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Supplementary Information for

Circulating testican-2 is a podocyte-derived marker of kidney health

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Supplementary Materials and Methods

Genome-Wide Association Analysis in JHS

Whole genome sequencing (WGS) in JHS has been described previously (1). Briefly, JHS participants underwent >30× WGS through the Trans-Omics for Precision Medicine (TOPMed) project at the Northwest Genome Center at University of Washington. The sequencing reads were transferred to the TOPMed Informatics Research Center (IRC), where they were aligned to build GRCh38 and joint genotype calling was performed on all TOPMed samples in the October 2018 release. Quality control was performed by the Sequencing Centers, the IRC, and the TOPMed Data Coordinating Center (DCC) prior to release to dbGAP. All variants with MAF >0.1% were included.

Due to skewed distribution, testican-2 aptamer levels were log-transformed and scaled by batch to a mean of 0 and standard deviation of 1. These transformed values were then adjusted for batch and plate, and the resulting residuals were inverse-normalized to ensure normality. Using EPACTS 3.4.1 on the Encore TOPMed Cloud Analysis Server (access date: 11/13/19), the associations between genetic variants and protein levels were tested using the Scalable and Accurate Implementation of Generalized mixed models (SAIGE) pipeline to account for relatedness and adjusted for age and sex, as well the first 10 principal components to account for population admixture. 1,905 individuals had both whole genome sequencing data and proteomic profiling (2).

Genome-Wide Association Analysis in FHS

Genotyping was conducted using the Affymetrix 500K mapping array and the Affymetrix 50K gene-focused molecular inversion probes supplemental array as previously described (3). Genotypes were called using Chiamo (http://www.stats.ok.ac.uk/~marchini/software/gwas/ chiamo.html). The 1000 Genomes Phase I version 3 (August 2012) reference panel was used to perform imputation using a hidden Markov model implemented in MACH (version 1.0.16) (4) for all single-nucleotide polymorphisms

(SNPs) passing the following criteria: call rate ≥97%, *P* for the Hardy-Weinberg test statistic (pHWE) $\geq 1\times10^{-6}$, Mishap $P \geq 1\times10^{-9}$, Mendel errors ≤100, and minor allele frequency (MAF) ≥1%.

Because of skewed distributions of most protein levels, genetic association analyses were conducted using batch specific rank normal transformed residual values of protein levels adjusting for plate numbers. The association of genetic variants and protein levels was tested using linear mixed-effects models to accommodate pedigree structure in FHS under an additive genetic model, adjusted for age, sex and first 10 principal components for population admixture (5). GWAS analyses were performed using the R GWAF package (6). Separate analyses were performed for samples in each batch and then the results were meta-analyzed using the inverse variance weighted method for each cohort. The cohort specific results were then combined using inverse variance weighted meta-analyses.

Comparison of JHS and FHS GWAS

GWAS in JHS was run using build GRCh38 of the human genome and FHS was run using build GRCh37. In order to compare results between cohorts, genomic positions for each RefSNP ID from FHS were annotated in Build 38 using package biomaRt (R, Vienna, Austria) to access the Ensembl database (access date 11/13/19) limited to variants within a 1MB region around *SPOCK2*. Results were then merged by Build 38 genomic location. RefSNP IDs for GWAS results from JHS were also obtained from Ensembl using their genomic locations (RefSNP IDs are not provided for routine download by Encore). RefSNP IDs were used to query dbSNP (access date 11/24/19) for minor allele frequencies in both the African and European (Finnish and non-Finnish) subgroups of the genome Aggregation Database (gnomAD) v2.1.1 (7). If data from gnomAD was not available, 1000Genomes was used. Variants associated at $P > 0.001$ with Testican-2 levels in either cohort were excluded for efficiency. Similarly, variants were excluded from graphical representation if a RefSNP ID could not be identified in Ensembl or no frequency data was available in dbSNP, though these variants are included in Table S5.

Cell culture experiments

For each individual experiment, basal medium containing L-glutamine (10 nM), heparin (0.75 unit/mL), ascorbic acid (50 µg/mL) and hydrocortisone hemisuccinate (1 µg/mL) was used.

In vitro angiogenesis was examined using the Angiogenesis Assay kit (ECM625, EMD Millipore) under the manufacturer's protocol. Briefly, HGECs were serum and growth factor starved for 2 hours

before seeding onto a 96-well plate coated with ECMatrix™ gel with a confluence of about 10,000 cells per well. Vehicle (PBS), human testican-2 (R&D Systems, Catalog #2328-PI) at different concentrations, and/or human VEGF (R&D Systems, Catalog #293-VE) were added into the basal medium and incubated for 8 hours. Cells were examined with 10X magnification and images were taken for tube formation analysis.

HGEC migration was examined using the Corning BioCoat Matrigel Invasion Chambers (Catalog # 354480, Bedford, MA) under the manufacture's protocol. Briefly, basal medium was placed into the interior of the inserts and bottom of the wells and cultured for 2 hours. HGECs in basal medium were seeded into the interior of the inserts at 50,000 cells/well. Basal medium with vehicle (PBS), testican-2 (10 ng/mL), and/or VEGF (50 ng/mL) were added into the bottom of the wells and cells were incubated for an additional 22 hours. After incubation, the non-invading cells are removed from the upper surface of the membrane by scrubbing with a cotton swab. The invading cells on the lower surface of the membrane were fixed and stained with 0.1% crystal violet in 10% ethanol at room temperature for 30 minutes. Inserts were then washed with water and membranes were examined with 10X magnification and images were taken for analysis.

MMP-2/MMP-9 activity in the cultured media of HGECs were examined using the Fluorogenic InnoZyme™ Gelatinase (MMP-2/MMP-9) Activity Assay kit (CBA003, EMD Millipore) under the manufacturer's instruction. Briefly, HGECs were serum and growth factor starved for 2 hours and then treated with vehicle (PBS) or testican-2 (10 ng/mL) in basal medium for 24 hours. Culture supernatant were then collected and MMP-2/MMP-9 activity was examined using a fluorescence reader in a 96-well plate with a filter set at an excitation wavelength of 320 nm and an emission wavelength of 405 nm.

HGEC proliferation/viability was examined using the Resazurin Cell Viability kit (PK-CA707-30025, PromoCell, Heidelberg, Germany) under the manufacturer's instructions. Briefly, HGECs were serum and growth factor starved for 2 hours before seeding at 10,000 cells/well in a 96-well plate. Vehicle (PBS), testican-2 (10 ng/mL), and/or VEGF (50 ng/mL) were added into the basal medium and incubated for 72 hours. At the end of incubation, 10 µl resazurin solution was added to each well and incubated for an additional 2 hours. Colorimetric absorbance at 570 nm and 600 nm was measured using a microplate reader.

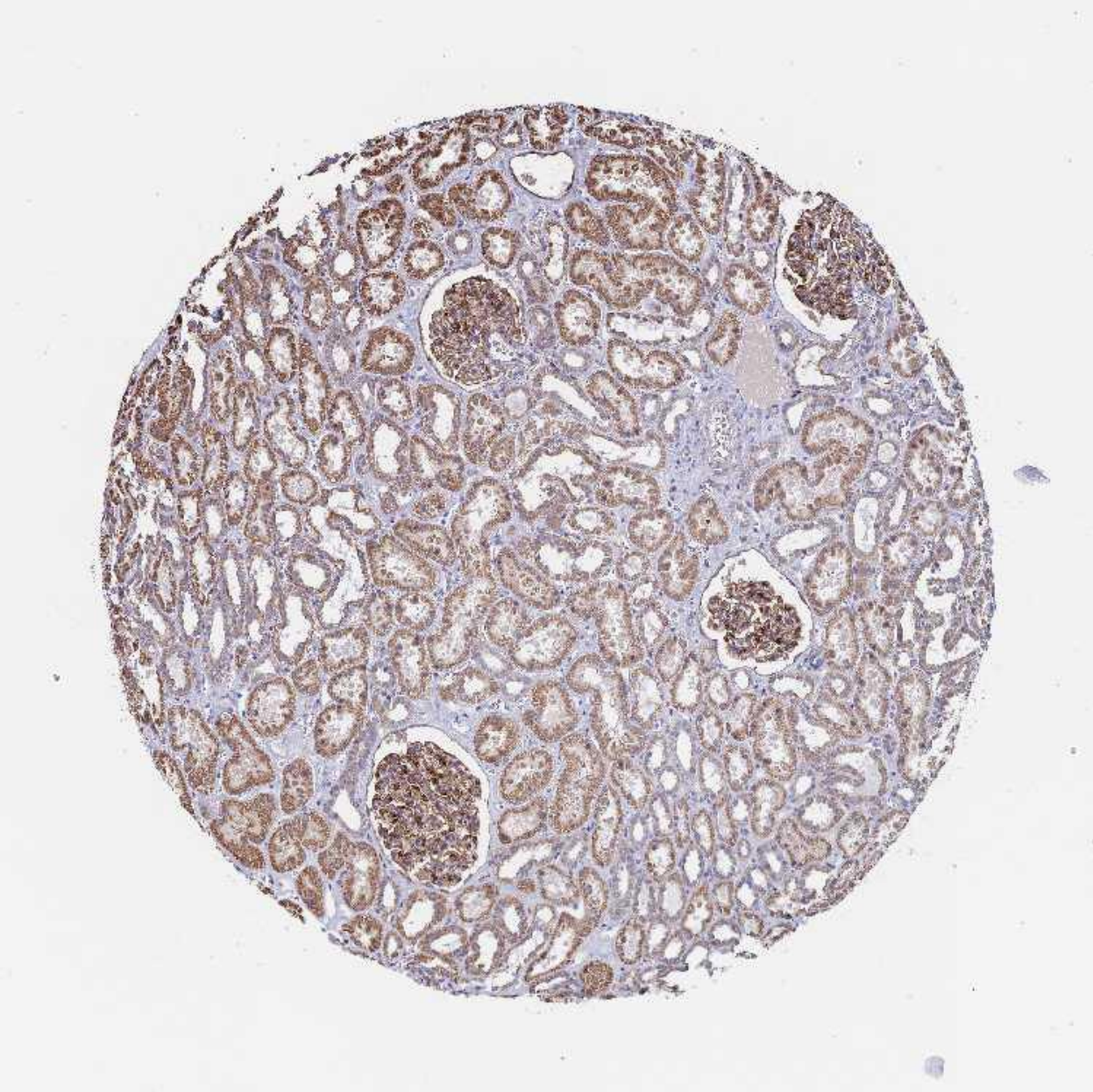

Fig. S1. Kidney immunohistochemistry for testican-2 from the Human Protein Atlas. (https://www.proteinatlas.org/ENSG00000107742-SPOCK2/tissue/kidney#img). Image is from normal kidney tissue from a 41 year old female (polyclonal antibody HPA044605).

Table S1. Median renal V/A ratios for all proteins

Protein	median V/A ratio	*P*
MIP-5	0.89	3.2E-11
PTH	0.68	2.8E-10
Testican-2	1.40	1.5E-09
ARMEL	0.88	1.8E-09
TFF3	0.88	1.0E-08
FGF-20	1.58	1.3E-08
Cystatin C	0.87	1.4E-08
TAJ	0.87	2.3E-08
FGF9	1.23	2.8E-08
MPIF-1	0.90	3.7E-08
Elafin	0.89	4.4E-08
FABP	0.88	4.7E-08
Cystatin M	0.86	9.7E-08
Ephrin-A2	0.94	2.0E-07
MIA	0.94	3.0E-07
IGFBP-7	1.14	4.3E-07
SECTM1	0.91	5.4E-07
CD23	0.93	6.2E-07
FAM3B	0.91	8.4E-07
Trypsin	0.92	1.6E-06
Beta2-Microglobulin	0.87	1.6E-06
DAN	0.81	3.3E-06
PYY	0.88	4.7E-06
MIC-1	0.95	4.8E-06
CD59	0.92	5.4E-06
REG4	0.93	5.7E-06
IGFBP-6	0.93	5.7E-06
RSPO4	0.92	6.9E-06
Trypsin 2	0.91	7.7E-06
HCC-1	0.93	8.0E-06
GAS1	0.94	1.2E-05
ANP	0.55	1.2E-05
Trefoil factor 2	0.89	1.6E-05
FAM3D	0.90	1.8E-05
Corticotropin-lipotropin	0.89	2.6E-05
uPA	1.12	2.8E-05
kallikrein 8	0.89	3.4E-05
Cathepsin V	1.18	3.5E-05
BNP-32	0.93	3.9E-05
FABPL	0.82	4.7E-05
TNF sR-I	0.94	5.9E-05
NRG4	0.95	6.2E-05
JAM-B	0.92	7.0E-05
IGFBP-1	0.94	1.1E-04
HCC-4	0.94	1.2E-04
tPA	1.10	1.5E-04
Cathepsin S	0.95	1.7E-04
sRAGE	0.92	1.8E-04
N-terminal pro-BNP	0.88	1.9E-04
PH	0.87	2.0E-04
resistin	0.96	2.1E-04
granzyme A	0.95	2.4E-04

Nectin-like protein 1	0.92	3.0E-04
TFF1	0.91	3.0E-04
VEGF	1.20	3.7E-04
Ephrin-A4	0.92	4.6E-04
CYTT	0.89	5.9E-04
Lipocalin 2	0.93	5.9E-04
Glucagon	0.89	6.0E-04
LAG-1	0.92	6.6E-04
PARC	0.96	6.8E-04
CYTN	0.89	6.9E-04
FGF-19	0.91	7.5E-04
IGFBP-4	0.92	8.3E-04
Angiogenin	0.94	9.5E-04
EFNB1	0.96	9.8E-04
PTHrP	0.92	1.0E-03
Myoglobin	0.90	1.0E-03
Troponin T	0.94	1.1E-03
Leptin	0.94	1.2E-03
RELT	0.93	1.4E-03
b-ECGF	0.92	1.4E-03
IL-23	0.94	1.4E-03
Dynactin subunit 2	0.95	1.5E-03
ADAMTS-5	0.97	1.5E-03
ACTH	0.96	1.8E-03
Ck-b-8-1	0.92	1.9E-03
PDXK	0.91	2.2E-03
Kallikrein 7	0.93	2.6E-03
SLAF6	0.96	3.0E-03
BSSP4	0.96	3.1E-03
Ephrin-A5	0.90	3.2E-03
Fibrinogen g-chain dimer	1.04	3.2E-03
Kallikrein 11	0.92	3.7E-03
PSP	0.86	3.7E-03
C5a	0.93	3.9E-03
FN1.4	1.09	3.9E-03
PIANP	0.87	4.0E-03
SARP-2	1.34	4.2E-03
Ephrin-A3	0.96	4.9E-03
TSP4	0.94	5.2E-03
TRAIL R4	0.97	5.6E-03
Glypican 3	1.04	5.7E-03
PTN	1.37	6.0E-03
SLPI	0.96	6.0E-03
GITR	0.93	6.2E-03
RGMB	0.97	6.7E-03
FN1.3	1.08	6.9E-03
Factor D	0.94	6.9E-03
FCN1	0.95	7.1E-03
MMP-2	1.04	7.5E-03
NKp30	0.98	8.0E-03
IL-20 Ra	0.97	8.1E-03
IL-5	0.98	8.5E-03
LCMT1	1.03	8.6E-03
IGFBP-2	0.91	9.0E-03
Fibrinogen	1.04	9.3E-03
PPAC	1.21	9.3E-03
TPSB2	0.96	9.6E-03

Galectin-2	0.95	9.8E-03
LBP	1.03	9.8E-03
TIG2	0.91	1.0E-02
D-dimer	1.03	1.0E-02
vWF	1.12	1.1E-02
FCRL3	0.97	1.1E-02
RAC3	1.14	1.1E-02
Layilin	0.94	1.1E-02
GFAP	0.97	1.2E-02
Fibronectin	1.14	1.2E-02
Dtk	0.95	1.3E-02
sLRP1	0.95	1.3E-02
INGR2	0.97	1.3E-02
XEDAR	0.95	1.3E-02
HSP70 protein 8	1.03	1.3E-02
RGM-C	0.97	1.3E-02
HSP 40	1.16	1.4E-02
FSTL3	0.94	1.4E-02
ASGR1	0.91	1.4E-02
aldolase A	1.07	1.6E-02
Thrombopoietin Receptor	0.99	1.6E-02
PKC-G	0.98	1.6E-02
STRATIFIN	0.97	1.6E-02
IL-17B	1.09	1.7E-02
TNFSF15	0.92	1.7E-02
NEUREGULIN-1	0.97	1.7E-02
DBNL	1.07	1.8E-02
RAP	1.03	1.8E-02
GIB	0.94	1.8E-02
Myostatin	1.04	1.8E-02
Renin	1.04	1.9E-02
PACAP-27	0.97	2.0E-02
EphA1	0.94	2.0E-02
BGH3	1.04	2.0E-02
NET4	1.05	2.0E-02
TNR4	0.97	2.0E-02
CKAP2	1.04	2.2E-02
IL-17E	0.97	2.2E-02
C9	1.02	2.2E-02
IL-10 Rb	0.97	2.2E-02
DSC2	0.86	2.3E-02
PUR8	1.17	2.4E-02
PBEF	0.91	2.4E-02
SGTA	1.30	2.4E-02
4-1BB	0.96	2.4E-02
Calpain I	1.11	2.5E-02
EphA5	0.95	2.6E-02
CRP	1.05	2.6E-02
SLAF5	0.97	2.6E-02
a-Synuclein	1.42	2.6E-02
SOST	0.98	2.7E-02
ESAM	0.97	2.7E-02
Transferrin	1.04	2.8E-02
CDC37	1.05	2.9E-02
SREC-I	0.98	2.9E-02
GDF-11	1.02	3.0E-02
annexin VI	0.77	3.1E-02

AMPM2	1.11	3.1E-02
IP-10	0.98	3.1E-02
PPIE	1.09	3.1E-02
MSP	0.97	3.1E-02
BMP-6	1.04	3.2E-02
CATZ	0.97	3.2E-02
CAMK2A	1.03	3.2E-02
CD38	0.98	3.2E-02
PSA	0.98	3.3E-02
GDF-11/8	1.02	3.4E-02
Haptoglobin, Mixed Type	1.02	3.4E-02
ENA-78	0.98	3.4E-02
ghrelin	0.96	3.4E-02
MK08	1.07	3.6E-02
Flt-3	1.04	3.6E-02
HIF-1a	0.97	3.6E-02
AIF1	0.97	3.6E-02
C34 gp41 HIV Fragment	0.95	3.7E-02
SH21A	0.96	3.7E-02
Troponin I	0.96	3.8E-02
TIMP-3	1.15	3.8E-02
cGMP-stimulated PDE	1.02	3.9E-02
GAPDH, liver	1.21	3.9E-02
NDP kinase B	1.24	3.9E-02
H2B2E	1.17	4.0E-02
CLC4K	0.99	4.1E-02
MMP-7	1.04	4.1E-02
Cathepsin B	0.97	4.2E-02
ADAM 9	0.97	4.2E-02
NLGNX	0.97	4.3E-02
NovH	1.17	4.3E-02
CD63	1.03	4.6E-02
Lymphotoxin a1/b2	0.97	4.6E-02
Sphingosine kinase 1	1.25	4.6E-02
NUDC3	0.96	4.6E-02
EMR2	0.98	4.7E-02
Sonic Hedgehog	1.04	4.7E-02
Factor I	1.02	4.8E-02
RAC1	1.25	4.8E-02
PCNA	0.99	4.8E-02
GSK-3 alpha/beta	1.19	4.8E-02
RASA1	1.01	4.9E-02
IMDH2	1.08	4.9E-02
Gastrin-releasing peptide	0.99	4.9E-02
CPNE1	1.27	4.9E-02
SHP-2	1.07	4.9E-02
COLEC12	1.00	5.0E-02
TIMP-1	0.94	5.0E-02
GM-CSF	0.97	5.1E-02
IL-9	0.98	5.1E-02
cIAP-2	1.00	5.2E-02
eIF-5	1.07	5.3E-02
FGF-8B	1.04	5.3E-02
14-3-3 protein zeta/delta	1.17	5.4E-02
CLF-1/CLC Complex	0.99	5.5E-02
H31	1.22	5.5E-02
PDPK1	1.14	5.5E-02

EG-VEGF	0.98	5.6E-02
NPS-PLA2	0.96	5.6E-02
CNTN2	0.98	5.7E-02
Transgelin-2	1.01	5.7E-02
LYNB	1.33	5.7E-02
FABPE	0.97	5.7E-02
TNF-a	0.99	5.7E-02
Carbonic anhydrase III	0.93	5.8E-02
NSE	1.03	5.8E-02
CXCL16, soluble	0.98	5.8E-02
Siglec-3	0.97	6.0E-02
ECM1	1.02	6.0E-02
AN32B	0.98	6.0E-02
BAD	1.16	6.2E-02
BCL6	0.98	6.2E-02
S100A7	0.96	6.2E-02
HSP 90b	1.06	6.3E-02
CTLA-4	0.99	6.4E-02
MCP-2	0.98	6.4E-02
ART	1.04	6.5E-02
LEAP-1	0.93	6.6E-02
FGF-18	1.13	6.6E-02
AMPK a1b1g1	0.99	6.6E-02
IFN-g R1	0.97	6.6E-02
c-Jun	0.97	6.6E-02
MAPK14	1.05	6.7E-02
SOD	1.06	6.7E-02
Chitotriosidase-1	0.99	6.7E-02
14-3-3	1.06	6.8E-02
iC3b	1.06	6.8E-02
PDE11	1.03	6.8E-02
PKC-B-II	1.24	6.8E-02
LEG9	0.98	6.9E-02
SMAD2	1.33	6.9E-02
Endoglin	0.95	6.9E-02
LYN	1.17	7.0E-02
Kininogen, HMW	0.97	7.0E-02
SET	1.05	7.0E-02
DLL4	1.00	7.1E-02
MMP-12	0.96	7.1E-02
Nectin-like protein 2	0.98	7.1E-02
PPase	1.15	7.2E-02
Epithelial cell kinase	0.95	7.3E-02
FGF-8A	1.16	7.4E-02
IFN10	0.98	7.4E-02
CaMKK alpha	1.05	7.4E-02
DRR1	0.99	7.4E-02
PSA1	1.05	7.4E-02
Calcineurin	1.07	7.6E-02
LIMP II	0.99	7.6E-02
PRL	0.91	7.7E-02
PF-4	0.73	7.8E-02
CTACK	0.98	7.8E-02
COMMD7	1.04	7.8E-02
Tropomyosin 4	1.22	7.9E-02
Bone proteoglycan II	1.04	7.9E-02
SRCN1	1.24	7.9E-02

