

Supplemental Materials for:

CD163⁺ Macrophages Restrain Vascular Calcification, Promoting the Development of High-Risk Plaque

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Supplemental Methods

Histology of human carotid artery endarterectomy samples

Human carotid plaques removed from patients eligible for CEA were selected from the CVPath Registry (1). Thirty-two human carotid plaques were removed from 32 patients eligible for surgical CEA. The carotid plaque (common and internal carotid artery plaque) was removed in an undisturbed manner and selected for the current study. Indications for surgery were ipsilateral symptoms involving transient ischemic attack or stroke in the previous 6 months (Sym) or significant carotid stenosis ($>70\%$) without ischemia related symptom (Asy) measured by duplex ultrasound. In total, there were 16 Sym cases and 16 Asy cases. At surgery, the carotid tissue was chilled immediately after excision and then promptly frozen at -80°C and shipped to CVPath Institute. The CEA specimen was partially thawed and frozen in Optimal Cutting Temperature (OCT) compound (Miles Inc.). Cryosections were prepared using a Hacker Bright OTF/HS microtome cryostat equipped with a tungsten carbide knife with an installed CryoJane (Leica Microsystems). The CryoJane Tape-Transfer System improves cryosectioning outcomes on glass slides, particularly for the heavily calcified tissues common to carotid plaques (2). The frozen tissue was step sectioned at $10\mu\text{m}$ thickness, 15 to 20 serial sections for staining were collected on glass slides, and adjacent frozen sections of 1.0 to 1.2mm were collected in plastic tubes and frozen for protein extraction. These steps were repeated until the frozen block was exhausted. This method allowed matching of histological findings with protein analysis of western blotting.

Lesion classification and selection

Lesion characterization of all plaques were determined according to a modified American Heart Association classification as previously reported (3). Three sections from each carotid plaque were selected for morphometric analysis. Lesions with the plaque rupture site (or ulceration) or the most severely narrowed segment were used as the culprit site, and lesions (flanking plaques) located 1.2mm above or below the presenting lesion were also assessed by IHC. Thirty-two specimens containing culprit segments, along with proximal and distal flanking segments, were available for analysis and assessed for plaque morphology. A total of 96 sections (32 culprit, 32 proximal flanking, and 32 distal flanking plaques) were classified, of which 38 were fibroatheromas (including 13 fibroatheroma and 25 fibroatheroma with calcification), 12 were healed plaque ruptures, 12 were fibrocalcific lesions, 10 were plaque ruptures, 4 were TCFAs, 7 were calcified nodules, 6 were PITs, 3 were intimal xanthomas, 2 were chronic total occlusions, and 2 were fissures. From these sections, 70 sections with advanced plaque phenotype were selected for additional analysis, as shown in Figure 1.

Histology of human coronary artery chronic total occlusion samples

Cases with chronic total occlusion (CTO) were obtained from CVPath Institute's sudden coronary death registry. Coronary arteries had been removed from the heart following perfusion fixation in 10% neutral buffered formalin. The major epicardial coronary arteries were radiographed and decalcified in EDTA. The arteries were sequentially cut at 3 mm intervals, labelled, dehydrated, and embedded in paraffin. The right coronary artery (RCA), left anterior descending artery (LAD), and left circumflex artery (LCX) were divided into proximal and mid to distal regions as previously described. Histological definition of CTO was defined as the

occluded lumen occupied by proteoglycan and/or collagen with or without neovascularization and chronic inflammation. A total of 145 sections from 21 CTO lesions (19 patients) were included for the analysis. The CTO sections were divided into three phases by the luminal thrombus organizing time course i.e., 1) organizing thrombus with persistent fibrin, 2) organized with proteoglycan-rich thrombus without fibrin, and 3) organized with type I collagen-rich without fibrin. The borderline of original plaque and thrombotic occluded lumen was determined by 2 expertized cardiovascular pathologists (AS and RK) with H&E and Movat staining sections.

Immunohistochemistry and immunofluorescence staining

Cryosections of human carotid endarterectomy (CEA) samples were stained with H&E, Movat Pentachrome (Movat), Alizarin Red (AR), and von Kossa (VK) stains.

Immunohistochemical staining with CD68 (a general macrophage marker) and CD163 (a M[Hb] macrophage marker) were performed, as previously reported (4). Paraffin-embedded human coronary CTO samples were stained by H&E, Movat, and immunohistochemical staining with CD163 and alpha smooth muscle cell actin (α SMA). Six CEA samples each from the plaques with low and high CD163 expression (assessed by the amount of CD163 staining positive area in the adjacent sections) were selected for further western blotting analysis (see below).

Immunofluorescence staining for CD163 and hyaluronan synthase 1 (HAS1)/hyaluronan was carried out on formalin-fixed paraffin-embedded human coronary sections. The frozen sections were fixed in cold acetone for 10 minutes, with further exposure to 0.15% H₂O₂ for 20 minutes. The sections were treated with Dako protein block (catalog X0909) for 10 minutes before incubation with primary antibodies against CD163 (Santa Cruz Biotechnology, catalog sc-20066, clone GHI/61, dilution 1:200, overnight at 4°C); CD68 (Agilent (Dako), clone KP1,

dilution 1:800, 1 hour). Antibody detection included biotinylated goat anti-rabbit, horse anti-mouse, and rabbit anti-goat (Vector Laboratories, BA-1000, BA-2000, BA-5000, respectively, at 1:200 dilution) and Alexa Fluor 488 and 555 streptavidin (Invitrogen, Thermo Fisher Scientific, S32354 and S32355, respectively, dilution 1:100). The positive and negative controls (sections stained with a secondary antibody only or without any antibody to detect autofluorescence) were included in every staining procedure. The sections were counterstained with DAPI (Invitrogen, Thermo Fisher Scientific, catalog D3571). Images were captured by laser-scanning confocal microscopy (Carl Zeiss, LSM 700, 800, or 880) using $\times 20$ or $\times 40$ objectives with optical slicing in the z axis. All quantification of immunostaining area was conducted using Zen software (Carl Zeiss) or the HALO platform (Indica Labs).

Mice

The Institutional Animal Care and Use Committee at the MedStar Health Research Institute approved all animal protocols. All animal experiments were conducted according to the National Institutes of Health Guide for the Care and Use of Laboratory Animals. Both male and female littermates were used in this study.

CD163 knockout mice ($CD163^{tm1(KOMP)Vlg}$) were generated using targeting constructs available from the University of California at Davis International Mouse Consortium (KOMP) as previously described (5). Mice with genetic deficiency of Apolipoprotein E (on a C57BL/6J) were purchased from the Jackson Laboratory. $ApoE^{-/-}$ mated to $CD163^{-/-}$ mice until homozygosity was achieved for both genes (i.e. $ApoE^{-/-}CD163^{-/-}$). These mice were compared to littermate control $ApoE^{-/-}CD163^{+/+}$ mice. All animals in the study of $ApoE^{-/-}$ (i.e., $ApoE^{-/-}$

CD163^{+/+}) versus *ApoE^{-/-}CD163^{-/-}* mice were maintained on regular chow diet for 1.5-years to the end of experiment.

For the interventional experiment for NFκB signaling, *ApoE^{-/-}* mice were randomly assigned to two groups: mice subjected to administration of IKK-NBD control peptide (CTLpep) or NFκB inhibitor NBD peptide (NBDpep) (n=12 per group, both 100μg kg⁻¹day⁻¹, Enzo Life Sciences). High fat diet (HFD) feeding (21.0% fat and 0.2% cholesterol) was started at the age of 8-weeks and continued to the end of experiment, and then received either CTLpep or NBDpep via subcutaneously implanted ALZET Osmotic Pumps (Model 2006, DURECT Corporation, Cupertino, CA, USA) for 18 weeks (by the age of 32-weeks) (Figure 8A). Osmotic pumps were surgically replaced every 6 weeks (a total of 3 surgeries per mouse were required) due to the lifetime of the pump. At the end of the experiment, mice were sacrificed and perfused by saline via apical heart injection. BCA was harvested and embedded in OCT compound and frozen. After BCA collection, whole thoracic aorta (half of the mice in each group) or whole plaque samples (other half of mice in each group) peeled out from whole thoracic aorta (Figure 7H) were obtained from CTLpep- or NBDpep-loaded mice for further experiments.

Mouse histology and immunofluorescent staining

OCT compound embedded frozen tissue samples were sectioned and embedded on slides at 8 μm thickness. Slides were stained by H&E, Movat pentachrome and Alizarin Red for histological analysis. For immunofluorescence, sections were incubated in primary antibody for p65 (R&D AF5078) at a dilution of 1:50 for 16h at 4 °C. Regarding runt-related transcription factor 2 (RUNX2) staining, following methanol permeabilization, sections were stained with primary antibody for RUNX2 (1:8000, CST, #12556) for 16h at 4 °C. Alexa Fluor labeled

secondary antibody (Life Technologies) were used for further incubation. Spleen sections from wild type mice were used as positive controls (in both anti-p65 and -RUNX2 stains). Tissue slides without incubation by primary antibody were used as negative controls. DAPI was used as nuclear counterstaining. Tissue samples were mounted on slides with Vectashield antifade mounting medium (Vector Labs, Burlingame, CA). Tissue was visualized using objective on a LSM 700, 800, or 880 laser scanning confocal microscopy (Zeiss). Projection images were generated by collecting the maximum pixel intensity from each image of the Z stack and by projecting pixel intensity onto the single (projection) image.

Cell culture and reagents

Human Peripheral blood mononuclear cells (PBMC) collected from healthy volunteers (Astarte Biologics, Redmond, WA, or BioIVT, Westbury, NY) were seeded into 6-well culture plates at a density of $3-4 \times 10^6$ cell/well. After 6 hours incubation, non-attached cells were removed, and culture media was replaced. Remaining monocyte/macrophage fraction were differentiated over 6 days into macrophages with RPMI 1640 medium (Gibco, Invitrogen) supplemented with 10% human serum (Sigma Aldrich) and penicillin-streptomycin (the final concentrations were 100 units/mL of penicillin and 100 μ g/mL of streptomycin, Gibco) in humidified air (5% of CO₂) at 37 °C. Prior to use, hemoglobin (lyophilized stabilized purified A0 ferrous hemoglobin [Sigma Aldrich]) and haptoglobin phenotype 1-1 (lyophilized purified [Sigma Aldrich]) were reconstituted in sterile phosphate buffered solution (PBS) at a concentration of 0.1 mg/ml. Equimolar amounts of hemoglobin and haptoglobin in growth medium were used to generate hemoglobin:haptoglobin complexes (HH), which were added to cultured monocytes at 6 hours after plating. We differentiated human monocytes over 6-days

with or without HH which reproduced the phenotype seen in human atherosclerotic plaques at areas of hemorrhage, as previously described (4). Supernatant from control macrophages [M(con)] and HH-differentiated [M(Hb)] macrophages were used in further experiments.

Primary human aortic smooth muscle cells (HASMCs, Cell applications or ATCC) were cultured, up to passage 10, using the smooth muscle cell growth medium (Cell applications) or vascular cell basal medium (ATCC) supplemented with vascular smooth muscle cell growth kit (ATCC) and penicillin-streptomycin-Amphotericin B Solution (ATCC) in humidified air (5% of CO₂) at 37 °C. For the induction of calcification in vitro, HASMCs were cultivated in M(con), M(Hb) macrophage supernatant, or RPMI 1640 medium-based macrophage control media with or without HH (see above) supplemented by CaCl₂ (4 mM; Sigma), β-glycerophosphate (5 mM; Sigma), l-ascorbic acid (50 µg/mL; Sigma), insulin (1 µM; Sigma), and dexamethasone (0.1 µM; Sigma) (osteogenic media components; OS) (6). Hyaluronan and 4-methylumbelliferone were purchased from R&D systems and Sigma-Aldrich, respectively.

For mice peritoneal macrophage experiments, peritoneal macrophages were extracted and cultured as previously described (7). Age and gender-matched wild type (WT) and *CD163*^{-/-} mice were applied. Macrophages were cultured with RPMI 1640 media containing 10% human serum with or without 0.1mg/ml mice hemoglobin (324-30, Lee BIOSOLUTIONS, Maryland heights, MO., LS-G11199-5, LifeSpan Bioscience, Seattle, WA). Supernatant was collected after 24 hours exposure. HASMCs were cultured with mouse peritoneal macrophage with or without OS (identical components described above) for 24 hours.

HASMC transfection

The small interfering RNA (siRNA) target sequences for the human HAS1 and p65 genes were purchased from the Santa-Cruz (sense: 5'-GGGAGGGUAUUUAUUGGUCtt-3', antisense: 5'-GACCAAUAAAUACCCUCCCtt-3') and Ambion (Assay ID: s11914), respectively. The scrambled control siRNA purchased from Thermo Fisher Scientific and Ambion were also used for the experiments. The siRNAs were transfected into the HASMC, employing Lipofectamine RNAiMAX reagent (Life Technologies Corporation), and the siRNA-expressing HASMC were used for the experiment 48-72 hours after transfection. Knockdown of targets were validated by western blot.

Alizarin Red staining of cultured HASMC

AR staining was used to determine the calcification. Cells were washed once with calcium and magnesium free PBS (Thermo Fisher) and fixed with 4% formaldehyde for 10 minutes at room temperature. After washing with PBS twice, cells were exposed with 2% Alizarin Red S solution (pH 4.2) for 15 minutes and then washed 5 times with dH₂O and observed under optical microscope.

Quantification of calcium deposition

Calcium deposits in HASMCs were quantified, as described previously (8). Cells were washed with PBS and treated with HCl (0.6M) for 24 hours at 4 °C and the supernatant was analyzed with a colorimetric quantification calcium assay kit (QuantiChrom™, BioAssay Systems, Hayward, CA). Protein was extracted from remaining cell components with 0.1M NaOH + 0.1% SDS, and measured calcium levels were normalized by protein concentration. For

separated mice aorta in in vivo experiments, samples were minced and treated with 0.6M HCl (24 hours at 4 °C). The supernatant was also analyzed by the QuantiChrom™ calcium assay.

RNA isolation, cDNA synthesis, and quantitative real-time polymerase chain reaction

Total RNA was extracted from monocyte/macrophage or HASMC using RNeasy Mini or RNeasy Plus Mini Kit (Qiagen, Valencia, CA) in accordance with manufacturer's instruction. Quantitation and quality assessment of the RNA were assessed by using Thermo NanoDrop 2000 (Thermo Fisher). RNA was converted to cDNA using High-Capacity cDNA Reverse Transcription Kit (Applied Biosystems). Quantitative real-time polymerase chain reaction (RT-PCR) analysis was performed by QuantStudio 3 (Thermo Fisher). Primer sequences for SYBR green RT-PCR are shown in Supplemental Table 4. Values of the cycle threshold (Ct), obtained for quantification, were used for calculations of fold-change in mRNA abundance following the $2^{-\Delta\Delta C_t}$ method. GAPDH was chosen as the housekeeping gene.

Microarray

RNA samples extracted from HASMC were used for global gene expression profiling on human Clariom S™ Assay microarrays (Thermo Fisher). Gene expression was determined in 4 RNA samples from each group. Sample preparation, microarray hybridization, scanning, and quality control were carried out at the Genomic Core Facility, Translational Genomic Laboratory, The University of Maryland School of Medicine.

Raw signal intensities were normalized using Transcriptome Analysis Console (TAC) 4.0 software (Applied Biosystems, Thermo Fisher Scientific). The RStudio (v1.2.5019) and GraphPad Prism (GraphPad Software version 8 or 9, La Jolla, CA, USA) software were used to

create the heat map, and TAC 4.0 software was used to create the volcano plot for the gene expression data. For functional annotation of Gene Ontology biological process (GO-BP) enrichment, the online software Database for Annotation, Visualization, and Integrated Discovery (DAVID) version 6.8 was applied. The raw data of Affymetrix CEL files were posted at NCBI's Gene Expression Omnibus (GEO) public database (GSE222453).

ELISA

In select experiments, supernatants from cultured macrophages or HASMC, as well as mice aortic plaque samples, were analyzed for the hyaluronan concentration using ELISA (R&D Systems) in accordance with the manufacturer's instruction. Absorbance was measured by a FLUOstar OPTIMA Microplate Reader (BMG labtech, Ortenberg, Germany) or by a Varioskan™ LUX multimode microplate reader (Thermo Fisher).

Western blotting

Whole-cell lysates of HASMC, mice plaque samples, and frozen human CEA samples were prepared by resuspending the samples in ice-cold RIPA lysis buffer (CST) supplemented with protease inhibitors (Thermo Fisher) and phosphatase inhibitors (Thermo Fisher). Protein from the nuclear fraction was extracted utilizing NE-PER™ nuclear and cytoplasmic extraction reagents (Thermo Fisher). After sonication, lysates were then clarified by centrifugation at 14000rpm, 4 °C, for 15 min. Protein concentrations were estimated using the BCA Protein Assay Kit (Thermo Fisher). Equal amounts of protein extract (5-20 ug) were subjected to SDS-polyacrylamide gel (BioRad) electrophoresis and electrotransferred onto Nitrocellulose membranes (Invitrogen). Blocking was performed using BLOK™ Casein in 1% TBS (G-BIOSCIENCES) or Blocker™

Casein in TBS (Thermo Fisher) for 1 hour at room temperature. Membranes were then probed with primary antibodies diluted in the block solution, followed by detection using horseradish peroxidase conjugated secondary antibodies (BioRad) and enhanced chemiluminescence substrates (BioRad). Antibodies used were rabbit anti-RUNX2 (1:1000, CST, #12556), rabbit anti-NFκB p65 (1:2000, CST, #4764), rabbit anti-phospho-NFκB p65 (Ser536) (1:5000, CST, #3033), mouse anti-HAS1 (1:1000, Thermo, MA5-15671), rabbit anti-HAS1 (1:1000, Thermo, PA5-50674), mouse anti-HAS2 (1:1000, Abcam, ab140671), rabbit anti-HAS2 (1:1000, LSBio, LSC411405), mouse anti-HAS3 (1:1000, Thermo, MA5-17088), rabbit anti-HAS3 (1:1000, Thermo, PA5-89266), rabbit anti-CD44 (1:1000, CST, #37259), mouse anti-CD163 (1:1000, Thermo, 15227267), and mouse anti-β-actin (1:2000, Abcam, ab8226) for normalization.

PrestoBlue HS cell viability assays and Terminal deoxynucleotidyl transferase dUTP nick end labeling (TUNEL) assay

HASMCs viability after exposure to M(con) or M(Hb) macrophage supernatants was assessed by PrestoBlue HS cell viability dye (Thermo Fischer, P50200) in accordance with manufacture's instruction. Briefly, cells were cultured on 96-well plates until grown to be confluent. Media was replaced to M(con) or M(Hb) macrophage supernatant and incubated for 24 hours. PrestoBlue HS cell viability dye was added at a 1:10 volume ratio. PrestoBlue HS dye was also incubated with cell-free, media only controls, negative control with normal growth media, and positive control (10 min exposure to growth medium containing H₂O₂, 200mM). PrestoBlue HS fluorescence signal was quantified using a Varioskan™ LUX multimode microplate reader (Thermo Fisher). Resulting signal with background correction was reported as a ratio of 560/590 nm fluorescence. For TUNEL assay, HASMCs were cultured on 35mm glass bottom dishes

(MatTek Corporation, MA). After exposing to M(con) or M(Hb) macrophage supernatant, cells were fixed by 4% formaldehyde, and TUNEL staining by CFTM Dye TUNEL Assay Apoptosis Detection Kit (#30063, Biotium, Dremont, CA) were performed under manufacture's instruction. Hoechst 33342 (62249, Thermo Scientific) was used for nuclei counter staining. Images were obtained by laser-scanning confocal microscopy (LSM800, Carl Zeiss) using $\times 20$ or $\times 40$ or $\times 63$ objectives with optical slicing in the z axis.

Human coronary plaque and CD163 SNPs

SNPs from the CD163 gene were examined in 346 subjects from the CVPath Registry by Illumina Exome BeadChip array, as previously described (9). For further analysis of rs7136716, there were a total of 111 subjects with homozygous major AA alleles, 175 with heterozygous AG alleles, and 60 with homozygous minor GG alleles. Thirty age-matched victims who died due to severe CAD (15 cases each of AA and GG genotype carriers) who have available post-mortem *ex vivo* heart X-ray were selected for further assessment. According to the X-ray, coronary arteries were divided into 10 segments (i.e., left main trunk, and proximal, middle, and distal of each RCA, LAD, and LCX). The semi-quantitative calcification score of each segment was evaluated in 0 to 10 scales by 2 independent cardiovascular pathologists (LG and AS) with blinded manner for rs7136716 genotype. Total amount of calcium score in 10 segments were considered as the score of each case. For histological assessment, 3 sections with most stenotic lesion were selected from RCA, LAD, and LCX proximal site (i.e. 9 sections/case). Each section was apart at least 3mm of longitudinal distance. Morphometric data was averaged in 3 sections in each branch. Percent area stenosis (mean) and (max) represent average of 3 vessels and the value of the most stenotic branch, respectively. Calcification area (mean) and (total) represents average and total of calcification in

3 vessels. Percent calcification/plaque (mean) and (max) are average of 3 vessels and the maximum value in the 3 vessels. Other definitions of values related to necrotic core were the same as those for calcification.

Single cell RNA sequence (scRNA-seq) data processing for human coronary artery samples

We used scRNA-seq data from prior study by Wirka et al. (10) (GEO accession GSE131780). In addition to quality control (QC) metrics used by Wirka et al, we included coverage as an additional metric when processing data with the Seurat package (v.4.1.0) (11). Genes expressed in less than 5 cells were filtered out. Cells expressing < 500 and > 2500 genes, and with < 2000 UMIs were also trimmed from the dataset to prune defective cells, multiplets, or cells with low coverage. Cells with 5% of reads mapping to mitochondrial genes were also discarded. After removing lower-quality cells, 7209 high-quality cells remained for subsequent analyses. Read counts were normalized using Seurat's global-scaling method. After finding the 2,000 most variable genes in the data, dimensionality reduction was performed using principal component analysis (PCA). The top ten principal components (PCs) were further used for uniform manifold approximation and projection (UMAP) visualization and Louvain clustering. Clusters were annotated using gene lists provided by Wirka et al (10).

Single-nucleus assay for transposase-accessible chromatin with sequencing (snATAC-seq) data processing

FASTQ files for the snATAC dataset were generated as detailed in Turner et al (12) (GEO accession GSE175621). Briefly, FASTQ files were preprocessed using the 10x Genomics Cellranger pipeline (CellRanger ATAC v1.2.0) using the hg38 reference genome. Samples were

preprocessed separately and cellranger outputs were used to filter low-quality cells with the ArchR pipeline (v.1.0.2) (13) as follows: TSS enrichment > 7 , unique number of fragments > 10000 and a doublet ratio < 1.5 . Fragment files for the 41 patients were used to generate ArchR arrow files. We used the first 30 components output by LSI dimensionality reduction for UMAP analyses. Cell clustering was then performed using the Louvain community detection algorithm as implemented in Seurat (v.4.1.0). Gene scores were then estimated based on the accessibility within gene bodies as well as distal/proximal regions to the TSS.

snATAC-scRNA integration

The cell-type annotated scRNA-seq expression matrix was integrated with the snATAC-seq gene score matrix using the ‘addGeneIntegrationMatrix’ function from ArchR, which identifies corresponding cells across datasets or ‘anchors’ using Seurat’s mutual nearest neighbors algorithm. Cell-type labels within the Seurat scRNA-seq metadata were transferred to the corresponding mutual nearest neighbors in the snATAC-seq data along with their gene expression signatures. This resulted in snATAC-seq cells having both a chromatin accessibility and a gene expression profile.

Stratification of patients and Differential Expression (DE) analyses

Using the scRNA-seq-snATAC data, we extracted macrophages and calculated the mean CD163 expression for this cell type across each of the 41 patients in the integrated scRNA-seq-snATAC integrated dataset as described above. We then calculated the median and interquartile ranges (IQR) using the stats R package (R core team, 2020). Individuals below the CD163 mean macrophage expression distribution 25% quartile were denoted as low CD163 (n=11, norm

expression<3.87), whereas those above the distribution 75% quartile were denoted as high CD163 (n=11, norm expression>5.33). We then extracted and aggregated SMC count matrices from individuals in each of those two groups, annotated SMCs as high CD163 or low CD163, and merged matrices for downstream analyses. We used this merged matrix in order to perform an unpaired T-test-based differential expression (DE) analysis between SMCs from the two groups with the following parameters (var.equal=TRUE). We kept genes that had an FDR < 0.05. Genes were then ranked according to the difference in the mean expression value between the two groups.

Gene set enrichment and Transcription Factor (TF) over-representation analyses

Genes from the above DE analysis were ranked according to the difference in mean expression across the two groups. We then created gene sets with the top 100 genes upregulated in high and low CD163 SMCs. We used these gene sets as input for gene set enrichment analyses (GSEA) with the Enrichr web tool (14). GSEA was carried out across multiple ontologies (Jensen tissues, Mouse gene atlas, and Panglaodb). Finally, these gene sets were used as input for TF-target over-representation analyses with the ChEA3 web tool (v.3.0) (15). To identify TFs associated with the gene sets of interest, we performed this analysis using the ChEA3 TF-target gene set libraries assembled from ENCODE ChIP-seq data. Briefly, the Fisher's Exact Test, with a background size of 20000, was used to compare input gene sets of interest to the ENCODE-based TF-target gene set library available in ChEA3. This allowed us to determine which TFs may be most closely associated with gene sets that were upregulated in high/low CD163 groups.

