with genetic variants linked to lifestyle-related disease traits.

METHODS

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Study Sample

The community-based, prospective FHS includes multiple cohorts of individuals with residential or familial connections to Framingham, Massachusetts or surrounding towns.[14,15] The FOS (Framingham Offspring Study) began in 1971 and the Third Generation study began in 2002. Our discovery study sample included 897 FHS Generation 3 participants (56% women; mean age 46 years) who were free of hypertension, diabetes mellitus, and clinical CVD at their second examination (2008–2011). Hypertension was defined as a systolic blood pressure of 140 mm Hg or higher, a diastolic blood pressure of 90 mm Hg or higher, or current use of antihypertensive medication.[16] Diabetes mellitus was defined as a fasting blood glucose level of 126 mg/dL or higher or current use of insulin or glucose-lowering medication.[17] CVD was defined as a composite of coronary artery disease, heart failure, or stroke.[18] Our validation study sample included 1121 FOS participants (54% women; mean age 52 years) without hypertension, diabetes mellitus, or clinical CVD who attended their fifth examination (1991–1995). These examinations were chosen because of availability of blood proteomic profiling at the given time points. We used the FHS Generation 3 sample as the discovery sample rather than the validation sample because of the greater number of proteins analyzed and the availability of additional objectively measured physical activity phenotypes. The study was approved by the Boston University Medical Center institutional review board, and all participants provided written informed consent.

Risk Factors

Our risk factors of interest were smoking, current alcohol consumption (g/d derived from the number of drinks [12-oz beer, 5-oz wine, or 1.5-oz 80-proof liquor] consumed per week over the course of a year), and physical activity. We analyzed 2 smoking variables: current smoker (versus not current smoker, serving as referent) and the number of packs of cigarettes smoked per day. Individuals were considered current smokers if they self-reported smoking at least 1 cigarette per

day. Participants were considered former smokers or former consumers of alcohol if they had self-identified as being a current smoker or consumer of alcohol, respectively, at any previous examination cycle but not at the present examination cycle. In Generation 3 participants who wore an accelerometer attached to a belt worn around the waist for at least 10 hours per day for at least 3 days (out of 8 days possible), we analyzed several accelerometer-based physical activity variables: minutes of sedentary physical activity/d (≤100 counts/min), minutes of moderate physical activity/d (1535–3959 counts/min), minutes of moderate–vigorous physical activity/d (≥1535 counts/min), minutes of vigorous physical activity/d (≥3960 counts/min), and steps/d (a summary measure of the accelerometry data).[19–21] These data were not measured at the fifth FOS examination because that examination was conducted in the pre-accelerometry era. Therefore, we analyzed another measure (ie, the physical activity index [PAI]) that was available in both the FOS and Generation 3 participants at the respective examinations of interest. The PAI was assessed based on participants' self-reported distribution of physical activity intensity during a typical 24-hour period, as detailed previously.[22] Activities were designated as specific intensity levels based on the metabolic equivalent of task or oxygen consumption. The PAI was calculated as (hours sleeping+1.1×hours engaged in sedentary activities+1.5×hours engaged in slight physical activity+2.4×hours engaged in moderate physical activity+5×hours engaged in heavy physical activity).[22] In secondary analyses, we also considered associations with former versus never smoking status and former versus never alcohol consumption.

Protein Quantification

Blood plasma samples were collected and stored at −80°C until assayed. In the discovery study sample, we analyzed 1305 circulating plasma proteomic biomarkers using the SOMAscan platform Version 1.3k (SomaLogic Inc., Boulder, CO). In the validation study sample, we analyzed 1061 overlapping circulating plasma proteomic biomarkers that were available on an earlier version of the SOMAscan platform (Version 1.1k).[23,24] The median intra- and interassay coefficient of variation across all proteins assayed in FHS Generation 3 was 2.3% and 4.4%, respectively. For the FOS data, the median intra-assay coefficient of variation was <4% and the median inter-assay coefficient of variation was <7% across all proteins. The protocol to ensure data quality is described in Figure S1 and Data S1.

Statistical Analysis

We used linear mixed effects models (the "LMEKIN" function of Kinship Package in R) to relate the circulating concentrations of proteins (dependent variables) and select lifestyle factors (independent variables), respectively. We applied a rank-based inverse-normal transformation to all protein biomarkers based on overall distributions. Continuous phenotypes (number of packs of cigarettes smoked and all physical activity phenotypes) were natural log-transformed (zeros were treated as ones for purposes of natural log-transformations). Alcohol consumption (an independent variable) was not natural-log transformed for ease of interpretation. Results of previous analyses with alcohol consumption did not differ substantially whether alcohol consumption was transformed or not.[25] Except where specified differently, all models adjusted for age, sex, and body mass index. To account for multiple testing, we adopted a Bonferroni correction. We consider a P value to be significant if $P<0.05/(1305\ \text{proteins}\times 9\ \text{lifestyle variables}=4.2\times10^{-6}$; rounded down to be conservative). We considered proteins to be part of a putative proteomic signature if the associations met this statistical threshold.

For the validation sample, we assessed 40 proteins with the lowest P values for the association with smoking (based on either current smoking or number of packs of cigarettes smoked; all 40 proteins associated with current smoking), all 30 proteins significantly associated with alcohol consumption, and the 3 proteins significantly associated with physical activity (using the PAI) based on the Bonferroni-corrected P value threshold. In the FOS validation sample, we used a Bonferroni threshold based on the total number of proteins assessed for all 3 risk factors ($P<0.05/73=6.85\times10^{-4}$). We used the same covariates in the validation sample as in the discovery sample.

To understand potential biological functions of the genes corresponding to the top proteins, we performed a pathway enrichment analysis. Biological pathways were identified from the Kyoto Encyclopedia of Genes and Genomes pathway database.[26] We excluded pathways that contained <5 proteins or included >2000 proteins. The enrichment of top proteins in pathways was assessed by the hypergeometric test, and enriched pathways were defined as those with a false discovery rate <0.05.[27,28] Additionally, we estimated prediction models based on protein signatures from the discovery sample, and then validated the association of the derived predictors with lifestyle factors in the validation sample. The predictors were derived from the weighted sum of all the proteins associated significantly with each lifestyle factor, whereas the weight was the beta estimate for each protein.[29,30] The area under the curve was used to measure the performance of predictors for dichotomous traits, and the correlation coefficient was used to measure the performance for continuous traits.

We used results from a previously performed genome-wide association (GWAS) analysis of 40 proteins with genotypes of single nucleotide polymorphisms (SNPs) imputed to the 1000 Genomes Project Phase I Version 3 reference. A total of 1622 FOS participants with genotypes and protein levels whose data met quality control criteria (call rate >97%, no excessive heterozygosity or high Mendelian error rate) were included in the GWAS. A total of 378 163 high-quality genotyped SNPs (call rate ≥97%, *P* value for the Hardy-Weinberg test statistic $\geq 1\times10^{-6}$, Mishap $P\geq 1\times10^{-9}$, <100 Mendelian errors, minor allele frequency ≥1%) from Affymetrix 500K and Molecular Inversion Probe 50K arrays were included as the backbone for the imputation. The imputed genotypes included ≈16 million imputed SNPs. SNPs that were significantly associated with lifestyle-related proteins ($P<5.0\times10^{-8}$; threshold for genome-wide significance) were probed for significant associations with lifestyle-related disease traits using the GWAS Catalog, accounting for kinship and population structure.[31,32] Additionally, for SNPs significantly associated with top proteins associated with smoking, we separately investigated their associations with lung function, lung cancer, and chronic obstructive pulmonary disease in the published literature.[33–39]

RESULTS

Our discovery sample included 897 middle-aged adults free of hypertension, diabetes mellitus, and cardiovascular disease (Table 1). Associations between all 1305 proteins and all 9 risk factor variables are listed in Tables S1 and S2. Based on the Bonferroni-corrected *P* value threshold ($P<4.2\times10^{-6}$), 53 proteins were significantly associated with current smoking, 49 proteins with number of packs of cigarettes smoked, 30 proteins with alcohol consumption, and 5 proteins with at least 1 of the physical activity risk factors (Table 2). In the FOS sample (n=1121; mean age=52 years), we observed significant associations for 37 of the 40 proteins with the strongest associations with smoking in the discovery sample, 23 of the 30 proteins associated with alcohol consumption, and 2 of the 3 proteins associated with PAI (at a Bonferroni $P<6.85\times10^{-4}$) (Table 2). We also estimated protein signature predictors by weighting the association within the discovery sample, and then predicting the lifestyle factors in the validation sample.[29,30] The protein signature predictors reached an area under the curve of 0.83 ($P=9.9\times10^{-51}$) for current smokers, correlation coefficient of 0.55 ($P=1.2\times10^{-88}$) for packs of cigarette, and correlation coefficient of 0.40 ($P=2.9\times10^{-44}$) for alcohol consumption.

Table 1. Characteristics of the Samples

	Generation 3		Framingham Offspring Study (N=1121)
	N	Mean (SD) or % (n)	Mean (SD) or % (n)
Age, y	897	45.6 (8)	52 (9.5)
BMI, kg/m^2	897	26.7 (4.8)	26.2 (4.3)
Waist circumference, cm	897	93.2 (13.2)	88.9 (13.2)
Overweight (BMI ≥25 and <30 kg/m^2)	897	37.8% (339)	40.4% (453)
Obese (BMI ≥30 kg/m^2)	897	21.4% (192)	16.1% (180)
Total cholesterol, mg/dL	897	186 (32.7)	201.2 (35.9)
Fasting blood glucose, mg/dL	889	93.3 (10.9)	93.4 (8.9)
Systolic blood pressure, mm Hg	897	113.4 (12.3)	117.1 (12.0)
Diastolic blood pressure, mm Hg	896	72.9 (8.7)	71.3 (8.2)
Current smoker	897	8.5% (76)	21.0% (236)
Alcohol consumption, g/d	896	10.2 (13.1)	10.4 (15.1)
Sedentary activity (≤100 counts/min)	785	699.7 (76.2)	…
Moderate activity (1535–3959 counts/min)	785	18.1 (14.9)	…
Moderate or vigorous activity (≥1535 counts/min)	785	23.3 (23.1)	…
Vigorous activity (≥3960 counts/min)	785	5.3 (12.2)	…
Steps/d	785	8262 (3672)	…
Physical activity index	785	36.5 (5.9)	34.8 (6.1)

BMI indicates body mass index.

The proteomic signature of smoking shows high representation of proteins related to cytokine–cytokine receptor interaction, type 1 T helper and type 2 T helper cell differentiation, interleukin-17 (IL-17) signaling pathway, chemokine signaling pathway, and complement and coagulation cascades (Figure 1 and Table 3). Additionally, 4 proteins (major histocompatibility class I related protein, matrix metallopeptidase 9, polymeric immunoglobulin receptor, and secretory leukocyte peptidase inhibitor) were specifically associated with current smoking (versus current non-smokers) whereas no proteins were specifically associated with past smoking. The distributions of the regression residuals for the top 40 proteins that were significantly associated with smoking varied between smokers and non-smokers (Figure 2). In

Table 2. Proteins Significantly Associated With Smoking, Alcohol Consumption, and Physical Activity

	Protein	Estimated Beta	*P* Value	Validation *P* Value
Current smoking (n=896)	Polymeric immunoglobulin receptor (PIGR)	1.171	7.22×10^{-28}	4.41×10^{-55}
	Osteomodulin (OMD)	−0.928	1.05×10^{-16}	1.05×10^{-28}
	Secretory leukocyte peptidase inhibitor (SLPI)	0.910	4.40×10^{-16}	9.96×10^{-19}
	Major histocompatibility class-I related protein (MIC-1)	0.800	6.56×10^{-15}	4.62×10^{-7}
	Repulsive guidance molecule BMP co-receptor b (RGMB)	−0.852	9.26×10^{-15}	3.49×10^{-19}
	Interferon gamma–induced protein (IP-10)	−0.832	3.34×10^{-13}	1.10×10^{-11}
	Neural cell adhesion molecule (NCAM-120)	−0.735	5.72×10^{-13}	1.06×10^{-26}
	Trefoil factor 2	0.733	1.48×10^{-12}	6.24×10^{-14}
	Neuronal cell adhesion molecule (Nr-CAM)	−0.761	2.20×10^{-12}	5.50×10^{-9}
	Leukotriene A-4 hydrolase (LKHA4)	0.772	2.50×10^{-11}	2.44×10^{-15}
	Interleukin 23 (IL-23)	−0.731	3.45×10^{-11}	6.00×10^{-5}
	Adhesion G protein–coupled receptor E2 (EMR2)	−0.750	5.67×10^{-11}	1.30×10^{-22}
	Heparin cofactor II	0.721	6.98×10^{-11}	1.01×10^{-16}
	Tetraspanin 5 (NET4)	0.697	1.82×10^{-10}	3.45×10^{-6}
	Intercellular adhesion molecule 5 (sICAM-5)	0.682	1.83×10^{-10}	5.21×10^{-21}
	Growth arrest specific 1 (GAS1)	−0.664	1.92×10^{-10}	1.40×10^{-8}
	Leucine-rich repeat-containing protein 11 (SLIK5)	−0.655	2.55×10^{-10}	1.45×10^{-16}
	Mevalonate disphosphate decarboxylase 2 (MDC)	0.674	7.30×10^{-10}	1.06×10^{-13}
	Brevican core protein (PGCB)	−0.622	1.49×10^{-9}	8.31×10^{-10}
	Capping actin protein, gelsolinlike (CAPG)	0.686	1.56×10^{-9}	5.92×10^{-17}
	Latent transforming growth factor beta binding protein 4 (LTBP4)	−0.647	1.72×10^{-9}	1.04×10^{-6}
	Ubiquitin-conjugating enzyme E2G2 (UB2G2)	0.622	2.03×10^{-9}	6.68×10^{-2}
	Matrix metallopeptidase 9 (MMP-9)	0.687	2.19×10^{-9}	3.48×10^{-12}
	Matrix metallopeptidase 10 (MMP-10)	0.674	2.88×10^{-9}	4.19×10^{-5}
	Notch-3	−0.615	6.20×10^{-9}	2.26×10^{-10}
	Cathepsin H	0.627	1.01×10^{-8}	5.35×10^{-8}
	Endocan	−0.622	1.13×10^{-8}	1.55×10^{-11}
	Semaphorin 3E	−0.605	1.38×10^{-8}	1.86×10^{-10}
	Pleiotrophin (PTN)	−0.544	1.65×10^{-8}	1.53×10^{-3}
	Periostin	−0.614	2.51×10^{-8}	3.41×10^{-15}
	Eotaxin	0.583	3.23×10^{-8}	5.99×10^{-14}
	Bone morphogenetic protein receptor type 1A (BMPR1A)	−0.571	3.44×10^{-8}	1.43×10^{-10}
	Unc-5 netrin receptor D (UNC5H4)	−0.499	4.43×10^{-8}	2.84×10^{-9}
	Chemokine (C-C motif) ligand 21 (6Ckine)	0.583	1.37×10^{-7}	
	Jagged canonical Notch ligand 1 (JAG1)	−0.567	1.40×10^{-7}	5.93×10^{-16}
	Calgranulin B	0.601	1.49×10^{-7}	
	SPARC-related modular calcium binding 1 (SMOC1)	−0.579	1.66×10^{-7}	
	Dermatopontin (DERM)	−0.579	1.76×10^{-7}	2.17×10^{-20}
	Regenerating family member 4 (REG4)	0.555	1.92×10^{-7}	
	Xtp3a-related NTP pyrophosphatase (XTP3A)	−0.587	2.27×10^{-7}	
	Carbonic anhydrase 6	−0.526	3.14×10^{-7}	9.96×10^{-14}
	Nectin-like protein 1	−0.521	3.42×10^{-7}	
	Glypican 3	−0.557	3.56×10^{-7}	
	Sialic acid binding Ig-like lectin 7 (Siglec-7)	0.564	5.03×10^{-7}	5.56×10^{-15}
	Gelsolin	−0.556	9.80×10^{-7}	
	Neurotrophic receptor tyrosine kinase 2 (TrkB)	−0.566	1.18×10^{-6}	
	Adrenomedullin	0.568	1.48×10^{-6}	3.69×10^{-3}
	Haptoglobin, mixed type	0.513	1.96×10^{-6}	

(*Continued*)

Table 2. Continued

	Protein	Estimated Beta	*P* Value	Validation *P* Value
	Adiponectin	−0.453	2.07×10^{-6}	
	Kynureninase (KYNU)	0.541	2.48×10^{-6}	1.63×10^{-9}
	Ephrin receptor A5 (EphA5)	−0.522	3.78×10^{-6}	
	Neurotrophic receptor tyrosine kinase 3 (TrkC)	−0.481	3.80×10^{-6}	
	Chemokine (C-C motif) ligand 17 (TARC)	0.523	4.17×10^{-6}	1.02×10^{-12}
Packs of cigarettes (n=895)	Polymeric immunoglobulin receptor (PIGR)	0.087	1.15×10^{-29}	1.59×10^{-65}
	Secretory leukocyte peptidase inhibitor (SLPI)	0.066	2.08×10^{-16}	8.51×10^{-22}
	Osteomodulin (OMD)	−0.060	9.89×10^{-14}	1.83×10^{-29}
	Major histocompatibility class I–related protein (MIC-1)	0.053	5.88×10^{-13}	2.43×10^{-10}
	Trefoil factor 2	0.053	1.24×10^{-12}	2.33×10^{-15}
	Neural cell adhesion molecule (NCAM-120)	−0.052	1.62×10^{-12}	7.52×10^{-28}
	Repulsive guidance molecule BMP co-receptor b (RGMB)	−0.055	3.45×10^{-12}	6.31×10^{-22}
	Leukotriene A-4 hydrolase (LKHA4)	0.056	1.60×10^{-11}	3.90×10^{-16}
	Capping actin protein, gelsolinlike (CAPG)	0.053	7.93×10^{-11}	1.42×10^{-19}
	Leucine-rich repeat-containing protein 11 (SLIK5)	−0.047	1.85×10^{-10}	4.65×10^{-18}
	Adhesion G protein-coupled receptor E2 (EMR2)	−0.052	3.45×10^{-10}	1.06×10^{-23}
	Matrix metallopeptidase 9 (MMP-9)	0.052	3.61×10^{-10}	1.03×10^{-12}
	Tetraspanin 5 (NET4)	0.049	4.00×10^{-10}	2.19×10^{-6}
	Sialic acid binding Ig--like lectin 7 (Siglec-7)	0.050	5.70×10^{-10}	1.57×10^{-16}
	Cathepsin H	0.049	8.77×10^{-10}	9.15×10^{-11}
	Growth arrest specific 1 (GAS1)	−0.046	9.34×10^{-10}	6.93×10^{-9}
	Neuronal cell adhesion molecule (Nr-CAM)	−0.047	2.04×10^{-9}	8.30×10^{-10}
	Ubiquitin-conjugating enzyme E2G2 (UB2G2)	0.044	2.58×10^{-9}	6.13×10^{-2}
	Mevalonate disphosphate decarboxylase 2 (MDC)	0.047	3.52×10^{-9}	2.15×10^{-15}
	Brevican core protein (PGCB)	−0.044	3.96×10^{-9}	2.37×10^{-10}
	Interleukin 23 (IL-23)	−0.046	8.71×10^{-9}	8.37×10^{-6}
	Carbonic anhydrase 6	−0.043	8.92×10^{-9}	3.44×10^{-16}
	Endocan	−0.044	1.47×10^{-8}	1.85×10^{-11}
	Heparin cofactor II	0.045	1.80×10^{-8}	3.63×10^{-17}
	Jagged canonical Notch ligand 1 (JAG1)	−0.044	1.92×10^{-8}	1.72×10^{-17}
	Kynureninase (KYNU)	0.046	2.20×10^{-8}	5.59×10^{-10}
	Dermatopontin (DERM)	−0.044	3.11×10^{-8}	1.97×10^{-19}
	Eotaxin	0.042	3.58×10^{-8}	4.03×10^{-13}
	Matrix metallopeptidase 10 (MMP-10)	0.044	7.00×10^{-8}	1.00×10^{-4}
	Adrenomedullin	0.046	7.42×10^{-8}	2.91×10^{-3}
	Chemokine (C-C motif) ligand 17 (TARC)	0.044	7.46×10^{-8}	8.72×10^{-12}
	Unc-5 netrin receptor D (UNC5H4)	−0.035	7.56×10^{-8}	2.22×10^{-10}
	Glypican 3	−0.042	7.60×10^{-8}	
	Chemokine (C-C motif) ligand 21 (6Ckine)	0.043	9.03×10^{-8}	
	Matrix metallopeptidase 12 (MMP-12)	0.042	1.51×10^{-7}	
	Interferon gamma-induced protein (IP-10)	−0.044	1.52×10^{-7}	1.18×10^{-12}
	Calgranulin B	0.043	1.62×10^{-7}	
	Thrombin	−0.040	3.01×10^{-7}	
	Intercellular adhesion molecule 5 (sICAM-5)	0.039	4.72×10^{-7}	2.05×10^{-23}
	SPARC-related modular calcium binding 1 (SMOC1)	−0.040	7.34×10^{-7}	
	Nectin-like protein 1	−0.036	8.28×10^{-7}	
	Euchromatic histone lysine methyltransferase 2 (NG36)	−0.036	8.88×10^{-7}	
	Transferrin (TF)	0.041	1.03×10^{-6}	

(*Continued*)

Table 2. Continued

	Protein	Estimated Beta	*P* Value	Validation *P* Value
	Latent transforming growth factor beta binding protein 4 (LTBP4)	−0.037	1.61×10^{-6}	2.72×10^{-7}
	Nicotinamide phosphoribosyltransferase (PBEF)	−0.040	1.82×10^{-6}	
	Oxidized low-density lipoprotein receptor 1 (OLR1)	0.040	2.23×10^{-6}	
	Interleukin-9 (IL-9)	−0.040	2.29×10^{-6}	
	Notch-3	−0.036	2.30×10^{-6}	1.30×10^{-10}
	Pleiotrophin (PTN)	−0.033	2.42×10^{-6}	1.44×10^{-3}
Alcohol consumption (g/d; n = 896)	Thyroxine-binding globulin	−0.019	5.23×10^{-17}	1.75×10^{-16}
	Laminin	0.018	9.74×10^{-14}	2.13×10^{-11}
	Angiotensinogen	0.017	1.32×10^{-12}	3.15×10^{-25}
	Carnosine dipeptidase 1 (CNDP1)	0.017	1.35×10^{-12}	7.44×10^{-10}
	Cadherin E	0.016	1.62×10^{-10}	1.71×10^{-7}
	GDNF family receptor alpha 1 (GFRa-1)	−0.014	2.34×10^{-10}	9.74×10^{-14}
	Apolipoprotein L1	0.014	1.11×10^{-9}	7.19×10^{-4}
	Plasminogen activator, tissue type (tPA)	0.013	2.10×10^{-9}	9.23×10^{-5}
	Trypsin 2	0.014	5.24×10^{-9}	3.63×10^{-17}
	Coagulation factor IXab	0.013	1.11×10^{-8}	4.84×10^{-7}
	Insulin-like growth factor binding protein 4 (IGFBP-4)	0.014	1.60×10^{-8}	3.49×10^{-6}
	Aminoacylase-1	0.013	1.94×10^{-8}	8.98×10^{-8}
	Coagulation factor IX	0.013	2.26×10^{-8}	4.11×10^{-7}
	PolyUbiquitin K63	0.014	2.48×10^{-8}	1.26×10^{-1}
	Serine peptidase inhibitor, Kunitz type 2 (SPINT2)	−0.014	2.67×10^{-8}	6.74×10^{-8}
	Erb-b2 receptor tyrosine kinase 3 (ERBB3)	0.014	3.85×10^{-8}	7.98×10^{-16}
	a2-HS-glycoprotein	−0.014	5.28×10^{-8}	2.05×10^{-5}
	Ectonucleotide pyrophosphatase/phosphodiesterase 7 (ENPP7)	0.013	7.07×10^{-8}	7.83×10^{-6}
	Phosphoglycerate mutase 1	0.013	8.65×10^{-8}	1.05×10^{-1}
	Phosphate-induced (PHI)	0.013	9.42×10^{-8}	2.11×10^{-1}
	HtrA serine peptidase 2 (HTRA2)	0.013	1.87×10^{-7}	5.52×10^{-2}
	Apoprotein A-I	0.013	2.17×10^{-7}	2.22×10^{-11}
	Insulin-like growth factor II receptor	0.012	2.47×10^{-7}	3.19×10^{-6}
	Ferritin	0.011	3.19×10^{-7}	8.12×10^{-3}
	Activated leukocyte cell adhesion molecule (ALCAM)	−0.011	4.62×10^{-7}	2.16×10^{-3}
	Interleukin 1 receptor–like 2 (IL-1Rrp2)	−0.013	6.37×10^{-7}	4.23×10^{-5}
	Phosphodiesterase 11 (PDE11)	0.013	6.60×10^{-7}	6.12×10^{-13}
	Coagulation factor X	0.013	7.23×10^{-7}	4.68×10^{-15}
	Complement component C9	−0.012	2.19×10^{-6}	3.71×10^{-7}
	Osteomodulin (OMD)	−0.012	2.32×10^{-6}	6.07×10^{-6}
PAI (n=887)	Leptin	−0.680	6.64×10^{-8}	2.94×10^{-3}
	Creatine kinase (CK-MB)	1.054	7.74×10^{-7}	1.25×10^{-5}
	Creatine kinase (CK-MM)	0.986	3.43×10^{-6}	1.41×10^{-6}
Steps/d (n=784)	L1 cell adhesion molecule (NCAM-L1)	0.00005	7.80×10^{-9}	
Sed PA (n=784)	None			
Mod PA (n=784)	None			
Mod/Vig PA (n=784)	Lumican	0.007	1.39×10^{-6}	
Vigorous PA (n=784)	None			

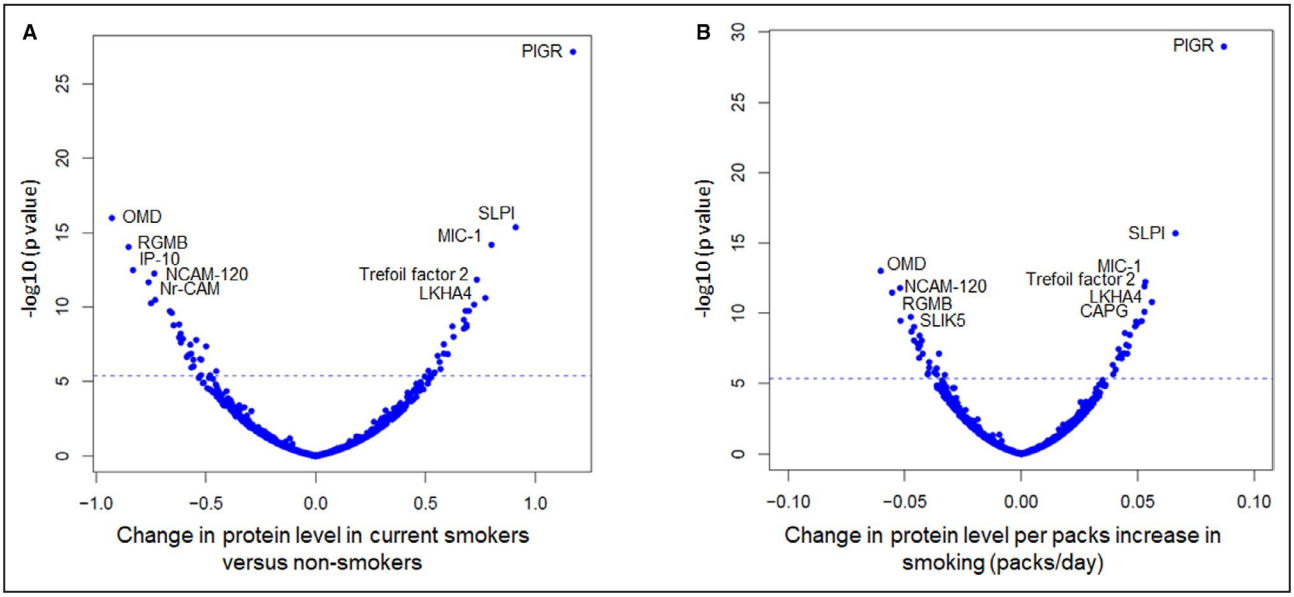

Figure 1. Volcano plots for the association between proteins and (A) smoking (vs never smoking; n=896) and (B) smoking (packs/d; n=895).

The dotted line indicates the Bonferroni-adjusted *P* value of 4.2×10^{-6}. The *x*-axis refers to a standard deviation change in the proteomic biomarker. CAPG indicates capping actin protein gelsolinlike; IP-10, interferon gamma–induced protein 10; LKHA4, leukotriene A-4 hydrolase; MIC-1, major histocompatibility class I–related protein; NCAM-120, neural cell adhesion molecule; Nr-CAM, neuronal cell adhesion molecule; OMD, osteomodulin; PIGR, polymeric immunoglobulin receptor; RGMB, repulsive guidance molecule BMP co-receptor b; SLIK5, leucine-rich repeat-containing protein 11; and SLPI, secretory leukocyte peptidase inhibitor.

proteomic profiles of alcohol consumption and physical activity, no pathway met the false discovery rate threshold (Figures 3 and 4, Table 3). There were 26 proteins specifically associated with current alcohol consumption, but no proteins specifically associated with past (non-current) alcohol consumption.

Of the 20 proteins most strongly associated with smoking, 12 were significantly associated with at least 1 of 1671 genetic variants (protein quantitative trait loci [pQTLs]; $P<5.0\times10^{-8}$) through GWAS analyses. These pQTLs included 14 SNPs associated with coronary artery disease, 2 with myocardial infarction, 6 with stroke, 4 with metabolic syndrome or metabolic traits, 2 with inflammatory biomarkers (including C-reactive protein), 3 with chronic inflammatory diseases, 7 with allergic disease, allergy, or allergic sensitization, 1 with age-related diseases and mortality, and 1 with cannabis use (Table S3).[31] None of the 1671 pQTLs were associated with lung cancer, lung function, or chronic obstructive pulmonary disease.[31,33–39] Of the 20 proteins most strongly associated with alcohol consumption, 13 had significant associations with at least 1 SNP in our database. There were a total of 2280 significant associations among the 13 proteins linked to alcohol consumption in our sample and pQTLs in our database, including 11 involving alcohol intake, alcohol dependence, or alcohol chronic pancreatitis, 3 with hypertriglyceridemia, 2 with gout, 2 with liver enzymes, and 2 with metabolic syndrome (Table S3).[31] One of these SNPs was also associated with alcohol consumption and alcohol use disorder in a report of association studies involving up to 1.2 million individuals.[40]

DISCUSSION

Given the need to better understand how lifestyle risk factors mediate effects at the molecular level, we used a nontargeted approach to determine whether concentrations of 1305 proteins were strongly associated with 3 modifiable lifestyle risk factors (smoking, alcohol, and physical activity) in 2 generations of FHS participants. To probe the possible biological meaning of the proteomic signatures for these 3 lifestyle risk factors, we considered the pathways enriched with key proteins as well as the pQTL variants associated with protein concentrations. Providing additional evidence that the proteomic signatures that we identified in the discovery cohort might be clinically meaningful, weighted predictive models estimated from the proteomic signatures for each smoking and alcohol consumption variable strongly predicted the respective lifestyle factor in the validation cohort. Our analysis provides a way of integrating information from high-throughput proteomics assays, genetic associations, and biological pathways to identify possible mechanisms by which modifiable lifestyle factors may mediate systemic responses implicated in the

Table 3. Top 10 Pathways Enriched With Genes Associated With Each Trait

Trait	Pathway	Total Number of Genes in the Pathway	Overlapping Genes	Enrichment Ratio*	*P* Value	False Discovery Rate	Overlapping Genes
Current smoker	Cytokine-cytokine receptor interaction†	294	13	6.43	5.47×10^{-8}	1.78×10^{-5}	*IL12B, CCL21, IL4, CXCL11, CCL22, CCL17, CXCL10, GDF15, BMPR1A, TNFRSF6B, CCL11, IL9, CXCL9*
	Th1 and Th2 cell differentiation†	92	6	9.48	3.54×10^{-5}	4.09×10^{-3}	*IL12B, IL4, JAG1, NOTCH1, NOTCH3, TYK2*
	IL-17 signaling pathway†	93	6	9.38	3.76×10^{-5}	4.09×10^{-3}	*MMP9, IL4, CCL17, CXCL10, CCL11, S100A9*
	Chemokine signaling pathway†	189	7	5.39	2.78×10^{-4}	2.27×10^{-2}	*CCL21, CXCL11, CCL22, CCL17, CXCL10, CCL11, CXCL9*
	Asthma	31	3	14.07	1.20×10^{-3}	7.83×10^{-2}	*IL4, CCL11, IL9*
	Cell adhesion molecules (CAMs)	144	5	5.05	2.94×10^{-3}	1.60×10^{-1}	*CNTN1, CADM3, SELP, NCAM1, NRCAM*
	Notch signaling pathway	48	3	9.09	4.26×10^{-3}	1.81×10^{-1}	*JAG1, NOTCH1, NOTCH3*
	Endocrine resistance	98	4	5.94	4.45×10^{-3}	1.81×10^{-1}	*MMP9, JAG1, NOTCH1, NOTCH3*
	Toll-like receptor signaling pathway	104	4	5.59	5.49×10^{-3}	1.99×10^{-1}	*IL12B, CXCL11, CXCL10, CXCL9*
	Complement and coagulation cascades	79	3	5.52	1.68×10^{-2}	5.33×10^{-1}	*SERPIND1, F2, F9*
Smoking – pack year	Cytokine-cytokine receptor interaction†	294	10	5.26	1.37×10^{-5}	4.48×10^{-3}	*IL12B, CCL21, CCL22, CCL17, TGFB3, CXCL10, GDF15, BMPR1A, CCL11, IL9*
	Complement and coagulation cascades†	79	5	9.79	1.43×10^{-4}	2.33×10^{-2}	*PLAUR, SERPIND1, A2M, F2, F3*
	IL-17 signaling pathway†	93	5	8.32	3.08×10^{-4}	3.35×10^{-2}	*MMP9, CCL17, CXCL10, CCL11, S100A9*
	Endocrine resistance	98	4	6.31	3.55×10^{-3}	2.89×10^{-1}	*MMP9, EGFR, JAG1, NOTCH3*
	Chemokine signaling pathway	189	5	4.09	7.13×10^{-3}	4.65×10^{-1}	*CCL21, CCL22, CCL17, CXCL10, CCL11*
	Proteoglycans in cancer	198	5	3.91	8.63×10^{-3}	4.69×10^{-1}	*IL12B, MMP9, PLAUR, EGFR, GPC3*
	Cell adhesion molecules (CAMs)	144	4	4.30	1.36×10^{-2}	6.34×10^{-1}	*CNTN1, CADM3, NCAM1, NRCAM*
	Asthma	31	2	9.98	1.69×10^{-2}	6.88×10^{-1}	*CCL11, IL9*
	Th1 and Th2 cell differentiation	92	3	5.04	2.13×10^{-2}	7.71×10^{-1}	*IL12B, JAG1, NOTCH3*
	Axon guidance	175	4	3.54	2.59×10^{-2}	7.95×10^{-1}	*NTN4, SEMA6A, UNC5D, SEMA3E*
Alcohol	Complement and coagulation cascades	79	4	11.50	3.68×10^{-4}	7.51×10^{-2}	*PLAT, C9, F10, F9*
	African trypanosomiasis	35	3	19.48	4.61×10^{-4}	7.51×10^{-2}	*APOL1, APOA1, SELE*
	Cell adhesion molecules (CAMs)	144	3	4.73	2.48×10^{-2}	1.00×10^{0}	*CDH1, SELE, ALCAM*
	Glycolysis/ Gluconeogenesis	68	2	6.68	3.57×10^{-2}	1.00×10^{0}	*PGAM1, GPI*
	PPAR signaling pathway	74	2	6.14	4.16×10^{-2}	1.00×10^{0}	*APOA1, UBC*
	Biosynthesis of amino acids	75	2	6.06	4.27×10^{-2}	1.00×10^{0}	*ACY1, PGAM1*
	Amoebiasis	96	2	4.73	6.63×10^{-2}	1.00×10^{0}	*LAMA1, C9*
	PI3K-Akt signaling pathway	354	4	2.57	6.79×10^{-2}	1.00×10^{0}	*EFNA2, ERBB3, LAMA1, IL2*

(*Continued*)

Table 3. Continued

Trait	Pathway	Total Number of Genes in the Pathway	Overlapping Genes	Enrichment Ratio*	*P* Value	False Discovery Rate	Overlapping Genes
	Glucagon signaling pathway	103	2	4.41	7.49×10^{-2}	1.00×10^{0}	*PGAM1, GCG*
	2-Oxocarboxylic acid metabolism	18	1	12.62	7.64×10^{-2}	1.00×10^{0}	*ACY1*
Physical activity	JAK-STAT signaling pathway	162	3	9.62	3.30×10^{-3}	6.30×10^{-1}	*IL10RA, LEP, PIAS4*
	Arginine and proline metabolism	50	2	20.77	4.00×10^{-3}	6.30×10^{-1}	*CKB, CKM*
	Proteoglycans in cancer	198	3	7.87	5.80×10^{-3}	6.30×10^{-1}	*ITGAV, LUM, PLAU*
	Complement and coagulation cascades	79	2	13.15	9.75×10^{-3}	7.94×10^{-1}	*C5, PLAU*
	NF-kappa B signaling pathway	95	2	10.93	1.39×10^{-2}	9.05×10^{-1}	*PIAS4, PLAU*
	Cytokine–cytokine receptor interaction	294	3	5.30	1.71×10^{-2}	9.29×10^{-1}	*BMP6, IL10RA, LEP*
	Ubiquitin-mediated proteolysis	136	2	7.64	2.73×10^{-2}	1.00×10^{0}	*PIAS4, STUB1*
	Fluid shear stress and atherosclerosis	138	2	7.53	2.80×10^{-2}	1.00×10^{0}	*ITGAV, PIAS4*
	Cell adhesion molecules (CAMs)	144	2	7.21	3.03×10^{-2}	1.00×10^{0}	*ITGAV, L1CAM*
	Tuberculosis	179	2	5.80	4.52×10^{-2}	1.00×10^{0}	*CEBPB, IL10RA*

*Enrichment ratio: the number of observed genes divided by the number of expected genes from each pathway.
†Meets the false discovery rate threshold.

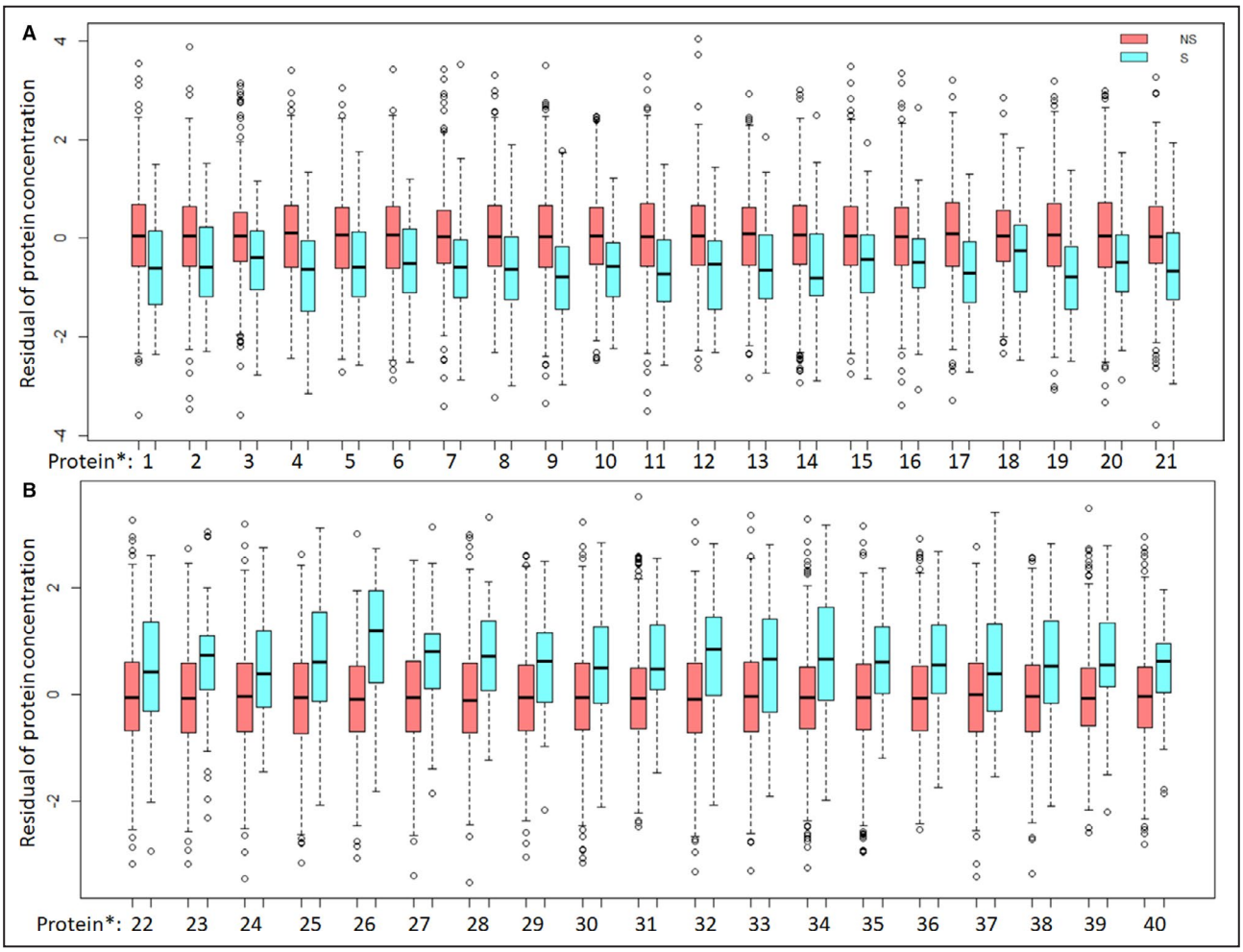

Figure 2. Box plots comparing the residual distributions of the top 40 proteins that were significantly associated with smoking for nonsmokers (NS; n=821) vs smokers (S; n=76).