FAM107B	0.96	7.9E-02
PKC-A	1.27	8.0E-02
Lymphotactin	0.98	8.0E-02
PDGFRA	0.96	8.1E-02
PD-L2	0.98	8.1E-02
FUT5	1.03	8.1E-02
BTK	1.18	8.2E-02
NCC27	1.07	8.2E-02
Testican-1	1.02	8.2E-02
Aflatoxin B1 aldehyde reductase	1.21	8.3E-02
CgA	0.97	8.3E-02
C1r	0.97	8.6E-02
Clusterin	0.97	8.6E-02
IDE	1.13	8.7E-02
MCP-3	0.96	8.8E-02
CHIP	1.05	8.8E-02
MEK1	1.01	8.8E-02
Factor B	1.01	8.9E-02
Stress-induced-phosphoprotein 1	1.16	9.0E-02
STAT1	1.17	9.1E-02
LRP1B	1.02	9.1E-02
TrATPase	1.01	9.1E-02
BCL2-like 1 protein	1.01	9.2E-02
MP2K2	0.98	9.2E-02
IMB1	1.09	9.3E-02
41	1.30	9.3E-02
CYTD	0.92	9.4E-02
Mn SOD	1.01	9.4E-02
B7-H1	0.98	9.4E-02
FER	1.15	9.5E-02
Activin RIB	1.00	9.5E-02
CK-BB	0.98	9.6E-02
MASP3	0.99	9.6E-02
MIS	1.02	9.8E-02
Secretin	0.99	9.8E-02
HSP 90a/b	1.04	9.8E-02
FYN	1.05	9.8E-02
Cyclin B1	0.99	9.9E-02
PAK6	1.25	9.9E-02
PFD5	1.03	1.0E-01
CSK	1.14	1.0E-01
14-3-3 protein beta/alpha	1.06	1.0E-01
IL-12 RB2	1.01	1.0E-01
SBDS	1.20	1.0E-01
PDE1A	1.05	1.0E-01
eIF-5A-1	1.22	1.0E-01
STAT6	1.02	1.0E-01
TF	0.95	1.0E-01
JNK2	1.00	1.0E-01
Laminin	1.04	1.1E-01
PSD7	1.05	1.1E-01
Caspase-2	0.97	1.1E-01
Cytochrome P450 3A4	1.04	1.1E-01
HVEM	0.99	1.1E-01
SHC1	1.06	1.1E-01
VEGF121	1.05	1.1E-01
IL-17F	0.98	1.1E-01

Protein disulfide isomerase A3	1.03	1.1E-01
Semaphorin 3A	1.00	1.1E-01
PDE5A	1.15	1.1E-01
KREM2	1.08	1.1E-01
PDGF-CC	0.98	1.1E-01
CFC1	0.97	1.1E-01
STAT3	1.04	1.1E-01
KIRR3	0.98	1.2E-01
ATS1	1.04	1.2E-01
PKC-Z	1.03	1.2E-01
RPS6KA3	1.09	1.2E-01
MBD4	1.02	1.2E-01
Cyclophilin A	1.05	1.2E-01
CK2-A2:B	1.04	1.2E-01
Somatostatin-28	0.98	1.2E-01
HIV-2 Rev	0.98	1.2E-01
AMPK a2b2g1	1.08	1.2E-01
HCE001796	1.03	1.2E-01
BARK1	1.09	1.2E-01
Antithrombin III	1.03	1.2E-01
PKB a/b/g	1.04	1.2E-01
Aggrecan	0.95	1.2E-01
Cyclophilin F	1.15	1.2E-01
RS7	1.03	1.2E-01
SCGF-beta	1.02	1.2E-01
C1-Esterase Inhibitor	0.99	1.2E-01
Integrin aVb5	1.02	1.2E-01
Neurotrophin-3	1.03	1.3E-01
SPINT2	0.98	1.3E-01
TS	0.97	1.3E-01
LY9	0.97	1.3E-01
SIRT2	1.02	1.3E-01
M2-PK	1.08	1.3E-01
CBPE	1.05	1.3E-01
MAPK2	1.07	1.3E-01
PPID	1.23	1.3E-01
Sorting nexin 4	1.08	1.3E-01
transcription factor MLR1, isoform CRA_b	0.99	1.3E-01
HSP 60	1.06	1.3E-01
KPCI	1.11	1.3E-01
Tenascin	1.02	1.3E-01
LG3BP	0.95	1.3E-01
TRY3	0.98	1.3E-01
IgE	1.01	1.3E-01
IL-12 Rb1	0.99	1.3E-01
CRDL1	0.97	1.3E-01
PKB beta	1.03	1.3E-01
KPCT	1.05	1.3E-01
CD244	0.97	1.3E-01
ERK-1	1.08	1.3E-01
Noggin	0.97	1.4E-01
HCE000483	0.94	1.4E-01
ASM3A	1.05	1.4E-01
TSLP	1.02	1.4E-01
PDK1	0.99	1.4E-01
Coagulation Factor IX	0.99	1.4E-01
CD70	1.00	1.4E-01

LYPD3	0.97	1.4E-01
CD36 ANTIGEN	1.01	1.4E-01
IF4G2	1.11	1.4E-01
CDK8/cyclin C	1.01	1.4E-01
CD109	0.96	1.4E-01
Periostin	1.06	1.5E-01
ATS15	0.99	1.5E-01
BAFF Receptor	1.01	1.5E-01
IL-11	1.02	1.5E-01
MEPE	0.99	1.5E-01
MDHC	1.07	1.5E-01
DEAD-box protein 19B	1.03	1.5E-01
BTC	1.00	1.5E-01
phosphoglycerate kinase 1	1.04	1.5E-01
IL-7 Ra	1.02	1.5E-01
DC-SIGNR	1.03	1.5E-01
Caspase-3	1.21	1.5E-01
METAP1	1.04	1.5E-01
NRP1	1.02	1.5E-01
BMP10	0.93	1.5E-01
PSME1	1.06	1.5E-01
HNRPQ	1.00	1.5E-01
calreticulin	0.99	1.6E-01
Ku70	0.95	1.6E-01
SLAF7	1.04	1.6E-01
Artemin	1.02	1.6E-01
GP114	1.01	1.6E-01
NACA	1.11	1.6E-01
CNTF	0.98	1.6E-01
NANOG	0.98	1.6E-01
Neurotrophin-5	0.99	1.6E-01
DUS3	1.05	1.6E-01
KEAP1	1.01	1.6E-01
DSC3	0.99	1.6E-01
IgG	1.02	1.6E-01
Cofilin-1	1.00	1.6E-01
UFC1	1.04	1.6E-01
GPDA	0.99	1.7E-01
Prothrombin	1.02	1.7E-01
FGF-5	1.03	1.7E-01
Ficolin-3	0.94	1.7E-01
IFNA7	0.98	1.7E-01
TrkC	0.97	1.7E-01
Coagulation Factor VII	0.98	1.7E-01
NMT1	1.04	1.7E-01
SNAA	1.25	1.7E-01
IL24	0.99	1.8E-01
TSH	0.96	1.8E-01
Apo L1	1.01	1.8E-01
PIAS4	0.99	1.8E-01
S100A4	1.01	1.8E-01
ATP synthase beta chain	1.05	1.8E-01
Transketolase	1.15	1.8E-01
NRX1B	0.98	1.8E-01
PSA2	1.02	1.8E-01
IDS	0.95	1.8E-01
PA2G4	1.22	1.8E-01

SCGF-alpha	1.02	1.9E-01
HGH	0.99	1.9E-01
Rab GDP dissociation inhibitor beta	1.09	1.9E-01
PolyUbiquitin K63	0.99	1.9E-01
IL-8	1.02	1.9E-01
IGFBP-5	0.97	1.9E-01
UFM1	1.06	1.9E-01
a1-Antichymotrypsin	1.03	1.9E-01
CTGF	1.00	1.9E-01
HCE004359	1.01	1.9E-01
IL-1a	0.97	1.9E-01
PGRP-S	0.99	1.9E-01
MP2K3	1.09	1.9E-01
IL-22	0.97	1.9E-01
TWEAKR	0.95	1.9E-01
b-Endorphin	0.98	1.9E-01
tau	1.00	2.0E-01
MBL	1.01	2.0E-01
c-Myc	0.99	2.0E-01
DERM	0.99	2.0E-01
MFGM	0.95	2.0E-01
PGP9.5	1.02	2.0E-01
NR1D1	1.00	2.0E-01
BMP-1	1.02	2.0E-01
LIGHT	0.99	2.0E-01
Mcl-1	0.96	2.0E-01
IFN-b	0.98	2.0E-01
ATS13	1.01	2.0E-01
PSME3	1.00	2.0E-01
HO-2	1.01	2.0E-01
Granulysin	0.98	2.0E-01
CSH	1.00	2.0E-01
IL-1Ra	0.96	2.1E-01
SAA	0.99	2.1E-01
IL-1 R4	1.01	2.1E-01
BASI	1.04	2.1E-01
STX1a	0.99	2.1E-01
DHH	1.07	2.1E-01
CAMK1D	0.98	2.1E-01
GRB2 adapter protein	1.09	2.1E-01
IL-12	0.99	2.1E-01
UCRP	0.98	2.1E-01
IFN-a/b R1	0.96	2.1E-01
BCMA	0.99	2.1E-01
carbonic anhydrase II	0.99	2.1E-01
NKp46	1.01	2.1E-01
BST1	1.00	2.1E-01
YES	1.03	2.1E-01
Lysozyme	1.01	2.1E-01
Factor H	1.00	2.2E-01
HDGR2	1.00	2.2E-01
FLRT2	1.01	2.2E-01
GDF-9	1.02	2.2E-01
HSP 27	1.12	2.2E-01
CO8A1	0.98	2.2E-01
Notch-3	1.00	2.2E-01
ALT	1.02	2.2E-01

alpha-1-antichymotrypsin complex	0.98	2.2E-01
DLRB1	1.06	2.2E-01
Glutamate carboxypeptidase	1.00	2.3E-01
Eotaxin	1.00	2.3E-01
SMAD3	1.12	2.3E-01
IL-17	0.99	2.3E-01
OX2G	0.98	2.3E-01
SREC-II	1.00	2.3E-01
Granzyme B	0.99	2.3E-01
Vitronectin	1.01	2.3E-01
TSLP R	1.02	2.3E-01
annexin II	1.13	2.3E-01
ILT-4	1.02	2.4E-01
RNase H1	0.99	2.4E-01
Chk2	1.00	2.4E-01
DRG-1	1.26	2.4E-01
ASAH2	0.99	2.4E-01
GFRa-3	1.02	2.4E-01
Aminoacylase-1	1.02	2.4E-01
Keratin 18	0.97	2.4E-01
Lectin, mannose-binding 2	1.00	2.4E-01
Hat1	1.07	2.4E-01
CHST6	1.02	2.4E-01
IL-2	1.02	2.4E-01
4EBP2	0.99	2.4E-01
Peroxiredoxin-5	1.00	2.4E-01
DSCAM	1.01	2.4E-01
Cystatin-S	0.99	2.4E-01
B7-2	0.98	2.4E-01
IL-5 Ra	0.97	2.4E-01
ETHE1	0.99	2.4E-01
IgA	1.00	2.4E-01
Flt3 ligand	0.99	2.4E-01
Angiopoietin-1	0.99	2.5E-01
CATC	0.97	2.5E-01
HGF	1.07	2.5E-01
CK-MB	1.04	2.5E-01
EphB6	0.99	2.5E-01
LD78-beta	0.99	2.5E-01
Albumin	0.98	2.5E-01
S100A6	1.14	2.5E-01
gpIIbIIIa	1.00	2.5E-01
OAS1	1.00	2.5E-01
ADAMTS-4	0.99	2.5E-01
Carbonic anhydrase 6	0.99	2.5E-01
MDC	1.02	2.5E-01
Bcl-2	1.05	2.5E-01
CONA1	1.03	2.5E-01
GPC5	0.98	2.5E-01
SKP1	1.10	2.5E-01
FTCD	0.99	2.5E-01
VAV	1.12	2.5E-01
kallikrein 13	0.99	2.6E-01
Fas ligand, soluble	0.97	2.6E-01
MFRP	1.00	2.6E-01
B7	0.99	2.6E-01
Desmoglein-1	0.98	2.6E-01

Granzyme H	1.00	2.6E-01
Apo A-I	0.98	2.6E-01
ERAB	1.05	2.6E-01
FSTL1	1.01	2.6E-01
Histone H2A.z	1.10	2.6E-01
ADAM12	1.00	2.6E-01
TIMP-2	0.97	2.6E-01
ABL1	0.99	2.6E-01
ULBP-2	0.99	2.6E-01
UNC5H3	0.99	2.6E-01
IL-3 Ra	1.08	2.6E-01
BMP-7	1.03	2.6E-01
ERBB4	0.99	2.7E-01
PIK3CA/PIK3R1	1.02	2.7E-01
MMP-10	0.93	2.7E-01
Cathepsin G	1.01	2.7E-01
MIP-1a	0.99	2.7E-01
PEX5	0.98	2.7E-01
PRKACA	1.05	2.7E-01
Aurora kinase A	0.99	2.7E-01
BMPR1A	0.98	2.7E-01
GPC6	1.02	2.7E-01
a2-Antiplasmin	0.99	2.7E-01
IL-7	0.99	2.7E-01
GCKR	1.01	2.7E-01
Nucleoside diphosphate kinase A	1.02	2.7E-01
Persephin	0.99	2.7E-01
Triosephosphate isomerase	1.17	2.7E-01
MK01	1.19	2.7E-01
Coagulation Factor IXab	0.99	2.7E-01
AGR2	0.99	2.7E-01
RSPO3	1.05	2.8E-01
HPG-	1.01	2.8E-01
GOT1	1.01	2.8E-01
MRCKB	1.02	2.8E-01
ERP29	1.01	2.8E-01
GPNMB	1.00	2.8E-01
HDAC8	1.00	2.8E-01
RAN	1.17	2.8E-01
ALK-1	1.00	2.8E-01
C3b	0.87	2.8E-01
SEM5A	0.99	2.8E-01
Cripto	0.97	2.8E-01
HCG	1.01	2.9E-01
C6	1.03	2.9E-01
AIP	1.11	2.9E-01
HCE003300	0.99	2.9E-01
CSRP3	0.95	2.9E-01
K-ras	0.99	2.9E-01
GDF2	1.01	2.9E-01
prostatic binding protein	1.00	3.0E-01
Cadherin-5	1.00	3.0E-01
Endocan	0.98	3.0E-01
EPO-R	1.01	3.0E-01
KI3S1	1.00	3.0E-01
SE6L2	1.14	3.0E-01
HCE000104	1.00	3.0E-01

NKp44	0.98	3.0E-01
Cytidylate kinase	1.08	3.0E-01
HTRA2	1.00	3.0E-01
PDGF Rb	0.98	3.0E-01
RUXF	1.00	3.0E-01
Phosphoglycerate mutase 1	1.00	3.0E-01
GPVI	1.00	3.0E-01
WNT7A	0.99	3.0E-01
Lumican	1.00	3.0E-01
Thrombospondin-1	0.81	3.0E-01
ERBB2	1.02	3.0E-01
MAPK5	1.01	3.0E-01
MK13	0.99	3.0E-01
Integrin a1b1	1.01	3.0E-01
I-TAC	1.04	3.1E-01
NG36	1.01	3.1E-01
PTK6	1.02	3.1E-01
RBM39	0.98	3.1E-01
ApoM	0.98	3.1E-01
CAMK2B	1.02	3.1E-01
Cadherin-12	1.00	3.1E-01
TBK1	1.02	3.1E-01
Moesin	1.01	3.1E-01
Carbonic anhydrase XIII	1.10	3.1E-01
Coactosin-like protein	1.00	3.1E-01
EP15R	1.00	3.1E-01
IMDH1	1.14	3.1E-01
SPARCL1	1.00	3.1E-01
CK2-A1:B	1.22	3.1E-01
IL-1F7	0.98	3.1E-01
PSA6	1.10	3.1E-01
HCE004152	0.97	3.1E-01
WNK3	1.09	3.1E-01
Met	1.01	3.2E-01
MK11	1.00	3.2E-01
Peroxiredoxin-1	1.16	3.2E-01
sICAM-2	1.02	3.2E-01
ATPO	1.05	3.2E-01
IL-15 Ra	0.98	3.2E-01
AMNLS	0.99	3.2E-01
CYTF	0.99	3.2E-01
CAD15	1.03	3.2E-01
PTP-1B	1.00	3.2E-01
IL-18 Ra	0.99	3.2E-01
UB2L3	1.14	3.2E-01
IL-1 sRI	1.00	3.2E-01
EF-1-beta	1.08	3.2E-01
Apo E	0.96	3.2E-01
LKHA4	0.96	3.2E-01
40S ribosomal protein SA	1.01	3.2E-01
CREL1	0.98	3.2E-01
IgD	1.02	3.2E-01
OLR1	1.00	3.2E-01
Nogo Receptor	0.99	3.2E-01
PHI	1.04	3.2E-01
Karyopherin-a2	0.97	3.2E-01
ARI3A	1.05	3.2E-01

CEBPB	0.98	3.3E-01
MUC1	0.99	3.3E-01
IL-2 sRg	1.15	3.3E-01
Thyroxine-Binding Globulin	1.00	3.3E-01
LPPL	0.99	3.3E-01
PACAP-38	0.98	3.3E-01
protein Z inhibitor	1.01	3.3E-01
hnRNP K	0.99	3.3E-01
IRF1	1.00	3.3E-01
TECK	0.99	3.3E-01
TEC	1.05	3.3E-01
FGF-16	1.18	3.3E-01
HXK2	1.01	3.4E-01
IL-22BP	0.99	3.4E-01
P-Selectin	1.02	3.4E-01
IFN-g	0.99	3.4E-01
LAG-3	0.99	3.4E-01
HEMK2	1.03	3.4E-01
ENPP7	1.00	3.4E-01
PLPP	1.17	3.4E-01
SNP25	0.98	3.4E-01
Siglec-9	1.00	3.4E-01
BFL1	0.99	3.4E-01
Protein C	0.99	3.4E-01
WISP-3	1.00	3.5E-01
KIF23	1.09	3.5E-01
complement factor H-related 5	0.98	3.5E-01
PESC	0.99	3.5E-01
NID2	1.03	3.5E-01
C3d	1.01	3.5E-01
MK12	1.00	3.6E-01
DKK1	0.97	3.6E-01
NADPH-P450 Oxidoreductase	0.99	3.6E-01
PTP-1C	1.03	3.6E-01
HAI-1	0.99	3.6E-01
TYK2	1.01	3.6E-01
KLRF1	0.99	3.6E-01
3HIDH	1.01	3.7E-01
Mammaglobin 2	1.02	3.7E-01
CHKB	0.99	3.7E-01
SMAC	1.01	3.7E-01
NCK1	0.99	3.7E-01
EPI	1.01	3.7E-01
DC-SIGN	0.98	3.7E-01
LRRT3	1.00	3.7E-01
FGF7	1.01	3.7E-01
Stanniocalcin-1	1.00	3.7E-01
MMP-17	1.03	3.7E-01
IL22RA1	1.03	3.7E-01
FCN2	1.00	3.7E-01
Plasminogen	1.01	3.7E-01
bFGF	1.01	3.7E-01
LGMN	1.04	3.7E-01
EGFRvIII	0.99	3.8E-01
FGFR-3	0.99	3.8E-01
SPHK2	1.00	3.8E-01
TCTP	1.02	3.8E-01

PGM1	0.99	3.8E-01
Fucosyltransferase 3	1.00	3.8E-01
EPHA3	0.97	3.8E-01
FGR	1.03	3.8E-01
hnRNP A2/B1	1.01	3.8E-01
WFKN1	1.00	3.8E-01
Activated Protein C	1.06	3.8E-01
MCP-4	0.99	3.8E-01
GREM1	1.00	3.9E-01
NAP-2	0.89	3.9E-01
Endothelin-converting enzyme 1	1.00	3.9E-01
VCAM-1	1.00	3.9E-01
Thrombin	0.91	3.9E-01
Ubiquitin	1.01	3.9E-01
HHLA2	1.00	3.9E-01
Apoptosis regulator Bcl-W	0.99	3.9E-01
TRAIL R2	1.01	3.9E-01
CTAP-III	0.91	3.9E-01
UBE2N	1.22	3.9E-01
Lymphotoxin b R	0.97	3.9E-01
Ferritin	1.00	4.0E-01
Lymphotoxin a2/b1	1.00	4.0E-01
Annexin V	0.99	4.0E-01
MOZ	1.01	4.0E-01
FGF-10	1.02	4.0E-01
C7	1.00	4.0E-01
EGF	1.02	4.0E-01
FBLN3	1.00	4.0E-01
IL-18 Rb	1.00	4.0E-01
H2A3	1.03	4.0E-01
Angiostatin	1.02	4.1E-01
Caspase-10	1.01	4.1E-01
HCE004333	0.98	4.1E-01
KYNU	0.97	4.1E-01
ING1	1.13	4.1E-01
C3a	0.89	4.1E-01
ICOS	1.01	4.1E-01
JAM-C	1.03	4.1E-01
IL-19	1.00	4.2E-01
bFGF-R	0.99	4.2E-01
CBX5	0.98	4.2E-01
ARP19	1.04	4.2E-01
amyloid precursor protein	0.99	4.2E-01
VEGF sR3	0.99	4.2E-01
Catalase	1.10	4.2E-01
PCSK9	0.99	4.2E-01
Properdin	1.02	4.2E-01
PPIB	1.04	4.2E-01
FGF-17	1.00	4.2E-01
OPG	1.00	4.2E-01
C1q	1.00	4.2E-01
DcR3	1.00	4.3E-01
C3	0.84	4.3E-01
CSF-1	1.03	4.3E-01
MMP-14	0.97	4.3E-01
BCAM	0.99	4.3E-01
Glucocorticoid receptor	1.02	4.3E-01