Supplemental Figure legends

Supplemental Figure 1. Outline of analysis for the amount of calcification in the spatial area of CD163⁺/CD68⁺ and CD163⁻/CD68⁺ in human atheroma of carotid artery (frozen CEA specimens)

Surgically removed carotid artery pathologic sections from 62-yo male patient. **A:** Low-power H&E image of fibroatheroma. **B-F:** High-power image of H&E (**B**), VK (**C**), CD163 (**D**) and CD68 (**E**) immunostaining, and AR (**F**) images of the corresponding black rectangular field in Image A. To determine the spatial distribution of CD163, CD68, and calcification, CD163 positive areas were digitally traced (bordered by blue line [**D**]) in CD163 IHC images (1st step). The CD163 positive area was digitally overlaid on an adjacent CD68 IHC image (2nd step). Subsequently, CD68 positive but CD163 negative area was digitally traced (bordered by red line [**E**]) in CD68 IHC image (3rd step). Both blue border (CD163⁺/CD68⁺) and red (CD163⁻/CD68⁺) border areas were digitally overlaid on an adjacent AR image (4th step). Finally, AR positive areas in blue and red zones were determined by HALO digital software (5th step). Total 70 advanced atheroma sections obtained from 32 patients were applied for this analysis. AR=Alizarin Red, CEA=carotid endarterectomy, IHC=immunohistochemistry, NC=necrotic core, VK=Von Kossa.

Supplemental Figure 2. Time dependent effect of OS media on HASMC calcification in vitro

A-B: HASMC were seeded in 24-well culture plates, grown to confluence, and cultivated for 6, 24, and 48 hours. Representative image of AR staining of HASMC (**A**) and summary of % AR

positive areas for each time point after exposure to culture media with OS is shown **(B)** (n=3 in each).

C: Summary of calcium amount in samples of each time point examined by colorimetric assay adjusted for protein content (n=4 in each).

D-E: Representative western blot images of RUNX2 and β -actin from protein samples extracted at each time point **(D)**. Summary of densitometry analysis is shown in **E** (n=4 in each). ** p<0.01 vs 0h.

Results are presented as the mean $\pm$ standard error and ANOVA followed by post-hoc Tukey's test was conducted for statistical analysis **(B-C, E)**. Data normality was tested by Shapiro-Wilk test. All experiments were performed at least three times to confirm the reproducibility.

AR=Alizarin Red, HASMC=human aortic smooth muscle cell, OS=osteogenic components supplementation, RUNX2=runx-related transcription factor 2.

Supplemental Figure 3. Validation results of RT-PCR in RNA samples extracted from M(con) and M(Hb) plus OS exposed HASMC

HASMCs were treated with M(con) or M(Hb) + OS supernatant for 24 h. Real-time RT-PCR analysis was performed in order to validate the result of microarray analysis (Figure 4) including the expression levels of *NFK1A*, *NFKB1*, *RELA*, *RUNX2*, *BMP4*, *MGP*, *HAS1*, *HAS2*, *HAS3*. Data were normalized with GAPDH expression. Results are presented as the mean $\pm$ standard error and t-test was conducted for statistical analysis (n=3 per group). Data normality was tested by Shapiro-Wilk test. All experiments were performed at least three times to confirm the reproducibility.

M(con)sup=control macrophage supernatant, M(Hb)sup=HH-differentiated macrophage supernatant, OS=osteogenic components supplementation, RQ=relative quantification.

Supplemental Figure 4. The effect of M(con) and M(Hb) supernatant on the cell apoptosis and viability of HASMC

A-G: Representative fluorescent microscopic images of terminal deoxynucleotidyl transferase-mediated dUTP nick end-labeling (TUNEL) staining of HASMC cultured with normal growth media (negative control; NC) with or without OS (**A**; OS(-), **B**; OS(+)), M(con) with or without OS (**C**; OS(-), **D**; OS(+)), or M(Hb) supernatant with or without OS (**E**; OS(-), **F**; OS(+)) for 48 hours. For positive control (PC), HASMCs were exposed to culture media containing 2mM of H₂O₂ for 8 hours (**G**). DNA fragmentation in apoptotic cells were detected by fluorescein-12-dUTP (green). Nucleus were counterstained by DAPI (blue). Small inset on upper-right in **C** and **E** represent higher magnification of TUNEL positive cells in the white rectangular field of each group. Scale bars indicate 50µm in low power or 10µm in high power fields. **H:** Summarized data of TUNEL positive cells. Bars indicate % of TUNEL positive cells in each condition. The values represent the mean±standard error from 3 independent experiments, which include 3 different fields involving >100 cells in each (overall n=9 per group). **I:** Summarized data from PrestoBlue HS cell viability assay (n=5 per group) in the same experimental condition as TUNEL assay. The experiment was performed three times to confirm the reproducibility. The values represent the mean±standard error. ANOVA followed by post-hoc Tukey's test was applied. Data normality was tested by Shapiro-Wilk test. NC=negative control, PC=positive control, TUNEL=terminal

deoxynucleotidyl transferase-mediated dUTP nick end-labeling, Others are as Supplemental Figure 3.

Supplemental Figure 5. Augmented hyaluronan synthesis in HASMC by M(Hb) supernatant exposure is attenuated by VEGF receptor antagonists

A-B: Summary of HA concentration in M(con) and M(Hb) supernatant post-exposing (24 hours) to HASMC (ELISA, n=3 per group) with VEGF receptor antagonist, Axitinib (**A**) or Cabozantinib (**B**), in different dose setting (0, 10, and 100nM). **P<0.01. Results are presented as the mean±standard error. ANOVA followed by post-hoc Tukey's test was applied. Data normality was tested by Shapiro-Wilk test. All experiments were performed at least three times to confirm the reproducibility. HA=hyaluronan, M(con)=control macrophage supernatant, M(Hb)=hemoglobin-haptoglobin complex-differentiated macrophage supernatant.

Supplemental Figure 6. Effect of peritoneal macrophage supernatant obtained from WT or *CD163*^{-/-} mice on HASMC NFκB signaling and HA synthesis

Peritoneal macrophages are collected from WT or *CD163*^{-/-} mice and cultured with or without mouse hemoglobin for 24 hours. The supernatant was exposed to HASMC for 24 hours. **A-D:** Immunoblotting of HASMC with quantitation of densitometry for phospho-p65 (Ser 536)/total-p65 (**A**), HAS1/β-actin (**B**), HAS2/β-actin (**C**), and HAS3/β-actin (**D**) in HASMC exposed to mouse peritoneal macrophage supernatant for 24 hours (1: WT M(con), 2: WT M(Hb), 3: *CD163*^{-/-}

^{-/-} M(con), and 4: *CD163*^{-/-} M(Hb)) (n=4 per group). **E**: Summary of HA concentration in WT M(con), WT M(Hb), *CD163*^{-/-} M(con), and *CD163*^{-/-} M(Hb) supernatant exposed (24 hours) to HASMC (ELISA, n=4 per group). **F-H**: Result of real-time PCR analysis of HASMC which exposed to peritoneal macrophage supernatant for 24 hours, including expression levels of *HAS1* (**F**), *HAS2* (**G**), and *HAS3* (**H**). Data were normalized with *GAPDH* expression and presented as mean±standard error (n=3 per group). Results are presented as the mean±standard error and ANOVA followed by post-hoc Tukey's test was applied for statistical analysis. Data normality was tested by Shapiro-Wilk test. All experiments were performed at least three times to confirm the reproducibility.

CD163^{-/-} M(con)=*CD163*^{-/-} macrophage control supernatant, *CD163*^{-/-} M(Hb)=Hb-stimulated *CD163*^{-/-} macrophage supernatant, FC=fold changes, RQ=relative quantification, WT=wild type, WT M(con)=WT macrophage control supernatant, WT M(Hb)=Hb-stimulated WT macrophage supernatant

Supplemental Figure 7. Representative radiographs of autopsy hearts of sudden cardiac death cases of African American victims with major AA or minor GG genotype of rs7136716 SNP

Radiographs of **A-F** are from carriers of major AA genotype and **G-L** are from carriers of minor GG genotype of rs7136716 SNPs.

A: A heart with severe CAD from 41-year-old male without any cardiac risk factors. **B**: A heart with severe CAD from 61-year-old female with history of hypertension, diabetes, and CKD. **C**: A heart with severe CAD from 50-year-old female with history of hypertension. **D**: A heart with

severe CAD from 78-year-old male with history of abdominal aortic aneurysm. **E**: A heart with severe CAD from 41-year-old male with history of OMI, hypertension, and diabetes. **F**: A heart with severe CAD from 47-year-old male with history of OMI. **G**: A heart with severe CAD from 44-year-old male with history of drug use without other cardiac risk factors. **H**: A heart with severe CAD from 62-year-old male with history of hypertension and valvular heart disease. **I**: A heart with severe CAD from 48-year-old male without known cardiac risk factors. **J**: A heart with severe CAD from 74-year-old male with history of diabetes. **K**: A heart with recent MI from 47-year-old female with history of hypertension and smoking. **L**: A heart with severe CAD from 46-year-old male with history of OMI.

White arrowheads indicate visible coronary calcification on X-ray. CAD=coronary artery disease, CKD=chronic kidney disease, OMI=old myocardial infarction.

Supplemental Tables

Supplemental Table 1. Clinical information and pathologic findings from coronary

CTO cases

Patient, n	n=19
Age, years	57.5±15.5
Male sex, n (%)	16 (84.2%)
Hypertension, n (%)	10/15 (66.7%)
Diabetes, n (%)	7/15 (46.7%)
Dyslipidemia, n (%)	2/15 (13.3%)
Previous MI, n (%)	3/15 (20.0%)
Cause of death	
Coronary/non-cardiac death	17 (89.5%)
Pathologic healed myocardial infarction	16 (84.2%)
Vessels, n	n=21
LAD/LCX/RCA	2 (9.5%)/3 (14.3%)/16 (76.2%)
Section, n	n=145
Thrombus organizing stage	
organizing thrombus (fibrin rich)	23 (15.9%)
Organized thrombus (PGs-rich)	31 (21.4%)
Organized thrombus (type I collagen-rich)	91 (62.8%)

CTO=chronic total occlusion, LAD=left anterior descending artery, LCX=left circumflex, MI=myocardial infarction, PGs=proteoglycans, RCA=right coronary artery

Supplemental Table 2. Differentially Expressed Genes in HASMC exposed to M(Hb) or M(con) supernatant with OS

Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value		Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value
<i>CXCL10</i>	17.83	4.27	12075.77	5.84E-09		<i>IL1A</i>	12.03	7.08	31.00	7.97E-07
<i>CXCL9</i>	16.52	4.38	4533.12	3.12E-08		<i>SAMD9L</i>	15.05	10.12	30.52	6.33E-06
<i>CXCL11</i>	15.28	5.00	1237.54	1.61E-07		<i>ICAM1</i>	16.80	11.90	29.87	1.31E-05
<i>IDO1</i>	15.09	5.15	984.82	2.53E-08		<i>APOL3</i>	12.95	8.08	29.33	1.55E-06
<i>GBP4</i>	15.39	5.89	722.01	3.60E-09		<i>IFIH1</i>	10.18	5.33	28.82	2.35E-05
<i>IRF1</i>	15.14	7.28	233.24	1.68E-07		<i>BDKRB1</i>	14.97	10.19	27.59	1.02E-03
<i>GBP2</i>	14.28	6.43	230.28	5.01E-08		<i>IL7R</i>	12.46	7.69	27.38	3.68E-05
<i>XIRP1</i>	13.04	5.23	223.93	1.34E-09		<i>RNF19B</i>	13.69	8.94	26.85	8.79E-09
<i>IFIT3</i>	16.07	8.42	201.07	2.39E-08		<i>OAS1</i>	10.96	6.31	25.09	2.63E-03
<i>IL18BP</i>	14.25	7.15	137.41	2.78E-09		<i>BIRC3</i>	10.03	5.58	21.87	3.95E-04
<i>CX3CL1</i>	12.69	5.78	120.03	1.46E-03		<i>APOL2</i>	15.40	10.95	21.80	3.32E-07
<i>GBP1</i>	15.47	8.65	112.69	3.25E-08		<i>IFIT2</i>	10.00	5.56	21.73	9.99E-06
<i>CSF3</i>	16.14	9.34	111.30	3.46E-03		<i>SLC7A2</i>	14.34	9.92	21.41	1.43E-04
<i>GBP5</i>	11.55	5.02	92.01	1.10E-06		<i>ADAMTS4</i>	13.22	8.99	18.86	3.63E-05
<i>CIITA</i>	11.81	5.34	88.87	2.14E-07		<i>RSPO3</i>	9.15	4.95	18.32	2.72E-05
<i>CD274</i>	12.49	6.04	87.14	5.19E-08		<i>VCAM1</i>	12.44	8.25	18.28	1.28E-02
<i>SLAMF8</i>	10.80	4.40	84.17	7.64E-07		<i>COL27A1</i>	10.27	6.09	18.14	2.14E-05
<i>CD38</i>	10.36	4.08	78.05	2.28E-05		<i>RARRES3</i>	10.63	6.48	17.76	4.04E-06
<i>CCL8</i>	11.44	5.27	72.38	5.79E-04		<i>IFI44L</i>	9.57	5.45	17.38	2.85E-04
<i>HAPLN3</i>	11.98	5.86	69.55	2.29E-07		<i>ATF3</i>	10.84	6.76	16.84	9.66E-06
<i>IL32</i>	14.14	8.05	68.32	3.88E-07		<i>ZC3H12A; MIR6732</i>	14.99	10.99	15.99	1.37E-04
<i>TNFAIP2</i>	15.33	9.34	63.48	3.46E-05		<i>PRDM1</i>	13.50	9.56	15.40	8.88E-04
<i>TAP1</i>	13.74	7.76	63.40	1.17E-06		<i>TNFAIP6</i>	15.24	11.33	15.10	2.62E-03
<i>OAS2</i>	10.89	4.98	60.07	8.22E-06		<i>EPSTI1</i>	9.30	5.40	14.96	9.35E-06
<i>MX1</i>	12.88	7.11	54.78	9.70E-05		<i>TNFAIP8</i>	10.78	6.89	14.87	2.85E-03
<i>GCH1</i>	12.34	6.58	53.92	1.65E-05		<i>OAS3</i>	12.58	8.69	14.81	8.67E-04
<i>CTSS</i>	12.47	6.77	52.02	4.27E-07		<i>PSTPIP2</i>	9.83	5.94	14.80	1.93E-04
<i>SECTM1</i>	11.16	5.51	50.19	2.21E-05		<i>LRRTM2</i>	8.38	4.49	14.77	9.85E-06
<i>LIF</i>	12.22	6.73	44.74	1.06E-03		<i>RIPK2</i>	15.53	11.65	14.76	8.12E-05
<i>PARP14</i>	15.14	9.75	42.11	1.54E-06		<i>TLR2</i>	9.93	6.17	13.51	1.92E-03
<i>UBD</i>	9.61	4.28	40.39	6.70E-05		<i>LAP3</i>	15.26	11.54	13.16	4.18E-07
<i>CCL20</i>	16.15	10.99	35.64	1.23E-02		<i>TAP2</i>	12.53	8.86	12.72	4.40E-06
<i>XAF1</i>	11.09	6.10	31.93	1.49E-05		<i>DDX58</i>	11.48	7.84	12.48	4.27E-05

Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value		Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value
<i>ETV7</i>	9.20	5.56	12.45	2.00E-05		<i>ADAMTS9</i>	13.62	10.76	7.28	2.71E-03
<i>TIFA</i>	11.04	7.41	12.36	2.03E-04		<i>RARRES1</i>	11.13	8.27	7.26	2.56E-03
<i>APOL6</i>	11.24	7.62	12.28	3.28E-07		<i>SAA2; SAA4</i>	8.48	5.63	7.21	4.31E-02
<i>APOL1</i>	11.97	8.39	11.92	3.44E-06		<i>MMP25-AS1</i>	8.55	5.71	7.14	2.72E-08
<i>DTX3L</i>	12.98	9.45	11.55	1.02E-06		<i>SUSD6</i>	12.39	9.56	7.14	3.31E-04
<i>PARP9</i>	12.22	8.69	11.48	5.06E-06		<i>KLF5</i>	10.87	8.05	7.07	2.76E-04
<i>STEAP4</i>	8.61	5.10	11.36	2.56E-05		<i>PRICKLE2</i>	11.01	8.21	6.97	4.57E-05
<i>BMP2</i>	11.61	8.12	11.25	4.06E-05		<i>GK</i>	9.71	6.91	6.93	2.61E-04
<i>HECW2</i>	11.24	7.77	11.09	5.78E-05		<i>IFI44</i>	8.28	5.50	6.88	8.15E-04
<i>PSMB9</i>	12.35	8.90	10.93	2.51E-07		<i>RNF144B</i>	9.05	6.28	6.82	2.47E-04
<i>CXCL3</i>	13.21	9.77	10.85	4.02E-03		<i>LITAF</i>	13.88	11.12	6.78	2.93E-05
<i>HAS1</i>	10.11	6.68	10.82	6.16E-03		<i>TNFSF13B</i>	9.18	6.43	6.74	1.75E-05
<i>TMEM140</i>	10.24	6.85	10.50	3.26E-05		<i>NKX3-1</i>	10.34	7.59	6.73	4.43E-06
<i>SERPINA3</i>	12.30	8.93	10.41	1.68E-02		<i>SOCS3</i>	9.72	6.98	6.71	6.21E-04
<i>GBP3</i>	13.55	10.22	10.02	7.86E-05		<i>CXCL1</i>	16.00	13.26	6.69	1.70E-02
<i>CMPK2</i>	7.71	4.40	9.90	7.46E-04		<i>CASP7</i>	10.63	7.89	6.69	7.41E-07
<i>TRAFD1</i>	11.71	8.43	9.76	1.27E-05		<i>LIMK2</i>	11.05	8.33	6.61	5.21E-05
<i>IRG1</i>	7.55	4.30	9.51	1.61E-04		<i>EDNRA</i>	10.97	8.27	6.48	2.47E-04
<i>IRAK2</i>	10.07	6.85	9.32	2.66E-04		<i>TNFSF10</i>	6.97	4.29	6.42	1.48E-02
<i>BDKRB2</i>	9.76	6.57	9.13	9.36E-04		<i>C8orf4</i>	7.97	5.30	6.37	6.57E-05
<i>NFKB1</i>	14.29	11.11	9.03	1.29E-04		<i>IL1B</i>	17.34	14.69	6.29	2.69E-03
<i>TESK2</i>	8.61	5.46	8.90	4.65E-05		<i>RBM47</i>	9.41	6.76	6.29	2.22E-04
<i>SLC39A8</i>	13.84	10.72	8.74	1.05E-02		<i>GBP6</i>	6.75	4.10	6.29	5.53E-07
<i>SELE</i>	7.49	4.37	8.70	5.71E-05		<i>RNF213</i>	12.43	9.78	6.26	5.23E-06
<i>SSTR2</i>	6.73	3.61	8.69	1.80E-03		<i>TRIM25; MIR3614</i>	14.73	12.12	6.11	1.01E-05
<i>TRIM21</i>	9.70	6.60	8.59	2.79E-06		<i>TRIB1</i>	12.42	9.82	6.10	2.16E-06
<i>SLC25A28</i>	12.34	9.25	8.56	4.38E-05		<i>NINJ1</i>	11.21	8.61	6.08	1.15E-06
<i>PLSCR1</i>	12.56	9.49	8.40	9.38E-05		<i>CCL2</i>	16.89	14.32	5.91	1.36E-03
<i>CA13</i>	10.31	7.24	8.36	3.80E-04		<i>CCL7</i>	8.10	5.54	5.90	1.47E-04
<i>PHACTR1</i>	7.99	4.94	8.28	2.56E-05		<i>PDE4B</i>	6.91	4.37	5.85	1.87E-02
<i>PMAIP1</i>	10.32	7.31	8.04	6.56E-08		<i>MICB</i>	11.77	9.25	5.74	4.17E-09
<i>LIPG</i>	9.88	6.90	7.93	3.04E-05		<i>CXCL2</i>	13.79	11.29	5.69	3.21E-03
<i>JAK2</i>	10.52	7.56	7.79	8.71E-04		<i>TRIM69</i>	8.45	5.94	5.69	2.37E-05
<i>MLKL</i>	11.76	8.81	7.73	5.36E-06		<i>MAP2</i>	12.04	9.53	5.69	2.38E-06
<i>RNF19B</i>	8.04	5.11	7.64	7.12E-04		<i>LYN</i>	9.88	7.38	5.65	2.79E-05
<i>PARP8</i>	11.08	8.14	7.63	1.30E-05		<i>MSC</i>	14.91	12.42	5.61	3.26E-05
<i>PID1</i>	10.51	7.60	7.51	1.53E-02		<i>INHBA</i>	13.17	10.68	5.61	2.12E-03

Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value		Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value
<i>DRAM1</i>	14.22	11.74	5.59	1.35E-04		<i>HELZ2</i>	7.12	4.98	4.39	1.37E-03
<i>DUSP16</i>	9.22	6.75	5.55	2.63E-03		<i>IFIT5</i>	10.68	8.55	4.37	2.44E-06
<i>AMPD3</i>	8.16	5.69	5.54	7.40E-04		<i>BCOR</i>	11.08	8.96	4.33	3.26E-04
<i>BTG3</i>	11.79	9.33	5.52	9.41E-04		<i>SQRL</i>	11.89	9.78	4.33	1.32E-04
<i>B3GNT2</i>	11.87	9.42	5.50	4.31E-05		<i>GRAMD1A</i>	12.68	10.56	4.33	5.08E-03
<i>NFKB2</i>	13.14	10.70	5.43	1.93E-03		<i>TNIP1</i>	13.45	11.34	4.31	5.07E-04
<i>GRAMD3</i>	12.56	10.15	5.33	7.70E-05		<i>NUAK2</i>	8.42	6.32	4.28	1.17E-06
<i>TNC</i>	12.13	9.71	5.32	1.21E-02		<i>ST6GAL1</i>	9.23	7.16	4.19	1.65E-05
<i>SLC12A7</i>	9.47	7.06	5.32	7.41E-04		<i>XRNI</i>	11.66	9.60	4.15	1.24E-05
<i>NRP2</i>	13.63	11.25	5.22	1.49E-04		<i>IRAK3; MIR6502</i>	13.96	11.90	4.15	6.77E-03
<i>PSMB8</i>	11.83	9.46	5.17	5.90E-05		<i>CCDC71L</i>	9.57	7.52	4.13	1.14E-03
<i>TNS3</i>	12.33	9.98	5.11	2.18E-04		<i>CACHD1</i>	9.46	7.42	4.11	1.06E-04
<i>IL6</i>	17.69	15.37	4.99	5.79E-03		<i>SP110</i>	14.70	12.67	4.10	4.39E-04
<i>RNF114</i>	13.16	10.85	4.99	2.93E-06		<i>PTPN2</i>	11.64	9.61	4.08	9.68E-05
<i>ZNF267</i>	11.37	9.05	4.98	2.21E-06		<i>ANO4</i>	7.07	5.04	4.07	7.72E-05
<i>DUSP16</i>	8.72	6.42	4.93	9.85E-04		<i>BAK1</i>	10.36	8.35	4.04	1.63E-07
<i>DHX58</i>	8.37	6.07	4.92	2.69E-04		<i>SDC4</i>	14.03	12.02	4.03	1.15E-04
<i>NOCT</i>	12.27	9.97	4.92	1.59E-04		<i>NRG1</i>	12.48	10.48	4.02	1.88E-04
<i>NUB1</i>	13.07	10.78	4.90	1.09E-04		<i>RTP4</i>	5.89	3.89	4.01	8.96E-04
<i>RELB</i>	10.53	8.24	4.87	1.67E-03		<i>PRRG4</i>	7.92	5.91	4.01	3.13E-04
<i>RNF122</i>	8.94	6.68	4.81	3.56E-04		<i>PDPN</i>	8.15	6.16	3.98	2.87E-04
<i>STARD8</i>	7.60	5.35	4.76	7.42E-04		<i>TRIM22</i>	13.26	11.28	3.96	4.86E-05
<i>TNIP3</i>	6.75	4.51	4.74	9.53E-03		<i>IRF8</i>	5.59	3.63	3.90	3.73E-05
<i>SERPING1</i>	13.57	11.32	4.73	7.00E-03		<i>BCL2A1</i>	7.60	5.63	3.90	3.39E-04
<i>IL15</i>	8.32	6.09	4.67	7.09E-05		<i>PARP12</i>	11.24	9.28	3.89	5.78E-05
<i>SP140L</i>	10.10	7.88	4.66	4.58E-06		<i>IFI6</i>	12.62	10.67	3.88	4.38E-04
<i>IFI35</i>	9.62	7.42	4.59	4.65E-05		<i>SLC39A14</i>	15.98	14.02	3.87	4.91E-03
<i>SLC2A6</i>	11.25	9.05	4.59	1.84E-04		<i>ZNFX1</i>	12.87	10.92	3.86	3.92E-05
<i>SLFN11</i>	11.68	9.49	4.57	3.68E-04		<i>SAA1</i>	7.75	5.81	3.86	4.73E-02
<i>HLA-E</i>	13.03	10.85	4.54	7.02E-06		<i>FOSL2</i>	13.16	11.22	3.84	5.12E-04
<i>MX2</i>	7.29	5.10	4.54	3.10E-03		<i>DUSP16</i>	10.23	8.29	3.83	2.36E-03
<i>SERPINB2</i>	15.52	13.34	4.51	7.17E-03		<i>FAM107A</i>	8.80	6.87	3.82	1.91E-04
<i>SLC2A6</i>	8.71	6.56	4.45	9.38E-05		<i>NMI</i>	9.49	7.56	3.81	2.35E-05
<i>IRF2</i>	11.51	9.36	4.44	1.12E-04		<i>RALA</i>	13.20	11.27	3.79	1.96E-04
<i>FST</i>	13.10	10.95	4.43	6.90E-04		<i>DUSP16</i>	7.89	5.96	3.79	8.89E-04
<i>ICAM4</i>	8.61	6.47	4.42	4.17E-05		<i>HAS2</i>	10.42	8.51	3.76	1.48E-02
<i>SLC2A6</i>	10.34	8.20	4.41	1.57E-05		<i>IL15RA</i>	11.27	9.36	3.74	3.55E-05

Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value		Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value
<i>MSX2</i>	8.97	7.06	3.74	5.54E-04		<i>ARL5B</i>	12.31	10.58	3.33	3.90E-07
<i>ATP10A</i>	9.12	7.22	3.73	5.23E-03		<i>AK4</i>	11.58	9.86	3.29	4.60E-05
<i>CPNE8</i>	12.65	10.75	3.72	2.69E-05		<i>TNFAIP3</i>	17.10	15.38	3.28	6.62E-03
<i>P2RY6</i>	9.75	7.86	3.69	2.05E-04		<i>SH3BP2</i>	11.70	9.99	3.27	4.15E-05
<i>BTN3A2</i>	11.95	10.07	3.69	5.44E-03		<i>SAMHD1</i>	13.34	11.64	3.25	6.69E-03
<i>SPECCIL- ADORA2A</i>	9.61	7.73	3.69	1.55E-03		<i>IL31RA</i>	6.84	5.14	3.24	4.19E-02
<i>CD83</i>	7.17	5.29	3.67	2.46E-04		<i>CXCL5</i>	14.79	13.11	3.21	4.46E-02
<i>MB21D1</i>	8.04	6.16	3.67	7.87E-03		<i>HIVEP2</i>	11.53	9.85	3.20	6.69E-04
<i>IRF9</i>	11.51	9.63	3.67	1.11E-05		<i>SOD2</i>	17.37	15.69	3.20	8.22E-03
<i>LACTB</i>	11.57	9.70	3.66	5.94E-04		<i>WARS</i>	17.00	15.32	3.20	2.25E-06
<i>MYB</i>	7.87	6.00	3.66	1.30E-02		<i>HAS3</i>	5.53	3.86	3.20	1.38E-04
<i>PML</i>	14.42	12.56	3.65	3.39E-07		<i>PIM1</i>	10.27	8.59	3.19	5.16E-04
<i>SLC43A2</i>	10.75	8.88	3.64	5.29E-04		<i>CCL13</i>	6.46	4.79	3.16	8.45E-03
<i>RELA</i>	13.68	11.82	3.62	2.45E-05		<i>CREB5</i>	6.84	5.18	3.16	1.12E-03
<i>STAT1</i>	16.36	14.51	3.60	2.79E-06		<i>STX11</i>	7.65	5.99	3.15	4.27E-04
<i>SLC25A37</i>	9.96	8.13	3.57	4.80E-04		<i>TMEM63B</i>	13.01	11.35	3.14	3.95E-05
<i>SLC2A6</i>	10.92	9.09	3.55	1.65E-06		<i>CCDC109B</i>	12.32	10.67	3.13	8.42E-03
<i>C19orf66</i>	10.20	8.38	3.53	2.46E-06		<i>TRAF1</i>	7.42	5.77	3.13	6.00E-03
<i>C3orf38</i>	10.87	9.06	3.52	2.74E-04		<i>OPTN</i>	13.57	11.93	3.12	2.13E-05
<i>WTAP</i>	14.40	12.58	3.52	6.49E-03		<i>IFITM1</i>	16.16	14.53	3.11	2.13E-03
<i>BATF2</i>	7.96	6.15	3.51	5.00E-07		<i>MITD1</i>	9.01	7.38	3.10	5.20E-03
<i>SOCS1</i>	6.86	5.05	3.51	1.22E-03		<i>LAP3</i>	6.52	4.88	3.10	1.81E-03
<i>PRPF3</i>	13.33	11.52	3.51	7.23E-06		<i>RAB38</i>	9.32	7.69	3.10	4.69E-05
<i>SERPINB9</i>	8.40	6.59	3.49	3.14E-03		<i>KRAS</i>	11.73	10.10	3.09	1.83E-02
<i>ARHGAP31</i>	12.53	10.73	3.49	1.37E-05		<i>PTGES</i>	11.18	9.56	3.09	2.28E-02
<i>POU2F2</i>	7.64	5.85	3.45	2.50E-03		<i>IL7</i>	8.57	6.95	3.06	5.31E-04
<i>CASP10</i>	6.68	4.89	3.45	5.32E-03		<i>LRCH2</i>	9.13	7.52	3.06	1.18E-03
<i>MYO1B</i>	12.95	11.17	3.44	9.93E-04		<i>PSME2; MIR7703</i>	11.03	9.42	3.06	3.81E-05
<i>APOBEC3G</i>	7.27	5.49	3.43	1.52E-05		<i>IFNAR2</i>	13.33	11.72	3.05	1.41E-03
<i>TNFRSF1B; MIR4632; MIR7846</i>	11.20	9.42	3.43	3.74E-05		<i>IKZF4</i>	7.71	6.10	3.05	1.59E-04
<i>DENND5A</i>	12.88	11.11	3.41	1.54E-04		<i>SLC11A2</i>	10.57	8.96	3.05	1.40E-03
<i>JAK2</i>	8.51	6.75	3.38	2.24E-03		<i>C10orf10</i>	14.85	13.24	3.05	1.25E-02
<i>GBP7</i>	6.36	4.61	3.37	5.92E-04		<i>SBNO2</i>	14.78	13.17	3.04	4.29E-06
<i>RIN2</i>	11.87	10.11	3.36	4.07E-05		<i>CHN1</i>	10.22	8.63	3.02	1.22E-04
<i>STAT2</i>	12.46	10.72	3.36	1.81E-04		<i>SPTLC3</i>	9.88	8.30	2.99	2.53E-02
<i>ASPHD2</i>	6.46	4.72	3.34	7.50E-06		<i>GTPBP1</i>	9.68	8.11	2.98	1.49E-04
<i>TMEM2</i>	13.71	11.98	3.33	2.38E-04		<i>LONRF1</i>	8.73	7.17	2.96	6.81E-03

Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value		Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value
<i>PLAGL2</i>	10.86	9.29	2.95	1.95E-05		<i>ZNF22</i>	9.82	8.35	2.77	2.33E-02
<i>CDC42EP2</i>	12.91	11.35	2.95	3.09E-05		<i>LHFPL2</i>	12.72	11.25	2.77	3.27E-04
<i>CSRNP2</i>	10.42	8.86	2.95	4.06E-05		<i>KIAA1644</i>	9.40	7.94	2.76	4.06E-03
<i>DUSP5</i>	12.67	11.11	2.94	6.87E-06		<i>SLC41A2</i>	9.92	8.47	2.74	2.12E-04
<i>ATP6V1B2</i>	13.28	11.73	2.94	2.68E-05		<i>OTUD4</i>	14.33	12.87	2.74	1.46E-04
<i>SP100</i>	14.08	12.54	2.92	5.89E-05		<i>SLC15A3</i>	6.73	5.28	2.73	5.72E-04
<i>CIQTNF1</i>	14.75	13.20	2.91	1.56E-02		<i>CYTH1</i>	9.64	8.19	2.72	1.57E-05
<i>CHST3</i>	11.32	9.80	2.88	8.94E-05		<i>SLC25A12</i>	11.13	9.69	2.71	5.68E-04
<i>CD40</i>	7.95	6.42	2.87	5.79E-06		<i>TNFAIP1</i>	12.88	11.45	2.70	1.77E-04
<i>CLIC2</i>	7.31	5.79	2.87	8.85E-04		<i>CPEB4</i>	10.88	9.45	2.70	1.93E-04
<i>CYLD</i>	10.52	9.00	2.87	2.03E-03		<i>NNMT</i>	12.00	10.57	2.68	7.84E-03
<i>CISH</i>	6.23	4.71	2.86	2.86E-02		<i>ISOC1</i>	10.47	9.05	2.68	6.09E-03
<i>ZC3HAV1</i>	12.42	10.91	2.86	4.29E-05		<i>TEAD4</i>	8.66	7.23	2.68	1.78E-04
<i>ELOVL7</i>	6.44	4.93	2.86	2.92E-04		<i>PSMB10</i>	8.64	7.21	2.68	1.31E-05
<i>OLFML2B</i>	10.70	9.19	2.86	7.72E-03		<i>LMTK2</i>	10.44	9.02	2.68	2.04E-04
<i>BTN3A3</i>	11.47	9.95	2.86	2.74E-03		<i>PPA1</i>	12.47	11.05	2.68	5.34E-04
<i>CSRNP1</i>	8.93	7.41	2.86	3.76E-03		<i>ARHGAP42</i>	8.32	6.90	2.67	2.22E-04
<i>TMEM217</i>	8.56	7.05	2.86	5.68E-03		<i>VEGFC</i>	14.07	12.65	2.67	2.81E-04
<i>ETS1</i>	13.55	12.04	2.85	4.50E-04		<i>BCL3; MIR8085 MORC3</i>	10.49	9.08	2.66	3.28E-05
<i>UBE2L6</i>	14.90	13.39	2.85	4.31E-05			11.67	10.26	2.66	6.47E-04
<i>TMEM106A</i>	9.93	8.42	2.85	1.85E-04		<i>BOC</i>	8.33	6.92	2.66	1.36E-03
<i>ITPKC</i>	8.94	7.43	2.84	1.18E-04		<i>UGP2</i>	12.21	10.80	2.65	2.67E-02
<i>TMEM51</i>	7.79	6.29	2.84	4.39E-06		<i>YPEL2</i>	8.62	7.22	2.65	2.80E-03
<i>JUN</i>	11.41	9.92	2.81	1.52E-04		<i>CREM</i>	10.97	9.58	2.63	8.79E-03
<i>BTN2A1</i>	11.34	9.84	2.81	1.15E-03		<i>CASP8</i>	9.59	8.19	2.63	3.42E-03
<i>TBC1D9</i>	10.91	9.42	2.81	2.35E-04		<i>ZNF792</i>	8.65	7.25	2.63	9.32E-03
<i>CYP11B1</i>	14.24	12.75	2.81	4.66E-03		<i>SCYL3</i>	9.19	7.80	2.63	3.09E-04
<i>OGFR</i>	13.40	11.92	2.80	1.29E-04		<i>SAMD4A</i>	12.27	10.88	2.62	6.91E-04
<i>MMAA</i>	10.21	8.73	2.80	3.29E-04		<i>CD47</i>	12.31	10.92	2.62	1.04E-03
<i>DNAJA1</i>	14.89	13.40	2.80	3.58E-05		<i>TDRD7</i>	8.95	7.57	2.61	5.40E-05
<i>PANX1</i>	14.06	12.58	2.80	4.65E-03		<i>IFIT1</i>	6.97	5.59	2.60	9.20E-03
<i>AIM2</i>	6.18	4.71	2.78	3.26E-02		<i>EMP2</i>	14.60	13.22	2.60	1.33E-03
<i>BAZ1A</i>	12.04	10.56	2.78	1.71E-05		<i>IER3</i>	16.51	15.13	2.60	5.55E-03
<i>SLC30A7</i>	14.33	12.85	2.78	2.35E-05		<i>KSR1</i>	9.57	8.19	2.60	5.10E-03
<i>PIGV</i>	9.29	7.82	2.77	1.56E-03		<i>LRCH1</i>	9.51	8.13	2.60	2.12E-03
<i>B4GALT5</i>	12.79	11.31	2.77	9.14E-05		<i>PSMB8-AS1</i>	5.50	4.13	2.60	4.73E-02
<i>TAB3</i>	13.28	11.81	2.77	1.68E-03		<i>DOCK10</i>	10.81	9.44	2.59	8.60E-04

Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value		Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value
<i>SLC9B2</i>	8.44	7.06	2.59	2.57E-04		<i>APOBEC3D</i>	9.44	8.15	2.45	5.73E-05
<i>MUC1</i>	8.56	7.19	2.59	5.83E-03		<i>TRIM26</i>	11.23	9.94	2.45	7.60E-05
<i>PIM2</i>	9.32	7.95	2.58	1.37E-02		<i>C21orf91</i>	10.37	9.08	2.44	2.21E-04
<i>TRANK1</i>	8.50	7.13	2.58	2.43E-03		<i>MOB3C</i>	10.23	8.95	2.43	1.22E-05
<i>PCYT1A</i>	12.41	11.05	2.58	3.76E-04		<i>OLR1</i>	5.87	4.59	2.43	7.42E-04
<i>ADAR</i>	11.71	10.34	2.58	3.30E-05		<i>INSIG2</i>	11.00	9.72	2.43	6.04E-03
<i>TOP1</i>	13.27	11.91	2.57	2.62E-04		<i>HLA-L</i>	13.71	12.43	2.43	1.92E-04
<i>NAMPT</i>	12.75	11.39	2.57	4.37E-02		<i>FAM231D; LINC00869</i>	11.27	10.00	2.42	2.12E-04
<i>TBX3</i>	12.98	11.62	2.57	1.85E-03		<i>GTF2B</i>	10.81	9.54	2.41	5.73E-06
<i>SMAD7</i>	10.40	9.04	2.57	9.66E-05		<i>HLA-B</i>	11.89	10.62	2.41	9.68E-04
<i>IL33</i>	14.17	12.81	2.56	2.42E-03		<i>TRAF3IP2</i>	10.65	9.38	2.41	9.31E-06
<i>SPHK1</i>	13.88	12.52	2.56	1.55E-03		<i>TXNL4B</i>	11.21	9.95	2.40	3.71E-05
<i>NDST2</i>	9.75	8.39	2.56	5.79E-04		<i>VDR</i>	10.93	9.66	2.40	8.67E-03
<i>BATF3</i>	7.98	6.63	2.54	6.13E-04		<i>CNDP2</i>	14.41	13.15	2.39	2.28E-04
<i>C2CD4A</i>	5.68	4.34	2.53	3.04E-02		<i>TMEM133</i>	7.19	5.93	2.39	1.86E-02
<i>SDE2</i>	10.15	8.81	2.52	1.10E-03		<i>DDX23</i>	12.78	11.52	2.38	1.17E-03
<i>TRIM36</i>	4.50	3.17	2.52	5.56E-03		<i>PTPN1</i>	15.05	13.80	2.38	6.56E-04
<i>CXCL8</i>	16.88	15.55	2.52	3.51E-02		<i>PCYT1A</i>	12.91	11.66	2.37	3.51E-04
<i>SERPINB8</i>	13.03	11.70	2.51	7.57E-04		<i>ACKR4</i>	6.42	5.18	2.37	3.83E-02
<i>HSPB8</i>	10.86	9.53	2.51	2.87E-02		<i>HIVEP1</i>	10.82	9.57	2.37	1.34E-02
<i>ACSL4</i>	12.91	11.59	2.51	1.17E-02		<i>BID</i>	11.71	10.46	2.37	1.84E-02
<i>FMNL3</i>	8.93	7.60	2.50	1.17E-03		<i>CFLAR</i>	15.58	14.34	2.36	1.42E-04
<i>NAB1</i>	10.66	9.34	2.50	1.36E-02		<i>CLEC2D</i>	7.06	5.83	2.35	2.57E-02
<i>STARD13</i>	9.87	8.55	2.50	3.54E-02		<i>FEM1C</i>	12.66	11.43	2.34	1.85E-02
<i>PPP4R4</i>	9.11	7.79	2.50	1.00E-02		<i>RDH10</i>	12.74	11.51	2.34	6.69E-05
<i>DUSP16</i>	7.87	6.55	2.50	2.93E-03		<i>CTSC</i>	16.35	15.13	2.33	1.97E-05
<i>PTPN12</i>	12.58	11.26	2.49	2.74E-04		<i>GFPT2</i>	15.41	14.20	2.33	6.01E-03
<i>ODF2L</i>	10.49	9.18	2.49	5.21E-05		<i>BAZ2A</i>	12.28	11.08	2.31	6.02E-05
<i>DENND4A</i>	11.61	10.29	2.49	7.87E-05		<i>STX12</i>	11.92	10.71	2.31	4.66E-03
<i>RASSF4</i>	8.83	7.52	2.48	3.18E-02		<i>HNRNPF</i>	4.89	3.69	2.31	4.55E-02
<i>MYD88</i>	11.72	10.41	2.48	8.15E-05		<i>TTC7B</i>	10.61	9.41	2.31	1.72E-04
<i>WSB1</i>	11.59	10.28	2.48	1.70E-03		<i>SPSB1</i>	12.81	11.61	2.30	4.20E-06
<i>C6orf132</i>	9.41	8.10	2.48	1.39E-04		<i>C5AR2</i>	6.67	5.47	2.29	8.70E-04
<i>UBR1</i>	13.03	11.72	2.48	1.09E-05		<i>NR4A3</i>	7.58	6.38	2.29	3.77E-02
<i>VP54</i>	8.51	7.21	2.46	1.23E-02		<i>FNIP2</i>	8.44	7.25	2.29	1.78E-02
<i>GPR68</i>	5.39	4.09	2.46	2.48E-04		<i>DNER</i>	6.70	5.51	2.28	4.10E-02
<i>RGL1</i>	12.44	11.15	2.46	3.36E-02		<i>FLT1</i>	7.44	6.25	2.28	2.25E-04

Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value		Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value
<i>BTN3A1</i>	9.91	8.73	2.28	5.91E-03		<i>LMO4</i>	12.05	10.93	2.17	3.53E-02
<i>BIRC2</i>	11.73	10.54	2.28	1.08E-02		<i>MRPL32</i>	10.98	9.86	2.17	5.67E-03
<i>HDX</i>	9.13	7.94	2.27	8.11E-05		<i>ZBTB17</i>	8.39	7.27	2.16	1.28E-03
<i>SYNC</i>	10.78	9.59	2.27	1.97E-02		<i>ARNTL2</i>	10.72	9.60	2.16	1.54E-02
<i>EYA3</i>	8.64	7.46	2.27	1.77E-04		<i>CYB561D2</i>	8.23	7.11	2.16	3.26E-04
<i>SLFN5</i>	12.66	11.48	2.26	6.70E-04		<i>PCED1A</i>	10.68	9.57	2.16	4.68E-03
<i>RNF24</i>	13.85	12.68	2.26	2.00E-04		<i>DDX60</i>	8.50	7.39	2.16	2.50E-02
<i>SPATA13; CIQTNF9</i>	7.16	5.98	2.26	8.64E-03		<i>PLSCR2</i>	7.64	6.54	2.15	5.02E-04
<i>USP42</i>	11.59	10.42	2.25	1.61E-04		<i>GATA2</i>	7.65	6.55	2.15	9.52E-04
<i>PSEN1</i>	12.35	11.18	2.25	1.26E-03		<i>EFHD2</i>	11.54	10.44	2.15	2.29E-04
<i>DCPIA</i>	9.00	7.83	2.25	1.24E-04		<i>CBLB</i>	12.74	11.64	2.14	5.16E-05
<i>FBXO6</i>	6.91	5.74	2.25	7.14E-04		<i>AZIN2</i>	7.86	6.76	2.14	4.63E-04
<i>EHD1</i>	12.39	11.23	2.24	3.37E-02		<i>RIPK1</i>	10.84	9.74	2.13	3.84E-05
<i>ETV6</i>	11.64	10.47	2.24	8.89E-05		<i>PSME1</i>	11.67	10.57	2.13	5.61E-04
<i>C10orf25</i>	6.32	5.16	2.24	3.30E-03		<i>NFKBIA</i>	14.93	13.84	2.13	8.02E-03
<i>FZD5</i>	7.00	5.84	2.24	1.33E-04		<i>APOL4</i>	6.79	5.70	2.13	2.25E-03
<i>ETS2</i>	12.55	11.38	2.24	3.32E-04		<i>TRIM22</i>	8.73	7.64	2.13	5.42E-03
<i>HLA-F</i>	10.16	9.00	2.24	1.46E-04		<i>RFX5</i>	10.42	9.33	2.13	6.42E-03
<i>SHISA2</i>	5.37	4.21	2.23	5.21E-03		<i>NUDCD1</i>	12.32	11.23	2.13	5.32E-03
<i>TMEM170A</i>	10.08	8.93	2.22	5.02E-05		<i>VCPIP1</i>	11.05	9.97	2.12	9.84E-05
<i>HSBP1L1</i>	9.72	8.57	2.22	5.92E-03		<i>RABGGTA</i>	10.68	9.60	2.12	1.44E-02
<i>SNTB2</i>	9.64	8.49	2.22	2.11E-03		<i>ZC3H12C</i>	11.92	10.84	2.12	4.38E-02
<i>ANXA2R</i>	6.30	5.15	2.21	6.15E-03		<i>PHACTR4</i>	10.84	9.76	2.12	6.29E-04
<i>CASP1</i>	7.29	6.15	2.21	7.63E-04		<i>PZP</i>	5.88	4.80	2.11	4.34E-02
<i>CDC42SE1</i>	12.61	11.47	2.21	4.85E-05		<i>AKAP12</i>	14.13	13.05	2.11	2.45E-03
<i>RELL1</i>	12.11	10.97	2.20	4.20E-02		<i>VSNL1</i>	7.56	6.48	2.11	8.85E-04
<i>NLRC5</i>	6.81	5.67	2.20	7.96E-04		<i>ACSL5</i>	7.69	6.61	2.11	4.72E-04
<i>4-Sep</i>	6.09	4.96	2.20	3.26E-02		<i>ARID5A</i>	9.46	8.38	2.11	1.82E-04
<i>KCNJ15</i>	6.35	5.21	2.20	6.37E-05		<i>PPP2R1B</i>	10.92	9.84	2.10	1.05E-02
<i>STAT5A</i>	10.90	9.76	2.19	4.87E-04		<i>TP53BP2</i>	12.23	11.16	2.10	6.57E-05
<i>EPT1</i>	9.30	8.17	2.19	5.06E-04		<i>KREMEN1</i>	9.14	8.07	2.10	1.98E-03
<i>BCL6</i>	15.16	14.03	2.19	1.29E-03		<i>SAT1</i>	13.67	12.60	2.10	1.89E-02
<i>TANC1</i>	9.03	7.91	2.18	8.95E-04		<i>NXT2</i>	10.07	9.00	2.10	1.23E-02
<i>MRI</i>	9.25	8.13	2.18	2.52E-03		<i>ATP2B1</i>	12.64	11.57	2.10	3.82E-02
<i>KLF10</i>	12.14	11.02	2.17	3.28E-04		<i>STXBP1</i>	13.88	12.81	2.09	1.09E-03
<i>PPARD</i>	12.78	11.66	2.17	1.53E-03		<i>BST2</i>	5.03	3.96	2.09	4.95E-03
<i>IFI27</i>	8.44	7.32	2.17	1.70E-02		<i>ADAP1</i>	6.85	5.78	2.09	1.36E-04

Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value		Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value
<i>PPP1R12A</i>	10.61	9.55	2.09	2.09E-03		<i>HERC6</i>	7.73	6.72	2.00	1.12E-02
<i>ABHD16A</i>	9.61	8.55	2.08	9.23E-04		<i>NFIA</i>	10.63	11.63	-2.00	4.55E-04
<i>TAF4B</i>	7.49	6.44	2.08	3.86E-02		<i>TRIM2</i>	8.69	9.69	-2.00	4.54E-03
<i>MFSD2A</i>	12.67	11.62	2.08	6.89E-03		<i>CMTR2</i>	7.84	8.85	-2.01	1.05E-02
<i>CDKN1A</i>	14.34	13.29	2.08	3.58E-02		<i>LRRC8D</i>	11.29	12.30	-2.02	5.36E-03
<i>ZNF486</i>	6.55	5.50	2.07	1.71E-03		<i>FBXO25</i>	8.18	9.19	-2.02	8.48E-03
<i>BLZF1</i>	12.48	11.44	2.06	1.61E-04		<i>RASD1</i>	7.15	8.16	-2.02	4.77E-02
<i>ADPRHL2</i>	7.47	6.43	2.06	8.32E-04		<i>TMEM47</i>	14.10	15.11	-2.02	1.17E-03
<i>FRRS1</i>	6.15	5.11	2.06	7.44E-03		<i>SH2D4A</i>	5.03	6.04	-2.02	7.33E-04
<i>PNRC2</i>	12.89	11.85	2.06	1.50E-02		<i>TRAM2</i>	14.23	15.24	-2.02	8.33E-03
<i>SRFBP1</i>	10.61	9.57	2.06	1.06E-02		<i>NUMA1</i>	10.16	11.18	-2.02	1.07E-03
<i>PPAP2B</i>	7.40	6.36	2.06	2.89E-02		<i>SF3B5</i>	9.57	10.59	-2.03	1.24E-02
<i>ENC1</i>	9.00	7.96	2.06	2.64E-02		<i>SETDB2</i>	5.91	6.93	-2.03	2.03E-02
<i>FBXL14</i>	10.85	9.81	2.05	7.95E-03		<i>HDAC5</i>	8.12	9.14	-2.03	4.51E-04
<i>HS3ST3B1</i>	13.57	12.53	2.05	6.26E-03		<i>KCTD1</i>	8.09	9.11	-2.03	2.04E-04
<i>C12orf4</i>	10.51	9.47	2.05	2.46E-03		<i>MBNL1</i>	14.03	15.05	-2.03	1.07E-03
<i>DDX21</i>	14.34	13.30	2.05	1.39E-03		<i>TCF7L2</i>	5.90	6.93	-2.04	3.42E-04
<i>RBMS1; MIR4785</i>	12.47	11.44	2.05	4.98E-03		<i>RPS6KA6</i>	6.18	7.21	-2.04	2.16E-03
<i>KIRREL</i>	13.38	12.35	2.05	4.76E-04		<i>SHPRH</i>	7.05	8.08	-2.04	5.13E-03
<i>FGF2</i>	14.53	13.50	2.04	1.26E-02		<i>MRGPRF</i>	7.27	8.30	-2.04	2.04E-03
<i>CD2AP</i>	10.26	9.23	2.04	7.83E-04		<i>ZNF614</i>	5.52	6.55	-2.04	7.40E-03
<i>RTTN</i>	8.64	7.61	2.03	5.72E-03		<i>SLC7A11</i>	12.12	13.15	-2.04	1.48E-03
<i>LONRF3</i>	4.42	3.39	2.03	4.66E-03		<i>C10orf2</i>	7.68	8.72	-2.04	3.95E-03
<i>LRIG1</i>	10.53	9.51	2.03	1.38E-03		<i>NREP</i>	12.71	13.75	-2.05	1.66E-02
<i>ITPRIP</i>	11.39	10.37	2.03	1.50E-03		<i>ZMAT3</i>	10.19	11.23	-2.05	1.00E-02
<i>IFNGR2</i>	15.17	14.15	2.03	3.59E-03		<i>RHOBTB1</i>	5.62	6.66	-2.06	3.27E-04
<i>SLCO5A1</i>	6.29	5.27	2.03	6.62E-03		<i>TMEM168</i>	6.83	7.87	-2.06	1.36E-02
<i>PDCD1LG2</i>	11.31	10.29	2.02	2.78E-02		<i>ZNF639</i>	9.69	10.74	-2.06	5.00E-03
<i>3-Mar</i>	12.62	11.60	2.02	2.83E-02		<i>NFIB</i>	12.97	14.02	-2.06	3.03E-04
<i>GLA</i>	10.75	9.74	2.02	3.10E-03		<i>ACVRL1</i>	7.58	8.63	-2.07	3.61E-02
<i>PCDH17</i>	6.76	5.74	2.02	2.10E-02		<i>FAM200A</i>	5.39	6.44	-2.07	1.12E-03
<i>GPD2</i>	9.84	8.83	2.02	4.42E-03		<i>C2CD2</i>	8.78	9.84	-2.08	5.75E-04
<i>TYMP; SCO2</i>	6.95	5.94	2.01	5.41E-03		<i>ARL4A</i>	6.44	7.50	-2.08	4.13E-03
<i>BACH1</i>	11.85	10.85	2.01	1.41E-03		<i>TCEAL1</i>	9.08	10.14	-2.09	3.82E-03
<i>APOBEC3F</i>	8.00	6.99	2.01	1.09E-03		<i>CAMK2G</i>	8.30	9.36	-2.09	3.97E-04
<i>HMOX2</i>	11.97	10.96	2.01	1.85E-03		<i>DIXDC1</i>	9.03	10.09	-2.09	1.42E-03
<i>ZNF189</i>	10.99	9.98	2.01	3.63E-02		<i>GTTF2A1L; STON1</i>	6.19	7.25	-2.09	1.84E-03

Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value		Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value
<i>RNF141</i>	10.63	11.70	-2.09	6.50E-03		<i>WEE1</i>	10.17	11.29	-2.17	9.25E-03
<i>KANK2</i>	7.20	8.27	-2.09	4.74E-03		<i>CDC37L1</i>	7.80	8.92	-2.18	1.09E-03
<i>F3</i>	10.78	11.85	-2.09	2.79E-02		<i>ZHX3</i>	11.03	12.16	-2.18	4.67E-03
<i>CEP85</i>	4.07	5.14	-2.09	8.09E-04		<i>EFNA5</i>	8.47	9.60	-2.18	1.33E-02
<i>EVA1C</i>	8.32	9.39	-2.10	4.80E-03		<i>AKR1B10</i>	5.94	7.07	-2.19	1.78E-02
<i>ARHGEF26</i>	5.79	6.86	-2.10	2.62E-02		<i>ROR1</i>	11.64	12.77	-2.20	2.86E-02
<i>SH3BP5</i>	9.35	10.42	-2.10	3.85E-03		<i>ZNF260</i>	8.23	9.37	-2.20	3.20E-03
<i>ANKRD34A</i>	3.96	5.03	-2.10	4.45E-04		<i>RCOR3</i>	7.14	8.28	-2.21	1.41E-03
<i>ADORA2B</i>	7.32	8.39	-2.10	1.23E-02		<i>KAT6B</i>	5.53	6.67	-2.21	9.38E-05
<i>APOOL</i>	8.58	9.65	-2.10	6.37E-04		<i>BAMBI</i>	9.53	10.68	-2.21	2.74E-05
<i>ERCC6; PGBD3</i>	11.51	12.59	-2.11	1.75E-02		<i>ZNF780A</i>	6.07	7.22	-2.21	4.62E-02
<i>GTPBP8</i>	9.80	10.88	-2.12	3.57E-04		<i>TMOD2</i>	6.18	7.33	-2.22	2.20E-02
<i>ABHD17C</i>	7.80	8.88	-2.12	6.11E-03		<i>CUL4B</i>	13.03	14.18	-2.23	8.40E-04
<i>MKL2; TVP23CP2</i>	8.15	9.23	-2.12	2.64E-04		<i>EBF1</i>	7.60	8.76	-2.23	2.87E-04
<i>PXYLP1</i>	5.81	6.90	-2.12	6.80E-03		<i>GTF2E1</i>	7.11	8.27	-2.23	4.27E-02
<i>TP53TG3B; TP53TG3; TP53TG3C</i>	6.12	7.20	-2.12	5.23E-03		<i>NPR3</i>	9.26	10.42	-2.24	1.32E-02
<i>ZNF385D</i>	5.62	6.70	-2.12	2.25E-02		<i>FNBP1L</i>	5.92	7.08	-2.24	1.91E-03
<i>NAT6</i>	7.34	8.43	-2.13	2.19E-03		<i>ERRF11</i>	15.74	16.91	-2.24	2.29E-03
<i>ENOX1</i>	7.23	8.32	-2.13	1.13E-02		<i>RASSF9</i>	3.17	4.34	-2.25	5.12E-04
<i>CXXC5</i>	8.06	9.15	-2.13	1.41E-02		<i>SOX12</i>	5.06	6.23	-2.25	8.66E-04
<i>GNAI1</i>	10.35	11.45	-2.13	2.88E-02		<i>GCNT1</i>	5.31	6.49	-2.26	7.36E-04
<i>TSEN2</i>	6.31	7.40	-2.14	3.83E-03		<i>CERK</i>	9.01	10.19	-2.26	2.44E-04
<i>PANK1</i>	6.83	7.93	-2.14	2.95E-03		<i>PTK2B</i>	6.73	7.91	-2.27	2.15E-02
<i>ZNF623</i>	7.48	8.58	-2.14	1.57E-02		<i>CEP68</i>	7.57	8.76	-2.27	1.82E-03
<i>DCLK1</i>	5.91	7.01	-2.14	7.56E-04		<i>KLF12</i>	8.67	9.86	-2.28	7.00E-05
<i>SLC7A8</i>	5.62	6.72	-2.15	1.07E-02		<i>AGFG2</i>	6.79	7.99	-2.29	1.69E-03
<i>DNAJC6</i>	5.36	6.46	-2.15	1.19E-02		<i>HIST1H3D; HIST1H2AD</i>	5.63	6.82	-2.29	3.04E-02
<i>DCLK2</i>	7.68	8.78	-2.15	1.80E-03		<i>STPG1</i>	6.72	7.92	-2.29	6.28E-03
<i>ACVR2A</i>	8.73	9.83	-2.15	1.43E-03		<i>FLRT2</i>	8.06	9.26	-2.30	3.71E-02
<i>CUTC</i>	8.28	9.39	-2.16	3.12E-03		<i>NAPEPLD</i>	7.81	9.01	-2.30	2.29E-05
<i>TCEAL8</i>	8.43	9.54	-2.16	6.20E-04		<i>GYG2</i>	6.15	7.36	-2.30	1.12E-02
<i>NT5DC2</i>	13.12	14.23	-2.16	6.80E-04		<i>ADAMTS15</i>	4.72	5.92	-2.31	1.50E-02
<i>ABHD4</i>	7.89	9.00	-2.16	2.05E-02		<i>ZNF81</i>	5.18	6.39	-2.31	1.24E-03
<i>ZRANB1</i>	11.66	12.78	-2.17	2.07E-04		<i>FADS2</i>	13.32	14.53	-2.32	2.39E-02
<i>FAM172A; POU5F2; MIR2277</i>	8.56	9.68	-2.17	3.07E-04		<i>TES</i>	11.86	13.09	-2.34	2.80E-02
<i>ARHGAP20</i>	7.64	8.76	-2.17	1.71E-02		<i>TIMM21</i>	9.49	10.72	-2.35	2.61E-04

Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value		Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value
<i>PTPN3</i>	6.90	8.14	-2.36	3.06E-03		<i>AGPAT5</i>	7.90	9.24	-2.54	6.30E-03
<i>C5orf30</i>	8.14	9.38	-2.36	1.23E-02		<i>EDA2R</i>	9.49	10.84	-2.55	3.54E-04
<i>SESN1</i>	7.41	8.65	-2.36	5.72E-03		<i>PRKAG2</i>	9.86	11.21	-2.55	1.56E-03
<i>TIMP4</i>	6.59	7.84	-2.37	1.12E-03		<i>ICK</i>	8.80	10.15	-2.56	2.69E-03
<i>SH3D19</i>	10.53	11.78	-2.38	2.74E-03		<i>RUNX2</i>	10.00	11.36	-2.57	1.52E-03
<i>HIF0</i>	8.23	9.48	-2.38	2.39E-03		<i>DTNA</i>	5.60	6.96	-2.58	2.65E-04
<i>SPATC1L</i>	7.81	9.07	-2.39	1.41E-02		<i>FOXN3</i>	9.25	10.62	-2.58	1.05E-02
<i>PMP22</i>	11.58	12.83	-2.39	3.46E-02		<i>PET117; CSR2BP</i>	6.82	8.19	-2.59	2.30E-03
<i>MTURN</i>	5.96	7.21	-2.39	2.96E-03		<i>SULT1E1</i>	11.29	12.67	-2.59	1.20E-03
<i>GABRE; MIR224; MIR452</i>	9.97	11.23	-2.40	4.30E-03		<i>MAP3K12</i>	7.96	9.33	-2.59	9.09E-04
<i>FKBP5</i>	12.94	14.20	-2.40	2.93E-02		<i>OPN3</i>	7.08	8.46	-2.61	1.59E-03
<i>CYP2R1</i>	5.04	6.31	-2.40	2.63E-03		<i>PELI2</i>	4.60	5.98	-2.61	7.61E-05
<i>AP4B1</i>	5.75	7.01	-2.40	1.28E-03		<i>FIGN</i>	5.48	6.88	-2.63	2.06E-02
<i>CRNDE</i>	11.02	12.28	-2.40	1.31E-02		<i>MYC</i>	11.62	13.02	-2.64	6.78E-05
<i>MEGF9</i>	7.20	8.47	-2.41	9.94E-05		<i>RHOU</i>	6.85	8.25	-2.65	1.08E-02
<i>BTBD3</i>	8.60	9.87	-2.41	2.21E-04		<i>PRR16</i>	7.86	9.27	-2.66	2.74E-02
<i>STXBP5</i>	11.27	12.54	-2.42	1.02E-04		<i>TP53TG3D</i>	5.64	7.06	-2.67	1.28E-03
<i>NEDD4</i>	10.43	11.70	-2.42	1.66E-03		<i>MECOM</i>	8.36	9.78	-2.69	3.09E-04
<i>NXPE3</i>	7.98	9.26	-2.42	2.33E-05		<i>TSHZ1</i>	6.68	8.11	-2.69	7.08E-04
<i>POT1</i>	9.32	10.60	-2.43	1.41E-02		<i>RFTN2</i>	6.37	7.80	-2.70	3.39E-02
<i>JDP2</i>	10.22	11.50	-2.44	8.11E-03		<i>APPL2</i>	7.77	9.21	-2.71	4.26E-03
<i>BDNF</i>	6.79	8.07	-2.44	6.12E-03		<i>GPAT3</i>	4.68	6.12	-2.72	1.98E-04
<i>KITLG</i>	9.39	10.68	-2.45	1.92E-04		<i>PRKD1</i>	7.66	9.10	-2.72	2.04E-04
<i>YPEL3</i>	10.35	11.65	-2.46	1.48E-04		<i>SSX2IP</i>	8.51	9.96	-2.73	2.48E-04
<i>LDB1</i>	12.02	13.32	-2.46	5.71E-04		<i>CAMKK1</i>	5.58	7.03	-2.74	1.52E-03
<i>OSGEPL1</i>	5.18	6.48	-2.47	3.93E-04		<i>GATA6</i>	9.51	10.96	-2.75	1.45E-04
<i>EFNB1</i>	8.56	9.87	-2.49	1.49E-03		<i>GPSM2</i>	8.38	9.85	-2.76	7.53E-03
<i>MED20</i>	5.93	7.25	-2.50	3.84E-05		<i>ZMYM1</i>	6.98	8.45	-2.79	3.09E-05
<i>GPR1</i>	10.93	12.27	-2.52	2.66E-05		<i>MGP</i>	8.14	9.64	-2.82	1.83E-03
<i>BCL2L11</i>	5.96	7.30	-2.52	2.05E-02		<i>CNTN3</i>	8.14	9.65	-2.84	8.74E-03
<i>PTCH1</i>	8.09	9.42	-2.52	2.93E-05		<i>CITED2</i>	13.10	14.61	-2.84	4.22E-04
<i>KAT6B</i>	8.28	9.61	-2.52	6.44E-05		<i>TET1</i>	4.94	6.45	-2.86	1.41E-02
<i>FAM110B</i>	5.79	7.12	-2.52	4.07E-03		<i>FAT4</i>	10.78	12.30	-2.86	6.98E-03
<i>ZNF850</i>	6.63	7.98	-2.53	1.25E-04		<i>ADAMTS1</i>	14.59	16.14	-2.93	3.56E-05
<i>MLPH</i>	8.14	9.48	-2.53	1.20E-02		<i>SOBP</i>	6.10	7.65	-2.94	3.35E-03
<i>TNFAIP8L3</i>	9.18	10.52	-2.54	3.86E-02		<i>PLIN2</i>	13.99	15.56	-2.96	2.35E-03
<i>GPER1</i>	5.53	6.87	-2.54	3.44E-03		<i>MMD</i>	8.46	10.03	-2.97	1.46E-02

Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value		Gene Symbol	M(Hb)sup +OS mean signal (log2)	M(con)sup +OS mean signal (log2)	Fold Change	P value
<i>BNC2</i>	10.38	11.95	-2.98	4.10E-05		<i>PIK3R1</i>	9.71	11.60	-3.72	5.89E-05
<i>PHLPP1</i>	9.01	10.58	-2.98	7.35E-04		<i>AREG</i>	7.65	9.59	-3.83	2.85E-03
<i>AKR1C3</i>	12.00	13.59	-3.02	3.02E-04		<i>TMEM100</i>	6.70	8.65	-3.87	1.52E-03
<i>CYTH3</i>	9.80	11.40	-3.03	5.53E-03		<i>ANKRD28</i>	10.15	12.13	-3.95	3.75E-05
<i>SSH2</i>	9.88	11.49	-3.04	4.77E-04		<i>NFYB</i>	8.26	10.26	-4.00	5.08E-05
<i>GADD45A</i>	9.23	10.84	-3.04	5.20E-03		<i>RGS4</i>	10.90	12.91	-4.02	4.47E-02
<i>TMEM246</i>	5.53	7.15	-3.08	9.37E-04		<i>MTSSI</i>	11.56	13.58	-4.06	8.36E-05
<i>AR</i>	5.48	7.10	-3.08	2.56E-06		<i>AKR1B15</i>	6.83	8.87	-4.10	4.23E-04
<i>USP53</i>	12.09	13.73	-3.11	3.47E-02		<i>CRYAB</i>	11.11	13.15	-4.11	1.41E-02
<i>ID2</i>	11.43	13.07	-3.11	4.18E-02		<i>SORBS2</i>	9.41	11.46	-4.12	3.65E-05
<i>AOX1</i>	8.95	10.59	-3.13	4.64E-05		<i>FOXO1</i>	7.22	9.27	-4.13	2.76E-03
<i>KCNJ8</i>	7.38	9.04	-3.15	6.52E-04		<i>LURAPIL</i>	8.15	10.30	-4.43	2.54E-07
<i>GPAM</i>	6.97	8.63	-3.16	1.83E-03		<i>HS6ST1</i>	7.80	9.95	-4.44	3.41E-04
<i>CALHM2</i>	9.53	11.19	-3.17	1.37E-04		<i>NEXN</i>	11.29	13.46	-4.50	4.53E-04
<i>KLHL4</i>	6.46	8.13	-3.18	5.48E-04		<i>PCDH18</i>	9.18	11.41	-4.68	1.72E-03
<i>NR2F2</i>	12.48	14.17	-3.21	1.16E-04		<i>BMP4</i>	4.87	7.13	-4.79	2.42E-06
<i>MAOA</i>	6.28	7.99	-3.27	1.14E-04		<i>EBF2</i>	9.78	12.09	-4.95	3.18E-07
<i>PPARG</i>	6.98	8.69	-3.28	1.94E-05		<i>DEPTOR</i>	7.11	9.43	-4.98	4.15E-03
<i>PLCXD3</i>	3.98	5.69	-3.29	9.79E-03		<i>METTL7A</i>	9.25	11.76	-5.68	1.21E-03
<i>TNFRSF10D</i>	11.13	12.86	-3.30	1.84E-02		<i>SDPR</i>	5.95	8.47	-5.72	4.26E-05
<i>ZADH2</i>	6.90	8.63	-3.30	2.47E-03		<i>RARB</i>	6.89	9.41	-5.75	2.00E-04
<i>PDK4</i>	10.15	11.88	-3.33	3.10E-05		<i>NR2F1</i>	8.56	11.12	-5.88	1.59E-05
<i>BAG2</i>	10.56	12.29	-3.33	7.21E-05		<i>KCND2</i>	7.62	10.21	-6.01	4.35E-04
<i>BHLHE41</i>	7.97	9.70	-3.34	8.00E-04		<i>LMO3</i>	5.41	8.04	-6.21	1.88E-03
<i>TGFBR3</i>	10.79	12.56	-3.40	1.06E-04		<i>ADAMTS5</i>	6.86	9.52	-6.32	2.76E-05
<i>CYP26B1</i>	5.35	7.12	-3.41	1.19E-04		<i>PLK2</i>	9.52	12.20	-6.41	5.08E-06
<i>HAND2</i>	6.26	8.05	-3.46	1.97E-03		<i>OSR1</i>	9.59	12.35	-6.80	8.54E-06
<i>PDE7B</i>	8.89	10.69	-3.50	1.79E-05		<i>SPRY1</i>	8.14	11.11	-7.85	1.13E-05
<i>SOC3</i>	6.31	8.13	-3.53	7.52E-03		<i>STXBP6</i>	7.13	10.17	-8.22	7.06E-05
<i>IRX3</i>	6.11	7.96	-3.60	1.20E-03		<i>ADH1B</i>	4.30	7.72	-10.71	1.53E-02
<i>EPHA4</i>	8.74	10.59	-3.60	8.72E-07		<i>JADE1</i>	6.04	9.49	-10.97	1.82E-05
<i>AKR1C2</i>	12.89	14.75	-3.62	7.13E-03		<i>EGR1</i>	8.98	13.19	-18.41	9.68E-03
<i>FAXDC2</i>	6.25	8.12	-3.65	2.14E-03		<i>DKK1</i>	8.69	13.76	-33.78	2.73E-05
<i>SORT1</i>	7.39	9.28	-3.72	1.31E-02						

Supplemental Table 3. Clinical background and pathologic characteristics of cases with CD163 rs7136716 SNP (AA vs GG genotype carriers)

rs7136716 SNP genotype	AA (n=15)	GG (n=15)	p value
Demographic			
Age (years)	46.8±10.8	44.6±6.9	0.51
Male gender	13 (86.7)	11 (73.3%)	0.36
BMI	29.6±6.1	33.6±9.4	0.18
X-ray calcification score	25[7-55]	10[5-18]	0.03
Histomorphometry			
IEL area	8.6±2.5	7.9±2.3	0.43
Lumen area	1.9±0.9	1.8±0.7	0.95
Plaque area (mean)	6.8±2.4	6.1±2.1	0.40
Plaque area (total)	20.4±7.2	18.3±6.2	0.40
% area stenosis (mean) (%)	77.4±13.4	75.6±10.4	0.68
% area stenosis (max) (%)	87.6±9.6	82.9±10	0.20
Calcification area (mean) (mm ²)	0.27[0.1-1.5]	0.05[0.01-0.26]	0.06
Calcification area (total) (mm ²)	0.82[0.3-4.5]	0.16[0.02-0.77]	0.06
% Calcification/plaque (mean) (%)	4.47[1.61-14.08]	0.64[0.09-2.78]	0.05
% Calcification/plaque (max) (%)	11.92[4.83-28.56]	1.75[0.21-7.46]	0.03
Necrotic core area (mean) (mm ²)	0.11[0.02-0.23]	0.3[0.13-0.51]	0.12
Necrotic core area (total) (mm ²)	0.34[0.07-0.7]	0.9[0.38-1.53]	0.12
% Necrotic core/plaque (mean) (%)	1.59[0.26-2.61]	4.26[1.82-5.66]	0.06
% Necrotic core/plaque (max) (%)	3.7[0.58-5.07]	7.99[3.94-11.34]	0.10

BMI=body mass index, IEL=internal elastic lamina

Supplemental Table 4. Primer sequences for RT-PCR

Target Gene	Forward	Reverse
<i>BMP4</i>	CTGGTCTTGAGTATCCTGAGCG	TCACCTCGTTCTCAGGGATGCT
<i>HAS1</i>	CAAGATTCTTCAGTCTGGAC	TAAGAACGAGGAGAAAGCAG
<i>HAS2</i>	CAGAATCCAAACAGACAGTTC	TAAGGTGTTGTGTGTGACTG
<i>HAS3</i>	CTTAAGGGTTGCTTGCTTGC	GTTCTGTGGGAGATGAAGGAA
<i>MGP</i>	GACCCTGAGACTGACCTGCAGGACGA	TCAGTAATGCTGCTACAGGGGGATAC
<i>NFKIA</i>	TCCACTCCATCCTGAAGGCTAC	CAAGGACACCAAAAGCTCCACG
<i>NFKB1</i>	GCAGCACTACTTCTTGACCACC	TCTGCTCCTGAGCATTGACGTC
<i>RELA</i>	TGAACCGAAACTCTGGCAGCTG	CATCAGCTTGCGAAAAGGAGCC
<i>RUNX2</i>	CAGACCAGCAGCACTCCATA	CAGCGTCAACACCATCATTC

Supplemental Table 5. Meta data and rs7136716 genotype for patients in high vs low CD163 analysis in human single cell RNA sequence

No	Sample ID	Age	Gender	Coronary Segment	Disease Category*	Patient group	CD163 expression	rs7136716 genotype
1	scA	57	M	RCA	2	Low CD163	lower quartile	GA
2	scAA	60	F	LCX	3	Low CD163	lower quartile	GA
3	scAC	59	M	LAD	3	Low CD163	lower quartile	GA
4	scAK	32	M	LAD	1	Low CD163	lower quartile	GA
5	scAP	61	F	LAD	1	Low CD163	lower quartile	AA
6	scAQ	61	M	LAD	1	Low CD163	lower quartile	AA
7	scB	61	M	RCA	3	Low CD163	lower quartile	AA
8	scD	61	M	LAD	2	Low CD163	lower quartile	AA
9	scJ	57	F	LAD	3	Low CD163	lower quartile	AA
10	scL	57	F	LAD	3	Low CD163	lower quartile	AA
11	scP	62	M	LAD	3	Low CD163	lower quartile	AA

12	scAB	62	F	LAD	1	High CD163	upper quartile	GA
13	scAM	55	F	LCX	2	High CD163	upper quartile	GA
14	scE	60	M	RCA	1	High CD163	upper quartile	AA
15	scF	62	M	LCX	1	High CD163	upper quartile	AA
16	scG	67	M	LCX	3	High CD163	upper quartile	AA
17	scH	60	M	RCA	2	High CD163	upper quartile	AA
18	scK	71	M	LAD	3	High CD163	upper quartile	AA
19	scS	43	M	RCA	2	High CD163	upper quartile	AA
20	scU	30	M	RCA	1	High CD163	upper quartile	GA
21	scV	63	M	RCA	2	High CD163	upper quartile	AA
22	scZ	54	F	LAD	2	High CD163	upper quartile	AA

* Category 1 reflects normal to Stary atherosclerosis stage I/II lesions with adaptive intimal thickening and early lipid and collagen accumulation in the subintimal layer. Category 2 reflects Stary stage III/IV early/intermediate atheroma lesions with increased lipid and collagen accumulation and proliferation. Category 3 reflects Stary stage V/VI advanced fibroatheroma or complex lesions with more severe lipid and collagen deposition as well as lipid core and thin media layer.