Y-axis represents the residuals of the protein concentrations adjusted for age, sex, and body mass index. **A**, Represents proteins with inverse associations and (**B**) represents proteins with positive associations. *Proteins: (1) osteomodulin (OMD), (2) repulsive guidance molecule BMP co-receptor b (RGMB), (3) neural cell adhesion molecule (NCAM-120), (4) interferon gamma–induced protein (IP-10), (5) neuronal cell adhesion molecule (Nr-CAM), (6) adhesion G protein-coupled receptor E2 (EMR2), (7) interleukin 23 (IL-23), (8) leucine-rich repeat-containing protein 11 (SLIK5), (9) growth arrest specific 1 (GAS1), (10) brevican core protein (PGCB), (11) latent transforming growth factor beta binding protein 4 (LTBP4), (12) endocan, (13) dermatopontin (DERM), (14) neurogenic locus notch homolog protein 3 (notch-3), (15) bone morphogenetic protein receptor type 1A (BMPR1A), (16) pleiotrophin (PTN), (17) unc-5 netrin receptor D (UNC5H4), (18) jagged canonical notch ligand 1 (JAG1), (19) periostin, (20) semaphorin 3E, (21) carbonic anhydrase 6, (22) polymeric immunoglobulin receptor (PIGR), (23) major histocompatibility class I–related protein (MIC-1), (24) secretory leukocyte peptidase inhibitor (SLPI), (25) leukotriene A-4 hydrolase (LKHA4), (26) tetraspanin 5 (NET4), (27) trefoil factor 2, (28) capping actin protein gelsolinlike (CAPG), (29) heparin cofactor II, (30) eotaxin, (31) matrix metallopeptidase 10 (MMP-10), (32) intercellular adhesion molecule 5 (sICAM-5), (33) MMP-9, (34) mevalonate disphosphate decarboxylase 2 (MDC), (35) ubiquitin-conjugating enzyme E2G2 (UB2G2), (36) kynureninase (KYNU), (37) sialic acid binding Ig-like lectin 7 (siglec-7), (38) cathepsin H, (39) adrenomedullin, and (40) chemokine (C-C motif) ligand 17 (TARC). Horizontal line in the boxes = median, top border of the boxes = 75th percentile, bottom border of the boxes = 25th percentile, whiskers above the boxes = min(max(x), 75th percentile + 1.5 * inter-quartile range), whiskers below the boxes = max(min(x), 25th percentile - 1.5 * inter-quartile range).

pathogenesis of CVD. It builds on our previous investigation into the proteomic correlates of dietary patterns.[41]

The first modifiable lifestyle factor we considered was smoking. We observed that 60 proteins were significantly associated with smoking. The top protein hits included proteins associated with SNPs of genes (eg, polymeric immunoglobulin receptor, IL-23, heparin cofactor II, intercellular adhesion molecule 5 [sICAM-5]) related to coronary artery disease, inflammation processes, and age-related mortality,[31] suggesting that the proteomic profile that we identified may be related to several disease outcomes and related biological processes. Additionally, pathways enriched with genes associated with smoking included the complement and coagulation cascades and the IL-17 signaling

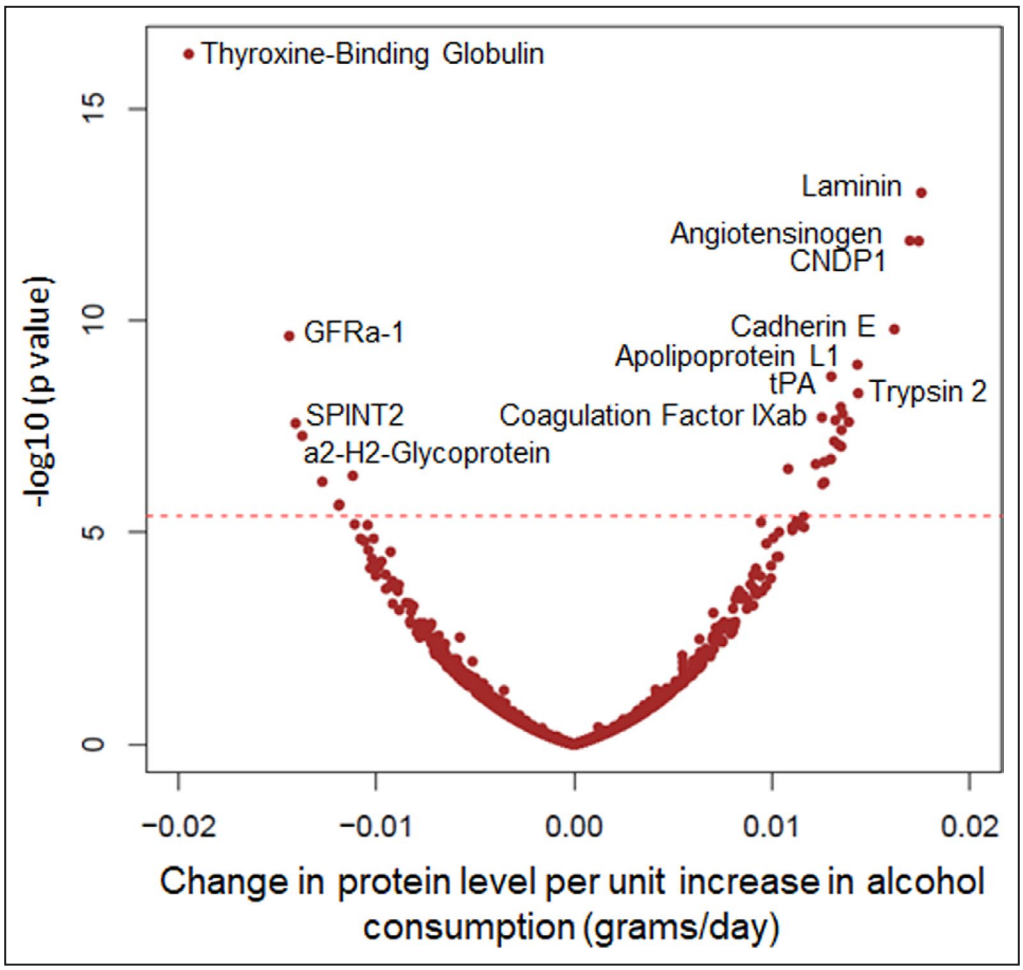

Figure 3. Volcano plot for the association between proteins and alcohol consumption (n=896). The dotted line indicates the Bonferroni-adjusted *P*-value of 4.2×10^{-6}. The *x*-axis refers to a standard deviation change in the proteomic biomarker. CNDP1 indicates carnosine dipeptidase 1; GFRa-1, GDNF family receptor alpha 1; SPINT2, serine peptidase inhibitor, kunitz type 2; and tPA, plasminogen activator tissue type.

pathway that have been previously associated with cardiovascular health.[42,43] Certain proteins associated with smoking have been previously associated with smoking in the toxicologic or epidemiological literature (eg, polymeric immunoglobulin receptor, capping actin protein gelsolin-like, gelsolin, matrix metallopeptidase 10, and matrix metallopeptidase 12).[44–49] Similarly, 19 of the proteins that we identified as significantly associated with smoking were included as part of a previously published plasma protein expression model for smoking.[29] Notably, we evaluated a larger set of proteins than most previous studies. To our knowledge, many of the associations we observed between smoking and protein concentrations are novel, potentially suggesting a larger molecular impact of smoking on biological systems than previously identified. Our observations are consistent with concomitant evidence that long-term smoking affects a large proportion of the protein concentrations in the bronchoalveolar lavage[50] and sputum.[51] It is also consistent with evidence that smoking is associated with an epigenetic signature,[52] a transcriptomic signature,[53] and a microRNA signature.[54]

As with smoking, we observed blood proteins associated with alcohol consumption. The proteomic correlates of smoking and alcohol consumption were almost mutually exclusive; only 1 protein (osteomodulin) was associated with both lifestyle factors. Our observations may suggest that although the modifiable lifestyle behaviors cluster within individuals,[55–57] the corresponding proteomic signatures may be distinctive. We observed both novel (to our knowledge) and previously identified proteomic associations with alcohol consumption. Certain proteins associated with alcohol consumption have been previously linked to alcohol consumption in the toxicological (eg, apolipoprotein-A1 and phosphoglycerate mutase)[58,59] and epidemiological (eg, activated leukocyte cell

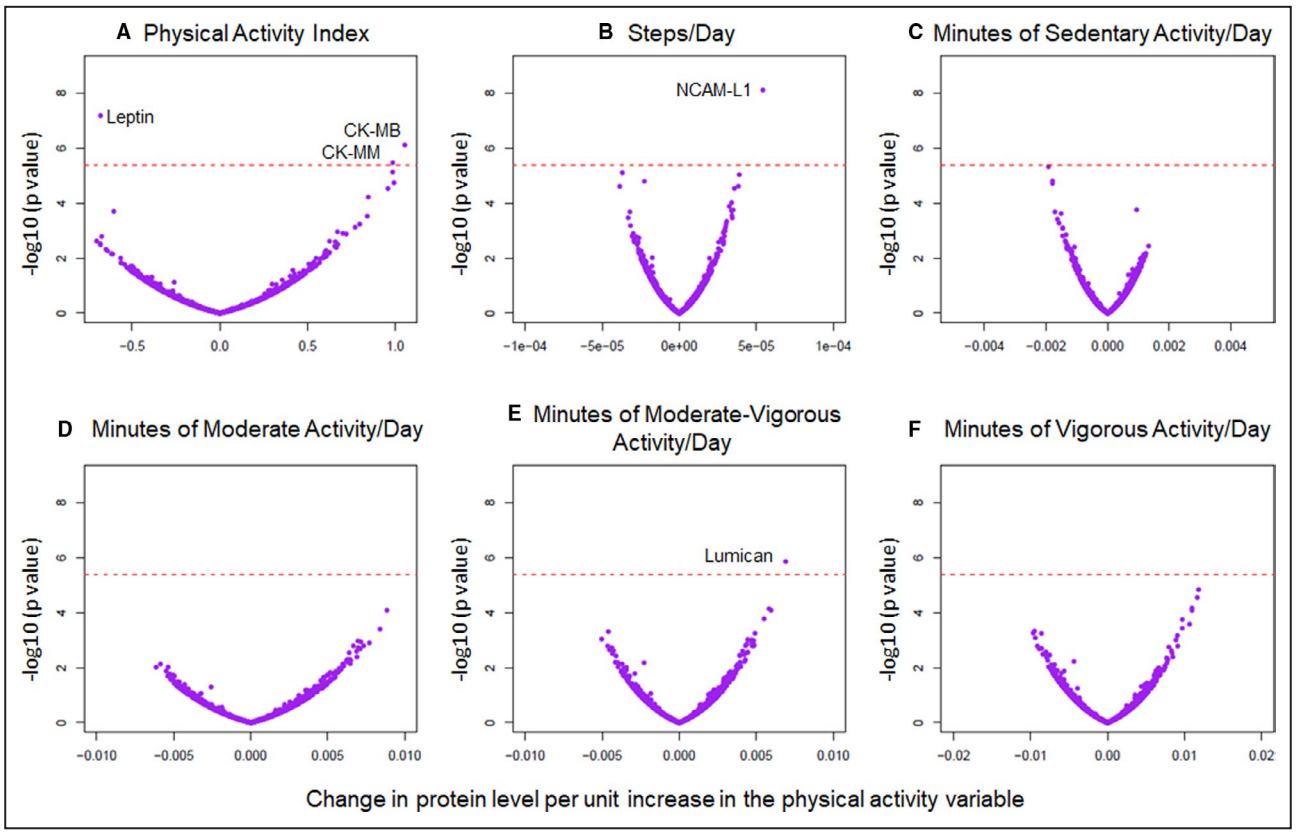

Figure 4. Volcano plots for the association between proteins and (A) physical activity index (n=887), (B) steps/d (n=784), (C) minutes of sedentary activity/d (n=784), (D) minutes of moderate physical activity/d (n=784), (E) minutes of moderate–vigorous physical activity/d (n=784), and (F) minutes of vigorous physical activity/d (n=784).
The physical activity index was calculated as (hours sleeping+1.1×hours engaged in sedentary activities+1.5×hours engaged in slight physical activity+2.4×hours engaged in moderate physical activity+5×hours engaged in heavy physical activity).[22] The dotted line indicates the Bonferroni-adjusted *P* value of 4.2×10^{-6}. The *x*-axis refers to a standard deviation change in the proteomic biomarker. CK-MB indicates creatine kinase M-type: B-type heterodimer; CK-MM, creatine kinase M-type; and NCAM-L1, L1 cell adhesion molecule.

adhesion molecule, thyroxine-binding globulin, and trypsin 2) literature.[29] Furthermore, certain proteins (eg, a2-HS-glycoprotein) and SNPs of genes coding for certain proteins (eg, trypsin 2) have been associated with alcohol-related disease processes previously.[31,60] In addition, top pathways enriched with genes encoding proteins (pQTLs) associated with alcohol consumption included complement and coagulation cascades, cell adhesion molecules, peroxisome proliferator-activated receptors signaling pathway, and biosynthesis of amino acids. These pathways are notable because several have been implicated in CVD progression[42,61]; however, none met our false discovery rate threshold. Further investigation is needed to determine whether our observations can be replicated in a larger study.

The proteomic correlates of physical activity included fewer proteins than corresponding associations for either smoking or alcohol consumption. Although physical activity is associated with hundreds of proteins,[29,62,63] we observed only proteins that were significantly associated with any of the physical activity variables. It is possible that exercise-related associations with protein concentrations are tissue specific (eg, in skeletal muscle).[62] Additionally, we may not have evaluated many of the proteins associated with physical activity in our assay. Nevertheless, 2 of the 3 proteins (creatine kinase M-type and creatine kinase M-type B-type heterodimer) assessed in our FOS validation sample had significant associations. Creatine kinase M-type B-type heterodimer is part of a previously published plasma protein expression model for physical activity energy expenditure.[29] In addition to having a known association with myocardial damage,[64] creatine kinase-M-type protein concentrations and gene expression have been associated with long-term physical activity patterns and short-term changes caused by physical activity.[65–67] Leptin, the third protein associated with PAI in the discovery sample, is most well known for its impact on eating behavior and energy balance,[68] but it has also been associated with blood pressure, vascular function, and cardiovascular disease.[69] Furthermore, in some

populations, physical activity is associated with blood leptin concentrations.[29,70,71]

Our analysis had several strengths including the large number of proteins considered, the use of the FOS cohort as a validation dataset, and the integration of existing GWAS catalog and molecular pathway databases. Our investigation also had several limitations. First, we only analyzed associations of lifestyle factors with a subset of plasma protein concentrations. It is possible that the relations would differ if we had considered a larger panel of circulating proteins or protein concentrations in different tissues. Second, our analysis was cross-sectional. Whereas we assumed that it was more likely for the modifiable lifestyle factors to influence protein concentrations, it is possible that the directionality may be reverse or bidirectional. Third, our findings may be limited in generalizability because all of our participants were White individuals of European ancestry. Finally, whereas SOMAscan aptamer assays allow for high-throughput quantification of protein concentrations, such technology could introduce errors because of cross-reactivity and nonspecificity of select aptamers.[72] Future work could address these limitations by prospectively examining the associations between CVD risk factors and blood concentrations of a larger panel of proteins in a more diverse population. Additionally, future studies could explore the extent to which proteomic signatures may mediate the relations between lifestyle factors and risk of CVD.

Our study focused on characterizing the proteomic signatures of modifiable lifestyle factors. By showing that lifestyle factors including smoking, alcohol consumption, and physical activity are associated with individuals' proteomic profiles and by relating these profiles to known biological pathways, we suggest potential mechanisms through which the lifestyle factors might affect the risk of chronic disease. More generally, characterizing proteomic signatures associated with common lifestyle factors can help elucidate the molecular mechanisms associated with disease initiation and progression, develop newer biomarkers of related processes, and inform future primordial prevention efforts.

ARTICLE INFORMATION

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Disclosures

None.

Supplementary Material

Data S1
Tables S1–S3
Figure S1

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SUPPLEMENTAL MATERIAL

Data S1. **Proteomics assay quality control.**

Robert E. Gerszten's laboratory used the aptamer-based SOMAscan platform to assay protein biomarkers in the Framingham Heart Study Generation 3 Cohort (examination cycle 2; n = 1000). The specimen set included 900 ethylenediaminetetraacetic acid (EDTA) plasma specimens, 50 phantom EDTA plasma specimens, and 50 citrated plasma specimens.

The SOMAscan™ proteomic profiling platform is an aptamer-based technique that uses chemically modified single-stranded DNA aptamers to assay more than 1300 proteins in an accurate, high-throughput manner. A SOMAmer reagent is a single-stranded DNA-based aptamer that is chemically modified to enhance binding to conformational protein epitopes with high affinity and specificity. Its flourophore tag allows for detection by standard oligo-array readers.

We removed 50 citrated plasma specimens, and compared the 50 paired phantom-EDTA samples by coefficient of variation (CV) and several other quality control (QC) metrics (specified below). We then investigated several QC metrics in the 900 ETDA samples. We identified samples and protein markers that did not meet the criteria outlined below.

We investigated sample dispersion and correlation of the 50 paired phantom-EDTA samples. Let y_1 and y_2 be the two values of an individual in phantom and EDTA samples. We define the following variables using the pair of samples:

$$\text{pair\_cv} = \sqrt{\frac{(d/m)^1}{2n}}$$

$$\text{pair\_avg} = \frac{y_1 + y_2}{2}$$

$$\text{pair\_diff} = y_1 - y_2$$

$$\text{pair\_d\_m\_sq} = (\text{pair\_diff}/\text{pair\_avg})^2$$

$$\text{pair\_sl\_sq} = (\ln(y_1) - \ln(y_2))^2$$

$$\text{pair\_diff\_sq} = (y_1 - y_2)^2$$

Since over 1300 proteins were measured in every sample, we obtained the mean value for the variables defined above for the paired samples.

Variable	**Summary measure**
pair_avg	allmean
pair_d_m_sq	meanpairdmsq
pair_sl_sq	meanslsq
pair_diff_sq	meandiffsq
pair_cv	paircv_50pct
pair_cv	paircv_75pct

Then we defined the following QC metrics:

$$cv\_rms=100*\sqrt{meanpairdmsq/2}$$

$$cv\_log=100*(\exp(\sqrt{meanslsq/2})-1)$$

$$cv\_in=100*\sqrt{meandiffsq/2})/allmean$$

We estimated intraclass correlation (ICC) of the values of the paired samples using the raw value and log-transformed value: icc_y and icc_lny. Eleven proteins (2524-56, 2987-37, 3363-31, 3416-2, 4414-69, 5202-4, 5351-52, 5475-10, 5488-74, 5508-62, 7660-21) failed four or more measures based on paircv_50pct, paircv_75pct, cv_rms, cv_in, icc_lny, and icc_y (defined as >99% for paircv_50pct, paircv_75pct, cv_rms, and cv_in, or <1% of icc_lny and icc_y). At the sample level, we checked each of the 50 paired samples based on mean values of "pair_cv" and "pair_diff_sq" across the 1317 proteins.

We then compared protein levels (ln(RFU)) levels across all proteins and all individuals of the 12 plates. One individual was an outlier (Figure S1). We checked homogeneity of variance (hov) ANOVA, model fit statistics, and the Welch statistic for the 900 ETDA samples. Ten samples (10363-13, 14144-3, 2960-66, 3434-34, 3435-53, 4131-72, 4450-26, 4706-17, 4912-17, 9187-2) failed at least three of the metrics (cv_rms > 20, icc_y < 0.50, welch_p < 1×10^{-6}, hov_p < 1×10^{-6}).

Table S1. Associations between each protein and lifestyle factors among FHS Generation 3 participants - Smoking and alcohol.

Aptamer	Protein	Entrez Gene Symbol	Current smoking (n = 896)		Packs of cigarettes (n = 895)		Current drinking (n = 896)	
			beta	p	beta	p	beta	p
10336-3	E3 ubiquitin-protein ligase CHIP	STUB1	-0.082	0.493	-0.009	0.289	0.004	0.152
10337-83	CCAAT/enhancer-binding protein beta	CEBPB	0.036	0.762	0.002	0.777	-0.004	0.117
10339-48	Gamma-enolase	ENO2	-0.280	0.016	-0.023	0.005	0.004	0.135
10342-55	E3 SUMO-protein ligase PIAS4	PIAS4	0.264	0.027	0.020	0.020	-0.005	0.061
10344-334	Interleukin-10 receptor subunit alpha	IL10RA	-0.026	0.826	-0.006	0.499	0.005	0.050
10346-5	Signal transducer and activator of transcription 3	STAT3	-0.040	0.733	-0.004	0.623	0.004	0.091
10351-51	Interferon regulatory factor 1	IRF1	-0.275	0.019	-0.003	0.746	0.004	0.112
10356-21	Transcription factor AP-1	JUN	-0.065	0.587	-0.007	0.429	-0.005	0.073
10358-33	Induced myeloid leukemia cell differentiation protein Mcl-1	MCL1	0.141	0.227	0.020	0.015	0.001	0.598
10361-25	2'-5'-oligoadenylate synthase 1	OAS1	0.152	0.204	0.010	0.267	0.000	0.881
10362-35	Myc proto-oncogene protein	MYC	-0.004	0.971	-0.002	0.776	0.000	0.923
10363-13	Mothers against decapentaplegic homolog 3	SMAD3	0.289	0.012	0.021	0.013	0.006	0.015
10364-6	Mothers against decapentaplegic homolog 2	SMAD2	0.080	0.502	0.005	0.550	0.002	0.520
10365-132	Interleukin-23	IL12B IL23A	-0.731	0.000	-0.046	0.000	-0.005	0.033
10366-11	Platelet-derived growth factor receptor alpha	PDGFRA	-0.191	0.090	-0.012	0.142	-0.001	0.567
10367-62	Interleukin-12	IL12A IL12B	0.013	0.915	0.001	0.878	-0.003	0.232
10370-21	Signal transducer and activator of transcription 1-alpha/beta	STAT1	-0.117	0.324	0.001	0.893	0.003	0.224
10372-18	Signal transducer and activator of transcription 6	STAT6	-0.131	0.269	-0.010	0.259	-0.010	0.000
10990-21	Leucine-rich repeat serine/threonine-protein kinase 2	LRRK2	0.064	0.587	0.004	0.672	0.002	0.507
11067-13	Osteocalcin	BGLAP	-0.065	0.581	-0.004	0.675	-0.002	0.476
11071-1	Interleukin-5	IL5	-0.256	0.031	-0.018	0.032	-0.002	0.366

11081-1	Glycerol-3-phosphate dehydrogenase [NAD(+)], cytoplasmic	GPD1	0.253	0.018	0.020	0.009	0.006	0.011
11089-7	Immunoglobulin A	IGHA1 IGHA2	-0.289	0.012	-0.018	0.028	0.003	0.308
11094-104	Galectin-10	CLC	-0.042	0.724	-0.004	0.663	0.000	0.977
11096-57	HemK methyltransferase family member 2	N6AMT1	-0.128	0.273	-0.011	0.192	0.000	0.981
11098-1	Pyridoxal kinase	PDXK	0.139	0.241	0.007	0.441	0.007	0.008
11101-18	Toll-like receptor 4	TLR4	0.000	1.000	0.000	0.974	0.000	0.902
11102-22	Regenerating islet-derived protein 4	REG4	0.555	0.000	0.035	0.000	0.005	0.048
11103-24	Heat shock protein beta-1	HSPB1	-0.161	0.173	-0.016	0.068	0.005	0.067
11104-13	Chitinase-3-like protein 1	CHI3L1	0.070	0.519	0.012	0.130	0.010	0.000
11105-171	Alpha-enolase	ENO1	0.022	0.852	0.005	0.577	0.005	0.052
11510-31	Apolipoprotein L1	APOL1	0.239	0.029	0.008	0.305	0.014	0.000
11513-92	ADP-ribosyl cyclase/cyclic ADP-ribose hydrolase 1	CD38	-0.007	0.953	0.007	0.441	0.004	0.181
11514-196	CD59 glycoprotein	CD59	-0.416	0.000	-0.029	0.000	-0.003	0.257
11516-7	Fatty acid-binding protein, liver	FABP1	-0.032	0.792	-0.005	0.601	0.004	0.128
12060-28	Growth/differentiation factor 11	GDF11	-0.173	0.141	-0.005	0.545	-0.005	0.054
13088-397	Betacellulin	BTC	0.013	0.915	0.004	0.675	0.001	0.715
13089-6	Hypoxia-inducible factor 1-alpha	HIF1A	-0.088	0.465	-0.010	0.226	0.000	0.884
13090-17	Protein S100-A6	S100A6	0.163	0.168	0.017	0.050	-0.002	0.512
13093-6	Secreted and transmembrane protein 1	SECTM1	0.366	0.001	0.021	0.011	0.001	0.578
13094-75	R-spondin-3	RSPO3	-0.040	0.733	0.010	0.241	0.000	0.889
13095-51	Lithostathine-1-alpha	REG1A	0.233	0.042	0.016	0.060	-0.003	0.194
13097-11	Bcl-2-like protein 2	BCL2L2	0.115	0.337	0.016	0.059	-0.006	0.032
13098-93	Vascular endothelial growth factor D	FIGF	0.152	0.152	0.008	0.324	0.004	0.097
13101-60	Sclerostin	SOST	-0.049	0.593	-0.004	0.568	0.001	0.492
13102-1	Protein FAM3D	FAM3D	0.159	0.173	0.005	0.517	-0.002	0.350
13103-125	Chorionic somatomammotropin hormone	CSH1 CSH2	-0.070	0.558	-0.004	0.637	0.007	0.008
13104-32	Ephrin-B1	EFNB1	-0.029	0.804	-0.007	0.440	-0.006	0.025
13105-7	Synaptosomal-associated protein 25	SNAP25	0.020	0.868	0.008	0.339	-0.004	0.177
13107-9	Ly6/PLAUR domain-containing protein 3	LYPD3	-0.205	0.073	-0.014	0.091	0.004	0.091
13109-82	Neuronal growth regulator 1	NEGR1	-0.439	0.000	-0.027	0.001	-0.007	0.004

13111-79	B-cell lymphoma 6 protein	BCL6	-0.206	0.084	-0.024	0.005	0.001	0.701
13112-179	Follistatin-related protein 1	FSTL1	-0.044	0.707	0.003	0.723	0.002	0.475
13113-7	Osteopontin	SPP1	-0.382	0.001	-0.027	0.001	-0.003	0.225
13114-50	Lumican	LUM	0.140	0.212	0.014	0.080	-0.002	0.469
13116-25	CD177 antigen	CD177	0.062	0.590	0.008	0.351	-0.006	0.022
13117-232	Choline/ethanolamine kinase	CHKB	0.388	0.000	0.019	0.015	0.001	0.776
13118-5	SPARC-related modular calcium-binding protein 1	SMOC1	-0.579	0.000	-0.040	0.000	-0.007	0.002
13119-26	Protein Z-dependent protease inhibitor	SERPINA10	0.065	0.555	0.003	0.735	0.001	0.555
13122-19	Leucine-rich repeat transmembrane protein FLRT2	FLRT2	-0.320	0.004	-0.018	0.026	-0.003	0.283
13123-3	Leucine-rich repeat transmembrane protein FLRT3	FLRT3	0.250	0.025	0.019	0.020	0.000	0.847
13124-20	Immunoglobulin superfamily containing leucine-rich repeat protein 2	ISLR2	0.381	0.000	0.024	0.002	0.001	0.667
13125-45	Vitronectin	VTN	0.071	0.534	0.002	0.819	0.005	0.058
13126-52	Desmocollin-2	DSC2	0.195	0.086	0.011	0.193	0.000	0.900
13129-40	Low-density lipoprotein receptor	LDLR	-0.068	0.568	-0.010	0.247	-0.003	0.313
13130-150	Hexokinase-2	HK2	0.369	0.002	0.027	0.001	0.000	0.955
13131-5	Hexokinase-1	HK1	0.051	0.667	0.009	0.319	-0.003	0.188
13132-14	Semaphorin-5A	SEMA5A	-0.240	0.036	-0.014	0.086	-0.008	0.002
13133-73	Latent-transforming growth factor beta-binding protein 4	LTBP4	-0.647	0.000	-0.037	0.000	-0.004	0.088
14114-18	PILR alpha-associated neural protein	PIANP	-0.213	0.039	-0.014	0.053	0.004	0.119
14115-34	Adrenomedullin	ADM	0.568	0.000	0.046	0.000	0.000	0.850
14116-129	Protein S100-A4	S100A4	-0.126	0.290	-0.013	0.128	-0.008	0.002
14120-2	E3 ubiquitin-protein ligase RNF43	RNF43	-0.067	0.576	-0.005	0.556	0.000	0.921
14121-24	Tumor necrosis factor receptor superfamily member 10D	TNFRSF10D	0.127	0.284	0.008	0.349	-0.004	0.085
14122-132	E3 ubiquitin-protein ligase ZNRF3	ZNRF3	0.139	0.248	0.012	0.166	0.002	0.350
14123-34	Platelet receptor Gi24	C10orf54	-0.030	0.803	-0.008	0.358	0.002	0.548
14124-6	Ephrin-A2	EFNA2	-0.424	0.000	-0.030	0.000	-0.011	0.000
14125-5	Apolipoprotein M	APOM	-0.348	0.000	-0.024	0.001	0.006	0.003
14127-240	Interferon beta	IFNB1	0.012	0.919	0.000	1.000	-0.001	0.676
14128-121	Interferon alpha-10	IFNA10	-0.051	0.673	0.001	0.943	0.003	0.236

14129-1	Interferon alpha-7	IFNA7	-0.116	0.329	-0.012	0.174	-0.006	0.016
14131-37	Ephrin-B2	EFNB2	-0.205	0.072	-0.012	0.129	-0.003	0.255
14132-21	HERV-H LTR-associating protein 2	HHLA2	-0.272	0.022	-0.020	0.019	-0.002	0.403
14133-93	Interleukin-1 receptor type 2	IL1R2	-0.111	0.321	-0.023	0.004	0.009	0.000
14134-49	Amphoterin-induced protein 2	AMIGO2	-0.327	0.004	-0.019	0.021	0.000	0.966
14135-3	Relaxin receptor 1	RXFP1	0.300	0.011	0.014	0.099	-0.005	0.076
14136-234	Complement component C1q receptor	CD93	0.190	0.105	0.021	0.011	-0.004	0.126
14139-16	Neuregulin-4	NRG4	-0.231	0.050	-0.015	0.079	0.000	0.866
14143-8	Histone H2B type 2-E	HIST2H2BE	-0.364	0.001	-0.020	0.014	0.001	0.816
14144-3	Histone H2A type 3	HIST3H2A	-0.039	0.736	-0.002	0.768	0.001	0.613
14146-92	Histone H3.1	HIST1H3A	-0.070	0.554	-0.006	0.497	0.000	0.885
14147-50	Interferon gamma	IFNG	0.274	0.015	0.020	0.014	0.009	0.000
14149-9	Interleukin-36 beta	IL36B	0.028	0.816	-0.004	0.635	-0.003	0.202
14150-7	Interleukin-36 alpha	IL36A	-0.227	0.051	-0.017	0.047	-0.002	0.462
14151-4	Ubiquitin-like protein ISG15	ISG15	0.003	0.981	0.012	0.167	0.003	0.189
14153-8	Ephrin-A3	EFNA3	-0.451	0.000	-0.028	0.001	0.001	0.784
14156-33	14-3-3 protein beta/alpha	YWHAB	0.098	0.409	0.008	0.372	0.002	0.417
14157-21	14-3-3 protein epsilon	YWHAE	-0.216	0.066	-0.009	0.298	0.003	0.219
14158-17	Annexin A5	ANXA5	-0.288	0.014	-0.025	0.004	0.000	0.938
14583-49	Growth/differentiation factor 8	MSTN	-0.003	0.975	0.007	0.309	-0.004	0.090
2182-54	Complement C4b	C4A C4B	0.017	0.887	-0.014	0.094	-0.006	0.015
2190-55	Coagulation Factor XI	F11	0.194	0.093	0.016	0.057	-0.002	0.490
2192-63	C-C motif chemokine 27	CCL27	-0.177	0.125	-0.013	0.129	0.003	0.203
2201-17	Endostatin	COL18A1	-0.003	0.981	0.000	0.958	0.002	0.463
2211-9	Metalloproteinase inhibitor 1	TIMP1	0.034	0.767	0.010	0.246	-0.003	0.224
2212-69	Tissue-type plasminogen activator	PLAT	0.195	0.052	0.011	0.115	0.013	0.000
2247-20	Prokineticin-1	PROK1	0.218	0.066	0.021	0.015	0.000	0.986
2278-61	Metalloproteinase inhibitor 2	TIMP2	-0.436	0.000	-0.022	0.005	-0.001	0.707
2333-72	Transforming growth factor beta-1	TGFB1	-0.036	0.761	0.004	0.616	-0.002	0.470
2358-19	Vascular endothelial growth factor receptor 3	FLT4	-0.201	0.064	-0.017	0.028	-0.002	0.418
2381-52	Complement C5	C5	0.206	0.070	0.007	0.417	-0.007	0.009
2418-55	Apolipoprotein E	APOE	0.165	0.137	0.015	0.057	0.002	0.337
2421-7	Brain-derived neurotrophic factor	BDNF	0.252	0.030	0.018	0.035	-0.001	0.565
2429-27	Complement component C8	C8A C8B C8G	-0.145	0.224	-0.003	0.684	-0.004	0.149
2431-17	Cathepsin G	CTSG	0.284	0.016	0.016	0.060	-0.001	0.778

2436-49	C-X-C motif chemokine 16	CXCL16	0.373	0.001	0.025	0.001	0.001	0.676
2441-2	Fibroblast growth factor 10	FGF10	0.068	0.570	0.010	0.229	-0.001	0.637
2443-10	Fibroblast growth factor 8 isoform B	FGF8	0.246	0.039	0.015	0.089	-0.002	0.445
2447-7	Group IIE secretory phospholipase A2	PLA2G2E	0.193	0.105	0.017	0.050	-0.001	0.625
2449-1	Calcium-dependent phospholipase A2	PLA2G5	0.209	0.081	0.017	0.052	0.006	0.016
2468-62	C-C motif chemokine 20	CCL20	0.159	0.182	0.017	0.045	-0.001	0.595
2474-54	Serum amyloid P-component	APCS	0.185	0.050	0.005	0.490	0.005	0.008
2475-1	Mast/stem cell growth factor receptor Kit	KIT	0.335	0.002	0.013	0.088	0.000	0.838
2480-58	Metalloproteinase inhibitor 3	TIMP3	-0.020	0.862	-0.006	0.472	0.002	0.403
2500-2	Angiopoietin-4	ANGPT4	0.078	0.513	0.001	0.938	0.000	0.856
2501-51	Cadherin-1	CDH1	0.397	0.001	0.020	0.021	0.016	0.000
2505-49	GDNF family receptor alpha-3	GFRA3	0.128	0.283	0.015	0.079	0.000	0.868
2514-65	Ephrin-B3	EFNB3	-0.151	0.203	0.000	0.988	0.001	0.676
2515-14	GDNF family receptor alpha-2	GFRA2	-0.305	0.006	-0.021	0.009	-0.008	0.002
2516-57	C-C motif chemokine 21	CCL21	0.583	0.000	0.043	0.000	0.004	0.095
2524-56	High mobility group protein B1	HMGB1	0.233	0.046	0.024	0.004	0.002	0.474
2526-53	Tumor necrosis factor receptor superfamily member 11B	TNFRSF11B	-0.271	0.018	-0.017	0.035	-0.002	0.546
2558-51	Beta-endorphin	POMC	-0.241	0.038	-0.025	0.002	-0.001	0.697
2567-5	Complement factor I	CFI	0.295	0.004	0.020	0.006	0.000	0.879
2571-12	Insulin-like growth factor-binding protein 3	IGFBP3	-0.198	0.053	-0.008	0.257	-0.001	0.642
2578-67	C-C motif chemokine 2	CCL2	0.212	0.071	0.016	0.062	0.002	0.532
2579-17	Matrix metalloproteinase-9	MMP9	0.687	0.000	0.052	0.000	0.003	0.194
2580-83	Myeloperoxidase	MPO	0.005	0.962	0.005	0.529	-0.005	0.023
2585-2	Prolactin	PRL	-0.196	0.077	-0.026	0.001	0.002	0.412
2597-8	Vascular endothelial growth factor A	VEGFA	0.251	0.029	0.021	0.012	0.005	0.075
2598-9	Tumor necrosis factor receptor superfamily member 9	TNFRSF9	0.115	0.335	0.016	0.057	-0.004	0.094
2599-51	Tumor necrosis factor ligand superfamily member 9	TNFSF9	-0.074	0.534	-0.002	0.791	0.000	0.916
2602-2	Angiopoietin-2	ANGPT2	0.367	0.001	0.031	0.000	0.000	0.974
2603-61	T-lymphocyte activation antigen CD80	CD80	0.284	0.017	0.017	0.053	-0.002	0.480
2605-49	Tumor necrosis factor receptor superfamily member 8	TNFRSF8	-0.177	0.138	-0.005	0.547	-0.003	0.283

2607-54	Cytokine receptor-like factor 1:Cardiotrophin-like cytokine factor 1 Complex	CRLF1 CLCF1	0.005	0.966	-0.002	0.797	0.000	0.997
2609-59	Cystatin-C	CST3	0.337	0.002	0.024	0.002	-0.006	0.020
2611-72	Tyrosine-protein kinase receptor TYRO3	TYRO3	-0.360	0.002	-0.025	0.002	-0.001	0.685
2612-5	Eukaryotic translation initiation factor 5	EIF5	0.156	0.191	0.018	0.034	-0.001	0.633
2614-28	Ephrin-A4	EFNA4	0.260	0.028	0.017	0.047	-0.007	0.006
2615-60	Ephrin-A5	EFNA5	-0.465	0.000	-0.026	0.002	-0.006	0.013
2616-23	Receptor tyrosine-protein kinase erbB-2	ERBB2	0.111	0.353	0.008	0.357	0.000	0.956
2617-56	Receptor tyrosine-protein kinase erbB-3	ERBB3	0.143	0.210	0.004	0.589	0.014	0.000
2618-10	Receptor tyrosine-protein kinase erbB-4	ERBB4	0.107	0.364	0.011	0.186	-0.003	0.298
2619-72	Tumor-associated calcium signal transducer 2	TACSTD2	0.076	0.523	0.005	0.552	0.000	0.899
2620-4	Interleukin-6 receptor subunit beta	IL6ST	-0.059	0.602	-0.006	0.438	0.004	0.073
2622-18	Heme oxygenase 2	HMOX2	0.241	0.041	0.018	0.035	0.004	0.172
2623-54	Protein E7_HPV16	Human-virus	-0.042	0.724	0.002	0.803	0.000	0.922
2624-31	Protein E7_HPV18	Human-virus	0.008	0.947	0.000	0.983	-0.007	0.006
2625-53	Heat shock protein HSP 90-alpha/beta	HSP90AA1 HSP90AB1	-0.027	0.812	0.001	0.881	0.004	0.132
2630-12	Interleukin-1 Receptor accessory protein	IL1RAP	-0.022	0.837	0.000	0.978	0.001	0.629
2631-50	Interleukin-10 receptor subunit beta	IL10RB	0.165	0.156	0.012	0.169	0.003	0.262
2632-5	Interleukin-12 receptor subunit beta-1	IL12RB1	0.202	0.090	0.018	0.031	-0.001	0.581
2633-52	Interleukin-13 receptor subunit alpha-1	IL13RA1	-0.057	0.627	0.000	0.961	0.001	0.768
2634-2	Cytokine receptor common subunit gamma	IL2RG	0.023	0.847	0.004	0.669	0.001	0.809
2635-61	Layilin	LAYN	-0.110	0.315	-0.005	0.519	-0.001	0.819
2636-10	Tumor necrosis factor receptor superfamily member 3	LTBR	-0.007	0.952	0.001	0.905	-0.005	0.071
2637-77	Macrophage mannose receptor 1	MRC1	0.161	0.163	0.005	0.580	0.004	0.138
2638-12	Macrophage colony-stimulating factor 1 receptor	CSF1R	-0.342	0.003	-0.022	0.007	-0.004	0.108
2640-3	Macrophage-stimulating protein receptor	MST1R	0.216	0.066	0.015	0.069	-0.004	0.161
2642-4	Platelet-activating factor acetylhydrolase IB subunit beta	PAFAH1B2	0.026	0.828	0.011	0.187	0.004	0.093
2643-57	Cadherin-3	CDH3	0.072	0.546	0.003	0.723	0.002	0.371

2644-11	Protein kinase C alpha type	PRKCA	-0.072	0.546	-0.007	0.415	0.003	0.310
2645-54	Protein kinase C zeta type	PRKCZ	0.074	0.523	0.010	0.240	0.001	0.801
2647-66	Rab GDP dissociation inhibitor beta	GDI2	0.180	0.116	0.015	0.074	0.004	0.090
2649-77	Intercellular adhesion molecule 3	ICAM3	0.361	0.002	0.015	0.080	-0.004	0.104
2652-15	Urokinase plasminogen activator surface receptor	PLAUR	0.386	0.000	0.033	0.000	0.002	0.483
2654-19	Tumor necrosis factor receptor superfamily member 1A	TNFRSF1A	0.038	0.725	0.005	0.520	-0.006	0.014
2658-27	NT-3 growth factor receptor	NTRK3	-0.481	0.000	-0.034	0.000	0.008	0.000
2665-26	Tumor necrosis factor receptor superfamily member 17	TNFRSF17	-0.350	0.002	-0.022	0.007	-0.001	0.631
2666-53	Decorin	DCN	-0.338	0.004	-0.012	0.142	-0.001	0.789
2668-70	Calpain I	CAPN1 CAPNS1	-0.480	0.000	-0.029	0.000	0.002	0.364
2670-67	Creatine kinase M-type	CKM	-0.114	0.295	-0.005	0.512	0.001	0.713
2677-1	Epidermal growth factor receptor	EGFR	-0.316	0.005	-0.033	0.000	0.004	0.095
2681-23	Hepatocyte growth factor	HGF	0.291	0.009	0.031	0.000	0.001	0.812
2682-68	60 kDa heat shock protein, mitochondrial	HSPD1	-0.087	0.468	-0.006	0.466	0.005	0.036
2683-1	Complement C3b, inactivated	C3	-0.004	0.972	-0.013	0.124	0.000	0.876
2685-21	Insulin-like growth factor-binding protein 5	IGFBP5	-0.257	0.023	-0.016	0.050	-0.002	0.340
2686-67	Insulin-like growth factor-binding protein 6	IGFBP6	-0.288	0.008	-0.020	0.012	-0.006	0.017
2687-2	Melanoma-derived growth regulatory protein	MIA	-0.355	0.001	-0.025	0.002	-0.006	0.019
2692-74	Phospholipase A2, membrane associated	PLA2G2A	0.292	0.006	0.025	0.001	0.002	0.386
2693-20	Oncostatin-M	OSM	0.022	0.852	0.003	0.765	-0.004	0.115
2695-25	Platelet endothelial cell adhesion molecule	PECAM1	0.045	0.706	0.007	0.403	-0.001	0.610
2696-87	Persephin	PSPN	-0.023	0.809	-0.002	0.791	0.000	0.990
2697-7	Platelet factor 4	PF4	0.092	0.437	0.003	0.703	0.000	0.934
2700-56	Vitamin K-dependent protein S	PROS1	0.006	0.957	0.001	0.864	0.008	0.000
2704-74	Tumor necrosis factor receptor superfamily member 13B	TNFRSF13B	0.156	0.187	0.014	0.090	-0.002	0.548
2705-5	C-C motif chemokine 25	CCL25	0.025	0.823	0.004	0.648	0.002	0.423
2706-69	Thyroxine-binding globulin	SERPINA7	0.086	0.432	-0.003	0.692	-0.019	0.000
2708-54	Tumor necrosis factor ligand superfamily member 18	TNFSF18	0.052	0.646	0.003	0.678	-0.004	0.151

2711-6	Ciliary neurotrophic factor receptor subunit alpha	CNTFR	-0.448	0.000	-0.030	0.000	-0.002	0.365
2714-78	Endothelial monocyte-activating polypeptide 2	AIMP1	0.069	0.549	0.009	0.268	0.003	0.246
2715-25	Erythropoietin receptor	EPOR	0.049	0.680	0.004	0.649	0.000	0.863
2719-3	Granulocyte colony-stimulating factor receptor	CSF3R	0.153	0.200	0.011	0.200	-0.004	0.137
2723-9	Interleukin-37	IL37	0.025	0.835	0.001	0.895	-0.005	0.066
2728-62	Laminin	LAMA1 LAMB1 LAMC1	0.389	0.000	0.026	0.001	0.018	0.000
2730-58	MHC class I polypeptide-related sequence A	MICA	-0.123	0.281	-0.005	0.514	-0.002	0.329
2731-29	NADPH--cytochrome P450 reductase	POR	0.458	0.000	0.030	0.000	0.010	0.000
2732-58	Homeobox protein NANOG	NANOG	0.012	0.918	0.000	0.964	0.002	0.477
2734-49	Natural cytotoxicity triggering receptor 2	NCR2	0.269	0.024	0.017	0.044	0.002	0.453
2737-22	Protein NOV homolog	NOV	0.355	0.003	0.024	0.005	-0.003	0.276
2741-22	Sialic acid-binding Ig-like lectin 6	SIGLEC6	-0.127	0.275	0.001	0.911	-0.002	0.546
2742-68	Sialic acid-binding Ig-like lectin 7	SIGLEC7	0.564	0.000	0.050	0.000	0.005	0.040
2743-5	Sonic hedgehog protein	SHH	-0.243	0.033	-0.023	0.005	0.003	0.272
2744-57	Immunoglobulin G	IGHG1 IGHG2 IGHG3 IGHG4 IGK@ IGL@	-0.411	0.000	-0.034	0.000	0.001	0.602
2746-56	Cytokine receptor-like factor 2	CRLF2	0.006	0.957	0.007	0.389	0.004	0.091
2747-3	NKG2D ligand 3	ULBP3	0.217	0.068	0.016	0.063	-0.001	0.791
2748-3	Inhibin beta A chain	INHBA	0.129	0.254	0.007	0.401	0.007	0.008
2750-3	Apolipoprotein A-I	APOA1	0.302	0.007	0.022	0.007	0.013	0.000
2751-16	Azurocidin	AZU1	0.373	0.002	0.030	0.000	0.002	0.421
2752-62	Growth/differentiation factor 5	GDF5	-0.114	0.322	0.000	0.990	0.003	0.219
2753-2	Complement C1q subcomponent	C1QA C1QB C1QC	-0.295	0.013	-0.021	0.012	-0.004	0.127
2754-50	Complement C3	C3	-0.078	0.501	-0.004	0.597	-0.004	0.165
2755-8	C3a anaphylatoxin des Arginine	C3	-0.120	0.312	-0.011	0.178	-0.003	0.209
2760-2	Protein FAM107A	FAM107A	0.373	0.001	0.025	0.003	-0.004	0.088
2761-49	Fibroblast growth factor 18	FGF18	-0.193	0.105	-0.007	0.435	-0.001	0.637
2762-30	Fibroblast growth factor 19	FGF19	-0.013	0.913	0.003	0.735	0.010	0.000

2763-66	Fibroblast growth factor 20	FGF20	0.047	0.686	-0.003	0.750	0.002	0.378
2764-20	Fibroblast growth factor 9	FGF9	0.142	0.233	0.004	0.639	0.001	0.585
2765-4	Growth/differentiation factor 11/8	GDF11 MSTN	-0.128	0.215	-0.001	0.937	-0.005	0.027
2768-56	Hemopexin	HPX	-0.122	0.272	0.001	0.879	-0.005	0.044
2769-3	Protein Rev_HV2BE	Human-virus	0.140	0.238	0.004	0.629	-0.001	0.774
2770-51	C-C motif chemokine 1	CCL1	0.074	0.528	0.003	0.733	0.002	0.391
2771-35	Insulin-like growth factor-binding protein 1	IGFBP1	-0.293	0.001	-0.019	0.004	-0.002	0.411
2773-50	Interleukin-10	IL10	0.117	0.326	0.003	0.688	-0.001	0.777
2774-10	Interleukin-16	IL16	0.337	0.003	0.022	0.006	-0.001	0.683
2775-54	Interleukin-17F	IL17F	0.130	0.262	0.017	0.038	-0.005	0.037
2778-10	Interleukin-22	IL22	0.302	0.009	0.016	0.050	0.002	0.489
2780-35	Lactotransferrin	LTF	-0.063	0.584	-0.001	0.861	-0.003	0.273
2781-63	C-C motif chemokine 4-like	CCL4L1	-0.076	0.513	0.000	0.959	0.002	0.537
2783-18	C-C motif chemokine 3-like 1	CCL3L1	0.009	0.937	0.001	0.862	-0.004	0.130
2785-15	C-C motif chemokine 8	CCL8	0.009	0.941	-0.001	0.886	0.003	0.182
2788-55	Stromelysin-1	MMP3	0.143	0.210	0.015	0.065	0.005	0.041
2789-26	Matrilysin	MMP7	0.390	0.000	0.030	0.000	-0.002	0.313
2790-54	Neutrophil-activating peptide 2	PPBP	0.094	0.423	0.005	0.565	0.000	0.885
2794-60	Superoxide dismutase [Cu-Zn]	SOD1	0.262	0.023	0.011	0.205	0.001	0.581
2796-62	Fibrinogen	FGA FGB FGG	-0.124	0.295	-0.012	0.145	-0.006	0.034
2797-56	Apolipoprotein B	APOB	-0.128	0.266	-0.002	0.813	-0.007	0.004
2805-6	Angiotensin-converting enzyme 2	ACE2	0.279	0.019	0.012	0.149	0.003	0.235
2806-49	Activin receptor type-1B	ACVR1B	0.085	0.476	0.007	0.389	-0.001	0.586
2809-25	A disintegrin and metalloproteinase with thrombospondin motifs 4	ADAMTS4	0.283	0.016	0.021	0.014	-0.001	0.801
2811-27	Angiopoietin-1	ANGPT1	0.168	0.152	0.007	0.387	-0.002	0.515
2813-11	Agouti-related protein	AGRP	-0.155	0.156	-0.012	0.142	0.000	0.862
2816-50	Basal Cell Adhesion Molecule	BCAM	-0.067	0.560	0.003	0.758	0.000	0.890
2819-23	Cadherin-5	CDH5	-0.350	0.001	-0.023	0.003	-0.007	0.003
2822-56	CD97 antigen	CD97	-0.011	0.923	0.004	0.650	-0.003	0.224
2823-7	COMM domain-containing protein 7	COMMD7	-0.218	0.063	-0.015	0.076	0.006	0.012
2826-53	Ectodysplasin-A, secreted form	EDA	-0.043	0.713	0.006	0.457	-0.001	0.640
2827-23	Fractalkine	CX3CL1	-0.343	0.002	-0.018	0.026	-0.004	0.134
2828-82	Kunitz-type protease inhibitor 1	SPINT1	-0.180	0.105	-0.016	0.044	-0.003	0.215
2829-19	Interleukin-27	IL27 EBI3	0.160	0.175	0.015	0.076	-0.004	0.102

2831-29	Kallikrein-11	KLK11	-0.050	0.656	-0.010	0.211	0.003	0.197
2833-20	Kallikrein-4	KLK4	0.138	0.245	0.006	0.461	0.000	0.874
2834-54	Kallikrein-8	KLK8	-0.222	0.056	-0.015	0.082	0.003	0.187
2835-1	X-ray repair cross-complementing protein 6	XRCC6	0.361	0.002	0.025	0.003	0.006	0.017
2836-68	Neutrophil gelatinase-associated lipocalin	LCN2	0.070	0.542	0.012	0.144	-0.010	0.000
2837-3	Hepatocyte growth factor receptor	MET	-0.087	0.419	-0.010	0.186	0.002	0.514
2838-53	Matrix metalloproteinase-17	MMP17	-0.202	0.072	-0.013	0.111	0.001	0.683
2839-2	Tumor necrosis factor ligand superfamily member 4	TNFSF4	-0.145	0.228	-0.011	0.192	-0.001	0.715
2841-13	Secreted frizzled-related protein 3	FRZB	-0.245	0.033	-0.014	0.085	-0.008	0.002
2843-13	Kunitz-type protease inhibitor 2	SPINT2	-0.137	0.244	-0.004	0.655	-0.014	0.000
2844-53	Tyrosine-protein kinase receptor Tie-1, soluble	TIE1	-0.443	0.000	-0.034	0.000	-0.006	0.010
2846-24	Ubiquitin+1, truncated mutation for UbB	RPS27A	0.175	0.135	0.017	0.048	0.001	0.587
2848-2	Wnt inhibitory factor 1	WIF1	-0.109	0.311	0.002	0.834	-0.003	0.237
2849-49	Allograft inflammatory factor 1	AIF1	0.262	0.025	0.021	0.013	0.001	0.696
2851-63	C5a anaphylatoxin	C5	0.300	0.003	0.019	0.010	-0.002	0.443
2853-68	Serine/threonine-protein kinase Chk1	CHEK1	0.141	0.239	0.010	0.231	-0.002	0.520
2855-49	Mitogen-activated protein kinase 3	MAPK3	-0.018	0.880	0.001	0.943	0.005	0.043
2857-70	Glucocorticoid receptor	NR3C1	-0.010	0.930	0.012	0.178	0.004	0.122
2858-29	Histone acetyltransferase type B catalytic subunit	HAT1	0.393	0.001	0.025	0.003	0.003	0.210
2859-69	Histone deacetylase 8	HDAC8	0.142	0.234	0.007	0.431	0.002	0.368
2860-19	Importin subunit alpha-1	KPNA2	-0.138	0.220	0.000	0.998	0.001	0.699
2864-2	Dual specificity mitogen-activated protein kinase kinase 1	MAP2K1	0.100	0.394	0.010	0.238	0.001	0.821
2865-77	Histone acetyltransferase KAT6A	KAT6A	0.019	0.875	0.002	0.795	-0.003	0.324
2869-68	Protein kinase C delta type	PRKCD	0.026	0.827	0.006	0.520	0.004	0.168
2870-29	Ras-related C3 botulinum toxin substrate 1	RAC1	-0.099	0.402	-0.005	0.597	0.002	0.479
2871-73	DNA repair protein RAD51 homolog 1	RAD51	-0.027	0.818	-0.005	0.517	-0.003	0.177
2875-15	TATA-box-binding protein	TBP	0.087	0.460	0.010	0.258	0.001	0.755
2876-74	DNA topoisomerase 1	TOP1	0.275	0.017	0.020	0.014	0.001	0.814
2877-3	SUMO-conjugating enzyme UBC9	UBE2I	0.286	0.015	0.020	0.019	0.001	0.590
2878-66	Tyrosine-protein kinase Yes	YES1	-0.060	0.611	-0.003	0.689	-0.002	0.508