PCI	1.00	4.3E-01
SP-D	1.01	4.3E-01
ALCAM	1.02	4.3E-01
IFN-lambda 2	1.01	4.3E-01
gp130, soluble	1.01	4.3E-01
sCD4	0.98	4.3E-01
TGF-b3	1.00	4.3E-01
eIF-4H	1.07	4.3E-01
Eotaxin-3	1.03	4.4E-01
PERL	1.00	4.4E-01
RGMA	0.99	4.4E-01
GSTA3	0.99	4.4E-01
EPHB2	0.98	4.4E-01
Collectin Kidney 1	1.02	4.4E-01
Semaphorin 3E	1.00	4.4E-01
BDNF	1.05	4.4E-01
HMG-1	1.02	4.4E-01
FETUB	1.00	4.4E-01
CATF	1.00	4.4E-01
Semaphorin-6A	1.01	4.4E-01
URB	0.98	4.5E-01
MAPKAPK3	1.01	4.5E-01
NEGR1	0.99	4.5E-01
LRRK2	0.97	4.5E-01
GA733-1 protein	0.99	4.5E-01
IL-4 sR	0.98	4.5E-01
C8	0.98	4.5E-01
Apo E3	0.99	4.5E-01
HCK	0.99	4.5E-01
CK-MM	1.00	4.5E-01
PDGF-BB	0.88	4.5E-01
6Ckine	1.01	4.6E-01
Galectin-3	1.02	4.6E-01
SPTA2	0.99	4.6E-01
LIN7B	1.01	4.6E-01
STK16	0.99	4.6E-01
TIMD3	1.00	4.6E-01
Tpo	1.01	4.6E-01
Dkk-4	0.98	4.6E-01
HCE000342	1.03	4.6E-01
LYVE1	1.00	4.7E-01
Carbonic Anhydrase IV	0.99	4.7E-01
DAPK2	1.03	4.7E-01
IL-1Rrp2	1.00	4.7E-01
SDF-1	0.98	4.7E-01
Nidogen	1.00	4.7E-01
ACE2	1.02	4.7E-01
DR6	0.98	4.7E-01
NSF1C	1.03	4.7E-01
Galectin-4	1.00	4.7E-01
TXD12	1.00	4.7E-01
CD27	0.99	4.8E-01
BPI	1.05	4.8E-01
PAI-1	0.98	4.8E-01
Azurocidin	1.01	4.8E-01
QORL1	1.00	4.8E-01
DRAK2	1.05	4.8E-01

Notch 1	0.99	4.8E-01
Sialoadhesin	0.99	4.8E-01
Proteinase-3	0.99	4.8E-01
CD5L	1.00	4.9E-01
TCPTP	1.01	4.9E-01
CLM6	0.99	4.9E-01
ANK2	1.00	4.9E-01
FLRT3	0.97	4.9E-01
Protein S	1.00	4.9E-01
TNFSF18	1.01	4.9E-01
PLXB2	0.99	4.9E-01
Myokinase, human	1.21	4.9E-01
IFN-lambda 1	1.04	4.9E-01
IL-1F6	0.92	4.9E-01
sL-Selectin	1.00	4.9E-01
IgM	1.01	4.9E-01
PIGR	1.00	4.9E-01
MRC2	1.01	5.0E-01
Carbonic anhydrase I	1.19	5.0E-01
AREG	1.19	5.0E-01
UNC5H4	0.98	5.0E-01
OCAD1	1.01	5.0E-01
Calpastatin	1.00	5.0E-01
MMEL2	1.00	5.0E-01
UBC9	1.07	5.0E-01
Topoisomerase I	1.01	5.1E-01
PEDF	1.00	5.1E-01
S100A12	1.01	5.1E-01
IDUA	1.00	5.1E-01
OMD	1.00	5.1E-01
sRANKL	0.97	5.1E-01
Cathepsin A	1.00	5.1E-01
Osteopontin	0.97	5.1E-01
Angiopoietin-2	0.99	5.1E-01
BID	1.02	5.1E-01
Osteocalcin	1.00	5.2E-01
HMGN1	0.99	5.2E-01
TGF-b2	1.01	5.2E-01
KI3L2	1.00	5.2E-01
IL-17B R	1.00	5.2E-01
b-NGF	0.99	5.2E-01
ITI heavy chain H4	1.01	5.2E-01
IL-17 RD	1.00	5.2E-01
MICA	1.01	5.2E-01
ISLR2	1.00	5.2E-01
MP2K4	1.01	5.3E-01
TMA	1.00	5.3E-01
BGN	0.95	5.3E-01
RSPO2	1.02	5.3E-01
ENTP3	1.01	5.3E-01
TARC	1.02	5.3E-01
PLCG1	1.01	5.3E-01
Cathepsin D	0.98	5.3E-01
HMGR	1.00	5.3E-01
Histone H1.2	0.89	5.3E-01
NOTC2	0.99	5.4E-01
ST4S6	0.99	5.4E-01

XPNPEP1	1.05	5.4E-01
IL-6 sRa	1.00	5.4E-01
C4b	0.96	5.4E-01
TNF-b	1.00	5.4E-01
ANGL3	1.01	5.4E-01
CD177	1.01	5.5E-01
17-beta-HSD 1	1.00	5.5E-01
dopa decarboxylase	1.00	5.5E-01
AMGO2	0.99	5.5E-01
TPSG1	0.98	5.5E-01
CAMK2D	1.05	5.5E-01
MYPC1	0.98	5.5E-01
Kallikrein 4	1.02	5.5E-01
Vasoactive Intestinal Peptide	1.04	5.5E-01
CHL1	1.01	5.6E-01
IL-1b	1.04	5.6E-01
sFRP-3	1.02	5.6E-01
TrkB	1.00	5.6E-01
RAD51	0.99	5.6E-01
ASAHL	1.00	5.6E-01
SHPS1	0.97	5.6E-01
BAFF	0.97	5.6E-01
LIF sR	1.01	5.6E-01
FCG3B	0.99	5.6E-01
IGF-I	1.00	5.6E-01
RXFP1	1.01	5.7E-01
Carbonic anhydrase 9	1.02	5.7E-01
Luteinizing hormone	1.01	5.7E-01
EPHAA	1.00	5.7E-01
Kallistatin	1.01	5.7E-01
C3adesArg	0.95	5.7E-01
Protein disulfide-isomerase	1.00	5.7E-01
LRP8	1.00	5.7E-01
GRN	1.00	5.7E-01
ULBP-1	0.99	5.7E-01
GX	1.02	5.7E-01
PGCB	0.99	5.7E-01
BMX	1.00	5.7E-01
RNF43	1.01	5.8E-01
CRIS3	0.99	5.8E-01
Epo	1.02	5.8E-01
ZNRF3	1.00	5.8E-01
EphB4	1.03	5.8E-01
Heparin cofactor II	1.00	5.8E-01
FCG2A	0.98	5.8E-01
COX-2	1.00	5.8E-01
RBP	0.99	5.8E-01
LDLR	1.00	5.8E-01
RSK-like protein kinase	1.05	5.8E-01
discoidin domain receptor 1	0.99	5.8E-01
TGF-b R II	1.00	5.8E-01
Gro-a	1.04	5.9E-01
HPV E7 Type 16	1.01	5.9E-01
Eotaxin-2	1.01	5.9E-01
IL-34	0.99	5.9E-01
RANTES	0.92	5.9E-01
IL-18 BPa	0.99	5.9E-01

CD39	1.01	5.9E-01
DYRK3	1.03	6.0E-01
Growth hormone receptor	0.99	6.0E-01
MICB	0.98	6.0E-01
MCP-1	1.05	6.0E-01
DPP2	1.02	6.0E-01
BMPER	1.00	6.0E-01
GV	1.01	6.0E-01
kallikrein 5	1.00	6.0E-01
ROR1	0.99	6.1E-01
SAP	0.99	6.1E-01
HGFA	1.00	6.1E-01
Tropomyosin 1 alpha chain	1.01	6.1E-01
TrkA	1.04	6.1E-01
PAK7	1.01	6.1E-01
ERBB1	1.01	6.2E-01
HXK1	1.01	6.2E-01
Kallikrein 6	0.98	6.2E-01
HSP 70	0.98	6.2E-01
MMP-9	1.03	6.2E-01
Ephrin-B3	1.00	6.2E-01
ARSB	1.00	6.3E-01
Activin A	0.99	6.3E-01
IL-3	1.03	6.3E-01
IGF-I sR	1.00	6.3E-01
HRG	1.00	6.3E-01
3HAO	1.00	6.3E-01
Troponin I, skeletal, fast twitch	0.95	6.3E-01
IL-1 R AcP	1.01	6.3E-01
GRB2-related adapter protein 2	1.03	6.3E-01
IL-17D	1.00	6.3E-01
C5	1.01	6.3E-01
JAG2	0.98	6.4E-01
HPLN1	0.98	6.4E-01
CNDP1	1.02	6.4E-01
IL-27	0.99	6.4E-01
Glutathione S-transferase Pi	0.97	6.4E-01
Cytochrome c	0.99	6.4E-01
LDH-H 1	1.02	6.4E-01
CRTAM	1.01	6.4E-01
Esterase D	1.04	6.5E-01
GFRa-2	1.00	6.5E-01
CDK2/cyclin A	1.00	6.5E-01
C2	1.00	6.5E-01
CRK	0.98	6.5E-01
GCP-2	0.98	6.5E-01
Midkine	1.03	6.5E-01
GI24	1.01	6.5E-01
NCAM-L1	1.01	6.5E-01
IL-10 Ra	0.98	6.5E-01
HCE004331	1.12	6.5E-01
MIF	1.01	6.5E-01
CD30	1.01	6.5E-01
DAF	1.00	6.5E-01
Hemoglobin	1.19	6.5E-01
Coagulation Factor Xa	1.00	6.6E-01
CSK21	1.02	6.6E-01

RS3A	1.03	6.6E-01
PAK3	0.99	6.6E-01
Siglec-7	1.00	6.6E-01
sCD163	1.00	6.6E-01
SCF sR	1.00	6.6E-01
MIG	1.01	6.6E-01
C4	1.00	6.7E-01
FCGR1	1.02	6.7E-01
P-Cadherin	0.99	6.7E-01
NXPH1	1.03	6.7E-01
FGFR4	1.03	6.7E-01
SLIK1	1.02	6.7E-01
SIG14	1.02	6.7E-01
CD30 Ligand	0.99	6.7E-01
sTie-2	1.00	6.7E-01
paraoxonase 1	1.01	6.7E-01
Macrophage mannose receptor	0.99	6.7E-01
TGM3	0.97	6.8E-01
OSM	0.98	6.8E-01
TGF-b1	1.02	6.8E-01
NET1	0.92	6.8E-01
LTBP4	1.00	6.9E-01
Endostatin	1.01	6.9E-01
pTEN	1.00	6.9E-01
CCL28	0.97	6.9E-01
IF4A3	1.03	6.9E-01
Cathepsin H	0.99	6.9E-01
FSH	0.99	6.9E-01
WIF-1	1.00	6.9E-01
IGF-II receptor	1.01	6.9E-01
TLR4:MD-2 complex	0.99	6.9E-01
Carbonic Anhydrase X	1.00	6.9E-01
LRRT1	1.02	6.9E-01
CD47	1.04	7.0E-01
MSP R	0.98	7.0E-01
PlGF	0.99	7.0E-01
Rb	1.00	7.0E-01
Apo B	0.98	7.0E-01
Cadherin-6	0.99	7.0E-01
Protease nexin I	1.02	7.0E-01
PolyUbiquitin K48	1.08	7.1E-01
Coagulation Factor V	1.02	7.1E-01
CDK5/p35	1.00	7.1E-01
MIP-3b	1.02	7.1E-01
GPC2	0.99	7.1E-01
ILT-2	1.00	7.1E-01
sE-Selectin	1.00	7.1E-01
Spondin-1	1.01	7.1E-01
MATN3	1.03	7.1E-01
Apo D	0.98	7.1E-01
EDAR	0.98	7.2E-01
Carbonic anhydrase VII	1.01	7.2E-01
Lactoferrin	1.03	7.2E-01
NKG2D	1.00	7.2E-01
FST	1.02	7.2E-01
GNS	1.00	7.2E-01
XTP3A	0.99	7.2E-01

TSG-6	1.02	7.2E-01
Survivin	0.99	7.3E-01
Angiotensinogen	1.00	7.3E-01
ANGL4	1.04	7.3E-01
SOD3	0.99	7.3E-01
Tropomyosin 2	0.98	7.3E-01
AK1A1	0.99	7.4E-01
Adrenomedullin	1.01	7.4E-01
Apo E4	1.04	7.4E-01
LRIG3	0.99	7.4E-01
Lamin-B1	1.02	7.4E-01
RANK	1.04	7.4E-01
EDA	1.01	7.4E-01
HIPK3	1.00	7.4E-01
FGFR-2	0.99	7.4E-01
SEPR	1.00	7.4E-01
IL-17 sR	1.00	7.5E-01
IR	1.00	7.5E-01
PDE7A	1.00	7.5E-01
ABL2	1.03	7.5E-01
PKC-D	0.99	7.5E-01
Nr-CAM	1.00	7.5E-01
MO2R1	1.00	7.5E-01
CNTFR alpha	0.99	7.5E-01
ROBO3	1.01	7.5E-01
NCAM-120	1.01	7.6E-01
ARGI1	1.01	7.6E-01
sTie-1	1.00	7.6E-01
Livin B	1.02	7.6E-01
TNF sR-II	0.99	7.6E-01
B7-H2	1.02	7.6E-01
OX40 Ligand	0.98	7.6E-01
hnRNP A/B	1.02	7.7E-01
PAPP-A	0.99	7.7E-01
Mesothelin	1.02	7.7E-01
PAFAH	1.01	7.7E-01
FCG2B	1.00	7.7E-01
HCE003167	1.01	7.8E-01
IL-13	0.99	7.8E-01
CD40 ligand, soluble	1.04	7.8E-01
CATE	1.01	7.8E-01
GFRa-1	0.99	7.8E-01
HB-EGF	0.99	7.8E-01
KI2L4	1.06	7.8E-01
IL-13 Ra1	0.99	7.8E-01
ZAP70	0.98	7.8E-01
BMP-14	1.01	7.9E-01
TBP	1.01	7.9E-01
SUMO3	1.00	7.9E-01
kallikrein 14	0.99	7.9E-01
CD226	1.00	7.9E-01
MMP-13	0.98	7.9E-01
ON	0.94	7.9E-01
FAK1	1.01	7.9E-01
sICAM-5	1.00	7.9E-01
Angiopoietin-4	1.01	7.9E-01
PCSK7	0.98	8.0E-01

SEM6B	1.00	8.0E-01
Insulin	0.92	8.0E-01
Afamin	1.01	8.0E-01
Fas, soluble	1.00	8.0E-01
TRAIL R1	0.98	8.0E-01
WFKN2	0.99	8.0E-01
DLL1	0.99	8.0E-01
C1QR1	1.00	8.0E-01
Ubiquitin+1	1.13	8.0E-01
Soggy-1	1.04	8.0E-01
G-CSF-R	1.00	8.0E-01
14-3-3 protein theta	1.00	8.1E-01
PLK-1	1.01	8.1E-01
NRX3B	1.00	8.1E-01
IL-6	0.98	8.1E-01
Contactin-4	1.00	8.1E-01
MMP-16	1.01	8.1E-01
Galectin-8	0.99	8.1E-01
Plasmin	1.00	8.1E-01
JAK2	1.03	8.2E-01
FGF-12	1.00	8.2E-01
PSMA	0.97	8.2E-01
RS3	1.03	8.2E-01
CD48	0.99	8.2E-01
CD22	1.01	8.2E-01
a1-Antitrypsin	1.04	8.2E-01
AURKB	1.00	8.2E-01
EFNB2	0.97	8.2E-01
AFP	1.00	8.2E-01
HCE003183	1.00	8.2E-01
sICAM-1	1.00	8.2E-01
WISP-1	1.03	8.3E-01
NAGK	0.99	8.3E-01
Thyroglobulin	0.99	8.3E-01
IL-4	1.02	8.3E-01
Chymase	1.01	8.3E-01
a2-Macroglobulin	0.94	8.3E-01
CLC1B	1.04	8.3E-01
Cardiotrophin-1	1.00	8.3E-01
CAPG	0.97	8.4E-01
Activin AB	0.99	8.4E-01
Enterokinase	1.01	8.4E-01
Galectin-7	1.01	8.4E-01
PLXC1	0.99	8.4E-01
IL-10	1.00	8.4E-01
Thymidine kinase	0.98	8.4E-01
PARK7	0.96	8.5E-01
Contactin-5	1.00	8.5E-01
MIP-3a	0.99	8.5E-01
HPV E7 Type18	1.01	8.5E-01
YKL-40	0.96	8.5E-01
CHST2	1.00	8.6E-01
IL-16	1.01	8.6E-01
SORC2	1.01	8.6E-01
Hemopexin	1.00	8.6E-01
IL-1F8	0.99	8.6E-01
contactin-1	0.99	8.6E-01

Prekallikrein	0.99	8.6E-01
GHC2	1.01	8.7E-01
CD83	0.99	8.7E-01
sLeptin R	1.00	8.7E-01
SSRP1	0.99	8.7E-01
LCK	1.01	8.7E-01
MMP-3	0.97	8.7E-01
Arylsulfatase A	0.98	8.7E-01
PIM1	1.01	8.7E-01
MATK	1.00	8.7E-01
DKK3	0.99	8.7E-01
ERBB3	1.00	8.7E-01
TLR2	0.97	8.7E-01
DnaJ homolog	1.01	8.7E-01
Calcineurin B a	1.01	8.7E-01
Elastase	1.00	8.8E-01
annexin I	1.00	8.8E-01
TACI	1.02	8.8E-01
FCAR	1.00	8.8E-01
PDE4D	1.00	8.8E-01
Macrophage scavenger receptor	1.02	8.8E-01
Myeloperoxidase	1.01	8.8E-01
VEGF-D	0.96	8.9E-01
I-309	1.00	8.9E-01
6-Phosphogluconate dehydrogenase	1.11	8.9E-01
PDE3A	1.02	8.9E-01
4-1BB ligand	1.00	8.9E-01
PK3CG	1.00	8.9E-01
ARTS1	0.98	8.9E-01
FGF-6	1.05	8.9E-01
BOC	0.97	8.9E-01
IFN-aA	0.98	8.9E-01
EMAP-2	1.00	9.0E-01
calgranulin B	1.07	9.0E-01
BSP	0.98	9.0E-01
IL-2 sRa	1.01	9.0E-01
H6ST1	1.00	9.0E-01
suPAR	0.99	9.0E-01
BLC	1.02	9.0E-01
ULBP-3	1.02	9.0E-01
G-CSF	0.97	9.1E-01
C5b, 6 Complex	1.00	9.1E-01
IL-1 sR9	0.99	9.1E-01
MED-1	1.03	9.1E-01
M-CSF R	1.00	9.1E-01
Peroxiredoxin-6	1.17	9.1E-01
a2-HS-Glycoprotein	1.00	9.1E-01
TLR4	0.99	9.1E-01
TFPI	1.02	9.1E-01
SMOC1	1.00	9.2E-01
CBG	1.03	9.2E-01
ER	1.00	9.2E-01
HCE000414	1.00	9.2E-01
GIIE	1.01	9.2E-01
MMP-1	0.98	9.2E-01
VEGF sR2	1.01	9.2E-01
LSAMP	1.00	9.2E-01

PECAM-1	0.99	9.2E-01
Alpha enolase	0.98	9.2E-01
C1QBP	1.00	9.2E-01
sICAM-3	1.00	9.3E-01
CDON	0.99	9.3E-01
IL-1 sRII	1.01	9.3E-01
FGF-4	1.00	9.3E-01
SLIK5	0.98	9.3E-01
Adiponectin	0.99	9.3E-01
JAG1	0.99	9.3E-01
TWEAK	0.99	9.3E-01
p27Kip1	1.00	9.3E-01
PDGF-AA	1.01	9.3E-01
Prolactin Receptor	0.99	9.3E-01
Fractalkine/CX3CL-1	0.99	9.4E-01
MMP-8	1.01	9.4E-01
CDK1/cyclin B	0.99	9.4E-01
IL-20	1.01	9.4E-01
Siglec-6	1.00	9.4E-01
Cadherin-2	1.00	9.4E-01
FLRT1	1.03	9.5E-01
kallikrein 12	0.97	9.5E-01
CAMK1	1.00	9.5E-01
TAFI	1.01	9.5E-01
Cadherin E	1.00	9.5E-01
BRF-1	0.99	9.5E-01
Coagulation Factor XI	1.00	9.5E-01
TAK1-TAB1	1.05	9.5E-01
CHK1	0.99	9.5E-01
ROBO2	1.00	9.5E-01
OBCAM	1.04	9.6E-01
p53	1.01	9.6E-01
SHBG	1.00	9.6E-01
14-3-3E	0.99	9.6E-01
GDNF	1.01	9.6E-01
RET	1.00	9.6E-01
IL-17 RC	1.00	9.6E-01
IGFBP-3	1.01	9.6E-01
Coagulation Factor X	1.00	9.6E-01
MDM2	1.01	9.7E-01
TSP2	0.97	9.7E-01
Gro-b/g	0.98	9.7E-01
CD97	0.99	9.7E-01
Apo E2	1.01	9.7E-01
PDE9A	1.01	9.7E-01
ENTP5	0.99	9.7E-01
BCAR3	1.04	9.8E-01
Olfactomedin-4	1.00	9.8E-01
Discoidin domain receptor 2	1.00	9.8E-01
STAB2	1.00	9.8E-01
PAFAH beta subunit	1.05	9.8E-01
Gelsolin	1.02	9.9E-01
HINT1	1.02	9.9E-01
Marapsin	1.05	9.9E-01
JAML1	0.99	9.9E-01
UBP25	1.00	9.9E-01
GP1BA	1.01	9.9E-01

BMP RII	0.98	9.9E-01
IL-23 R	1.01	9.9E-01
VEGF-C	1.00	9.9E-01
TGF-b R III	1.01	9.9E-01
LY86	1.00	9.9E-01
MATN2	1.00	9.9E-01
TCCR	0.99	9.9E-01
CLC7A	1.02	9.9E-01
UB2G2	1.01	1.0E+00
FGF23	0.96	1.0E+00
DLC8	1.00	1.0E+00