Supplemental Table 6. Differentially expressed genes between high and low CD163

SMCs (only kept those with FDR < 0.05)

Gene Symbol	SMC in High CD163	SMC in Low CD163	Means diff	Statistic	Conf.low	Conf.high	Adj_p-value
<i>IGFBP7</i>	139.44116	141.69585	-2.25469	-2.84997	-3.80589	-0.70349	0.00440
<i>MGP</i>	30.00128	31.84374	-1.84247	-2.52092	-3.27552	-0.40941	0.01176
<i>ADIRF</i>	79.63072	81.16092	-1.53020	-2.30623	-2.83117	-0.22923	0.02117
<i>S100A6</i>	61.28443	62.58050	-1.29607	-3.35403	-2.05374	-0.53839	0.00081
<i>S100A4</i>	14.56757	15.21733	-0.64976	-2.81334	-1.10262	-0.19691	0.00493
<i>LGALS1</i>	33.44968	34.01586	-0.56618	-2.78830	-0.96432	-0.16804	0.00533
<i>MFGE8</i>	20.48003	20.96875	-0.48872	-2.65456	-0.84970	-0.12773	0.00798
<i>CALM2</i>	26.64128	27.09409	-0.45282	-3.27053	-0.72429	-0.18134	0.00109
<i>SOD3</i>	21.62874	22.07558	-0.44684	-2.36010	-0.81807	-0.07561	0.01833
<i>FN1</i>	2.49978	2.73965	-0.23987	-3.57225	-0.37153	-0.10821	0.00036

<i>IGFBP6</i>	4.92908	5.15730	-0.22821	-2.45796	-0.41026	-0.04616	0.01403
<i>ITGB1</i>	9.97847	10.20245	-0.22398	-2.98116	-0.37130	-0.07667	0.00289
<i>ID3</i>	7.43063	7.65143	-0.22080	-1.97089	-0.44046	-0.00114	0.04883
<i>IGFBP2</i>	3.07411	3.29049	-0.21638	-3.26189	-0.34645	-0.08631	0.00112
<i>CD151</i>	12.24972	12.44983	-0.20011	-2.03466	-0.39295	-0.00727	0.04197
<i>LDHA</i>	7.40312	7.59183	-0.18871	-3.24225	-0.30283	-0.07459	0.00120
<i>GAS6</i>	4.95002	5.12837	-0.17835	-2.50401	-0.31801	-0.03869	0.01233
<i>AEBP1</i>	5.94686	6.12434	-0.17748	-2.28672	-0.32966	-0.02530	0.02228
<i>SI00A11</i>	7.94962	8.12666	-0.17705	-2.44313	-0.31913	-0.03496	0.01462
<i>CRIP2</i>	8.66308	8.83605	-0.17296	-2.05844	-0.33772	-0.00821	0.03963
<i>VCAN</i>	0.78565	0.92569	-0.14005	-3.72796	-0.21370	-0.06639	0.00020
<i>CLIC1</i>	4.76070	4.90066	-0.13996	-3.22885	-0.22495	-0.05497	0.00126
<i>PLS3</i>	6.86418	7.00182	-0.13763	-2.44033	-0.24822	-0.02705	0.01473
<i>ELN</i>	2.47925	2.61166	-0.13241	-3.01569	-0.21850	-0.04632	0.00259
<i>NUPR1</i>	5.76135	5.88827	-0.12692	-2.52904	-0.22533	-0.02852	0.01149
<i>COL1A2</i>	2.24983	2.37569	-0.12586	-2.36169	-0.23035	-0.02137	0.01825
<i>COL6A2</i>	4.98362	5.10444	-0.12082	-2.22573	-0.22725	-0.01438	0.02611
<i>DKK3</i>	3.01750	3.13083	-0.11332	-2.30852	-0.20957	-0.01707	0.02104
<i>PRELP</i>	3.18169	3.29415	-0.11246	-2.09192	-0.21786	-0.00705	0.03653
<i>LMNA</i>	7.51821	7.63001	-0.11180	-2.03712	-0.21940	-0.00419	0.04173
<i>TUBB</i>	5.34794	5.45919	-0.11125	-2.21607	-0.20968	-0.01282	0.02676
<i>RHOA</i>	5.70573	5.81552	-0.10978	-2.77499	-0.18736	-0.03221	0.00555
<i>PPIB</i>	2.68783	2.78958	-0.10175	-2.74346	-0.17448	-0.02903	0.00612
<i>AQP1</i>	1.95585	2.05509	-0.09923	-3.22017	-0.15966	-0.03881	0.00129
<i>TMA7</i>	5.81435	5.91009	-0.09574	-2.35101	-0.17559	-0.01589	0.01879
<i>SLC25A3</i>	5.91563	6.01115	-0.09552	-2.54875	-0.16900	-0.02204	0.01086
<i>HSP90B1</i>	3.79414	3.88931	-0.09517	-2.09937	-0.18406	-0.00628	0.03587
<i>CRIP1</i>	4.18551	4.27908	-0.09356	-1.99795	-0.18538	-0.00174	0.04581
<i>PRSS23</i>	1.13995	1.23236	-0.09240	-3.16499	-0.14965	-0.03516	0.00157
<i>COL6A1</i>	3.11444	3.20039	-0.08595	-2.41251	-0.15581	-0.01610	0.01590
<i>NDVIP1</i>	2.21240	2.29767	-0.08527	-3.52895	-0.13264	-0.03789	0.00042
<i>NPC2</i>	1.64182	1.72606	-0.08423	-2.43029	-0.15219	-0.01627	0.01514

<i>EFEMP1</i>	1.69611	1.77908	-0.08297	-2.36478	-0.15176	-0.01418	0.01810
<i>ATP6AP2</i>	2.68323	2.76473	-0.08149	-3.31839	-0.12965	-0.03334	0.00092
<i>ESD</i>	3.66597	3.74081	-0.07484	-2.39093	-0.13621	-0.01346	0.01687
<i>MAGED2</i>	3.27994	3.35467	-0.07473	-2.33187	-0.13756	-0.01189	0.01977
<i>CAV2</i>	3.53513	3.60787	-0.07274	-2.00207	-0.14398	-0.00150	0.04537
<i>SEC62</i>	4.14794	4.21685	-0.06891	-2.10054	-0.13324	-0.00459	0.03576
<i>ATRAID</i>	2.00197	2.06802	-0.06605	-2.74307	-0.11327	-0.01884	0.00612
<i>THBS2</i>	0.92963	0.99552	-0.06588	-2.68381	-0.11402	-0.01775	0.00732
<i>TMEM30A</i>	0.75481	0.82042	-0.06561	-5.00861	-0.09129	-0.03992	0.00000
<i>PSMB6</i>	3.07012	3.13546	-0.06534	-2.34611	-0.11995	-0.01073	0.01903
<i>SYNGR2</i>	1.37381	1.43800	-0.06420	-3.25640	-0.10285	-0.02554	0.00114
<i>TMED10</i>	1.51981	1.58325	-0.06344	-3.13200	-0.10316	-0.02372	0.00175
<i>RWDD1</i>	2.44982	2.51306	-0.06324	-2.89824	-0.10602	-0.02046	0.00378
<i>OAT</i>	1.62786	1.68992	-0.06207	-3.19864	-0.10011	-0.02402	0.00140
<i>COL1A1</i>	1.15972	1.22136	-0.06164	-2.25371	-0.11527	-0.00801	0.02429
<i>LTBP4</i>	1.80797	1.86899	-0.06102	-1.96393	-0.12194	-0.00010	0.04963
<i>CTHRC1</i>	0.57084	0.63175	-0.06091	-3.37909	-0.09626	-0.02557	0.00074
<i>PLD3</i>	1.45923	1.52005	-0.06081	-3.16486	-0.09849	-0.02314	0.00157
<i>YBX3</i>	2.65665	2.71490	-0.05825	-2.00548	-0.11520	-0.00130	0.04500
<i>PCBP1</i>	2.08135	2.13946	-0.05812	-2.76100	-0.09939	-0.01684	0.00580
<i>PKIG</i>	2.93162	2.98932	-0.05770	-2.03623	-0.11326	-0.00214	0.04181
<i>BUB3</i>	0.61363	0.67059	-0.05696	-5.13336	-0.07872	-0.03520	0.00000
<i>ATP6V1G1</i>	3.43668	3.49352	-0.05684	-2.04457	-0.11135	-0.00233	0.04098
<i>NDN</i>	1.82399	1.87987	-0.05588	-2.46412	-0.10034	-0.01141	0.01379
<i>SF3B6</i>	2.03069	2.08595	-0.05526	-2.25666	-0.10327	-0.00725	0.02410
<i>C19orf53</i>	2.41321	2.46634	-0.05313	-2.24151	-0.09961	-0.00665	0.02507
<i>COL4A2</i>	0.92285	0.97502	-0.05217	-3.20563	-0.08408	-0.02026	0.00136
<i>UBE2N</i>	1.57245	1.62279	-0.05034	-2.77120	-0.08596	-0.01472	0.00562
<i>TGM2</i>	1.17503	1.22458	-0.04955	-2.19064	-0.09390	-0.00520	0.02855
<i>LRRC32</i>	0.54233	0.58998	-0.04766	-3.86993	-0.07181	-0.02351	0.00011
<i>CUTA</i>	2.10000	2.14716	-0.04716	-2.30617	-0.08725	-0.00706	0.02117
<i>RNF187</i>	0.71273	0.75977	-0.04704	-3.50565	-0.07335	-0.02073	0.00046

<i>RAB1A</i>	1.84694	1.89342	-0.04647	-2.28718	-0.08631	-0.00663	0.02225
<i>SCP2</i>	1.56177	1.60762	-0.04586	-2.56624	-0.08089	-0.01082	0.01033
<i>TSPYL1</i>	0.99007	1.03432	-0.04425	-2.81192	-0.07511	-0.01340	0.00496
<i>EAPP</i>	0.87895	0.92316	-0.04421	-3.43895	-0.06942	-0.01900	0.00059
<i>EDIL3</i>	0.57200	0.61556	-0.04357	-3.76361	-0.06626	-0.02087	0.00017
<i>TERF2IP</i>	1.62373	1.66717	-0.04343	-2.34263	-0.07978	-0.00708	0.01921
<i>COL8A1</i>	0.96084	1.00421	-0.04337	-2.18026	-0.08237	-0.00437	0.02931
<i>SUN2</i>	1.57956	1.62286	-0.04330	-2.25278	-0.08099	-0.00561	0.02434
<i>REEP5</i>	2.01645	2.05934	-0.04289	-2.16328	-0.08176	-0.00402	0.03060
<i>GPAA1</i>	0.91075	0.95323	-0.04248	-3.27332	-0.06792	-0.01703	0.00107
<i>EMD</i>	0.90922	0.95119	-0.04196	-2.66000	-0.07289	-0.01103	0.00786
<i>RNASEH2C</i>	1.47390	1.51482	-0.04092	-2.24340	-0.07668	-0.00516	0.02494
<i>INMT</i>	1.00201	1.04257	-0.04056	-2.24172	-0.07604	-0.00508	0.02505
<i>EFEMP2</i>	1.22080	1.26074	-0.03994	-2.42800	-0.07220	-0.00769	0.01524
<i>KRT8</i>	0.93922	0.97852	-0.03929	-2.10762	-0.07585	-0.00274	0.03515
<i>C1orf123</i>	1.00526	1.04431	-0.03905	-2.93419	-0.06515	-0.01296	0.00337
<i>TNFRSF11B</i>	0.46605	0.50481	-0.03875	-2.19536	-0.07336	-0.00414	0.02821
<i>TFG</i>	1.00424	1.04290	-0.03866	-2.39194	-0.07035	-0.00697	0.01682
<i>CMPK1</i>	1.56650	1.60442	-0.03792	-2.05661	-0.07407	-0.00177	0.03981
<i>LRP1</i>	0.51338	0.55107	-0.03769	-2.64940	-0.06558	-0.00980	0.00811
<i>PDGFRB</i>	0.80636	0.84387	-0.03751	-2.35065	-0.06879	-0.00622	0.01880
<i>NDUFS7</i>	1.27704	1.31451	-0.03748	-2.61011	-0.06563	-0.00932	0.00910
<i>ITGA1</i>	0.55663	0.59347	-0.03683	-3.26044	-0.05898	-0.01468	0.00112
<i>PCOLCE</i>	0.73963	0.77616	-0.03653	-1.97319	-0.07283	-0.00023	0.04856
<i>CTSA</i>	0.88875	0.92444	-0.03569	-2.61640	-0.06244	-0.00894	0.00893
<i>CYBA</i>	0.82904	0.86466	-0.03562	-2.27930	-0.06627	-0.00498	0.02272
<i>MANF</i>	0.90350	0.93873	-0.03523	-2.68522	-0.06096	-0.00951	0.00729
<i>CNIH1</i>	0.94352	0.97871	-0.03519	-2.39514	-0.06400	-0.00638	0.01667
<i>REXO2</i>	1.27658	1.31136	-0.03479	-2.15883	-0.06638	-0.00319	0.03094
<i>LTBP2</i>	0.34802	0.38273	-0.03471	-2.36008	-0.06355	-0.00587	0.01833
<i>ERP29</i>	1.24604	1.28029	-0.03425	-2.15430	-0.06543	-0.00308	0.03130
<i>PMM1</i>	0.48525	0.51875	-0.03350	-4.05122	-0.04971	-0.01728	0.00005

<i>ERLEC1</i>	0.85665	0.89001	-0.03336	-2.52682	-0.05926	-0.00747	0.01156
<i>SOD2</i>	0.62233	0.65569	-0.03336	-2.82181	-0.05654	-0.01018	0.00481
<i>MMP2</i>	0.28814	0.32104	-0.03290	-2.63328	-0.05741	-0.00840	0.00850
<i>MICAL2</i>	0.43964	0.47245	-0.03281	-2.87344	-0.05519	-0.01042	0.00409
<i>KRT17</i>	0.09938	0.13162	-0.03225	-3.12395	-0.05249	-0.01201	0.00180
<i>EPB41L4A-AS1</i>	0.89203	0.92394	-0.03191	-2.05909	-0.06230	-0.00152	0.03957
<i>POLR2K</i>	1.67843	1.71033	-0.03191	-1.96622	-0.06373	-0.00009	0.04937
<i>PTTG1IP</i>	1.00619	1.03768	-0.03149	-2.19912	-0.05956	-0.00341	0.02794
<i>DHRS7</i>	1.34792	1.37922	-0.03131	-2.15250	-0.05982	-0.00279	0.03144
<i>HMG20B</i>	0.71126	0.74249	-0.03123	-2.93725	-0.05207	-0.01038	0.00334
<i>DCTN6</i>	0.99083	1.02174	-0.03090	-2.33188	-0.05689	-0.00492	0.01977
<i>SCARB2</i>	0.61285	0.64337	-0.03051	-2.81720	-0.05175	-0.00928	0.00488
<i>OPTN</i>	1.14918	1.17956	-0.03039	-1.99995	-0.06018	-0.00060	0.04559
<i>MEAF6</i>	1.29346	1.32359	-0.03013	-2.05264	-0.05892	-0.00135	0.04019
<i>OMD</i>	0.22547	0.25541	-0.02993	-2.62461	-0.05229	-0.00757	0.00872
<i>TUBA1C</i>	0.78320	0.81308	-0.02988	-2.53961	-0.05295	-0.00681	0.01115
<i>CERS2</i>	0.64728	0.67646	-0.02918	-2.69066	-0.05045	-0.00792	0.00717
<i>MSC</i>	0.66217	0.69116	-0.02898	-1.99322	-0.05750	-0.00047	0.04633
<i>KLC1</i>	0.86175	0.89061	-0.02886	-2.53292	-0.05120	-0.00652	0.01136
<i>ATPAF1</i>	0.51237	0.54078	-0.02841	-3.36545	-0.04496	-0.01186	0.00077
<i>CIQBP</i>	1.18066	1.20897	-0.02831	-2.04743	-0.05542	-0.00120	0.04070
<i>MXR48</i>	0.70028	0.72846	-0.02818	-1.96105	-0.05635	0.00000	0.04997
<i>TSEN34</i>	0.78177	0.80992	-0.02815	-2.55225	-0.04977	-0.00652	0.01075
<i>TMEM204</i>	0.48798	0.51576	-0.02779	-2.56929	-0.04899	-0.00658	0.01024
<i>HNMT</i>	0.74326	0.77104	-0.02778	-2.15939	-0.05300	-0.00256	0.03090
<i>CPNE3</i>	0.76427	0.79199	-0.02771	-2.23711	-0.05201	-0.00342	0.02535
<i>NBR1</i>	0.49530	0.52256	-0.02726	-3.12775	-0.04434	-0.01017	0.00178
<i>DHX15</i>	0.39023	0.41745	-0.02722	-3.46679	-0.04261	-0.01182	0.00053
<i>EPM2AIP1</i>	0.33737	0.36447	-0.02710	-3.41989	-0.04264	-0.01156	0.00063
<i>RUVBL2</i>	0.70293	0.72996	-0.02703	-2.45195	-0.04865	-0.00542	0.01426
<i>CD82</i>	0.39342	0.42032	-0.02690	-2.90575	-0.04505	-0.00875	0.00369
<i>ARL6IP1</i>	1.06625	1.09310	-0.02685	-1.96310	-0.05367	-0.00003	0.04973

<i>MYO1D</i>	0.32106	0.34781	-0.02675	-3.49598	-0.04175	-0.01175	0.00048
<i>RIC8A</i>	0.53599	0.56256	-0.02657	-3.30952	-0.04230	-0.01083	0.00095
<i>PHACTR2</i>	0.58466	0.61107	-0.02642	-2.46287	-0.04744	-0.00539	0.01384
<i>FGFR1OP2</i>	0.71380	0.74011	-0.02631	-1.99337	-0.05220	-0.00043	0.04631
<i>FBLN2</i>	0.15059	0.17650	-0.02591	-2.40699	-0.04702	-0.00480	0.01614
<i>GLUD1</i>	0.71325	0.73910	-0.02585	-2.49766	-0.04615	-0.00556	0.01255
<i>FGF1</i>	0.28066	0.30650	-0.02585	-3.51090	-0.04028	-0.01141	0.00045
<i>SMIM14</i>	0.52988	0.55557	-0.02570	-2.76977	-0.04389	-0.00751	0.00564
<i>SMIM4</i>	0.61577	0.64142	-0.02566	-2.77723	-0.04377	-0.00754	0.00552
<i>VCAM1</i>	0.31120	0.33683	-0.02563	-2.43218	-0.04629	-0.00497	0.01507
<i>ADIPOR1</i>	0.74530	0.77080	-0.02550	-2.01758	-0.05028	-0.00072	0.04372
<i>NARS</i>	0.85888	0.88437	-0.02548	-2.13301	-0.04890	-0.00206	0.03300
<i>YWHAG</i>	0.31575	0.34107	-0.02532	-3.17782	-0.04095	-0.00970	0.00150
<i>PEX19</i>	0.36526	0.39057	-0.02532	-3.27279	-0.04049	-0.01015	0.00108
<i>SEC11C</i>	0.63818	0.66347	-0.02529	-2.41716	-0.04581	-0.00478	0.01570
<i>F2R</i>	0.08955	0.11477	-0.02521	-3.04465	-0.04145	-0.00898	0.00235
<i>EDEM2</i>	0.13442	0.15960	-0.02518	-4.19221	-0.03695	-0.01340	0.00003
<i>SF3B1</i>	0.98656	1.01164	-0.02508	-2.02617	-0.04935	-0.00081	0.04284
<i>TSG101</i>	0.81601	0.84106	-0.02504	-2.34524	-0.04598	-0.00411	0.01908
<i>6-Mar</i>	0.73503	0.75996	-0.02493	-2.04206	-0.04886	-0.00099	0.04123
<i>STOML1</i>	0.19450	0.21933	-0.02483	-4.24715	-0.03629	-0.01337	0.00002
<i>TMX2</i>	0.50361	0.52817	-0.02456	-2.65149	-0.04272	-0.00640	0.00806
<i>GLT8D1</i>	0.28741	0.31168	-0.02427	-3.75741	-0.03694	-0.01161	0.00017
<i>PLXDC2</i>	0.25309	0.27724	-0.02416	-2.48511	-0.04322	-0.00510	0.01300
<i>TSNAX</i>	0.43954	0.46345	-0.02391	-2.80866	-0.04061	-0.00722	0.00501
<i>CSPG4</i>	0.33314	0.35679	-0.02364	-2.80497	-0.04017	-0.00712	0.00506
<i>GAMT</i>	0.57364	0.59714	-0.02350	-2.62610	-0.04104	-0.00595	0.00868
<i>DST</i>	0.84930	0.87276	-0.02346	-1.97071	-0.04680	-0.00012	0.04885
<i>ISLR</i>	0.29232	0.31537	-0.02305	-1.98409	-0.04584	-0.00027	0.04734
<i>ACSL3</i>	0.43792	0.46086	-0.02294	-2.88835	-0.03851	-0.00737	0.00390
<i>SRSF8</i>	0.79922	0.82204	-0.02282	-2.15645	-0.04357	-0.00207	0.03113
<i>NRDC</i>	0.40617	0.42880	-0.02263	-2.47940	-0.04053	-0.00473	0.01321

<i>PTEN</i>	0.46310	0.48573	-0.02263	-2.51532	-0.04026	-0.00499	0.01194
<i>RAB5B</i>	0.36753	0.39012	-0.02259	-2.91213	-0.03780	-0.00738	0.00362
<i>ACADM</i>	0.57889	0.60131	-0.02242	-2.21467	-0.04227	-0.00257	0.02686
<i>NONO</i>	0.68568	0.70804	-0.02236	-2.23608	-0.04196	-0.00275	0.02542
<i>PRKDC</i>	0.21803	0.24009	-0.02206	-3.41226	-0.03474	-0.00938	0.00065
<i>PPP1R11</i>	0.46871	0.49073	-0.02201	-2.74165	-0.03776	-0.00627	0.00615
<i>ALG14</i>	0.17475	0.19658	-0.02183	-4.12131	-0.03222	-0.01145	0.00004
<i>SLC22A3</i>	0.58334	0.60514	-0.02180	-2.05477	-0.04261	-0.00100	0.03999
<i>BCL3</i>	0.16740	0.18900	-0.02161	-3.58296	-0.03343	-0.00978	0.00035
<i>TBXA2R</i>	0.36182	0.38332	-0.02150	-2.40446	-0.03902	-0.00397	0.01626
<i>CRBN</i>	0.47974	0.50122	-0.02149	-2.37485	-0.03922	-0.00375	0.01762
<i>G6PD</i>	0.46632	0.48754	-0.02122	-2.32191	-0.03915	-0.00330	0.02030
<i>YIPF5</i>	0.40968	0.43075	-0.02107	-2.83437	-0.03565	-0.00650	0.00462
<i>TXNDC16</i>	0.13809	0.15913	-0.02104	-4.13532	-0.03102	-0.01106	0.00004
<i>COX11</i>	0.59643	0.61736	-0.02092	-2.29274	-0.03882	-0.00303	0.02193
<i>GPC1</i>	0.45128	0.47219	-0.02090	-2.29138	-0.03879	-0.00302	0.02201
<i>ISG15</i>	0.34598	0.36668	-0.02070	-2.27497	-0.03854	-0.00286	0.02298
<i>COP55</i>	0.51310	0.53377	-0.02067	-2.10682	-0.03992	-0.00143	0.03521
<i>RBM6</i>	0.42124	0.44182	-0.02058	-2.44487	-0.03709	-0.00408	0.01455
<i>ANKRD29</i>	0.21837	0.23893	-0.02056	-3.49222	-0.03211	-0.00902	0.00049
<i>ALCAM</i>	0.22995	0.25042	-0.02047	-3.03086	-0.03372	-0.00723	0.00246
<i>LYPLA2</i>	0.24244	0.26260	-0.02016	-3.26542	-0.03226	-0.00805	0.00111
<i>BFAR</i>	0.34059	0.36068	-0.02009	-2.93259	-0.03353	-0.00666	0.00339
<i>SP100</i>	0.54785	0.56791	-0.02006	-2.17921	-0.03810	-0.00201	0.02939
<i>LMF2</i>	0.37564	0.39562	-0.01999	-2.47629	-0.03581	-0.00416	0.01333
<i>SERGEF</i>	0.47029	0.49024	-0.01995	-2.48179	-0.03572	-0.00419	0.01313
<i>NUMA1</i>	0.21547	0.23541	-0.01994	-3.07396	-0.03265	-0.00722	0.00213
<i>SLC39A13</i>	0.35980	0.37965	-0.01985	-2.75722	-0.03396	-0.00573	0.00586
<i>UQCC2</i>	0.55200	0.57183	-0.01983	-2.06482	-0.03866	-0.00100	0.03903
<i>SFXN3</i>	0.19895	0.21858	-0.01963	-4.28008	-0.02862	-0.01064	0.00002
<i>AZINI</i>	0.32092	0.34051	-0.01958	-2.94393	-0.03263	-0.00654	0.00327
<i>ACAD9</i>	0.27487	0.29430	-0.01943	-3.48502	-0.03036	-0.00850	0.00050