2879-9	Alpha-1-antichymotrypsin	SERPINA3	0.222	0.056	0.011	0.175	-0.001	0.594
2888-49	Complement component C7	C7	0.027	0.798	0.004	0.582	-0.005	0.035
2889-37	Cardiotrophin-1	CTF1	0.198	0.098	0.010	0.231	-0.005	0.069
2890-59	C-C motif chemokine 28	CCL28	-0.088	0.434	-0.007	0.372	0.002	0.493
2891-1	B-cell receptor CD22	CD22	0.137	0.254	0.014	0.099	-0.004	0.144
2900-53	C-C motif chemokine 14	CCL14	-0.021	0.858	-0.002	0.792	0.001	0.749
2906-55	Interleukin-4	IL4	0.490	0.000	0.028	0.001	0.002	0.478
2911-27	Midkine	MDK	-0.170	0.150	-0.006	0.504	0.002	0.466
2913-1	C-C motif chemokine 23	CCL23	-0.008	0.945	-0.007	0.426	-0.001	0.587
2915-6	Proliferating cell nuclear antigen	PCNA	0.252	0.034	0.008	0.369	0.000	1.000
2917-3	Tumor necrosis factor ligand superfamily member 11	TNFSF11	-0.065	0.583	-0.006	0.481	-0.002	0.520
2925-9	Plasminogen activator inhibitor 1	SERPINE1	0.252	0.023	0.014	0.084	0.006	0.007
2937-10	Apolipoprotein E (isoform E3)	APOE	0.125	0.269	0.014	0.095	0.003	0.253
2938-55	Apolipoprotein E (isoform E4)	APOE	0.159	0.166	0.012	0.132	0.004	0.128
2939-10	Artemin	ARTN	0.073	0.538	0.009	0.279	-0.001	0.804
2942-50	Cytochrome c	CYCS	-0.390	0.000	-0.018	0.027	0.004	0.066
2943-5	Cytochrome P450 3A4	CYP3A4	-0.044	0.711	-0.005	0.547	0.002	0.504
2944-66	Neuroblastoma suppressor of tumorigenicity 1	NBL1	-0.240	0.032	-0.018	0.024	-0.005	0.064
2945-25	Estrogen receptor	ESR1	0.339	0.003	0.029	0.001	0.000	0.959
2946-52	Complement factor D	CFD	0.052	0.659	0.008	0.349	-0.006	0.011
2948-58	Growth hormone receptor	GHR	0.052	0.602	0.000	0.972	0.001	0.545
2949-6	Group 10 secretory phospholipase A2	PLA2G10	-0.138	0.231	-0.009	0.261	-0.004	0.125
2950-57	Insulin-like growth factor-binding protein 4	IGFBP4	0.428	0.000	0.028	0.000	0.014	0.000
2952-75	Insulin-like growth factor I	IGF1	-0.180	0.094	-0.010	0.199	-0.004	0.060
2953-31	Luteinizing hormone	CGA LHB	0.315	0.002	0.020	0.008	0.002	0.284
2960-66	Properdin	CFP	0.100	0.396	0.006	0.495	-0.003	0.189
2961-1	Vitamin K-dependent protein C	PROC	0.087	0.464	0.005	0.567	0.001	0.835
2962-50	Parathyroid hormone-related protein	PTHLH	-0.091	0.416	-0.005	0.509	0.000	0.973
2966-65	Stem Cell Growth Factor-beta	CLEC11A	-0.407	0.000	-0.017	0.039	-0.007	0.004
2967-8	Vascular cell adhesion protein 1	VCAM1	-0.270	0.016	-0.019	0.021	-0.008	0.001
2968-61	Tumor necrosis factor ligand superfamily member 15	TNFSF15	-0.269	0.017	-0.017	0.034	-0.003	0.219

2969-11	Serine/threonine-protein kinase receptor R3	ACVRL1	0.133	0.263	0.007	0.393	0.002	0.421
2970-60	Amphiregulin	AREG	0.233	0.049	0.018	0.030	0.002	0.431
2972-57	Bone morphogenetic protein 7	BMP7	-0.316	0.008	-0.013	0.137	0.001	0.774
2973-15	Platelet glycoprotein 4	CD36	-0.319	0.004	-0.028	0.000	0.007	0.005
2974-61	Contactin-1	CNTN1	-0.468	0.000	-0.033	0.000	-0.006	0.010
2975-19	Connective tissue growth factor	CTGF	-0.045	0.705	0.007	0.380	0.006	0.013
2976-58	Desmoglein-1	DSG1	-0.119	0.309	-0.013	0.114	-0.002	0.441
2977-7	Tumor necrosis factor receptor superfamily member EDAR	EDAR	-0.163	0.162	-0.014	0.107	0.000	0.957
2979-8	C-X-C motif chemokine 5	CXCL5	0.270	0.024	0.022	0.010	0.001	0.647
2981-9	Endothelial cell-selective adhesion molecule	ESAM	-0.275	0.014	-0.019	0.017	-0.005	0.029
2982-82	Galectin-4	LGALS4	0.473	0.000	0.032	0.000	0.007	0.006
2985-35	Growth-regulated alpha protein	CXCL1	-0.073	0.536	0.003	0.710	-0.001	0.681
2986-49	Gro-beta/gamma	CXCL3 CXCL2	0.009	0.938	-0.004	0.622	-0.003	0.291
2987-37	Histone H1.2	HIST1H1C	0.284	0.015	0.023	0.006	0.002	0.542
2988-57	Inducible T-cell costimulator	ICOS	0.139	0.245	0.009	0.309	-0.001	0.617
2991-9	Interleukin-1 receptor type 1	IL1R1	-0.014	0.899	-0.002	0.794	0.001	0.745
2992-59	Interleukin-17 receptor A	IL17RA	-0.045	0.680	-0.009	0.261	-0.003	0.288
2993-1	Interleukin-18 receptor accessory protein	IL18RAP	0.348	0.003	0.025	0.004	-0.007	0.010
2994-71	Interleukin-1 receptor-like 2	IL1RL2	-0.131	0.265	0.000	0.954	-0.013	0.000
2997-8	Junctional adhesion molecule B	JAM2	-0.225	0.050	-0.006	0.447	-0.005	0.070
2998-53	Junctional adhesion molecule C	JAM3	0.073	0.542	0.006	0.520	0.000	0.981
2999-6	Limbic system-associated membrane protein	LSAMP	0.015	0.866	0.003	0.680	-0.006	0.003
3000-66	Mannose-binding protein C	MBL2	0.198	0.072	0.025	0.002	-0.008	0.002
3003-29	Natural cytotoxicity triggering receptor 3	NCR3	-0.095	0.424	0.003	0.730	-0.004	0.178
3004-67	Programmed cell death 1 ligand 2	PDCD1LG2	-0.204	0.076	-0.015	0.065	-0.001	0.553
3005-5	Tyrosine-protein phosphatase non-receptor type 1	PTPN1	0.194	0.097	0.010	0.249	-0.002	0.541
3007-7	Sialic acid-binding Ig-like lectin 9	SIGLEC9	0.049	0.672	0.009	0.298	0.002	0.384
3009-3	Transforming growth factor beta receptor type 3	TGFBR3	-0.141	0.206	-0.012	0.125	0.000	0.969
3010-53	Thymic stromal lymphopoietin	TSLP	0.320	0.007	0.017	0.041	-0.001	0.583

3022-4	Cytotoxic T-lymphocyte protein 4	CTLA4	-0.304	0.011	-0.016	0.063	0.003	0.263
3024-18	Alpha-2-antiplasmin	SERPINF2	0.115	0.329	0.007	0.376	-0.008	0.001
3025-50	Fibroblast growth factor 2	FGF2	-0.177	0.140	-0.007	0.391	0.001	0.689
3026-5	Calpastatin	CAST	-0.400	0.000	-0.022	0.004	0.000	0.936
3028-36	Ck-beta-8-1	CCL23	0.040	0.727	-0.002	0.808	0.000	0.888
3029-52	CD209 antigen	CD209	-0.088	0.440	0.001	0.869	-0.001	0.592
3030-3	C-type lectin domain family 4 member M	CLEC4M	0.006	0.960	0.000	0.977	0.003	0.230
3032-11	Follicle stimulating hormone	CGA FSHB	0.265	0.005	0.018	0.008	0.001	0.542
3033-57	Galectin-2	LGALS2	-0.305	0.009	-0.016	0.055	-0.005	0.067
3034-1	Glial fibrillary acidic protein	GFAP	0.043	0.719	0.001	0.921	0.001	0.665
3035-80	Interleukin-19	IL19	-0.150	0.185	-0.007	0.376	0.008	0.001
3037-62	Interleukin-1 beta	IL1B	-0.078	0.514	-0.002	0.796	-0.002	0.406
3038-9	C-X-C motif chemokine 11	CXCL11	-0.531	0.000	-0.031	0.000	-0.001	0.776
3040-59	C-C motif chemokine 3	CCL3	0.153	0.187	0.011	0.169	-0.005	0.062
3041-55	C-type mannose receptor 2	MRC2	-0.222	0.062	-0.010	0.225	-0.001	0.590
3042-7	Myoglobin	MB	-0.391	0.000	-0.026	0.001	-0.010	0.000
3043-49	SPARC	SPARC	0.195	0.100	0.011	0.190	-0.001	0.722
3044-3	C-C motif chemokine 18	CCL18	0.066	0.543	0.006	0.447	-0.004	0.069
3045-72	Pleiotrophin	PTN	-0.544	0.000	-0.033	0.000	-0.003	0.107
3046-31	Resistin	RETN	0.052	0.650	0.006	0.453	-0.011	0.000
3049-61	Trypsin-1	PRSS1	-0.187	0.092	-0.014	0.082	0.000	0.880
3050-7	von Willebrand factor	VWF	-0.268	0.022	-0.013	0.115	-0.002	0.459
3052-8	Tumor necrosis factor ligand superfamily member 6, soluble form	FASLG	-0.324	0.006	-0.032	0.000	-0.001	0.644
3053-49	Fms-related tyrosine kinase 3 ligand	FLT3LG	-0.080	0.504	-0.004	0.680	-0.001	0.625
3054-3	Haptoglobin	HP	0.513	0.000	0.035	0.000	0.004	0.105
3055-54	Interleukin-4 receptor subunit alpha	IL4R	-0.062	0.602	-0.008	0.380	-0.002	0.567
3056-11	NKG2-D type II integral membrane protein	KLRK1	0.074	0.537	0.004	0.653	-0.004	0.114
3057-55	WNT1-inducible-signaling pathway protein 1	WISP1	0.158	0.183	0.012	0.169	0.004	0.094
3059-50	Tumor necrosis factor ligand superfamily member 13B	TNFSF13B	0.311	0.009	0.033	0.000	-0.002	0.533
3060-43	Complement component C9	C9	0.410	0.000	0.027	0.001	-0.012	0.000
3061-61	Cathepsin B	CTSB	-0.331	0.005	-0.023	0.006	-0.008	0.001
3065-65	Fibroblast growth factor 5	FGF5	-0.089	0.459	-0.004	0.680	0.000	0.869

3066-12	Galectin-3	LGALS3	-0.290	0.009	-0.021	0.008	0.002	0.346
3067-67	Growth/differentiation factor 9	GDF9	-0.028	0.817	-0.002	0.793	0.000	0.904
3069-52	Immunoglobulin M	IGHM IGJ IGK@ IGL@	-0.175	0.112	-0.020	0.013	0.003	0.243
3070-1	Interleukin-2	IL2	0.214	0.060	0.011	0.188	0.011	0.000
3072-4	Interleukin-13	IL13	-0.004	0.975	0.005	0.587	-0.003	0.193
3073-51	Interleukin-18-binding protein	IL18BP	0.272	0.016	0.022	0.006	-0.005	0.048
3074-6	Lipopolysaccharide-binding protein	LBP	-0.027	0.814	-0.004	0.603	0.000	0.972
3077-66	Coagulation factor Xa	F10	0.239	0.040	0.012	0.158	0.011	0.000
3078-1	Placenta growth factor	PGF	-0.048	0.689	0.000	0.995	-0.001	0.805
3079-62	Retinoic acid receptor responder protein 2	RARRES2	0.458	0.000	0.032	0.000	0.000	0.878
3081-70	NKG2D ligand 1	ULBP1	-0.141	0.239	-0.011	0.193	0.000	0.978
3082-9	NKG2D ligand 2	ULBP2	-0.156	0.194	-0.015	0.089	-0.002	0.458
3083-71	Tumor necrosis factor receptor superfamily member 27	EDA2R	-0.114	0.325	0.001	0.951	-0.001	0.591
3091-70	Aurora kinase A	AURKA	-0.036	0.764	-0.003	0.693	-0.002	0.539
3115-64	Mitogen-activated protein kinase 1	MAPK1	0.038	0.750	0.006	0.468	0.003	0.280
3122-6	Diablo homolog, mitochondrial	DIABLO	0.023	0.838	0.012	0.150	0.001	0.704
3132-1	Vascular endothelial growth factor C	VEGFC	0.088	0.460	0.007	0.428	0.000	0.976
3143-3	T-cell surface glycoprotein CD4	CD4	0.207	0.084	0.014	0.113	-0.001	0.758
3151-6	Interleukin-2 receptor subunit alpha	IL2RA	-0.020	0.866	0.003	0.720	-0.002	0.470
3152-57	Tumor necrosis factor receptor superfamily member 1B	TNFRSF1B	0.086	0.447	0.014	0.094	-0.005	0.033
3166-92	Myeloid cell surface antigen CD33	CD33	-0.200	0.071	-0.024	0.003	0.002	0.493
3168-8	A disintegrin and metalloproteinase with thrombospondin motifs 5	ADAMTS5	0.065	0.512	0.008	0.267	0.001	0.764
3169-70	Alpha-L-iduronidase	IDUA	0.426	0.000	0.032	0.000	-0.003	0.227
3170-6	Methionine aminopeptidase 2	METAP2	0.090	0.422	0.005	0.517	0.006	0.012
3171-57	Amyloid beta A4 protein	APP	-0.013	0.912	-0.003	0.763	0.000	0.927
3172-28	Arylsulfatase B	ARSB	-0.151	0.206	-0.009	0.283	-0.003	0.270
3173-49	N-acylethanolamine-hydrolyzing acid amidase	NAAA	0.022	0.850	0.003	0.743	-0.005	0.057
3174-2	A disintegrin and metalloproteinase with thrombospondin motifs 1	ADAMTS1	0.272	0.022	0.020	0.017	0.000	0.994
3175-51	A disintegrin and metalloproteinase with	ADAMTS13	-0.387	0.000	-0.018	0.019	-0.007	0.003

	thrombospondin motifs 13							
3177-49	Carbonic anhydrase 4	CA4	-0.217	0.052	-0.017	0.033	0.000	0.931
3178-5	Dipeptidyl peptidase 1	CTSC	0.170	0.154	0.010	0.242	0.000	0.994
3179-51	Lysosomal protective protein	CTSA	0.513	0.000	0.036	0.000	0.005	0.058
3181-50	Cathepsin S	CTSS	0.283	0.014	0.024	0.004	-0.005	0.030
3182-38	Ectonucleoside triphosphate diphosphohydrolase 1	ENTPD1	-0.189	0.106	-0.007	0.380	-0.002	0.436
3184-25	Coagulation factor VII	F7	0.144	0.201	0.005	0.507	-0.002	0.310
3186-2	Complement C2	C2	-0.086	0.460	-0.004	0.672	0.002	0.352
3187-52	Cysteine-rich secretory protein 3	CRISP3	-0.025	0.836	-0.003	0.695	0.001	0.687
3189-61	Enteropeptidase	TMPRSS15	0.268	0.025	0.010	0.252	-0.001	0.576
3191-50	WAP, kazal, immunoglobulin, kunitz and NTR domain-containing protein 1	WFIKKN1	-0.154	0.131	-0.013	0.078	-0.009	0.000
3192-3	Cytosolic non-specific dipeptidase	CNDP2	0.024	0.838	0.003	0.743	0.002	0.424
3194-36	Platelet glycoprotein VI	GP6	-0.113	0.329	-0.009	0.307	0.001	0.559
3195-50	Granulysin	GNLY	-0.131	0.254	-0.011	0.190	0.002	0.546
3196-6	Hyaluronan and proteoglycan link protein 1	HAPLN1	0.193	0.104	0.013	0.120	0.006	0.025
3197-70	Insulin-degrading enzyme	IDE	-0.023	0.843	0.003	0.767	0.002	0.553
3198-4	Iduronate 2-sulfatase	IDS	-0.245	0.027	-0.008	0.297	-0.003	0.174
3199-54	Kallikrein-12	KLK12	-0.062	0.585	-0.013	0.108	0.002	0.324
3200-49	Kallikrein-13	KLK13	0.371	0.001	0.023	0.006	0.005	0.066
3201-49	Kallikrein-5	KLK5	0.063	0.600	-0.001	0.862	-0.001	0.715
3202-28	Kremen protein 2	KREMEN2	0.238	0.047	0.016	0.070	0.004	0.176
3204-2	Leukotriene A-4 hydrolase	LTA4H	0.772	0.000	0.056	0.000	0.000	0.915
3206-4	Lymphatic vessel endothelial hyaluronic acid receptor 1	LYVE1	-0.121	0.274	-0.013	0.099	-0.004	0.081
3208-2	Matrilin-3	MATN3	-0.028	0.815	-0.001	0.879	-0.002	0.383
3209-69	Matrix extracellular phosphoglycoprotein	MEPE	-0.002	0.986	-0.001	0.909	-0.001	0.682
3210-1	Methionine aminopeptidase 1	METAP1	-0.015	0.902	-0.009	0.272	0.002	0.447
3212-30	Neutral ceramidase	ASAH2	-0.112	0.322	-0.009	0.285	-0.010	0.000
3213-65	Nidogen-1	NID1	-0.112	0.322	-0.002	0.841	0.004	0.101
3216-2	Polymeric immunoglobulin receptor	PIGR	1.171	0.000	0.087	0.000	0.007	0.003
3217-74	Glia-derived nexin	SERPINE2	0.094	0.426	0.004	0.621	-0.002	0.460
3220-40	Proto-oncogene tyrosine-protein kinase receptor Ret	RET	-0.262	0.012	-0.027	0.000	-0.007	0.004

3221-54	Secreted frizzled-related protein 1	SFRP1	-0.193	0.090	-0.007	0.426	0.005	0.065
3222-11	Semaphorin-3A	SEMA3A	0.291	0.013	0.023	0.006	0.005	0.038
3232-28	Tartrate-resistant acid phosphatase type 5	ACP5	0.365	0.001	0.022	0.004	0.009	0.000
3234-23	Coiled-coil domain-containing protein 80	CCDC80	-0.163	0.136	-0.014	0.072	0.002	0.330
3235-50	WAP, Kazal, immunoglobulin, Kunitz and NTR domain-containing protein 2	WFIKKN2	-0.406	0.000	-0.028	0.000	0.003	0.256
3280-49	Aggrecan core protein	ACAN	-0.388	0.001	-0.025	0.002	0.005	0.039
3281-19	Angiopoietin-related protein 3	ANGPTL3	0.077	0.503	0.009	0.290	-0.001	0.590
3283-21	Transforming growth factor-beta-induced protein ig-h3	TGFBI	0.108	0.312	0.006	0.424	0.007	0.002
3284-75	Biglycan	BGN	-0.352	0.002	-0.020	0.014	0.002	0.377
3285-23	Complement C1r subcomponent	C1R	0.361	0.002	0.024	0.006	-0.002	0.359
3289-19	Carbonic anhydrase-related protein 10	CA10	0.044	0.713	0.006	0.494	-0.004	0.124
3290-50	CD109 antigen	CD109	-0.429	0.000	-0.031	0.000	-0.001	0.706
3291-30	Low affinity immunoglobulin epsilon Fc receptor	FCER2	-0.232	0.043	-0.009	0.255	-0.009	0.000
3292-75	CD48 antigen	CD48	-0.328	0.005	-0.021	0.013	-0.006	0.030
3293-2	CD5 antigen-like	CD5L	-0.009	0.941	-0.013	0.113	0.001	0.781
3294-55	Cryptic protein	CFC1	0.098	0.381	0.014	0.077	0.003	0.179
3296-92	Contactin-2	CNTN2	0.010	0.930	0.007	0.392	0.000	0.870
3298-52	Contactin-4	CNTN4	-0.261	0.014	-0.016	0.038	0.000	0.930
3299-29	Contactin-5	CNTN5	-0.204	0.067	-0.020	0.014	-0.008	0.001
3302-58	Cystatin-F	CST7	0.410	0.000	0.034	0.000	-0.001	0.833
3303-23	Cystatin-M	CST6	-0.383	0.000	-0.028	0.000	-0.003	0.238
3305-6	Delta-like protein 4	DLL4	-0.178	0.115	-0.012	0.145	-0.001	0.566
3309-2	Low affinity immunoglobulin gamma Fc region receptor II-a	FCGR2A	-0.027	0.807	-0.003	0.708	-0.002	0.520
3310-62	Low affinity immunoglobulin gamma Fc region receptor II-b	FCGR2B	-0.298	0.009	-0.018	0.030	-0.001	0.736
3311-27	Low affinity immunoglobulin gamma Fc region receptor III-B	FCGR3B	-0.311	0.006	-0.019	0.023	-0.004	0.139
3312-64	High affinity immunoglobulin gamma Fc receptor I	FCGR1A	-0.093	0.440	-0.003	0.718	0.001	0.767
3313-21	Ficolin-2	FCN2	0.479	0.000	0.031	0.000	0.000	0.944
3314-74	GDNF family receptor alpha-1	GFRA1	-0.005	0.959	0.003	0.691	-0.014	0.000
3315-15	Glypican-2	GPC2	0.143	0.233	0.010	0.251	-0.002	0.428

3316-58	Heparin cofactor 2	SERPIND1	0.721	0.000	0.045	0.000	0.009	0.000
3317-33	Serine protease HTRA2, mitochondrial	HTRA2	-0.162	0.159	-0.006	0.443	0.013	0.000
3320-49	Insulin-like growth factor-binding protein 7	IGFBP7	0.164	0.147	0.020	0.015	0.001	0.753
3321-2	Interleukin-24	IL24	0.314	0.008	0.020	0.018	0.001	0.834
3322-52	Leucine-rich repeats and immunoglobulin-like domains protein 3	LRIG3	-0.059	0.603	-0.003	0.749	0.004	0.133
3323-37	Low-density lipoprotein receptor-related protein 8	LRP8	-0.455	0.000	-0.032	0.000	0.000	0.989
3324-51	T-lymphocyte surface antigen Ly-9	LY9	-0.287	0.010	-0.024	0.003	0.004	0.101
3325-2	Matrilin-2	MATN2	-0.187	0.066	-0.012	0.109	-0.001	0.779
3326-58	Cell adhesion molecule 1	CADM1	0.122	0.279	0.012	0.145	-0.003	0.163
3327-27	Netrin-4	NTN4	0.697	0.000	0.049	0.000	0.004	0.147
3329-14	Peptidoglycan recognition protein 1	PGLYRP1	0.187	0.119	0.015	0.081	0.001	0.825
3331-8	RGM domain family member B	RGMB	-0.852	0.000	-0.055	0.000	-0.006	0.009
3332-57	Hemojuvelin	HFE2	-0.204	0.081	-0.022	0.010	0.001	0.732
3336-50	Tissue factor pathway inhibitor	TFPI	0.318	0.001	0.026	0.000	0.007	0.001
3339-33	Thrombospondin-2	THBS2	0.030	0.797	0.010	0.242	-0.003	0.259
3340-53	Thrombospondin-4	THBS4	-0.379	0.001	-0.026	0.001	-0.008	0.002
3341-33	Tyrosine-protein kinase ABL1	ABL1	0.129	0.282	0.004	0.641	-0.002	0.470
3343-1	Aminoacylase-1	ACY1	0.011	0.916	-0.001	0.874	0.013	0.000
3344-60	Antithrombin-III	SERPINC1	0.179	0.093	0.010	0.179	0.003	0.283
3346-72	Aurora kinase B	AURKB	0.008	0.946	-0.004	0.646	-0.004	0.093
3347-9	beta-adrenergic receptor kinase 1	ADRBK1	0.078	0.510	0.006	0.516	0.004	0.122
3348-49	Bone morphogenetic protein 1	BMP1	0.338	0.002	0.022	0.004	0.006	0.007
3350-53	Calcium/calmodulin-dependent protein kinase type II subunit alpha	CAMK2A	0.150	0.210	0.005	0.595	0.001	0.675
3351-1	Calcium/calmodulin-dependent protein kinase type II subunit beta	CAMK2B	0.133	0.265	0.008	0.347	0.004	0.117
3352-80	Carbonic anhydrase 6	CA6	-0.526	0.000	-0.043	0.000	0.007	0.002
3356-50	Carbonic anhydrase 7	CA7	0.079	0.508	-0.003	0.739	-0.003	0.311
3357-67	Cyclin-dependent kinase 2:Cyclin-A2 complex	CDK2 CCNA2	0.348	0.003	0.030	0.000	0.001	0.741
3358-51	Cyclin-dependent kinase 5:Cyclin-dependent kinase 5 activator 1 complex	CDK5 CDK5R1	0.006	0.961	-0.006	0.461	-0.001	0.678
3359-11	Cyclin-dependent kinase 8:Cyclin-C complex	CDK8 CCNC	-0.036	0.761	-0.010	0.260	-0.001	0.769
3360-50	Serine/threonine-protein kinase Chk2	CHEK2	-0.058	0.624	-0.001	0.946	-0.004	0.164

3361-26	C-type lectin domain family 4 member K	CD207	0.367	0.002	0.021	0.016	-0.004	0.114
3362-61	Chordin-like protein 1	CHRDL1	-0.231	0.023	-0.021	0.004	-0.003	0.163
3363-31	Tyrosine-protein kinase CSK	CSK	-0.051	0.667	-0.004	0.614	0.003	0.286
3364-76	Cathepsin L2	CTSV	-0.302	0.005	-0.024	0.002	0.009	0.000
3365-7	Dickkopf-related protein 4	DKK4	-0.119	0.257	-0.010	0.169	0.000	0.957
3366-51	Extracellular matrix protein 1	ECM1	-0.065	0.573	0.001	0.896	0.002	0.434
3367-8	Fetuin-B	FETUB	0.066	0.542	0.007	0.367	-0.008	0.001
3373-5	Granzyme H	GZMH	0.269	0.024	0.014	0.099	-0.005	0.084
3374-49	Tyrosine-protein kinase HCK	HCK	-0.094	0.435	0.000	0.973	-0.001	0.846
3376-49	Interleukin-17 receptor D	IL17RD	0.036	0.760	0.005	0.577	-0.004	0.125
3378-49	Kallikrein-7	KLK7	-0.072	0.531	-0.009	0.279	0.004	0.131
3379-29	Protein kinase C iota type	PRKCI	0.196	0.097	0.018	0.030	0.003	0.204
3381-24	Tyrosine-protein kinase Lyn, isoform B	LYN	0.015	0.899	-0.001	0.869	-0.001	0.819
3387-1	Serine/threonine-protein kinase PAK 3	PAK3	-0.030	0.801	-0.005	0.563	-0.004	0.140
3388-58	Serine/threonine-protein kinase PAK 7	PAK7	0.020	0.866	0.002	0.783	-0.001	0.678
3389-7	Plasma serine protease inhibitor	SERPINA5	0.136	0.220	0.005	0.525	0.003	0.259
3390-72	PIK3CA/PIK3R1	PIK3CA PIK3R1	0.034	0.774	-0.012	0.173	0.006	0.021
3391-10	Phosphatidylinositol 4,5-bisphosphate 3-kinase catalytic subunit gamma isoform	PIK3CG	-0.025	0.835	-0.002	0.808	-0.001	0.754
3392-68	RAC-alpha/beta/gamma serine/threonine-protein kinase	AKT1 AKT2 AKT3	-0.037	0.753	-0.007	0.418	0.003	0.238
3394-81	Serine/threonine-protein kinase PLK1	PLK1	0.219	0.064	0.011	0.200	0.001	0.802
3396-54	Renin	REN	0.267	0.019	0.023	0.006	-0.006	0.024
3397-7	Tyrosine-protein phosphatase non-receptor type 11	PTPN11	-0.135	0.260	-0.008	0.333	0.006	0.022
3399-31	Stabilin-2	STAB2	-0.005	0.963	-0.004	0.624	-0.004	0.109
3400-49	Serine/threonine-protein kinase TBK1	TBK1	0.061	0.607	0.012	0.173	0.003	0.257
3401-8	Tyrosine-protein phosphatase non-receptor type 2	PTPN2	0.306	0.010	0.014	0.108	-0.006	0.014
3403-1	Tryptase beta-2	TPSB2	0.036	0.748	0.001	0.855	-0.002	0.332
3404-51	Tryptase gamma	TPSG1	0.071	0.552	0.008	0.360	-0.002	0.518
3405-6	Ubiquitin-fold modifier-conjugating enzyme 1	UFC1	-0.129	0.266	-0.007	0.411	0.005	0.057
3412-7	Apoptosis regulator Bcl-2	BCL2	0.215	0.070	0.020	0.016	0.001	0.623
3413-50	Bcl-2-related protein A1	BCL2A1	0.243	0.038	0.015	0.079	0.008	0.002

3414-40	Cytoplasmic tyrosine-protein kinase BMX	BMX	0.214	0.072	0.017	0.043	0.002	0.376
3415-61	Bone sialoprotein 2	IBSP	-0.400	0.000	-0.020	0.015	-0.005	0.029
3416-2	Tyrosine-protein kinase BTK	BTK	-0.064	0.588	-0.007	0.421	0.002	0.559
3418-12	Calcium/calmodulin-dependent protein kinase type 1D	CAMK1D	0.208	0.080	0.015	0.090	0.003	0.312
3419-49	Calcium/calmodulin-dependent protein kinase type II subunit delta	CAMK2D	0.149	0.210	0.005	0.564	0.003	0.285
3420-21	Carbonic anhydrase 13	CA13	-0.115	0.314	-0.010	0.220	0.001	0.681
3421-54	Tumor necrosis factor ligand superfamily member 8	TNFSF8	-0.073	0.537	-0.002	0.845	-0.007	0.010
3422-4	Cyclin-dependent kinase 1:G2/mitotic-specific cyclin-B1 complex	CDC2 CCNB1	0.257	0.029	0.017	0.039	-0.001	0.643
3423-59	Chymase	CMA1	0.196	0.098	0.014	0.094	-0.001	0.731
3427-63	Casein kinase II subunit alpha	CSNK2A1	0.322	0.006	0.018	0.038	0.001	0.607
3431-54	Ephrin type-A receptor 1	EPHA1	-0.025	0.830	-0.002	0.788	-0.001	0.584
3432-21	Ephrin type-A receptor 3	EPHA3	0.074	0.535	0.003	0.683	-0.003	0.287
3434-34	Fibronectin Fragment 3	FN1	0.030	0.797	0.002	0.798	0.002	0.418
3435-53	Fibronectin Fragment 4	FN1	0.023	0.845	-0.002	0.801	0.004	0.089
3437-80	Receptor-type tyrosine-protein kinase FLT3	FLT3	-0.174	0.144	-0.007	0.405	-0.001	0.806
3438-10	Follistatin-related protein 3	FSTL3	0.109	0.297	0.003	0.723	0.008	0.000
3440-7	Granzyme A	GZMA	-0.469	0.000	-0.025	0.003	-0.001	0.659
3441-64	Glycogen synthase kinase-3 alpha/beta	GSK3A GSK3B	-0.002	0.989	0.000	0.969	0.004	0.139
3443-61	Homeodomain-interacting protein kinase 3	HIPK3	-0.112	0.345	-0.009	0.309	-0.003	0.321
3445-53	Interleukin-15 receptor subunit alpha	IL15RA	-0.001	0.995	0.012	0.136	-0.003	0.208
3446-7	Interleukin-18 receptor 1	IL18R1	0.038	0.733	0.007	0.368	-0.007	0.003
3447-64	Interleukin-8	CXCL8	0.308	0.007	0.016	0.052	0.004	0.079
3448-13	Insulin receptor	INSR	-0.243	0.032	-0.014	0.083	-0.001	0.793
3449-58	Kallistatin	SERPINA4	0.181	0.111	0.009	0.247	0.003	0.199
3450-4	Kallikrein-6	KLK6	0.030	0.802	0.002	0.827	0.003	0.261
3452-17	Tyrosine-protein kinase Lck	LCK	0.087	0.467	0.010	0.254	-0.003	0.220
3453-87	Tyrosine-protein kinase Lyn	LYN	0.143	0.231	0.003	0.749	0.000	0.890
3457-57	Periostin	POSTN	-0.614	0.000	-0.032	0.000	0.001	0.801
3459-49	Platelet-derived growth factor receptor beta	PDGFRB	0.086	0.436	0.006	0.446	0.003	0.172
3461-58	Brevican core protein	BCAN	-0.622	0.000	-0.044	0.000	-0.003	0.272

3466-8	cAMP-dependent protein kinase catalytic subunit alpha	PRKACA	-0.125	0.288	-0.013	0.127	0.006	0.029
3469-74	Ribosomal protein S6 kinase alpha-3	RPS6KA3	0.275	0.020	0.015	0.077	0.003	0.214
3470-1	E-selectin	SELE	0.356	0.001	0.027	0.000	0.010	0.000
3471-49	Serine/threonine-protein kinase 16	STK16	-0.200	0.090	-0.009	0.316	-0.001	0.782
3472-40	Baculoviral IAP repeat-containing protein 5	BIRC5	0.251	0.034	0.019	0.026	-0.001	0.834
3473-78	Thrombopoietin Receptor	MPL	0.224	0.060	0.009	0.289	-0.004	0.168
3474-19	Thrombospondin-1	THBS1	0.157	0.180	0.010	0.249	0.000	0.926
3477-63	High affinity nerve growth factor receptor	NTRK1	0.063	0.596	0.008	0.351	-0.002	0.531
3479-71	Trypsin-3	PRSS3	0.189	0.103	0.010	0.208	0.004	0.149
3480-7	Dual specificity protein phosphatase 3	DUSP3	-0.038	0.748	-0.008	0.364	0.003	0.280
3481-87	Xaa-Pro aminopeptidase 1	XPNPEP1	-0.063	0.596	-0.001	0.891	0.006	0.016
3484-60	Angiotensinogen	AGT	-0.063	0.574	-0.019	0.017	0.017	0.000
3485-28	Beta-2-microglobulin	B2M	-0.142	0.220	-0.001	0.937	-0.005	0.054
3486-58	Fibroblast growth factor 1	FGF1	0.087	0.453	0.002	0.854	-0.005	0.068
3487-32	C-X-C motif chemokine 13	CXCL13	0.172	0.137	0.019	0.022	-0.001	0.651
3488-64	Catalase	CAT	-0.170	0.125	-0.006	0.426	0.001	0.695
3489-9	Ciliary neurotrophic factor	CNTF	0.047	0.696	0.001	0.891	-0.003	0.196
3494-71	Fibroblast growth factor 17	FGF17	0.157	0.186	0.008	0.364	-0.002	0.383
3495-15	C-X-C motif chemokine 6	CXCL6	-0.053	0.651	-0.006	0.465	-0.004	0.165
3497-13	Interferon alpha-2	IFNA2	-0.063	0.596	0.003	0.727	-0.001	0.659
3499-77	Interleukin-17B	IL17B	-0.128	0.283	-0.002	0.854	0.001	0.749
3503-4	Integrin alpha-I: beta-1 complex	ITGA1 ITGB1	-0.058	0.607	0.002	0.850	-0.001	0.786
3504-58	Hepcidin	HAMP	0.011	0.921	0.001	0.893	0.002	0.319
3505-6	Lymphotoxin alpha1:beta2	LTA LTB	-0.037	0.718	0.005	0.511	-0.004	0.051
3506-49	Lymphotoxin alpha2:beta1	LTA LTB	-0.026	0.817	0.004	0.576	-0.008	0.000
3508-78	C-C motif chemokine 22	CCL22	0.674	0.000	0.047	0.000	-0.005	0.064
3509-1	C-C motif chemokine 15	CCL15	0.207	0.078	0.014	0.089	0.001	0.616
3514-49	Myeloblastin	PRTN3	0.173	0.130	0.021	0.010	-0.005	0.045
3516-60	Stromal cell-derived factor 1	CXCL12	-0.039	0.726	-0.001	0.870	-0.003	0.276
3518-54	Carboxypeptidase B2	CPB2	0.082	0.477	0.001	0.867	0.009	0.000
3519-3	C-C motif chemokine 17	CCL17	0.523	0.000	0.044	0.000	-0.002	0.534
3520-58	Transforming growth factor beta-3	TGFB3	0.356	0.002	0.035	0.000	-0.005	0.065

3521-16	Thyroid Stimulating Hormone	CGA TSHB	-0.447	0.000	-0.036	0.000	0.003	0.219
3522-57	Vasoactive Intestinal Peptide	VIP	0.260	0.030	0.012	0.172	-0.001	0.677
3534-14	CD40 ligand	CD40LG	0.151	0.207	0.010	0.224	0.002	0.505
3535-84	Dickkopf-related protein 1	DKK1	-0.050	0.665	-0.003	0.754	-0.002	0.359
3538-26	Aromatic-L-amino-acid decarboxylase	DDC	-0.068	0.570	-0.008	0.353	0.006	0.014
3554-24	Adiponectin	ADIPOQ	-0.453	0.000	-0.029	0.000	0.004	0.052
3580-25	Alpha-1-antitrypsin	SERPINA1	-0.016	0.884	-0.002	0.833	-0.006	0.018
3581-53	Alpha-2-HS-glycoprotein	AHSG	-0.041	0.725	-0.010	0.222	-0.014	0.000
3583-54	Arylsulfatase A	ARSA	-0.061	0.611	-0.002	0.813	0.004	0.092
3585-54	Basigin	BSG	0.079	0.506	0.003	0.728	0.001	0.740
3587-53	Bone morphogenetic protein 10	BMP10	-0.298	0.011	-0.015	0.072	0.002	0.471
3591-51	Cadherin-6	CDH6	0.437	0.000	0.018	0.037	0.006	0.021
3592-4	Calcium/calmodulin-dependent protein kinase type 1	CAMK1	0.014	0.903	0.001	0.939	0.002	0.355
3593-72	Caspase-3	CASP3	-0.138	0.241	-0.010	0.256	0.004	0.089
3594-6	Cathepsin E	CTSE	-0.127	0.289	-0.012	0.151	0.001	0.612
3600-2	Chitotriosidase-1	CHIT1	0.050	0.652	0.004	0.576	0.003	0.221
3601-54	Neural cell adhesion molecule L1-like protein	CHL1	-0.234	0.030	-0.018	0.022	-0.002	0.498
3603-60	C-type lectin domain family 7 member A	CLEC7A	0.279	0.016	0.022	0.008	-0.002	0.363
3605-77	Mannan-binding lectin serine protease 1	MASP1	-0.154	0.186	0.000	0.982	0.002	0.539
3606-2	Discoidin domain-containing receptor 2	DDR2	-0.258	0.030	-0.014	0.110	0.003	0.201
3607-71	Dickkopf-related protein 3	DKK3	-0.344	0.001	-0.020	0.005	-0.002	0.270
3608-12	Dipeptidyl peptidase 2	DPP7	0.033	0.776	-0.005	0.530	0.003	0.289
3611-70	Endothelin-converting enzyme 1	ECE1	-0.043	0.714	0.009	0.283	-0.003	0.218
3612-6	Ephrin type-B receptor 4	EPHB4	0.120	0.313	0.003	0.695	-0.001	0.728
3613-62	Ficolin-1	FCN1	-0.201	0.078	-0.017	0.044	0.001	0.743
3616-3	N-acetylglucosamine-6-sulfatase	GNS	0.075	0.525	0.012	0.173	0.003	0.226
3617-80	Hepatocyte growth factor activator	HGFAC	-0.143	0.201	-0.004	0.664	0.006	0.013
3620-67	Interleukin-22 receptor subunit alpha-1	IL22RA1	0.022	0.855	0.004	0.634	0.000	0.901
3622-33	Legumain	LGMN	0.346	0.003	0.025	0.003	-0.005	0.033
3623-84	Lymphocyte antigen 86	LY86	-0.183	0.112	-0.017	0.045	0.003	0.167
3624-3	Serine protease 27	PRSS27	-0.152	0.198	-0.009	0.304	-0.005	0.037
3627-71	Membrane metallo-endopeptidase-like 1	MMEL1	-0.014	0.909	-0.005	0.540	-0.002	0.552

3628-3	Dual specificity mitogen-activated protein kinase kinase 2	MAP2K2	-0.043	0.685	-0.003	0.706	0.000	0.855
3629-60	Serine/threonine-protein kinase MRCK beta	CDC42BPB	0.172	0.147	0.020	0.019	0.000	0.916
3630-27	Cell adhesion molecule 3	CADM3	-0.521	0.000	-0.036	0.000	-0.002	0.356
3633-70	Nidogen-2	NID2	-0.066	0.570	-0.004	0.606	0.004	0.150
3634-5	Opioid-binding protein/cell adhesion molecule	OPCML	0.404	0.001	0.029	0.001	0.000	0.952
3635-76	OCIA domain-containing protein 1	OCIAD1	-0.013	0.914	-0.009	0.286	0.003	0.292
3636-37	Oxidized low-density lipoprotein receptor 1	OLR1	0.434	0.000	0.040	0.000	0.000	0.910
3640-14	alpha-2-macroglobulin receptor-associated protein	LRPAP1	0.283	0.007	0.012	0.118	0.004	0.069
3642-4	SLAM family member 5	CD84	-0.348	0.002	-0.026	0.001	-0.001	0.554
3643-90	SLIT and NTRK-like protein 1	SLITRK1	0.002	0.986	0.000	0.994	0.000	0.931
3644-5	Dickkopf-like protein 1	DKKL1	0.190	0.108	0.007	0.381	-0.004	0.104
3646-7	Tyrosine-protein kinase Tec	TEC	0.066	0.581	-0.001	0.932	0.001	0.767
3647-49	Toll-like receptor 4:Lymphocyte antigen 96 complex	TLR4 LY96	-0.436	0.000	-0.033	0.000	0.001	0.802
3651-50	Vascular endothelial growth factor receptor 2	KDR	0.240	0.031	0.009	0.266	0.007	0.003
3654-27	BMP-binding endothelial regulator protein	BMPER	-0.119	0.319	-0.008	0.368	-0.001	0.769
3656-9	Cadherin-12	CDH12	0.052	0.657	-0.002	0.779	0.001	0.812
3657-74	Calcineurin subunit B type 1	PPP3R1	0.063	0.591	0.003	0.760	-0.005	0.066
3666-17	Complement factor H-related protein 5	CFHR5	0.205	0.082	0.006	0.484	0.004	0.125
3676-15	Cation-independent mannose-6-phosphate receptor	IGF2R	0.013	0.910	-0.002	0.773	0.012	0.000
3681-87	Kallikrein-14	KLK14	0.028	0.809	0.000	0.962	-0.003	0.169
3684-78	Macrophage scavenger receptor types I and II	MSR1	0.148	0.210	0.001	0.907	0.000	0.855
3685-53	Membrane frizzled-related protein	MFRP	0.105	0.380	0.013	0.121	0.000	0.916
3707-12	Serum albumin	ALB	-0.042	0.675	0.005	0.511	0.002	0.466
3708-62	Alpha-2-macroglobulin	A2M	-0.325	0.001	-0.029	0.000	0.000	0.947
3709-4	Alanine aminotransferase 1	GPT	-0.328	0.002	-0.023	0.003	-0.005	0.033
3710-49	Angiostatin	PLG	-0.159	0.151	-0.017	0.034	0.007	0.002
3714-49	Creatine kinase M-type:Creatine kinase B-type heterodimer	CKB CKM	0.087	0.427	0.007	0.362	0.003	0.178
3719-2	Cyclin-dependent kinase inhibitor 1B	CDKN1B	-0.157	0.187	-0.008	0.329	-0.001	0.642

3723-1	Brain natriuretic peptide 32	NPPB	0.094	0.427	0.004	0.649	0.002	0.400
3727-35	Peptide YY	PYY	0.228	0.054	0.011	0.194	0.010	0.000
3728-52	Secretin	SCT	-0.160	0.180	-0.012	0.148	-0.004	0.096
3730-81	Tumor necrosis factor receptor superfamily member 4	TNFRSF4	0.181	0.128	0.008	0.331	-0.005	0.077
3738-54	Macrophage colony-stimulating factor 1	CSF1	-0.152	0.191	0.002	0.780	0.005	0.054
3758-68	Activated Protein C	PROC	0.135	0.260	0.004	0.654	0.001	0.740
3761-4	Prostaglandin G/H synthase 2	PTGS2	0.269	0.022	0.020	0.018	-0.002	0.427
3766-51	Syntaxin-1A	STX1A	0.176	0.140	0.007	0.408	-0.003	0.225
3773-15	Angiopoietin-1 receptor, soluble	TEK	-0.239	0.034	-0.016	0.049	-0.001	0.545
3795-6	Disintegrin and metalloproteinase domain-containing protein 9	ADAM9	-0.272	0.022	-0.022	0.010	0.007	0.004
3796-79	Angiopoietin-related protein 4	ANGPTL4	-0.112	0.314	0.000	0.989	0.001	0.789
3797-1	Cadherin-2	CDH2	-0.102	0.386	-0.005	0.591	0.000	0.962
3798-71	Carbonic anhydrase 9	CA9	-0.061	0.611	-0.007	0.384	0.002	0.454
3799-11	Carbonic anhydrase 3	CA3	-0.180	0.103	-0.012	0.140	-0.003	0.170
3800-71	Creatine kinase B-type	CKB	0.005	0.966	0.002	0.824	0.002	0.385
3802-50	Cystatin-S	CST4	-0.073	0.542	0.002	0.809	0.001	0.792
3803-10	Cystatin-D	CST5	-0.322	0.003	-0.026	0.001	-0.001	0.786
3805-16	Endothelial cell-specific molecule 1	ESM1	-0.622	0.000	-0.044	0.000	-0.006	0.008
3806-55	Ephrin type-A receptor 5	EPHA5	-0.522	0.000	-0.033	0.000	-0.010	0.000
3807-1	Fibroblast growth factor 23	FGF23	0.004	0.974	0.002	0.854	-0.002	0.499
3808-76	Fibroblast growth factor receptor 2	FGFR2	0.069	0.564	0.005	0.552	-0.003	0.287
3809-1	Fibroblast growth factor receptor 3	FGFR3	0.101	0.400	0.000	0.984	-0.002	0.430
3810-50	Tyrosine-protein kinase Fgr	FGR	0.209	0.080	0.012	0.169	0.000	0.985
3813-3	Tyrosine-protein kinase Fyn	FYN	0.048	0.684	-0.007	0.389	-0.003	0.285
3815-14	Interleukin-12 receptor subunit beta-2	IL12RB2	-0.416	0.000	-0.017	0.049	0.001	0.598
3817-18	Protein kinase C theta type	PRKCQ	-0.058	0.629	-0.004	0.631	-0.001	0.652
3820-68	MAP kinase-activated protein kinase 2	MAPKAPK2	-0.079	0.506	-0.007	0.391	0.001	0.753
3821-28	MAP kinase-activated protein kinase 5	MAPKAPK5	-0.022	0.853	-0.003	0.743	0.001	0.657
3822-54	MAP kinase-activated protein kinase 3	MAPKAPK3	-0.033	0.776	-0.006	0.471	0.000	0.929
3823-9	Megakaryocyte-associated tyrosine-protein kinase	MATK	0.067	0.573	0.000	0.962	-0.001	0.682