V, venous; A, arterial

Table S2. Significant protein associations with baseline eGFR in JHS and FHS

	JHS				FHS			
	Adjusted for age, sex, *APOL1* (n=1928)		Adjusted for age, sex, *APOL1*, albuminuria (n=1033)		Adjusted for age, sex (n=1621)		Adjusted for age, sex, albuminuria (n=1556)	
Protein	**Beta**	***P***	**Beta**	***P***	**Beta**	***P***	**Beta**	***P***
RELT	-0.0275	6.0E-174	-0.0272	1.7E-74	-0.012	7.3E-23	-0.0145	5.0E-24
IGFBP-6	-0.0275	4.4E-173	-0.0262	3.8E-69	-0.017	2.7E-44	-0.0205	5.3E-46
Cystatin C	-0.0276	6.6E-171	-0.0269	1.4E-70	-0.0142	5.6E-31	-0.0176	2.3E-34
ARMEL	-0.0265	1.5E-144	-0.0268	7.5E-61	-0.0148	1.3E-29	-0.0185	1.5E-33
Beta2-Microglobulin	-0.0243	1.7E-130	-0.0241	1.6E-55	-0.0126	2.6E-24	-0.015	1.2E-24
DSC2	-0.0248	1.0E-125	-0.0212	2.1E-38	-0.013	5.2E-14	-0.0166	2.7E-15
CD59	-0.0237	1.9E-110	-0.022	1.3E-40	-0.0089	4.6E-08	-0.0124	1.9E-10
Ephrin-A4	-0.0238	9.5E-106	-0.0222	3.4E-39	-0.009	6.0E-12	-0.0116	5.0E-14
EFNB2	-0.0234	9.8E-102	-0.0215	6.1E-37	-0.0133	2.0E-14	-0.0169	4.5E-16
RGMB	-0.0237	2.8E-101	-0.0222	1.4E-36	-0.016	1.8E-33	-0.0191	7.3E-34
DAN	-0.0227	3.1E-100	-0.02	1.5E-35	-0.0096	3.8E-15	-0.012	8.1E-17
FSTL3	-0.0217	4.1E-97	-0.0185	1.9E-31	-0.0078	1.0E-09	-0.0105	4.9E-12
TNF sR-I	-0.0226	3.8E-96	-0.0199	1.9E-35	-0.0085	3.5E-11	-0.0116	1.3E-14
ESAM	-0.0225	2.8E-95	-0.021	1.4E-36	-0.0149	1.2E-30	-0.0184	3.1E-33
JAM-B	-0.0222	1.9E-93	-0.0208	1.4E-35	-0.0131	2.1E-22	-0.0167	2.8E-26
UNC5H3	-0.0218	2.9E-92	-0.0198	3.0E-32	-0.0101	2.4E-14	-0.0127	5.0E-16
Ephrin-A5	-0.0216	3.0E-83	-0.0193	9.1E-30	-0.0107	2.0E-15	-0.0131	1.7E-16
Epithelial cell kinase	-0.0205	5.9E-82	-0.0176	8.0E-26	-0.011	4.7E-17	-0.0136	9.1E-19
EphB6	-0.022	3.8E-81	-0.0188	2.9E-25	-0.013	8.4E-23	-0.0156	1.9E-23
MP2K2	-0.0208	4.7E-81	-0.0201	2.7E-31	-0.0073	4.3E-08	-0.0095	1.6E-09
PIANP	-0.0217	6.0E-81	-0.0192	3.8E-27	-0.0111	1.3E-10	-0.0147	1.7E-12
DAF	-0.021	3.9E-80	-0.0192	4.7E-30	-0.0087	7.1E-11	-0.0114	2.7E-13
TNF sR-II	-0.0208	6.1E-78	-0.0186	3.8E-28	-0.0067	3.6E-07	-0.0089	1.2E-08
Endostatin	-0.0201	9.8E-77	-0.0173	1.0E-24	-0.0097	1.6E-13	-0.0124	1.2E-15
Testican-2	0.0198	3.6E-70	0.0183	4.1E-28	0.0099	3.8E-13	0.0132	3.4E-16
Myoglobin	-0.0184	1.2E-69	-0.0176	1.4E-26	-0.0117	9.5E-21	-0.014	2.7E-21
ROR1	-0.0195	1.1E-66	-0.0175	5.2E-23	-0.0115	5.7E-11	-0.0144	1.1E-11
TAJ	-0.0192	4.1E-66	-0.0151	3.3E-17	-0.0124	1.3E-20	-0.0147	6.5E-21
GAS1	-0.0193	1.4E-65	-0.017	1.1E-22	-0.0086	5.4E-07	-0.0108	1.4E-07
UNC5H4	-0.0196	6.8E-63	-0.0169	8.8E-20	-0.0128	9.0E-23	-0.0156	3.4E-24
SMOC1	-0.0174	2.7E-61	-0.0167	2.1E-24	-0.0086	1.4E-07	-0.0115	7.0E-09
Cystatin M	-0.0173	1.1E-59	-0.0143	2.4E-18	-0.0119	2.0E-20	-0.0145	6.8E-22

Lipocalin 2	-0.0186	5.2E-59	-0.0155	9.6E-18	-0.0118	4.3E-18	-0.0148	1.8E-20
HCC-1	-0.0183	4.2E-58	-0.0165	1.5E-21	-0.0076	1.2E-08	-0.0094	2.0E-09
CNTFR alpha	-0.0181	1.2E-56	-0.0173	2.7E-22	-0.01	2.7E-13	-0.0132	4.8E-16
DR6	-0.0182	1.4E-55	-0.0153	3.9E-17	-0.0089	9.1E-11	-0.011	1.3E-11
Angiogenin	-0.017	2.7E-51	-0.0166	5.0E-22	-0.0076	1.4E-09	-0.0098	5.7E-11
TGF-b R III	-0.0175	1.2E-50	-0.0169	1.1E-19	-0.0122	4.8E-19	-0.0144	5.5E-19
PSP	-0.0164	3.2E-50	-0.0158	1.1E-20	-0.0103	5.7E-09	-0.0128	1.9E-09
Troponin T	-0.0146	6.3E-50	-0.0125	5.0E-17	-0.0062	7.1E-05	-0.0079	2.1E-05
Layilin	-0.0162	7.9E-50	-0.0147	5.0E-18	-0.0115	1.5E-20	-0.0137	5.1E-21
Factor D	-0.0164	8.7E-49	-0.0172	1.8E-23	-0.0085	2.6E-11	-0.0113	4.2E-14
TFF3	-0.0159	2.9E-47	-0.0149	2.8E-18	-0.0059	8.3E-06	-0.0058	1.6E-04
CgA	-0.0162	7.3E-47	-0.012	5.1E-13	-0.0092	3.5E-07	-0.011	4.9E-07
NRX1B	-0.0168	1.9E-46	-0.0136	1.7E-13	-0.0086	1.4E-10	-0.011	2.7E-12
EFNB1	-0.0163	6.8E-46	-0.0147	1.8E-16	-0.0106	2.4E-09	-0.014	9.3E-11
NEGR1	-0.0161	1.7E-44	-0.0156	5.2E-18	-0.0093	9.0E-08	-0.013	5.4E-10
IL-17F	-0.0158	2.3E-44	-0.0131	4.6E-14	-0.0052	7.2E-05	-0.0082	1.4E-07
MATN2	-0.0162	3.0E-44	-0.0126	1.3E-12	-0.0073	1.8E-08	-0.0087	1.3E-08
IGFBP-5	-0.0155	3.5E-44	-0.0123	5.3E-13	-0.0069	1.2E-07	-0.0079	2.5E-07
FBLN3	-0.0143	4.3E-44	-0.0126	1.7E-14	-0.0084	4.1E-07	-0.0101	4.3E-07
DLL1	-0.0161	1.8E-43	-0.0147	2.6E-17	-0.0072	1.3E-07	-0.0081	4.5E-07
FLRT2	-0.0154	8.0E-42	-0.0125	5.1E-13	-0.0088	6.6E-07	-0.011	2.1E-07
Troponin I, skeletal, fast twitch	-0.0139	8.9E-41	-0.0124	5.5E-14	-0.0061	2.6E-06	-0.0059	9.5E-05
VEGF	-0.015	3.4E-40	-0.0129	1.1E-12	-0.0055	3.0E-05	-0.0064	4.2E-05
Trypsin	-0.0156	3.9E-40	-0.0143	7.3E-15	-0.0065	2.0E-06	-0.0083	2.0E-07
NRX3B	-0.0151	3.3E-39	-0.013	5.7E-13	-0.0062	4.7E-06	-0.0076	1.7E-06
DERM	-0.0142	4.2E-39	-0.0146	1.8E-18	-0.0054	2.5E-05	-0.0072	1.7E-06
Elafin	-0.0152	7.3E-39	-0.0106	1.8E-09	-0.0058	2.2E-05	-0.0079	7.9E-07
Carbonic anhydrase III	-0.0139	1.7E-37	-0.0107	2.3E-10	-0.0073	2.1E-08	-0.0089	4.9E-09
kallikrein 8	-0.0148	1.9E-37	-0.0121	1.3E-11	-0.0091	1.7E-11	-0.0109	1.1E-11
CYTD	-0.0137	1.9E-34	-0.012	2.8E-12	-0.0076	1.9E-08	-0.01	3.6E-10
MIA	-0.0141	3.1E-33	-0.0159	3.4E-17	-0.0127	1.6E-20	-0.0136	2.4E-17
SLIK5	-0.014	5.9E-33	-0.0134	2.5E-13	-0.0089	1.2E-12	-0.0107	1.2E-12
Ck-b-8-1	-0.0136	1.2E-31	-0.0126	4.1E-12	-0.0066	2.2E-06	-0.0093	1.3E-08
bFGF-R	-0.0131	6.7E-30	-0.0126	3.8E-12	-0.0091	3.9E-07	-0.0111	2.1E-07
LGMN	0.0131	1.1E-29	0.0119	1.2E-11	0.0074	2.5E-08	0.0091	8.4E-09
Cadherin-6	0.0126	8.8E-29	0.0107	4.1E-10	0.0076	1.6E-08	0.0102	1.6E-10
MIP-5	-0.0129	3.5E-28	-0.0106	4.2E-09	-0.0071	2.1E-07	-0.0077	1.4E-06
CYTT	-0.0125	6.7E-28	-0.0116	1.2E-10	-0.0094	9.4E-12	-0.012	1.6E-13

Gelsolin	-0.0121	1.6E-26	-0.0138	3.0E-14	-0.0128	9.6E-22	-0.0155	3.9E-23
IL-18 BPa	-0.0122	1.6E-26	-0.0105	3.0E-09	-0.0053	5.7E-05	-0.0068	1.1E-05
Fractalkine/CX3CL-1	-0.0122	7.3E-26	-0.0121	1.6E-10	-0.0078	1.9E-09	-0.0089	7.4E-09
CYTN	-0.0119	2.9E-25	-0.0112	1.7E-10	-0.0091	4.2E-11	-0.0114	2.9E-12
PD-L2	-0.0121	1.8E-24	-0.0115	5.3E-10	-0.0054	5.3E-05	-0.0063	7.1E-05
ERBB3	0.0113	2.7E-24	0.0102	3.5E-09	0.0068	4.4E-08	0.0093	2.8E-10
resistin	-0.0119	3.8E-24	-0.0084	4.4E-06	-0.0079	6.1E-09	-0.0104	1.1E-10
MPIF-1	-0.0119	5.3E-24	-0.0112	1.3E-09	-0.0058	3.3E-05	-0.0082	5.3E-07
REG4	-0.011	5.0E-23	-0.0086	6.8E-07	-0.0073	4.7E-05	-0.0078	4.0E-04
Factor B	0.0105	6.0E-21	0.0108	1.0E-09	0.0081	6.4E-10	0.01	1.3E-10
PAPP-A	-0.0112	6.7E-21	-0.0095	2.0E-07	-0.0074	5.8E-08	-0.0088	3.7E-08
IGFBP-2	-0.0102	4.0E-20	-0.0092	1.4E-07	-0.0129	2.0E-13	-0.0165	7.1E-15
WFKN2	-0.0107	2.0E-19	-0.0101	8.9E-08	-0.0093	9.8E-12	-0.0114	1.0E-12
SREC-I	-0.0106	2.5E-19	-0.0095	1.8E-07	-0.0073	5.5E-08	-0.0098	7.9E-10
Soggy-1	0.0105	3.3E-19	0.0088	7.4E-07	0.0055	3.9E-05	0.0069	1.5E-05
Afamin	0.0106	9.4E-19	0.0079	2.0E-05	0.0098	5.9E-13	0.0119	1.6E-13
Calcineurin B a	0.0103	1.4E-18	0.008	1.3E-05	0.0058	1.0E-05	0.0066	2.2E-05
C34 gp41 HIV Fragment	-0.0102	2.7E-18	-0.0093	1.3E-07	-0.0073	7.8E-08	-0.0089	2.5E-08
ASM3A	0.0101	7.4E-18	0.0088	6.1E-07	0.0055	4.2E-05	0.0074	3.9E-06
CD23	-0.0102	7.6E-18	-0.0081	2.7E-06	-0.0056	5.1E-05	-0.006	2.3E-04
CRDL1	-0.0091	4.0E-17	-0.0069	6.8E-05	-0.0073	2.4E-09	-0.0087	2.0E-09
Angiostatin	0.0095	8.3E-17	0.0077	6.7E-06	0.0065	6.2E-07	0.0078	4.2E-07
PLXC1	0.0097	5.0E-16	0.0091	6.9E-07	0.0073	5.7E-08	0.0102	1.5E-10
NKp46	-0.0095	1.5E-15	-0.0079	4.2E-05	-0.0054	8.1E-05	-0.0063	9.5E-05
Lysozyme	-0.0092	2.4E-15	-0.0103	1.9E-08	-0.0061	6.6E-06	-0.0077	1.5E-06
Factor H	0.009	3.9E-15	0.0079	1.7E-05	0.0084	3.9E-11	0.0101	1.6E-11
OX2G	-0.009	4.9E-14	-0.006	1.7E-03	-0.0069	2.3E-07	-0.0078	5.0E-07
cGMP-stimulated PDE	0.0085	2.9E-13	0.0058	1.2E-03	0.0059	1.5E-05	0.0072	6.9E-06
N-terminal pro-BNP	-0.0076	4.3E-12	-0.0038	2.8E-02	-0.0069	4.9E-05	-0.0083	6.2E-05
SPINT2	-0.0081	8.9E-12	-0.007	1.1E-04	-0.0057	2.6E-05	-0.0064	7.7E-05
Factor I	0.0077	1.2E-11	0.0081	5.0E-06	0.0079	5.7E-10	0.0095	2.4E-10
Periostin	-0.0077	1.9E-11	-0.0049	5.4E-03	-0.0082	9.8E-10	-0.0096	1.8E-09
Cathepsin A	0.008	2.3E-11	0.0094	4.3E-07	0.0068	6.3E-07	0.0087	9.0E-08
Glutathione S-transferase Pi	-0.0077	4.3E-11	-0.0093	5.3E-08	-0.0082	5.8E-10	-0.0107	8.4E-12
tPA	0.0078	4.9E-11	0.0077	3.7E-05	0.0078	2.4E-09	0.0089	8.1E-09
Aminoacylase-1	0.0075	5.6E-11	0.0062	4.5E-04	0.01	4.2E-14	0.0119	2.6E-14
Growth hormone receptor	0.0072	1.9E-10	0.0053	2.0E-03	0.0115	3.6E-18	0.0141	3.2E-19
VEGF sR2	0.0071	2.8E-10	0.0077	2.0E-05	0.0063	2.4E-06	0.0085	4.1E-08

IGF-II receptor	0.0073	1.4E-09	0.006	1.5E-03	0.0058	1.8E-05	0.0072	6.3E-06
OBCAM	0.0071	2.0E-09	0.0078	2.1E-05	0.0054	4.2E-05	0.0067	2.0E-05
RET	0.0067	3.1E-09	0.0044	8.3E-03	0.0088	2.4E-11	0.0114	3.5E-13
BMP-1	0.0067	7.8E-09	0.0062	4.3E-04	0.01	1.7E-15	0.0121	5.1E-16
IDS	0.0069	7.9E-09	0.0055	3.1E-03	-0.0053	4.1E-05	-0.0048	1.4E-03
P-Selectin	0.0067	2.2E-08	0.0081	2.4E-05	0.0069	3.0E-07	0.0082	2.5E-07
LSAMP	-0.0061	1.3E-07	-0.0053	4.0E-03	-0.0057	3.4E-06	-0.0057	9.9E-05
LG3BP	0.0061	1.9E-07	0.0089	1.6E-06	0.0107	2.1E-15	0.0127	1.8E-15
DKK3	-0.0058	3.5E-07	-0.0056	1.3E-03	-0.0066	7.0E-07	-0.0076	8.9E-07
Siglec-7	0.0061	3.7E-07	0.0067	3.6E-04	0.0116	2.2E-17	0.0138	1.3E-17
GFRa-1	-0.006	3.9E-07	-0.0041	2.2E-02	0.007	1.1E-07	0.0068	9.8E-06
EDAR	-0.006	8.0E-07	-0.0062	1.3E-03	-0.0057	2.4E-05	-0.0075	3.0E-06
EMAP-2	0.0057	1.1E-06	0.0037	3.6E-02	0.0056	2.1E-05	0.0069	7.8E-06
FN1.4	0.0052	3.4E-06	0.0036	4.3E-02	0.005	6.5E-05	0.0059	6.7E-05
IDUA	0.0055	4.3E-06	0.0095	2.2E-07	0.0062	4.6E-06	0.0082	3.0E-07
Survivin	0.0054	5.0E-06	0.0038	3.6E-02	0.0056	1.0E-05	0.0058	9.2E-05
Apo E2	0.0051	7.4E-06	0.0053	3.3E-03	0.0071	1.7E-07	0.008	7.3E-07
NET4	0.0051	1.2E-05	0.0043	1.8E-02	0.0068	5.3E-07	0.0086	7.1E-08
PAI-1	0.0052	1.7E-05	0.0046	1.4E-02	0.0104	4.0E-14	0.0111	6.0E-12
C3b	0.0051	1.7E-05	0.0034	6.2E-02	0.0078	4.7E-09	0.0071	6.9E-06
Laminin	0.005	1.8E-05	0.0066	3.6E-04	0.0088	2.2E-11	0.009	6.5E-09
CBPE	0.0049	3.4E-05	0.0019	2.8E-01	-0.0054	8.7E-05	-0.005	2.1E-03

APOL1, *Apolipoprotein L1* genotype

Table S3. Proteins significantly associated with eGFR slope in multivariable-adjusted models in JHS and FHS

	JHS				FHS				Renal AV cohort (n=22)	
	eGFR slope (*n* = 1,371)		baseline eGFR (n=1928)		eGFR slope (*n* = 1,332)		baseline eGFR (n=1621)			
Protein	**Beta**	***P***	**Beta**	***P***	**Beta**	***P***	**Beta**	***P***	**Median V/A**	***P***
Testican-2	0.38	1.7 x 10-11	0.0198	3.6 x 10-70	0.44	1.5 x 10-15	0.0099	3.8 x 10-13	1.40	1.5 x 10-9
DAN	-0.39	6.5 x 10-11	-0.0227	3.1 x 10-100	-0.41	5.3 x 10-11	-0.0096	3.8 x 10-15	0.81	3.3 x 10-6
FSTL3	-0.40	1.7 x 10-10	-0.0217	4.1 x 10-97	-0.46	7.0 x 10-14	-0.0078	1.0 x 10-09	0.94	1.4 x 10-2
TNF sR-I	-0.34	1.0 x 10-8	-0.0226	3.8 x 10-96	-0.56	7.1 x 10-21	-0.0085	3.5 x 10-11	0.94	5.9 x 10-5
FGF-20	0.30	8.7 x 10-8	0.0173	1.3 x 10-53	0.36	3.8 x 10-10	0.0026	4.9 x 10-02	1.58	1.3 x 10-8
Epithelial cell kinase	-0.31	1.6 x 10-7	-0.0205	5.9 x 10-82	-0.33	2.0 x 10-8	-0.011	4.7 x 10-17	0.95	7.3 x 10-2
IGFBP-6	-0.35	2.2 x 10-7	-0.0275	4.4 x 10-173	-0.57	2.8 x 10-19	-0.017	2.7 x 10-44	0.93	5.7 x 10-6
TNF sR-II	-0.28	4.5 x 10-7	-0.0208	6.1 x 10-78	-0.33	1.4 x 10-8	-0.0067	3.6 x 10-7	0.99	7.6 x 10-1
EFNB1	-0.26	5.6 x 10-7	-0.0163	6.8 x 10-46	-0.40	4.1 x 10-8	-0.0106	2.4 x 10-9	0.96	9.8 x 10-4
DC-SIGNR	0.26	1.3 x 10-6	0.0115	1.7 x 10-23	0.37	3.3 x 10-10	0.0048	1.9 x 10-4	1.03	1.5 x 10-1
Beta2-Microglobulin	-0.31	1.7 x 10-6	-0.0243	1.7 x 10-130	-0.52	6.8 x 10-17	-0.0126	2.6 x 10-24	0.87	1.6 x 10-6
DSC2	-0.30	1.9 x 10-6	-0.0248	1.0 x 10-125	-0.44	4.4 x 10-9	-0.013	5.2 x 10-14	0.86	2.3 x 10-2
UNC5H3	-0.28	2.5 x 10-6	-0.0218	2.9 x 10-92	-0.53	1.5 x 10-19	-0.0101	2.4 x 10-14	0.99	2.6 x 10-1
RELT	-0.31	2.8 x 10-6	-0.0275	6.0 x 10-174	-0.42	3.5 x 10-11	-0.012	7.3 x 10-23	0.93	1.4 x 10-3
EFNB2	-0.27	3.2 x 10-6	-0.0234	9.8 x 10-102	-0.36	2.6 x 10-6	-0.0133	2.0 x 10-14	0.97	8.2 x 10-1
FBLN3	-0.28	3.2 x 10-6	-0.0143	4.3 x 10-44	-0.27	3.5 x 10-4	-0.0084	4.1 x 10-7	1.00	4.0 x 10-1
TIMD3	-0.26	5.4 x 10-6	-0.0167	6.9 x 10-52	-0.22	1.3 x 10-4	-0.0051	1.6 x 10-4	1.00	4.6 x 10-1
ROR1	-0.25	5.9 x 10-6	-0.0195	1.1 x 10-66	-0.46	9.7 x 10-10	-0.0115	5.7 x 10-11	0.99	6.1 x 10-1
EphB6	-0.25	9.5 x 10-6	-0.022	3.8 x 10-81	-0.52	2.4 x 10-17	-0.013	8.4 x 10-23	0.99	2.5 x 10-1
TFF3	-0.23	1.6 x 10-5	-0.0159	2.9 x 10-47	-0.33	2.1 x 10-8	-0.0059	8.3 x 10-6	0.88	1.0 x 10-8
DR6	-0.22	2.9 x 10-5	-0.0182	1.4 x 10-55	-0.32	1.8 x 10-8	-0.0089	9.1 x 10-11	0.98	4.7 x 10-1

JHS: for eGFR slope analysis, linear regression model adjusted for age, sex, plate, hypertension, diabetes, BMI, *APOL1* genotype, and baseline eGFR; association with baseline eGFR adjusted for age, sex, and *APOL1* genotype.
FHS: for eGFR slope analysis, linear regression model adjusted for age, sex, hypertension, diabetes, BMI, and baseline eGFR; association with baseline eGFR adjusted for age and sex.