<i>QKI</i>	0.27792	0.29734	-0.01943	-3.27774	-0.03105	-0.00781	0.00106
<i>ARHGAP1</i>	0.42538	0.44477	-0.01939	-2.12784	-0.03726	-0.00152	0.03343
<i>STK3</i>	0.32278	0.34211	-0.01933	-2.53294	-0.03429	-0.00437	0.01136
<i>SULF1</i>	0.19913	0.21846	-0.01933	-2.73046	-0.03320	-0.00545	0.00636
<i>ZNF622</i>	0.30502	0.32432	-0.01930	-3.02681	-0.03180	-0.00680	0.00249
<i>SEC22C</i>	0.38764	0.40690	-0.01926	-2.62792	-0.03363	-0.00489	0.00863
<i>SERTAD3</i>	0.47194	0.49116	-0.01923	-1.99350	-0.03814	-0.00032	0.04630
<i>NFYC</i>	0.34758	0.36681	-0.01922	-2.33695	-0.03535	-0.00309	0.01951
<i>R3HCC1</i>	0.59148	0.61063	-0.01915	-2.13729	-0.03672	-0.00158	0.03265
<i>RBCK1</i>	0.46860	0.48769	-0.01908	-2.12651	-0.03668	-0.00149	0.03354
<i>KRT7</i>	0.10124	0.12030	-0.01906	-2.84074	-0.03221	-0.00590	0.00453
<i>AGA</i>	0.15857	0.17756	-0.01899	-3.27902	-0.03034	-0.00763	0.00105
<i>MMP23B</i>	0.14085	0.15982	-0.01898	-2.82816	-0.03213	-0.00582	0.00471
<i>KIAA1671</i>	0.20870	0.22768	-0.01897	-3.83507	-0.02867	-0.00927	0.00013
<i>ATF6B</i>	0.45073	0.46962	-0.01889	-2.36309	-0.03456	-0.00322	0.01819
<i>ZFYVE16</i>	0.14599	0.16471	-0.01872	-4.10017	-0.02767	-0.00977	0.00004
<i>TMCO3</i>	0.51064	0.52922	-0.01858	-2.05781	-0.03629	-0.00088	0.03969
<i>ATL3</i>	0.32998	0.34844	-0.01845	-2.55925	-0.03259	-0.00431	0.01054
<i>CARD19</i>	0.56580	0.58417	-0.01838	-2.05081	-0.03594	-0.00081	0.04037
<i>SCO2</i>	0.13030	0.14867	-0.01837	-3.33524	-0.02917	-0.00757	0.00086
<i>CIZ1</i>	0.22016	0.23853	-0.01837	-3.47630	-0.02872	-0.00801	0.00052
<i>SPPL2A</i>	0.36427	0.38263	-0.01836	-2.57247	-0.03235	-0.00437	0.01014
<i>MITD1</i>	0.20578	0.22408	-0.01830	-3.39700	-0.02886	-0.00774	0.00069
<i>GALM</i>	0.21937	0.23763	-0.01826	-3.54365	-0.02837	-0.00816	0.00040
<i>SNRPA</i>	0.41122	0.42946	-0.01824	-2.22549	-0.03431	-0.00217	0.02612
<i>ABHD14A</i>	0.20092	0.21909	-0.01817	-3.67210	-0.02787	-0.00847	0.00024
<i>RND3</i>	0.24924	0.26732	-0.01808	-2.76910	-0.03088	-0.00528	0.00566
<i>VPS13A</i>	0.22549	0.24356	-0.01807	-2.75181	-0.03094	-0.00519	0.00596
<i>CNOT4</i>	0.50521	0.52322	-0.01801	-2.01904	-0.03550	-0.00052	0.04357
<i>CNPY3</i>	0.30375	0.32176	-0.01801	-2.80356	-0.03060	-0.00541	0.00509
<i>ITGAV</i>	0.21388	0.23188	-0.01800	-3.02050	-0.02968	-0.00631	0.00254
<i>RBM4</i>	0.20177	0.21975	-0.01798	-3.29524	-0.02868	-0.00728	0.00099

<i>KHSRP</i>	0.18579	0.20366	-0.01787	-2.82886	-0.03025	-0.00548	0.00470
<i>CNPPD1</i>	0.33218	0.34992	-0.01773	-2.40338	-0.03220	-0.00327	0.01630
<i>OARD1</i>	0.31150	0.32921	-0.01771	-2.76786	-0.03026	-0.00516	0.00568
<i>TEAD2</i>	0.37296	0.39062	-0.01766	-2.36234	-0.03232	-0.00300	0.01822
<i>RANBP3</i>	0.33990	0.35750	-0.01760	-2.45274	-0.03167	-0.00353	0.01423
<i>MRPL14</i>	0.48663	0.50421	-0.01758	-2.01578	-0.03469	-0.00048	0.04391
<i>TNFAIP8</i>	0.25106	0.26853	-0.01747	-2.74088	-0.02997	-0.00497	0.00616
<i>USP33</i>	0.23274	0.24998	-0.01724	-3.24450	-0.02766	-0.00682	0.00119
<i>ANKH</i>	0.24769	0.26484	-0.01715	-2.49175	-0.03065	-0.00366	0.01276
<i>MEGF6</i>	0.05551	0.07265	-0.01714	-4.25471	-0.02503	-0.00924	0.00002
<i>NT5DC1</i>	0.55676	0.57385	-0.01709	-1.98342	-0.03399	-0.00020	0.04741
<i>SPATS2L</i>	0.52719	0.54418	-0.01699	-2.14486	-0.03253	-0.00146	0.03204
<i>GNB1</i>	0.36321	0.38019	-0.01697	-1.98160	-0.03377	-0.00018	0.04761
<i>GMPPB</i>	0.21853	0.23545	-0.01692	-2.77355	-0.02888	-0.00496	0.00558
<i>ITGBL1</i>	0.12640	0.14313	-0.01673	-2.35477	-0.03066	-0.00280	0.01860
<i>PLEKHA1</i>	0.31914	0.33585	-0.01671	-2.10518	-0.03228	-0.00115	0.03536
<i>CD68</i>	0.14423	0.16089	-0.01666	-2.96476	-0.02768	-0.00564	0.00305
<i>CALCOCO1</i>	0.42935	0.44595	-0.01660	-2.15097	-0.03173	-0.00147	0.03156
<i>GLB1</i>	0.24825	0.26481	-0.01656	-3.16580	-0.02682	-0.00630	0.00156
<i>SLC17A5</i>	0.22639	0.24295	-0.01655	-2.65271	-0.02879	-0.00432	0.00803
<i>STT3A</i>	0.27710	0.29357	-0.01647	-2.66233	-0.02860	-0.00434	0.00780
<i>PDGFD</i>	0.11879	0.13490	-0.01611	-2.34037	-0.02961	-0.00261	0.01933
<i>NCOR2</i>	0.15264	0.16875	-0.01611	-3.31992	-0.02562	-0.00659	0.00091
<i>CCDC88A</i>	0.21952	0.23561	-0.01609	-2.46255	-0.02891	-0.00328	0.01385
<i>WDR20</i>	0.19205	0.20810	-0.01605	-3.13994	-0.02607	-0.00603	0.00171
<i>ELL2</i>	0.25105	0.26707	-0.01602	-2.36980	-0.02928	-0.00277	0.01786
<i>MMAB</i>	0.33139	0.34740	-0.01601	-2.39939	-0.02909	-0.00293	0.01648
<i>SLC33A1</i>	0.17312	0.18910	-0.01598	-3.50418	-0.02492	-0.00704	0.00046
<i>MICU2</i>	0.30685	0.32280	-0.01596	-2.18628	-0.03026	-0.00165	0.02887
<i>LGR6</i>	0.40805	0.42396	-0.01590	-2.12593	-0.03057	-0.00124	0.03359
<i>MSTO1</i>	0.10769	0.12355	-0.01586	-3.82877	-0.02398	-0.00774	0.00013
<i>DCAF11</i>	0.38634	0.40203	-0.01569	-2.01792	-0.03093	-0.00044	0.04369

<i>GATC</i>	0.09753	0.11313	-0.01560	-3.88616	-0.02348	-0.00773	0.00010
<i>GTF2B</i>	0.43960	0.45508	-0.01548	-1.97453	-0.03084	-0.00011	0.04841
<i>CPSF6</i>	0.27435	0.28976	-0.01541	-2.38965	-0.02806	-0.00277	0.01693
<i>POLR3E</i>	0.14947	0.16482	-0.01535	-3.16195	-0.02487	-0.00583	0.00158
<i>CES1</i>	0.23337	0.24870	-0.01533	-2.10713	-0.02960	-0.00107	0.03519
<i>GPATCH8</i>	0.37687	0.39215	-0.01528	-1.96177	-0.03056	-0.00001	0.04988
<i>NAA60</i>	0.21285	0.22807	-0.01522	-2.95625	-0.02531	-0.00512	0.00314
<i>CNRIP1</i>	0.34296	0.35815	-0.01519	-1.97362	-0.03029	-0.00010	0.04852
<i>PDLIM4</i>	0.32530	0.34049	-0.01519	-2.23220	-0.02853	-0.00185	0.02567
<i>PRKD3</i>	0.13860	0.15379	-0.01519	-3.10688	-0.02477	-0.00560	0.00191
<i>EXT2</i>	0.30622	0.32140	-0.01518	-2.52273	-0.02698	-0.00338	0.01170
<i>IMMP1L</i>	0.21325	0.22840	-0.01515	-2.77494	-0.02586	-0.00445	0.00556
<i>DAG1</i>	0.17720	0.19233	-0.01513	-2.59950	-0.02654	-0.00372	0.00938
<i>AGBL5</i>	0.14518	0.16030	-0.01512	-3.01521	-0.02495	-0.00529	0.00259
<i>KLC2</i>	0.30353	0.31863	-0.01510	-2.22486	-0.02841	-0.00179	0.02616
<i>MGAT2</i>	0.21139	0.22641	-0.01501	-2.69733	-0.02593	-0.00410	0.00703
<i>SGIP1</i>	0.12560	0.14061	-0.01501	-3.39914	-0.02367	-0.00635	0.00068
<i>DCK</i>	0.19929	0.21422	-0.01493	-2.75000	-0.02557	-0.00428	0.00600
<i>IFT74</i>	0.10106	0.11588	-0.01482	-3.58956	-0.02291	-0.00672	0.00034
<i>CPEB4</i>	0.23056	0.24537	-0.01481	-2.12488	-0.02847	-0.00114	0.03368
<i>ZNF362</i>	0.13629	0.15108	-0.01479	-3.03570	-0.02434	-0.00524	0.00242
<i>KCTD9</i>	0.32827	0.34291	-0.01464	-2.38932	-0.02665	-0.00263	0.01694
<i>VTG1</i>	0.13474	0.14931	-0.01456	-3.12111	-0.02371	-0.00541	0.00182
<i>PHF23</i>	0.28323	0.29767	-0.01445	-2.23927	-0.02709	-0.00180	0.02521
<i>SIGMAR1</i>	0.28224	0.29660	-0.01435	-2.32906	-0.02644	-0.00227	0.01992
<i>CST6</i>	0.07015	0.08448	-0.01433	-2.94153	-0.02389	-0.00478	0.00329
<i>MRPS9</i>	0.34713	0.36142	-0.01429	-2.14392	-0.02736	-0.00122	0.03212
<i>NAF1</i>	0.15007	0.16434	-0.01427	-3.00512	-0.02357	-0.00496	0.00268
<i>MTERF4</i>	0.24181	0.25599	-0.01419	-2.44038	-0.02559	-0.00279	0.01473
<i>SLC25A12</i>	0.17613	0.19032	-0.01418	-3.04346	-0.02332	-0.00505	0.00236
<i>PABPN1</i>	0.25488	0.26906	-0.01418	-2.17580	-0.02696	-0.00140	0.02965
<i>MNAT1</i>	0.27769	0.29184	-0.01415	-2.34460	-0.02599	-0.00232	0.01911

<i>KCTD17</i>	0.17277	0.18689	-0.01413	-2.46491	-0.02537	-0.00289	0.01376
<i>FAM160A2</i>	0.20151	0.21561	-0.01411	-2.55326	-0.02494	-0.00327	0.01072
<i>RBM26</i>	0.17508	0.18906	-0.01398	-2.60599	-0.02450	-0.00346	0.00921
<i>ACOX1</i>	0.17034	0.18417	-0.01383	-2.75403	-0.02368	-0.00398	0.00592
<i>IPO7</i>	0.29507	0.30887	-0.01380	-2.25548	-0.02579	-0.00180	0.02417
<i>ST6GALNAC4</i>	0.32639	0.34017	-0.01378	-2.08060	-0.02677	-0.00079	0.03755
<i>FAM173A</i>	0.37602	0.38978	-0.01376	-2.01075	-0.02718	-0.00034	0.04444
<i>MSC-AS1</i>	0.29584	0.30958	-0.01374	-2.11160	-0.02650	-0.00098	0.03480
<i>CLEC18A</i>	0.05312	0.06682	-0.01370	-3.51734	-0.02134	-0.00606	0.00044
<i>BLOC1S2</i>	0.20972	0.22337	-0.01365	-2.21398	-0.02575	-0.00156	0.02690
<i>MRPL19</i>	0.31118	0.32482	-0.01363	-2.14710	-0.02608	-0.00118	0.03186
<i>C5orf46</i>	0.11224	0.12580	-0.01355	-2.14002	-0.02597	-0.00114	0.03243
<i>KLC4</i>	0.10802	0.12156	-0.01355	-3.50015	-0.02113	-0.00596	0.00047
<i>NDRG3</i>	0.32283	0.33638	-0.01354	-2.08204	-0.02630	-0.00079	0.03742
<i>BEND5</i>	0.10177	0.11528	-0.01352	-3.50411	-0.02108	-0.00595	0.00046
<i>FAP</i>	0.06320	0.07670	-0.01350	-2.80814	-0.02293	-0.00408	0.00501
<i>FUBP3</i>	0.27978	0.29327	-0.01349	-2.26131	-0.02519	-0.00179	0.02381
<i>ATP2B4</i>	0.27404	0.28751	-0.01347	-2.32620	-0.02481	-0.00212	0.02007
<i>VPS45</i>	0.25991	0.27337	-0.01346	-2.13653	-0.02582	-0.00111	0.03272
<i>IL17RE</i>	0.25751	0.27092	-0.01341	-2.11834	-0.02582	-0.00100	0.03423
<i>ME2</i>	0.22080	0.23414	-0.01333	-2.22127	-0.02510	-0.00156	0.02641
<i>GALNT1</i>	0.10508	0.11835	-0.01326	-2.97116	-0.02202	-0.00451	0.00299
<i>THUMPD2</i>	0.22276	0.23596	-0.01320	-2.00555	-0.02610	-0.00029	0.04499
<i>UBE2H</i>	0.28438	0.29756	-0.01318	-2.06952	-0.02566	-0.00069	0.03858
<i>ZNF524</i>	0.24941	0.26255	-0.01314	-2.38661	-0.02394	-0.00234	0.01707
<i>KRT18</i>	0.17717	0.19028	-0.01311	-2.08445	-0.02545	-0.00078	0.03720
<i>MFSD11</i>	0.24595	0.25905	-0.01310	-2.10845	-0.02529	-0.00092	0.03507
<i>RRAGC</i>	0.35102	0.36405	-0.01304	-2.05405	-0.02548	-0.00059	0.04006
<i>HAPLN1</i>	0.15135	0.16438	-0.01303	-2.14076	-0.02497	-0.00110	0.03237
<i>PODNL1</i>	0.05443	0.06740	-0.01297	-2.77769	-0.02213	-0.00381	0.00551
<i>CYP2U1</i>	0.09598	0.10890	-0.01292	-3.09473	-0.02110	-0.00473	0.00199
<i>C16orf58</i>	0.13877	0.15162	-0.01285	-2.35727	-0.02353	-0.00216	0.01847

<i>SLC25A20</i>	0.15524	0.16804	-0.01280	-2.75601	-0.02191	-0.00369	0.00589
<i>OGFOD3</i>	0.30395	0.31674	-0.01279	-1.97539	-0.02548	-0.00009	0.04831
<i>STX17</i>	0.16731	0.18006	-0.01275	-2.72912	-0.02191	-0.00359	0.00639
<i>PCNA</i>	0.25435	0.26707	-0.01271	-2.07696	-0.02472	-0.00071	0.03789
<i>MFSD1</i>	0.20306	0.21570	-0.01265	-2.10560	-0.02442	-0.00087	0.03532
<i>RIT1</i>	0.15827	0.17090	-0.01263	-3.20341	-0.02036	-0.00490	0.00137
<i>GPR176</i>	0.16463	0.17725	-0.01262	-2.29074	-0.02342	-0.00182	0.02205
<i>TMEM56</i>	0.21702	0.22952	-0.01250	-2.12742	-0.02403	-0.00098	0.03347
<i>THUMPD3-AS1</i>	0.30269	0.31515	-0.01246	-1.99917	-0.02468	-0.00024	0.04568
<i>ARHGAP18</i>	0.05829	0.07067	-0.01237	-3.48217	-0.01934	-0.00541	0.00050
<i>IBTK</i>	0.14114	0.15350	-0.01236	-2.76477	-0.02112	-0.00359	0.00573
<i>SGSM3</i>	0.24207	0.25438	-0.01231	-2.25314	-0.02303	-0.00160	0.02432
<i>TRPT1</i>	0.23715	0.24939	-0.01224	-2.36928	-0.02236	-0.00211	0.01789
<i>ZNF664</i>	0.09415	0.10631	-0.01216	-3.14693	-0.01973	-0.00458	0.00167
<i>CCNT2</i>	0.12753	0.13966	-0.01212	-2.59855	-0.02127	-0.00298	0.00941
<i>LPCAT3</i>	0.18966	0.20172	-0.01206	-2.23695	-0.02264	-0.00149	0.02536
<i>PIGX</i>	0.27816	0.29020	-0.01204	-2.13703	-0.02308	-0.00099	0.03268
<i>BCL10</i>	0.10594	0.11789	-0.01196	-2.34860	-0.02194	-0.00197	0.01891
<i>MXRA7</i>	0.26473	0.27669	-0.01195	-1.97680	-0.02381	-0.00010	0.04815
<i>ANGPTL2</i>	0.15754	0.16942	-0.01188	-2.33571	-0.02185	-0.00191	0.01957
<i>PTBP2</i>	0.16350	0.17535	-0.01185	-2.35265	-0.02173	-0.00197	0.01870
<i>DHX30</i>	0.25476	0.26661	-0.01185	-2.16334	-0.02258	-0.00111	0.03059
<i>MPP1</i>	0.26270	0.27454	-0.01184	-2.00751	-0.02340	-0.00028	0.04478
<i>SEMA4C</i>	0.18920	0.20104	-0.01183	-2.40941	-0.02146	-0.00220	0.01604
<i>SIAH2</i>	0.23940	0.25123	-0.01182	-2.18696	-0.02243	-0.00122	0.02882
<i>ZFAND2A</i>	0.18819	0.20000	-0.01181	-2.72322	-0.02031	-0.00331	0.00650
<i>GTF3C3</i>	0.12400	0.13581	-0.01181	-3.09711	-0.01928	-0.00433	0.00197
<i>TMEM245</i>	0.21379	0.22553	-0.01175	-2.03288	-0.02307	-0.00042	0.04215
<i>C18orf21</i>	0.12686	0.13854	-0.01168	-2.83030	-0.01977	-0.00359	0.00468
<i>CSF1</i>	0.12484	0.13652	-0.01168	-2.80257	-0.01984	-0.00351	0.00510
<i>TAF13</i>	0.16171	0.17336	-0.01165	-2.39357	-0.02120	-0.00211	0.01675
<i>RRS1</i>	0.24787	0.25949	-0.01162	-2.20291	-0.02197	-0.00128	0.02768

<i>SEC23B</i>	0.19583	0.20734	-0.01151	-2.36528	-0.02105	-0.00197	0.01808
<i>HSD17B14</i>	0.16962	0.18109	-0.01147	-2.14000	-0.02198	-0.00096	0.03243
<i>ARRDC4</i>	0.13667	0.14814	-0.01147	-2.26612	-0.02139	-0.00155	0.02351
<i>MTG2</i>	0.10141	0.11282	-0.01141	-2.47898	-0.02043	-0.00238	0.01323
<i>SKI</i>	0.13648	0.14789	-0.01140	-2.49230	-0.02038	-0.00243	0.01274
<i>STEAP2</i>	0.09800	0.10934	-0.01134	-2.44942	-0.02041	-0.00226	0.01436
<i>ERCC5</i>	0.09907	0.11040	-0.01134	-2.53117	-0.02012	-0.00255	0.01142
<i>POLG</i>	0.14829	0.15958	-0.01130	-2.71622	-0.01945	-0.00314	0.00664
<i>SERINC5</i>	0.09902	0.11029	-0.01128	-2.50224	-0.02011	-0.00244	0.01239
<i>UBR7</i>	0.12553	0.13672	-0.01119	-2.41798	-0.02026	-0.00212	0.01567
<i>SIPR2</i>	0.05153	0.06271	-0.01118	-2.91726	-0.01869	-0.00366	0.00356
<i>INO80E</i>	0.25618	0.26732	-0.01115	-1.98473	-0.02216	-0.00013	0.04726
<i>GFOD2</i>	0.12740	0.13850	-0.01110	-2.64977	-0.01931	-0.00289	0.00810
<i>TFB1M</i>	0.11641	0.12745	-0.01105	-2.88762	-0.01855	-0.00355	0.00391
<i>PPP1R35</i>	0.14972	0.16071	-0.01099	-2.47847	-0.01969	-0.00230	0.01325
<i>DMTF1</i>	0.12383	0.13479	-0.01095	-2.34810	-0.02010	-0.00181	0.01893
<i>TBC1D15</i>	0.22654	0.23745	-0.01091	-1.99056	-0.02166	-0.00016	0.04662
<i>COL12A1</i>	0.10198	0.11288	-0.01091	-2.73673	-0.01872	-0.00309	0.00624
<i>SF3B3</i>	0.17064	0.18155	-0.01091	-2.29429	-0.02022	-0.00159	0.02184
<i>FOXC2</i>	0.24655	0.25742	-0.01087	-1.99112	-0.02158	-0.00017	0.04656
<i>ERGIC1</i>	0.17558	0.18643	-0.01085	-2.06152	-0.02117	-0.00053	0.03934
<i>CENPC</i>	0.19260	0.20344	-0.01084	-1.99379	-0.02150	-0.00018	0.04626
<i>OSTF1</i>	0.17248	0.18327	-0.01080	-2.27450	-0.02010	-0.00149	0.02301
<i>ZNF48</i>	0.07669	0.08747	-0.01078	-3.63828	-0.01659	-0.00497	0.00028
<i>PCDHB16</i>	0.09906	0.10983	-0.01077	-3.20601	-0.01736	-0.00418	0.00136
<i>CAMKK2</i>	0.13760	0.14837	-0.01077	-2.49018	-0.01924	-0.00229	0.01282
<i>ICE1</i>	0.16983	0.18060	-0.01076	-2.32353	-0.01985	-0.00168	0.02022
<i>TSC22D2</i>	0.11512	0.12586	-0.01073	-2.74412	-0.01840	-0.00306	0.00610
<i>SUPV3L1</i>	0.14133	0.15194	-0.01061	-2.58085	-0.01868	-0.00255	0.00990
<i>SH3GL1</i>	0.13791	0.14852	-0.01061	-2.64799	-0.01847	-0.00275	0.00814
<i>DHDDS</i>	0.19528	0.20584	-0.01056	-2.26636	-0.01970	-0.00142	0.02350
<i>RNF26</i>	0.20888	0.21938	-0.01050	-2.21946	-0.01978	-0.00122	0.02653