3825-18	Mitogen-activated protein kinase 8	MAPK8	0.122	0.305	0.000	0.966	0.003	0.203
3827-22	Serine/threonine-protein kinase PAK 6	PAK6	-0.032	0.791	-0.004	0.665	0.003	0.330
3828-54	Platelet-derived growth factor C	PDGFC	-0.222	0.063	-0.016	0.070	-0.003	0.291
3831-21	Phosphatidylinositol 3,4,5-trisphosphate 3-phosphatase and dual-specificity protein phosphatase PTEN	PTEN	0.008	0.945	-0.003	0.703	-0.002	0.440
3832-51	Protein-tyrosine kinase 6	PTK6	-0.052	0.664	-0.002	0.849	-0.002	0.511
3835-11	Toll-like receptor 2	TLR2	0.102	0.390	0.002	0.783	0.000	0.943
3836-51	Ubiquitin-fold modifier 1	UFM1	-0.093	0.431	-0.009	0.267	0.001	0.801
3839-60	AH receptor-interacting protein	AIP	0.111	0.346	0.009	0.315	0.005	0.072
3844-2	Peptidyl-prolyl cis-trans isomerase A	PPIA	0.113	0.340	0.008	0.378	0.005	0.042
3845-51	Dynein light chain roadblock-type 1	DYNLRB1	0.060	0.617	0.003	0.766	0.001	0.574
3847-56	Persulfide dioxygenase ETHE1, mitochondrial	ETHE1	0.205	0.087	0.025	0.003	0.008	0.002
3848-14	Glyceraldehyde-3-phosphate dehydrogenase	GAPDH	0.214	0.066	0.020	0.018	0.007	0.006
3852-19	DnaJ homolog subfamily B member 1	DNAJB1	0.436	0.000	0.023	0.006	0.003	0.199
3853-56	Malate dehydrogenase, cytoplasmic	MDH1	0.045	0.698	0.013	0.121	0.006	0.028
3854-24	Nascent polypeptide-associated complex subunit alpha	NACA	-0.013	0.915	-0.002	0.833	0.003	0.176
3855-56	Peroxiredoxin-1	PRDX1	0.142	0.224	0.014	0.092	0.001	0.777
3858-5	Low molecular weight phosphotyrosine protein phosphatase	ACP1	0.035	0.756	0.005	0.518	0.006	0.022
3859-50	Proteasome subunit alpha type-1	PSMA1	0.248	0.036	0.018	0.039	0.002	0.413
3860-7	Proteasome subunit alpha type-6	PSMA6	0.298	0.012	0.022	0.011	0.004	0.152
3864-5	40S ribosomal protein S7	RPS7	0.225	0.058	0.019	0.030	0.003	0.187
3865-53	Ribosomal protein S6 kinase alpha-5	RPS6KA5	0.260	0.029	0.023	0.008	0.000	0.899
3866-7	Ribosome maturation protein SBDS	SBDS	-0.038	0.749	0.000	0.989	0.004	0.091
3867-49	Seizure 6-like protein 2	SEZ6L2	0.093	0.437	0.010	0.262	0.002	0.545
3868-8	Small glutamine-rich tetratricopeptide repeat-containing protein alpha	SGTA	0.083	0.486	0.012	0.170	0.003	0.195
3872-2	Translationally-controlled tumor protein	TPT1	-0.005	0.966	0.001	0.944	0.004	0.158
3873-51	Thyroid peroxidase	TPO	0.182	0.127	0.009	0.286	-0.001	0.688
3874-8	Ubiquitin-conjugating enzyme E2 L3	UBE2L3	0.143	0.232	0.011	0.197	0.003	0.206

3875-62	AT-rich interactive domain-containing protein 3A	ARID3A	0.385	0.001	0.023	0.008	0.002	0.405
3877-67	Calcium/calmodulin-dependent protein kinase kinase 1	CAMKK1	0.150	0.205	0.006	0.497	0.003	0.277
3879-50	Hsp90 co-chaperone Cdc37	CDC37	0.168	0.155	0.015	0.077	0.004	0.159
3881-49	Dynein light chain 1, cytoplasmic	DYNLL1	-0.008	0.948	-0.002	0.853	0.003	0.254
3887-90	Importin subunit beta-1	KPNB1	-0.008	0.950	-0.001	0.906	0.004	0.175
3888-8	Inhibitor of growth protein 1	ING1	0.048	0.685	0.002	0.829	0.004	0.128
3889-64	Lamin-B1	LMNB1	0.020	0.868	0.005	0.551	-0.005	0.074
3890-8	L-lactate dehydrogenase B chain	LDHB	-0.422	0.000	-0.027	0.002	0.000	0.964
3891-56	Methyl-CpG-binding domain protein 4	MBD4	0.182	0.129	0.013	0.121	-0.001	0.649
3893-64	Mesothelin	MSLN	0.098	0.412	0.006	0.523	0.002	0.452
3894-15	N-acetyl-D-glucosamine kinase	NAGK	-0.231	0.045	-0.012	0.144	0.001	0.818
3896-5	Phosphoglycerate mutase 1	PGAM1	0.100	0.388	0.001	0.914	0.013	0.000
3897-61	Pyridoxal phosphate phosphatase	PDXP	0.085	0.473	0.007	0.433	0.004	0.091
3898-5	26S proteasome non-ATPase regulatory subunit 7	PSMD7	-0.191	0.102	-0.009	0.281	0.004	0.099
3902-21	S-phase kinase-associated protein 1	SKP1	0.158	0.183	0.010	0.266	0.002	0.353
3903-49	Sorting nexin-4	SNX4	-0.096	0.423	-0.005	0.549	0.000	0.872
3905-62	Ubiquitin-conjugating enzyme E2 N	UBE2N	0.119	0.312	0.011	0.184	0.001	0.730
4122-12	Epithelial discoidin domain-containing receptor 1	DDR1	0.253	0.034	0.027	0.002	0.000	0.898
4123-60	Fibroblast growth factor 4	FGF4	0.258	0.030	0.009	0.271	0.003	0.195
4124-24	Heat shock 70 kDa protein 1A	HSPA1A	-0.108	0.340	0.003	0.703	0.001	0.615
4125-52	Advanced glycosylation end product-specific receptor, soluble	AGER	-0.141	0.197	-0.013	0.110	-0.003	0.145
4126-22	Bactericidal permeability-increasing protein	BPI	0.526	0.000	0.036	0.000	0.003	0.208
4127-75	Complement component C6	C6	0.179	0.129	0.003	0.682	0.002	0.338
4128-27	C-C motif chemokine 24	CCL24	0.287	0.015	0.014	0.105	-0.002	0.485
4129-72	Complement factor B	CFB	0.209	0.060	0.013	0.109	0.006	0.013
4130-71	Fibroblast growth factor 6	FGF6	0.232	0.052	0.012	0.154	0.002	0.426
4131-72	Fibronectin	FN1	0.080	0.495	0.005	0.556	0.003	0.254

4132-27	Follistatin	FST	0.153	0.199	0.010	0.222	0.001	0.647
4133-54	Granzyme B	GZMB	-0.127	0.287	-0.003	0.744	0.001	0.744
4134-4	Heparin-binding EGF-like growth factor	HBEGF	0.160	0.182	0.015	0.084	0.002	0.428
4135-84	Immunoglobulin E	IGHE IGK@ IGL@	0.226	0.056	0.016	0.061	0.005	0.066
4136-40	Interleukin-17D	IL17D	0.116	0.331	0.008	0.367	0.001	0.611
4137-57	Interleukin-25	IL25	0.267	0.022	0.021	0.011	-0.001	0.752
4138-25	Interleukin-20	IL20	0.046	0.701	0.005	0.592	0.001	0.748
4139-71	Interleukin-6 receptor subunit alpha	IL6R	0.022	0.846	-0.005	0.522	-0.002	0.540
4140-3	Interleukin-7	IL7	0.230	0.053	0.013	0.126	0.001	0.814
4141-79	C-X-C motif chemokine 10	CXCL10	-0.832	0.000	-0.044	0.000	-0.002	0.459
4143-74	Lymphotactin	XCL1	0.193	0.106	0.007	0.433	-0.002	0.413
4144-13	C-C motif chemokine 13	CCL13	0.298	0.012	0.010	0.253	0.000	0.877
4145-58	Neurotrophin-3	NTF3	0.002	0.987	-0.005	0.539	0.005	0.044
4146-58	Neurotrophin-4	NTF4	0.152	0.201	0.002	0.818	-0.003	0.221
4148-49	Pappalysin-1	PAPPA	0.062	0.599	0.008	0.364	-0.005	0.052
4149-8	Platelet-derived growth factor subunit B	PDGFB	0.138	0.241	0.008	0.375	0.000	0.896
4150-75	Plasmin	PLG	0.122	0.309	0.006	0.516	-0.004	0.178
4151-6	Plasminogen	PLG	0.016	0.886	-0.001	0.870	0.009	0.000
4152-58	Plasma kallikrein	KLKB1	0.086	0.440	-0.004	0.644	0.007	0.007
4153-11	Alpha-1-antichymotrypsin complex	SERPINA3	0.409	0.000	0.032	0.000	-0.009	0.000
4154-57	P-selectin	SELP	0.461	0.000	0.026	0.001	0.004	0.120
4155-3	Tenascin	TNC	0.113	0.288	0.014	0.064	0.003	0.175
4156-74	Transforming growth factor beta-2	TGFB2	0.247	0.039	0.014	0.094	0.002	0.349
4157-2	Thrombin	F2	-0.445	0.000	-0.040	0.000	0.001	0.767
4158-54	Urokinase-type plasminogen activator	PLAU	-0.083	0.470	-0.006	0.487	-0.002	0.370
4159-130	Complement factor H	CFH	0.206	0.069	0.009	0.259	-0.003	0.195
4160-49	72 kDa type IV collagenase	MMP2	-0.335	0.003	-0.020	0.012	0.003	0.168
4162-54	Serotransferrin	TF	-0.048	0.669	-0.011	0.196	0.005	0.062
4163-5	Histone H2A.z	H2AFZ	-0.223	0.034	-0.013	0.082	0.001	0.628
4165-2	Thyroglobulin	TG	0.149	0.209	0.009	0.281	-0.004	0.151
4179-57	14-3-3 protein family	YWHAB,YWHAE,YWHAG,YWHAH,YWHAQ,YWHAZ,SFN	-0.016	0.892	-0.002	0.825	0.002	0.469
4184-43	Eukaryotic translation initiation factor 4E-binding protein 2	EIF4EBP2	0.096	0.424	0.000	0.994	0.002	0.482

4187-49	6-phosphogluconate dehydrogenase, decarboxylating	PGD	0.137	0.236	0.013	0.113	0.004	0.138
4188-1	Aflatoxin B1 aldehyde reductase member 2	AKR7A2	-0.065	0.580	0.000	0.991	0.004	0.083
4192-10	Alcohol dehydrogenase [NADP(+)]	AKR1A1	0.158	0.163	0.018	0.031	-0.002	0.471
4194-26	Acidic leucine-rich nuclear phosphoprotein 32 family member B	ANP32B	0.235	0.047	0.013	0.116	0.003	0.225
4203-50	Cofilin-1	CFL1	-0.319	0.007	-0.026	0.002	0.001	0.812
4209-60	Vacuolar protein sorting-associated protein VTA1 homolog	VTA1	0.106	0.375	0.009	0.283	0.002	0.531
4212-5	Epidermal growth factor receptor substrate 15-like 1	EPS15L1	0.323	0.007	0.015	0.088	0.004	0.110
4217-49	3-hydroxyacyl-CoA dehydrogenase type-2	HSD17B10	0.260	0.029	0.011	0.208	0.009	0.001
4220-39	Tyrosine-protein kinase Fer	FER	-0.035	0.769	-0.008	0.345	0.000	0.892
4224-7	Heterogeneous nuclear ribonucleoprotein Q	SYNCRIP	0.029	0.805	0.000	0.983	-0.001	0.662
4230-1	Eukaryotic translation initiation factor 4 gamma 2	EIF4G2	-0.032	0.789	-0.009	0.292	0.002	0.404
4232-19	Insulin-like growth factor 1 receptor	IGF1R	-0.200	0.068	-0.011	0.157	0.000	0.991
4234-8	Interleukin-1 receptor-like 1	IL1RL1	-0.020	0.846	-0.006	0.442	0.006	0.016
4237-70	Leucine carboxyl methyltransferase 1	LCMT1	-0.067	0.574	-0.003	0.760	0.005	0.078
4238-4	Protein lin-7 homolog B	LIN7B	0.131	0.261	0.012	0.143	0.000	0.964
4240-31	Pyruvate kinase PKM	PKM2	-0.004	0.971	0.000	0.959	0.003	0.325
4245-80	E3 ubiquitin-protein ligase Mdm2	MDM2	0.237	0.045	0.012	0.152	0.001	0.671
4246-40	Neural cell adhesion molecule L1	L1CAM	0.150	0.203	0.003	0.720	0.002	0.477
4249-64	Nucleoside diphosphate kinase B	NME2	-0.048	0.684	-0.004	0.633	0.005	0.037
4250-23	NSFL1 cofactor p47	NSFL1C	0.052	0.659	-0.001	0.907	0.001	0.673
4254-6	NudC domain-containing protein 3	NUDCD3	-0.007	0.953	-0.008	0.331	0.003	0.326
4258-15	Proliferation-associated protein 2G4	PA2G4	0.034	0.771	0.004	0.637	0.001	0.637
4261-55	Serum paraoxonase/arylesterase 1	PON1	0.280	0.019	0.009	0.273	-0.001	0.631
4267-81	Pescadillo homolog	PES1	0.374	0.002	0.018	0.032	0.003	0.301
4271-75	Prefoldin subunit 5	PFDN5	-0.067	0.577	-0.005	0.546	0.002	0.344
4272-46	Glucose-6-phosphate isomerase	GPI	-0.478	0.000	-0.030	0.000	0.013	0.000
4276-10	Phosphatidylethanolamine-binding protein 1	PEBP1	0.265	0.021	0.019	0.019	0.002	0.372

4278-14	Protein disulfide-isomerase	P4HB	0.348	0.003	0.024	0.004	0.010	0.000
4280-47	Proteasome subunit alpha type-2	PSMA2	-0.028	0.810	-0.005	0.528	0.003	0.308
4282-3	GTP-binding nuclear protein Ran	RAN	0.052	0.663	0.013	0.121	0.001	0.581
4284-18	RNA-binding protein 39	RBM39	0.220	0.064	0.017	0.053	0.001	0.672
4292-5	Alpha-soluble NSF attachment protein	NAPA	0.110	0.346	0.012	0.140	0.003	0.311
4294-16	Sphingosine kinase 1	SPHK1	-0.152	0.202	-0.013	0.127	0.003	0.328
4297-62	Spondin-1	SPON1	0.260	0.016	0.020	0.009	-0.007	0.005
4301-58	Thymidine kinase, cytosolic	TK1	-0.074	0.538	-0.003	0.753	-0.001	0.745
4304-18	Ligand-dependent nuclear receptor corepressor-like protein	LCORL	0.165	0.166	0.004	0.606	-0.002	0.500
4306-4	Transketolase	TKT	0.064	0.583	0.008	0.315	0.005	0.053
4309-59	Triosephosphate isomerase	TPI1	0.092	0.430	0.010	0.231	0.005	0.063
4314-12	dCTP pyrophosphatase 1	DCTPP1	-0.587	0.000	-0.035	0.000	0.003	0.315
4318-12	Tyrosine-protein phosphatase non-receptor type 6	PTPN6	-0.082	0.488	-0.008	0.355	0.000	0.995
4322-28	Protein amnionless	AMN	0.109	0.359	0.008	0.353	0.000	0.992
4324-33	Cystatin-SA	CST2	-0.323	0.004	-0.023	0.006	0.002	0.422
4328-2	Brother of CDO	BOC	-0.282	0.013	-0.012	0.142	-0.011	0.000
4332-6	C-type lectin domain family 1 member B	CLEC1B	0.163	0.168	0.010	0.217	0.001	0.590
4336-2	Serum amyloid A-1 protein	SAA1	-0.114	0.295	-0.003	0.679	0.002	0.305
4337-49	C-reactive protein	CRP	0.150	0.154	0.003	0.690	0.002	0.495
4342-10	Intercellular adhesion molecule 1	ICAM1	0.169	0.130	0.013	0.096	0.000	0.909
4355-13	Death-associated protein kinase 2	DAPK2	0.225	0.057	0.009	0.317	-0.002	0.543
4359-87	Dual specificity tyrosine-phosphorylation-regulated kinase 3	DYRK3	0.175	0.139	0.014	0.108	-0.003	0.329
4374-45	Growth/differentiation factor 15	GDF15	0.800	0.000	0.053	0.000	0.002	0.381
4389-2	Desert hedgehog protein N-product	DHH	-0.164	0.169	-0.006	0.496	0.000	0.893
4392-54	Fibroblast growth factor 12	FGF12	0.234	0.050	0.006	0.469	-0.001	0.651
4393-3	Fibroblast growth factor 16	FGF16	0.051	0.667	0.005	0.522	0.003	0.299
4394-71	Fibroblast growth factor 8 isoform A	FGF8	0.164	0.170	0.014	0.093	0.005	0.061
4396-54	Interferon lambda-1	IFNL1	0.208	0.080	0.011	0.189	0.003	0.320
4397-26	Interferon lambda-2	IFNL2	0.254	0.033	0.011	0.213	-0.007	0.008
4407-10	Hepatocyte growth factor-like protein	MST1	0.184	0.106	0.018	0.032	0.005	0.043

4413-3	Antileukoproteinase	SLPI	0.910	0.000	0.066	0.000	0.012	0.000
4414-69	Pulmonary surfactant-associated protein D	SFTPD	0.303	0.009	0.025	0.003	0.001	0.656
4420-7	Disintegrin and metalloproteinase domain-containing protein 12	ADAM12	0.402	0.001	0.021	0.013	-0.001	0.720
4423-77	Bcl-2-like protein 1	BCL2L1	0.036	0.756	-0.008	0.355	0.003	0.200
4428-1	Carbohydrate sulfotransferase 2	CHST2	0.040	0.739	0.011	0.188	0.001	0.744
4429-51	Carbohydrate sulfotransferase 6	CHST6	0.144	0.228	0.002	0.786	0.000	0.859
4430-44	Collectin-11	COLEC11	0.062	0.581	0.001	0.864	0.007	0.004
4435-66	Ectonucleotide pyrophosphatase/phosphodiesterase family member 7	ENPP7	0.115	0.310	0.004	0.653	0.013	0.000
4436-1	Ectonucleoside triphosphate diphosphohydrolase 3	ENTPD3	0.145	0.222	0.006	0.519	-0.005	0.076
4437-56	Ectonucleoside triphosphate diphosphohydrolase 5	ENTPD5	0.349	0.002	0.030	0.000	0.005	0.046
4440-15	Fc receptor-like protein 3	FCRL3	-0.209	0.076	-0.013	0.115	-0.007	0.006
4449-67	Gremlin-1	GREM1	0.131	0.272	0.005	0.576	-0.001	0.590
4450-26	Heterogeneous nuclear ribonucleoprotein A/B	HNRNPAB	0.208	0.076	0.016	0.062	0.001	0.594
4452-9	Leucine-rich repeat transmembrane neuronal protein 1	LRRTM1	0.157	0.183	0.011	0.185	-0.001	0.695
4453-83	Leucine-rich repeat transmembrane neuronal protein 3	LRRTM3	0.010	0.935	-0.001	0.926	0.001	0.606
4455-89	Lactadherin	MFGE8	0.124	0.287	0.012	0.149	0.001	0.630
4459-68	Proprotein convertase subtilisin/kexin type 7	PCSK7	0.376	0.001	0.024	0.004	0.007	0.009
4460-8	3-phosphoinositide-dependent protein kinase 1	PDPK1	0.091	0.440	0.001	0.917	0.001	0.697
4464-10	Sialoadhesin	SIGLEC1	0.077	0.521	0.009	0.301	-0.002	0.552
4467-49	SPARC-like protein 1	SPARCL1	-0.304	0.005	-0.024	0.002	0.003	0.285
4468-21	Sphingosine kinase 2	SPHK2	0.087	0.470	0.005	0.534	-0.001	0.748
4469-78	Carbohydrate sulfotransferase 15	CHST15	-0.013	0.908	0.008	0.302	-0.005	0.041
4471-50	Protein-glutamine gamma-glutamyltransferase E	TGM3	0.087	0.462	0.004	0.673	-0.004	0.107
4472-5	Tropomyosin beta chain	TPM2	-0.139	0.228	-0.009	0.300	-0.004	0.081
4474-19	Ubiquitin	RPS27A	-0.132	0.261	-0.011	0.202	-0.002	0.553
4476-22	Tyrosine-protein kinase ZAP-70	ZAP70	-0.174	0.131	-0.010	0.217	-0.006	0.011
4479-14	Plasma protease C1 inhibitor	SERPING1	-0.069	0.531	-0.001	0.908	0.006	0.009

4480-59	Complement C3b	C3	-0.006	0.958	0.000	0.967	-0.009	0.000
4481-34	Complement C4	C4A C4B	0.006	0.955	-0.011	0.201	0.002	0.357
4482-66	Complement C5b-C6 complex	C5 C6	0.174	0.125	0.007	0.377	-0.006	0.021
4487-1	Fibroblast growth factor 7	FGF7	-0.397	0.000	-0.022	0.007	0.002	0.420
4490-65	Interleukin-3 receptor subunit alpha	IL3RA	-0.053	0.652	-0.001	0.933	0.002	0.490
4491-4	Interleukin-5 receptor subunit alpha	IL5RA	0.005	0.962	-0.002	0.837	0.002	0.353
4493-92	Interleukin-11	IL11	0.270	0.024	0.009	0.309	-0.001	0.814
4495-33	Kininogen-1	KNG1	0.197	0.092	0.012	0.167	0.006	0.032
4496-60	Macrophage metalloelastase	MMP12	0.481	0.000	0.042	0.000	0.002	0.474
4498-62	Neural cell adhesion molecule 1, 120 kDa isoform	NCAM1	-0.735	0.000	-0.052	0.000	-0.004	0.052
4499-21	Platelet-derived growth factor subunit A	PDGFA	0.088	0.457	0.004	0.636	0.000	0.941
4500-50	Stem cell growth factor-alpha	CLEC11A	-0.413	0.000	-0.017	0.036	-0.007	0.005
4533-76	A disintegrin and metalloproteinase with thrombospondin motifs 15	ADAMTS15	0.509	0.000	0.031	0.000	0.001	0.588
4534-10	Brain-specific serine protease 4	PRSS22	0.076	0.497	0.011	0.176	0.003	0.275
4535-50	ADP-ribosyl cyclase/cyclic ADP-ribose hydrolase 2	BST1	-0.009	0.935	0.005	0.539	0.004	0.081
4540-11	Chromobox protein homolog 5	CBX5	0.041	0.730	0.002	0.775	-0.002	0.409
4541-49	Cell adhesion molecule-related/down-regulated by oncogenes	CDON	0.116	0.300	0.006	0.493	0.000	0.863
4542-24	Clusterin	CLU	0.035	0.762	0.004	0.592	0.001	0.818
4543-65	Collagen alpha-1(XXIII) chain	COL23A1	0.249	0.037	0.015	0.077	0.003	0.224
4544-4	Connective tissue-activating peptide III	PPBP	0.100	0.395	0.005	0.564	0.000	0.990
4545-53	Mitochondrial import inner membrane translocase subunit TIM14	DNAJC19	0.268	0.025	0.015	0.084	0.000	0.871
4546-27	Adhesion G protein-coupled receptor E2	ADGRE2	-0.750	0.000	-0.052	0.000	-0.006	0.024
4547-59	Leucine-rich repeat transmembrane protein FLRT1	FLRT1	0.128	0.283	0.013	0.129	-0.002	0.432
4548-4	Galactoside 3(4)-L-fucosyltransferase	FUT3	0.026	0.826	-0.007	0.400	0.001	0.591
4549-78	Alpha-(1,3)-fucosyltransferase 5	FUT5	0.276	0.017	0.020	0.018	0.006	0.020

4551-72	Adhesion G-protein coupled receptor G5	ADGRG5	-0.112	0.343	-0.002	0.850	-0.003	0.314
4553-65	Hepatoma-derived growth factor-related protein 2	HDGFRP2	0.085	0.442	0.010	0.201	-0.002	0.531
4556-10	Interleukin-34	IL34	-0.195	0.097	-0.011	0.195	-0.005	0.043
4557-61	Kin of IRRE-like protein 3	KIRREL3	0.039	0.740	0.004	0.608	-0.003	0.197
4559-64	Kynureninase	KYNU	0.541	0.000	0.046	0.000	0.004	0.077
4561-65	Baculoviral IAP repeat-containing protein 7 Isoform beta	BIRC7	0.458	0.000	0.025	0.003	-0.006	0.020
4562-1	Neurexophilin-1	NXPH1	0.445	0.000	0.026	0.002	0.004	0.097
4563-61	1-phosphatidylinositol 4,5-bisphosphate phosphodiesterase gamma-1	PLCG1	0.300	0.011	0.020	0.017	-0.001	0.718
4564-2	Plexin-C1	PLXNC1	-0.128	0.239	-0.007	0.364	0.000	0.985
4566-24	R-spondin-2	RSPO2	0.182	0.112	0.011	0.183	0.000	0.918
4567-82	SH2 domain-containing protein 1A	SH2D1A	-0.062	0.602	-0.002	0.830	0.002	0.423
4568-17	SLIT and NTRK-like protein 5	SLITRK5	-0.655	0.000	-0.047	0.000	-0.007	0.002
4569-52	VPS10 domain-containing receptor SorCS2	SORCS2	0.047	0.689	0.007	0.386	-0.001	0.647
4588-1	Pancreatic hormone	PPY	0.272	0.015	0.021	0.009	0.005	0.061
4673-13	Interleukin-6	IL6	0.358	0.002	0.021	0.012	0.000	0.956
4693-72	3-hydroxyisobutyrate dehydrogenase, mitochondrial	HIBADH	-0.087	0.468	-0.015	0.075	0.002	0.351
4697-59	Granulocyte-macrophage colony-stimulating factor	CSF2	0.082	0.494	0.002	0.812	-0.003	0.221
4703-87	Lymphotoxin-alpha	LTA	-0.105	0.381	-0.003	0.737	-0.005	0.077
4706-17	Protein 4.1	EPB41	0.125	0.287	0.011	0.177	-0.005	0.078
4708-3	Estradiol 17-beta-dehydrogenase 1	HSD17B1	0.402	0.001	0.020	0.018	0.001	0.570
4712-28	Apolipoprotein D	APOD	-0.001	0.996	-0.001	0.874	-0.003	0.193
4717-55	Interleukin-3	IL3	0.009	0.939	-0.005	0.544	-0.003	0.196
4718-5	Peptidyl-prolyl cis-trans isomerase B	PPIB	0.057	0.637	0.006	0.468	-0.002	0.446
4719-58	Protein disulfide-isomerase A3	PDIA3	-0.007	0.955	-0.007	0.422	-0.007	0.009
4721-54	Trefoil factor 3	TFF3	0.256	0.016	0.014	0.060	0.001	0.619
4763-31	Afamin	AFM	0.107	0.348	0.006	0.491	0.010	0.000
4769-10	Olfactomedin-4	OLFM4	0.267	0.024	0.008	0.355	0.003	0.265
4771-10	Acid sphingomyelinase-like phosphodiesterase 3a	SMPDL3A	0.371	0.001	0.030	0.000	0.009	0.000
4774-62	Protein FAM107B	FAM107B	-0.052	0.647	-0.013	0.116	-0.003	0.238
4775-34	Gelsolin	GSN	-0.556	0.000	-0.034	0.000	-0.004	0.133

4785-30	Corticosteroid-binding globulin	SERPINA6	0.119	0.315	0.005	0.576	-0.002	0.483
4786-58	UMP-CMP kinase	CMPK1	0.095	0.421	0.004	0.633	0.002	0.531
4792-51	gp41 C34 peptide, HIV	Human-virus	0.195	0.090	0.007	0.394	-0.001	0.724
4801-13	Lactoperoxidase	LPO	0.003	0.980	0.000	0.958	0.005	0.038
4807-13	Collagen alpha-1(VIII) chain	COL8A1	-0.223	0.063	-0.011	0.217	0.000	0.904
4811-33	Inter-alpha-trypsin inhibitor heavy chain H4	ITIH4	0.025	0.829	-0.002	0.821	0.007	0.007
4815-25	Thioredoxin domain-containing protein 12	TXNDC12	-0.065	0.563	-0.012	0.139	0.006	0.023
4829-43	14-3-3 protein sigma	SFN	-0.054	0.641	-0.007	0.380	0.001	0.690
4831-4	L-Selectin	SELL	-0.235	0.033	-0.015	0.056	-0.010	0.000
4832-75	Tumor necrosis factor receptor superfamily member 10A	TNFRSF10A	0.223	0.063	0.006	0.486	-0.004	0.168
4834-61	Ephrin type-A receptor 2	EPHA2	-0.144	0.214	-0.008	0.344	-0.003	0.190
4840-73	Granulocyte colony-stimulating factor	CSF3	0.278	0.018	0.023	0.007	0.000	0.961
4842-62	Glypican-3	GPC3	-0.557	0.000	-0.042	0.000	-0.001	0.788
4851-25	Interleukin-1 alpha	IL1A	0.060	0.617	0.004	0.609	-0.001	0.590
4859-6	Bone morphogenetic protein receptor type-1A	BMPR1A	-0.571	0.000	-0.032	0.000	0.001	0.627
4862-63	Bone morphogenetic protein receptor type-2	BMPR2	-0.102	0.392	-0.013	0.125	0.000	0.907
4866-59	BDNF/NT-3 growth factors receptor	NTRK2	-0.566	0.000	-0.033	0.000	-0.002	0.514
4867-15	Vascular endothelial growth factor A, isoform 121	VEGFA	0.148	0.215	0.009	0.288	-0.003	0.301
4874-3	Angiogenin	ANG	0.190	0.081	0.018	0.026	0.002	0.367
4876-32	Coagulation factor IX	F9	0.434	0.000	0.023	0.003	0.013	0.000
4878-3	Coagulation Factor X	F10	0.282	0.016	0.014	0.105	0.013	0.000
4880-21	Growth/differentiation factor 2	GDF2	-0.313	0.002	-0.018	0.012	0.004	0.056
4883-56	Insulin	INS	0.050	0.654	-0.006	0.480	-0.005	0.050
4886-3	C-C motif chemokine 7	CCL7	-0.176	0.129	-0.008	0.333	0.001	0.758
4889-82	Protein Wnt-7a	WNT7A	-0.126	0.291	-0.008	0.355	-0.003	0.267
4890-10	Corticotropin	POMC	-0.289	0.013	-0.029	0.001	0.000	0.949
4891-50	Glucagon	GCG	0.108	0.367	0.005	0.540	0.012	0.000
4900-8	C3a anaphylatoxin	C3	-0.156	0.174	-0.011	0.177	-0.006	0.011
4903-72	Calcineurin	PPP3CA PPP3R1	-0.226	0.056	-0.017	0.049	0.001	0.667
4904-7	Caspase-2	CASP2	-0.128	0.285	-0.013	0.142	-0.005	0.061
4905-63	Coactosin-like protein	COTL1	0.005	0.966	0.006	0.457	0.006	0.024
4906-35	Coagulation Factor V	F5	0.405	0.000	0.025	0.003	0.008	0.002
4907-56	D-dimer	FGA FGB FGG	-0.213	0.064	-0.012	0.150	-0.010	0.000
4908-6	Endoglin	ENG	-0.141	0.210	-0.011	0.181	0.002	0.522

4909-68	Galectin-8	LGALS8	-0.047	0.691	-0.003	0.683	-0.002	0.376
4910-21	Phospholipase A2	PLA2G1B	-0.238	0.039	-0.026	0.001	0.003	0.286
4911-49	Glutathione S-transferase P	GSTP1	-0.079	0.501	-0.006	0.468	0.003	0.253
4912-17	Aspartate aminotransferase, cytoplasmic	GOT1	-0.006	0.957	0.001	0.891	0.000	0.976
4913-78	C-C motif chemokine 16	CCL16	0.192	0.071	0.006	0.436	0.004	0.097
4914-10	Human Chorionic Gonadotropin	CGA CGB	0.050	0.639	0.011	0.151	-0.003	0.156
4915-64	Hemoglobin	HBA1 HBB	-0.173	0.139	-0.007	0.432	-0.002	0.420
4916-2	Immunoglobulin D	IGHD IGK@ IGL@	0.097	0.413	-0.002	0.851	0.006	0.023
4917-62	Integrin alpha-V: beta-5 complex	ITGAV ITGB5	-0.022	0.840	-0.005	0.563	0.006	0.007
4920-10	Lysozyme C	LYZ	0.296	0.011	0.018	0.035	-0.001	0.750
4922-13	C-C motif chemokine 19	CCL19	0.010	0.933	0.001	0.907	-0.001	0.634
4923-79	Muellerian-inhibiting factor	AMH	0.263	0.022	0.017	0.043	0.001	0.705
4924-32	Interstitial collagenase	MMP1	0.279	0.017	0.017	0.038	0.002	0.477
4925-54	Collagenase 3	MMP13	-0.224	0.060	-0.010	0.242	-0.001	0.569
4929-55	Sex hormone-binding globulin	SHBG	-0.136	0.110	-0.012	0.048	-0.001	0.655
4930-21	Stanniocalcin-1	STC1	0.083	0.478	0.003	0.679	0.004	0.163
4931-59	Tissue Factor	F3	0.473	0.000	0.041	0.000	0.003	0.188
4956-2	Epiregulin	EREG	-0.180	0.132	-0.017	0.053	-0.006	0.025
4957-1	40S ribosomal protein SA	RPSA	0.028	0.815	-0.003	0.692	0.004	0.131
4959-2	Anterior gradient protein 2 homolog	AGR2	0.147	0.220	0.004	0.673	-0.009	0.000
4960-72	Annexin A1	ANXA1	0.034	0.768	0.000	0.964	0.002	0.388
4961-17	Annexin A2	ANXA2	-0.104	0.370	-0.012	0.146	0.005	0.031
4962-52	Cerebral dopamine neurotrophic factor	CDNF	-0.408	0.000	-0.027	0.001	-0.005	0.041
4963-19	cAMP-regulated phosphoprotein 19	ARPP19	-0.089	0.453	-0.012	0.178	-0.001	0.772
4964-67	Endoplasmic reticulum aminopeptidase 1	ERAP1	-0.082	0.479	-0.006	0.460	0.008	0.001
4965-27	ATP synthase subunit beta, mitochondrial	ATP5B	0.063	0.594	0.007	0.398	0.003	0.205
4967-1	Complement component 1 Q subcomponent-binding protein, mitochondrial	C1QBP	-0.053	0.651	-0.005	0.528	0.005	0.047
4968-50	Macrophage-capping protein	CAPG	0.686	0.000	0.053	0.000	-0.001	0.675
4969-2	Carbonic anhydrase 1	CA1	0.114	0.327	0.012	0.135	-0.001	0.827
4970-55	Carbonic anhydrase 2	CA2	0.074	0.536	-0.004	0.603	-0.001	0.700
4971-1	Cathepsin Z	CTSZ	0.410	0.000	0.032	0.000	-0.007	0.006
4973-18	Baculoviral IAP repeat-containing protein 3	BIRC3	0.234	0.049	0.011	0.184	-0.005	0.042

4976-57	Adapter molecule crk	CRK	-0.112	0.328	-0.012	0.131	0.005	0.051
4978-54	Drebrin-like protein	DBNL	-0.023	0.848	-0.001	0.892	0.002	0.353
4979-34	Dermatopontin	DPT	-0.579	0.000	-0.044	0.000	-0.008	0.002
4981-6	Desmocollin-3	DSC3	-0.152	0.201	-0.012	0.152	0.000	0.953
4982-54	Elafin	PI3	0.200	0.086	0.015	0.077	-0.002	0.552
4983-6	Endoplasmic reticulum resident protein 29	ERP29	0.418	0.000	0.028	0.000	-0.001	0.588
4984-83	S-formylglutathione hydrolase	ESD	-0.039	0.738	0.007	0.383	0.002	0.346
4985-11	Fatty acid-binding protein, epidermal	FABP5	0.337	0.002	0.030	0.000	-0.007	0.005
4986-59	Focal adhesion kinase 1	PTK2	0.017	0.885	0.001	0.930	-0.003	0.195
4987-17	Immunoglobulin alpha Fc receptor	FCAR	0.182	0.123	0.013	0.141	0.001	0.847
4988-49	Fibroblast growth factor receptor 4	FGFR4	-0.097	0.418	-0.011	0.201	-0.002	0.374
4989-7	Fibrinogen gamma chain	FGG	-0.041	0.718	-0.008	0.332	-0.010	0.000
4990-87	Platelet glycoprotein Ib alpha chain	GP1BA	-0.273	0.015	-0.020	0.014	-0.006	0.010
4991-12	Glypican-5	GPC5	-0.153	0.195	-0.018	0.032	-0.008	0.001
4992-49	Granulins	GRN	0.157	0.165	0.011	0.178	0.002	0.373
4993-16	Glutathione S-transferase A3	GSTA3	-0.110	0.353	-0.003	0.760	-0.004	0.169
4994-178	Heterogeneous nuclear ribonucleoprotein K	HNRNPK	-0.025	0.837	-0.010	0.267	-0.004	0.153
4995-16	15-hydroxyprostaglandin dehydrogenase [NAD(+)]	HPGD	0.112	0.331	0.012	0.153	0.003	0.179
4996-66	Histidine-rich glycoprotein	HRG	0.107	0.357	0.008	0.346	-0.003	0.200
4997-19	Eukaryotic initiation factor 4A-III	EIF4A3	0.189	0.113	0.012	0.160	0.003	0.327
4998-50	Tyrosine-protein kinase JAK2	JAK2	0.038	0.745	-0.001	0.873	0.006	0.020
5000-52	Galectin-3-binding protein	LGALS3BP	0.234	0.028	0.013	0.081	0.009	0.000
5001-6	Mammaglobin-B	SCGB2A1	-0.081	0.487	-0.007	0.429	0.004	0.124
5002-76	Matrix metalloproteinase-14	MMP14	0.080	0.499	-0.002	0.814	-0.001	0.811
5004-69	Mitogen-activated protein kinase 11	MAPK11	-0.035	0.774	0.000	0.986	-0.006	0.031
5005-4	Mitogen-activated protein kinase 12	MAPK12	-0.154	0.197	-0.015	0.081	-0.003	0.258
5006-71	Mitogen-activated protein kinase 13	MAPK13	0.276	0.020	0.026	0.002	-0.001	0.765
5007-1	Mitogen-activated protein kinase 14	MAPK14	-0.244	0.038	-0.018	0.033	0.003	0.333
5008-51	Superoxide dismutase [Mn], mitochondrial	SOD2	0.016	0.884	-0.009	0.237	0.008	0.001
5009-11	Moesin	MSN	0.103	0.391	0.005	0.568	-0.002	0.436
5011-11	Nicotinamide phosphoribosyltransferase	NAMPT	-0.510	0.000	-0.040	0.000	-0.002	0.477

5012-67	Adenylate kinase isoenzyme 1	AK1	0.208	0.070	0.019	0.019	0.000	0.961
5013-2	Chloride intracellular channel protein 1	CLIC1	-0.030	0.797	-0.003	0.746	0.001	0.710
5014-49	Cytoplasmic protein NCK1	NCK1	-0.069	0.561	-0.005	0.575	0.005	0.064
5015-15	Platelet-activating factor acetylhydrolase	PLA2G7	0.208	0.056	0.020	0.010	-0.005	0.050
5016-61	Protein deglycase DJ-1	PARK7	-0.076	0.522	-0.013	0.133	-0.003	0.280
5017-19	Peroxiredoxin-5, mitochondrial	PRDX5	0.052	0.664	-0.005	0.568	-0.004	0.166
5018-68	Peroxiredoxin-6	PRDX6	-0.016	0.891	0.003	0.707	0.000	0.853
5019-16	Ubiquitin carboxyl-terminal hydrolase isozyme L1	UCHL1	-0.227	0.053	-0.023	0.006	0.002	0.548
5020-50	Phosphoglycerate kinase 1	PGK1	-0.030	0.795	0.000	0.989	0.004	0.118
5021-13	Inorganic pyrophosphatase	PPA1	0.082	0.480	0.009	0.293	0.006	0.022
5023-23	Adenylosuccinate lyase	ADSL	-0.070	0.554	-0.002	0.843	0.000	0.938
5024-67	Retinoblastoma-associated protein	RB1	0.108	0.363	0.005	0.523	0.001	0.786
5026-66	40S ribosomal protein S3	RPS3	0.231	0.050	0.015	0.086	-0.001	0.602
5028-59	Scavenger receptor cysteine-rich type 1 protein M130	CD163	-0.229	0.042	-0.018	0.025	0.000	0.912
5029-3	Prolyl endopeptidase FAP	FAP	-0.434	0.000	-0.028	0.001	0.000	0.924
5030-52	NAD-dependent protein deacetylase sirtuin-2	SIRT2	0.249	0.038	0.010	0.228	0.003	0.333
5031-10	Spectrin alpha chain, non-erythrocytic 1	SPTAN1	-0.052	0.667	-0.011	0.218	0.001	0.659
5032-64	FACT complex subunit SSRP1	SSRP1	0.151	0.204	0.014	0.091	0.000	0.900
5033-27	Tropomyosin alpha-1 chain	TPM1	0.213	0.073	0.015	0.086	-0.005	0.067
5034-79	Trypsin-2	PRSS2	0.194	0.091	0.004	0.629	0.014	0.000
5035-7	Thymidylate synthase	TYMS	0.162	0.177	0.011	0.205	0.000	0.950
5036-50	Tumor necrosis factor-inducible gene 6 protein	TNFAIP6	0.166	0.138	0.018	0.024	-0.001	0.552
5060-62	Programmed cell death 1 ligand 1	CD274	-0.066	0.579	-0.011	0.216	0.002	0.497
5061-27	ICOS ligand	ICOSLG	-0.125	0.291	-0.012	0.170	-0.006	0.017
5062-60	CD226 antigen	CD226	-0.046	0.697	-0.002	0.828	-0.004	0.108
5063-12	Natural killer cell receptor 2B4	CD244	-0.198	0.095	-0.013	0.131	-0.004	0.095
5065-8	CD83 antigen	CD83	0.217	0.069	0.013	0.127	0.000	0.898
5066-134	CMRF35-like molecule 6	CD300C	0.006	0.956	0.005	0.514	-0.005	0.054
5068-54	Cytotoxic and regulatory T-cell molecule	CRTAM	-0.011	0.927	-0.001	0.863	-0.004	0.105
5069-9	Complement decay-accelerating factor	CD55	-0.204	0.076	-0.013	0.116	0.002	0.426

5070-76	Tumor necrosis factor receptor superfamily member 6B	TNFRSF6B	0.510	0.000	0.031	0.000	0.004	0.102
5076-53	Ephrin type-A receptor 10	EPHA10	-0.334	0.004	-0.022	0.009	-0.003	0.273
5077-28	Ephrin type-B receptor 2	EPHB2	0.171	0.126	0.019	0.017	-0.006	0.020
5078-82	Ephrin type-B receptor 6	EPHB6	-0.229	0.028	-0.019	0.011	-0.007	0.001
5080-131	Transmembrane glycoprotein NMB	GPNMB	-0.106	0.368	-0.010	0.244	-0.007	0.011
5082-51	X-linked interleukin-1 receptor accessory protein-like 2	IL1RAPL2	-0.063	0.597	-0.005	0.578	-0.003	0.245
5084-154	Interleukin-17 receptor B	IL17RB	-0.218	0.057	-0.011	0.184	-0.005	0.037
5085-18	Interleukin-20 receptor subunit alpha	IL20RA	0.067	0.571	-0.006	0.506	-0.004	0.148
5087-5	Interleukin-22 receptor subunit alpha-2	IL22RA2	0.297	0.010	0.013	0.110	-0.006	0.027
5088-175	Interleukin-23 receptor	IL23R	-0.182	0.106	-0.010	0.202	-0.006	0.019
5089-11	Interleukin-7 receptor subunit alpha	IL7R	-0.292	0.013	-0.033	0.000	0.003	0.315
5090-49	Leukocyte immunoglobulin-like receptor subfamily B member 1	LILRB1	0.034	0.766	-0.001	0.915	-0.005	0.053
5091-28	Leukocyte immunoglobulin-like receptor subfamily B member 2	LILRB2	-0.068	0.547	-0.005	0.553	0.000	0.978
5092-51	Protein jagged-1	JAG1	-0.567	0.000	-0.044	0.000	-0.008	0.001
5093-47	Protein jagged-2	JAG2	0.049	0.683	0.001	0.871	-0.001	0.763
5094-62	Junctional adhesion molecule-like	AMICA1	-0.049	0.683	-0.004	0.608	-0.002	0.360
5095-21	Killer cell immunoglobulin-like receptor 2DL4	KIR2DL4	0.057	0.612	0.001	0.900	-0.002	0.426
5096-51	Killer cell immunoglobulin-like receptor 3DL2	KIR3DL2	-0.052	0.665	-0.001	0.870	-0.001	0.666
5097-14	Killer cell immunoglobulin-like receptor 3DS1	KIR3DS1	-0.052	0.668	-0.001	0.925	-0.001	0.805
5098-79	Killer cell lectin-like receptor subfamily F member 1	KLRF1	0.163	0.169	-0.004	0.682	-0.002	0.412
5099-14	Lymphocyte activation gene 3 protein	LAG3	-0.423	0.000	-0.027	0.001	-0.006	0.026
5100-53	Lysosome membrane protein 2	SCARB2	0.042	0.727	-0.002	0.858	-0.001	0.704
5102-55	MHC class I polypeptide-related sequence B	MICB	-0.083	0.471	-0.005	0.542	0.004	0.124
5103-30	Cell surface glycoprotein CD200 receptor 1	CD200R1	-0.211	0.071	-0.021	0.014	0.000	0.981
5104-57	Natural cytotoxicity triggering receptor 1	NCR1	-0.494	0.000	-0.036	0.000	-0.009	0.001