Table S4. Testican-2 and eGFR slope in multivariable-adjusted model including albuminuria in JHS and FHS

	JHS (n=673)			FHS (n=1284)		
Outcome	**Beta**	**95% CI**	***P***	**Beta**	**95% CI**	***P***
eGFR decline	0.38	(0.22, 0.55)	4.8 x 10-6	0.45	(0.34, 0.56)	1.1 x 10-15

For JHS, linear regression model adjusted for age, sex, plate, hypertension, diabetes, BMI, *APOL1* genotype, baseline eGFR, and albuminuria.
For FHS, linear regression model adjusted for age, sex, hypertension, diabetes, BMI, baseline eGFR, and trace albuminuria.

Table S5. Single nucleotide variant associations with circulating testican-2 levels across JHS and FHS

rsid	Ref Allele	Effect Allele	Build 38 Position	Build 37 Position	Cohort	Observed Effect AF in FHS	Beta FHS	SE FHS	*P* FHS	Observed Effect AF in JHS	Beta JHS	SE JHS	*P* JHS	Alt AF Afri-cans	Alt AF Euro-peans	Panel Source for AF
rs7921668	T	C	72055026	73814784	BOTH	0.49	0.15	0.04	2.54E-05	0.36	0.12	0.03	1.15E-04	0.35	0.48	gnomAD
rs1678626	T	C	72066577	73826335	BOTH	0.54	0.16	0.04	3.64E-06	0.37	0.14	0.03	2.27E-05	0.35	0.52	1000G
rs1678627	C	T	72068990	73828748	BOTH	0.40	0.17	0.04	9.83E-06	0.20	0.19	0.04	1.53E-06	0.19	0.39	gnomAD
rs1678628	G	A	72069096	73828854	BOTH	0.41	0.17	0.04	1.04E-05	0.20	0.19	0.04	1.66E-06	0.19	0.39	gnomAD
rs1245564	C	T	72077109	73836867	BOTH	0.51	0.20	0.04	4.20E-08	0.55	0.11	0.03	4.27E-04	0.54	0.51	gnomAD
rs1245563	C	T	72077194	73836952	BOTH	0.56	0.18	0.04	3.37E-07	0.56	0.11	0.03	6.88E-04	0.55	0.55	gnomAD
rs1245560	A	C	72077662	73837420	BOTH	0.51	0.20	0.04	3.91E-08	0.55	0.11	0.03	5.70E-04	0.54	0.51	gnomAD
rs1245559	G	A	72078506	73838264	BOTH	0.52	0.22	0.04	7.15E-09	0.61	0.17	0.03	4.74E-08	0.62	0.52	gnomAD
rs1245553	T	C	72083700	73843458	BOTH	0.45	0.24	0.04	3.93E-10	0.40	0.13	0.03	6.02E-05	0.41	0.45	gnomAD
rs1245549	G	A	72085663	73845421	BOTH	0.39	0.22	0.04	1.89E-08	0.32	0.16	0.03	1.96E-06	0.31	0.39	gnomAD
rs1245545	C	T	72087596	73847354	BOTH	0.39	0.22	0.04	1.89E-08	0.32	0.16	0.03	2.37E-06	0.31	0.39	gnomAD
rs1245543	C	T	72089714	73849472	BOTH	0.39	0.22	0.04	1.89E-08	0.33	0.15	0.03	4.26E-06	0.32	0.39	gnomAD
rs1245542	T	G	72089773	73849531	BOTH	0.42	0.24	0.04	7.21E-09	0.33	0.15	0.03	3.67E-06	0.32	0.39	gnomAD
rs1245541	G	A	72089881	73849639	BOTH	0.39	0.22	0.04	1.90E-08	0.33	0.15	0.03	3.67E-06	0.32	0.39	gnomAD
rs1245539	G	A	72091069	73850827	BOTH	0.39	0.22	0.04	1.93E-08	0.33	0.15	0.03	2.72E-06	0.31	0.39	gnomAD
rs1245538	G	A	72091083	73850841	BOTH	0.39	0.22	0.04	1.93E-08	0.33	0.15	0.03	3.67E-06	0.31	0.39	gnomAD
rs1245537	C	A	72091502	73851260	BOTH	0.39	0.22	0.04	1.91E-08	0.33	0.15	0.03	3.67E-06	0.32	0.39	gnomAD
rs1245536	T	C	72091640	73851398	BOTH	0.39	0.22	0.04	1.91E-08	0.33	0.15	0.03	3.67E-06	0.32	0.39	gnomAD
rs7893890	A	G	72092167	73851925	BOTH	0.39	0.22	0.04	1.91E-08	0.33	0.15	0.03	3.67E-06	0.32	0.39	gnomAD
rs7087178	T	G	72092597	73852355	BOTH	0.39	0.22	0.04	1.91E-08	0.33	0.15	0.03	3.67E-06	0.32	0.39	gnomAD
rs7087475	T	A	72092798	73852556	BOTH	0.39	0.22	0.04	1.92E-08	0.33	0.15	0.03	3.67E-06	0.32	0.39	gnomAD
rs12766266	C	T	72093720	73853478	BOTH	0.44	0.22	0.04	2.40E-07	0.32	0.16	0.03	1.39E-06	0.31	0.42	gnomAD
rs2394851	A	C	72093897	73853655	BOTH	0.39	0.22	0.04	1.92E-08	0.33	0.15	0.03	4.26E-06	0.32	0.39	gnomAD
rs3312	A	G	72097226	73856984	BOTH	0.45	0.24	0.04	3.12E-10	0.62	0.12	0.03	8.09E-05	0.64	0.46	gnomAD
rs1668155	T	C	72098381	73858139	BOTH	0.49	0.22	0.04	6.21E-10	0.68	0.18	0.03	4.83E-08	0.69	0.48	gnomAD
rs1668154	C	T	72102274	73862032	BOTH	0.43	0.20	0.04	2.43E-08	0.22	0.15	0.04	5.58E-05	0.22	0.42	gnomAD
rs7090800	T	C	72105973	73865731	BOTH	0.49	0.22	0.03	6.83E-10	0.68	0.17	0.03	1.95E-07	0.69	0.48	gnomAD
rs921361	C	T	72107696	73867454	BOTH	0.39	0.21	0.04	1.67E-08	0.21	0.16	0.04	2.12E-05	0.21	0.39	gnomAD
rs1678614	G	A	72115304	73875062	BOTH	0.44	0.20	0.04	2.55E-08	0.21	0.14	0.04	5.03E-04	0.20	0.42	gnomAD
rs3780948	A	G	72126548	73886306	BOTH	0.40	0.21	0.04	1.68E-07	0.21	0.14	0.04	5.03E-04	0.20	0.41	gnomAD
rs12784395	G	A	72131391	73891149	BOTH	0.47	0.20	0.04	1.24E-07	0.21	0.14	0.04	3.33E-04	0.21	0.45	gnomAD
rs2894177	T	C	72136298	73896056	BOTH	0.44	0.20	0.04	4.44E-08	0.21	0.13	0.04	5.60E-04	0.20	0.41	gnomAD
rs7086521	C	T	72138664	73898422	BOTH	0.48	0.20	0.04	9.45E-08	0.25	0.17	0.04	4.00E-06	0.25	0.48	gnomAD
rs7070702	A	C	72147872	73907630	BOTH	0.42	0.22	0.04	7.16E-09	0.26	0.15	0.04	3.06E-05	0.26	0.39	gnomAD
rs11000201	T	G	72171806	73931564	BOTH	0.52	0.14	0.04	3.66E-05	0.22	0.14	0.04	3.63E-04	0.23	0.48	gnomAD

rs10762498	T	C	71972907	73732665	FHS	0.58	0.12	0.04	4.92E-04					0.73	0.58	gnomAD
rs4148926	G	C	71977366	73737124	FHS	0.57	0.12	0.04	6.83E-04					0.38	0.58	gnomAD
rs12258400	T	C	71978155	73737913	FHS	0.57	0.12	0.04	6.26E-04					0.40	0.58	gnomAD
rs11000123	T	C	71978651	73738409	FHS	0.58	0.12	0.04	4.40E-04					0.81	0.58	gnomAD
rs4148928	G	A	71980855	73740613	FHS	0.57	0.12	0.04	6.33E-04					0.36	0.58	gnomAD
rs4148929	A	C	71981079	73740837	FHS	0.57	0.12	0.04	6.36E-04					0.43	0.58	gnomAD
rs2091331	A	G	71981948	73741706	FHS	0.58	0.12	0.04	4.28E-04					0.81	0.58	gnomAD
rs2091332	T	C	71982201	73741959	FHS	0.58	0.12	0.04	4.49E-04					0.43	0.58	gnomAD
rs2127358	A	G	71982522	73742280	FHS	0.47	0.12	0.04	9.53E-04					0.24	0.47	gnomAD
rs10400065	G	A	71984360	73744118	FHS	0.57	0.13	0.04	3.72E-04					0.31	0.58	gnomAD
rs10400064	C	T	71984424	73744182	FHS	0.48	0.12	0.04	7.89E-04					0.66	0.47	gnomAD
rs2394847	C	T	71984712	73744470	FHS	0.58	0.13	0.04	3.11E-04					0.79	0.58	gnomAD
rs4746103	C	G	71985190	73744948	FHS	0.58	0.13	0.04	2.54E-04					0.48	0.58	gnomAD
rs4746104	T	C	71985229	73744987	FHS	0.58	0.13	0.04	3.40E-04					0.39	0.58	gnomAD
rs4746105	T	C	71985241	73744999	FHS	0.47	0.12	0.04	6.87E-04					0.14	0.47	gnomAD
rs1006974	C	T	71985718	73745476	FHS	0.58	0.13	0.04	3.10E-04					0.42	0.58	gnomAD
rs2127357	C	T	71985841	73745599	FHS	0.58	0.13	0.04	2.81E-04					0.70	0.58	gnomAD
rs11000125	G	C	71987630	73747388	FHS	0.57	0.13	0.04	2.10E-04					0.78	0.58	gnomAD
rs4747229	C	T	71987833	73747591	FHS	0.48	0.12	0.04	6.05E-04					0.24	0.47	gnomAD
rs2394848	G	A	71990315	73750073	FHS	0.47	0.12	0.04	4.39E-04					0.14	0.47	gnomAD
rs2394849	T	C	71990703	73750461	FHS	0.57	0.13	0.04	2.20E-04					0.70	0.58	gnomAD
rs1007242	A	G	71991385	73751143	FHS	0.47	0.12	0.04	4.19E-04					0.14	0.47	gnomAD
rs4747230	A	G	71992107	73751865	FHS	0.47	0.13	0.04	2.99E-04					0.14	0.47	gnomAD
rs4747231	A	G	71992247	73752005	FHS	0.57	0.14	0.04	1.04E-04					0.79	0.58	gnomAD
N/A	R	I	N/A	73752561	FHS	0.36	0.17	0.04	1.86E-04					N/A	N/A	N/A
N/A	R	I	N/A	73752585	FHS	0.30	0.19	0.05	2.45E-04					N/A	N/A	N/A
N/A	D	R	N/A	73780524	FHS	0.48	-0.14	0.04	2.48E-04					N/A	N/A	N/A
N/A	R	I	N/A	73788704	FHS	0.49	0.15	0.04	3.15E-05					N/A	N/A	N/A
N/A	R	D	N/A	73790943	FHS	0.47	0.16	0.04	2.51E-05					N/A	N/A	N/A
N/A	R	D	N/A	73790946	FHS	0.42	0.16	0.04	8.80E-05					N/A	N/A	N/A
N/A	R	D	N/A	73790947	FHS	0.44	0.16	0.04	4.58E-05					N/A	N/A	N/A
N/A	R	I	N/A	73811262	FHS	0.49	0.14	0.04	4.50E-05					N/A	N/A	N/A
N/A	R	D	N/A	73848105	FHS	0.45	0.25	0.04	2.27E-10					N/A	N/A	N/A
N/A	R	D	N/A	73850718	FHS	0.34	0.23	0.04	2.95E-07					N/A	N/A	N/A
N/A	D	R	N/A	73955320	FHS	0.46	-0.18	0.04	1.98E-06					N/A	N/A	N/A
N/A	R	D	N/A	73982177	FHS	0.53	0.16	0.04	2.61E-05					N/A	N/A	N/A
N/A	R	D	N/A	74022900	FHS	0.36	-0.16	0.04	1.01E-04					N/A	N/A	N/A
N/A	R	D	N/A	74027086	FHS	0.36	-0.14	0.04	2.60E-04					N/A	N/A	N/A
N/A	R	D	N/A	74031940	FHS	0.30	-0.17	0.04	1.11E-04					N/A	N/A	N/A
N/A	R	D	N/A	74031941	FHS	0.31	-0.16	0.04	9.78E-05					N/A	N/A	N/A
N/A	R	D	N/A	74031945	FHS	0.31	-0.16	0.04	9.71E-05					N/A	N/A	N/A

rs74932382	T	C	71992820	73752578	FHS	0.30	0.18	0.05	3.47E-04					0.14	0.46	gnomAD
rs75113217	T	C	71992821	73752579	FHS	0.29	0.18	0.05	5.69E-04					0.14	0.46	gnomAD
rs57500368	G	A	71992822	73752580	FHS	0.29	0.18	0.05	4.66E-04					0.17	0.46	gnomAD
rs12413786	G	A	71995163	73754921	FHS	0.47	0.13	0.04	2.71E-04					0.14	0.47	gnomAD
rs7085958	G	A	71996020	73755778	FHS	0.58	0.13	0.04	1.69E-04					0.34	0.58	gnomAD
rs6480591	G	A	71998010	73757768	FHS	0.58	0.14	0.04	9.32E-05					0.79	0.58	gnomAD
rs4148930	G	C	71998334	73758092	FHS	0.58	0.14	0.04	9.28E-05					0.81	0.58	gnomAD
rs730334	C	T	71998574	73758332	FHS	0.57	0.13	0.04	3.33E-04					0.19	0.57	gnomAD
rs4148932	T	C	72000036	73759794	FHS	0.59	0.14	0.04	8.83E-05					0.38	0.58	gnomAD
rs4148933	T	C	72000132	73759890	FHS	0.58	0.14	0.04	9.20E-05					0.39	0.58	gnomAD
rs7907616	A	G	72000418	73760176	FHS	0.58	0.14	0.04	5.13E-05					0.78	0.58	gnomAD
rs751450	A	G	72001257	73761015	FHS	0.59	0.15	0.04	2.55E-05					0.87	0.58	gnomAD
rs4148936	A	T	72002298	73762056	FHS	0.48	0.13	0.04	1.21E-04					0.39	0.47	gnomAD
rs4148937	C	T	72002421	73762179	FHS	0.45	0.12	0.04	8.34E-04					0.09	0.44	gnomAD
rs4148938	C	G	72002430	73762188	FHS	0.45	0.12	0.04	8.07E-04					0.09	0.44	gnomAD
rs4148939	C	T	72002904	73762662	FHS	0.45	0.12	0.04	8.00E-04					0.09	0.45	gnomAD
rs2219837	T	C	72002915	73762673	FHS	0.59	0.15	0.04	2.39E-05					0.87	0.58	gnomAD
rs7097834	G	T	72003270	73763028	FHS	0.48	0.13	0.04	2.63E-04					0.18	0.47	gnomAD
rs6480592	C	T	72004751	73764509	FHS	0.59	0.15	0.04	1.90E-05					0.87	0.58	gnomAD
rs4600132	G	A	72005021	73764779	FHS	0.48	0.14	0.04	9.19E-05					0.37	0.47	gnomAD
rs4747234	C	G	72005301	73765059	FHS	0.47	0.14	0.04	1.31E-04					0.21	0.47	gnomAD
rs4747235	T	C	72005455	73765213	FHS	0.48	0.13	0.04	2.09E-04					0.24	0.47	gnomAD
rs11000129	T	G	72006015	73765773	FHS	0.48	0.13	0.04	2.26E-04					0.24	0.47	gnomAD
rs4148940	A	G	72006237	73765995	FHS	0.49	0.13	0.04	1.36E-04					0.44	0.47	gnomAD
rs3740129	G	A	72008101	73767859	FHS	0.42	0.13	0.04	7.54E-04					0.28	0.41	gnomAD
rs4148941	C	A	72009234	73768992	FHS	0.58	0.14	0.04	3.96E-05					0.87	0.58	gnomAD
rs4148943	C	T	72009749	73769507	FHS	0.47	0.14	0.04	8.38E-05					0.43	0.47	gnomAD
rs4148945	C	T	72009832	73769590	FHS	0.47	0.13	0.04	1.95E-04					0.14	0.46	gnomAD
rs4148946	C	T	72010315	73770073	FHS	0.58	0.14	0.03	4.46E-05					0.77	0.58	gnomAD
rs4148947	T	C	72010359	73770117	FHS	0.47	0.13	0.04	1.92E-04					0.29	0.47	gnomAD
rs4148948	A	G	72010820	73770578	FHS	0.58	0.14	0.03	4.96E-05					0.78	0.57	1000G
rs4148949	T	C	72010893	73770651	FHS	0.58	0.14	0.03	5.00E-05					0.82	0.58	gnomAD
rs4148950	G	A	72011948	73771706	FHS	0.47	0.13	0.04	1.88E-04					0.29	0.47	gnomAD
rs1871450	G	A	72012256	73772014	FHS	0.47	0.13	0.04	1.87E-04					0.29	0.47	gnomAD
rs1871451	G	T	72012403	73772161	FHS	0.57	0.14	0.04	5.56E-05					0.87	0.58	gnomAD
rs731027	T	C	72012578	73772336	FHS	0.47	0.14	0.04	8.09E-05					0.43	0.47	gnomAD
rs1871452	T	A	72012903	73772661	FHS	0.58	0.14	0.03	4.82E-05					0.82	0.58	gnomAD
rs730720	C	T	72013004	73772762	FHS	0.47	0.14	0.04	7.94E-05					0.43	0.47	gnomAD
rs12418	G	A	72013256	73773014	FHS	0.47	0.13	0.04	1.80E-04					0.29	0.47	gnomAD
rs10823898	G	T	72013641	73773399	FHS	0.47	0.13	0.04	1.69E-04					0.09	0.46	gnomAD
rs896078	G	T	72015701	73775459	FHS	0.47	0.14	0.04	6.52E-05					0.26	0.47	gnomAD