<i>DEPDC5</i>	0.04456	0.05504	-0.01048	-4.03709	-0.01557	-0.00539	0.00006
<i>NPRL2</i>	0.20261	0.21305	-0.01045	-2.09761	-0.02021	-0.00068	0.03602
<i>PTPRM</i>	0.08457	0.09500	-0.01043	-2.90805	-0.01746	-0.00340	0.00366
<i>PIGBOS1</i>	0.17288	0.18326	-0.01038	-2.00166	-0.02055	-0.00021	0.04541
<i>ANKRD36</i>	0.08996	0.10031	-0.01035	-2.80099	-0.01759	-0.00310	0.00513
<i>XLAP</i>	0.10288	0.11322	-0.01034	-2.70379	-0.01784	-0.00284	0.00689
<i>P4HA3</i>	0.08828	0.09859	-0.01031	-2.32647	-0.01901	-0.00162	0.02006
<i>G0S2</i>	0.04816	0.05845	-0.01029	-3.39705	-0.01623	-0.00435	0.00069
<i>TRMT6</i>	0.19336	0.20365	-0.01028	-2.14990	-0.01966	-0.00090	0.03164
<i>NSUN5</i>	0.17436	0.18461	-0.01026	-2.18914	-0.01944	-0.00107	0.02866
<i>ADAMTS8</i>	0.14288	0.15313	-0.01025	-2.39368	-0.01865	-0.00185	0.01674
<i>BBS10</i>	0.14201	0.15218	-0.01017	-2.42425	-0.01840	-0.00194	0.01540
<i>MAP3K6</i>	0.11505	0.12520	-0.01015	-2.51784	-0.01805	-0.00225	0.01186
<i>MED22</i>	0.10940	0.11955	-0.01014	-2.49921	-0.01810	-0.00219	0.01250
<i>AP5Z1</i>	0.08635	0.09647	-0.01012	-2.69475	-0.01748	-0.00276	0.00708
<i>CDKN2A</i>	0.04277	0.05287	-0.01010	-2.08239	-0.01961	-0.00059	0.03739
<i>THBS3</i>	0.15144	0.16153	-0.01009	-1.97283	-0.02012	-0.00006	0.04861
<i>KBTBD3</i>	0.10853	0.11861	-0.01008	-2.76435	-0.01723	-0.00293	0.00574
<i>CLP1</i>	0.11104	0.12110	-0.01005	-2.48167	-0.01800	-0.00211	0.01313
<i>PTGES3L</i>	0.09321	0.10326	-0.01005	-2.72576	-0.01728	-0.00282	0.00645
<i>C2orf68</i>	0.11155	0.12158	-0.01003	-2.26693	-0.01871	-0.00136	0.02346
<i>GIGYF2</i>	0.21073	0.22069	-0.00997	-2.02952	-0.01959	-0.00034	0.04249
<i>CEP126</i>	0.10297	0.11294	-0.00996	-2.31703	-0.01840	-0.00153	0.02057
<i>DACT1</i>	0.07800	0.08793	-0.00993	-2.53439	-0.01762	-0.00225	0.01131
<i>SOWAHC</i>	0.08652	0.09641	-0.00989	-2.85137	-0.01670	-0.00309	0.00438
<i>FOXN2</i>	0.13788	0.14773	-0.00985	-2.20283	-0.01862	-0.00108	0.02768
<i>HMCN1</i>	0.04581	0.05566	-0.00985	-3.08744	-0.01610	-0.00359	0.00204
<i>GLA</i>	0.11822	0.12806	-0.00983	-2.37231	-0.01796	-0.00171	0.01774
<i>PUM2</i>	0.12476	0.13458	-0.00982	-2.46328	-0.01764	-0.00200	0.01382
<i>TEK</i>	0.04588	0.05570	-0.00981	-3.40741	-0.01546	-0.00417	0.00066
<i>SYT12</i>	0.03730	0.04708	-0.00977	-2.73250	-0.01679	-0.00276	0.00632
<i>SPSB2</i>	0.11061	0.12030	-0.00969	-2.35538	-0.01776	-0.00162	0.01857

<i>BICD2</i>	0.11659	0.12626	-0.00967	-2.41061	-0.01754	-0.00180	0.01599
<i>FOXO4</i>	0.07484	0.08449	-0.00966	-2.89784	-0.01620	-0.00312	0.00378
<i>PIGU</i>	0.13580	0.14544	-0.00965	-2.39704	-0.01754	-0.00176	0.01659
<i>FAM216A</i>	0.14626	0.15589	-0.00963	-2.05137	-0.01883	-0.00043	0.04032
<i>ZNF250</i>	0.11748	0.12706	-0.00958	-2.30432	-0.01772	-0.00143	0.02127
<i>FAM104A</i>	0.15083	0.16040	-0.00957	-2.18303	-0.01816	-0.00097	0.02911
<i>NT5C3A</i>	0.20804	0.21758	-0.00954	-1.97883	-0.01899	-0.00009	0.04793
<i>CCDC9</i>	0.08084	0.09037	-0.00954	-2.85439	-0.01609	-0.00299	0.00434
<i>UNG</i>	0.12683	0.13632	-0.00949	-2.40596	-0.01722	-0.00176	0.01619
<i>FOXJ3</i>	0.12830	0.13775	-0.00945	-2.22883	-0.01776	-0.00114	0.02590
<i>ZNF781</i>	0.11677	0.12621	-0.00944	-2.17966	-0.01793	-0.00095	0.02936
<i>SCAF4</i>	0.12878	0.13819	-0.00941	-1.98955	-0.01868	-0.00014	0.04673
<i>PINX1</i>	0.15283	0.16215	-0.00932	-2.01344	-0.01840	-0.00024	0.04416
<i>DDX39B</i>	0.10212	0.11141	-0.00929	-2.59025	-0.01633	-0.00226	0.00964
<i>RNF216</i>	0.18266	0.19191	-0.00925	-2.02033	-0.01823	-0.00027	0.04344
<i>LMBR1L</i>	0.17177	0.18097	-0.00919	-2.08197	-0.01785	-0.00054	0.03743
<i>ZBTB43</i>	0.15355	0.16272	-0.00917	-2.10529	-0.01771	-0.00063	0.03535
<i>WIP1I</i>	0.17018	0.17933	-0.00915	-2.08706	-0.01775	-0.00055	0.03697
<i>IGF1R</i>	0.08899	0.09809	-0.00910	-2.92129	-0.01521	-0.00299	0.00351
<i>SMCR8</i>	0.03143	0.04051	-0.00908	-3.98195	-0.01355	-0.00461	0.00007
<i>MON1A</i>	0.10817	0.11723	-0.00907	-2.78699	-0.01545	-0.00269	0.00535
<i>RAB1F</i>	0.15820	0.16726	-0.00906	-2.18390	-0.01719	-0.00093	0.02905
<i>TTI2</i>	0.09540	0.10442	-0.00902	-2.34558	-0.01656	-0.00148	0.01906
<i>CCDC144NL- ASI</i>	0.09434	0.10335	-0.00900	-2.64680	-0.01567	-0.00233	0.00817
<i>DENND4A</i>	0.06169	0.07067	-0.00899	-3.00807	-0.01485	-0.00313	0.00265
<i>DDX19B</i>	0.13337	0.14233	-0.00895	-2.44571	-0.01613	-0.00177	0.01451
<i>TRMT13</i>	0.06302	0.07195	-0.00893	-3.34559	-0.01417	-0.00370	0.00083
<i>ADAM10</i>	0.13665	0.14558	-0.00893	-2.00112	-0.01768	-0.00018	0.04547
<i>ALOX5AP</i>	0.06846	0.07738	-0.00893	-2.34109	-0.01640	-0.00145	0.01929
<i>FAM122B</i>	0.08441	0.09333	-0.00892	-2.74219	-0.01530	-0.00254	0.00614
<i>LINC01116</i>	0.07098	0.07986	-0.00888	-2.87519	-0.01494	-0.00282	0.00407
<i>PCCB</i>	0.10127	0.11012	-0.00885	-2.55704	-0.01564	-0.00206	0.01061

<i>RGS4</i>	0.12445	0.13329	-0.00884	-2.01442	-0.01745	-0.00024	0.04405
<i>NAB2</i>	0.13164	0.14047	-0.00883	-1.97778	-0.01759	-0.00008	0.04804
<i>HSCB</i>	0.13253	0.14134	-0.00881	-2.23323	-0.01654	-0.00107	0.02561
<i>LRCH4</i>	0.12382	0.13259	-0.00877	-2.29654	-0.01625	-0.00128	0.02171
<i>OSR1</i>	0.08721	0.09598	-0.00877	-2.13732	-0.01681	-0.00072	0.03265
<i>RP2</i>	0.04878	0.05755	-0.00877	-3.39932	-0.01382	-0.00371	0.00068
<i>CBLB</i>	0.08341	0.09216	-0.00874	-2.19037	-0.01657	-0.00092	0.02857
<i>PEX7</i>	0.07549	0.08423	-0.00873	-2.72308	-0.01502	-0.00245	0.00650
<i>CHM</i>	0.08159	0.09032	-0.00873	-2.23349	-0.01639	-0.00107	0.02559
<i>PEX11B</i>	0.11001	0.11870	-0.00869	-2.37810	-0.01586	-0.00153	0.01746
<i>GNPTAB</i>	0.08637	0.09505	-0.00868	-2.61212	-0.01519	-0.00216	0.00904
<i>ZDHHC17</i>	0.13699	0.14566	-0.00867	-2.01842	-0.01709	-0.00025	0.04364
<i>ZNF786</i>	0.03783	0.04643	-0.00860	-3.50077	-0.01342	-0.00379	0.00047
<i>GAREM1</i>	0.04724	0.05583	-0.00859	-3.29871	-0.01370	-0.00349	0.00098
<i>MEGF9</i>	0.09241	0.10099	-0.00858	-2.81349	-0.01455	-0.00260	0.00493
<i>APAF1</i>	0.02005	0.02862	-0.00857	-3.46560	-0.01341	-0.00372	0.00054
<i>MTR</i>	0.08941	0.09788	-0.00848	-2.31881	-0.01564	-0.00131	0.02047
<i>RNASEL</i>	0.08677	0.09523	-0.00846	-2.77250	-0.01445	-0.00248	0.00560
<i>TEX9</i>	0.04286	0.05129	-0.00843	-2.77938	-0.01438	-0.00248	0.00548
<i>ALDH1L1</i>	0.08592	0.09431	-0.00839	-2.16451	-0.01599	-0.00079	0.03050
<i>INPP5B</i>	0.08769	0.09606	-0.00838	-2.38358	-0.01526	-0.00149	0.01721
<i>C3orf18</i>	0.10261	0.11098	-0.00836	-2.40430	-0.01518	-0.00154	0.01626
<i>PRKCA</i>	0.04042	0.04878	-0.00836	-2.98427	-0.01385	-0.00287	0.00287
<i>CEMP1</i>	0.01754	0.02588	-0.00834	-3.46771	-0.01305	-0.00362	0.00053
<i>GK</i>	0.04966	0.05798	-0.00832	-3.31872	-0.01323	-0.00340	0.00092
<i>TTC39B</i>	0.09658	0.10489	-0.00831	-2.55427	-0.01469	-0.00193	0.01069
<i>SETD7</i>	0.11922	0.12753	-0.00831	-2.03426	-0.01632	-0.00030	0.04201
<i>TXNDC5</i>	0.04110	0.04940	-0.00830	-3.66280	-0.01275	-0.00386	0.00025
<i>CASK</i>	0.08790	0.09617	-0.00827	-2.35712	-0.01515	-0.00139	0.01848
<i>PCDHB10</i>	0.04996	0.05822	-0.00826	-3.25887	-0.01323	-0.00329	0.00113
<i>ATG4C</i>	0.10538	0.11363	-0.00825	-2.36819	-0.01508	-0.00142	0.01794
<i>YTHDF3</i>	0.12915	0.13738	-0.00823	-2.09177	-0.01595	-0.00052	0.03654

<i>GHDC</i>	0.07997	0.08819	-0.00821	-2.49462	-0.01467	-0.00176	0.01266
<i>SMARCD1</i>	0.09757	0.10578	-0.00821	-2.19375	-0.01556	-0.00087	0.02833
<i>GSG1L</i>	0.06828	0.07644	-0.00817	-2.64144	-0.01423	-0.00210	0.00830
<i>TMEM130</i>	0.11057	0.11873	-0.00816	-2.13153	-0.01567	-0.00065	0.03313
<i>MTMR12</i>	0.03106	0.03922	-0.00815	-3.73682	-0.01243	-0.00388	0.00019
<i>TXNRD2</i>	0.12748	0.13563	-0.00815	-2.18823	-0.01545	-0.00085	0.02873
<i>ZNF451</i>	0.11495	0.12309	-0.00814	-2.06031	-0.01589	-0.00039	0.03945
<i>AGO3</i>	0.14416	0.15230	-0.00814	-2.00362	-0.01610	-0.00017	0.04520
<i>LINC01006</i>	0.03484	0.04297	-0.00813	-3.29130	-0.01297	-0.00329	0.00101
<i>OTUD6B</i>	0.07023	0.07835	-0.00813	-2.28924	-0.01508	-0.00117	0.02213
<i>CBFA2T2</i>	0.04282	0.05089	-0.00807	-3.02935	-0.01330	-0.00285	0.00247
<i>ZNF720</i>	0.07620	0.08428	-0.00807	-2.77730	-0.01377	-0.00237	0.00552
<i>MGME1</i>	0.10683	0.11488	-0.00806	-2.15504	-0.01539	-0.00073	0.03124
<i>VPS18</i>	0.09670	0.10475	-0.00805	-2.27852	-0.01497	-0.00112	0.02277
<i>DHX38</i>	0.13973	0.14772	-0.00799	-2.02056	-0.01575	-0.00024	0.04341
<i>PPM1L</i>	0.08697	0.09497	-0.00799	-2.27733	-0.01488	-0.00111	0.02284
<i>PP1L1</i>	0.14232	0.15025	-0.00793	-2.02157	-0.01562	-0.00024	0.04331
<i>SOS1</i>	0.08682	0.09473	-0.00791	-2.46152	-0.01420	-0.00161	0.01389
<i>SYBU</i>	0.08309	0.09099	-0.00790	-2.61875	-0.01382	-0.00199	0.00887
<i>TRIM16</i>	0.08475	0.09264	-0.00789	-2.52682	-0.01401	-0.00177	0.01156
<i>MOSPD2</i>	0.06326	0.07109	-0.00783	-2.51823	-0.01392	-0.00173	0.01185
<i>BIVM</i>	0.06319	0.07101	-0.00782	-2.57313	-0.01379	-0.00186	0.01013
<i>YTHDF1</i>	0.09094	0.09866	-0.00772	-2.10704	-0.01491	-0.00054	0.03520
<i>SETD9</i>	0.11981	0.12753	-0.00772	-2.04344	-0.01512	-0.00031	0.04110
<i>FBXO30</i>	0.09713	0.10484	-0.00771	-2.35739	-0.01412	-0.00130	0.01847
<i>NUDT8</i>	0.04822	0.05588	-0.00767	-2.79904	-0.01304	-0.00230	0.00516
<i>LMO3</i>	0.11182	0.11948	-0.00767	-2.08396	-0.01488	-0.00045	0.03725
<i>USP42</i>	0.09979	0.10745	-0.00767	-2.45496	-0.01379	-0.00154	0.01415
<i>RUBCN</i>	0.08334	0.09100	-0.00766	-2.75380	-0.01312	-0.00221	0.00593
<i>AGFG2</i>	0.05778	0.06543	-0.00765	-2.95986	-0.01272	-0.00258	0.00310
<i>NOPI4-AS1</i>	0.07339	0.08103	-0.00764	-2.60566	-0.01340	-0.00189	0.00921
<i>KAT2A</i>	0.11493	0.12258	-0.00764	-2.21652	-0.01441	-0.00088	0.02673

<i>CLCN7</i>	0.08466	0.09229	-0.00763	-2.30897	-0.01411	-0.00115	0.02101
<i>ICA1L</i>	0.08820	0.09582	-0.00763	-2.18498	-0.01447	-0.00078	0.02897
<i>C2CD2</i>	0.10702	0.11463	-0.00761	-2.09650	-0.01473	-0.00049	0.03612
<i>ZMAT1</i>	0.09967	0.10719	-0.00752	-2.06009	-0.01467	-0.00036	0.03948
<i>ZNRF1</i>	0.06038	0.06789	-0.00751	-2.41665	-0.01360	-0.00142	0.01572
<i>ADCYAP1</i>	0.03177	0.03927	-0.00750	-3.12722	-0.01221	-0.00280	0.00178
<i>TTC9C</i>	0.10671	0.11421	-0.00750	-2.27046	-0.01398	-0.00102	0.02325
<i>RPUSD2</i>	0.09150	0.09899	-0.00749	-2.36017	-0.01371	-0.00127	0.01833
<i>ACSM5</i>	0.04714	0.05462	-0.00748	-2.99292	-0.01237	-0.00258	0.00279
<i>CDK2</i>	0.08085	0.08832	-0.00747	-2.03316	-0.01468	-0.00027	0.04212
<i>SLC27A1</i>	0.07181	0.07927	-0.00746	-2.24206	-0.01398	-0.00094	0.02503
<i>PITRM1</i>	0.08740	0.09484	-0.00745	-2.23571	-0.01398	-0.00092	0.02544
<i>N6AMT1</i>	0.03232	0.03971	-0.00738	-3.38602	-0.01166	-0.00311	0.00072
<i>PGM3</i>	0.11452	0.12187	-0.00735	-2.01085	-0.01451	-0.00018	0.04443
<i>COA7</i>	0.07076	0.07808	-0.00733	-2.47908	-0.01312	-0.00153	0.01323
<i>DISP1</i>	0.02557	0.03289	-0.00732	-3.54139	-0.01137	-0.00327	0.00040
<i>MTHFSD</i>	0.05307	0.06038	-0.00730	-2.59424	-0.01282	-0.00178	0.00953
<i>ALDH18A1</i>	0.08730	0.09459	-0.00729	-2.01190	-0.01439	-0.00019	0.04432
<i>ZNF425</i>	0.06688	0.07413	-0.00726	-2.56002	-0.01282	-0.00170	0.01051
<i>FAM24B</i>	0.03955	0.04680	-0.00725	-3.12189	-0.01181	-0.00270	0.00181
<i>SMOC1</i>	0.03059	0.03778	-0.00719	-2.47109	-0.01289	-0.00148	0.01352
<i>STPG1</i>	0.02541	0.03258	-0.00717	-3.54458	-0.01114	-0.00321	0.00040
<i>NAV1</i>	0.04255	0.04970	-0.00714	-2.26875	-0.01332	-0.00097	0.02335
<i>JDP2</i>	0.02623	0.03336	-0.00712	-3.64939	-0.01095	-0.00330	0.00027
<i>ACOX3</i>	0.10746	0.11457	-0.00711	-2.02946	-0.01398	-0.00024	0.04250
<i>SNX29</i>	0.05280	0.05989	-0.00709	-2.58819	-0.01246	-0.00172	0.00969
<i>VPS13D</i>	0.08686	0.09394	-0.00708	-2.32932	-0.01303	-0.00112	0.01991
<i>FERMT3</i>	0.04796	0.05503	-0.00707	-2.60093	-0.01240	-0.00174	0.00934
<i>PUSL1</i>	0.08233	0.08939	-0.00706	-2.22432	-0.01329	-0.00084	0.02620
<i>SLC25A28</i>	0.05633	0.06334	-0.00702	-2.79256	-0.01194	-0.00209	0.00526
<i>TJAP1</i>	0.09205	0.09907	-0.00702	-2.08056	-0.01363	-0.00040	0.03756
<i>CLK2</i>	0.03449	0.04150	-0.00701	-2.87790	-0.01178	-0.00223	0.00403

<i>SGPL1</i>	0.08935	0.09634	-0.00699	-2.30563	-0.01294	-0.00105	0.02120
<i>CDC42EP2</i>	0.06925	0.07623	-0.00698	-2.12465	-0.01343	-0.00054	0.03370
<i>HYKK</i>	0.05297	0.05991	-0.00694	-2.57580	-0.01223	-0.00166	0.01005
<i>HIST1H1E</i>	0.02279	0.02970	-0.00691	-3.45332	-0.01084	-0.00299	0.00056
<i>ZNF345</i>	0.06654	0.07339	-0.00685	-2.62200	-0.01198	-0.00173	0.00879
<i>NSMAF</i>	0.08581	0.09265	-0.00684	-2.28854	-0.01270	-0.00098	0.02217
<i>BAK1</i>	0.09489	0.10169	-0.00680	-1.96633	-0.01358	-0.00002	0.04935
<i>C17orf51</i>	0.06860	0.07538	-0.00678	-2.56389	-0.01196	-0.00159	0.01040
<i>CREB3L1</i>	0.03465	0.04143	-0.00677	-2.04326	-0.01327	-0.00027	0.04111
<i>DYNC2H1</i>	0.05350	0.06027	-0.00677	-2.23381	-0.01271	-0.00083	0.02557
<i>PAK1</i>	0.10873	0.11546	-0.00673	-1.98365	-0.01339	-0.00008	0.04739
<i>FICD</i>	0.06253	0.06925	-0.00672	-2.43547	-0.01213	-0.00131	0.01493
<i>KANSL1L</i>	0.03871	0.04542	-0.00671	-2.76229	-0.01148	-0.00195	0.00577
<i>ZCCHC3</i>	0.05505	0.06170	-0.00665	-2.28546	-0.01236	-0.00094	0.02235
<i>TP53I3</i>	0.05898	0.06563	-0.00664	-2.00319	-0.01315	-0.00014	0.04525
<i>ENPP5</i>	0.06833	0.07496	-0.00663	-2.20116	-0.01253	-0.00072	0.02780
<i>FBXO38</i>	0.07807	0.08466	-0.00658	-2.05361	-0.01286	-0.00030	0.04010
<i>SBF2</i>	0.06885	0.07540	-0.00656	-2.27625	-0.01221	-0.00091	0.02290
<i>POLR1E</i>	0.08004	0.08659	-0.00655	-2.04475	-0.01283	-0.00027	0.04097
<i>ZNF616</i>	0.01769	0.02422	-0.00653	-3.51332	-0.01018	-0.00289	0.00045
<i>MAN2A1</i>	0.06418	0.07071	-0.00653	-2.04509	-0.01279	-0.00027	0.04093
<i>F2RL1</i>	0.01757	0.02409	-0.00652	-2.78826	-0.01110	-0.00193	0.00533
<i>AGRN</i>	0.04721	0.05368	-0.00647	-2.66726	-0.01123	-0.00171	0.00769
<i>MAP4K3</i>	0.05322	0.05969	-0.00647	-2.20575	-0.01222	-0.00072	0.02748
<i>CENPP</i>	0.04794	0.05441	-0.00647	-2.49697	-0.01155	-0.00139	0.01258
<i>IGIP</i>	0.03725	0.04371	-0.00646	-2.87864	-0.01085	-0.00206	0.00402
<i>KCTD2</i>	0.02836	0.03480	-0.00644	-2.95027	-0.01071	-0.00216	0.00320
<i>SIK2</i>	0.04520	0.05163	-0.00643	-2.56141	-0.01136	-0.00151	0.01047
<i>ZNF429</i>	0.07601	0.08244	-0.00643	-2.03572	-0.01262	-0.00024	0.04187
<i>CACFD1</i>	0.02611	0.03254	-0.00643	-3.10714	-0.01048	-0.00237	0.00191
<i>C9orf116</i>	0.01558	0.02195	-0.00637	-3.58478	-0.00985	-0.00289	0.00034
<i>LIG4</i>	0.06712	0.07347	-0.00635	-2.10648	-0.01227	-0.00044	0.03525

<i>FOXC2-AS1</i>	0.02396	0.03031	-0.00634	-3.07570	-0.01038	-0.00230	0.00212
<i>IFFO2</i>	0.04722	0.05355	-0.00633	-2.82339	-0.01073	-0.00193	0.00478
<i>SPOCK1</i>	0.03396	0.04028	-0.00632	-2.47164	-0.01133	-0.00131	0.01350
<i>TBC1D14</i>	0.07619	0.08249	-0.00630	-2.04603	-0.01234	-0.00026	0.04084
<i>MADD</i>	0.05077	0.05706	-0.00628	-2.49277	-0.01123	-0.00134	0.01273
<i>SRRD</i>	0.04933	0.05552	-0.00620	-2.50605	-0.01105	-0.00135	0.01226
<i>LAMA2</i>	0.04902	0.05519	-0.00617	-2.09659	-0.01194	-0.00040	0.03611
<i>RIPK4</i>	0.01415	0.02031	-0.00616	-3.43274	-0.00968	-0.00264	0.00061
<i>PPARA</i>	0.08522	0.09137	-0.00616	-2.27012	-0.01148	-0.00084	0.02327
<i>KCNJ3</i>	0.06179	0.06794	-0.00614	-2.18945	-0.01165	-0.00064	0.02864
<i>ATR</i>	0.03591	0.04205	-0.00614	-2.37092	-0.01121	-0.00106	0.01781
<i>SCYL3</i>	0.05906	0.06519	-0.00613	-2.53337	-0.01087	-0.00138	0.01135
<i>SLC6A9</i>	0.04966	0.05577	-0.00611	-2.16694	-0.01164	-0.00058	0.03032
<i>GAS8</i>	0.06340	0.06951	-0.00611	-2.08679	-0.01185	-0.00037	0.03699
<i>MYOC</i>	0.03899	0.04508	-0.00610	-2.33463	-0.01122	-0.00098	0.01963
<i>WDR27</i>	0.01847	0.02453	-0.00606	-3.37595	-0.00958	-0.00254	0.00074
<i>HARB11</i>	0.07098	0.07702	-0.00605	-1.96160	-0.01209	0.00000	0.04990
<i>A1BG-AS1</i>	0.06046	0.06649	-0.00603	-2.06810	-0.01175	-0.00031	0.03872
<i>PVT1</i>	0.01570	0.02173	-0.00603	-3.42440	-0.00948	-0.00258	0.00062
<i>ACKR2</i>	0.01243	0.01843	-0.00600	-3.47502	-0.00939	-0.00262	0.00052
<i>UNC5B-AS1</i>	0.04995	0.05590	-0.00595	-2.19383	-0.01127	-0.00063	0.02832
<i>MASP1</i>	0.04993	0.05588	-0.00595	-1.98023	-0.01183	-0.00006	0.04777
<i>TARS2</i>	0.05604	0.06198	-0.00594	-2.21664	-0.01118	-0.00069	0.02672
<i>TMEM143</i>	0.07735	0.08328	-0.00592	-1.98574	-0.01177	-0.00007	0.04715
<i>ATP11B</i>	0.04455	0.05045	-0.00590	-2.53219	-0.01048	-0.00133	0.01139
<i>EIF1AD</i>	0.07097	0.07677	-0.00581	-2.00090	-0.01150	-0.00012	0.04549
<i>ZDHHC2</i>	0.05785	0.06365	-0.00580	-2.00362	-0.01148	-0.00012	0.04520
<i>CHIC1</i>	0.05048	0.05628	-0.00580	-2.40839	-0.01052	-0.00108	0.01608
<i>WDR53</i>	0.04320	0.04897	-0.00577	-2.50696	-0.01028	-0.00126	0.01223
<i>TDRP</i>	0.03629	0.04206	-0.00577	-2.77201	-0.00985	-0.00169	0.00561
<i>GZMK</i>	0.01669	0.02241	-0.00572	-3.04989	-0.00940	-0.00204	0.00231
<i>LINC00853</i>	0.03315	0.03883	-0.00568	-2.48642	-0.01015	-0.00120	0.01296