5105-2	Reticulon-4 receptor	RTN4R	-0.079	0.461	-0.011	0.165	-0.010	0.000
5106-52	Neurogenic locus notch homolog protein 2	NOTCH2	0.162	0.174	0.008	0.348	-0.001	0.841
5107-7	Neurogenic locus notch homolog protein 1	NOTCH1	-0.451	0.000	-0.028	0.000	-0.005	0.022
5108-72	Neurogenic locus notch homolog protein 3	NOTCH3	-0.615	0.000	-0.036	0.000	-0.001	0.689
5109-24	Neuronal cell adhesion molecule	NRCAM	-0.761	0.000	-0.047	0.000	-0.004	0.109
5110-84	Neurexin-1-beta	NRXN1	-0.367	0.001	-0.025	0.001	-0.002	0.433
5111-15	Neurexin-3-beta	NRXN3	-0.190	0.088	-0.012	0.130	-0.005	0.034
5112-73	OX-2 membrane glycoprotein	CD200	-0.425	0.000	-0.030	0.000	0.001	0.576
5114-65	Prolactin receptor	PRLR	-0.198	0.094	-0.011	0.213	0.003	0.233
5115-31	Tumor necrosis factor receptor superfamily member 19L	RELT	-0.016	0.877	0.003	0.639	-0.005	0.036
5116-62	Roundabout homolog 2	ROBO2	-0.292	0.010	-0.014	0.091	-0.007	0.003
5117-14	Roundabout homolog 3	ROBO3	-0.039	0.741	-0.007	0.384	-0.003	0.297
5121-3	Semaphorin-6B	SEMA6B	0.281	0.017	0.023	0.007	0.002	0.436
5122-92	Semaphorin-6A	SEMA6A	-0.464	0.000	-0.035	0.000	0.000	0.957
5124-69	Intercellular adhesion molecule 5	ICAM5	0.682	0.000	0.039	0.000	0.007	0.003
5125-6	Sialic acid-binding Ig-like lectin 14	SIGLEC14	-0.166	0.129	-0.011	0.163	-0.008	0.000
5128-53	SLAM family member 6	SLAMF6	-0.222	0.055	-0.010	0.247	-0.008	0.003
5129-12	Scavenger receptor class F member 1	SCARF1	-0.143	0.218	-0.011	0.181	-0.001	0.819
5130-67	Scavenger receptor class F member 2	SCARF2	0.173	0.147	0.008	0.368	-0.001	0.570
5131-15	Tumor necrosis factor receptor superfamily member 19	TNFRSF19	-0.240	0.043	-0.016	0.068	-0.007	0.008
5132-71	Interleukin-27 receptor subunit alpha	IL27RA	-0.225	0.051	-0.006	0.443	-0.006	0.012
5133-17	TGF-beta receptor type-2	TGFBR2	-0.086	0.472	-0.003	0.755	-0.004	0.136
5134-52	Hepatitis A virus cellular receptor 2	HAVCR2	0.118	0.287	0.016	0.043	-0.003	0.151
5138-50	Tumor necrosis factor receptor superfamily member 12A	TNFRSF12A	-0.098	0.414	-0.008	0.347	0.002	0.353
5139-32	Netrin receptor UNC5C	UNC5C	-0.276	0.016	-0.021	0.010	-0.007	0.004
5140-56	Netrin receptor UNC5D	UNC5D	-0.499	0.000	-0.035	0.000	-0.005	0.011
5178-5	High affinity cAMP-specific 3',5'-cyclic phosphodiesterase 7A	PDE7A	0.166	0.165	0.009	0.295	-0.003	0.184
5183-53	AMP Kinase (alpha1beta1gamma1)	PRKAA1 PRKAB1 PRKAG1	0.186	0.120	0.005	0.527	-0.004	0.146
5193-51	GTPase KRas	KRAS	0.381	0.001	0.029	0.001	0.001	0.810

5196-7	Glycylpeptide N-tetradecanoyltransferase 1	NMT1	0.015	0.903	-0.001	0.948	0.000	0.899
5201-50	High affinity cGMP-specific 3',5'-cyclic phosphodiesterase 9A	PDE9A	0.119	0.319	0.015	0.083	-0.005	0.037
5202-4	Peptidyl-prolyl cis-trans isomerase D	PPID	-0.083	0.482	-0.009	0.273	0.001	0.803
5204-13	Proteasome activator complex subunit 3	PSME3	0.075	0.532	0.001	0.917	0.002	0.483
5223-59	Glucokinase regulatory protein	GCKR	0.290	0.015	0.012	0.172	-0.003	0.248
5225-50	Casein kinase II 2-alpha:2-beta heterotetramer	CSNK2A1 CSNK2B	0.162	0.175	0.010	0.242	0.001	0.752
5226-36	Casein kinase II 2-alpha':2-beta heterotetramer	CSNK2A2 CSNK2B	-0.032	0.789	0.000	0.987	0.001	0.826
5227-60	[Pyruvate dehydrogenase (acetyl-transferring)] kinase isozyme 1, mitochondrial	PDK1	-0.048	0.686	-0.009	0.289	0.003	0.235
5228-25	Kinesin-like protein KIF23	KIF23	-0.039	0.746	0.000	0.979	0.003	0.304
5229-90	Inosine-5'-monophosphate dehydrogenase 1	IMPDH1	0.131	0.267	0.018	0.036	-0.002	0.465
5230-99	3-hydroxy-3-methylglutaryl-coenzyme A reductase	HMGCR	0.092	0.441	0.005	0.602	0.000	0.858
5231-79	Proprotein convertase subtilisin/kexin type 9	PCSK9	0.129	0.267	0.020	0.019	0.009	0.000
5236-2	Nuclear receptor subfamily 1 group D member 1	NR1D1	0.003	0.981	-0.010	0.269	0.004	0.172
5238-26	Peptidyl-prolyl cis-trans isomerase E	PPIE	0.083	0.491	0.001	0.868	0.003	0.311
5242-37	Dual specificity mitogen-activated protein kinase kinase 4	MAP2K4	0.120	0.300	0.012	0.146	-0.005	0.035
5244-12	Mitogen-activated protein kinase 9	MAPK9	0.179	0.134	0.005	0.546	-0.003	0.203
5245-40	AMP Kinase (alpha2beta2gamma1)	PRKAA2 PRKAB2 PRKAG1	0.034	0.779	-0.004	0.675	0.004	0.116
5246-64	cGMP-dependent 3',5'-cyclic phosphodiesterase	PDE2A	0.244	0.038	0.013	0.139	-0.002	0.519
5248-68	Peptidyl-prolyl cis-trans isomerase F, mitochondrial	PPIF	-0.120	0.317	-0.010	0.255	0.006	0.035
5249-31	Serine/threonine-protein kinase 17B	STK17B	0.415	0.000	0.025	0.002	0.000	0.923
5250-53	Inosine-5'-monophosphate dehydrogenase 2	IMPDH2	0.221	0.059	0.013	0.118	0.003	0.270

5252-33	Dual 3',5'-cyclic-AMP and -GMP phosphodiesterase 11A	PDE11A	0.301	0.010	0.018	0.029	0.013	0.000
5253-1	Calcium/calmodulin-dependent 3',5'-cyclic nucleotide phosphodiesterase 1A	PDE1A	-0.215	0.068	-0.010	0.240	0.000	0.869
5254-69	cGMP-inhibited 3',5'-cyclic phosphodiesterase A	PDE3A	0.177	0.136	0.009	0.283	0.001	0.622
5255-22	cAMP-specific 3',5'-cyclic phosphodiesterase 4D	PDE4D	-0.044	0.712	-0.007	0.427	0.003	0.251
5256-86	cGMP-specific 3',5'-cyclic phosphodiesterase	PDE5A	-0.083	0.483	-0.010	0.255	0.004	0.092
5259-2	Mitogen-activated protein kinase kinase kinase 7:TGF-beta-activated kinase 1 and MAP3K7-binding protein 1 fusion	MAP3K7 TAB1	0.246	0.039	0.009	0.312	0.002	0.360
5260-80	Non-receptor tyrosine-protein kinase TYK2	TYK2	0.496	0.000	0.032	0.000	0.000	0.908
5261-13	Abelson tyrosine-protein kinase 2	ABL2	-0.002	0.984	-0.003	0.713	0.000	0.958
5262-57	Breast cancer anti-estrogen resistance protein 3	BCAR3	0.195	0.093	0.007	0.419	0.004	0.170
5264-65	Calreticulin	CALR	0.347	0.004	0.023	0.007	0.001	0.679
5265-12	GRB2-related adapter protein 2	GRAP2	-0.020	0.870	-0.016	0.065	0.000	0.850
5268-49	Matrix metalloproteinase-16	MMP16	-0.070	0.556	-0.006	0.502	0.004	0.131
5271-5	Ras-related C3 botulinum toxin substrate 3	RAC3	-0.085	0.471	-0.006	0.518	0.003	0.255
5272-55	SHC-transforming protein 1	SHC1	0.065	0.585	0.004	0.661	0.005	0.082
5275-28	Proto-oncogene vav	VAV1	0.202	0.089	0.013	0.135	0.001	0.708
5280-68	Mitochondrial glutamate carrier 2	SLC25A18	0.108	0.357	0.002	0.838	-0.002	0.454
5301-7	Eotaxin	CCL11	0.583	0.000	0.042	0.000	0.000	0.916
5307-12	Coagulation factor IXab	F9	0.447	0.000	0.024	0.002	0.013	0.000
5308-89	Neutrophil elastase	ELANE	0.114	0.334	0.010	0.243	-0.001	0.712
5312-49	Apolipoprotein E (isoform E2)	APOE	-0.089	0.439	-0.001	0.898	0.000	0.990
5315-22	Troponin T, cardiac muscle	TNNT2	-0.120	0.224	-0.009	0.223	-0.003	0.205
5316-54	Prothrombin	F2	0.008	0.942	-0.008	0.321	0.001	0.735
5328-33	Epidermal growth factor receptor variant III	EGFR	0.090	0.455	0.000	0.958	0.002	0.345
5335-73	Annexin A6	ANXA6	0.097	0.412	0.004	0.612	0.000	0.922
5337-64	T-lymphocyte activation antigen CD86	CD86	-0.203	0.085	-0.018	0.034	0.002	0.341
5339-49	Protein S100-A9	S100A9	0.601	0.000	0.043	0.000	-0.003	0.198

5340-24	Caspase-10	CASP10	0.160	0.159	0.006	0.468	0.011	0.000
5343-74	Carboxypeptidase E	CPE	-0.138	0.213	0.001	0.914	0.002	0.345
5345-51	Cytoskeleton-associated protein 2	CKAP2	-0.054	0.648	-0.007	0.445	0.004	0.155
5346-24	Copine-1	CPNE1	-0.015	0.898	-0.001	0.953	0.003	0.281
5347-59	G2/mitotic-specific cyclin-B1	CCNB1	-0.020	0.865	-0.004	0.615	-0.001	0.571
5349-69	Delta-like protein 1	DLL1	-0.016	0.895	0.002	0.797	-0.010	0.000
5350-14	Glypican-6	GPC6	0.151	0.176	0.009	0.259	-0.001	0.560
5351-52	Heterogeneous nuclear ribonucleoproteins A2/B1	HNRNPA2B1	0.360	0.002	0.026	0.001	0.004	0.152
5352-11	Tumor necrosis factor receptor superfamily member 14	TNFRSF14	0.134	0.259	0.011	0.202	-0.002	0.552
5353-89	Interleukin-1 receptor antagonist protein	IL1RN	-0.011	0.913	0.002	0.791	-0.002	0.282
5354-11	Keratin, type I cytoskeletal 18	KRT18	-0.030	0.805	0.001	0.894	0.001	0.836
5355-69	Tumor necrosis factor ligand superfamily member 14	TNFSF14	0.192	0.109	0.011	0.196	-0.001	0.626
5356-2	Macrophage migration inhibitory factor	MIF	0.331	0.004	0.020	0.013	0.001	0.597
5357-60	Neuroligin-4, X-linked	NLGN4X	-0.409	0.000	-0.014	0.101	-0.003	0.248
5358-3	Osteomodulin	OMD	-0.928	0.000	-0.060	0.000	-0.012	0.000
5359-65	Serine/threonine-protein kinase pim-1	PIM1	0.087	0.468	0.006	0.501	0.001	0.722
5360-9	RAC-beta serine/threonine-protein kinase	AKT2	-0.154	0.197	-0.008	0.342	0.004	0.087
5363-51	Semaphorin-3E	SEMA3E	-0.605	0.000	-0.034	0.000	-0.005	0.026
5364-7	Protein SET	SET	0.016	0.888	0.001	0.907	-0.002	0.349
5383-14	Tumor necrosis factor receptor superfamily member 13C	TNFRSF13C	-0.179	0.129	-0.015	0.085	0.001	0.768
5384-67	Transcription factor IIIB 90 kDa subunit	BRF1	-0.041	0.732	-0.003	0.731	0.000	0.981
5392-73	Tumor necrosis factor receptor superfamily member 6	FAS	0.313	0.005	0.024	0.002	-0.005	0.025
5400-52	Leptin receptor	LEPR	-0.143	0.187	-0.016	0.042	0.007	0.003
5404-53	Tumor necrosis factor receptor superfamily member 21	TNFRSF21	-0.034	0.768	0.001	0.927	-0.005	0.035
5410-53	Cadherin-15	CDH15	-0.016	0.889	0.005	0.566	0.000	0.923
5412-53	CD27 antigen	CD27	0.217	0.064	0.012	0.147	0.001	0.706
5424-55	Tumor necrosis factor receptor superfamily member 11A	TNFRSF11A	-0.364	0.002	-0.018	0.037	0.001	0.613
5430-66	Tyrosine-protein phosphatase non-receptor type substrate 1	SIRPA	-0.029	0.792	0.003	0.707	0.000	0.844

5437-63	Fatty acid-binding protein, heart	FABP3	-0.009	0.913	-0.001	0.817	-0.004	0.053
5440-26	Troponin I, fast skeletal muscle	TNNI2	-0.248	0.019	-0.022	0.004	0.001	0.738
5441-67	Troponin I, cardiac muscle	TNNI3	-0.179	0.134	-0.006	0.482	-0.004	0.175
5443-62	Atrial natriuretic factor	NPPA	-0.218	0.055	-0.014	0.078	0.004	0.078
5451-1	CD166 antigen	ALCAM	-0.104	0.311	-0.012	0.099	-0.011	0.000
5452-71	Asialoglycoprotein receptor 1	ASGR1	0.022	0.845	-0.001	0.950	0.007	0.004
5456-59	Beta-Ala-His dipeptidase	CNDP1	-0.089	0.440	-0.012	0.145	0.017	0.000
5457-5	Collectin-12	COLEC12	-0.061	0.582	-0.005	0.509	0.001	0.718
5459-33	Cystatin-SN	CST1	-0.368	0.001	-0.026	0.001	0.002	0.515
5460-60	ATP-dependent RNA helicase DDX19B	DDX19B	0.004	0.975	0.001	0.868	0.004	0.104
5462-62	Ficolin-3	FCN3	0.278	0.013	0.018	0.025	0.004	0.128
5463-22	Growth arrest-specific protein 1	GAS1	-0.664	0.000	-0.046	0.000	-0.005	0.024
5464-52	Growth factor receptor-bound protein 2	GRB2	-0.051	0.669	-0.006	0.469	0.003	0.234
5465-32	Heparan-sulfate 6-O-sulfotransferase 1	HS6ST1	-0.037	0.736	-0.008	0.311	0.002	0.330
5467-15	Heat shock protein HSP 90-beta	HSP90AB1	-0.075	0.513	-0.001	0.903	0.003	0.202
5468-67	Interleukin-17 receptor C	IL17RC	0.375	0.001	0.029	0.001	0.002	0.545
5470-69	Mediator of RNA polymerase II transcription subunit 1	MED1	0.093	0.430	-0.003	0.760	0.005	0.038
5475-10	Protein kinase C beta type (splice variant beta-II)	PRKCB	-0.081	0.496	-0.006	0.509	0.002	0.374
5476-66	Protein kinase C gamma type	PRKCG	0.265	0.026	0.021	0.013	-0.001	0.806
5478-50	Glutamate carboxypeptidase 2	FOLH1	-0.176	0.136	-0.011	0.214	0.006	0.017
5480-49	C-C motif chemokine 5	CCL5	0.159	0.178	0.007	0.432	0.002	0.530
5481-16	Ras GTPase-activating protein 1	RASA1	0.037	0.753	0.004	0.633	0.003	0.277
5482-61	Retinol-binding protein 4	RBP4	0.181	0.114	0.011	0.199	0.011	0.000
5483-1	Repulsive guidance molecule A	RGMA	-0.449	0.000	-0.033	0.000	-0.006	0.015
5484-63	40S ribosomal protein S3a	RPS3A	0.199	0.087	0.017	0.043	0.002	0.453
5486-73	Intercellular adhesion molecule 2	ICAM2	-0.088	0.456	-0.004	0.678	-0.003	0.205
5487-7	SLAM family member 7	SLAMF7	-0.042	0.712	-0.006	0.452	0.003	0.237
5488-74	Proto-oncogene tyrosine-protein kinase Src	SRC	-0.052	0.661	-0.007	0.408	0.002	0.545
5489-18	Stress-induced-phosphoprotein 1	STIP1	-0.014	0.906	0.003	0.695	-0.001	0.727
5490-53	Testican-1	SPOCK1	0.049	0.678	0.004	0.598	0.006	0.027
5491-12	Testican-2	SPOCK2	0.104	0.369	0.011	0.173	0.010	0.000

5493-17	Serine/threonine-protein kinase WNK3	WNK3	0.169	0.149	0.009	0.297	0.002	0.433
5494-52	Small nuclear ribonucleoprotein F	SNRPF	0.046	0.703	0.012	0.173	0.008	0.002
5508-62	Cathepsin D	CTSD	0.256	0.027	0.017	0.046	0.006	0.025
5509-7	Epidermal growth factor	EGF	-0.154	0.168	-0.012	0.126	0.000	0.866
5526-53	Tumor necrosis factor receptor superfamily member 18	TNFRSF18	-0.094	0.420	-0.013	0.108	0.000	0.996
5532-53	Fibroblast growth factor receptor 1	FGFR1	-0.486	0.000	-0.032	0.000	-0.009	0.000
5534-49	Tumor necrosis factor receptor superfamily member 10B	TNFRSF10B	0.034	0.775	0.001	0.929	0.003	0.305
5542-22	Neuropilin-1	NRP1	-0.294	0.010	-0.021	0.011	-0.005	0.035
5792-8	alpha-Fetoprotein	AFP	0.099	0.405	0.009	0.303	0.004	0.088
5798-3	BH3-interacting domain death agonist	BID	0.073	0.540	0.007	0.424	-0.001	0.584
5801-72	beta-nerve growth factor	NGF	0.082	0.492	0.005	0.551	0.001	0.604
5803-24	Complement C3d fragment	C3	0.001	0.991	-0.010	0.201	0.000	0.981
5807-77	CD70 antigen	CD70	0.050	0.675	-0.003	0.701	-0.008	0.003
5810-25	Teratocarcinoma-derived growth factor 1	TDGF1	-0.220	0.053	-0.019	0.020	-0.007	0.004
5813-58	Erythropoietin	EPO	-0.371	0.001	-0.021	0.011	-0.003	0.269
5822-22	Glial cell line-derived neurotrophic factor	GDNF	-0.031	0.796	-0.002	0.836	-0.003	0.200
5825-49	Interferon gamma receptor 1	IFNGR1	-0.170	0.145	-0.022	0.008	-0.003	0.204
5834-18	Interleukin-9	IL9	-0.514	0.000	-0.040	0.000	-0.002	0.558
5837-49	Leukemia inhibitory factor receptor	LIFR	-0.076	0.488	0.002	0.844	0.005	0.033
5843-60	Histone-lysine N-methyltransferase EHMT2	EHMT2	-0.389	0.000	-0.036	0.000	0.008	0.000
5846-24	Noggin	NOG	-0.204	0.085	-0.011	0.203	-0.002	0.411
5852-6	Protein S100-A12	S100A12	0.237	0.045	0.018	0.035	-0.003	0.227
5854-60	Microtubule-associated protein tau	MAPT	0.071	0.554	0.002	0.808	-0.002	0.421
5858-6	14-3-3 protein zeta/delta	YWHAZ	-0.101	0.394	-0.009	0.314	0.003	0.237
5861-78	3-hydroxyanthranilate 3,4-dioxygenase	HAAO	-0.136	0.246	-0.003	0.734	-0.004	0.103
5864-10	Fructose-bisphosphate aldolase A	ALDOA	-0.249	0.028	-0.015	0.061	0.001	0.678
5867-60	Arginase-1	ARG1	-0.042	0.726	-0.007	0.412	-0.001	0.760
5870-23	Bcl2-associated agonist of cell death	BAD	0.236	0.044	0.014	0.094	0.005	0.047
5879-51	Dynactin subunit 2	DCTN2	0.157	0.132	0.007	0.333	-0.004	0.076
5882-34	Elongation factor 1-beta	EEF1B2	0.083	0.480	0.007	0.396	-0.002	0.440
5885-55	Eukaryotic translation initiation factor 4H	EIF4H	-0.072	0.525	-0.014	0.088	0.004	0.136

5888-29	Eukaryotic translation initiation factor 5A-1	EIF5A	0.035	0.769	0.005	0.526	0.002	0.490
5897-58	Gastrin-releasing peptide	GRP	-0.071	0.553	-0.010	0.241	-0.002	0.381
5900-11	Histidine triad nucleotide-binding protein 1	HINT1	0.196	0.098	0.018	0.036	0.004	0.114
5903-91	Heat shock cognate 71 kDa protein	HSPA8	0.152	0.169	0.014	0.080	0.000	0.873
5909-51	Nucleoside diphosphate kinase A	NME1	0.243	0.039	0.015	0.087	0.003	0.289
5915-58	Peroxisomal targeting signal 1 receptor	PEX5	0.068	0.568	0.002	0.807	-0.002	0.383
5918-5	Proteasome activator complex subunit 1	PSME1	-0.203	0.086	-0.008	0.343	-0.002	0.482
5921-58	Protein S100-A7	S100A7	-0.006	0.955	-0.001	0.907	0.001	0.621
5927-4	WNT1-inducible-signaling pathway protein 3	WISP3	-0.165	0.168	-0.007	0.390	-0.003	0.235
5934-1	Ferritin	FTH1 FTL	-0.035	0.718	0.003	0.698	0.011	0.000
5936-53	Tumor necrosis factor	TNF	0.095	0.415	0.011	0.186	-0.006	0.019
5939-42	Tumor necrosis factor ligand superfamily member 12	TNFSF12	-0.366	0.001	-0.023	0.005	-0.005	0.031
5947-90	Thrombopoietin	THPO	0.266	0.018	0.014	0.074	0.006	0.013
5954-62	Parathyroid hormone	PTH	-0.306	0.009	-0.017	0.045	0.001	0.648
5957-30	Somatostatin-28	SST	-0.368	0.002	-0.017	0.040	-0.004	0.146
6151-18	Dual specificity mitogen-activated protein kinase kinase 3	MAP2K3	0.039	0.743	0.003	0.692	0.005	0.072
6152-111	Cellular tumor antigen p53	TP53	0.234	0.044	0.010	0.249	0.001	0.617
6641-60	PolyUbiquitin K48-linked	UBB	-0.033	0.771	0.004	0.650	0.000	0.997
6647-55	PolyUbiquitin K63-linked	UBC	0.107	0.354	0.009	0.290	0.014	0.000
6649-51	Netrin-1	NTN1	0.073	0.507	0.007	0.371	0.000	0.853
6653-58	Leukocyte surface antigen CD47	CD47	-0.066	0.583	-0.005	0.576	0.000	0.878
7624-19	Ankyrin-2	ANK2	0.027	0.821	0.007	0.408	0.001	0.762
7625-27	14-3-3 protein theta	YWHAQ	-0.063	0.599	-0.002	0.833	0.000	0.863
7628-40	Cysteine-rich with EGF-like domain protein 1	CRELD1	0.080	0.485	0.001	0.866	0.003	0.162
7638-30	Vesicular integral-membrane protein VIP36	LMAN2	0.416	0.000	0.024	0.002	0.003	0.156
7640-29	Low-density lipoprotein receptor-related protein 1B	LRP1B	0.280	0.013	0.023	0.005	0.005	0.032
7648-9	Myosin-binding protein C, slow-type	MYBPC1	-0.148	0.177	-0.009	0.276	-0.002	0.426
7655-11	N-terminal pro-BNP	NPPB	0.024	0.820	0.006	0.456	0.003	0.158
7660-21	Tropomyosin alpha-4 chain	TPM4	-0.086	0.468	-0.008	0.358	0.002	0.521

8446-4	Pituitary adenylate cyclase-activating polypeptide 27	ADCYAP1	-0.110	0.359	-0.006	0.484	-0.001	0.776
8447-11	Appetite-regulating hormone	GHRL	0.097	0.314	0.004	0.581	0.009	0.000
8450-36	Pituitary adenylate cyclase-activating polypeptide 38	ADCYAP1	0.016	0.890	0.007	0.425	-0.003	0.243
8458-111	Alpha-synuclein	SNCA	0.079	0.511	0.006	0.463	0.005	0.082
8459-10	Bone morphogenetic protein 6	BMP6	-0.213	0.059	-0.010	0.224	-0.001	0.808
8462-18	Somatotropin	GH1	0.007	0.952	-0.001	0.881	-0.001	0.784
8463-2	Extracellular superoxide dismutase [Cu-Zn]	SOD3	-0.350	0.001	-0.017	0.028	-0.003	0.252
8464-31	R-spondin-4	RSPO4	0.478	0.000	0.027	0.001	0.003	0.237
8465-52	Cathepsin H	CTSH	0.627	0.000	0.049	0.000	0.001	0.740
8467-9	Inhibin beta A chain:Inhibin beta B chain heterodimer	INHBA INHBB	-0.064	0.590	-0.006	0.494	-0.007	0.010
8468-19	Prostate-specific antigen	KLK3	-0.106	0.157	-0.008	0.119	0.000	0.967
8469-41	Insulin-like growth factor-binding protein 2	IGFBP2	0.155	0.104	0.016	0.018	0.000	0.812
8470-213	Ribonuclease H1	RNASEH1	-0.201	0.093	-0.018	0.032	0.005	0.070
8474-6	Tyrosine-protein kinase transmembrane receptor ROR1	ROR1	-0.325	0.003	-0.018	0.023	-0.009	0.000
8476-11	Chromogranin-A	CHGA	0.352	0.001	0.027	0.001	0.000	0.972
8479-4	Stromelysin-2	MMP10	0.674	0.000	0.044	0.000	0.007	0.003
8480-29	EGF-containing fibulin-like extracellular matrix protein 1	EFEMP1	-0.041	0.698	0.003	0.703	-0.006	0.010
8484-24	Leptin	LEP	-0.118	0.067	-0.009	0.044	0.001	0.390
8485-7	Kelch-like ECH-associated protein 1	KEAP1	-0.039	0.741	-0.007	0.393	-0.001	0.658
8488-33	Integrin alpha-IIb: beta-3 complex	ITGA2B ITGB3	-0.092	0.442	0.001	0.919	-0.005	0.076
9168-31	C-C motif chemokine 26	CCL26	-0.250	0.033	-0.015	0.083	-0.004	0.110
9169-14	Small ubiquitin-related modifier 3	SUMO3	-0.115	0.327	-0.003	0.757	0.001	0.793
9170-24	Interleukin-17A	IL17A	0.102	0.394	-0.001	0.903	-0.002	0.407
9171-11	Cysteine and glycine-rich protein 3	CSRP3	-0.345	0.003	-0.017	0.043	0.004	0.109
9172-69	Neutrophil collagenase	MMP8	0.231	0.046	0.022	0.007	0.003	0.190
9173-21	Phosphoglucomutase-1	PGM1	-0.089	0.447	-0.005	0.552	-0.002	0.472
9175-48	Down syndrome cell adhesion molecule	DSCAM	-0.424	0.000	-0.024	0.004	-0.006	0.028
9176-3	Mucin-1	MUC1	-0.017	0.889	0.008	0.364	0.002	0.554
9177-6	Protein FAM3B	FAM3B	0.272	0.019	0.018	0.035	0.003	0.208
9178-30	Neuregulin-1	NRG1	0.357	0.003	0.016	0.070	0.001	0.726
9180-6	Interferon gamma receptor 2	IFNGR2	0.092	0.430	0.004	0.666	0.009	0.001

9182-3	Low-density lipoprotein receptor-related protein 1, soluble	LRP1	-0.306	0.004	-0.020	0.010	0.001	0.571
9183-7	Interferon alpha/beta receptor 1	IFNAR1	-0.189	0.097	-0.019	0.020	0.003	0.216
9185-15	Trefoil factor 1	TFF1	0.342	0.002	0.028	0.000	0.005	0.032
9187-2	Non-histone chromosomal protein HMG-14	HMGN1	0.346	0.002	0.025	0.002	0.001	0.698
9188-119	C-X-C motif chemokine 9	CXCL9	-0.532	0.000	-0.026	0.002	0.002	0.443
9190-7	CD63 antigen	CD63	0.283	0.016	0.012	0.172	0.000	0.891
9191-8	Trefoil factor 2	TFF2	0.733	0.000	0.053	0.000	0.010	0.000
9196-8	Galectin-7	LGALS7	0.265	0.025	0.015	0.075	0.000	0.994
9197-4	Galectin-9	LGALS9	0.048	0.677	0.015	0.070	0.000	0.887
9199-6	Ubiquitin-conjugating enzyme E2 G2	UBE2G2	0.622	0.000	0.044	0.000	0.000	0.990
9201-13	Transgelin-2	TAGLN2	-0.083	0.483	-0.009	0.272	0.007	0.004
9202-309	ATP synthase subunit O, mitochondrial	ATP5O	-0.020	0.868	-0.003	0.751	-0.001	0.757
9204-33	Pro-opiomelanocortin	POMC	-0.307	0.007	-0.022	0.006	0.003	0.265
9207-60	Quinone oxidoreductase-like protein 1	CRYZL1	0.191	0.084	0.015	0.059	0.002	0.375
9211-19	Pigment epithelium-derived factor	SERPINF1	0.084	0.398	0.002	0.779	0.005	0.011
9212-22	Cathepsin F	CTSF	0.270	0.020	0.019	0.022	0.005	0.056
9213-24	Formimidoyltransferase-cyclodeaminase	FTCD	0.119	0.268	0.007	0.362	0.008	0.001
9215-117	Ubiquitin carboxyl-terminal hydrolase 25	USP25	0.152	0.202	0.010	0.242	0.001	0.777
9216-100	Plexin-B2	PLXNB2	-0.176	0.131	-0.015	0.068	0.006	0.019

Table S2. P-value for the association of each protein with each physical activity (PA) variable

Aptamer	Protein	Entrez Gene Symbol	PA index (n = 887)	Steps/ day (n = 784)	Sedentary PA (n = 784)	Moderate PA (n = 784)	Moderate /vigorous PA (n = 784)	Vigorous PA (n = 784)
10336-3	E3 ubiquitin-protein ligase CHIP	STUB1	0.380	0.341	0.425	0.306	0.867	0.117
10337-83	CCAAT/enhancer-binding protein beta	CEBPB	0.721	0.926	0.660	0.878	0.262	0.019
10339-48	Gamma-enolase	ENO2	0.003	0.000	0.013	0.056	0.057	0.199
10342-55	E3 SUMO-protein ligase PIAS4	PIAS4	0.892	0.286	0.378	0.592	0.511	0.055
10344-334	Interleukin-10 receptor subunit alpha	IL10RA	0.622	0.030	0.292	0.212	0.185	0.318
10346-5	Signal transducer and activator of transcription 3	STAT3	0.856	0.570	0.011	0.318	0.095	0.050
10351-51	Interferon regulatory factor 1	IRF1	0.285	0.488	0.248	0.035	0.067	0.357
10356-21	Transcription factor AP-1	JUN	0.474	0.714	0.732	0.665	0.809	0.945
10358-33	Induced myeloid leukemia cell differentiation protein Mcl-1	MCL1	0.688	0.864	0.854	0.976	0.624	0.329
10361-25	2'-5'-oligoadenylate synthase 1	OAS1	0.264	0.988	0.579	0.274	0.325	0.590
10362-35	Myc proto-oncogene protein	MYC	0.030	0.172	0.421	0.935	0.930	0.947
10363-13	Mothers against decapentaplegic homolog 3	SMAD3	0.011	0.146	0.085	0.488	0.047	0.003
10364-6	Mothers against decapentaplegic homolog 2	SMAD2	0.047	0.830	0.158	0.560	0.175	0.061
10365-132	Interleukin-23	IL12B IL23A	0.167	0.673	0.560	0.700	0.705	0.801
10366-11	Platelet-derived growth factor receptor alpha	PDGFRA	0.089	0.784	0.388	0.476	0.851	0.611
10367-62	Interleukin-12	IL12A IL12B	0.702	0.137	0.219	0.242	0.514	0.856
10370-21	Signal transducer and activator of transcription 1-alpha/beta	STAT1	0.623	0.363	0.013	0.616	0.351	0.245

10372-18	Signal transducer and activator of transcription 6	STAT6	0.147	0.059	0.299	0.574	0.609	0.773
10990-21	Leucine-rich repeat serine/threonine-protein kinase 2	LRRK2	0.035	0.211	0.534	0.910	0.297	0.033
11067-13	Osteocalcin	BGLAP	0.968	0.845	0.843	0.856	0.373	0.140
11071-1	Interleukin-5	IL5	0.897	0.589	0.507	0.023	0.045	0.299
11081-1	Glycerol-3-phosphate dehydrogenase [NAD(+)], cytoplasmic	GPD1	0.509	0.803	0.341	0.542	0.820	0.757
11089-7	Immunoglobulin A	IGHA1 IGHA2	0.847	0.274	0.713	0.456	0.394	0.477
11094-104	Galectin-10	CLC	0.337	0.137	0.090	0.885	0.385	0.065
11096-57	HemK methyltransferase family member 2	N6AMT1	0.939	0.891	0.222	0.247	0.084	0.062
11098-1	Pyridoxal kinase	PDXK	0.045	0.762	0.717	0.098	0.055	0.104
11101-18	Toll-like receptor 4	TLR4	0.618	0.447	0.098	0.263	0.431	0.892
11102-22	Regenerating islet-derived protein 4	REG4	0.300	0.073	0.006	0.246	0.187	0.275
11103-24	Heat shock protein beta-1	HSPB1	0.023	0.055	0.585	0.907	0.954	0.800
11104-13	Chitinase-3-like protein 1	CHI3L1	0.177	0.410	0.427	0.535	0.667	0.942
11105-171	Alpha-enolase	ENO1	0.733	0.980	0.296	0.740	0.240	0.067
11510-31	Apolipoprotein L1	APOL1	0.208	0.006	0.091	0.013	0.011	0.067
11513-92	ADP-ribosyl cyclase/cyclic ADP-ribose hydrolase 1	CD38	0.094	0.106	0.237	0.187	0.051	0.034
11514-196	CD59 glycoprotein	CD59	0.435	0.018	0.141	0.198	0.183	0.336
11516-7	Fatty acid-binding protein, liver	FABP1	0.645	0.288	0.594	0.405	0.270	0.279
12060-28	Growth/differentiation factor 11	GDF11	0.197	0.265	0.019	0.177	0.433	0.872
13088-397	Betacellulin	BTC	0.582	0.813	0.563	0.868	0.702	0.598
13089-6	Hypoxia-inducible factor 1-alpha	HIF1A	0.362	0.719	0.855	0.166	0.475	0.723
13090-17	Protein S100-A6	S100A6	0.198	0.294	0.923	0.660	0.997	0.597

13093-6	Secreted and transmembrane protein 1	SECTM1	0.055	0.068	0.016	0.117	0.138	0.363
13094-75	R-spondin-3	RSPO3	0.510	0.187	0.857	0.435	0.144	0.068
13095-51	Lithostathine-1-alpha	REG1A	0.664	0.372	0.058	0.053	0.046	0.151
13097-11	Bcl-2-like protein 2	BCL2L2	0.657	0.814	0.939	0.837	0.671	0.287
13098-93	Vascular endothelial growth factor D	FIGF	0.618	0.739	0.123	0.973	0.762	0.597
13101-60	Sclerostin	SOST	0.726	0.688	0.464	0.895	0.644	0.478
13102-1	Protein FAM3D	FAM3D	0.374	0.449	0.040	0.855	0.686	0.586
13103-125	Chorionic somatomammotropin hormone	CSH1 CSH2	0.819	0.177	0.865	0.857	0.879	0.944
13104-32	Ephrin-B1	EFNB1	0.070	0.199	0.163	0.787	0.951	0.831
13105-7	Synaptosomal-associated protein 25	SNAP25	0.432	0.931	0.270	0.662	0.110	0.012
13107-9	Ly6/PLAUR domain-containing protein 3	LYPD3	0.968	0.204	0.886	0.995	0.832	0.680
13109-82	Neuronal growth regulator 1	NEGR1	0.096	0.001	0.267	0.069	0.008	0.004
13111-79	B-cell lymphoma 6 protein	BCL6	0.939	0.273	0.723	0.934	0.992	0.935
13112-179	Follistatin-related protein 1	FSTL1	0.177	0.128	0.065	0.070	0.092	0.315
13113-7	Osteopontin	SPP1	0.040	0.921	0.556	1.000	0.487	0.186
13114-50	Lumican	LUM	0.275	0.001	0.001	0.000	0.000	0.000
13116-25	CD177 antigen	CD177	0.795	0.286	0.870	0.519	0.580	0.787
13117-232	Choline/ethanolamine kinase	CHKB	0.167	0.051	0.061	0.064	0.002	0.000
13118-5	SPARC-related modular calcium-binding protein 1	SMOC1	0.197	0.661	0.100	0.649	0.672	0.806
13119-26	Protein Z-dependent protease inhibitor	SERPINA10	0.473	0.138	0.363	0.114	0.097	0.216
13122-19	Leucine-rich repeat transmembrane protein FLRT2	FLRT2	0.071	0.127	0.156	0.149	0.042	0.035
13123-3	Leucine-rich repeat transmembrane protein FLRT3	FLRT3	0.231	0.565	0.783	0.509	0.298	0.242
13124-20	Immunoglobulin superfamily	ISLR2	0.003	0.001	0.141	0.060	0.022	0.041

	containing leucine-rich repeat protein 2							
13125-45	Vitronectin	VTN	0.091	0.878	0.850	0.719	0.496	0.394
13126-52	Desmocollin-2	DSC2	0.281	0.025	0.052	0.191	0.094	0.113
13129-40	Low-density lipoprotein receptor	LDLR	0.358	0.232	0.531	0.839	0.909	0.642
13130-150	Hexokinase-2	HK2	0.263	0.017	0.099	0.932	0.587	0.352
13131-5	Hexokinase-1	HK1	0.862	0.748	0.753	0.940	0.474	0.142
13132-14	Semaphorin-5A	SEMA5A	0.642	0.508	0.401	0.168	0.064	0.066
13133-73	Latent-transforming growth factor beta-binding protein 4	LTBP4	0.875	0.298	0.438	0.172	0.035	0.020
14114-18	PILR alpha-associated neural protein	PIANP	0.379	0.212	0.212	0.030	0.015	0.054
14115-34	Adrenomedullin	ADM	0.254	0.739	0.018	0.967	0.687	0.474
14116-129	Protein S100-A4	S100A4	0.000	0.163	0.000	0.244	0.838	0.305
14120-2	E3 ubiquitin-protein ligase RNF43	RNF43	0.020	0.088	0.116	0.133	0.356	0.941
14121-24	Tumor necrosis factor receptor superfamily member 10D	TNFRSF10D	0.280	0.583	0.740	0.769	0.943	0.824
14122-132	E3 ubiquitin-protein ligase ZNRF3	ZNRF3	0.522	0.793	0.452	0.627	0.901	0.722
14123-34	Platelet receptor Gi24	C10orf54	0.415	0.742	0.430	0.720	0.433	0.290
14124-6	Ephrin-A2	EFNA2	0.024	0.256	0.897	0.978	0.671	0.440
14125-5	Apolipoprotein M	APOM	0.201	0.779	0.793	0.756	0.816	0.947
14127-240	Interferon beta	IFNB1	0.356	0.629	0.606	0.300	0.579	0.833
14128-121	Interferon alpha-10	IFNA10	0.019	0.971	0.194	0.702	0.811	0.990
14129-1	Interferon alpha-7	IFNA7	0.169	0.960	0.353	0.199	0.126	0.180
14131-37	Ephrin-B2	EFNB2	0.247	0.073	0.360	0.576	0.119	0.023
14132-21	HERV-H LTR-associating protein 2	HHLA2	0.750	0.911	0.532	0.557	0.786	0.842
14133-93	Interleukin-1 receptor type 2	IL1R2	0.189	0.895	0.680	0.491	0.268	0.207
14134-49	Amphoterin-induced protein 2	AMIGO2	0.181	0.525	0.390	0.627	0.845	0.828

14135-3	Relaxin receptor 1	RXFP1	0.811	0.174	0.743	0.560	0.311	0.223
14136-234	Complement component C1q receptor	CD93	0.083	0.040	0.038	0.067	0.016	0.019
14139-16	Neuregulin-4	NRG4	0.328	0.505	0.155	0.293	0.110	0.079
14143-8	Histone H2B type 2-E	HIST2H2BE	0.357	0.606	0.007	0.033	0.018	0.057
14144-3	Histone H2A type 3	HIST3H2A	0.293	0.723	0.238	0.014	0.033	0.282
14146-92	Histone H3.1	HIST1H3A	0.756	0.367	0.584	0.637	0.340	0.215
14147-50	Interferon gamma	IFNG	0.302	0.062	0.120	0.423	0.282	0.286
14149-9	Interleukin-36 beta	IL36B	0.589	0.375	0.066	0.525	0.369	0.348
14150-7	Interleukin-36 alpha	IL36A	0.372	0.933	0.237	0.236	0.437	0.970
14151-4	Ubiquitin-like protein ISG15	ISG15	0.521	0.846	0.758	0.707	0.514	0.433
14153-8	Ephrin-A3	EFNA3	0.566	0.002	0.119	0.123	0.110	0.243
14156-33	14-3-3 protein beta/alpha	YWHAB	0.586	0.990	0.115	0.737	0.301	0.117
14157-21	14-3-3 protein epsilon	YWHAE	0.713	0.312	0.026	0.435	0.202	0.140
14158-17	Annexin A5	ANXA5	0.225	0.289	0.407	0.029	0.033	0.163
14583-49	Growth/differentiation factor 8	MSTN	0.841	0.337	0.529	0.140	0.428	0.773
2182-54	Complement C4b	C4A C4B	0.691	0.192	0.580	0.993	0.700	0.459
2190-55	Coagulation Factor XI	F11	0.037	0.512	0.074	0.309	0.311	0.488
2192-63	C-C motif chemokine 27	CCL27	0.292	0.946	0.178	0.218	0.617	0.587
2201-17	Endostatin	COL18A1	0.794	0.821	0.597	0.073	0.119	0.436
2211-9	Metalloproteinase inhibitor 1	TIMP1	0.188	0.446	0.765	0.299	0.033	0.005
2212-69	Tissue-type plasminogen activator	PLAT	0.049	0.363	0.117	0.972	0.790	0.583
2247-20	Prokineticin-1	PROK1	0.369	0.438	0.346	0.390	0.228	0.211
2278-61	Metalloproteinase inhibitor 2	TIMP2	0.518	0.146	0.510	0.005	0.003	0.031
2333-72	Transforming growth factor beta-1	TGFB1	0.862	0.570	0.195	0.658	0.395	0.281
2358-19	Vascular endothelial growth factor receptor 3	FLT4	0.942	0.575	0.107	0.007	0.089	0.988
2381-52	Complement C5	C5	0.659	0.001	0.523	0.044	0.002	0.001
2418-55	Apolipoprotein E	APOE	0.436	0.413	0.312	0.276	0.411	0.812

2421-7	Brain-derived neurotrophic factor	BDNF	0.076	0.182	0.517	0.824	0.629	0.517
2429-27	Complement component C8	C8A C8B C8G	0.546	0.335	0.793	0.791	0.661	0.247
2431-17	Cathepsin G	CTSG	0.331	0.124	0.217	0.708	0.847	0.928
2436-49	C-X-C motif chemokine 16	CXCL16	0.778	0.802	0.366	0.800	0.937	0.877
2441-2	Fibroblast growth factor 10	FGF10	0.724	0.447	0.421	0.874	0.675	0.545
2443-10	Fibroblast growth factor 8 isoform B	FGF8	0.544	0.457	0.050	0.592	0.992	0.529
2447-7	Group IIE secretory phospholipase A2	PLA2G2E	0.173	0.619	0.550	0.978	0.776	0.564
2449-1	Calcium-dependent phospholipase A2	PLA2G5	0.267	0.155	0.183	0.890	0.683	0.542
2468-62	C-C motif chemokine 20	CCL20	0.643	0.336	0.642	0.793	0.917	0.603
2474-54	Serum amyloid P-component	APCS	0.927	0.019	0.026	0.087	0.016	0.013
2475-1	Mast/stem cell growth factor receptor Kit	KIT	0.010	0.015	0.491	0.395	0.611	0.946
2480-58	Metalloproteinase inhibitor 3	TIMP3	0.241	0.647	0.600	0.795	0.650	0.586
2500-2	Angiopoietin-4	ANGPT4	0.807	0.168	0.448	0.528	0.219	0.113
2501-51	Cadherin-1	CDH1	0.111	0.244	0.460	0.320	0.243	0.317
2505-49	GDNF family receptor alpha-3	GFRA3	0.765	0.711	0.269	0.430	0.577	0.921
2514-65	Ephrin-B3	EFNB3	0.246	0.725	0.066	0.890	0.687	0.548
2515-14	GDNF family receptor alpha-2	GFRA2	0.785	0.200	0.918	0.580	0.130	0.028
2516-57	C-C motif chemokine 21	CCL21	0.039	0.707	0.197	0.689	0.358	0.210
2524-56	High mobility group protein B1	HMGB1	0.542	0.007	0.034	0.717	0.660	0.201
2526-53	Tumor necrosis factor receptor superfamily member 11B	TNFRSF11B	0.051	0.783	0.658	0.301	0.479	0.926
2558-51	Beta-endorphin	POMC	0.580	0.753	0.896	0.101	0.162	0.504
2567-5	Complement factor I	CFI	0.847	0.746	0.498	0.599	0.690	0.163
2571-12	Insulin-like growth factor-binding protein 3	IGFBP3	0.260	0.112	0.232	0.350	0.257	0.311
2578-67	C-C motif chemokine 2	CCL2	0.695	0.809	0.117	0.821	0.503	0.317

2579-17	Matrix metalloproteinase-9	MMP9	0.615	0.374	0.225	0.066	0.117	0.456
2580-83	Myeloperoxidase	MPO	0.089	0.494	0.575	0.582	0.390	0.340
2585-2	Prolactin	PRL	0.929	0.328	0.424	0.312	0.503	0.966
2597-8	Vascular endothelial growth factor A	VEGFA	0.821	0.910	0.660	0.535	0.460	0.519
2598-9	Tumor necrosis factor receptor superfamily member 9	TNFRSF9	0.769	0.541	0.592	0.509	0.988	0.439
2599-51	Tumor necrosis factor ligand superfamily member 9	TNFSF9	0.124	0.641	0.361	0.355	0.470	0.805
2602-2	Angiopoietin-2	ANGPT2	0.480	0.871	0.523	0.463	0.799	0.168
2603-61	T-lymphocyte activation antigen CD80	CD80	0.353	0.268	0.648	0.810	0.708	0.672
2605-49	Tumor necrosis factor receptor superfamily member 8	TNFRSF8	0.139	0.074	0.035	0.561	0.911	0.619
2607-54	Cytokine receptor-like factor 1:Cardiotrophin-like cytokine factor 1 Complex	CRLF1 CLCF1	0.100	0.655	0.183	0.135	0.147	0.346
2609-59	Cystatin-C	CST3	0.093	0.749	0.648	0.791	0.465	0.289
2611-72	Tyrosine-protein kinase receptor TYRO3	TYRO3	0.262	0.249	0.275	0.317	0.554	0.926
2612-5	Eukaryotic translation initiation factor 5	EIF5	0.747	0.151	0.960	0.900	0.488	0.241
2614-28	Ephrin-A4	EFNA4	0.197	0.431	0.352	0.375	0.201	0.176
2615-60	Ephrin-A5	EFNA5	0.299	0.959	0.475	0.846	0.654	0.538
2616-23	Receptor tyrosine-protein kinase erbB-2	ERBB2	0.382	0.945	0.729	0.570	0.362	0.297
2617-56	Receptor tyrosine-protein kinase erbB-3	ERBB3	0.272	0.515	0.485	0.717	0.367	0.202
2618-10	Receptor tyrosine-protein kinase erbB-4	ERBB4	0.889	0.022	0.334	0.268	0.051	0.018
2619-72	Tumor-associated	TACSTD2	0.036	0.264	0.605	0.997	0.492	0.188

	calcium signal transducer 2							
2620-4	Interleukin-6 receptor subunit beta	IL6ST	0.215	0.033	0.146	0.107	0.134	0.374
2622-18	Heme oxygenase 2	HMOX2	0.913	0.744	0.706	0.647	0.492	0.453
2623-54	Protein E7_HPV16	Human-virus	0.415	0.649	0.129	0.426	0.528	0.819
2624-31	Protein E7_HPV18	Human-virus	0.346	0.359	0.553	0.361	0.435	0.706
2625-53	Heat shock protein HSP 90-alpha/beta	HSP90AA1 HSP90AB1	0.696	0.893	0.254	0.917	0.561	0.215
2630-12	Interleukin-1 Receptor accessory protein	IL1RAP	0.063	0.106	0.027	0.019	0.030	0.201
2631-50	Interleukin-10 receptor subunit beta	IL10RB	0.784	0.505	0.718	0.296	0.262	0.388
2632-5	Interleukin-12 receptor subunit beta-1	IL12RB1	0.722	0.024	0.036	0.764	0.558	0.138
2633-52	Interleukin-13 receptor subunit alpha-1	IL13RA1	0.286	0.756	0.569	0.850	0.361	0.134
2634-2	Cytokine receptor common subunit gamma	IL2RG	0.216	0.540	0.139	0.815	0.432	0.226
2635-61	Layilin	LAYN	0.035	0.835	0.491	0.637	0.204	0.066
2636-10	Tumor necrosis factor receptor superfamily member 3	LTBR	0.183	0.198	0.467	0.761	0.466	0.311
2637-77	Macrophage mannose receptor 1	MRC1	0.477	0.731	0.274	0.806	0.409	0.063
2638-12	Macrophage colony-stimulating factor 1 receptor	CSF1R	0.126	0.058	0.325	0.177	0.057	0.049
2640-3	Macrophage-stimulating protein receptor	MST1R	0.635	0.076	0.279	0.778	0.340	0.141
2642-4	Platelet-activating factor acetylhydrolase IB subunit beta	PAFAH1B2	0.058	0.336	0.655	0.670	0.978	0.566
2643-57	Cadherin-3	CDH3	0.419	0.150	0.483	0.375	0.211	0.192
2644-11	Protein kinase C alpha type	PRKCA	0.218	0.993	0.224	0.721	0.197	0.043
2645-54	Protein kinase C zeta type	PRKCZ	0.598	0.344	0.385	0.314	0.764	0.512