rs896077	C	T	72015845	73775603	FHS	0.47	0.14	0.04	1.47E-04					0.14	0.47	gnomAD
rs896076	A	G	72015949	73775707	FHS	0.47	0.14	0.04	1.17E-04					0.14	0.47	gnomAD
rs1245586	C	T	72016593	73776351	FHS	0.47	0.14	0.04	6.40E-05					0.26	0.47	gnomAD
rs1245585	G	T	72016717	73776475	FHS	0.48	0.14	0.04	6.27E-05					0.32	0.47	gnomAD
rs1245584	C	A	72017185	73776943	FHS	0.47	0.14	0.04	1.44E-04					0.14	0.47	gnomAD
rs1245583	T	A	72017934	73777692	FHS	0.47	0.14	0.04	1.38E-04					0.16	0.46	gnomAD
rs1245582	C	T	72018509	73778267	FHS	0.58	0.14	0.03	4.10E-05					0.88	0.58	gnomAD
rs1245581	G	C	72018849	73778607	FHS	0.47	0.14	0.04	1.37E-04					0.24	0.47	gnomAD
rs1261886	G	A	72018882	73778640	FHS	0.48	0.14	0.04	8.32E-05					0.45	0.48	gnomAD
rs1245580	A	G	72020736	73780494	FHS	0.58	0.14	0.04	3.95E-05					0.85	0.58	gnomAD
rs1668163	G	T	72021828	73781586	FHS	0.46	0.14	0.04	9.84E-05					0.14	0.47	gnomAD
rs11000138	A	T	72022264	73782022	FHS	0.41	-0.16	0.04	9.62E-06					0.18	0.40	gnomAD
rs7895905	G	A	72022478	73782236	FHS	0.58	0.15	0.04	2.90E-05					0.85	0.58	gnomAD
rs10823899	C	A	72022507	73782265	FHS	0.47	0.14	0.04	9.31E-05					0.24	0.47	gnomAD
rs1245517	C	T	72023667	73783425	FHS	0.47	0.14	0.04	9.62E-05					0.14	0.46	gnomAD
rs1245518	C	G	72024267	73784025	FHS	0.59	0.15	0.04	2.39E-05					0.89	0.59	gnomAD
rs1245519	T	C	72025033	73784791	FHS	0.48	0.14	0.04	7.11E-05					0.25	0.47	gnomAD
rs1245520	C	A	72025418	73785176	FHS	0.48	0.14	0.04	7.05E-05					0.28	0.47	gnomAD
rs1245521	C	T	72025968	73785726	FHS	0.48	0.15	0.04	6.89E-05					0.14	0.47	gnomAD
rs1245522	C	G	72026383	73786141	FHS	0.48	0.15	0.04	6.82E-05					0.29	0.47	gnomAD
rs1245523	A	G	72027139	73786897	FHS	0.48	0.15	0.04	2.57E-05					0.43	0.48	gnomAD
rs1245524	A	G	72027844	73787602	FHS	0.59	0.15	0.04	1.97E-05					0.88	0.59	gnomAD
rs1245525	A	G	72028396	73788154	FHS	0.45	0.16	0.04	3.70E-05					0.37	0.46	gnomAD
rs1271934	A	G	72028775	73788533	FHS	0.59	0.16	0.04	1.66E-05					0.88	0.59	gnomAD
rs12268174	T	G	72028935	73788693	FHS	0.48	0.15	0.04	4.35E-05					0.33	0.48	gnomAD
rs1245535	C	G	72029275	73789033	FHS	0.58	0.15	0.04	3.26E-05					0.89	0.59	gnomAD
rs877620	C	T	72029449	73789207	FHS	0.48	0.15	0.04	3.07E-05					0.25	0.47	gnomAD
rs1245533	G	T	72030368	73790126	FHS	0.49	0.16	0.04	1.77E-05					0.42	0.48	gnomAD
rs1245532	G	A	72031016	73790774	FHS	0.50	0.16	0.04	8.46E-06					0.70	0.48	gnomAD
rs1245531	G	A	72031061	73790819	FHS	0.48	0.16	0.04	1.52E-05					0.34	0.47	gnomAD
rs1245530	C	T	72032510	73792268	FHS	0.48	0.15	0.04	4.87E-05					0.10	0.47	gnomAD
rs1245529	T	C	72032678	73792436	FHS	0.48	0.15	0.04	4.79E-05					0.13	0.47	gnomAD
rs1245528	G	T	72034988	73794746	FHS	0.47	0.15	0.04	4.18E-05					0.09	0.47	gnomAD
rs1245527	G	C	72036394	73796152	FHS	0.58	0.16	0.04	1.48E-05					0.85	0.57	gnomAD
rs1245526	C	T	72037499	73797257	FHS	0.46	0.14	0.04	1.73E-04					0.09	0.45	gnomAD
rs1271351	C	T	72039115	73798873	FHS	0.57	0.17	0.04	5.16E-06					0.86	0.57	gnomAD
rs1245507	G	A	72039591	73799349	FHS	0.50	0.15	0.04	1.67E-05					0.20	0.48	gnomAD
rs1245508	G	A	72039964	73799722	FHS	0.50	0.15	0.04	3.35E-05					0.27	0.48	gnomAD
rs1245509	T	C	72040064	73799822	FHS	0.51	0.16	0.04	7.27E-06					0.70	0.50	gnomAD
rs1245510	G	A	72040201	73799959	FHS	0.51	0.16	0.04	7.23E-06					0.67	0.50	gnomAD
rs1245511	G	T	72041113	73800871	FHS	0.49	0.15	0.04	2.84E-05					0.28	0.48	gnomAD

rs1245512	G	A	72042129	73801887	FHS	0.58	0.17	0.04	2.06E-06					0.84	0.59	gnomAD
rs1245513	G	A	72042499	73802257	FHS	0.50	0.15	0.04	2.31E-05					0.20	0.48	gnomAD
rs1269600	T	C	72043117	73802875	FHS	0.59	0.17	0.04	2.19E-06					0.85	0.59	gnomAD
rs1245514	C	T	72043277	73803035	FHS	0.50	0.15	0.04	1.49E-05					0.21	0.48	gnomAD
rs1630642	C	T	72044862	73804620	FHS	0.49	0.15	0.04	2.71E-05					0.22	0.48	gnomAD
rs1668158	A	G	72044884	73804642	FHS	0.59	0.17	0.04	1.41E-06					0.85	0.59	gnomAD
rs11591794	G	A	72044940	73804698	FHS	0.08	-0.40	0.11	2.67E-04					0.01	0.09	gnomAD
rs1632171	G	T	72045003	73804761	FHS	0.49	0.16	0.04	1.15E-05					0.52	0.49	gnomAD
rs1612028	C	G	72045532	73805290	FHS	0.49	0.15	0.04	2.30E-05					0.25	0.48	gnomAD
rs1678617	T	C	72045998	73805756	FHS	0.05	0.53	0.16	9.14E-04					0.01	0.05	gnomAD
rs1668159	G	T	72046054	73805812	FHS	0.59	0.17	0.04	1.16E-06					0.85	0.59	gnomAD
rs1678618	A	G	72046530	73806288	FHS	0.49	0.15	0.04	2.33E-05					0.25	0.48	gnomAD
rs1668160	T	C	72046812	73806570	FHS	0.59	0.17	0.04	1.09E-06					0.85	0.59	gnomAD
rs1668161	C	A	72047030	73806788	FHS	0.59	0.17	0.04	1.12E-06					0.85	0.59	gnomAD
rs1678619	T	C	72047151	73806909	FHS	0.58	0.17	0.04	1.16E-06					0.85	0.59	gnomAD
rs7913636	T	C	72047656	73807414	FHS	0.58	0.17	0.04	2.59E-06					0.69	0.58	gnomAD
rs10823901	C	T	72047767	73807525	FHS	0.49	0.15	0.04	2.46E-05					0.23	0.49	1000G
rs1245573	T	C	72048070	73807828	FHS	0.59	0.17	0.04	1.20E-06					0.85	0.59	gnomAD
rs1245574	C	A	72048709	73808467	FHS	0.49	0.14	0.04	4.51E-05					0.35	0.48	gnomAD
rs1245576	T	C	72050912	73810670	FHS	0.59	0.17	0.04	1.73E-06					0.86	0.59	gnomAD
rs1245577	G	C	72051156	73810914	FHS	0.49	0.15	0.04	3.70E-05					0.25	0.48	gnomAD
rs61852248	G	A	72051760	73811518	FHS	0.08	-0.40	0.11	1.83E-04					0.01	0.09	gnomAD
rs1871453	T	C	72052718	73812476	FHS	0.59	0.17	0.04	1.73E-06					0.86	0.59	gnomAD
rs4747238	T	C	72054787	73814545	FHS	0.58	0.17	0.04	1.67E-06					0.91	0.58	1000G
rs1678621	C	T	72055250	73815008	FHS	0.50	0.15	0.04	2.44E-05					0.38	0.48	gnomAD
rs11000158	A	C	72056209	73815967	FHS	0.50	0.15	0.04	1.76E-05					0.85	0.51	1000G
rs1678622	C	T	72057541	73817299	FHS	0.49	0.15	0.04	3.41E-05					0.22	0.48	gnomAD
rs1618927	A	G	72058014	73817772	FHS	0.58	0.17	0.04	3.65E-06					0.88	0.59	gnomAD
rs7307	G	A	72059175	73818933	FHS	0.49	0.15	0.04	4.32E-05					0.22	0.48	gnomAD
rs1049269	A	G	72060243	73820001	FHS	0.55	0.18	0.04	5.21E-07					0.88	0.55	gnomAD
rs896079	G	A	72060638	73820396	FHS	0.46	0.16	0.04	9.30E-06					0.21	0.44	gnomAD
rs3180	A	G	72060864	73820622	FHS	0.55	0.18	0.04	5.33E-07					0.87	0.55	gnomAD
rs1678623	C	T	72061875	73821633	FHS	0.46	0.16	0.04	1.00E-05					0.21	0.44	gnomAD
rs1668174	C	T	72061905	73821663	FHS	0.46	0.16	0.04	1.01E-05					0.21	0.44	gnomAD
rs1049246	A	G	72062267	73822025	FHS	0.55	0.17	0.04	1.25E-06					0.88	0.55	gnomAD
rs1049245	G	T	72062485	73822243	FHS	0.45	0.15	0.04	2.92E-05					0.11	0.44	gnomAD
rs1530803	C	T	72062749	73822507	FHS	0.45	0.15	0.04	2.88E-05					0.22	0.44	gnomAD
rs1530802	G	A	72063199	73822957	FHS	0.45	0.15	0.04	3.19E-05					0.15	0.44	gnomAD
rs1668172	A	G	72063261	73823019	FHS	0.55	0.17	0.04	7.31E-07					0.87	0.55	gnomAD
rs1530801	T	C	72063344	73823102	FHS	0.45	0.15	0.04	3.15E-05					0.15	0.44	gnomAD
rs1530800	G	A	72063540	73823298	FHS	0.45	0.15	0.04	1.73E-05					0.09	0.44	gnomAD

rs1122575	T	G	72063743	73823501	FHS	0.55	0.17	0.04	6.72E-07					0.90	0.54	1000G
rs1613186	C	T	72063982	73823740	FHS	0.45	0.15	0.04	3.20E-05					0.15	0.44	gnomAD
rs2242250	G	A	72064412	73824170	FHS	0.45	0.15	0.04	2.77E-05					0.15	0.44	gnomAD
rs2242251	C	G	72064423	73824181	FHS	0.55	0.18	0.04	4.80E-07					0.87	0.55	gnomAD
rs2242252	T	C	72064445	73824203	FHS	0.55	0.18	0.04	5.16E-07					0.87	0.55	gnomAD
rs61852257	G	C	72064625	73824383	FHS	0.11	-0.27	0.08	5.98E-04					0.02	0.12	gnomAD
rs1668169	A	G	72065894	73825652	FHS	0.55	0.18	0.04	4.44E-07					0.90	0.55	gnomAD
rs1668168	A	G	72066052	73825810	FHS	0.55	0.18	0.04	4.40E-07					0.85	0.55	gnomAD
rs1530804	A	G	72067534	73827292	FHS	0.66	0.18	0.04	3.21E-05					0.92	0.67	gnomAD
rs1245572	G	T	72071381	73831139	FHS	0.45	0.14	0.04	7.60E-05					0.29	0.43	gnomAD
rs896074	C	T	72073101	73832859	FHS	0.56	0.18	0.04	3.51E-07					0.90	0.55	gnomAD
rs748035	C	T	72073597	73833355	FHS	0.40	0.17	0.04	1.00E-05					0.14	0.39	gnomAD
rs1245570	G	A	72073831	73833589	FHS	0.51	0.20	0.04	4.49E-08					0.74	0.51	gnomAD
rs896073	C	A	72074150	73833908	FHS	0.40	0.17	0.04	9.92E-06					0.10	0.39	gnomAD
rs1245569	T	C	72074860	73834618	FHS	0.56	0.18	0.04	3.32E-07					0.90	0.55	gnomAD
rs1245568	G	A	72075030	73834788	FHS	0.56	0.18	0.04	3.55E-07					0.70	0.55	gnomAD
rs1245567	G	A	72075400	73835158	FHS	0.56	0.18	0.04	3.53E-07					0.74	0.55	gnomAD
rs1245566	G	A	72075891	73835649	FHS	0.56	0.18	0.04	3.19E-07					0.74	0.55	gnomAD
rs1245565	G	T	72076210	73835968	FHS	0.56	0.18	0.04	3.20E-07					0.82	0.55	gnomAD
rs11592980	G	A	72076837	73836595	FHS	0.22	-0.25	0.05	4.18E-06					0.04	0.23	gnomAD
rs1268456	G	C	72077258	73837016	FHS	0.56	0.18	0.04	3.11E-07					0.75	0.55	gnomAD
rs1245562	G	A	72077583	73837341	FHS	0.56	0.18	0.04	2.99E-07					0.84	0.55	gnomAD
rs1245561	T	C	72077592	73837350	FHS	0.56	0.18	0.04	3.19E-07					0.84	0.55	gnomAD
rs1245558	T	C	72080104	73839862	FHS	0.52	0.23	0.04	3.27E-09					0.84	0.52	gnomAD
rs1245557	T	C	72080399	73840157	FHS	0.52	0.23	0.04	3.25E-09					0.84	0.52	gnomAD
rs1245556	T	C	72080599	73840357	FHS	0.52	0.23	0.04	3.20E-09					0.85	0.52	gnomAD
rs1245555	G	A	72080932	73840690	FHS	0.39	0.22	0.04	4.67E-08					0.28	0.38	gnomAD
rs75071136	G	A	72081644	73841402	FHS	0.04	-0.92	0.23	7.32E-05					0.01	0.05	gnomAD
rs1245552	G	T	72083953	73843711	FHS	0.45	0.25	0.04	2.92E-10					0.78	0.45	gnomAD
rs1245551	G	A	72084088	73843846	FHS	0.45	0.25	0.04	2.88E-10					0.81	0.45	gnomAD
rs1245550	A	G	72084323	73844081	FHS	0.45	0.25	0.04	2.89E-10					0.85	0.45	gnomAD
rs1668153	A	G	72084805	73844563	FHS	0.45	0.25	0.04	2.89E-10					0.82	0.45	gnomAD
rs1245548	G	A	72086126	73845884	FHS	0.45	0.25	0.04	2.92E-10					0.81	0.45	gnomAD
rs1245547	A	G	72086583	73846341	FHS	0.45	0.25	0.04	2.63E-10					0.88	0.45	gnomAD
rs1245546	C	T	72087068	73846826	FHS	0.45	0.24	0.04	2.96E-10					0.80	0.45	gnomAD
rs751835	T	C	72087981	73847739	FHS	0.45	0.24	0.04	2.98E-10					0.83	0.45	gnomAD
rs1245540	C	T	72089994	73849752	FHS	0.45	0.24	0.04	3.77E-10					0.83	0.45	gnomAD
rs186424026	A	G	72096115	73855873	FHS	0.00	16.12	4.62	4.87E-04					0.00	0.00	gnomAD
rs1133381	A	T	72096886	73856644	FHS	0.04	0.73	0.17	2.92E-05					0.01	0.05	gnomAD
rs1668156	T	C	72098791	73858549	FHS	0.41	0.17	0.04	2.52E-06					0.09	0.39	gnomAD
rs1678612	C	A	72099631	73859389	FHS	0.44	0.23	0.04	7.08E-10					0.83	0.45	gnomAD

rs1668166	C	T	72103623	73863381	FHS	0.10	0.46	0.10	1.05E-05					0.02	0.11	gnomAD
rs11000174	T	C	72105373	73865131	FHS	0.41	0.17	0.04	2.43E-06					0.19	0.39	gnomAD
rs7072673	A	C	72105984	73865742	FHS	0.49	0.22	0.03	5.83E-10					0.82	0.48	gnomAD
rs1678613	T	C	72106753	73866511	FHS	0.45	0.23	0.04	4.33E-10					0.79	0.45	gnomAD
rs55725431	C	A	72107312	73867070	FHS	0.42	0.24	0.04	7.55E-10					0.29	0.45	gnomAD
rs921360	T	G	72107781	73867539	FHS	0.04	0.69	0.17	2.99E-05					0.01	0.04	gnomAD
rs11818980	C	T	72112816	73872574	FHS	0.48	0.21	0.04	2.37E-09					0.86	0.47	gnomAD
rs1271352	A	C	72120916	73880674	FHS	0.41	0.17	0.04	3.36E-06					0.17	0.39	gnomAD
rs1245578	G	A	72123438	73883196	FHS	0.41	0.17	0.04	3.01E-06					0.09	0.39	gnomAD
rs1245579	C	T	72123792	73883550	FHS	0.44	0.20	0.04	1.96E-08					0.80	0.42	gnomAD
rs3780949	C	T	72126549	73886307	FHS	0.40	0.21	0.04	9.78E-08					0.80	0.42	gnomAD
rs1245515	C	T	72139335	73899093	FHS	0.40	0.18	0.04	3.89E-06					0.18	0.39	gnomAD
rs1245516	G	C	72142747	73902505	FHS	0.67	0.13	0.04	5.48E-04					0.92	0.64	gnomAD
rs1271933	T	C	72143117	73902875	FHS	0.44	0.20	0.04	5.25E-08					0.86	0.39	1000G
rs10823904	C	T	72143577	73903335	FHS	0.67	0.13	0.04	5.38E-04					0.92	0.63	gnomAD
rs1668157	A	G	72146392	73906150	FHS	0.44	0.20	0.04	3.22E-08					0.83	0.42	gnomAD
rs7903025	A	G	72154595	73914353	FHS	0.47	0.18	0.04	7.49E-07					0.79	0.45	gnomAD
rs7903371	G	A	72154649	73914407	FHS	0.47	0.18	0.04	1.07E-06					0.20	0.45	gnomAD
rs11000195	A	G	72160873	73920631	FHS	0.41	0.19	0.04	4.36E-06					0.17	0.44	gnomAD
rs191278017	G	A	72162328	73922086	FHS	0.01	2.08	0.63	9.75E-04					0.00	0.00	gnomAD
rs189888811	C	T	72168139	73927897	FHS	0.00	10.16	2.65	1.26E-04					0.00	0.00	gnomAD
rs75512055	A	G	72169617	73929375	FHS	0.04	0.84	0.24	4.29E-04					0.01	0.06	gnomAD
rs11000202	A	G	72173941	73933699	FHS	0.52	0.15	0.04	3.56E-05					0.18	0.48	gnomAD
rs188661925	G	A	72176240	73935998	FHS	0.00	10.16	2.66	1.31E-04					0.00	0.00	1000G
rs7099664	C	A	72176939	73936697	FHS	0.52	0.15	0.04	3.55E-05					0.15	0.48	gnomAD
rs11000204	A	G	72178808	73938566	FHS	0.52	0.15	0.04	3.52E-05					0.18	0.48	gnomAD
rs11816517	G	A	72187902	73947660	FHS	0.52	0.15	0.04	2.21E-05					0.30	0.49	gnomAD
rs11819693	G	C	72189265	73949023	FHS	0.34	0.18	0.05	5.55E-04					0.22	0.48	1000G
rs4635010	T	G	72190054	73949812	FHS	0.54	0.16	0.04	3.81E-06					0.79	0.50	gnomAD
rs186810428	T	C	72194921	73954679	FHS	0.01	3.33	0.99	7.79E-04					0.00	0.01	gnomAD
rs12221099	A	T	72195563	73955321	FHS	0.55	0.18	0.04	1.38E-06					0.73	0.52	gnomAD
rs61853776	G	A	72195789	73955547	FHS	0.52	0.15	0.04	3.08E-05					0.30	0.49	gnomAD
rs11000212	C	G	72195894	73955652	FHS	0.54	0.16	0.04	5.57E-06					0.81	0.50	gnomAD
rs11597688	T	C	72196621	73956379	FHS	0.04	-1.05	0.25	2.82E-05					0.01	0.04	gnomAD
rs189962063	A	G	72198379	73958137	FHS	0.22	0.27	0.08	5.32E-04					N/A	N/A	N/A
rs7069703	G	T	72210693	73970451	FHS	0.53	0.16	0.04	3.05E-05					0.29	0.49	gnomAD
rs7073342	C	T	72211079	73970837	FHS	0.50	0.13	0.04	6.75E-04					0.12	0.47	gnomAD
rs74664904	C	T	72212352	73972110	FHS	0.00	-20.87	5.64	2.14E-04					0.02	0.00	gnomAD
rs76731640	A	G	72214789	73974547	FHS	0.03	-1.16	0.28	3.41E-05					0.00	0.05	1000G
rs41282258	A	T	72215443	73975201	FHS	0.03	-1.17	0.28	3.26E-05					0.01	0.04	gnomAD
rs3206257	A	G	72217938	73977696	FHS	0.53	0.16	0.04	2.80E-05					0.25	0.49	gnomAD

rs7092282	G	A	72220736	73980494	FHS	0.51	0.16	0.04	8.99E-05					0.29	0.53	gnomAD
rs9415056	C	T	72221926	73981684	FHS	0.52	0.15	0.04	5.75E-05					0.30	0.49	gnomAD
rs4554797	A	G	72228506	73988264	FHS	0.54	0.18	0.04	3.83E-06					0.81	0.50	gnomAD
rs10823909	T	C	72229426	73989184	FHS	0.07	-0.59	0.16	2.27E-04					0.03	0.08	gnomAD
rs7913447	C	A	72232282	73992040	FHS	0.64	0.14	0.04	6.75E-04					0.30	0.59	gnomAD
rs7913505	A	G	72232469	73992227	FHS	0.64	0.16	0.04	1.33E-04					0.81	0.60	gnomAD
rs6480601	T	C	72235007	73994765	FHS	0.68	0.19	0.04	1.48E-05					0.89	0.65	gnomAD
rs9415059	G	A	72238962	73998720	FHS	0.62	0.14	0.04	7.24E-04					0.30	0.57	gnomAD
rs4999044	C	T	72239399	73999157	FHS	0.62	0.14	0.04	7.01E-04					0.19	0.57	gnomAD
rs149925664	C	T	72240082	73999840	FHS	0.01	6.07	1.68	3.06E-04					0.00	0.00	gnomAD
rs183992191	G	A	72243286	74003044	FHS	0.00	-37.08	11.16	8.91E-04					N/A	N/A	N/A
rs147854178	G	A	72243489	74003247	FHS	0.00	8.16	2.36	5.50E-04					0.00	0.00	gnomAD
rs7092573	G	A	72251027	74010785	FHS	0.37	-0.15	0.04	1.54E-04					0.19	0.42	gnomAD
rs11000235	A	G	72256018	74015776	FHS	0.36	-0.15	0.04	1.70E-04					0.13	0.42	gnomAD
rs4625377	G	T	72257718	74017476	FHS	0.36	-0.15	0.04	1.56E-04					0.17	0.42	gnomAD
rs4746110	C	T	72259949	74019707	FHS	0.36	-0.15	0.04	1.63E-04					0.17	0.42	gnomAD
rs10762503	G	A	72261800	74021558	FHS	0.37	-0.15	0.04	1.63E-04					0.17	0.42	gnomAD
rs12219429	G	A	72262848	74022606	FHS	0.36	-0.15	0.04	1.64E-04					0.17	0.42	gnomAD
rs10733885	G	T	72265115	74024873	FHS	0.36	-0.15	0.04	1.79E-04					0.14	0.42	gnomAD
rs7900677	G	A	72266833	74026591	FHS	0.34	-0.15	0.04	2.07E-04					0.19	0.43	gnomAD
rs4405230	G	T	72271450	74031208	FHS	0.36	-0.14	0.04	2.63E-04					0.17	0.41	gnomAD
rs10465978	C	A	72271811	74031569	FHS	0.36	-0.14	0.04	2.69E-04					0.17	0.41	gnomAD
rs1053639	T	A	72275283	74035041	FHS	0.36	-0.14	0.04	3.03E-04					0.25	0.41	gnomAD
rs4747241	C	T	72276671	74036429	FHS	0.36	-0.13	0.04	4.68E-04					0.57	0.41	gnomAD
rs4747242	A	C	72277435	74037193	FHS	0.36	-0.13	0.04	3.15E-04					0.17	0.41	gnomAD
rs7898235	C	A	72278423	74038181	FHS	0.36	-0.13	0.04	3.17E-04					0.17	0.41	gnomAD
rs10733886	A	C	72279316	74039074	FHS	0.36	-0.13	0.04	3.18E-04					0.13	0.40	1000G
rs10762504	C	A	72279577	74039335	FHS	0.36	-0.13	0.04	3.17E-04					0.17	0.41	gnomAD
rs10740397	G	A	72280004	74039762	FHS	0.36	-0.13	0.04	3.20E-04					0.17	0.41	gnomAD
rs10823911	A	C	72280276	74040034	FHS	0.36	-0.13	0.04	3.20E-04					0.17	0.41	gnomAD
rs4746112	G	A	72283237	74042995	FHS	0.36	-0.13	0.04	3.27E-04					0.17	0.41	gnomAD
rs6480611	T	C	72283576	74043334	FHS	0.37	-0.12	0.04	9.88E-04					0.65	0.42	gnomAD
rs12768834	A	G	72284116	74043874	FHS	0.36	-0.13	0.04	3.28E-04					0.13	0.40	1000G
rs10509767	A	C	72286159	74045917	FHS	0.35	-0.13	0.04	4.15E-04					0.17	0.41	gnomAD
rs10740398	C	G	72286433	74046191	FHS	0.35	-0.13	0.04	4.16E-04					0.17	0.41	gnomAD
rs10762505	C	T	72286454	74046212	FHS	0.35	-0.13	0.04	4.27E-04					0.18	0.41	gnomAD
rs7074233	T	A	72290460	74050218	FHS	0.35	-0.14	0.04	6.43E-04					0.62	0.39	gnomAD
rs7090673	C	T	72290745	74050503	FHS	0.35	-0.13	0.04	8.94E-04					0.56	0.39	gnomAD
rs187918547	G	A	72292842	74052600	FHS	0.00	5.04	1.49	7.33E-04					0.00	0.00	TopMed
rs7088870	T	C	72293555	74053313	FHS	0.35	-0.14	0.04	5.27E-04					0.66	0.39	gnomAD
rs10762506	T	C	72293993	74053751	FHS	0.35	-0.13	0.04	7.83E-04					0.71	0.39	gnomAD