2647-66	Rab GDP dissociation inhibitor beta	GDI2	0.627	0.799	0.808	0.359	0.924	0.346
2649-77	Intercellular adhesion molecule 3	ICAM3	0.825	0.066	0.897	0.274	0.277	0.461
2652-15	Urokinase plasminogen activator surface receptor	PLAUR	0.016	0.022	0.025	0.370	0.621	0.879
2654-19	Tumor necrosis factor receptor superfamily member 1A	TNFRSF1A	0.136	0.149	0.159	0.489	0.937	0.495
2658-27	NT-3 growth factor receptor	NTRK3	0.369	0.027	0.305	0.137	0.064	0.089
2665-26	Tumor necrosis factor receptor superfamily member 17	TNFRSF17	0.921	0.330	0.967	0.571	0.675	0.911
2666-53	Decorin	DCN	0.100	0.308	0.391	0.110	0.057	0.093
2668-70	Calpain I	CAPN1 CAPNS1	0.019	0.347	0.839	0.939	0.705	0.414
2670-67	Creatine kinase M-type	CKM	0.000	0.000	0.000	0.319	0.138	0.109
2677-1	Epidermal growth factor receptor	EGFR	0.177	0.639	0.425	0.239	0.193	0.300
2681-23	Hepatocyte growth factor	HGF	0.102	0.318	0.956	0.964	0.799	0.591
2682-68	60 kDa heat shock protein, mitochondrial	HSPD1	0.603	0.357	0.485	0.502	0.938	0.334
2683-1	Complement C3b, inactivated	C3	0.118	0.111	0.025	0.056	0.024	0.050
2685-21	Insulin-like growth factor-binding protein 5	IGFBP5	0.974	0.668	0.429	0.203	0.300	0.674
2686-67	Insulin-like growth factor-binding protein 6	IGFBP6	0.586	0.642	0.849	0.392	0.199	0.162
2687-2	Melanoma-derived growth regulatory protein	MIA	0.523	0.811	0.511	0.673	0.546	0.525
2692-74	Phospholipase A2, membrane associated	PLA2G2A	0.047	0.387	0.020	0.916	0.552	0.319
2693-20	Oncostatin-M	OSM	0.681	0.969	0.911	0.402	0.925	0.400
2695-25	Platelet endothelial cell adhesion molecule	PECAM1	0.670	0.420	0.273	0.306	0.422	0.781

2696-87	Persephin	PSPN	0.782	0.989	0.686	0.399	0.428	0.621
2697-7	Platelet factor 4	PF4	0.069	0.513	0.524	0.902	0.498	0.255
2700-56	Vitamin K-dependent protein S	PROS1	0.152	0.556	0.916	0.512	0.345	0.319
2704-74	Tumor necrosis factor receptor superfamily member 13B	TNFRSF13B	0.192	0.279	0.723	0.238	0.178	0.262
2705-5	C-C motif chemokine 25	CCL25	0.888	0.512	0.067	0.011	0.025	0.242
2706-69	Thyroxine-binding globulin	SERPINA7	0.002	0.090	0.383	0.540	0.111	0.022
2708-54	Tumor necrosis factor ligand superfamily member 18	TNFSF18	0.238	0.315	0.954	0.440	0.197	0.130
2711-6	Ciliary neurotrophic factor receptor subunit alpha	CNTFR	0.865	0.201	0.774	0.697	0.389	0.247
2714-78	Endothelial monocyte-activating polypeptide 2	AIMP1	0.425	0.165	0.946	0.122	0.130	0.321
2715-25	Erythropoietin receptor	EPOR	0.001	0.889	0.274	0.951	0.883	0.837
2719-3	Granulocyte colony-stimulating factor receptor	CSF3R	0.603	0.807	0.455	0.359	0.471	0.799
2723-9	Interleukin-37	IL37	0.126	0.415	0.819	0.720	0.528	0.101
2728-62	Laminin	LAMA1 LAMB1 LAMC1	0.938	0.875	0.446	0.995	0.808	0.642
2730-58	MHC class I polypeptide-related sequence A	MICA	0.028	0.240	0.612	0.830	0.889	0.995
2731-29	NADPH--cytochrome P450 reductase	POR	0.428	0.205	0.349	0.101	0.205	0.674
2732-58	Homeobox protein NANOG	NANOG	0.642	0.926	0.168	0.233	0.608	0.634
2734-49	Natural cytotoxicity triggering receptor 2	NCR2	0.694	0.223	0.253	0.668	0.313	0.162
2737-22	Protein NOV homolog	NOV	0.423	0.251	0.741	0.049	0.065	0.262
2741-22	Sialic acid-binding Ig-like lectin 6	SIGLEC6	0.513	0.924	0.358	0.378	0.235	0.240

2742-68	Sialic acid-binding Ig-like lectin 7	SIGLEC7	0.008	0.112	0.356	0.502	0.265	0.195
2743-5	Sonic hedgehog protein	SHH	0.529	0.089	0.399	0.418	0.507	0.790
2744-57	Immunoglobulin G	IGHG1 IGHG2 IGHG3 IGHG4 IGK@ IGL@	0.318	0.105	0.649	0.563	0.401	0.376
2746-56	Cytokine receptor-like factor 2	CRLF2	0.111	0.354	0.796	0.801	0.872	0.536
2747-3	NKG2D ligand 3	ULBP3	0.464	0.329	0.454	0.744	0.441	0.284
2748-3	Inhibin beta A chain	INHBA	0.010	0.270	0.931	0.593	0.655	0.134
2750-3	Apolipoprotein A-I	APOA1	0.561	0.529	0.535	0.961	0.914	0.791
2751-16	Azurocidin	AZU1	0.084	0.530	0.758	0.148	0.272	0.746
2752-62	Growth/differentiation factor 5	GDF5	0.072	0.162	0.739	0.115	0.335	0.938
2753-2	Complement C1q subcomponent	C1QA C1QB C1QC	0.848	0.664	0.292	0.883	0.937	0.978
2754-50	Complement C3	C3	0.548	0.262	0.816	0.380	0.896	0.184
2755-8	C3a anaphylatoxin des Arginine	C3	0.434	0.944	0.651	0.374	0.930	0.357
2760-2	Protein FAM107A	FAM107A	0.585	0.451	0.499	0.230	0.243	0.446
2761-49	Fibroblast growth factor 18	FGF18	0.100	0.816	0.096	0.378	0.242	0.250
2762-30	Fibroblast growth factor 19	FGF19	0.603	0.994	0.151	0.873	0.729	0.392
2763-66	Fibroblast growth factor 20	FGF20	0.573	0.069	0.761	0.073	0.010	0.007
2764-20	Fibroblast growth factor 9	FGF9	0.743	0.384	0.437	0.737	0.327	0.145
2765-4	Growth/differentiation factor 11/8	GDF11 MSTN	0.492	0.080	0.803	0.023	0.166	0.910
2768-56	Hemopexin	HPX	0.247	0.058	0.023	0.189	0.322	0.766
2769-3	Protein Rev_HV2BE	Human-virus	0.147	0.169	0.289	0.998	0.874	0.764
2770-51	C-C motif chemokine 1	CCL1	0.333	0.146	0.071	0.347	0.151	0.113
2771-35	Insulin-like growth factor-binding protein 1	IGFBP1	0.089	0.887	0.439	0.775	0.221	0.048
2773-50	Interleukin-10	IL10	0.759	0.251	0.894	0.497	0.250	0.171
2774-10	Interleukin-16	IL16	0.441	0.178	0.702	0.033	0.152	0.897

2775-54	Interleukin-17F	IL17F	0.577	0.059	0.055	0.460	0.462	0.615
2778-10	Interleukin-22	IL22	0.041	0.563	0.751	0.531	0.706	0.966
2780-35	Lactotransferrin	LTF	0.532	0.139	0.364	0.224	0.188	0.309
2781-63	C-C motif chemokine 4-like	CCL4L1	0.556	0.885	0.639	0.540	0.444	0.480
2783-18	C-C motif chemokine 3-like 1	CCL3L1	0.025	0.129	0.248	0.336	0.367	0.585
2785-15	C-C motif chemokine 8	CCL8	0.353	0.030	0.329	0.096	0.242	0.846
2788-55	Stromelysin-1	MMP3	0.116	0.458	0.820	0.113	0.168	0.495
2789-26	Matrilysin	MMP7	0.108	0.345	0.765	0.868	0.928	0.976
2790-54	Neutrophil-activating peptide 2	PPBP	0.052	0.606	0.718	0.835	0.354	0.132
2794-60	Superoxide dismutase [Cu-Zn]	SOD1	0.886	0.176	0.670	0.374	0.823	0.508
2796-62	Fibrinogen	FGA FGB FGG	0.943	0.463	0.852	0.388	0.592	0.974
2797-56	Apolipoprotein B	APOB	0.690	0.231	0.505	0.909	0.953	0.802
2805-6	Angiotensin-converting enzyme 2	ACE2	0.286	0.538	0.865	0.912	0.590	0.244
2806-49	Activin receptor type-1B	ACVR1B	0.424	0.980	0.268	0.820	0.376	0.158
2809-25	A disintegrin and metalloproteinase with thrombospondin motifs 4	ADAMTS4	0.762	0.019	0.297	0.178	0.067	0.063
2811-27	Angiopoietin-1	ANGPT1	0.034	0.129	0.354	0.658	0.941	0.497
2813-11	Agouti-related protein	AGRP	0.932	0.282	0.303	0.086	0.269	0.986
2816-50	Basal Cell Adhesion Molecule	BCAM	0.317	0.335	0.944	0.253	0.067	0.037
2819-23	Cadherin-5	CDH5	0.042	0.123	0.274	0.482	0.166	0.077
2822-56	CD97 antigen	CD97	0.118	0.468	0.447	0.571	0.937	0.402
2823-7	COMM domain-containing protein 7	COMMD7	0.204	0.357	0.073	0.821	0.716	0.676
2826-53	Ectodysplasin-A, secreted form	EDA	0.024	0.047	0.003	0.085	0.015	0.011
2827-23	Fractalkine	CX3CL1	0.814	0.926	0.270	0.883	0.737	0.412
2828-82	Kunitz-type protease inhibitor 1	SPINT1	0.496	0.088	0.607	0.943	0.629	0.408
2829-19	Interleukin-27	IL27 EBI3	0.619	0.499	0.786	0.043	0.029	0.092
2831-29	Kallikrein-11	KLK11	0.787	0.348	0.224	0.187	0.679	0.423

2833-20	Kallikrein-4	KLK4	0.799	0.054	0.309	0.586	0.312	0.208
2834-54	Kallikrein-8	KLK8	0.228	0.008	0.002	0.415	0.176	0.115
2835-1	X-ray repair cross-complementing protein 6	XRCC6	0.495	0.842	0.901	0.446	0.223	0.163
2836-68	Neutrophil gelatinase-associated lipocalin	LCN2	0.278	0.426	0.381	0.203	0.289	0.632
2837-3	Hepatocyte growth factor receptor	MET	0.570	0.891	0.351	0.951	0.374	0.109
2838-53	Matrix metalloproteinase-17	MMP17	0.786	0.628	0.031	0.351	0.616	0.858
2839-2	Tumor necrosis factor ligand superfamily member 4	TNFSF4	0.909	0.859	0.883	0.377	0.238	0.241
2841-13	Secreted frizzled-related protein 3	FRZB	0.732	0.988	0.468	0.750	0.692	0.715
2843-13	Kunitz-type protease inhibitor 2	SPINT2	0.542	0.679	0.538	0.359	0.122	0.069
2844-53	Tyrosine-protein kinase receptor Tie-1, soluble	TIE1	0.945	0.505	0.090	0.295	0.596	0.799
2846-24	Ubiquitin+1, truncated mutation for UbB	RPS27A	0.853	0.683	0.992	0.024	0.219	0.690
2848-2	Wnt inhibitory factor 1	WIF1	0.567	0.023	0.442	0.058	0.001	0.000
2849-49	Allograft inflammatory factor 1	AIF1	0.563	0.047	0.212	0.394	0.148	0.088
2851-63	C5a anaphylatoxin	C5	0.487	0.000	0.032	0.010	0.000	0.001
2853-68	Serine/threonine-protein kinase Chk1	CHEK1	0.833	0.673	0.100	0.076	0.137	0.507
2855-49	Mitogen-activated protein kinase 3	MAPK3	0.298	0.677	0.119	0.604	0.314	0.199
2857-70	Glucocorticoid receptor	NR3C1	0.372	0.771	0.378	0.817	0.489	0.300
2858-29	Histone acetyltransferase type B catalytic subunit	HAT1	0.118	0.429	0.858	0.836	0.761	0.745
2859-69	Histone deacetylase 8	HDAC8	0.726	0.013	0.026	0.397	0.276	0.297

2860-19	Importin subunit alpha-1	KPNA2	0.216	0.712	0.913	0.307	0.438	0.816
2864-2	Dual specificity mitogen-activated protein kinase kinase 1	MAP2K1	0.614	0.991	0.804	0.267	0.860	0.312
2865-77	Histone acetyltransferase KAT6A	KAT6A	0.530	0.948	0.720	0.413	0.178	0.118
2869-68	Protein kinase C delta type	PRKCD	0.549	0.538	0.642	0.049	0.398	0.443
2870-29	Ras-related C3 botulinum toxin substrate 1	RAC1	0.238	0.836	0.278	0.799	0.384	0.178
2871-73	DNA repair protein RAD51 homolog 1	RAD51	0.200	0.315	0.760	0.885	0.982	0.827
2875-15	TATA-box-binding protein	TBP	0.342	0.002	0.098	0.341	0.210	0.218
2876-74	DNA topoisomerase 1	TOP1	0.533	0.464	0.111	0.050	0.129	0.611
2877-3	SUMO-conjugating enzyme UBC9	UBE2I	0.433	0.368	0.507	0.545	0.686	0.130
2878-66	Tyrosine-protein kinase Yes	YES1	0.361	0.110	0.056	0.710	0.379	0.222
2879-9	Alpha-1-antichymotrypsin	SERPINA3	0.189	0.199	0.176	0.566	0.461	0.483
2888-49	Complement component C7	C7	0.648	0.160	0.864	0.022	0.094	0.672
2889-37	Cardiotrophin-1	CTF1	0.917	0.121	0.585	0.432	0.307	0.322
2890-59	C-C motif chemokine 28	CCL28	0.123	0.653	0.178	0.611	0.273	0.146
2891-1	B-cell receptor CD22	CD22	0.959	0.245	0.121	0.706	0.521	0.446
2900-53	C-C motif chemokine 14	CCL14	0.605	0.459	0.618	0.227	0.611	0.620
2906-55	Interleukin-4	IL4	0.276	0.307	0.843	0.887	0.989	0.884
2911-27	Midkine	MDK	0.515	0.965	0.445	0.830	0.485	0.286
2913-1	C-C motif chemokine 23	CCL23	0.997	0.488	0.845	0.330	0.331	0.506
2915-6	Proliferating cell nuclear antigen	PCNA	0.288	0.218	0.792	0.548	0.365	0.321
2917-3	Tumor necrosis factor ligand superfamily member 11	TNFSF11	0.747	0.220	0.456	0.932	0.986	0.890
2925-9	Plasminogen activator inhibitor 1	SERPINE1	0.030	0.143	0.250	0.966	0.750	0.580
2937-10	Apolipoprotein E (isoform E3)	APOE	0.614	0.587	0.664	0.493	0.662	0.996
2938-55	Apolipoprotein E (isoform E4)	APOE	0.946	0.936	0.684	0.587	0.648	0.837

2939-10	Artemin	ARTN	0.903	0.524	0.360	0.497	0.179	0.082
2942-50	Cytochrome c	CYCS	0.461	0.007	0.027	0.007	0.003	0.018
2943-5	Cytochrome P450 3A4	CYP3A4	0.834	0.218	0.151	0.241	0.089	0.072
2944-66	Neuroblastoma suppressor of tumorigenicity 1	NBL1	0.305	0.427	0.447	0.657	0.307	0.013
2945-25	Estrogen receptor	ESR1	0.079	0.130	0.453	0.140	0.013	0.003
2946-52	Complement factor D	CFD	0.778	0.567	0.252	0.560	0.627	0.829
2948-58	Growth hormone receptor	GHR	0.051	0.034	0.415	0.488	0.209	0.124
2949-6	Group 10 secretory phospholipase A2	PLA2G10	0.380	0.604	0.357	0.064	0.033	0.071
2950-57	Insulin-like growth factor-binding protein 4	IGFBP4	0.023	0.735	0.815	0.952	0.739	0.575
2952-75	Insulin-like growth factor I	IGF1	0.772	0.470	0.801	0.466	0.542	0.785
2953-31	Luteinizing hormone	CGA LHB	0.818	0.121	0.855	0.075	0.033	0.060
2960-66	Properdin	CFP	0.821	0.231	0.548	0.870	0.779	0.463
2961-1	Vitamin K-dependent protein C	PROC	0.223	0.049	0.635	0.774	0.578	0.479
2962-50	Parathyroid hormone-related protein	PTHLH	0.001	0.007	0.006	0.327	0.006	0.000
2966-65	Stem Cell Growth Factor-beta	CLEC11A	0.015	0.020	0.046	0.974	0.809	0.675
2967-8	Vascular cell adhesion protein 1	VCAM1	0.414	0.322	0.133	0.777	0.622	0.555
2968-61	Tumor necrosis factor ligand superfamily member 15	TNFSF15	0.754	0.900	0.823	0.498	0.864	0.616
2969-11	Serine/threonine -protein kinase receptor R3	ACVRL1	0.978	0.915	0.267	0.498	0.213	0.123
2970-60	Amphiregulin	AREG	0.058	0.706	0.317	0.462	0.703	0.863
2972-57	Bone morphogenetic protein 7	BMP7	0.530	0.083	0.278	0.901	0.399	0.152
2973-15	Platelet glycoprotein 4	CD36	0.861	0.001	0.064	0.016	0.031	0.238
2974-61	Contactin-1	CNTN1	0.565	0.226	0.997	0.121	0.021	0.013

2975-19	Connective tissue growth factor	CTGF	0.379	0.572	0.632	0.857	0.926	0.966
2976-58	Desmoglein-1	DSG1	0.730	0.359	0.709	0.163	0.149	0.296
2977-7	Tumor necrosis factor receptor superfamily member EDAR	EDAR	0.985	0.462	0.092	0.695	0.701	0.801
2979-8	C-X-C motif chemokine 5	CXCL5	0.350	0.197	0.868	0.932	0.618	0.397
2981-9	Endothelial cell-selective adhesion molecule	ESAM	0.710	0.949	0.908	0.665	0.428	0.042
2982-82	Galectin-4	LGALS4	0.677	0.228	0.728	0.754	0.788	0.897
2985-35	Growth-regulated alpha protein	CXCL1	0.474	0.979	0.770	0.767	0.414	0.235
2986-49	Gro-beta/gamma	CXCL3 CXCL2	0.003	0.157	0.317	0.348	0.737	0.613
2987-37	Histone H1.2	HIST1H1C	0.621	0.368	0.507	0.244	0.468	0.968
2988-57	Inducible T-cell costimulator	ICOS	0.127	0.327	0.964	0.966	0.724	0.467
2991-9	Interleukin-1 receptor type 1	IL1R1	0.189	0.630	0.467	0.437	0.912	0.462
2992-59	Interleukin-17 receptor A	IL17RA	0.159	0.843	0.308	0.991	0.628	0.356
2993-1	Interleukin-18 receptor accessory protein	IL18RAP	0.368	0.401	0.407	0.542	0.352	0.305
2994-71	Interleukin-1 receptor-like 2	IL1RL2	0.927	0.768	0.293	0.855	0.985	0.853
2997-8	Junctional adhesion molecule B	JAM2	0.136	0.035	0.405	0.026	0.003	0.003
2998-53	Junctional adhesion molecule C	JAM3	0.275	0.633	0.692	0.784	0.968	0.681
2999-6	Limbic system-associated membrane protein	LSAMP	0.901	0.380	0.765	0.215	0.095	0.098
3000-66	Mannose-binding protein C	MBL2	0.141	0.607	0.511	0.916	0.719	0.580
3003-29	Natural cytotoxicity triggering receptor 3	NCR3	0.596	0.164	0.154	0.471	0.397	0.466
3004-67	Programmed cell death 1 ligand 2	PDCD1LG2	0.498	0.508	0.647	0.099	0.264	0.902
3005-5	Tyrosine-protein phosphatase	PTPN1	0.956	0.081	0.026	0.270	0.138	0.139

	non-receptor type 1							
3007-7	Sialic acid-binding Ig-like lectin 9	SIGLEC9	0.577	0.310	0.885	0.742	0.982	0.726
3009-3	Transforming growth factor beta receptor type 3	TGFBR3	0.190	0.268	0.095	0.095	0.003	0.000
3010-53	Thymic stromal lymphopoietin	TSLP	0.181	0.058	0.402	0.175	0.026	0.010
3022-4	Cytotoxic T-lymphocyte protein 4	CTLA4	0.838	0.593	0.947	0.767	0.860	0.979
3024-18	Alpha-2-antiplasmin	SERPINF2	0.865	0.839	0.343	0.096	0.180	0.595
3025-50	Fibroblast growth factor 2	FGF2	0.862	0.209	0.498	0.297	0.115	0.084
3026-5	Calpastatin	CAST	0.833	0.051	0.136	0.070	0.014	0.014
3028-36	Ck-beta-8-1	CCL23	0.786	0.185	0.612	0.874	0.859	0.885
3029-52	CD209 antigen	CD209	0.180	0.076	0.011	0.127	0.060	0.087
3030-3	C-type lectin domain family 4 member M	CLEC4M	0.959	0.569	0.593	0.556	0.403	0.383
3032-11	Follicle stimulating hormone	CGA FSHB	0.666	0.297	0.315	0.066	0.091	0.341
3033-57	Galectin-2	LGALS2	0.935	0.245	0.334	0.878	0.624	0.265
3034-1	Glial fibrillary acidic protein	GFAP	0.375	0.235	0.231	0.472	0.475	0.628
3035-80	Interleukin-19	IL19	0.679	0.371	0.688	0.789	0.389	0.191
3037-62	Interleukin-1 beta	IL1B	0.168	0.614	0.197	0.544	0.436	0.457
3038-9	C-X-C motif chemokine 11	CXCL11	0.015	0.021	0.041	0.269	0.596	0.737
3040-59	C-C motif chemokine 3	CCL3	0.544	0.565	0.501	0.499	0.611	0.887
3041-55	C-type mannose receptor 2	MRC2	0.195	0.003	0.057	0.004	0.002	0.013
3042-7	Myoglobin	MB	0.830	0.981	0.707	0.723	0.771	0.325
3043-49	SPARC	SPARC	0.082	0.457	0.879	0.971	0.420	0.136
3044-3	C-C motif chemokine 18	CCL18	0.418	0.157	0.279	0.461	0.320	0.322
3045-72	Pleiotrophin	PTN	0.227	0.581	0.094	0.363	0.649	0.811
3046-31	Resistin	RETN	0.200	0.307	0.907	0.984	0.507	0.201
3049-61	Trypsin-1	PRSS1	0.163	0.187	0.116	0.383	0.332	0.432
3050-7	von Willebrand factor	VWF	0.716	0.572	0.675	0.437	0.381	0.473
3052-8	Tumor necrosis factor ligand superfamily member 6, soluble form	FASLG	0.119	0.807	0.674	0.447	0.688	0.870

3053-49	Fms-related tyrosine kinase 3 ligand	FLT3LG	0.265	0.177	0.892	0.434	0.496	0.722
3054-3	Haptoglobin	HP	0.901	0.056	0.988	0.104	0.056	0.097
3055-54	Interleukin-4 receptor subunit alpha	IL4R	0.956	0.578	0.146	0.841	0.914	0.651
3056-11	NKG2-D type II integral membrane protein	KLRK1	0.280	0.134	0.973	0.361	0.732	0.643
3057-55	WNT1-inducible-signaling pathway protein 1	WISP1	0.023	0.312	0.013	0.839	0.896	0.999
3059-50	Tumor necrosis factor ligand superfamily member 13B	TNFSF13B	0.526	0.064	0.988	0.068	0.074	0.244
3060-43	Complement component C9	C9	0.664	0.083	0.357	0.265	0.076	0.044
3061-61	Cathepsin B	CTSB	0.336	0.754	0.694	0.577	0.689	0.934
3065-65	Fibroblast growth factor 5	FGF5	0.951	0.269	0.467	0.138	0.208	0.557
3066-12	Galectin-3	LGALS3	0.032	0.283	0.119	0.472	0.380	0.427
3067-67	Growth/differentiation factor 9	GDF9	0.064	0.812	0.146	0.804	0.654	0.582
3069-52	Immunoglobulin M	IGHM IGJ IGK@ IGL@	0.778	0.219	0.438	0.194	0.009	0.001
3070-1	Interleukin-2	IL2	0.709	0.076	0.435	0.058	0.007	0.004
3072-4	Interleukin-13	IL13	0.605	0.425	0.276	0.598	0.461	0.450
3073-51	Interleukin-18-binding protein	IL18BP	0.260	0.968	0.796	0.762	0.927	0.848
3074-6	Lipopolysaccharide-binding protein	LBP	0.516	0.166	0.249	0.473	0.250	0.190
3077-66	Coagulation factor Xa	F10	0.489	0.386	0.026	0.114	0.109	0.259
3078-1	Placenta growth factor	PGF	0.788	0.063	0.266	0.137	0.046	0.046
3079-62	Retinoic acid receptor responder protein 2	RARRES2	0.084	0.000	0.148	0.165	0.040	0.030
3081-70	NKG2D ligand 1	ULBP1	0.539	0.593	0.223	0.057	0.070	0.257
3082-9	NKG2D ligand 2	ULBP2	0.510	0.480	0.912	0.773	0.727	0.755
3083-71	Tumor necrosis factor receptor superfamily member 27	EDA2R	0.431	0.299	0.432	0.122	0.026	0.018

3091-70	Aurora kinase A	AURKA	0.076	0.282	0.275	0.922	0.678	0.498
3115-64	Mitogen-activated protein kinase 1	MAPK1	0.704	0.581	0.054	0.757	0.946	0.612
3122-6	Diablo homolog, mitochondrial	DIABLO	0.232	0.032	0.226	0.041	0.091	0.464
3132-1	Vascular endothelial growth factor C	VEGFC	0.835	0.249	0.348	0.519	0.149	0.050
3143-3	T-cell surface glycoprotein CD4	CD4	0.274	0.554	0.374	0.638	0.920	0.700
3151-6	Interleukin-2 receptor subunit alpha	IL2RA	0.935	0.427	0.288	0.359	0.658	0.782
3152-57	Tumor necrosis factor receptor superfamily member 1B	TNFRSF1B	0.545	0.193	0.084	0.168	0.579	0.541
3166-92	Myeloid cell surface antigen CD33	CD33	0.130	0.807	0.016	0.514	0.388	0.398
3168-8	A disintegrin and metalloproteinase with thrombospondin motifs 5	ADAMTS5	0.514	0.929	0.941	0.066	0.110	0.426
3169-70	Alpha-L-iduronidase	IDUA	0.360	0.353	0.851	0.681	0.782	0.976
3170-6	Methionine aminopeptidase 2	METAP2	0.028	0.237	0.763	0.140	0.428	0.773
3171-57	Amyloid beta A4 protein	APP	0.068	0.319	0.478	0.994	0.500	0.197
3172-28	Arylsulfatase B	ARSB	0.494	0.185	0.474	0.769	0.210	0.042
3173-49	N-acylethanolamine-hydrolyzing acid amidase	NAAA	0.136	0.171	0.750	0.344	0.798	0.511
3174-2	A disintegrin and metalloproteinase with thrombospondin motifs 1	ADAMTS1	0.620	0.301	0.674	0.958	0.831	0.731
3175-51	A disintegrin and metalloproteinase with thrombospondin motifs 13	ADAMTS13	0.126	0.549	0.726	0.408	0.618	0.964
3177-49	Carbonic anhydrase 4	CA4	0.036	0.750	0.893	0.862	0.710	0.362

3178-5	Dipeptidyl peptidase 1	CTSC	0.332	0.225	0.756	0.649	0.718	0.894
3179-51	Lysosomal protective protein	CTSA	0.062	0.048	0.880	0.510	0.723	0.900
3181-50	Cathepsin S	CTSS	0.748	0.059	0.298	0.020	0.008	0.025
3182-38	Ectonucleoside triphosphate diphosphohydrolase 1	ENTPD1	0.835	0.661	0.985	0.807	0.857	0.965
3184-25	Coagulation factor VII	F7	0.253	0.073	0.064	0.181	0.171	0.325
3186-2	Complement C2	C2	0.837	0.372	0.528	0.228	0.187	0.295
3187-52	Cysteine-rich secretory protein 3	CRISP3	0.421	0.642	0.751	0.865	0.516	0.302
3189-61	Enteropeptidase	TMPRSS15	0.685	0.243	0.373	0.774	0.517	0.376
3191-50	WAP, kazal, immunoglobulin, kunitz and NTR domain-containing protein 1	WFIKKN1	0.568	0.579	0.158	0.075	0.221	0.871
3192-3	Cytosolic non-specific dipeptidase	CNDP2	0.451	0.058	0.018	0.918	0.794	0.535
3194-36	Platelet glycoprotein VI	GP6	0.734	0.016	0.309	0.301	0.195	0.229
3195-50	Granulysin	GNLY	0.998	0.297	0.125	0.479	0.130	0.045
3196-6	Hyaluronan and proteoglycan link protein 1	HAPLN1	0.172	0.309	0.352	0.194	0.142	0.228
3197-70	Insulin-degrading enzyme	IDE	0.046	0.438	0.176	0.204	0.770	0.322
3198-4	Iduronate 2-sulfatase	IDS	0.940	0.843	0.425	0.260	0.389	0.788
3199-54	Kallikrein-12	KLK12	0.697	0.356	0.223	0.756	0.272	0.089
3200-49	Kallikrein-13	KLK13	0.265	0.851	0.749	0.189	0.059	0.048
3201-49	Kallikrein-5	KLK5	0.336	0.755	0.284	0.086	0.018	0.016
3202-28	Kremen protein 2	KREMEN2	0.066	0.782	0.530	0.506	0.656	0.096
3204-2	Leukotriene A-4 hydrolase	LTA4H	0.598	0.036	0.177	0.302	0.556	0.892
3206-4	Lymphatic vessel endothelial hyaluronic acid receptor 1	LYVE1	0.014	0.001	0.019	0.082	0.038	0.069
3208-2	Matrilin-3	MATN3	0.780	0.999	0.288	0.226	0.131	0.163
3209-69	Matrix extracellular	MEPE	0.955	0.852	0.441	0.892	0.395	0.145

	phosphoglycoprotein							
3210-1	Methionine aminopeptidase 1	METAP1	0.425	0.912	0.332	0.757	0.223	0.052
3212-30	Neutral ceramidase	ASAH2	0.635	0.622	0.093	0.567	0.673	0.914
3213-65	Nidogen-1	NID1	0.547	0.071	0.197	0.747	0.952	0.781
3216-2	Polymeric immunoglobulin receptor	PIGR	0.057	0.649	0.075	0.360	0.976	0.242
3217-74	Glia-derived nexin	SERPINE2	0.038	0.068	0.229	0.762	0.249	0.010
3220-40	Proto-oncogene tyrosine-protein kinase receptor Ret	RET	0.255	0.447	0.258	0.714	0.454	0.329
3221-54	Secreted frizzled-related protein 1	SFRP1	0.539	0.877	0.544	0.740	0.387	0.217
3222-11	Semaphorin-3A	SEMA3A	0.374	0.773	0.486	0.780	0.673	0.255
3232-28	Tartrate-resistant acid phosphatase type 5	ACP5	0.078	0.160	0.095	0.086	0.012	0.008
3234-23	Coiled-coil domain-containing protein 80	CCDC80	0.020	0.008	0.089	0.079	0.061	0.152
3235-50	WAP, Kazal, immunoglobulin, Kunitz and NTR domain-containing protein 2	WFIKKN2	0.045	0.045	0.652	0.075	0.025	0.036
3280-49	Aggrecan core protein	ACAN	0.045	0.130	0.598	0.975	0.717	0.469
3281-19	Angiopoietin-related protein 3	ANGPTL3	0.403	0.033	0.633	0.645	0.443	0.369
3283-21	Transforming growth factor-beta-induced protein ig-h3	TGFBI	0.141	0.106	0.717	0.346	0.226	0.249
3284-75	Biglycan	BGN	0.616	0.377	0.898	0.594	0.288	0.169
3285-23	Complement C1r subcomponent	C1R	0.113	0.069	0.755	0.271	0.072	0.038
3289-19	Carbonic anhydrase-related protein 10	CA10	0.108	0.639	0.304	0.717	0.691	0.229
3290-50	CD109 antigen	CD109	0.299	0.080	0.737	0.046	0.038	0.130
3291-30	Low affinity immunoglobulin epsilon Fc receptor	FCER2	0.005	0.001	0.396	0.065	0.108	0.419

3292-75	CD48 antigen	CD48	0.580	0.275	0.989	0.268	0.271	0.456
3293-2	CD5 antigen-like	CD5L	0.596	0.601	0.652	0.912	0.278	0.028
3294-55	Cryptic protein	CFC1	0.344	0.019	0.049	0.002	0.018	0.463
3296-92	Contactin-2	CNTN2	0.791	0.196	0.690	0.076	0.079	0.236
3298-52	Contactin-4	CNTN4	0.006	0.000	0.000	0.003	0.002	0.018
3299-29	Contactin-5	CNTN5	0.076	0.595	0.928	0.161	0.155	0.318
3302-58	Cystatin-F	CST7	0.944	0.974	0.877	0.892	0.936	0.991
3303-23	Cystatin-M	CST6	0.114	0.447	0.052	0.210	0.048	0.027
3305-6	Delta-like protein 4	DLL4	0.512	0.212	0.539	0.810	0.795	0.430
3309-2	Low affinity immunoglobulin gamma Fc region receptor II-a	FCGR2A	0.912	0.716	0.430	0.440	0.876	0.223
3310-62	Low affinity immunoglobulin gamma Fc region receptor II-b	FCGR2B	0.621	0.796	0.944	0.225	0.405	0.907
3311-27	Low affinity immunoglobulin gamma Fc region receptor III-B	FCGR3B	0.784	0.608	0.927	0.264	0.520	0.902
3312-64	High affinity immunoglobulin gamma Fc receptor I	FCGR1A	0.270	0.687	0.030	0.982	0.722	0.515
3313-21	Ficolin-2	FCN2	0.144	0.977	0.693	0.411	0.253	0.242
3314-74	GDNF family receptor alpha-1	GFRA1	0.297	0.023	0.152	0.369	0.122	0.065
3315-15	Glypican-2	GPC2	0.948	0.807	0.245	0.496	0.561	0.782
3316-58	Heparin cofactor 2	SERPIND1	0.410	0.017	0.559	0.124	0.023	0.015
3317-33	Serine protease HTRA2, mitochondrial	HTRA2	0.952	0.471	0.400	0.327	0.266	0.355
3320-49	Insulin-like growth factor-binding protein 7	IGFBP7	0.918	0.061	0.660	0.172	0.236	0.554
3321-2	Interleukin-24	IL24	0.551	0.557	0.799	0.142	0.419	0.798
3322-52	Leucine-rich repeats and immunoglobulin-like domains protein 3	LRIG3	0.231	0.756	0.379	0.583	0.769	0.915
3323-37	Low-density lipoprotein receptor-related protein 8	LRP8	0.968	0.382	0.147	0.783	0.536	0.401

3324-51	T-lymphocyte surface antigen Ly-9	LY9	0.287	0.830	0.839	0.363	0.547	0.968
3325-2	Matrilin-2	MATN2	0.442	0.198	0.234	0.158	0.071	0.089
3326-58	Cell adhesion molecule 1	CADM1	0.198	0.353	0.483	0.792	0.404	0.206
3327-27	Netrin-4	NTN4	0.393	0.455	0.890	0.884	0.636	0.282
3329-14	Peptidoglycan recognition protein 1	PGLYRP1	0.551	0.891	0.950	0.708	0.741	0.278
3331-8	RGM domain family member B	RGMB	0.339	0.042	0.682	0.009	0.000	0.000
3332-57	Hemojuvelin	HFE2	0.536	0.707	0.918	0.204	0.094	0.101
3336-50	Tissue factor pathway inhibitor	TFPI	0.092	0.846	0.575	0.341	0.303	0.424
3339-33	Thrombospondin-2	THBS2	0.750	0.774	0.147	0.348	0.896	0.165
3340-53	Thrombospondin-4	THBS4	0.836	0.207	0.096	0.090	0.025	0.029
3341-33	Tyrosine-protein kinase ABL1	ABL1	0.066	0.643	0.589	0.681	0.493	0.422
3343-1	Aminoacylase-1	ACY1	0.232	0.564	0.345	0.917	0.962	0.827
3344-60	Antithrombin-III	SERPINC1	0.131	0.195	0.764	0.393	0.493	0.794
3346-72	Aurora kinase B	AURKB	0.587	0.856	0.539	0.959	0.778	0.550
3347-9	beta-adrenergic receptor kinase 1	ADRBK1	0.851	0.686	0.094	0.330	0.106	0.060
3348-49	Bone morphogenetic protein 1	BMP1	0.900	0.792	0.672	0.409	0.936	0.248
3350-53	Calcium/calmodulin-dependent protein kinase type II subunit alpha	CAMK2A	0.000	0.536	0.719	0.935	0.529	0.272
3351-1	Calcium/calmodulin-dependent protein kinase type II subunit beta	CAMK2B	0.015	0.652	0.931	0.819	0.786	0.427
3352-80	Carbonic anhydrase 6	CA6	0.975	0.000	0.155	0.050	0.004	0.002
3356-50	Carbonic anhydrase 7	CA7	0.899	0.629	0.268	0.866	0.785	0.469
3357-67	Cyclin-dependent kinase 2:Cyclin-A2 complex	CDK2 CCNA2	0.756	0.070	0.715	0.723	0.998	0.661
3358-51	Cyclin-dependent kinase 5:Cyclin-dependent kinase 5	CDK5 CDK5R1	0.130	0.497	0.301	0.164	0.149	0.294

	activator 1 complex							
3359-11	Cyclin-dependent kinase 8:Cyclin-C complex	CDK8 CCNC	0.335	0.905	0.791	0.941	0.709	0.424
3360-50	Serine/threonine-protein kinase Chk2	CHEK2	0.005	0.511	0.088	0.701	0.451	0.333
3361-26	C-type lectin domain family 4 member K	CD207	0.711	0.237	0.963	0.888	0.790	0.495
3362-61	Chordin-like protein 1	CHRDL1	0.570	0.971	0.786	0.673	0.307	0.155
3363-31	Tyrosine-protein kinase CSK	CSK	0.402	0.632	0.124	0.213	0.054	0.032
3364-76	Cathepsin L2	CTSV	0.952	0.436	0.436	0.921	0.828	0.772
3365-7	Dickkopf-related protein 4	DKK4	0.285	0.169	0.261	0.829	0.170	0.019
3366-51	Extracellular matrix protein 1	ECM1	0.765	0.244	0.192	0.018	0.013	0.065
3367-8	Fetuin-B	FETUB	0.254	0.481	0.532	0.929	0.404	0.141
3373-5	Granzyme H	GZMH	0.002	0.012	0.131	0.914	0.232	0.015
3374-49	Tyrosine-protein kinase HCK	HCK	0.490	0.281	0.114	0.134	0.129	0.287
3376-49	Interleukin-17 receptor D	IL17RD	0.577	0.577	0.481	0.948	0.817	0.605
3378-49	Kallikrein-7	KLK7	0.613	0.937	0.122	0.235	0.155	0.208
3379-29	Protein kinase C iota type	PRKCI	0.097	0.885	0.956	0.953	0.956	0.861
3381-24	Tyrosine-protein kinase Lyn, isoform B	LYN	0.211	0.569	0.018	0.266	0.124	0.119
3387-1	Serine/threonine-protein kinase PAK 3	PAK3	0.738	0.981	0.671	0.968	0.957	0.879
3388-58	Serine/threonine-protein kinase PAK 7	PAK7	0.773	0.011	0.337	0.286	0.082	0.044
3389-7	Plasma serine protease inhibitor	SERPINA5	0.574	0.533	0.667	0.326	0.381	0.642
3390-72	PIK3CA/PIK3R1	PIK3CA PIK3R1	0.196	0.448	0.958	0.669	0.425	0.318
3391-10	Phosphatidylinositol 4,5-bisphosphate 3-kinase catalytic subunit gamma isoform	PIK3CG	0.091	0.415	0.337	0.273	0.590	0.758
3392-68	RAC-alpha/beta/gamma serine/threonine-protein kinase	AKT1 AKT2 AKT3	0.260	0.795	0.609	0.562	0.249	0.138

3394-81	Serine/threonine-protein kinase PLK1	PLK1	0.675	0.093	0.338	0.055	0.035	0.095
3396-54	Renin	REN	0.763	0.327	0.642	0.073	0.090	0.296
3397-7	Tyrosine-protein phosphatase non-receptor type 11	PTPN11	0.664	0.254	0.425	0.493	0.518	0.693
3399-31	Stabilin-2	STAB2	0.192	0.860	0.615	0.452	0.810	0.170
3400-49	Serine/threonine-protein kinase TBK1	TBK1	0.944	0.603	0.351	0.247	0.851	0.291
3401-8	Tyrosine-protein phosphatase non-receptor type 2	PTPN2	0.672	0.043	0.382	0.319	0.116	0.076
3403-1	Tryptase beta-2	TPSB2	0.490	0.167	0.817	0.868	0.507	0.294
3404-51	Tryptase gamma	TPSG1	0.679	0.613	0.292	0.123	0.245	0.742
3405-6	Ubiquitin-fold modifier-conjugating enzyme 1	UFC1	0.557	0.604	0.553	0.863	0.515	0.148
3412-7	Apoptosis regulator Bcl-2	BCL2	0.217	0.423	0.377	0.683	0.634	0.683
3413-50	Bcl-2-related protein A1	BCL2A1	0.376	0.067	0.281	0.177	0.261	0.620
3414-40	Cytoplasmic tyrosine-protein kinase BMX	BMX	0.243	0.221	0.793	0.725	0.293	0.114
3415-61	Bone sialoprotein 2	IBSP	0.193	0.954	0.878	0.385	0.127	0.065
3416-2	Tyrosine-protein kinase BTK	BTK	0.305	0.894	0.224	0.488	0.180	0.088
3418-12	Calcium/calmodulin-dependent protein kinase type 1D	CAMK1D	0.316	0.637	0.569	0.545	0.892	0.633
3419-49	Calcium/calmodulin-dependent protein kinase type II subunit delta	CAMK2D	0.024	0.778	0.819	0.632	0.292	0.155
3420-21	Carbonic anhydrase 13	CA13	0.474	0.467	0.322	0.721	0.371	0.206
3421-54	Tumor necrosis factor ligand superfamily member 8	TNFSF8	0.692	0.589	0.144	0.774	0.869	0.974
3422-4	Cyclin-dependent kinase 1:G2/mitotic-specific cyclin-B1 complex	CDC2 CCNB1	0.670	0.024	0.022	0.329	0.449	0.801

3423-59	Chymase	CMA1	0.601	0.041	0.047	0.931	0.846	0.792
3427-63	Casein kinase II subunit alpha	CSNK2A1	0.193	0.956	0.892	0.742	0.374	0.036
3431-54	Ephrin type-A receptor 1	EPHA1	0.348	0.184	0.914	0.699	0.248	0.085
3432-21	Ephrin type-A receptor 3	EPHA3	0.202	0.766	0.026	0.656	0.535	0.524
3434-34	Fibronectin Fragment 3	FN1	0.554	0.599	0.040	0.050	0.043	0.142
3435-53	Fibronectin Fragment 4	FN1	0.607	0.295	0.022	0.031	0.033	0.160
3437-80	Receptor-type tyrosine-protein kinase FLT3	FLT3	0.497	0.241	0.029	0.914	0.513	0.268
3438-10	Follistatin-related protein 3	FSTL3	0.587	0.782	0.292	0.900	0.715	0.590
3440-7	Granzyme A	GZMA	0.888	0.040	0.669	0.092	0.200	0.698
3441-64	Glycogen synthase kinase-3 alpha/beta	GSK3A GSK3B	0.157	0.779	0.249	0.894	0.420	0.089
3443-61	Homeodomain-interacting protein kinase 3	HIPK3	0.708	0.606	0.750	0.494	0.522	0.700
3445-53	Interleukin-15 receptor subunit alpha	IL15RA	0.948	0.607	0.045	0.262	0.365	0.723
3446-7	Interleukin-18 receptor 1	IL18R1	0.723	0.128	0.010	0.624	0.265	0.130
3447-64	Interleukin-8	CXCL8	0.153	0.708	0.430	0.950	0.899	0.749
3448-13	Insulin receptor	INSR	0.140	0.072	0.795	0.113	0.173	0.504
3449-58	Kallistatin	SERPINA4	0.737	0.898	0.681	0.472	0.403	0.475
3450-4	Kallikrein-6	KLK6	0.043	0.910	0.914	0.377	0.799	0.557
3452-17	Tyrosine-protein kinase Lck	LCK	0.396	0.585	0.460	0.053	0.006	0.004
3453-87	Tyrosine-protein kinase Lyn	LYN	0.464	0.363	0.008	0.170	0.030	0.015
3457-57	Periostin	POSTN	0.334	0.242	0.545	0.285	0.022	0.002
3459-49	Platelet-derived growth factor receptor beta	PDGFRB	0.918	0.821	0.985	0.698	0.892	0.836
3461-58	Brevican core protein	BCAN	0.359	0.588	0.177	0.373	0.216	0.206
3466-8	cAMP-dependent protein kinase catalytic subunit alpha	PRKACA	0.644	0.661	0.295	0.645	0.308	0.168
3469-74	Ribosomal protein S6 kinase alpha-3	RPS6KA3	0.067	0.800	0.490	0.393	0.824	0.141
3470-1	E-selectin	SELE	0.339	0.021	0.814	0.356	0.560	0.996

3471-49	Serine/threonine-protein kinase 16	STK16	0.115	0.277	0.099	0.396	0.483	0.765
3472-40	Baculoviral IAP repeat-containing protein 5	BIRC5	0.946	0.068	0.296	0.555	0.367	0.318
3473-78	Thrombopoietin Receptor	MPL	0.023	0.139	0.953	0.632	0.254	0.112
3474-19	Thrombospondin-1	THBS1	0.052	0.402	0.513	0.962	0.516	0.197
3477-63	High affinity nerve growth factor receptor	NTRK1	0.237	0.405	0.234	0.465	0.493	0.678
3479-71	Trypsin-3	PRSS3	0.617	0.183	0.010	0.264	0.282	0.494
3480-7	Dual specificity protein phosphatase 3	DUSP3	0.187	0.989	0.837	0.455	0.199	0.125
3481-87	Xaa-Pro aminopeptidase 1	XPNPEP1	0.737	0.005	0.163	0.007	0.022	0.272
3484-60	Angiotensinogen	AGT	0.902	0.925	0.398	0.303	0.598	0.805
3485-28	Beta-2-microglobulin	B2M	0.259	0.282	0.521	0.838	0.724	0.362
3486-58	Fibroblast growth factor 1	FGF1	0.522	0.019	0.878	0.563	0.337	0.264
3487-32	C-X-C motif chemokine 13	CXCL13	0.820	0.997	0.857	0.907	0.471	0.131
3488-64	Catalase	CAT	0.494	0.403	0.761	0.014	0.026	0.215
3489-9	Ciliary neurotrophic factor	CNTF	0.467	0.028	0.195	0.334	0.212	0.231
3494-71	Fibroblast growth factor 17	FGF17	0.270	0.176	0.717	0.679	0.288	0.129
3495-15	C-X-C motif chemokine 6	CXCL6	0.030	0.410	0.581	0.633	0.253	0.111
3497-13	Interferon alpha-2	IFNA2	0.795	0.775	0.432	0.790	0.640	0.230
3499-77	Interleukin-17B	IL17B	0.531	0.093	0.427	0.178	0.322	0.812
3503-4	Integrin alpha-I: beta-1 complex	ITGA1 ITGB1	0.398	0.780	0.323	0.435	0.474	0.684
3504-58	Hepcidin	HAMP	0.164	0.286	0.215	0.142	0.143	0.319
3505-6	Lymphotoxin alpha1:beta2	LTA LTB	0.087	0.333	0.936	0.218	0.115	0.135
3506-49	Lymphotoxin alpha2:beta1	LTA LTB	0.842	0.566	0.873	0.738	0.970	0.738
3508-78	C-C motif chemokine 22	CCL22	0.469	0.503	0.250	0.417	0.219	0.179
3509-1	C-C motif chemokine 15	CCL15	0.696	0.498	0.941	0.332	0.582	0.893
3514-49	Myeloblastin	PRTN3	0.474	0.844	0.195	0.351	0.621	0.850
3516-60	Stromal cell-derived factor 1	CXCL12	0.302	0.509	0.579	0.197	0.848	0.230

3518-54	Carboxypeptidase B2	CPB2	0.927	0.645	0.403	0.221	0.506	0.826
3519-3	C-C motif chemokine 17	CCL17	0.745	0.849	0.842	0.406	0.826	0.557
3520-58	Transforming growth factor beta-3	TGFB3	0.782	0.341	0.429	0.321	0.238	0.305
3521-16	Thyroid Stimulating Hormone	CGA TSHB	0.769	0.010	0.279	0.283	0.122	0.102
3522-57	Vasoactive Intestinal Peptide	VIP	0.164	0.427	0.630	0.215	0.721	0.406
3534-14	CD40 ligand	CD40LG	0.589	0.368	0.126	0.144	0.188	0.466
3535-84	Dickkopf-related protein 1	DKK1	0.033	0.331	0.175	0.995	0.595	0.310
3538-26	Aromatic-L-amino-acid decarboxylase	DDC	0.004	0.072	0.053	0.324	0.227	0.278
3554-24	Adiponectin	ADIPOQ	0.845	0.309	0.547	0.262	0.073	0.042
3580-25	Alpha-1-antitrypsin	SERPINA1	0.857	0.939	0.800	0.728	0.398	0.239
3581-53	Alpha-2-HS-glycoprotein	AHSG	0.074	0.058	0.827	0.911	0.244	0.019
3583-54	Arylsulfatase A	ARSA	0.573	0.953	0.649	0.637	0.709	0.892
3585-54	Basigin	BSG	0.300	0.006	0.019	0.539	0.730	0.925
3587-53	Bone morphogenetic protein 10	BMP10	0.427	0.358	0.399	0.523	0.481	0.574
3591-51	Cadherin-6	CDH6	0.490	0.002	0.107	0.038	0.009	0.016
3592-4	Calcium/calmodulin-dependent protein kinase type 1	CAMK1	0.408	0.851	0.599	0.580	0.513	0.569
3593-72	Caspase-3	CASP3	0.325	0.760	0.794	0.429	0.171	0.101
3594-6	Cathepsin E	CTSE	0.761	0.387	0.657	0.655	0.934	0.703
3600-2	Chitotriosidase-1	CHIT1	0.417	0.330	0.051	0.869	0.653	0.514
3601-54	Neural cell adhesion molecule L1-like protein	CHL1	0.151	0.143	0.929	0.102	0.073	0.160
3603-60	C-type lectin domain family 7 member A	CLEC7A	0.981	0.073	0.096	0.292	0.122	0.097
3605-77	Mannan-binding lectin serine protease 1	MASP1	0.105	0.005	0.261	0.948	0.803	0.693
3606-2	Discoidin domain-containing receptor 2	DDR2	0.992	0.836	0.144	0.679	0.423	0.306
3607-71	Dickkopf-related protein 3	DKK3	0.982	0.846	0.869	0.960	0.204	0.013

3608-12	Dipeptidyl peptidase 2	DPP7	0.369	0.032	0.724	0.284	0.249	0.376
3611-70	Endothelin-converting enzyme 1	ECE1	0.585	0.593	0.350	0.688	0.737	0.884
3612-6	Ephrin type-B receptor 4	EPHB4	0.308	0.235	0.368	0.595	0.227	0.100
3613-62	Ficolin-1	FCN1	0.812	0.073	0.226	0.189	0.266	0.605
3616-3	N-acetylglucosamine-6-sulfatase	GNS	0.709	0.645	0.599	0.787	0.693	0.671
3617-80	Hepatocyte growth factor activator	HGFAC	0.547	0.400	0.767	0.633	0.409	0.325
3620-67	Interleukin-22 receptor subunit alpha-1	IL22RA1	0.584	0.377	0.038	0.655	0.844	0.357
3622-33	Legumain	LGMN	0.365	0.366	0.313	0.233	0.586	0.686
3623-84	Lymphocyte antigen 86	LY86	0.876	0.056	0.192	0.045	0.020	0.046
3624-3	Serine protease 27	PRSS27	0.940	0.144	0.025	0.593	0.397	0.337
3627-71	Membrane metallo-endopeptidase-like 1	MMEL1	0.770	0.415	0.570	0.723	0.894	0.492
3628-3	Dual specificity mitogen-activated protein kinase kinase 2	MAP2K2	0.063	0.090	0.040	0.020	0.138	0.979
3629-60	Serine/threonine-protein kinase MRCK beta	CDC42BPB	0.776	0.198	0.132	0.942	0.436	0.164
3630-27	Cell adhesion molecule 3	CADM3	0.681	0.470	0.938	0.601	0.445	0.414
3633-70	Nidogen-2	NID2	0.105	0.146	0.109	0.849	0.990	0.798
3634-5	Opioid-binding protein/cell adhesion molecule	OPCML	0.380	0.028	0.385	0.082	0.006	0.002
3635-76	OCIA domain-containing protein 1	OCIAD1	0.068	0.438	0.185	0.048	0.105	0.503
3636-37	Oxidized low-density lipoprotein receptor 1	OLR1	0.108	0.980	0.718	0.423	0.433	0.606
3640-14	alpha-2-macroglobulin receptor-associated protein	LRPAP1	0.069	0.002	0.076	0.041	0.010	0.016
3642-4	SLAM family member 5	CD84	0.675	0.914	0.347	0.135	0.425	0.764

3643-90	SLIT and NTRK-like protein 1	SLITRK1	0.389	0.693	0.031	0.970	0.916	0.804
3644-5	Dickkopf-like protein 1	DKKL1	0.843	0.018	0.064	0.139	0.038	0.033
3646-7	Tyrosine-protein kinase Tec	TEC	0.054	0.884	0.180	0.864	0.504	0.287
3647-49	Toll-like receptor 4:Lymphocyte antigen 96 complex	TLR4 LY96	0.390	0.005	0.231	0.405	0.199	0.153
3651-50	Vascular endothelial growth factor receptor 2	KDR	0.686	0.462	0.366	0.290	0.421	0.804
3654-27	BMP-binding endothelial regulator protein	BMPER	0.091	0.703	0.511	0.338	0.495	0.894
3656-9	Cadherin-12	CDH12	0.137	0.999	0.162	0.703	0.719	0.827
3657-74	Calcineurin subunit B type 1	PPP3R1	0.999	0.115	0.093	0.460	0.171	0.090
3666-17	Complement factor H-related protein 5	CFHR5	0.758	0.008	0.136	0.164	0.076	0.094
3676-15	Cation-independent mannose-6-phosphate receptor	IGF2R	0.045	0.865	0.927	0.764	0.518	0.391
3681-87	Kallikrein-14	KLK14	0.807	0.211	0.151	0.657	0.250	0.102
3684-78	Macrophage scavenger receptor types I and II	MSR1	0.103	0.028	0.239	0.129	0.049	0.058
3685-53	Membrane frizzled-related protein	MFRP	0.992	0.025	0.212	0.195	0.073	0.068
3707-12	Serum albumin	ALB	0.923	0.493	0.847	0.263	0.408	0.829
3708-62	Alpha-2-macroglobulin	A2M	0.501	0.010	0.084	0.101	0.064	0.125
3709-4	Alanine aminotransferase 1	GPT	0.050	0.880	0.651	0.827	0.332	0.113
3710-49	Angiostatin	PLG	0.664	0.031	0.572	0.048	0.043	0.147
3714-49	Creatine kinase M-type:Creatine kinase B-type heterodimer	CKB CKM	0.000	0.002	0.000	0.923	0.761	0.487
3719-2	Cyclin-dependent kinase inhibitor 1B	CDKN1B	0.408	0.122	0.483	0.792	0.754	0.782
3723-1	Brain natriuretic peptide 32	NPPB	0.677	0.592	0.924	0.724	0.830	0.981

3727-35	Peptide YY	PYY	0.503	0.977	0.989	0.496	0.637	0.946
3728-52	Secretin	SCT	0.680	0.683	0.479	0.664	0.685	0.809
3730-81	Tumor necrosis factor receptor superfamily member 4	TNFRSF4	0.373	0.866	0.760	0.700	0.381	0.231
3738-54	Macrophage colony-stimulating factor 1	CSF1	0.335	0.880	0.593	0.457	0.715	0.839
3758-68	Activated Protein C	PROC	0.498	0.053	0.040	0.281	0.451	0.905
3761-4	Prostaglandin G/H synthase 2	PTGS2	0.401	0.227	0.226	0.285	0.776	0.444
3766-51	Syntaxin-1A	STX1A	0.888	0.072	0.294	0.071	0.038	0.081
3773-15	Angiopoietin-1 receptor, soluble	TEK	0.271	0.361	0.473	0.524	0.644	0.916
3795-6	Disintegrin and metalloproteinase domain-containing protein 9	ADAM9	0.379	0.397	0.301	0.808	0.726	0.710
3796-79	Angiopoietin-related protein 4	ANGPTL4	0.918	0.292	0.250	0.151	0.436	0.794
3797-1	Cadherin-2	CDH2	0.368	0.608	0.547	0.646	0.269	0.119
3798-71	Carbonic anhydrase 9	CA9	0.137	0.819	0.606	0.977	0.988	0.950
3799-11	Carbonic anhydrase 3	CA3	0.083	0.156	0.009	0.405	0.207	0.166
3800-71	Creatine kinase B-type	CKB	0.656	0.920	0.310	0.229	0.271	0.530
3802-50	Cystatin-S	CST4	0.525	0.742	0.478	0.916	0.859	0.638
3803-10	Cystatin-D	CST5	0.147	0.632	0.083	0.819	0.603	0.478
3805-16	Endothelial cell-specific molecule 1	ESM1	0.929	0.493	0.615	0.858	0.218	0.034
3806-55	Ephrin type-A receptor 5	EPHA5	0.267	0.283	0.084	0.661	0.424	0.323
3807-1	Fibroblast growth factor 23	FGF23	0.484	0.225	0.081	0.720	0.374	0.211
3808-76	Fibroblast growth factor receptor 2	FGFR2	0.380	0.137	0.381	0.179	0.489	0.746
3809-1	Fibroblast growth factor receptor 3	FGFR3	0.949	0.203	0.701	0.864	0.487	0.264
3810-50	Tyrosine-protein kinase Fgr	FGR	0.458	0.579	0.549	0.767	0.622	0.564
3813-3	Tyrosine-protein kinase Fyn	FYN	0.175	0.473	0.900	0.733	0.764	0.328
3815-14	Interleukin-12 receptor subunit beta-2	IL12RB2	0.622	0.029	0.688	0.741	0.623	0.596

3817-18	Protein kinase C theta type	PRKCQ	0.179	0.847	0.422	0.599	0.269	0.142
3820-68	MAP kinase-activated protein kinase 2	MAPKAPK2	0.149	0.786	0.990	0.801	0.212	0.038
3821-28	MAP kinase-activated protein kinase 5	MAPKAPK5	0.744	0.621	0.223	0.706	0.606	0.602
3822-54	MAP kinase-activated protein kinase 3	MAPKAPK3	0.309	0.328	0.123	0.241	0.489	0.920
3823-9	Megakaryocyte-associated tyrosine-protein kinase	MATK	0.575	0.050	0.158	0.368	0.410	0.637
3825-18	Mitogen-activated protein kinase 8	MAPK8	0.658	0.270	0.341	0.210	0.167	0.272
3827-22	Serine/threonine-protein kinase PAK 6	PAK6	0.463	0.699	0.518	0.928	0.647	0.328
3828-54	Platelet-derived growth factor C	PDGFC	0.908	0.951	0.465	0.833	0.642	0.252
3831-21	Phosphatidylinositol 3,4,5-trisphosphate 3-phosphatase and dual-specificity protein phosphatase PTEN	PTEN	0.605	0.488	0.277	0.995	0.568	0.272
3832-51	Protein-tyrosine kinase 6	PTK6	0.656	0.975	0.209	0.822	0.946	0.685
3835-11	Toll-like receptor 2	TLR2	0.904	0.624	0.174	0.677	0.879	0.828
3836-51	Ubiquitin-fold modifier 1	UFM1	0.205	0.674	0.727	0.824	0.891	0.593
3839-60	AH receptor-interacting protein	AIP	0.510	0.355	0.159	0.513	0.193	0.094
3844-2	Peptidyl-prolyl cis-trans isomerase A	PPIA	0.243	0.801	0.257	0.994	0.551	0.250
3845-51	Dynein light chain roadblock-type 1	DYNLRB1	0.114	0.615	0.651	0.975	0.672	0.444
3847-56	Persulfide dioxygenase ETHE1, mitochondrial	ETHE1	0.303	0.529	0.197	0.655	0.918	0.727
3848-14	Glyceraldehyde-3-phosphate dehydrogenase	GAPDH	0.739	0.718	0.127	0.992	0.391	0.098
3852-19	DnaJ homolog subfamily B member 1	DNAJB1	0.008	0.645	0.654	0.439	0.262	0.236

3853-56	Malate dehydrogenase, cytoplasmic	MDH1	0.073	0.095	0.370	0.034	0.334	0.462
3854-24	Nascent polypeptide-associated complex subunit alpha	NACA	0.347	0.350	0.947	0.076	0.255	0.996
3855-56	Peroxiredoxin-1	PRDX1	0.523	0.463	0.666	0.489	0.919	0.516
3858-5	Low molecular weight phosphotyrosine protein phosphatase	ACP1	0.406	0.704	0.912	0.846	0.424	0.202
3859-50	Proteasome subunit alpha type-1	PSMA1	0.666	0.230	0.425	0.477	0.188	0.102
3860-7	Proteasome subunit alpha type-6	PSMA6	0.034	0.849	0.714	0.583	0.882	0.697
3864-5	40S ribosomal protein S7	RPS7	0.282	0.104	0.116	0.623	0.309	0.180
3865-53	Ribosomal protein S6 kinase alpha-5	RPS6KA5	0.218	0.947	0.642	0.698	0.316	0.150
3866-7	Ribosome maturation protein SBDS	SBDS	0.232	0.747	0.223	0.858	0.428	0.196
3867-49	Seizure 6-like protein 2	SEZ6L2	0.558	0.839	0.385	0.485	0.872	0.245
3868-8	Small glutamine-rich tetratricopeptide repeat-containing protein alpha	SGTA	0.244	0.557	0.860	0.334	0.841	0.424
3872-2	Translationally-controlled tumor protein	TPT1	0.673	0.981	0.490	0.746	0.417	0.250
3873-51	Thyroid peroxidase	TPO	0.298	0.568	0.310	0.734	0.805	0.375
3874-8	Ubiquitin-conjugating enzyme E2 L3	UBE2L3	0.465	0.714	0.199	0.428	0.668	0.074
3875-62	AT-rich interactive domain-containing protein 3A	ARID3A	0.018	0.691	0.612	0.747	0.210	0.045
3877-67	Calcium/calmodulin-dependent protein kinase kinase 1	CAMKK1	0.139	0.289	0.972	0.672	0.135	0.020
3879-50	Hsp90 co-chaperone Cdc37	CDC37	0.057	0.586	0.686	0.808	0.326	0.113

3881-49	Dynein light chain 1, cytoplasmic	DYNLL1	0.256	0.225	0.486	0.898	0.900	0.935
3887-90	Importin subunit beta-1	KPNB1	0.072	0.944	0.777	0.842	0.475	0.262
3888-8	Inhibitor of growth protein 1	ING1	0.084	0.895	0.307	0.980	0.535	0.226
3889-64	Lamin-B1	LMNB1	0.009	0.994	0.453	0.777	0.639	0.213
3890-8	L-lactate dehydrogenase B chain	LDHB	0.001	0.000	0.002	0.001	0.005	0.172
3891-56	Methyl-CpG-binding domain protein 4	MBD4	0.536	0.360	0.668	0.298	0.166	0.171
3893-64	Mesothelin	MSLN	0.313	0.300	0.332	0.059	0.072	0.263
3894-15	N-acetyl-D-glucosamine kinase	NAGK	0.693	0.141	0.892	0.177	0.033	0.015
3896-5	Phosphoglycerate mutase 1	PGAM1	0.434	0.884	0.942	0.859	0.914	0.990
3897-61	Pyridoxal phosphate phosphatase	PDXP	0.311	0.504	0.749	0.413	0.629	0.937
3898-5	26S proteasome non-ATPase regulatory subunit 7	PSMD7	0.272	0.016	0.436	0.130	0.123	0.280
3902-21	S-phase kinase-associated protein 1	SKP1	0.837	0.953	0.599	0.143	0.115	0.225
3903-49	Sorting nexin-4	SNX4	0.588	0.934	0.067	0.255	0.232	0.377
3905-62	Ubiquitin-conjugating enzyme E2 N	UBE2N	0.349	0.563	0.828	0.542	0.915	0.341
4122-12	Epithelial discoidin domain-containing receptor 1	DDR1	0.861	0.706	0.933	0.878	0.793	0.490
4123-60	Fibroblast growth factor 4	FGF4	0.669	0.237	0.823	0.142	0.449	0.727
4124-24	Heat shock 70 kDa protein 1A	HSPA1A	0.882	0.308	0.909	0.498	0.564	0.784
4125-52	Advanced glycosylation end product-specific receptor, soluble	AGER	0.155	0.471	0.576	0.879	0.313	0.085
4126-22	Bactericidal permeability-increasing protein	BPI	0.437	0.891	0.859	0.573	0.930	0.397
4127-75	Complement component C6	C6	0.128	0.201	0.374	0.451	0.349	0.388

4128-27	C-C motif chemokine 24	CCL24	0.623	0.440	0.612	0.599	0.560	0.639
4129-72	Complement factor B	CFB	0.428	0.011	0.789	0.480	0.064	0.008
4130-71	Fibroblast growth factor 6	FGF6	0.888	0.948	0.497	0.762	0.530	0.116
4131-72	Fibronectin	FN1	0.583	0.901	0.111	0.113	0.100	0.232
4132-27	Follistatin	FST	0.256	0.197	0.449	0.185	0.134	0.217
4133-54	Granzyme B	GZMB	0.893	0.246	0.302	0.100	0.290	0.994
4134-4	Heparin-binding EGF-like growth factor	HBEGF	0.018	0.870	0.417	0.586	0.243	0.118
4135-84	Immunoglobulin E	IGHE IGK@ IGL@	0.453	0.041	0.119	0.076	0.109	0.372
4136-40	Interleukin-17D	IL17D	0.418	0.026	0.578	0.669	0.402	0.281
4137-57	Interleukin-25	IL25	0.394	0.175	0.268	0.864	0.447	0.217
4138-25	Interleukin-20	IL20	0.307	0.451	0.933	0.914	0.717	0.576
4139-71	Interleukin-6 receptor subunit alpha	IL6R	0.475	0.936	0.234	0.390	0.447	0.687
4140-3	Interleukin-7	IL7	0.395	0.055	0.569	0.432	0.261	0.238
4141-79	C-X-C motif chemokine 10	CXCL10	0.639	0.024	0.048	0.151	0.564	0.521
4143-74	Lymphotactin	XCL1	0.159	0.143	0.432	0.496	0.440	0.523
4144-13	C-C motif chemokine 13	CCL13	0.957	0.789	0.603	0.910	0.595	0.248
4145-58	Neurotrophin-3	NTF3	0.004	0.350	0.051	0.210	0.275	0.585
4146-58	Neurotrophin-4	NTF4	0.161	0.085	0.929	0.420	0.796	0.138
4148-49	Pappalysin-1	PAPPA	0.714	0.905	0.661	0.317	0.502	0.955
4149-8	Platelet-derived growth factor subunit B	PDGFB	0.056	0.531	0.621	0.737	0.423	0.266
4150-75	Plasmin	PLG	0.777	0.793	0.934	0.997	0.528	0.229
4151-6	Plasminogen	PLG	0.428	0.124	0.913	0.204	0.141	0.209
4152-58	Plasma kallikrein	KLKB1	0.411	0.031	0.647	0.162	0.401	0.916
4153-11	Alpha-1-antichymotrypsin complex	SERPINA3	0.411	0.366	0.572	0.555	0.940	0.565
4154-57	P-selectin	SELP	0.198	0.122	0.147	0.753	0.743	0.809
4155-3	Tenascin	TNC	0.454	0.021	0.666	0.295	0.315	0.522
4156-74	Transforming growth factor beta-2	TGFB2	0.712	0.681	0.945	0.943	0.979	0.891
4157-2	Thrombin	F2	0.310	0.608	0.440	0.415	0.101	0.034
4158-54	Urokinase-type plasminogen activator	PLAU	0.658	0.002	0.937	0.006	0.000	0.000
4159-130	Complement factor H	CFH	0.775	0.996	0.587	0.665	0.459	0.053

4160-49	72 kDa type IV collagenase	MMP2	0.964	0.274	0.091	0.045	0.088	0.416
4162-54	Serotransferrin	TF	0.126	0.008	0.055	0.076	0.050	0.122
4163-5	Histone H2A.z	H2AFZ	0.277	0.590	0.063	0.002	0.001	0.014
4165-2	Thyroglobulin	TG	0.736	0.013	0.378	0.453	0.111	0.033
4179-57	14-3-3 protein family	YWHAB,YWHAE,YWHAG,YWHAH,YWHAQ,YWHAZ,SFN	0.551	0.631	0.184	0.548	0.220	0.109
4184-43	Eukaryotic translation initiation factor 4E-binding protein 2	EIF4EBP2	0.515	0.716	0.574	0.779	0.858	0.998
4187-49	6-phosphogluconate dehydrogenase, decarboxylating	PGD	0.261	0.529	0.634	0.732	0.396	0.232
4188-1	Aflatoxin B1 aldehyde reductase member 2	AKR7A2	0.347	0.631	0.343	0.708	0.788	0.330
4192-10	Alcohol dehydrogenase [NADP(+)]	AKR1A1	0.049	0.443	0.353	0.989	0.932	0.886
4194-26	Acidic leucine-rich nuclear phosphoprotein 32 family member B	ANP32B	0.724	0.336	0.107	0.893	0.573	0.363
4203-50	Cofilin-1	CFL1	0.612	0.847	0.208	0.405	0.311	0.361
4209-60	Vacuolar protein sorting-associated protein VTA1 homolog	VTA1	0.070	0.844	0.487	0.920	0.570	0.226
4212-5	Epidermal growth factor receptor substrate 15-like 1	EPS15L1	0.298	0.767	0.524	0.168	0.506	0.679
4217-49	3-hydroxyacyl-CoA dehydrogenase type-2	HSD17B10	0.917	0.286	0.094	0.924	0.603	0.265
4220-39	Tyrosine-protein kinase Fer	FER	0.052	0.926	0.095	0.222	0.118	0.138
4224-7	Heterogeneous nuclear ribonucleoprotein Q	SYNCRIP	0.481	0.482	0.539	0.400	0.839	0.160

4230-1	Eukaryotic translation initiation factor 4 gamma 2	EIF4G2	0.139	0.608	0.398	0.790	0.647	0.584
4232-19	Insulin-like growth factor 1 receptor	IGF1R	0.017	0.004	0.223	0.005	0.001	0.005
4234-8	Interleukin-1 receptor-like 1	IL1RL1	0.658	0.868	0.236	0.048	0.054	0.207
4237-70	Leucine carboxyl methyltransferase 1	LCMT1	0.617	0.528	0.197	0.305	0.486	0.942
4238-4	Protein lin-7 homolog B	LIN7B	0.086	0.091	0.218	0.434	0.067	0.011
4240-31	Pyruvate kinase PKM	PKM2	0.277	0.776	0.217	0.402	0.123	0.056
4245-80	E3 ubiquitin-protein ligase Mdm2	MDM2	0.560	0.873	0.681	0.854	0.742	0.392
4246-40	Neural cell adhesion molecule L1	L1CAM	0.000	0.000	0.001	0.000	0.000	0.002
4249-64	Nucleoside diphosphate kinase B	NME2	0.490	0.823	0.189	0.520	0.260	0.174
4250-23	NSFL1 cofactor p47	NSFL1C	0.386	0.560	0.941	0.956	0.651	0.428
4254-6	NudC domain-containing protein 3	NUDCD3	0.123	0.206	0.527	0.143	0.128	0.265
4258-15	Proliferation-associated protein 2G4	PA2G4	0.326	0.844	0.800	0.202	0.388	0.929
4261-55	Serum paraoxonase/arylesterase 1	PON1	0.580	0.003	0.235	0.077	0.021	0.025
4267-81	Pescadillo homolog	PES1	0.752	0.316	0.691	0.761	0.468	0.311
4271-75	Prefoldin subunit 5	PFDN5	0.323	0.201	0.077	0.776	0.342	0.143
4272-46	Glucose-6-phosphate isomerase	GPI	0.431	0.138	0.431	0.338	0.207	0.217
4276-10	Phosphatidylethanolamine-binding protein 1	PEBP1	0.889	0.341	0.302	0.515	0.783	0.184
4278-14	Protein disulfide-isomerase	P4HB	0.021	0.295	0.191	0.164	0.208	0.485
4280-47	Proteasome subunit alpha type-2	PSMA2	0.242	0.097	0.191	0.890	0.418	0.171

4282-3	GTP-binding nuclear protein Ran	RAN	0.979	0.252	0.121	0.758	0.634	0.600
4284-18	RNA-binding protein 39	RBM39	0.286	0.831	0.531	0.945	0.734	0.575
4292-5	Alpha-soluble NSF attachment protein	NAPA	0.375	0.652	0.694	0.547	0.892	0.319
4294-16	Sphingosine kinase 1	SPHK1	0.117	0.922	0.194	0.419	0.195	0.139
4297-62	Spondin-1	SPON1	0.851	0.836	0.524	0.133	0.249	0.712
4301-58	Thymidine kinase, cytosolic	TK1	0.822	0.761	0.763	0.594	0.444	0.031
4304-18	Ligand-dependent nuclear receptor corepressor-like protein	LCORL	0.234	0.220	0.444	0.578	0.974	0.456
4306-4	Transketolase	TKT	0.528	0.819	0.355	0.713	0.696	0.228
4309-59	Triosephosphate isomerase	TPI1	0.720	0.880	0.340	0.500	0.901	0.552
4314-12	dCTP pyrophosphatase 1	DCTPP1	0.347	0.002	0.237	0.002	0.001	0.014
4318-12	Tyrosine-protein phosphatase non-receptor type 6	PTPN6	0.858	0.445	0.770	0.722	0.613	0.598
4322-28	Protein amnionless	AMN	0.898	0.248	0.989	0.394	0.094	0.031
4324-33	Cystatin-SA	CST2	0.758	0.976	0.804	0.874	0.977	0.891
4328-2	Brother of CDO	BOC	0.891	0.589	0.561	0.199	0.227	0.462
4332-6	C-type lectin domain family 1 member B	CLEC1B	0.188	0.044	0.545	0.612	0.619	0.743
4336-2	Serum amyloid A-1 protein	SAA1	0.728	0.593	0.315	0.200	0.192	0.354
4337-49	C-reactive protein	CRP	0.986	0.070	0.446	0.058	0.052	0.164
4342-10	Intercellular adhesion molecule 1	ICAM1	0.393	0.492	0.442	0.603	0.678	0.162
4355-13	Death-associated protein kinase 2	DAPK2	0.241	0.435	0.040	0.207	0.091	0.094
4359-87	Dual specificity tyrosine-phosphorylation-regulated kinase 3	DYRK3	0.656	0.238	0.123	0.279	0.059	0.022
4374-45	Growth/differentiation factor 15	GDF15	0.446	0.151	0.839	0.018	0.098	0.764
4389-2	Desert hedgehog protein N-product	DHH	0.334	0.368	0.492	0.992	0.464	0.164

4392-54	Fibroblast growth factor 12	FGF12	0.751	0.002	0.235	0.487	0.269	0.208
4393-3	Fibroblast growth factor 16	FGF16	0.120	0.605	0.625	0.984	0.439	0.132
4394-71	Fibroblast growth factor 8 isoform A	FGF8	0.339	0.756	0.280	0.692	0.537	0.489
4396-54	Interferon lambda-1	IFNL1	0.861	0.635	0.418	0.871	0.549	0.179
4397-26	Interferon lambda-2	IFNL2	0.824	0.395	0.886	0.851	0.523	0.147
4407-10	Hepatocyte growth factor-like protein	MST1	0.962	0.122	0.780	0.774	0.716	0.734
4413-3	Antileukoproteinase	SLPI	0.902	0.365	0.236	0.055	0.018	0.032
4414-69	Pulmonary surfactant-associated protein D	SFTPD	0.909	0.006	0.082	0.792	0.653	0.240
4420-7	Disintegrin and metalloproteinase domain-containing protein 12	ADAM12	0.271	0.543	0.561	0.482	0.479	0.623
4423-77	Bcl-2-like protein 1	BCL2L1	0.341	0.903	0.975	0.279	0.937	0.247
4428-1	Carbohydrate sulfotransferase 2	CHST2	0.461	0.649	0.282	0.348	0.367	0.566
4429-51	Carbohydrate sulfotransferase 6	CHST6	0.137	0.655	0.885	0.315	0.161	0.148
4430-44	Collectin-11	COLEC11	0.599	0.327	0.055	0.190	0.407	0.992
4435-66	Ectonucleotide pyrophosphatase/phosphodiesterase family member 7	ENPP7	0.379	0.720	0.622	0.287	0.476	0.948
4436-1	Ectonucleoside triphosphate diphosphohydrolase 3	ENTPD3	0.904	0.391	0.533	0.735	0.612	0.581
4437-56	Ectonucleoside triphosphate diphosphohydrolase 5	ENTPD5	0.061	0.681	0.370	0.220	0.685	0.478
4440-15	Fc receptor-like protein 3	FCRL3	0.802	0.850	0.871	0.592	0.331	0.232
4449-67	Gremlin-1	GREM1	0.856	0.554	0.908	0.886	0.778	0.476
4450-26	Heterogeneous nuclear ribonucleoprotein A/B	HNRNPAB	0.944	0.003	0.007	0.667	0.681	0.192

4452-9	Leucine-rich repeat transmembrane neuronal protein 1	LRRTM1	0.438	0.559	0.653	0.407	0.596	0.999
4453-83	Leucine-rich repeat transmembrane neuronal protein 3	LRRTM3	0.518	0.510	0.404	0.572	0.414	0.386
4455-89	Lactadherin	MFGE8	0.429	0.499	0.164	0.959	0.692	0.415
4459-68	Proprotein convertase subtilisin/kexin type 7	PCSK7	0.108	0.130	0.492	0.152	0.138	0.282
4460-8	3-phosphoinositide-dependent protein kinase 1	PDPK1	0.047	0.777	0.454	0.692	0.366	0.216
4464-10	Sialoadhesin	SIGLEC1	0.702	0.711	0.218	0.422	0.196	0.138
4467-49	SPARC-like protein 1	SPARCL1	0.262	0.068	0.240	0.545	0.216	0.109
4468-21	Sphingosine kinase 2	SPHK2	0.771	0.031	0.825	0.624	0.675	0.841
4469-78	Carbohydrate sulfotransferase 15	CHST15	0.846	0.807	0.615	0.608	0.183	0.058
4471-50	Protein-glutamine gamma-glutamyltransferase E	TGM3	0.429	0.856	0.826	0.931	0.848	0.795
4472-5	Tropomyosin beta chain	TPM2	0.444	0.241	0.290	0.855	0.940	0.937
4474-19	Ubiquitin	RPS27A	0.087	0.229	0.087	0.199	0.395	0.960
4476-22	Tyrosine-protein kinase ZAP-70	ZAP70	0.298	0.494	0.309	0.351	0.752	0.598
4479-14	Plasma protease C1 inhibitor	SERPING1	0.989	0.800	0.768	0.628	0.697	0.879
4480-59	Complement C3b	C3	0.654	0.734	0.183	0.763	0.853	0.476
4481-34	Complement C4	C4A C4B	0.111	0.087	0.409	0.239	0.372	0.786
4482-66	Complement C5b-C6 complex	C5 C6	0.615	0.000	0.359	0.039	0.003	0.002
4487-1	Fibroblast growth factor 7	FGF7	0.337	0.956	0.626	0.820	0.524	0.350
4490-65	Interleukin-3 receptor subunit alpha	IL3RA	0.032	0.382	0.995	0.639	0.416	0.328
4491-4	Interleukin-5 receptor subunit alpha	IL5RA	0.226	0.053	0.117	0.217	0.229	0.436
4493-92	Interleukin-11	IL11	0.721	0.288	0.679	0.741	0.413	0.048

4495-33	Kininogen-1	KNG1	0.560	0.703	0.030	0.704	0.782	0.950
4496-60	Macrophage metalloelastase	MMP12	0.212	0.894	0.526	0.654	0.374	0.255
4498-62	Neural cell adhesion molecule 1, 120 kDa isoform	NCAM1	0.200	0.019	0.374	0.001	0.002	0.082
4499-21	Platelet-derived growth factor subunit A	PDGFA	0.147	0.618	0.853	0.913	0.472	0.217
4500-50	Stem cell growth factor-alpha	CLEC11A	0.022	0.021	0.064	0.924	0.803	0.720
4533-76	A disintegrin and metalloproteinase with thrombospondin motifs 15	ADAMTS15	0.590	0.112	0.414	0.194	0.068	0.059
4534-10	Brain-specific serine protease 4	PRSS22	0.112	0.733	0.663	0.904	0.820	0.563
4535-50	ADP-ribosyl cyclase/cyclic ADP-ribose hydrolase 2	BST1	0.599	0.086	0.005	0.010	0.049	0.532
4540-11	Chromobox protein homolog 5	CBX5	0.842	0.171	0.325	0.782	0.834	0.951
4541-49	Cell adhesion molecule-related/down-regulated by oncogenes	CDON	0.798	0.635	0.169	0.115	0.171	0.493
4542-24	Clusterin	CLU	0.132	0.015	0.049	0.221	0.179	0.290
4543-65	Collagen alpha-1(XXIII) chain	COL23A1	0.644	0.354	0.764	0.668	0.279	0.009
4544-4	Connective tissue-activating peptide III	PPBP	0.043	0.484	0.676	0.933	0.446	0.179
4545-53	Mitochondrial import inner membrane translocase subunit TIM14	DNAJC19	0.677	0.597	0.509	0.958	0.978	0.991
4546-27	Adhesion G protein-coupled receptor E2	ADGRE2	0.721	0.793	0.075	0.798	0.333	0.129
4547-59	Leucine-rich repeat transmembrane protein FLRT1	FLRT1	0.180	0.814	0.487	0.341	0.757	0.567
4548-4	Galactoside 3(4)-L-fucosyltransferase	FUT3	0.759	0.773	0.623	0.348	0.342	0.507

4549-78	Alpha-(1,3)-fucosyltransferase 5	FUT5	0.824	0.024	0.024	0.216	0.394	0.906
4551-72	Adhesion G-protein coupled receptor G5	ADGRG5	0.434	0.191	0.400	0.139	0.130	0.282
4553-65	Hepatoma-derived growth factor-related protein 2	HDGFRP2	0.458	0.396	0.100	0.068	0.115	0.439
4556-10	Interleukin-34	IL34	0.469	0.490	0.761	0.675	0.998	0.615
4557-61	Kin of IRRE-like protein 3	KIRREL3	0.094	0.290	0.218	0.285	0.321	0.560
4559-64	Kynureninase	KYNU	0.623	0.690	0.375	0.394	0.247	0.246
4561-65	Baculoviral IAP repeat-containing protein 7 Isoform beta	BIRC7	0.068	0.064	0.421	0.891	0.598	0.404
4562-1	Neurexophilin-1	NXPH1	0.691	0.742	0.516	0.874	0.813	0.798
4563-61	1-phosphatidylinositol 4,5-bisphosphate phosphodiesterase gamma-1	PLCG1	0.963	0.073	0.220	0.286	0.048	0.014
4564-2	Plexin-C1	PLXNC1	0.438	0.161	0.347	0.133	0.045	0.048
4566-24	R-spondin-2	RSPO2	0.398	0.774	0.620	0.103	0.185	0.597
4567-82	SH2 domain-containing protein 1A	SH2D1A	0.093	0.540	0.499	0.951	0.503	0.177
4568-17	SLIT and NTRK-like protein 5	SLITRK5	0.367	0.708	0.559	0.872	0.328	0.098
4569-52	VPS10 domain-containing receptor SorCS2	SORCS2	0.294	0.818	0.795	0.551	0.659	0.909
4588-1	Pancreatic hormone	PPY	0.009	0.507	0.007	0.765	0.394	0.047
4673-13	Interleukin-6	IL6	0.383	0.209	0.810	0.126	0.024	0.016
4693-72	3-hydroxyisobutyrate dehydrogenase, mitochondrial	HIBADH	0.660	0.761	0.763	0.932	0.905	0.739
4697-59	Granulocyte-macrophage colony-stimulating factor	CSF2	0.414	0.753	0.935	0.232	0.512	0.836
4703-87	Lymphotoxin-alpha	LTA	0.955	0.749	0.946	0.631	0.546	0.572
4706-17	Protein 4.1	EPB41	0.408	0.180	0.586	0.346	0.211	0.218

4708-3	Estradiol 17-beta-dehydrogenase 1	HSD17B1	0.481	0.010	0.007	0.330	0.066	0.021
4712-28	Apolipoprotein D	APOD	0.687	0.340	0.205	0.707	0.269	0.102
4717-55	Interleukin-3	IL3	0.273	0.648	0.049	0.577	0.395	0.347
4718-5	Peptidyl-prolyl cis-trans isomerase B	PPIB	0.476	0.277	0.466	0.225	0.246	0.467
4719-58	Protein disulfide-isomerase A3	PDIA3	0.352	0.442	0.300	0.134	0.026	0.016
4721-54	Trefoil factor 3	TFF3	0.455	0.202	0.246	0.998	0.657	0.400
4763-31	Afamin	AFM	0.246	0.427	0.040	0.660	0.645	0.734
4769-10	Olfactomedin-4	OLFM4	0.672	0.364	0.954	0.069	0.091	0.318
4771-10	Acid sphingomyelinase-like phosphodiesterase 3a	SMPDL3A	0.219	0.180	0.829	0.167	0.196	0.436
4774-62	Protein FAM107B	FAM107B	0.691	0.010	0.361	0.044	0.019	0.048
4775-34	Gelsolin	GSN	0.534	0.031	0.268	0.012	0.012	0.090
4785-30	Corticosteroid-binding globulin	SERPINA6	0.984	0.148	0.467	0.920	0.812	0.564
4786-58	UMP-CMP kinase	CMPK1	0.548	0.800	0.789	0.947	0.480	0.152
4792-51	gp41 C34 peptide, HIV	Human-virus	0.889	0.717	0.369	0.807	0.664	0.264
4801-13	Lactoperoxidase	LPO	0.024	0.541	0.459	0.706	0.859	0.904
4807-13	Collagen alpha-1(VIII) chain	COL8A1	0.482	0.571	0.672	0.540	0.744	0.900
4811-33	Inter-alpha-trypsin inhibitor heavy chain H4	ITIH4	0.039	0.983	0.278	0.705	0.846	0.928
4815-25	Thioredoxin domain-containing protein 12	TXNDC12	0.678	0.866	0.484	0.263	0.461	0.958
4829-43	14-3-3 protein sigma	SFN	0.065	0.653	0.797	0.311	0.545	0.934
4831-4	L-Selectin	SELL	0.604	0.519	0.055	0.462	0.856	0.591
4832-75	Tumor necrosis factor receptor superfamily member 10A	TNFRSF10A	0.917	0.693	0.173	0.561	0.453	0.471
4834-61	Ephrin type-A receptor 2	EPHA2	0.373	0.819	0.445	0.248	0.054	0.024
4840-73	Granulocyte colony-stimulating factor	CSF3	0.970	0.689	0.631	0.657	0.400	0.291
4842-62	Glypican-3	GPC3	0.031	0.723	0.347	0.666	0.192	0.051

4851-25	Interleukin-1 alpha	IL1A	0.309	0.129	0.287	0.946	0.981	0.899
4859-6	Bone morphogenetic protein receptor type-1A	BMPR1A	0.852	0.404	0.278	0.576	0.476	0.501
4862-63	Bone morphogenetic protein receptor type-2	BMPR2	0.981	0.481	0.022	0.085	0.685	0.183
4866-59	BDNF/NT-3 growth factors receptor	NTRK2	0.316	0.042	0.099	0.074	0.045	0.101
4867-15	Vascular endothelial growth factor A, isoform 121	VEGFA	0.359	0.695	0.474	0.095	0.328	0.854
4874-3	Angiogenin	ANG	0.646	0.284	0.179	0.939	0.463	0.138
4876-32	Coagulation factor IX	F9	0.220	0.002	0.049	0.022	0.002	0.003
4878-3	Coagulation Factor X	F10	0.371	0.466	0.042	0.242	0.282	0.533
4880-21	Growth/differentiation factor 2	GDF2	0.147	0.051	0.276	0.219	0.062	0.041
4883-56	Insulin	INS	0.028	0.319	0.407	0.455	0.175	0.112
4886-3	C-C motif chemokine 7	CCL7	0.017	0.005	0.373	0.026	0.173	0.909
4889-82	Protein Wnt-7a	WNT7A	0.906	0.693	0.036	0.157	0.132	0.256
4890-10	Corticotropin	POMC	0.730	0.521	0.220	0.752	0.598	0.537
4891-50	Glucagon	GCG	0.643	0.434	0.491	0.505	0.725	0.888
4900-8	C3a anaphylatoxin	C3	0.974	0.157	0.419	0.698	0.750	0.284
4903-72	Calcineurin	PPP3CA PPP3R1	0.624	0.387	0.373	0.479	0.932	0.483
4904-7	Caspase-2	CASP2	0.285	0.412	0.241	0.890	0.915	0.709
4905-63	Coactosin-like protein	COTL1	0.642	0.897	0.613	0.348	0.506	0.902
4906-35	Coagulation Factor V	F5	0.110	0.502	0.901	0.169	0.487	0.731
4907-56	D-dimer	FGA FGB FGG	0.152	0.621	0.567	0.322	0.462	0.847
4908-6	Endoglin	ENG	0.585	0.034	0.308	0.866	0.764	0.716
4909-68	Galectin-8	LGALS8	0.377	0.961	0.434	0.570	0.399	0.361
4910-21	Phospholipase A2	PLA2G1B	0.854	0.272	0.733	0.887	0.860	0.613
4911-49	Glutathione S-transferase P	GSTP1	0.313	0.464	0.255	0.878	0.559	0.357
4912-17	Aspartate aminotransferase, cytoplasmic	GOT1	0.125	0.995	0.650	0.467	0.617	0.949
4913-78	C-C motif chemokine 16	CCL16	0.596	0.251	0.058	0.527	0.293	0.218

4914-10	Human Chorionic Gonadotropin	CGA CGB	0.571	0.701	0.259	0.017	0.019	0.123
4915-64	Hemoglobin	HBA1 HBB	0.239	0.943	0.592	0.224	0.161	0.237
4916-2	Immunoglobulin D	IGHD IGK@ IGL@	0.057	0.092	0.061	0.766	0.619	0.191
4917-62	Integrin alpha-V: beta-5 complex	ITGAV ITGB5	0.000	0.000	0.000	0.001	0.003	0.101
4920-10	Lysozyme C	LYZ	0.149	0.712	0.670	0.111	0.112	0.281
4922-13	C-C motif chemokine 19	CCL19	0.653	0.486	0.152	0.710	0.606	0.597
4923-79	Muellerian-inhibiting factor	AMH	0.926	0.781	0.238	0.327	0.225	0.267
4924-32	Interstitial collagenase	MMP1	0.226	0.920	0.479	0.384	0.165	0.114
4925-54	Collagenase 3	MMP13	0.237	0.434	0.333	0.702	0.430	0.301
4929-55	Sex hormone-binding globulin	SHBG	0.678	0.467	0.492	0.349	0.221	0.238
4930-21	Stanniocalcin-1	STC1	0.696	0.976	0.517	0.932	0.881	0.856
4931-59	Tissue Factor	F3	0.252	0.978	0.242	0.904	0.957	0.965
4956-2	Epiregulin	EREG	0.824	0.437	0.005	0.942	0.899	0.739
4957-1	40S ribosomal protein SA	RPSA	0.876	0.924	0.011	0.410	0.973	0.286
4959-2	Anterior gradient protein 2 homolog	AGR2	0.601	0.512	0.504	0.201	0.141	0.214
4960-72	Annexin A1	ANXA1	0.487	0.790	0.237	0.042	0.052	0.222
4961-17	Annexin A2	ANXA2	0.099	0.685	0.845	0.917	0.964	0.967
4962-52	Cerebral dopamine neurotrophic factor	CDNF	0.218	0.848	0.616	0.398	0.077	0.020
4963-19	cAMP-regulated phosphoprotein 19	ARPP19	0.911	0.708	0.951	0.821	0.543	0.375
4964-67	Endoplasmic reticulum aminopeptidase 1	ERAP1	0.880	0.037	0.482	0.104	0.148	0.434
4965-27	ATP synthase subunit beta, mitochondrial	ATP5B	0.166	0.345	0.503	0.832	0.309	0.093
4967-1	Complement component 1 Q subcomponent-binding protein, mitochondrial	C1QBP	0.584	0.168	0.222	0.195	0.214	0.433
4968-50	Macrophage-capping protein	CAPG	0.089	0.138	0.720	0.144	0.023	0.011
4969-2	Carbonic anhydrase 1	CA1	0.267	0.251	0.923	0.409	0.588	0.980