rs3998462	T	C	72295113	74054871	FHS	0.36	-0.13	0.04	7.26E-04					0.82	0.39	gnomAD
rs6480615	C	A	72297884	74057642	FHS	0.35	-0.14	0.04	3.24E-04					0.62	0.39	gnomAD
rs6480616	C	T	72298086	74057844	FHS	0.35	-0.14	0.04	3.24E-04					0.62	0.39	gnomAD
rs10762508	G	A	72298753	74058511	FHS	0.35	-0.14	0.04	3.24E-04					0.62	0.39	gnomAD
rs10762509	G	A	72299605	74059363	FHS	0.35	-0.14	0.04	3.47E-04					0.62	0.39	gnomAD
rs10823912	T	A	72299714	74059472	FHS	0.34	-0.15	0.04	3.32E-04					0.62	0.39	gnomAD
rs10740399	A	G	72300443	74060201	FHS	0.35	-0.14	0.04	4.93E-04					0.82	0.39	gnomAD
rs10740400	C	G	72300772	74060530	FHS	0.34	-0.14	0.04	8.30E-04					0.81	0.39	gnomAD
rs4451633	C	T	72306191	74065949	FHS	0.35	-0.14	0.04	3.61E-04					0.60	0.38	gnomAD
rs10733887	T	C	72307957	74067715	FHS	0.34	-0.13	0.04	7.58E-04					0.53	0.37	1000G
rs11596698	C	G	72309687	74069445	FHS	0.35	-0.14	0.04	6.09E-04					0.71	0.39	gnomAD
rs4074609	C	T	72310024	74069782	FHS	0.35	-0.14	0.04	6.10E-04					0.70	0.39	gnomAD
rs4746115	T	C	72311524	74071282	FHS	0.56	-0.20	0.05	2.94E-04					0.66	0.61	gnomAD
rs4746116	C	T	72312378	74072136	FHS	0.35	-0.14	0.04	4.15E-04					0.61	0.38	gnomAD
rs7081608	A	G	72313279	74073037	FHS	0.35	-0.14	0.04	5.95E-04					0.76	0.39	gnomAD
rs185272181	A	G	72316819	74076577	FHS	0.01	-3.15	0.89	4.21E-04					0.00	0.01	gnomAD
rs184850960	G	A	72317537	74077295	FHS	0.00	5.39	1.58	6.52E-04					0.00	0.00	gnomAD
rs4747245	A	T	72317550	74077308	FHS	0.36	-0.13	0.04	6.94E-04					0.78	0.40	gnomAD
rs4747246	C	T	72317635	74077393	FHS	0.36	-0.14	0.04	4.31E-04					0.62	0.39	gnomAD
rs4596994	T	G	72318650	74078408	FHS	0.64	0.14	0.04	4.33E-04					0.38	0.61	gnomAD
rs2394861	T	C	72318869	74078627	FHS	0.64	0.13	0.04	7.00E-04					0.22	0.60	gnomAD
rs9416013	A	G	72322454	74082212	FHS	0.64	0.14	0.04	4.65E-04					0.38	0.61	gnomAD
rs7895933	A	G	72323669	74083427	FHS	0.64	0.13	0.04	6.95E-04					0.38	0.61	gnomAD
rs7908857	A	G	72326345	74086103	FHS	0.62	0.14	0.04	5.65E-04					0.39	0.61	gnomAD
rs9415062	G	A	72326507	74086265	FHS	0.64	0.14	0.04	4.84E-04					0.37	0.60	gnomAD
rs9415063	C	T	72326894	74086652	FHS	0.63	0.13	0.04	5.12E-04					0.38	0.60	gnomAD
rs9415065	G	A	72330881	74090639	FHS	0.59	0.13	0.04	8.51E-04					0.29	0.59	gnomAD
rs9415066	T	C	72332166	74091924	FHS	0.63	0.13	0.04	6.71E-04					0.45	0.60	gnomAD
rs9416016	T	C	72332192	74091950	FHS	0.63	0.13	0.04	9.89E-04					0.52	0.59	gnomAD
rs78167085	T	G	72338530	74098288	FHS	0.00	18.07	5.15	4.52E-04					N/A	N/A	N/A
rs9416017	T	C	72340521	74100279	FHS	0.62	0.13	0.04	4.72E-04					0.39	0.59	gnomAD
rs9415068	T	C	72353575	74113333	FHS	0.63	0.12	0.04	9.74E-04					0.46	0.60	gnomAD
rs151082560	C	T	72369216	74128974	FHS	0.00	-4.58	1.33	5.86E-04					0.00	0.01	gnomAD
rs149854263	G	A	72381013	74140771	FHS	0.00	-6.55	1.94	7.46E-04					0.00	0.01	gnomAD
rs141390379	G	A	72411473	74171231	FHS	0.03	-1.16	0.31	2.14E-04					0.01	0.04	gnomAD
rs12357178	T	G	72417288	74177046	FHS	0.01	8.11	2.09	1.05E-04					0.00	0.01	gnomAD
rs148732335	C	T	72436516	74196274	FHS	0.00	40.21	11.64	5.53E-04					0.03	0.00	1000G
rs192251055	G	A	72448458	74208216	FHS	0.00	-21.44	6.12	4.61E-04					0.00	0.00	1000G
rs190062403	A	T	72469992	74229750	FHS	0.00	7.61	2.25	7.22E-04					0.00	0.00	gnomAD
rs186052708	T	C	72500694	74260452	FHS	0.00	-21.31	6.21	6.01E-04					0.00	0.00	gnomAD
N/A	GA	G	71956576		JHS					0.01	-0.65	0.20	8.46E-04	N/A	N/A	N/A

N/A	GACTTCTC	G	72061318		JHS					0.04	0.43	0.08	1.23E-08	N/A	N/A	N/A
N/A	TA	T	72115024		JHS					0.09	-0.20	0.05	2.77E-04	N/A	N/A	N/A
N/A	C	CTGCAGA	72125921		JHS					0.09	-0.20	0.05	2.77E-04	N/A	N/A	N/A
N/A	TAAGTACCAGCCTTAACA	T	72176773		JHS					0.09	-0.21	0.05	1.50E-04	N/A	N/A	N/A
N/A	GA	G	72191643		JHS					0.09	-0.20	0.05	2.03E-04	N/A	N/A	N/A
N/A	AT	A	72217898		JHS					0.24	-0.12	0.04	6.00E-04	N/A	N/A	N/A
N/A	C	CA	72236695		JHS					0.06	0.36	0.07	4.82E-08	N/A	N/A	N/A
N/A	A	ACCTGTAAT	72245440		JHS					0.22	0.13	0.04	3.49E-04	N/A	N/A	N/A
rs150102490	C	G	71733394		JHS					0.00	-1.26	0.36	4.86E-04	0.00	0.00	gnomAD
rs180883963	G	A	71881609		JHS					0.01	-0.51	0.14	2.51E-04	0.01	0.00	gnomAD
rs139161104	G	T	71885295		JHS					0.01	-0.51	0.14	2.51E-04	0.01	0.00	gnomAD
rs146071707	C	T	71896618		JHS					0.01	-0.52	0.14	2.36E-04	0.01	0.00	gnomAD
rs7086312	G	A	71925281		JHS					0.85	0.16	0.04	3.02E-04	0.85	0.84	gnomAD
rs7090196	G	C	71931621		JHS					0.88	0.20	0.05	1.43E-05	0.89	0.84	gnomAD
rs148578852	T	C	71989638		JHS					0.01	-0.64	0.19	7.25E-04	0.01	0.00	gnomAD
rs7067841	C	T	72039958		JHS					0.41	-0.12	0.03	2.81E-04	0.41	0.01	gnomAD
rs7072898	G	A	72040947		JHS					0.38	-0.11	0.03	4.37E-04	0.39	0.01	gnomAD
rs138197677	A	G	72041162		JHS					0.17	0.14	0.04	7.15E-04	0.15	0.09	gnomAD
rs11819113	G	T	72042615		JHS					0.07	0.25	0.06	6.42E-05	0.06	0.00	gnomAD
rs11819136	C	T	72042892		JHS					0.09	0.24	0.06	1.13E-05	0.08	0.00	gnomAD
rs56717090	A	C	72045399		JHS					0.17	0.14	0.04	9.53E-04	0.16	0.09	gnomAD
rs16929573	A	G	72045641		JHS					0.17	0.14	0.04	9.53E-04	0.17	0.09	gnomAD
rs73271371	G	C	72045740		JHS					0.09	0.25	0.06	4.08E-06	0.09	0.00	1000G
rs73271373	A	T	72045847		JHS					0.17	0.14	0.04	9.53E-04	0.17	0.09	gnomAD
rs76278312	G	C	72046007		JHS					0.17	0.14	0.04	9.53E-04	0.17	0.09	gnomAD
rs76719982	G	C	72046046		JHS					0.17	0.14	0.04	9.53E-04	0.17	0.09	gnomAD
rs7101146	C	T	72046826		JHS					0.24	-0.12	0.04	4.98E-04	0.24	0.01	gnomAD
rs148959315	C	T	72047230		JHS					0.07	0.26	0.06	2.86E-05	0.06	0.00	gnomAD
rs148866608	G	A	72050571		JHS					0.01	-0.71	0.17	4.11E-05	0.01	0.00	1000G
rs45537040	C	T	72059526		JHS					0.04	0.41	0.08	1.41E-07	0.03	0.00	gnomAD
rs73273212	G	A	72063574		JHS					0.14	0.19	0.04	3.18E-05	0.14	0.09	gnomAD
rs16929601	C	T	72067489		JHS					0.22	-0.13	0.04	5.95E-04	0.25	0.02	1000G
rs115391018	C	A	72070690		JHS					0.11	-0.18	0.05	4.06E-04	0.11	0.00	gnomAD
rs1973000	A	G	72078238		JHS					0.13	-0.25	0.05	1.14E-07	0.12	0.00	gnomAD
rs4328153	A	G	72078333		JHS					0.21	-0.15	0.04	9.40E-05	0.21	0.00	gnomAD
rs116180558	C	T	72078701		JHS					0.11	-0.27	0.05	6.44E-08	0.11	0.00	gnomAD
rs76969381	C	T	72080037		JHS					0.15	-0.15	0.04	5.94E-04	0.16	0.00	gnomAD

rs76696890	G	A	72081427		JHS					0.15	-0.15	0.04	6.05E-04	0.16	0.00	gnomAD
rs116264251	G	A	72084156		JHS					0.17	-0.32	0.04	2.34E-14	0.17	0.00	gnomAD
rs75386229	G	A	72084204		JHS					0.08	-0.29	0.06	5.04E-07	0.08	0.00	gnomAD
rs145766049	G	C	72088427		JHS					0.01	-0.66	0.17	6.17E-05	0.01	0.00	gnomAD
rs75029863	A	G	72089107		JHS					0.07	-0.30	0.06	8.89E-07	0.08	0.00	gnomAD
rs114448460	T	A	72089761		JHS					0.05	0.46	0.07	5.63E-10	0.05	0.00	gnomAD
rs115188000	C	G	72090846		JHS					0.07	-0.30	0.06	8.89E-07	0.08	0.00	1000G
rs80082343	T	A	72091798		JHS					0.15	-0.32	0.04	1.37E-13	0.16	0.00	gnomAD
rs79044053	C	T	72092520		JHS					0.15	-0.32	0.04	1.37E-13	0.16	0.00	gnomAD
rs6480596	C	T	72093700		JHS					0.08	-0.29	0.06	5.04E-07	0.08	0.00	gnomAD
rs192521991	C	A	72095617		JHS					0.07	-0.30	0.06	8.89E-07	0.07	0.00	gnomAD
rs115934788	G	C	72096248		JHS					0.07	-0.30	0.06	8.89E-07	0.07	0.00	gnomAD
rs78843480	A	G	72096470		JHS					0.15	-0.32	0.04	1.58E-13	0.16	0.00	gnomAD
rs115222004	A	T	72096828		JHS					0.05	-0.30	0.07	3.05E-05	0.05	0.00	gnomAD
rs76563850	A	T	72101901		JHS					0.05	0.45	0.07	1.87E-09	0.04	0.00	gnomAD
rs7915557	C	T	72102696		JHS					0.20	-0.14	0.04	1.50E-04	0.23	0.06	gnomAD
rs74457766	T	C	72103692		JHS					0.08	-0.29	0.06	7.68E-07	0.08	0.00	gnomAD
rs116617313	T	C	72105106		JHS					0.05	-0.32	0.07	6.55E-06	0.05	0.00	gnomAD
rs77808309	G	A	72106401		JHS					0.08	-0.29	0.06	7.43E-07	0.08	0.00	gnomAD
rs7082005	C	G	72107737		JHS					0.11	-0.19	0.05	1.12E-04	0.11	0.00	gnomAD
rs59260836	G	C	72111142		JHS					0.13	-0.19	0.05	4.54E-05	0.13	0.00	gnomAD
rs11813355	T	C	72112674		JHS					0.15	0.19	0.04	2.07E-05	0.14	0.00	gnomAD
rs1044911244	CT	C	72116505		JHS					0.09	-0.20	0.05	2.77E-04	N/A	N/A	TopMed
rs112882396	C	T	72117052		JHS					0.09	-0.20	0.05	2.77E-04	0.10	0.00	gnomAD
rs7088064	T	C	72117292		JHS					0.15	0.19	0.04	2.07E-05	0.14	0.00	gnomAD
rs61853771	C	T	72117483		JHS					0.10	-0.19	0.05	2.60E-04	0.10	0.01	gnomAD
rs111285507	C	T	72118298		JHS					0.15	0.19	0.04	2.07E-05	0.14	0.00	gnomAD
rs189465136	G	T	72118309		JHS					0.01	0.50	0.15	5.99E-04	0.01	0.00	gnomAD
rs181393157	A	T	72118316		JHS					0.01	0.50	0.15	5.99E-04	0.01	0.00	gnomAD
rs7097589	A	G	72121309		JHS					0.15	-0.19	0.04	1.36E-05	0.15	0.00	gnomAD
rs77458087	A	T	72122068		JHS					0.10	-0.20	0.05	1.81E-04	0.10	0.00	gnomAD
rs11813921	G	A	72122719		JHS					0.06	0.40	0.07	1.76E-09	0.05	0.00	gnomAD
rs112151128	T	C	72123094		JHS					0.10	-0.20	0.05	1.15E-04	0.10	0.00	gnomAD
rs59878382	A	T	72123968		JHS					0.15	0.19	0.04	2.07E-05	0.14	0.00	gnomAD
rs74459116	C	G	72124923		JHS					0.09	-0.20	0.05	2.77E-04	0.10	0.00	gnomAD
rs1230610876	A	AT	72125247		JHS					0.10	-0.19	0.05	2.07E-04	N/A	N/A	TopMed
rs73273275	C	T	72125360		JHS					0.09	-0.20	0.05	1.73E-04	0.09	0.00	gnomAD
rs58176560	C	A	72126680		JHS					0.09	-0.20	0.05	2.77E-04	0.10	0.00	gnomAD
rs60949556	C	T	72126935		JHS					0.09	-0.20	0.05	2.77E-04	0.10	0.00	gnomAD
rs751207	G	C	72127857		JHS					0.09	-0.20	0.05	2.77E-04	0.10	0.00	gnomAD
rs7906133	T	C	72128494		JHS					0.09	-0.20	0.05	2.77E-04	0.10	0.00	gnomAD

rs113938820	C	G	72129632		JHS					0.09	-0.20	0.05	2.77E-04	0.10	0.00	gnomAD
rs80147748	G	A	72133440		JHS					0.15	0.19	0.04	2.13E-05	0.14	0.00	gnomAD
rs77293477	T	C	72133497		JHS					0.15	0.19	0.04	2.07E-05	0.14	0.00	gnomAD
rs76369836	G	A	72133568		JHS					0.06	0.40	0.07	1.76E-09	0.05	0.00	gnomAD
rs112945632	C	A	72133985		JHS					0.15	0.19	0.04	2.07E-05	0.17	0.00	1000G
rs115943920	G	A	72135194		JHS					0.07	-0.28	0.06	4.13E-06	0.08	0.00	gnomAD
rs75769543	A	T	72135409		JHS					0.06	0.39	0.07	3.90E-09	0.05	0.00	gnomAD
rs115124071	G	A	72137587		JHS					0.10	-0.20	0.05	1.32E-04	0.10	0.00	gnomAD
rs111638361	C	G	72139403		JHS					0.15	0.19	0.04	2.17E-05	0.14	0.00	gnomAD
rs78756870	C	T	72139622		JHS					0.06	0.39	0.07	5.81E-09	0.05	0.00	gnomAD
rs57571684	G	A	72141985		JHS					0.15	0.19	0.04	2.17E-05	0.14	0.00	gnomAD
rs75700665	T	A	72143237		JHS					0.06	0.39	0.07	3.90E-09	0.05	0.00	gnomAD
rs112500992	C	T	72147378		JHS					0.15	0.19	0.04	2.17E-05	0.17	0.00	1000G
rs111848453	G	A	72150078		JHS					0.09	-0.20	0.05	3.10E-04	0.09	0.00	gnomAD
rs115613247	G	A	72151311		JHS					0.07	-0.27	0.06	7.64E-06	0.08	0.00	gnomAD
rs112085011	G	A	72151985		JHS					0.09	-0.20	0.05	2.58E-04	0.11	0.00	gnomAD
rs1043892251	TTTTG	T	72153419		JHS					0.09	-0.20	0.06	3.61E-04	N/A	N/A	TopMed
rs77266543	C	T	72154041		JHS					0.10	-0.20	0.05	1.46E-04	0.10	0.00	gnomAD
rs16929705	C	T	72155685		JHS					0.13	-0.21	0.05	1.06E-05	0.12	0.00	gnomAD
rs73274912	A	G	72156426		JHS					0.09	-0.20	0.05	3.10E-04	0.09	0.00	gnomAD
rs78064951	A	G	72156787		JHS					0.19	0.16	0.04	4.91E-05	0.17	0.00	gnomAD
rs7070538	T	C	72161437		JHS					0.21	0.13	0.04	5.85E-04	0.19	0.00	gnomAD
rs111844577	C	T	72162558		JHS					0.18	0.15	0.04	1.37E-04	0.17	0.00	gnomAD
rs12260679	G	T	72164147		JHS					0.10	-0.20	0.05	1.41E-04	0.11	0.00	gnomAD
rs12245867	A	T	72164148		JHS					0.10	-0.20	0.05	1.41E-04	0.11	0.00	gnomAD
rs73274928	T	C	72165597		JHS					0.09	-0.20	0.05	2.36E-04	0.09	0.00	gnomAD
rs115000695	C	A	72166455		JHS					0.10	-0.19	0.05	2.16E-04	0.10	0.00	gnomAD
rs1404527208	TA	T	72168210		JHS					0.09	-0.20	0.05	2.39E-04	N/A	N/A	TopMed
rs116695191	T	C	72168225		JHS					0.10	-0.20	0.05	1.58E-04	0.10	0.00	gnomAD
rs181830636	A	G	72168422		JHS					0.06	0.39	0.07	4.83E-09	0.05	0.00	gnomAD
rs187590269	C	A	72168423		JHS					0.06	0.39	0.07	4.83E-09	0.05	0.00	gnomAD
rs190764736	A	G	72170610		JHS					0.09	-0.20	0.05	2.93E-04	0.07	0.00	gnomAD
rs3998478	G	T	72171250		JHS					0.09	-0.20	0.05	2.39E-04	0.09	0.00	gnomAD
rs4459211	T	A	72174655		JHS					0.09	-0.20	0.05	2.39E-04	0.09	0.00	gnomAD
rs77202125	G	A	72174789		JHS					0.06	0.40	0.07	2.18E-09	0.05	0.00	gnomAD
rs75498188	T	C	72175180		JHS					0.05	0.38	0.07	2.24E-08	0.05	0.00	gnomAD
rs113979286	A	G	72176534		JHS					0.09	-0.20	0.05	2.39E-04	0.09	0.00	gnomAD
rs73274958	T	C	72178242		JHS					0.09	-0.20	0.05	2.36E-04	0.09	0.00	gnomAD
rs79367229	G	A	72178855		JHS					0.18	0.15	0.04	1.48E-04	0.16	0.00	gnomAD
rs12249760	C	T	72178891		JHS					0.11	-0.18	0.05	3.06E-04	0.12	0.00	gnomAD
rs112270573	C	T	72180147		JHS					0.09	-0.20	0.05	1.92E-04	0.10	0.00	gnomAD