4970-55	Carbonic anhydrase 2	CA2	0.780	0.947	0.902	0.227	0.233	0.426
4971-1	Cathepsin Z	CTSZ	0.003	0.009	0.106	0.101	0.065	0.131
4973-18	Baculoviral IAP repeat-containing protein 3	BIRC3	0.251	0.836	0.380	0.480	0.398	0.454
4976-57	Adapter molecule crk	CRK	0.429	0.489	0.682	0.984	0.755	0.569
4978-54	Drebrin-like protein	DBNL	0.094	0.563	0.542	0.806	0.738	0.349
4979-34	Dermatopontin	DPT	0.974	0.098	0.765	0.977	0.568	0.294
4981-6	Desmocollin-3	DSC3	0.050	0.714	0.592	0.559	0.928	0.380
4982-54	Elafin	PI3	0.716	0.984	0.864	0.700	0.714	0.819
4983-6	Endoplasmic reticulum resident protein 29	ERP29	0.721	0.030	0.528	0.047	0.020	0.044
4984-83	S-formylglutathione hydrolase	ESD	0.007	0.031	0.950	0.039	0.074	0.379
4985-11	Fatty acid-binding protein, epidermal	FABP5	0.268	0.184	0.138	0.758	0.331	0.139
4986-59	Focal adhesion kinase 1	PTK2	0.711	0.227	0.408	0.883	0.425	0.180
4987-17	Immunoglobulin alpha Fc receptor	FCAR	0.883	0.198	0.977	0.791	0.457	0.275
4988-49	Fibroblast growth factor receptor 4	FGFR4	0.208	0.496	0.004	0.223	0.349	0.764
4989-7	Fibrinogen gamma chain	FGG	0.426	0.726	0.220	0.438	0.693	0.847
4990-87	Platelet glycoprotein Ib alpha chain	GP1BA	0.740	0.007	0.759	0.144	0.296	0.827
4991-12	Glypican-5	GPC5	0.545	0.657	0.853	0.994	0.466	0.169
4992-49	Granulins	GRN	0.731	0.525	0.846	0.743	0.938	0.805
4993-16	Glutathione S-transferase A3	GSTA3	0.596	0.756	0.293	0.800	0.987	0.733
4994-178	Heterogeneous nuclear ribonucleoprotein K	HNRNPK	0.105	0.568	0.358	0.396	0.415	0.607
4995-16	15-hydroxyprostaglandin dehydrogenase [NAD(+)]	HPGD	0.612	0.000	0.125	0.038	0.002	0.001
4996-66	Histidine-rich glycoprotein	HRG	0.819	0.280	0.051	0.911	0.803	0.543

4997-19	Eukaryotic initiation factor 4A-III	EIF4A3	0.998	0.196	0.379	0.855	0.658	0.284
4998-50	Tyrosine-protein kinase JAK2	JAK2	0.040	0.357	0.167	0.521	0.725	0.910
5000-52	Galectin-3-binding protein	LGALS3BP	0.181	0.251	0.665	0.466	0.874	0.240
5001-6	Mammaglobin-B	SCGB2A1	0.341	0.143	0.546	0.659	0.652	0.748
5002-76	Matrix metalloproteinase-14	MMP14	0.948	0.670	0.117	0.402	0.663	0.845
5004-69	Mitogen-activated protein kinase 11	MAPK11	0.362	0.423	0.419	0.872	0.775	0.727
5005-4	Mitogen-activated protein kinase 12	MAPK12	0.028	0.059	0.082	0.341	0.092	0.042
5006-71	Mitogen-activated protein kinase 13	MAPK13	0.444	0.021	0.435	0.048	0.033	0.097
5007-1	Mitogen-activated protein kinase 14	MAPK14	0.065	0.452	0.727	0.547	0.865	0.683
5008-51	Superoxide dismutase [Mn], mitochondrial	SOD2	0.765	0.353	0.362	0.493	0.731	0.862
5009-11	Moesin	MSN	0.949	0.306	0.872	0.620	0.236	0.099
5011-11	Nicotinamide phosphoribosyltransferase	NAMPT	0.070	0.324	0.126	0.250	0.281	0.521
5012-67	Adenylate kinase isoenzyme 1	AK1	0.405	0.554	0.839	0.240	0.480	0.930
5013-2	Chloride intracellular channel protein 1	CLIC1	0.689	0.667	0.303	0.536	0.228	0.124
5014-49	Cytoplasmic protein NCK1	NCK1	0.373	0.511	0.169	0.408	0.209	0.167
5015-15	Platelet-activating factor acetylhydrolase	PLA2G7	0.974	0.382	0.650	0.487	0.748	0.818
5016-61	Protein deglycase DJ-1	PARK7	0.728	0.030	0.000	0.138	0.227	0.622
5017-19	Peroxiredoxin-5, mitochondrial	PRDX5	0.049	0.487	0.976	0.506	0.828	0.691
5018-68	Peroxiredoxin-6	PRDX6	0.672	0.664	0.240	0.921	0.803	0.549
5019-16	Ubiquitin carboxyl-terminal hydrolase isozyme L1	UCHL1	0.840	0.092	0.328	0.130	0.064	0.094
5020-50	Phosphoglycerate kinase 1	PGK1	0.197	0.265	0.351	0.174	0.147	0.270

5021-13	Inorganic pyrophosphatase	PPA1	0.162	0.356	0.186	0.033	0.170	0.982
5023-23	Adenylosuccinate lyase	ADSL	0.778	0.062	0.987	0.878	0.952	0.763
5024-67	Retinoblastoma-associated protein	RB1	0.272	0.122	0.988	0.519	0.483	0.577
5026-66	40S ribosomal protein S3	RPS3	0.416	0.333	0.876	0.335	0.266	0.346
5028-59	Scavenger receptor cysteine-rich type 1 protein M130	CD163	0.443	0.017	0.993	0.100	0.065	0.132
5029-3	Prolyl endopeptidase FAP	FAP	0.006	0.000	0.003	0.006	0.002	0.009
5030-52	NAD-dependent protein deacetylase sirtuin-2	SIRT2	0.650	0.015	0.127	0.624	0.350	0.241
5031-10	Spectrin alpha chain, non-erythrocytic 1	SPTAN1	0.037	0.629	0.326	0.655	0.525	0.508
5032-64	FACT complex subunit SSRP1	SSRP1	0.598	0.035	0.644	0.144	0.096	0.166
5033-27	Tropomyosin alpha-1 chain	TPM1	0.450	0.025	0.685	0.145	0.099	0.172
5034-79	Trypsin-2	PRSS2	0.119	0.384	0.624	0.376	0.221	0.211
5035-7	Thymidylate synthase	TYMS	0.309	0.127	0.079	0.467	0.293	0.264
5036-50	Tumor necrosis factor-inducible gene 6 protein	TNFAIP6	0.328	0.737	0.534	0.236	0.210	0.346
5060-62	Programmed cell death 1 ligand 1	CD274	0.789	0.513	0.072	0.920	0.708	0.402
5061-27	ICOS ligand	ICOSLG	0.143	0.952	0.390	0.381	0.478	0.775
5062-60	CD226 antigen	CD226	0.216	0.372	0.987	0.892	0.936	0.991
5063-12	Natural killer cell receptor 2B4	CD244	0.220	0.904	0.619	0.227	0.795	0.325
5065-8	CD83 antigen	CD83	0.935	0.956	0.354	0.281	0.462	0.932
5066-134	CMRF35-like molecule 6	CD300C	0.177	0.441	0.851	0.088	0.166	0.572
5068-54	Cytotoxic and regulatory T-cell molecule	CRTAM	0.159	0.090	0.488	0.546	0.797	0.803
5069-9	Complement decay-accelerating factor	CD55	0.650	0.044	0.197	0.054	0.009	0.009
5070-76	Tumor necrosis factor receptor	TNFRSF6B	0.624	0.229	0.443	0.807	0.983	0.797

	superfamily member 6B							
5076-53	Ephrin type-A receptor 10	EPHA10	0.492	0.513	0.259	0.454	0.985	0.340
5077-28	Ephrin type-B receptor 2	EPHB2	0.083	0.454	0.680	0.664	0.348	0.210
5078-82	Ephrin type-B receptor 6	EPHB6	0.264	0.558	0.617	0.446	0.727	0.792
5080-131	Transmembrane glycoprotein NMB	GPNMB	0.172	0.035	0.073	0.471	0.467	0.614
5082-51	X-linked interleukin-1 receptor accessory protein-like 2	IL1RAPL2	0.700	0.345	0.829	0.191	0.298	0.697
5084-154	Interleukin-17 receptor B	IL17RB	0.802	0.151	0.862	0.385	0.190	0.152
5085-18	Interleukin-20 receptor subunit alpha	IL20RA	0.282	0.566	0.028	0.689	0.325	0.166
5087-5	Interleukin-22 receptor subunit alpha-2	IL22RA2	0.127	0.274	0.219	0.396	0.629	0.910
5088-175	Interleukin-23 receptor	IL23R	0.172	0.477	0.836	0.695	0.863	0.882
5089-11	Interleukin-7 receptor subunit alpha	IL7R	0.284	0.003	0.207	0.022	0.009	0.031
5090-49	Leukocyte immunoglobulin -like receptor subfamily B member 1	LILRB1	0.217	0.692	0.935	0.256	0.890	0.271
5091-28	Leukocyte immunoglobulin -like receptor subfamily B member 2	LILRB2	0.110	0.697	0.939	0.904	0.825	0.786
5092-51	Protein jagged-1	JAG1	0.910	0.059	0.673	0.405	0.075	0.018
5093-47	Protein jagged-2	JAG2	0.609	0.555	0.382	0.812	0.819	0.884
5094-62	Junctional adhesion molecule-like	AMICA1	0.608	0.240	0.223	0.871	0.531	0.321
5095-21	Killer cell immunoglobulin -like receptor 2DL4	KIR2DL4	0.892	0.801	0.971	0.235	0.385	0.825
5096-51	Killer cell immunoglobulin -like receptor 3DL2	KIR3DL2	0.047	0.185	0.110	0.925	0.615	0.400
5097-14	Killer cell immunoglobulin	KIR3DS1	0.887	0.666	0.249	0.835	0.448	0.233

	-like receptor 3DS1							
5098-79	Killer cell lectin-like receptor subfamily F member 1	KLRF1	0.713	0.491	0.653	0.498	0.124	0.036
5099-14	Lymphocyte activation gene 3 protein	LAG3	0.544	0.165	0.479	0.090	0.043	0.075
5100-53	Lysosome membrane protein 2	SCARB2	0.030	0.753	0.631	0.932	0.747	0.610
5102-55	MHC class I polypeptide-related sequence B	MICB	0.598	0.830	0.701	0.700	0.299	0.132
5103-30	Cell surface glycoprotein CD200 receptor 1	CD200R1	0.486	0.013	0.921	0.896	0.668	0.511
5104-57	Natural cytotoxicity triggering receptor 1	NCR1	0.753	0.252	0.587	0.612	0.772	0.946
5105-2	Reticulon-4 receptor	RTN4R	0.338	0.988	0.489	0.650	0.068	0.004
5106-52	Neurogenic locus notch homolog protein 2	NOTCH2	0.908	0.601	0.323	0.279	0.366	0.687
5107-7	Neurogenic locus notch homolog protein 1	NOTCH1	0.177	0.447	0.120	0.303	0.202	0.243
5108-72	Neurogenic locus notch homolog protein 3	NOTCH3	0.128	0.043	0.575	0.064	0.016	0.020
5109-24	Neuronal cell adhesion molecule	NRCAM	0.706	0.096	0.214	0.071	0.017	0.019
5110-84	Neurexin-1-beta	NRXN1	0.058	0.779	0.814	0.268	0.096	0.069
5111-15	Neurexin-3-beta	NRXN3	0.407	0.099	0.537	0.039	0.023	0.071
5112-73	OX-2 membrane glycoprotein	CD200	0.461	0.042	0.362	0.194	0.092	0.104
5114-65	Prolactin receptor	PRLR	0.149	0.881	0.583	0.992	0.715	0.495
5115-31	Tumor necrosis factor receptor superfamily member 19L	RELT	0.713	0.535	0.397	0.534	0.457	0.511
5116-62	Roundabout homolog 2	ROBO2	0.568	0.027	0.525	0.003	0.001	0.014
5117-14	Roundabout homolog 3	ROBO3	0.167	0.728	0.558	0.761	0.601	0.531

5121-3	Semaphorin-6B	SEMA6B	0.167	0.822	0.796	0.110	0.406	0.721
5122-92	Semaphorin-6A	SEMA6A	0.961	0.113	0.698	0.732	0.232	0.063
5124-69	Intercellular adhesion molecule 5	ICAM5	0.021	0.813	0.522	0.801	0.362	0.156
5125-6	Sialic acid-binding Ig-like lectin 14	SIGLEC14	0.386	0.012	0.159	0.176	0.215	0.470
5128-53	SLAM family member 6	SLAMF6	0.546	0.644	0.872	0.028	0.022	0.092
5129-12	Scavenger receptor class F member 1	SCARF1	0.278	0.119	0.855	0.280	0.845	0.094
5130-67	Scavenger receptor class F member 2	SCARF2	0.375	0.921	0.432	0.821	0.734	0.709
5131-15	Tumor necrosis factor receptor superfamily member 19	TNFRSF19	0.977	0.772	0.389	0.319	0.849	0.115
5132-71	Interleukin-27 receptor subunit alpha	IL27RA	0.726	0.505	0.154	0.977	0.441	0.156
5133-17	TGF-beta receptor type-2	TGFBR2	0.701	0.406	0.305	0.932	0.738	0.457
5134-52	Hepatitis A virus cellular receptor 2	HAVCR2	0.300	0.902	0.644	0.999	0.653	0.397
5138-50	Tumor necrosis factor receptor superfamily member 12A	TNFRSF12A	0.719	0.652	0.721	0.307	0.537	0.942
5139-32	Netrin receptor UNC5C	UNC5C	0.193	0.469	0.845	0.078	0.040	0.080
5140-56	Netrin receptor UNC5D	UNC5D	0.388	0.936	0.453	0.174	0.084	0.104
5178-5	High affinity cAMP-specific 3',5'-cyclic phosphodiesterase 7A	PDE7A	0.216	0.333	0.060	0.412	0.200	0.149
5183-53	AMP Kinase (alpha1beta1gamma1)	PRKAA1 PRKAB1 PRKAG1	0.299	0.305	0.019	0.325	0.193	0.199
5193-51	GTPase KRas	KRAS	0.416	0.464	0.708	0.843	0.448	0.230
5196-7	Glycylpeptide N-tetradecanoyltransferase 1	NMT1	0.187	0.849	0.976	0.215	0.139	0.191
5201-50	High affinity cGMP-specific 3',5'-cyclic phosphodiesterase 9A	PDE9A	0.850	0.331	0.321	0.750	0.667	0.668

5202-4	Peptidyl-prolyl cis-trans isomerase D	PPID	0.337	0.803	0.157	0.854	0.361	0.132
5204-13	Proteasome activator complex subunit 3	PSME3	0.426	0.483	0.894	0.756	0.818	0.952
5223-59	Glucokinase regulatory protein	GCKR	0.689	0.362	0.883	0.709	0.266	0.095
5225-50	Casein kinase II 2-alpha:2-beta heterotetramer	CSNK2A1 CSNK2B	0.051	0.938	0.760	0.359	0.807	0.512
5226-36	Casein kinase II 2-alpha':2-beta heterotetramer	CSNK2A2 CSNK2B	0.539	0.176	0.815	0.216	0.330	0.731
5227-60	[Pyruvate dehydrogenase (acetyl-transferring)] kinase isozyme 1, mitochondrial	PDK1	0.479	0.669	0.592	0.641	0.451	0.385
5228-25	Kinesin-like protein KIF23	KIF23	0.382	0.888	0.168	0.199	0.366	0.877
5229-90	Inosine-5'-monophosphate dehydrogenase 1	IMPDH1	0.903	0.015	0.036	0.619	0.147	0.031
5230-99	3-hydroxy-3-methylglutaryl-coenzyme A reductase	HMGCR	0.030	0.068	0.104	0.112	0.108	0.261
5231-79	Proprotein convertase subtilisin/kexin type 9	PCSK9	0.232	0.491	0.076	0.518	0.390	0.397
5236-2	Nuclear receptor subfamily 1 group D member 1	NR1D1	0.210	0.529	0.557	0.870	0.607	0.436
5238-26	Peptidyl-prolyl cis-trans isomerase E	PPIE	0.685	0.677	0.786	0.716	0.523	0.439
5242-37	Dual specificity mitogen-activated protein kinase kinase 4	MAP2K4	0.039	0.312	0.184	0.359	0.198	0.184
5244-12	Mitogen-activated protein kinase 9	MAPK9	0.651	0.758	0.396	0.393	0.907	0.411
5245-40	AMP Kinase (alpha2beta2gamma1)	PRKAA2 PRKAB2 PRKAG1	0.165	0.695	0.020	0.535	0.259	0.163
5246-64	cGMP-dependent 3',5'-cyclic	PDE2A	0.408	0.159	0.431	0.747	0.452	0.299

	phosphodiesterase							
5248-68	Peptidyl-prolyl cis-trans isomerase F, mitochondrial	PPIF	0.352	0.348	0.060	0.897	0.515	0.278
5249-31	Serine/threonine-protein kinase 17B	STK17B	0.187	0.007	0.039	0.954	0.135	0.006
5250-53	Inosine-5'-monophosphate dehydrogenase 2	IMPDH2	0.911	0.123	0.170	0.497	0.185	0.090
5252-33	Dual 3',5'-cyclic-AMP and -GMP phosphodiesterase 11A	PDE11A	0.010	0.686	0.373	0.623	0.569	0.628
5253-1	Calcium/calmodulin-dependent 3',5'-cyclic nucleotide phosphodiesterase 1A	PDE1A	0.459	0.702	0.136	0.710	0.363	0.200
5254-69	cGMP-inhibited 3',5'-cyclic phosphodiesterase A	PDE3A	0.180	0.902	0.670	0.893	0.644	0.294
5255-22	cAMP-specific 3',5'-cyclic phosphodiesterase 4D	PDE4D	0.189	0.350	0.357	0.159	0.066	0.073
5256-86	cGMP-specific 3',5'-cyclic phosphodiesterase	PDE5A	0.313	0.974	0.050	0.375	0.154	0.102
5259-2	Mitogen-activated protein kinase kinase kinase 7:TGF-beta-activated kinase 1 and MAP3K7-binding protein 1 fusion	MAP3K7 TAB1	0.018	0.740	0.520	0.806	0.794	0.425
5260-80	Non-receptor tyrosine-protein kinase TYK2	TYK2	0.312	0.078	0.704	0.032	0.004	0.004
5261-13	Abelson tyrosine-protein kinase 2	ABL2	0.063	0.289	0.178	0.355	0.061	0.014
5262-57	Breast cancer anti-estrogen resistance protein 3	BCAR3	0.650	0.401	0.089	0.590	0.896	0.367
5264-65	Calreticulin	CALR	0.106	0.829	0.681	0.212	0.071	0.056

5265-12	GRB2-related adapter protein 2	GRAP2	0.313	0.960	0.576	0.803	0.821	0.461
5268-49	Matrix metalloproteinase-16	MMP16	0.954	0.030	0.180	0.120	0.075	0.137
5271-5	Ras-related C3 botulinum toxin substrate 3	RAC3	0.178	0.834	0.240	0.787	0.842	0.477
5272-55	SHC-transforming protein 1	SHC1	0.065	0.653	0.250	0.540	0.979	0.484
5275-28	Proto-oncogene vav	VAV1	0.048	0.104	0.031	0.067	0.014	0.015
5280-68	Mitochondrial glutamate carrier 2	SLC25A18	0.435	0.151	0.004	0.632	0.457	0.405
5301-7	Eotaxin	CCL11	0.510	0.453	0.914	0.496	0.302	0.258
5307-12	Coagulation factor IXab	F9	0.341	0.003	0.076	0.017	0.002	0.003
5308-89	Neutrophil elastase	ELANE	0.854	0.639	0.813	0.752	0.882	0.917
5312-49	Apolipoprotein E (isoform E2)	APOE	0.390	0.368	0.338	0.764	0.713	0.737
5315-22	Troponin T, cardiac muscle	TNNT2	0.151	0.244	0.832	0.351	0.146	0.104
5316-54	Prothrombin	F2	0.088	0.746	0.893	0.478	0.571	0.832
5328-33	Epidermal growth factor receptor variant III	EGFR	0.652	0.106	0.084	0.280	0.914	0.271
5335-73	Annexin A6	ANXA6	0.152	0.782	0.834	0.831	0.420	0.204
5337-64	T-lymphocyte activation antigen CD86	CD86	0.070	0.057	0.064	0.836	0.638	0.521
5339-49	Protein S100-A9	S100A9	0.896	0.127	0.594	0.825	0.240	0.050
5340-24	Caspase-10	CASP10	0.603	0.483	0.337	0.169	0.090	0.121
5343-74	Carboxypeptidase E	CPE	0.213	0.167	0.511	0.369	0.261	0.298
5345-51	Cytoskeleton-associated protein 2	CKAP2	0.282	0.207	0.993	0.072	0.239	0.969
5346-24	Copine-1	CPNE1	0.356	0.409	0.386	0.389	0.989	0.287
5347-59	G2/mitotic-specific cyclin-B1	CCNB1	0.111	0.463	0.722	0.544	0.411	0.411
5349-69	Delta-like protein 1	DLL1	0.667	0.446	0.587	0.703	0.858	0.417
5350-14	Glypican-6	GPC6	0.572	0.448	0.734	0.396	0.995	0.298
5351-52	Heterogeneous nuclear ribonucleoproteins A2/B1	HNRNPA2B1	0.536	0.003	0.032	0.998	0.435	0.137
5352-11	Tumor necrosis factor receptor	TNFRSF14	0.988	0.611	0.393	0.356	0.998	0.260

	superfamily member 14							
5353-89	Interleukin-1 receptor antagonist protein	IL1RN	0.377	0.644	0.770	0.691	0.645	0.696
5354-11	Keratin, type I cytoskeletal 18	KRT18	0.192	0.758	0.672	0.231	0.780	0.045
5355-69	Tumor necrosis factor ligand superfamily member 14	TNFSF14	0.090	0.414	0.858	0.416	0.530	0.838
5356-2	Macrophage migration inhibitory factor	MIF	0.304	0.056	0.325	0.264	0.065	0.032
5357-60	Neuroligin-4, X-linked	NLGN4X	0.726	0.579	0.385	0.789	0.883	0.964
5358-3	Osteomodulin	OMD	0.853	0.766	0.489	0.072	0.030	0.053
5359-65	Serine/threonine -protein kinase pim-1	PIM1	0.105	0.913	0.948	0.321	0.286	0.410
5360-9	RAC-beta serine/threonine-protein kinase	AKT2	0.269	0.157	0.933	0.453	0.964	0.409
5363-51	Semaphorin-3E	SEMA3E	0.352	0.213	0.011	0.289	0.456	0.887
5364-7	Protein SET	SET	0.198	0.620	0.518	0.957	0.979	0.907
5383-14	Tumor necrosis factor receptor superfamily member 13C	TNFRSF13 C	0.318	0.036	0.034	0.596	0.436	0.404
5384-67	Transcription factor IIIB 90 kDa subunit	BRF1	0.665	0.827	0.531	0.261	0.326	0.623
5392-73	Tumor necrosis factor receptor superfamily member 6	FAS	0.877	0.583	0.408	0.511	0.478	0.584
5400-52	Leptin receptor	LEPR	0.178	0.186	0.027	0.482	0.519	0.707
5404-53	Tumor necrosis factor receptor superfamily member 21	TNFRSF21	0.640	0.779	0.838	0.232	0.124	0.141
5410-53	Cadherin-15	CDH15	0.065	0.144	0.078	0.725	0.954	0.750
5412-53	CD27 antigen	CD27	0.426	0.211	0.115	0.168	0.107	0.166
5424-55	Tumor necrosis factor receptor superfamily member 11A	TNFRSF11 A	0.632	0.607	0.312	0.575	0.364	0.297
5430-66	Tyrosine-protein phosphatase non-receptor type substrate 1	SIRPA	0.260	0.453	0.373	0.853	0.887	0.963

5437-63	Fatty acid-binding protein, heart	FABP3	0.000	0.010	0.041	0.270	0.087	0.056
5440-26	Troponin I, fast skeletal muscle	TNNI2	0.002	0.173	0.178	0.919	0.494	0.240
5441-67	Troponin I, cardiac muscle	TNNI3	0.042	0.394	0.560	0.375	0.636	0.855
5443-62	Atrial natriuretic factor	NPPA	0.379	0.833	0.921	0.054	0.045	0.143
5451-1	CD166 antigen	ALCAM	0.038	0.216	0.538	0.469	0.365	0.401
5452-71	Asialoglycoprotein receptor 1	ASGR1	0.605	0.092	0.903	0.028	0.039	0.211
5456-59	Beta-Ala-His dipeptidase	CNDP1	0.158	0.010	0.052	0.005	0.017	0.255
5457-5	Collectin-12	COLEC12	0.006	0.126	0.005	0.074	0.060	0.160
5459-33	Cystatin-SN	CST1	0.754	0.794	0.657	0.804	0.947	0.672
5460-60	ATP-dependent RNA helicase DDX19B	DDX19B	0.152	0.872	0.369	0.605	0.133	0.026
5462-62	Ficolin-3	FCN3	0.352	0.021	0.137	0.136	0.024	0.013
5463-22	Growth arrest-specific protein 1	GAS1	0.709	0.758	0.189	0.538	0.081	0.010
5464-52	Growth factor receptor-bound protein 2	GRB2	0.335	0.945	0.267	0.325	0.182	0.181
5465-32	Heparan-sulfate 6-O-sulfotransferase 1	HS6ST1	0.127	0.747	0.603	0.782	0.718	0.725
5467-15	Heat shock protein HSP 90-beta	HSP90AB1	0.286	0.462	0.468	0.752	0.899	0.526
5468-67	Interleukin-17 receptor C	IL17RC	0.455	0.680	0.454	0.244	0.236	0.406
5470-69	Mediator of RNA polymerase II transcription subunit 1	MED1	0.490	0.581	0.709	0.629	0.767	0.979
5475-10	Protein kinase C beta type (splice variant beta-II)	PRKCB	0.288	0.735	0.135	0.263	0.062	0.029
5476-66	Protein kinase C gamma type	PRKCG	0.171	0.057	0.950	0.745	0.676	0.690
5478-50	Glutamate carboxypeptidase 2	FOLH1	0.352	0.470	0.286	0.263	0.390	0.788
5480-49	C-C motif chemokine 5	CCL5	0.069	0.611	0.471	0.843	0.491	0.288
5481-16	Ras GTPase-activating protein 1	RASA1	0.164	0.814	0.313	0.797	0.670	0.260
5482-61	Retinol-binding protein 4	RBP4	0.859	0.889	0.895	0.880	0.351	0.110

5483-1	Repulsive guidance molecule A	RGMA	0.568	0.102	0.832	0.008	0.001	0.001
5484-63	40S ribosomal protein S3a	RPS3A	0.917	0.106	0.192	0.856	0.599	0.435
5486-73	Intercellular adhesion molecule 2	ICAM2	0.374	0.625	0.780	0.871	0.572	0.203
5487-7	SLAM family member 7	SLAMF7	0.136	0.433	0.337	0.804	0.787	0.832
5488-74	Proto-oncogene tyrosine-protein kinase Src	SRC	0.089	0.672	0.327	0.384	0.146	0.088
5489-18	Stress-induced-phosphoprotein 1	STIP1	0.115	0.771	0.713	0.854	0.994	0.811
5490-53	Testican-1	SPOCK1	0.007	0.009	0.141	0.010	0.001	0.002
5491-12	Testican-2	SPOCK2	0.469	0.800	0.807	0.144	0.073	0.104
5493-17	Serine/threonine -protein kinase WNK3	WNK3	0.028	0.182	0.360	0.183	0.432	0.903
5494-52	Small nuclear ribonucleoprotei n F	SNRPF	0.979	0.764	0.241	0.576	0.534	0.617
5508-62	Cathepsin D	CTSD	0.443	0.384	0.713	0.451	0.336	0.362
5509-7	Epidermal growth factor	EGF	0.166	0.620	0.181	0.006	0.133	0.632
5526-53	Tumor necrosis factor receptor superfamily member 18	TNFRSF18	0.350	0.281	0.678	0.201	0.189	0.346
5532-53	Fibroblast growth factor receptor 1	FGFR1	0.409	0.060	0.259	0.093	0.020	0.017
5534-49	Tumor necrosis factor receptor superfamily member 10B	TNFRSF10 B	0.629	0.063	0.178	0.203	0.094	0.103
5542-22	Neuropilin-1	NRP1	0.279	0.063	0.871	0.114	0.027	0.023
5792-8	alpha-Fetoprotein	AFP	0.836	0.421	0.057	0.949	0.391	0.087
5798-3	BH3-interacting domain death agonist	BID	0.569	0.187	0.375	0.399	0.394	0.553
5801-72	beta-nerve growth factor	NGF	0.996	0.356	0.413	0.122	0.073	0.125
5803-24	Complement C3d fragment	C3	0.039	0.045	0.014	0.022	0.015	0.064
5807-77	CD70 antigen	CD70	0.215	0.965	0.295	0.235	0.108	0.105
5810-25	Teratocarcinoma -derived growth factor 1	TDGF1	0.522	0.473	0.747	0.854	0.836	0.865
5813-58	Erythropoietin	EPO	0.051	0.629	0.801	0.218	0.253	0.500

5822-22	Glial cell line-derived neurotrophic factor	GDNF	0.734	0.338	0.851	0.480	0.629	0.952
5825-49	Interferon gamma receptor 1	IFNGR1	0.965	0.203	0.137	0.969	0.705	0.445
5834-18	Interleukin-9	IL9	0.465	0.725	0.443	0.680	0.809	0.334
5837-49	Leukemia inhibitory factor receptor	LIFR	0.228	0.014	0.447	0.138	0.036	0.031
5843-60	Histone-lysine N-methyltransferase EHMT2	EHMT2	0.001	0.003	0.011	0.015	0.004	0.010
5846-24	Noggin	NOG	0.353	0.480	0.228	0.050	0.002	0.000
5852-6	Protein S100-A12	S100A12	0.199	0.383	0.312	0.807	0.965	0.833
5854-60	Microtubule-associated protein tau	MAPT	0.573	0.753	0.190	0.801	0.726	0.718
5858-6	14-3-3 protein zeta/delta	YWHAZ	0.359	0.846	0.161	0.617	0.272	0.138
5861-78	3-hydroxyanthranilate 3,4-dioxygenase	HAAO	0.593	0.941	0.092	0.251	0.410	0.863
5864-10	Fructose-bisphosphate aldolase A	ALDOA	0.000	0.000	0.005	0.017	0.024	0.168
5867-60	Arginase-1	ARG1	0.390	0.592	0.908	0.041	0.025	0.076
5870-23	Bcl2-associated agonist of cell death	BAD	0.026	0.949	0.826	0.958	0.648	0.350
5879-51	Dynactin subunit 2	DCTN2	0.406	0.074	0.380	0.388	0.274	0.303
5882-34	Elongation factor 1-beta	EEF1B2	0.058	0.738	0.573	0.663	0.720	0.880
5885-55	Eukaryotic translation initiation factor 4H	EIF4H	0.917	0.851	0.160	0.206	0.112	0.138
5888-29	Eukaryotic translation initiation factor 5A-1	EIF5A	0.138	0.995	0.553	0.568	0.956	0.553
5897-58	Gastrin-releasing peptide	GRP	0.048	0.832	0.079	0.987	0.823	0.684
5900-11	Histidine triad nucleotide-binding protein 1	HINT1	0.640	0.644	0.624	0.657	0.854	0.371
5903-91	Heat shock cognate 71 kDa protein	HSPA8	0.839	0.940	0.689	0.887	0.217	0.011

5909-51	Nucleoside diphosphate kinase A	NME1	0.032	0.219	0.913	0.847	0.692	0.604
5915-58	Peroxisomal targeting signal 1 receptor	PEX5	0.399	0.644	0.982	0.695	0.837	0.931
5918-5	Proteasome activator complex subunit 1	PSME1	0.209	0.431	0.057	0.581	0.384	0.326
5921-58	Protein S100-A7	S100A7	0.064	0.273	0.852	0.645	0.430	0.348
5927-4	WNT1-inducible-signaling pathway protein 3	WISP3	0.322	0.757	0.538	0.119	0.122	0.301
5934-1	Ferritin	FTH1 FTL	0.156	0.266	0.039	0.093	0.149	0.484
5936-53	Tumor necrosis factor	TNF	0.983	0.761	0.473	0.686	0.892	0.452
5939-42	Tumor necrosis factor ligand superfamily member 12	TNFSF12	0.228	0.462	0.425	0.822	0.274	0.070
5947-90	Thrombopoietin	THPO	0.364	0.151	0.140	0.873	0.805	0.510
5954-62	Parathyroid hormone	PTH	0.980	0.903	0.435	0.482	0.236	0.162
5957-30	Somatostatin-28	SST	0.804	0.647	0.979	0.310	0.381	0.666
6151-18	Dual specificity mitogen-activated protein kinase kinase 3	MAP2K3	0.436	0.724	0.357	0.257	0.534	0.845
6152-111	Cellular tumor antigen p53	TP53	0.594	0.047	0.461	0.077	0.021	0.026
6641-60	PolyUbiquitin K48-linked	UBB	0.686	0.924	0.903	0.062	0.189	0.818
6647-55	PolyUbiquitin K63-linked	UBC	0.905	0.044	0.121	0.002	0.003	0.065
6649-51	Netrin-1	NTN1	0.714	0.251	0.285	0.386	0.753	0.659
6653-58	Leukocyte surface antigen CD47	CD47	0.039	0.279	0.319	0.974	0.588	0.322
7624-19	Ankyrin-2	ANK2	0.943	0.789	0.130	0.163	0.177	0.384
7625-27	14-3-3 protein theta	YWHAQ	0.849	0.734	0.502	0.605	0.821	0.842
7628-40	Cysteine-rich with EGF-like domain protein 1	CRELD1	0.664	0.510	0.122	0.781	0.422	0.236
7638-30	Vesicular integral-membrane protein VIP36	LMAN2	0.019	0.005	0.026	0.235	0.066	0.041
7640-29	Low-density lipoprotein	LRP1B	0.903	0.347	0.969	0.962	0.797	0.669

	receptor-related protein 1B							
7648-9	Myosin-binding protein C, slow-type	MYBPC1	0.005	0.000	0.001	0.090	0.021	0.022
7655-11	N-terminal pro-BNP	NPPB	0.168	0.662	0.206	0.979	0.844	0.732
7660-21	Tropomyosin alpha-4 chain	TPM4	0.198	0.777	0.224	0.388	0.155	0.099
8446-4	Pituitary adenylate cyclase-activating polypeptide 27	ADCYAP1	0.563	0.932	0.361	0.425	0.233	0.193
8447-11	Appetite-regulating hormone	GHRL	0.027	0.778	0.004	0.285	0.296	0.493
8450-36	Pituitary adenylate cyclase-activating polypeptide 38	ADCYAP1	0.444	0.776	0.427	0.963	0.464	0.180
8458-111	Alpha-synuclein	SNCA	0.165	0.931	0.751	0.289	0.633	0.700
8459-10	Bone morphogenetic protein 6	BMP6	0.063	0.000	0.001	0.005	0.001	0.005
8462-18	Somatotropin	GH1	0.718	0.032	0.353	0.124	0.138	0.350
8463-2	Extracellular superoxide dismutase [Cu-Zn]	SOD3	0.553	0.799	0.747	0.296	0.052	0.016
8464-31	R-spondin-4	RSPO4	0.738	0.394	0.621	0.408	0.832	0.545
8465-52	Cathepsin H	CTSH	0.358	0.739	0.973	0.109	0.266	0.860
8467-9	Inhibin beta A chain:Inhibin beta B chain heterodimer	INHBA INHBB	0.083	0.561	0.797	0.676	0.368	0.228
8468-19	Prostate-specific antigen	KLK3	0.075	0.319	0.195	0.867	0.938	0.954
8469-41	Insulin-like growth factor-binding protein 2	IGFBP2	0.062	0.939	0.182	0.558	0.230	0.118
8470-213	Ribonuclease H1	RNASEH1	0.916	0.974	0.855	0.862	0.859	0.582
8474-6	Tyrosine-protein kinase transmembrane receptor ROR1	ROR1	0.937	0.660	0.023	0.998	0.512	0.216
8476-11	Chromogranin-A	CHGA	0.964	0.411	0.719	0.779	0.303	0.105
8479-4	Stromelysin-2	MMP10	0.808	0.199	0.553	0.099	0.246	0.847
8480-29	EGF-containing fibulin-like	EFEMP1	0.875	0.362	0.231	0.112	0.078	0.157

	extracellular matrix protein 1							
8484-24	Leptin	LEP	0.000	0.000	0.000	0.051	0.007	0.006
8485-7	Kelch-like ECH-associated protein 1	KEAP1	0.024	0.142	0.364	0.946	0.806	0.580
8488-33	Integrin alpha-IIb: beta-3 complex	ITGA2B ITGB3	0.296	0.759	0.646	0.047	0.254	0.803
9168-31	C-C motif chemokine 26	CCL26	0.768	0.489	0.509	0.406	0.649	0.883
9169-14	Small ubiquitin-related modifier 3	SUMO3	0.681	0.631	0.481	0.737	0.816	0.393
9170-24	Interleukin-17A	IL17A	0.257	0.428	0.217	0.966	0.667	0.443
9171-11	Cysteine and glycine-rich protein 3	CSRP3	0.001	0.038	0.103	0.707	0.175	0.033
9172-69	Neutrophil collagenase	MMP8	0.182	0.576	0.816	0.431	0.487	0.716
9173-21	Phosphoglucomutase-1	PGM1	0.717	0.291	0.458	0.722	0.754	0.301
9175-48	Down syndrome cell adhesion molecule	DSCAM	0.927	0.872	0.533	0.836	0.951	0.713
9176-3	Mucin-1	MUC1	0.923	0.801	0.330	0.676	0.926	0.738
9177-6	Protein FAM3B	FAM3B	0.090	0.049	0.004	0.046	0.014	0.024
9178-30	Neuregulin-1	NRG1	0.571	0.930	0.096	0.204	0.049	0.027
9180-6	Interferon gamma receptor 2	IFNGR2	0.777	0.322	0.390	0.159	0.086	0.120
9182-3	Low-density lipoprotein receptor-related protein 1, soluble	LRP1	0.451	0.074	0.014	0.112	0.059	0.099
9183-7	Interferon alpha/beta receptor 1	IFNAR1	0.443	0.374	0.410	0.918	0.859	0.833
9185-15	Trefoil factor 1	TFF1	0.089	0.245	0.702	0.101	0.137	0.404
9187-2	Non-histone chromosomal protein HMG-14	HMGN1	0.396	0.071	0.261	0.706	0.950	0.737
9188-119	C-X-C motif chemokine 9	CXCL9	0.448	0.468	0.222	0.967	0.614	0.364
9190-7	CD63 antigen	CD63	0.789	0.355	0.398	0.738	0.258	0.079
9191-8	Trefoil factor 2	TFF2	0.852	0.975	0.285	0.750	0.927	0.831
9196-8	Galectin-7	LGALS7	0.044	0.108	0.522	0.340	0.654	0.758
9197-4	Galectin-9	LGALS9	0.502	0.661	0.180	0.448	0.181	0.103
9199-6	Ubiquitin-conjugating enzyme E2 G2	UBE2G2	0.613	0.014	0.309	0.033	0.007	0.012
9201-13	Transgelin-2	TAGLN2	0.762	0.698	0.693	0.286	0.279	0.449

9202-309	ATP synthase subunit O, mitochondrial	ATP5O	0.833	0.877	0.783	0.931	0.986	0.943
9204-33	Pro-opiomelanocortin	POMC	0.532	0.008	0.327	0.016	0.007	0.028
9207-60	Quinone oxidoreductase-like protein 1	CRYZL1	0.170	0.298	0.355	0.108	0.273	0.896
9211-19	Pigment epithelium-derived factor	SERPINF1	0.727	0.983	0.714	0.734	0.824	0.993
9212-22	Cathepsin F	CTSF	0.072	0.315	0.909	0.531	0.861	0.277
9213-24	Formimidoyltransferase-cyclodeaminase	FTCD	0.579	0.405	0.128	0.366	0.693	0.725
9215-117	Ubiquitin carboxyl-terminal hydrolase 25	USP25	0.743	0.175	0.067	0.063	0.155	0.652
9216-100	Plexin-B2	PLXNB2	0.785	0.232	0.544	0.391	0.298	0.351

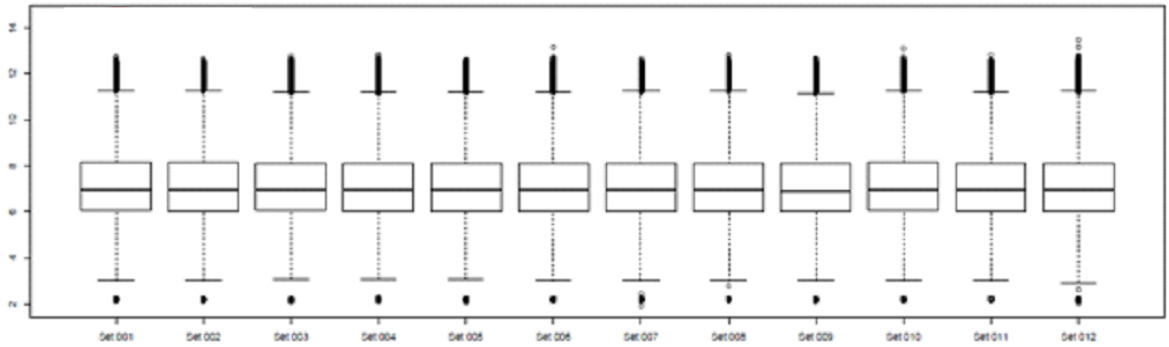
Table S3. Select disease traits associated with pQTL variants in GWAS catalogue (pQTLs are significantly associated with proteins related to lifestyle factors).

Lifestyle factor	Protein	SNP	p value for association between protein and SNP	Disease trait associated with the SNP
Smoking	Heparin cofactor II	rs780094	1.23×10^{-8}	Age-related diseases, mortality and associated endophenotypes
	IL-23	rs60946162	1.25×10^{-10}	Allergic disease (asthma, hay fever or eczema)
	sICAM-5	rs2519093	2.03×10^{-14}	Allergic rhinitis
	IL-23	rs2030519	3.53×10^{-10}	Allergic rhinitis
	IL-23	rs9865818	1.12×10^{-10}	Allergic sensitization
	IL-23	rs9865818	1.12×10^{-10}	Allergic sensitization
	sICAM-5	rs2519093	2.03×10^{-14}	Allergy
	IL-23	rs2030519	3.53×10^{-10}	Allergy
	NCAM-120	rs4471463	3.33×10^{-8}	Cannabis use
	sICAM-5	rs74956615	3.76×10^{-37}	Chronic inflammatory diseases (ankylosing spondylitis, Crohn's disease, psoriasis, primary sclerosing cholangitis, ulcerative colitis) (pleiotropy)
	IL-23	rs4921482	4.21×10^{-8}	Chronic inflammatory diseases (ankylosing spondylitis, Crohn's disease, psoriasis, primary sclerosing cholangitis, ulcerative colitis) (pleiotropy)
	IL-23	rs6556411	5.0×10^{-38}	Chronic inflammatory diseases (ankylosing spondylitis, Crohn's disease, psoriasis, primary sclerosing cholangitis, ulcerative colitis) (pleiotropy)
	Heparin cofactor II	rs1050362	9.42×10^{-14}	Coronary artery disease
	Heparin cofactor II	rs8053891	1.34×10^{-22}	Coronary artery disease
	Heparin cofactor II	rs1050362	9.42×10^{-14}	Coronary artery disease
	sICAM-5	rs507666	3.34×10^{-14}	Coronary artery disease
	sICAM-5	rs2519093	2.03×10^{-14}	Coronary artery disease
	sICAM-5	rs2519093	2.03×10^{-14}	Coronary artery disease
	sICAM-5	rs495828	2.66×10^{-13}	Coronary artery disease
	sICAM-5	rs579459	2.25×10^{-13}	Coronary artery disease
	sICAM-5	rs507666	3.34×10^{-14}	Coronary artery disease (myocardial infarction, percutaneous transluminal coronary angioplasty, coronary artery bypass grafting, angina or chromic ischemic heart disease)

	sICAM-5	rs579459	2.25×10^{-13}	Coronary artery disease or ischemic stroke
	sICAM-5	rs579459	2.25×10^{-13}	Coronary artery disease or large artery stroke
	PIGR	rs1856746	5.48×10^{-17}	Coronary atherosclerosis (increased number of diseased vessels) (traffic exposure interaction)
	PIGR	rs2791713	1.26×10^{-12}	Coronary atherosclerosis (increased number of diseased vessels) (traffic exposure interaction)
	PIGR	rs291096	4.28×10^{-16}	Coronary atherosclerosis (increased number of diseased vessels) (traffic exposure interaction)
	Heparin cofactor II	rs780094	1.23×10^{-8}	C-reactive protein
	sICAM-5	rs643434	4.19×10^{-8}	Inflammatory biomarkers
	sICAM-5	rs635634	4.45×10^{-14}	Ischemic stroke
	sICAM-5	rs635634	4.45×10^{-14}	Ischemic stroke
	sICAM-5	rs635634	4.45×10^{-14}	Ischemic stroke (cardioembolic)
	sICAM-5	rs635634	4.45×10^{-14}	Ischemic stroke (cardioembolic)
	Heparin cofactor II	rs780094	1.23×10^{-8}	Metabolic syndrome
	Heparin cofactor II	rs780094	1.23×10^{-8}	Metabolic syndrome (multivariate analysis)
	Heparin cofactor II	rs780094	1.23×10^{-8}	Metabolic traits
	sICAM-5	rs612169	3.38×10^{-8}	Metabolic traits
	sICAM-5	rs532436	3.37×10^{-14}	Myocardial infarction
	sICAM-5	rs514659	3.04×10^{-8}	Myocardial infarction in coronary artery disease
	sICAM-5	rs635634	4.45×10^{-14}	Stroke
	sICAM-5	rs635634	4.45×10^{-14}	Stroke
Alcohol	Coagulation Factor IX	rs1260326	4.99×10^{-12}	Alcohol consumption
	Coagulation Factor IX	rs780094	3.96×10^{-11}	Alcohol consumption
	Coagulation Factor IX	rs780094	3.96×10^{-11}	Alcohol consumption (drinks per week)
	Coagulation Factor IX	rs1260326	4.99×10^{-12}	Alcohol consumption in current drinkers
	Coagulation Factor IX	rs1260326	4.99×10^{-12}	Alcohol use disorder (consumption score)
	Coagulation Factor IX	rs1260326	4.99×10^{-12}	Alcohol use disorder (total score)
	Trypsin 2	rs1800907	4.42×10^{-9}	Alcoholic chronic pancreatitis
	Trypsin 2	rs1799886	8.54×10^{-19}	Alcoholic chronic pancreatitis
	Trypsin 2	rs3114479	1.14×10^{-14}	Alcoholic chronic pancreatitis
	Trypsin 2	rs17777717	1.13×10^{-9}	Alcoholic chronic pancreatitis
	Trypsin 2	rs762691	1.53×10^{-17}	Alcoholic chronic pancreatitis
	Coagulation Factor IX	rs1260326	4.99×10^{-12}	Gout

	Coagulation Factor IX	rs1260326	4.99×10^{-12}	Gout
	Coagulation Factor IX	rs780094	3.96×10^{-11}	Hypertriglyceridemia
	Coagulation Factor IX	rs1260326	4.99×10^{-12}	Hypertriglyceridemia
	Coagulation Factor IX	rs1260326	4.99×10^{-12}	Hypertriglyceridemia
	Apo L1	rs7186908	2.33×10^{-36}	Liver enzyme levels (alkaline phosphatase)
	Coagulation Factor IX	rs1260326	4.99×10^{-12}	Liver enzyme levels (gamma-glutamyl transferase)
	Coagulation Factor IX	rs780094	3.96×10^{-11}	Metabolic syndrome
	Coagulation Factor IX	rs780094	3.96×10^{-11}	Metabolic syndrome (multivariate analysis)

Figure S1. Distributions of ln(RFU) levels for all proteins and all individuals by plate.



aptamer	RFU	PlateId	idtype	id	lnrfu	plate_lnrfu_mean	plate_lnrfu_std
10356-21	1938257.2	Set 001	3	7906	14.4773	7.19476	1.55220