rs115908759	G	T	72183204		JHS					0.06	0.39	0.07	6.13E-09	0.05	0.00	gnomAD
rs11814345	C	T	72183532		JHS					0.20	0.14	0.04	4.37E-04	0.18	0.00	gnomAD
rs73274969	G	T	72183853		JHS					0.09	-0.20	0.05	1.91E-04	0.10	0.00	gnomAD
rs7088609	G	A	72186851		JHS					0.20	0.14	0.04	3.94E-04	0.19	0.00	gnomAD
rs138827662	C	T	72187636		JHS					0.06	0.40	0.07	2.77E-09	0.05	0.00	gnomAD
rs115137370	C	T	72190573		JHS					0.06	0.39	0.07	6.13E-09	0.05	0.00	gnomAD
rs58811693	C	T	72194588		JHS					0.20	0.14	0.04	4.20E-04	0.19	0.00	gnomAD
rs140518251	G	A	72194904		JHS					0.06	0.40	0.07	2.33E-09	0.05	0.00	gnomAD
rs140881217	G	A	72195773		JHS					0.20	0.14	0.04	3.54E-04	0.18	0.00	gnomAD
rs78851865	T	A	72198725		JHS					0.20	0.14	0.04	4.20E-04	0.18	0.00	gnomAD
rs7069184	T	C	72201428		JHS					0.20	0.14	0.04	4.37E-04	0.18	0.00	gnomAD
rs75499163	A	G	72202911		JHS					0.20	0.14	0.04	4.70E-04	0.18	0.00	gnomAD
rs113697529	G	A	72203152		JHS					0.20	0.14	0.04	3.77E-04	0.18	0.00	gnomAD
rs113392869	T	C	72203848		JHS					0.21	0.14	0.04	3.37E-04	0.20	0.00	gnomAD
rs111709084	G	T	72205401		JHS					0.22	0.14	0.04	3.15E-04	0.25	0.00	1000G
rs11818326	C	T	72206184		JHS					0.22	0.14	0.04	2.51E-04	0.21	0.00	gnomAD
rs11814530	A	G	72206435		JHS					0.22	0.14	0.04	3.15E-04	0.21	0.00	gnomAD
rs7900919	G	A	72206835		JHS					0.22	0.14	0.04	3.15E-04	0.21	0.00	gnomAD
rs6480598	T	C	72207055		JHS					0.20	0.14	0.04	2.76E-04	0.18	0.00	gnomAD
rs75259911	G	A	72207851		JHS					0.22	0.14	0.04	3.15E-04	0.21	0.00	gnomAD
rs113073310	A	T	72208602		JHS					0.06	0.40	0.07	2.77E-09	0.05	0.00	gnomAD
rs540696835	ATG	A	72208767		JHS					0.18	0.15	0.04	2.13E-04	N/A	N/A	gnomAD
rs12244630	A	G	72209178		JHS					0.27	0.14	0.04	1.02E-04	0.25	0.00	gnomAD
rs7907102	T	A	72209814		JHS					0.22	0.14	0.04	3.15E-04	0.21	0.00	gnomAD
rs201420035	T	A	72209814		JHS					0.22	0.14	0.04	3.15E-04	N/A	N/A	N/A
rs114494815	G	A	72209915		JHS					0.20	0.14	0.04	2.76E-04	0.18	0.00	gnomAD
rs7083000	T	C	72209952		JHS					0.22	0.14	0.04	3.15E-04	0.21	0.00	gnomAD
rs951045940	AAGT	A	72210285		JHS					0.22	0.14	0.04	3.15E-04	N/A	N/A	N/A
rs1005621404	G	T	72210290		JHS					0.22	0.14	0.04	3.15E-04	N/A	N/A	N/A
rs73276912	G	A	72210908		JHS					0.09	-0.20	0.05	1.91E-04	0.10	0.00	gnomAD
rs151140328	G	A	72211769		JHS					0.22	0.14	0.04	3.15E-04	0.21	0.00	gnomAD
rs12268049	C	T	72213572		JHS					0.24	-0.13	0.04	4.04E-04	0.28	0.01	1000G
rs73276919	G	T	72216713		JHS					0.24	-0.12	0.04	7.35E-04	0.25	0.01	gnomAD
rs77301718	C	A	72217807		JHS					0.20	0.15	0.04	2.06E-04	0.18	0.00	gnomAD
rs112584813	C	A	72220988		JHS					0.23	-0.12	0.04	7.56E-04	0.25	0.01	gnomAD
rs10159577	G	A	72221639		JHS					0.24	-0.13	0.04	3.18E-04	0.25	0.01	gnomAD
rs12246159	C	T	72222245		JHS					0.25	-0.13	0.04	3.60E-04	0.26	0.01	gnomAD
rs112366504	G	A	72222404		JHS					0.21	0.14	0.04	2.14E-04	0.25	0.00	gnomAD
rs7893855	G	T	72222970		JHS					0.23	-0.12	0.04	7.56E-04	0.24	0.01	gnomAD
rs7893861	G	A	72222992		JHS					0.25	-0.13	0.04	3.60E-04	0.25	0.01	gnomAD
rs11000226	C	G	72223766		JHS					0.25	-0.13	0.04	2.86E-04	0.27	0.01	gnomAD

rs12254520	G	A	72226109		JHS					0.24	-0.13	0.04	3.18E-04	0.25	0.01	gnomAD
rs55817840	A	G	72227860		JHS					0.24	-0.13	0.04	2.22E-04	0.26	0.01	gnomAD
rs7915966	G	A	72228046		JHS					0.24	-0.13	0.04	2.37E-04	0.25	0.01	gnomAD
rs7918833	A	G	72228134		JHS					0.24	-0.14	0.04	1.54E-04	0.25	0.01	gnomAD
rs7919980	C	T	72228896		JHS					0.26	-0.13	0.04	2.86E-04	0.27	0.01	gnomAD
rs12252038	G	A	72230466		JHS					0.24	-0.14	0.04	1.43E-04	0.25	0.01	gnomAD
rs11000229	A	G	72233760		JHS					0.21	-0.14	0.04	2.75E-04	0.23	0.01	gnomAD
rs4293052	T	A	72234310		JHS					0.21	-0.14	0.04	2.58E-04	0.26	0.01	1000G
rs143611105	G	A	72235224		JHS					0.21	0.13	0.04	8.99E-04	0.19	0.00	gnomAD
rs12262347	G	A	72235440		JHS					0.21	-0.14	0.04	2.69E-04	0.23	0.01	gnomAD
rs144347417	T	A	72235915		JHS					0.01	-0.64	0.17	2.11E-04	0.01	0.00	gnomAD
rs1156537239	C	CA	72237561		JHS					0.21	-0.13	0.04	6.49E-04	N/A	N/A	N/A
rs7921206	C	T	72239526		JHS					0.21	-0.14	0.04	2.32E-04	0.23	0.01	gnomAD
rs142372764	G	A	72243278		JHS					0.21	0.14	0.04	2.97E-04	0.19	0.00	gnomAD
rs12242675	C	A	72245576		JHS					0.22	-0.15	0.04	5.24E-05	0.24	0.01	gnomAD
rs114363068	C	T	72247665		JHS					0.20	0.13	0.04	9.86E-04	0.19	0.00	gnomAD
rs2292366	C	A	72249075		JHS					0.23	-0.13	0.04	8.09E-04	0.24	0.01	gnomAD
rs7910711	G	T	72249360		JHS					0.23	-0.13	0.04	4.93E-04	0.25	0.01	gnomAD
rs138371565	C	T	72250493		JHS					0.06	0.36	0.06	1.96E-08	0.05	0.00	gnomAD
rs114481297	T	C	72250750		JHS					0.06	0.37	0.06	9.05E-09	0.05	0.00	gnomAD
rs574969966	AT	A	72252022		JHS					0.06	0.35	0.06	2.65E-08	N/A	N/A	gnomAD
rs1055259342	AT	A	72252022		JHS					0.06	0.35	0.06	2.65E-08	N/A	N/A	N/A
rs111876357	C	G	72252791		JHS					0.06	0.32	0.06	2.24E-07	0.05	0.00	gnomAD
rs146181872	C	T	72256656		JHS					0.06	0.36	0.06	1.87E-08	0.08	0.00	1000G
rs4746108	A	G	72257134		JHS					0.39	0.11	0.03	4.00E-04	0.38	0.44	gnomAD
rs75787191	G	A	72257348		JHS					0.06	0.36	0.06	1.87E-08	0.05	0.00	gnomAD
rs141845104	G	A	72257783		JHS					0.06	0.36	0.06	1.87E-08	0.05	0.00	gnomAD
rs149702922	C	T	72262524		JHS					0.06	0.36	0.06	2.80E-08	0.05	0.00	gnomAD
rs116744012	A	G	72263492		JHS					0.06	0.37	0.06	1.33E-08	0.05	0.00	gnomAD
rs75410955	A	G	72264896		JHS					0.06	0.37	0.06	1.33E-08	0.05	0.00	gnomAD
rs78312098	A	C	72264983		JHS					0.06	0.37	0.06	1.33E-08	0.05	0.00	gnomAD
rs145435194	C	T	72267720		JHS					0.01	-0.47	0.13	3.91E-04	0.02	0.00	gnomAD
rs75150783	G	A	72294233		JHS					0.06	0.31	0.07	3.91E-06	0.04	0.00	gnomAD
rs111448300	T	A	72305182		JHS					0.02	-0.37	0.10	4.22E-04	0.02	0.00	gnomAD
rs76399595	C	T	72317495		JHS					0.06	0.32	0.07	2.31E-06	0.05	0.00	gnomAD
rs11816142	T	C	72348657		JHS					0.04	0.30	0.08	1.13E-04	0.03	0.00	gnomAD
rs115953266	T	C	72358524		JHS					0.04	0.30	0.08	1.13E-04	0.03	0.00	gnomAD
rs116076522	G	A	72376465		JHS					0.04	0.30	0.08	1.05E-04	0.03	0.00	gnomAD
rs9664616	T	A	72385588		JHS					0.39	0.11	0.03	9.83E-04	0.38	0.61	gnomAD
rs10823918	G	T	72387174		JHS					0.39	0.11	0.03	9.83E-04	0.35	0.62	1000G
rs12762148	C	T	72390099		JHS					0.39	0.11	0.03	9.83E-04	0.38	0.61	gnomAD

rs79293378	C	A	72427635		JHS					0.04	0.30	0.08	9.70E-05	0.03	0.00	gnomAD
rs146727001	G	C	72441662		JHS					0.04	0.31	0.08	3.85E-05	0.03	0.00	gnomAD
rs556625107	C	T	72449168		JHS					0.01	0.48	0.14	8.01E-04	0.01	0.00	gnomAD
rs11819159	G	A	72468902		JHS					0.04	0.29	0.08	1.47E-04	0.03	0.00	gnomAD
rs149592197	G	A	72496592		JHS					0.01	0.48	0.14	8.01E-04	0.01	0.00	gnomAD
rs144440487	C	T	72508120		JHS					0.01	0.48	0.14	8.01E-04	0.01	0.00	gnomAD
rs193073192	A	G	72512607		JHS					0.01	-0.45	0.13	7.01E-04	0.02	0.00	gnomAD
rs147913979	C	G	72560038		JHS					0.01	0.48	0.14	8.01E-04	0.01	0.00	gnomAD

AF, allele frequency; gnomAD, Genome Aggregation Database (https://gnomad.broadinstitute.org/); 1000G, 1000 Genomes Project (https://www.internationalgenome.org/); TopMed, NHLBI Trans-Omics for Precision Medicine (https://www.nhlbiwgs.org/)

Table S6. Summary of orthogonal data supporting aptamer specificity for target proteins

Protein Name	UniProt ID	Aptamer ID	Genetic Studies	Mass Spectrometry	Olink (Rho>0.7)
Afamin	P43652				
Alkaline phosphatase	P05186		X[C]		
Aminoacylase-1	Q03154	33252	X[E]	X[C]	
Angiogenin	P03950				
Angiostatin	P00747	534969	X[A, B, C]		
Apo E	P02649	507882	X[A, B, C]		
AREG	P15514				
ARMEL	Q49AH0	1312219	X[A, B, C, E]		
ASM3A	Q92484	284313	X[A, B, C, D, E]	X[C]	
b2-Microglobulin	P61769	283454	X[B,C, E]		X
bFGF-R	P11362	45642	X[A, B, C, D, E]		
BMP-1	P13497		X[C]		
b-NGF	P01138	510457	X[A, B, C, E]		
BNP-32*	P16860	456817	X[C, E]		
BOC	Q9BWV1	513932	X[A, B, C]		
C1QR1	Q9NPY3		X[C]	X[C]	
C34 gp41 HIV Fragment	Q70626			X[C]	
Cadherin-6	P55285			X[C]	
Calcineurin B a	P63098	41516	X[A, B, C, D, E]	X[C]	
CAPG	P40121	415854	X[A, B, C, E]	X[C]	
Carbonic anhydrase III	P07451	221269	X[A,C]		
Cathepsin A	P10619	412972	X[A, B, C, D, E]	X[C]	
CD23	P06734	260959	X[A, C, D]	X[C]	
CD59	P13987	545933	X[A,C,D,E]	X[C]	
CgA	P10645				
cGMP-stimulated PDE	O00408			X[C]	
CHKB	Q9Y259	241855	X[A, B, C, D, E]	X[C]	
c-Jun	P05412	413172	X[A, C, D]	X[C]	
Ck-b-8-1*	P55773	48743	X[A,C,D,E]	X[C]	
CNTFR alpha	P26992				
CRDL1	Q9BU40	25675	X[A, B, C, D]	X[C]	
Cystatin C	P01034				
Cystatin M	Q15828		X[C]		X

CYTD	P28325				
CYTN	P01037	1309551	X[C]		
CYTT	P09228	477534	X[A,C, E]	X[C]	
DAF	P08174	329130	X[A, B, C, D, E]	X[C]	X
DAN	P41271	379911	X[A, B, C]		
DC-SIGNR	Q9H2X3	304961			
DERM	Q07507	322040	X[A, B, C, D]		X
DKK3	Q9UBP4	50699	X[A, B, C, D, E]		
DLL1	O00548	4159130	X[A, B, C, D, E]	X[C]	
DR6	O75509			X[C]	
DSC2	Q02487	432433	X[A,C,D]	X[C]	
EDAR	Q9UNE0	298535	X[A, B, C, D]		
EFNB1	P98172		X[C, D]	X[C]	
EFNB2	P52799	317951		X[C]	
Elafin	P19957		X[C]	X[C]	
EMAP-2	Q12904	294858	X[A, B, C, E]		
Endostatin	P39060	553253	X[C]	X[C]	
Eotaxin	P51671	367615	X[A, B, C, D, E]	X[C]	
EPHB2	P29323	334849	X[C]	X[C]	
EphB6	O15197				
Ephrin-A4	P52798	11514196	X[A, B, C]	X[C]	
Ephrin-A5	P52803	268123	X[A, B, C]		X
Epithelial cell kinase	P29317				
ERBB3	P21860		X[B, C, D]		
ESAM	Q96AP7		X[B, C, D]		
Factor B	P00751	415457	X[A, B, C, D, E]		
Factor D	P00746	765511	X[A, B, C, D]		
Factor H	P08603	765511	X[A, B, C, D]		
Factor I	P05156	846941	X[C]	X[C]	X
FBLN3	Q12805				
FGF23	Q9GZV9	498254	X[A, B, C, D, E]	X[C]	
FLRT2	O43155	315257	X[A, B, C, E]		
FN1.4	P02751				
Fractalkine/CX3CL-1	P78423				
FSTL3	O95633	31984			
GAS1	P54826		X[C]	X[C]	
GDNF	P39905	268521	X[C, E]	X[C]	
Gelsolin	P06396	27116	X[A,B,C]	X[C]	
GFRa-1	P56159	380310	X[A, C, D, E]		

Glutathione S-transferase Pi	P09211		X[C]	X[C]	
Gro-a	P09341	507728	X[A, B, C, D]	X[C]	
Growth hormone receptor	P10912				
HCC-1	Q16627	364014	X[E]		
HGF	P14210	334053	X[A, C]	X[C]	
IDS	P22304	316970	X[A, B, C, E]		X
IDUA	P35475	365150	X[A, B, C, D, E]		
IGFBP-2	P18065		X[C]		
IGFBP-5	P24593	220117	X[A, B, C, E]	X[C]	
IGFBP-6	P24592				
IGF-II receptor	P11717	496850	X[A, C, E]		
IL-10	P22301	511273	X[C]		
IL-17F	Q96PD4		X[C]		
IL-18 BPa	O95998	476331	X[A,C,D,E]	X[C]	
IL-19	Q9UHD0				
IL-5	P05113				
IL-6	P05231		X[C]		
JAM-B	P57087				
kallikrein 8	O60259	1413137			
Layilin	Q6UX15	261560	X[A]	X[C]	
LG3BP	Q08380		X[C]		
LGMN	Q99538				
Lipocalin 2	P80188	302836	X[A,B,C,D,E]		X
LSAMP	Q13449	302837	X[A,B,C,D,E]		X
Lysozyme	P61626	331474	X[A,B,C]		X
MATN2	O00339				
MCP-1	P13500	511084			
MIA	Q16674	492010	X[A, B, C, D, E]	X[C]	
MIP-1a	P10147		X[C]	X[C]	
MIP-5	Q16663	365774	X[D]	X[C]	
MP2K2	P36507	282723	X[A, B, C, E]	X[C]	
MPIF-1*	P55773				
Myoglobin	P02144				
NEGR1	Q7Z3B1	84746	X[A,B,C,E]		
NET4	Q9HB63	1312652	X[A, B, C, E]		
NKp46	O76036	33431	X[A, E]	X[C, F]	
NRX1B	P58400	30093			
NRX3B	Q9HDB5	497934	X[A, B, C, D, E]		
N-terminal pro-BNP*	P16860			X[C]	

OBCAM	Q14982	500052	$X^{A,C}$		
OPG	O00300	848029	$X^{A, C, E}$		
OX2G	P41217				
PAPP-A	Q13219		X^{C}		
PDE11	Q9HCR9	29996	$X^{A,B,C}$		
PD-L2	Q9BQ51	512912	$X^{A, C, D, E}$		
Periostin	Q15063				
Peroxiredoxin-5	P30044	345757	X^{C}		
PIANP	Q8IYJ0	330323	$X^{A, C}$	X^{C}	X
PLXC1	O60486		$X^{C, D, E}$	X^{C}	
P-Selectin	P16109		$X^{B, C, D, E}$		
PSP	P05451	26872	$X^{A,B,C,D}$	X^{C}	
RAP	P30533	496252	$X^{A,B,C,E}$		
REG4	Q9BYZ8	33318	$X^{A,B}$		
RELT	Q969Z4	263561	X^{A}		
resistin	Q9HD89	514056	X^{C}		
RET	P07949				
RGMB	Q6NW40	1310982	$X^{A,C}$		
ROR1	Q01973		$X^{B, C}$		
Siglec-7	Q9Y286	513452	$X^{A,B,C,D, E}$		
SLIK5	O94991	323550	$X^{A,B,C,D, E}$	X^{C}	X
SMOC1	Q9H4F8	477110	$X^{A,B,C,D, E}$		
Soggy-1	Q9UK85	549112	$X^{A,B,C,D, E}$		
SPINT2	O43291	511531	$X^{A,B,C,D}$		X
SREC-I	Q14162	29819	$X^{A,B,C,D}$	X^{C}	
Survivin	O15392				
TAJ	Q9NS68	362233	$X^{A, C, E}$		
Testican-2	Q92563	300467	$X^{A, B, C, D, E}$		
TFF3	Q07654	336261	X^{E}	X^{C}	
TGF-b R III	Q03167	43282	$X^{A, C, E}$		
TIMD3	Q8TDQ0		$X^{B, C}$		
TNF sR-I	P19438				
TNF sR-II	P20333				
tPA	P00750	131185	$X^{A, B, C}$		
TRAIL R1	O00220	332727	$X^{A,B,C,E}$		
Troponin I, skeletal, fast twitch	P48788				
Troponin T	P45379	304631	$X^{A, B, C}$		
Trypsin	P07477	511115	$X^{A, C}$		
TSP4	P35443	14136234			

UNC5H3	O95185	513115	X[A, C]		
UNC5H4	Q6UXZ4	360771	X[A,B,C,D]	X[C]	X
uPA	P00749				
VEGF sR2	P35968	36445			
VEGF*	P15692	29777	X[A, B, C, D, E]		
VEGF121*	P15692		X[C]		
WFKN2	Q8TEU8	274268	X[A,B,C]		

Listed above are the proteins significantly associated with baseline eGFR and eGFR decline (in alphabetical order). Aptamer specificity for target proteins were confirmed/inferred via at least one orthogonal method (i.e. genetics, mass spectrometry, immunoassay). Genetic studies with cis-pQTL in literature and unpublished data cited. The Olink Spearman Rho data was generated from 40 samples run on both SOMAscan Version 1.1 and Olink (12 panels, unpublished data). Mass spectrometry data from previously published literature. *Genetic studies unable to determine aptamer protein isoform specificity.
A= FHS-MDCS GWAS meta-analysis (unpublished data)
B= (8)
C= (9)
D= (10)
E=FHS-MDC exome array meta-analysis (unpublished data)
F= (11)

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