<i>ZKSCAN4</i>	0.02926	0.03493	-0.00567	-3.01738	-0.00935	-0.00198	0.00257
<i>ZNF552</i>	0.05013	0.05579	-0.00566	-2.16579	-0.01079	-0.00054	0.03041
<i>CACNA1A</i>	0.03630	0.04196	-0.00566	-2.27257	-0.01055	-0.00078	0.02312
<i>SLC19A2</i>	0.02770	0.03332	-0.00562	-2.70265	-0.00969	-0.00154	0.00692
<i>ZNF16</i>	0.05193	0.05750	-0.00557	-2.13553	-0.01068	-0.00046	0.03280
<i>PIWIL1</i>	0.01326	0.01880	-0.00553	-3.35513	-0.00877	-0.00230	0.00080
<i>FAAP100</i>	0.07547	0.08100	-0.00553	-2.16663	-0.01054	-0.00053	0.03034
<i>SMIM13</i>	0.03195	0.03747	-0.00552	-2.23806	-0.01036	-0.00068	0.02529
<i>GXYLT1</i>	0.05289	0.05840	-0.00552	-2.19554	-0.01044	-0.00059	0.02820
<i>CAMK2N1</i>	0.06920	0.07470	-0.00551	-1.96928	-0.01099	-0.00002	0.04901
<i>ZIK1</i>	0.05273	0.05823	-0.00550	-2.22918	-0.01034	-0.00066	0.02587
<i>ZSCAN16</i>	0.02932	0.03481	-0.00549	-3.02300	-0.00905	-0.00193	0.00252
<i>ZNF169</i>	0.01533	0.02081	-0.00547	-3.07688	-0.00896	-0.00198	0.00211
<i>TMEM86A</i>	0.04336	0.04883	-0.00547	-2.40675	-0.00992	-0.00101	0.01615
<i>SLC31A1</i>	0.07146	0.07692	-0.00545	-2.01893	-0.01075	-0.00016	0.04358
<i>CASP8</i>	0.02771	0.03316	-0.00545	-2.23814	-0.01022	-0.00067	0.02528
<i>CYB5R2</i>	0.04638	0.05183	-0.00544	-2.14209	-0.01043	-0.00046	0.03227
<i>GHRL</i>	0.03898	0.04441	-0.00543	-2.23897	-0.01019	-0.00067	0.02523
<i>NMNAT1</i>	0.02333	0.02875	-0.00542	-2.98770	-0.00897	-0.00186	0.00283
<i>MMP25-AS1</i>	0.02847	0.03388	-0.00540	-2.64576	-0.00941	-0.00140	0.00819
<i>ANOS1</i>	0.02566	0.03101	-0.00535	-2.52348	-0.00951	-0.00119	0.01167
<i>GANC</i>	0.04419	0.04952	-0.00533	-2.24561	-0.00998	-0.00068	0.02480
<i>NAT14</i>	0.02513	0.03045	-0.00533	-2.73589	-0.00914	-0.00151	0.00626
<i>LINC01550</i>	0.02225	0.02753	-0.00528	-2.65788	-0.00918	-0.00139	0.00790
<i>VIM-AS1</i>	0.04014	0.04543	-0.00528	-2.66804	-0.00916	-0.00140	0.00767
<i>MAD2L1</i>	0.03847	0.04375	-0.00527	-2.40666	-0.00957	-0.00098	0.01616
<i>GTF2E1</i>	0.01898	0.02424	-0.00527	-3.47002	-0.00825	-0.00229	0.00053
<i>LRRN4CL</i>	0.01965	0.02490	-0.00525	-2.98340	-0.00870	-0.00180	0.00287
<i>PLXNA1</i>	0.04124	0.04649	-0.00525	-2.21373	-0.00990	-0.00060	0.02692
<i>EPB42</i>	0.04341	0.04865	-0.00524	-2.12599	-0.01008	-0.00041	0.03359
<i>ZNF334</i>	0.03715	0.04239	-0.00523	-2.47120	-0.00939	-0.00108	0.01352
<i>BRPF3</i>	0.01443	0.01964	-0.00521	-3.05321	-0.00855	-0.00186	0.00228

<i>PLD6</i>	0.01598	0.02118	-0.00520	-2.72986	-0.00894	-0.00147	0.00637
<i>PHKA1</i>	0.01206	0.01723	-0.00517	-3.83052	-0.00781	-0.00252	0.00013
<i>NFYA</i>	0.02180	0.02694	-0.00514	-2.45002	-0.00926	-0.00103	0.01434
<i>AURKC</i>	0.01220	0.01734	-0.00514	-3.36312	-0.00814	-0.00214	0.00078
<i>ZNF790</i>	0.02904	0.03416	-0.00512	-2.79424	-0.00871	-0.00153	0.00523
<i>NCBP1</i>	0.02579	0.03090	-0.00512	-2.52548	-0.00909	-0.00114	0.01160
<i>TBC1D9</i>	0.05043	0.05553	-0.00510	-2.35924	-0.00934	-0.00086	0.01838
<i>NBPF15</i>	0.03413	0.03923	-0.00510	-1.99745	-0.01011	-0.00009	0.04587
<i>UNC13C</i>	0.03160	0.03669	-0.00509	-2.16381	-0.00970	-0.00048	0.03056
<i>TTF2</i>	0.04152	0.04660	-0.00508	-2.29783	-0.00942	-0.00075	0.02164
<i>SLC31A2</i>	0.04549	0.05056	-0.00507	-1.96503	-0.01014	-0.00001	0.04950
<i>ZNF79</i>	0.04356	0.04862	-0.00506	-2.12053	-0.00974	-0.00038	0.03404
<i>SLC27A4</i>	0.03824	0.04326	-0.00503	-2.39110	-0.00915	-0.00090	0.01686
<i>RAVER2</i>	0.03951	0.04451	-0.00500	-2.12792	-0.00961	-0.00039	0.03342
<i>ZNF627</i>	0.03408	0.03907	-0.00499	-2.48488	-0.00894	-0.00105	0.01301
<i>CCDC144A</i>	0.03747	0.04246	-0.00499	-2.14597	-0.00955	-0.00043	0.03195
<i>PIFO</i>	0.02666	0.03163	-0.00497	-2.51297	-0.00885	-0.00109	0.01202
<i>USP35</i>	0.01775	0.02270	-0.00495	-2.77426	-0.00845	-0.00145	0.00557
<i>ZNF675</i>	0.01275	0.01770	-0.00494	-2.83215	-0.00837	-0.00152	0.00465
<i>PAXIP1-AS2</i>	0.02968	0.03462	-0.00494	-2.28820	-0.00917	-0.00071	0.02219
<i>CDKN2B</i>	0.01739	0.02231	-0.00492	-2.48491	-0.00881	-0.00104	0.01301
<i>COL5A3</i>	0.02092	0.02582	-0.00490	-2.42171	-0.00887	-0.00093	0.01551
<i>MCPHI-AS1</i>	0.03160	0.03649	-0.00488	-2.35803	-0.00895	-0.00082	0.01844
<i>LRP2BP</i>	0.02187	0.02673	-0.00487	-2.94273	-0.00811	-0.00162	0.00328
<i>TMEM184C</i>	0.04791	0.05277	-0.00486	-2.20600	-0.00918	-0.00054	0.02746
<i>PBX4</i>	0.01123	0.01608	-0.00486	-2.48252	-0.00869	-0.00102	0.01310
<i>OXSM</i>	0.02895	0.03380	-0.00485	-2.21986	-0.00913	-0.00057	0.02650
<i>GPR21</i>	0.03032	0.03504	-0.00472	-2.31475	-0.00872	-0.00072	0.02069
<i>NAPA-AS1</i>	0.03613	0.04083	-0.00470	-2.20130	-0.00889	-0.00051	0.02779
<i>CASS4</i>	0.03037	0.03507	-0.00470	-2.30323	-0.00870	-0.00070	0.02133
<i>ANLN</i>	0.03057	0.03525	-0.00467	-2.29579	-0.00867	-0.00068	0.02176
<i>SLC26A1</i>	0.03065	0.03529	-0.00464	-2.27831	-0.00864	-0.00065	0.02278

<i>LINC00467</i>	0.02211	0.02673	-0.00462	-2.47942	-0.00827	-0.00097	0.01321
<i>ZNF684</i>	0.02030	0.02491	-0.00462	-2.67337	-0.00800	-0.00123	0.00755
<i>KRT86</i>	0.02616	0.03071	-0.00455	-2.41012	-0.00825	-0.00085	0.01601
<i>DOCK3</i>	0.03436	0.03889	-0.00453	-2.13723	-0.00868	-0.00037	0.03266
<i>PNPO</i>	0.03066	0.03513	-0.00447	-2.21253	-0.00843	-0.00051	0.02700
<i>KATNAL2</i>	0.03669	0.04114	-0.00445	-1.98772	-0.00884	-0.00006	0.04693
<i>LRRC75B</i>	0.02940	0.03383	-0.00444	-2.20156	-0.00839	-0.00049	0.02777
<i>PRR7-AS1</i>	0.00679	0.01117	-0.00438	-3.29682	-0.00698	-0.00177	0.00099
<i>VHL</i>	0.02859	0.03291	-0.00431	-2.16509	-0.00822	-0.00041	0.03046
<i>ATXN7L2</i>	0.00804	0.01235	-0.00431	-3.13219	-0.00701	-0.00161	0.00175
<i>WASIR2</i>	0.00674	0.01105	-0.00431	-3.24091	-0.00691	-0.00170	0.00120
<i>NYNRIN</i>	0.03656	0.04086	-0.00430	-2.01309	-0.00849	-0.00011	0.04419
<i>TMEM232</i>	0.00731	0.01160	-0.00429	-3.19318	-0.00693	-0.00166	0.00142
<i>FBXL19</i>	0.03660	0.04085	-0.00425	-1.97297	-0.00848	-0.00003	0.04859
<i>CYP3A43</i>	0.02633	0.03058	-0.00425	-2.15893	-0.00812	-0.00039	0.03093
<i>GABBR1</i>	0.03636	0.04059	-0.00423	-2.13790	-0.00810	-0.00035	0.03260
<i>SNX25</i>	0.02346	0.02767	-0.00421	-2.66675	-0.00730	-0.00111	0.00770
<i>IQUB</i>	0.00829	0.01246	-0.00417	-3.04181	-0.00685	-0.00148	0.00237
<i>HS3ST3B1</i>	0.03190	0.03605	-0.00415	-2.00192	-0.00822	-0.00009	0.04538
<i>PRODH</i>	0.01062	0.01475	-0.00413	-2.99104	-0.00685	-0.00142	0.00280
<i>LINC01091</i>	0.01028	0.01439	-0.00411	-2.76896	-0.00702	-0.00120	0.00566
<i>TRAF3</i>	0.03795	0.04203	-0.00409	-2.28554	-0.00759	-0.00058	0.02235
<i>UBE2T</i>	0.02390	0.02798	-0.00408	-2.42811	-0.00737	-0.00078	0.01524
<i>MTRNR2L10</i>	0.02772	0.03179	-0.00406	-2.03388	-0.00798	-0.00015	0.04205
<i>RNASE6</i>	0.02532	0.02931	-0.00399	-1.99620	-0.00790	-0.00007	0.04600
<i>FUT10</i>	0.01952	0.02349	-0.00397	-2.38043	-0.00724	-0.00070	0.01735
<i>MCM2</i>	0.01629	0.02022	-0.00393	-2.85818	-0.00663	-0.00123	0.00429
<i>FREM1</i>	0.01615	0.02008	-0.00393	-2.25710	-0.00735	-0.00052	0.02407
<i>ASIC4</i>	0.01764	0.02157	-0.00392	-2.44068	-0.00707	-0.00077	0.01472
<i>LINC01473</i>	0.01480	0.01872	-0.00392	-2.43313	-0.00708	-0.00076	0.01503
<i>PDE4A</i>	0.02387	0.02774	-0.00387	-1.96724	-0.00773	-0.00001	0.04925
<i>VSNL1</i>	0.01389	0.01771	-0.00382	-2.14082	-0.00731	-0.00032	0.03237

<i>OLFM2</i>	0.00877	0.01256	-0.00379	-2.67617	-0.00657	-0.00101	0.00749
<i>MDGA1</i>	0.00954	0.01333	-0.00379	-2.87528	-0.00638	-0.00121	0.00406
<i>ARHGAP26</i>	0.02792	0.03166	-0.00374	-2.02924	-0.00736	-0.00013	0.04252
<i>SFXN2</i>	0.02577	0.02943	-0.00366	-2.04609	-0.00716	-0.00015	0.04083
<i>FBXL6</i>	0.02914	0.03279	-0.00364	-1.97039	-0.00727	-0.00002	0.04888
<i>GNRH2</i>	0.01225	0.01582	-0.00357	-2.17143	-0.00679	-0.00035	0.02998
<i>NCF4</i>	0.02129	0.02483	-0.00354	-2.10354	-0.00684	-0.00024	0.03550
<i>MIR133A1HG</i>	0.02263	0.02616	-0.00353	-2.01222	-0.00698	-0.00009	0.04429
<i>ZNF782</i>	0.00968	0.01318	-0.00351	-2.70179	-0.00605	-0.00096	0.00694
<i>SPATA21</i>	0.01259	0.01610	-0.00350	-2.12266	-0.00674	-0.00027	0.03386
<i>C1RL-AS1</i>	0.01545	0.01895	-0.00350	-2.09097	-0.00678	-0.00022	0.03661
<i>CDCP1</i>	0.00922	0.01264	-0.00342	-3.14610	-0.00556	-0.00129	0.00167
<i>KSR1</i>	0.01014	0.01353	-0.00339	-2.31964	-0.00626	-0.00052	0.02043
<i>RBM38</i>	0.00522	0.00849	-0.00327	-3.49797	-0.00510	-0.00144	0.00048
<i>PRR5L</i>	0.01047	0.01368	-0.00322	-2.21832	-0.00606	-0.00037	0.02661
<i>OR51E2</i>	0.01593	0.01908	-0.00315	-2.17129	-0.00600	-0.00031	0.02999
<i>ERAP2</i>	0.02900	0.03214	-0.00315	-1.97420	-0.00628	-0.00002	0.04845
<i>TMEM158</i>	0.00907	0.01212	-0.00305	-2.08284	-0.00592	-0.00018	0.03735
<i>ALG11</i>	0.01304	0.01608	-0.00304	-2.14201	-0.00582	-0.00026	0.03227
<i>LPAR4</i>	0.01063	0.01367	-0.00303	-2.09960	-0.00586	-0.00020	0.03585
<i>TIGD4</i>	0.00598	0.00879	-0.00281	-2.49750	-0.00502	-0.00060	0.01256
<i>ZXDB</i>	0.01557	0.01835	-0.00279	-2.05403	-0.00545	-0.00013	0.04006
<i>RIN1</i>	0.01476	0.01754	-0.00278	-2.26148	-0.00519	-0.00037	0.02380
<i>EPPK1</i>	0.01457	0.01734	-0.00277	-2.18853	-0.00525	-0.00029	0.02871
<i>MRLN</i>	0.00960	0.01235	-0.00275	-2.06895	-0.00536	-0.00014	0.03864
<i>NLK</i>	0.01750	0.02025	-0.00274	-1.98967	-0.00545	-0.00004	0.04672
<i>LINC00174</i>	0.00722	0.00997	-0.00274	-2.30576	-0.00508	-0.00041	0.02119
<i>CTSG</i>	0.00882	0.01152	-0.00271	-2.23393	-0.00508	-0.00033	0.02556
<i>DLX1</i>	0.00466	0.00736	-0.00271	-2.80329	-0.00460	-0.00081	0.00509
<i>GREM2</i>	0.00466	0.00736	-0.00270	-2.79623	-0.00459	-0.00081	0.00520
<i>TTC30A</i>	0.01372	0.01642	-0.00270	-2.11653	-0.00520	-0.00020	0.03438
<i>FAM13A-AS1</i>	0.00480	0.00750	-0.00270	-2.75128	-0.00462	-0.00077	0.00597

<i>ANKRD53</i>	0.01263	0.01528	-0.00264	-2.44781	-0.00476	-0.00053	0.01443
<i>PCDHB6</i>	0.01151	0.01411	-0.00260	-2.00276	-0.00514	-0.00005	0.04529
<i>LINC00894</i>	0.01477	0.01736	-0.00259	-1.97692	-0.00516	-0.00002	0.04814
<i>TBX19</i>	0.00625	0.00881	-0.00256	-2.34720	-0.00469	-0.00042	0.01898
<i>DEPDC7</i>	0.00529	0.00781	-0.00252	-2.57887	-0.00443	-0.00060	0.00996
<i>FAM184A</i>	0.01642	0.01887	-0.00245	-2.05659	-0.00478	-0.00011	0.03981
<i>PLB1</i>	0.00944	0.01178	-0.00234	-2.16876	-0.00446	-0.00022	0.03018
<i>TMEM147-AS1</i>	0.01344	0.01573	-0.00229	-2.12385	-0.00441	-0.00018	0.03376
<i>SRP14-AS1</i>	0.01016	0.01243	-0.00227	-2.10134	-0.00439	-0.00015	0.03569
<i>ZNF556</i>	0.00774	0.00999	-0.00225	-2.10585	-0.00435	-0.00016	0.03530
<i>YJEFN3</i>	0.01372	0.01592	-0.00220	-2.04879	-0.00431	-0.00009	0.04057
<i>CLHC1</i>	0.00992	0.01195	-0.00204	-2.11435	-0.00392	-0.00015	0.03457
<i>EGFL8</i>	0.00755	0.00955	-0.00200	-2.07747	-0.00389	-0.00011	0.03784
<i>IL1R2</i>	0.00456	0.00647	-0.00191	-3.00938	-0.00316	-0.00067	0.00264
<i>SEC31B</i>	0.00381	0.00565	-0.00184	-3.02211	-0.00303	-0.00065	0.00253
<i>FBXL7</i>	0.00895	0.01079	-0.00184	-2.13039	-0.00353	-0.00015	0.03322
<i>PLA2G7</i>	0.00587	0.00758	-0.00171	-2.06492	-0.00333	-0.00009	0.03902
<i>ZNF492</i>	0.00747	0.00914	-0.00167	-2.04025	-0.00328	-0.00007	0.04141
<i>MIR193BHG</i>	0.00825	0.00991	-0.00166	-2.13324	-0.00318	-0.00013	0.03299
<i>EFHB</i>	0.00676	0.00838	-0.00161	-2.16819	-0.00307	-0.00015	0.03022
<i>TESPA1</i>	0.00151	0.00309	-0.00159	-2.62905	-0.00277	-0.00040	0.00861
<i>GPR173</i>	0.00265	0.00419	-0.00154	-2.25603	-0.00288	-0.00020	0.02414
<i>DISP2</i>	0.00132	0.00268	-0.00136	-2.72056	-0.00234	-0.00038	0.00655
<i>ATG9B</i>	0.00135	0.00267	-0.00132	-2.65635	-0.00230	-0.00035	0.00794
<i>P2RX5</i>	0.00261	0.00389	-0.00129	-2.29069	-0.00239	-0.00019	0.02205
<i>ADAMTS17</i>	0.00321	0.00448	-0.00127	-2.06455	-0.00248	-0.00006	0.03905
<i>CSF3R</i>	0.00148	0.00274	-0.00126	-2.25048	-0.00236	-0.00016	0.02449
<i>TIGD2</i>	0.00143	0.00265	-0.00122	-2.50079	-0.00218	-0.00026	0.01244
<i>CD2</i>	0.00241	0.00361	-0.00120	-2.03590	-0.00235	-0.00004	0.04185
<i>ZNF410</i>	0.00250	0.00361	-0.00111	-2.31932	-0.00205	-0.00017	0.02044
<i>TMIGD2</i>	0.00025	0.00133	-0.00107	-2.54700	-0.00190	-0.00025	0.01091
<i>HSD17B13</i>	0.00240	0.00344	-0.00104	-2.63640	-0.00181	-0.00027	0.00842

<i>ENDOU</i>	0.00142	0.00243	-0.00101	-2.30664	-0.00187	-0.00015	0.02114
<i>HIST1H2BE</i>	0.00383	0.00483	-0.00100	-2.11188	-0.00194	-0.00007	0.03478
<i>LINC01515</i>	0.00349	0.00440	-0.00090	-2.31258	-0.00167	-0.00014	0.02081
<i>CCDC158</i>	0.00066	0.00155	-0.00089	-3.56567	-0.00138	-0.00040	0.00037
<i>LINC00971</i>	0.00234	0.00321	-0.00087	-2.37332	-0.00159	-0.00015	0.01769
<i>SPRED3</i>	0.00114	0.00199	-0.00086	-1.96146	-0.00172	0.00000	0.04992
<i>PRTN3</i>	0.00019	0.00103	-0.00084	-2.55157	-0.00148	-0.00019	0.01077
<i>BRINP2</i>	0.00178	0.00261	-0.00083	-2.04213	-0.00162	-0.00003	0.04123
<i>ROPN1B</i>	0.00178	0.00261	-0.00083	-2.04213	-0.00162	-0.00003	0.04123
<i>MIR202HG</i>	0.00051	0.00131	-0.00081	-2.33069	-0.00149	-0.00013	0.01984
<i>RAPGEFL1</i>	0.00088	0.00167	-0.00079	-2.99088	-0.00131	-0.00027	0.00280
<i>C15orf48</i>	0.00188	0.00266	-0.00079	-2.14713	-0.00150	-0.00007	0.03186
<i>TNFSF8</i>	0.00135	0.00213	-0.00078	-2.09086	-0.00152	-0.00005	0.03662
<i>CXorf65</i>	0.00131	0.00209	-0.00078	-2.08845	-0.00151	-0.00005	0.03684
<i>ARHGAP11B</i>	0.00014	0.00069	-0.00055	-3.10259	-0.00089	-0.00020	0.00194
<i>ZNF610</i>	0.00006	0.00040	-0.00034	-2.31215	-0.00063	-0.00005	0.02084
<i>CACTIN-AS1</i>	0.00010	0.00040	-0.00030	-2.61157	-0.00052	-0.00007	0.00906
<i>RGS9BP</i>	0.00025	0.00052	-0.00027	-2.05006	-0.00052	-0.00001	0.04044
<i>CNIH2</i>	0.00009	0.00032	-0.00023	-2.14299	-0.00044	-0.00002	0.03219
<i>DAWI</i>	0.00011	0.00033	-0.00022	-2.06065	-0.00043	-0.00001	0.03942
<i>LINC00571</i>	0.00003	0.00022	-0.00019	-2.24469	-0.00036	-0.00002	0.02486
<i>GTSE1</i>	0.00047	0.00066	-0.00019	-2.37194	-0.00035	-0.00003	0.01776
<i>PGM5-AS1</i>	0.00047	0.00066	-0.00019	-2.37194	-0.00035	-0.00003	0.01776
<i>RAB40A</i>	0.00047	0.00066	-0.00019	-2.37194	-0.00035	-0.00003	0.01776
<i>WIF1</i>	0.00006	0.00023	-0.00017	-1.97041	-0.00035	0.00000	0.04888
<i>GNAS-AS1</i>	0.00001	0.00013	-0.00011	-2.39345	-0.00020	-0.00002	0.01675
<i>EPHB1</i>	0.00001	0.00013	-0.00011	-2.39345	-0.00020	-0.00002	0.01675
<i>TFR2</i>	0.00001	0.00013	-0.00011	-2.39345	-0.00020	-0.00002	0.01675
<i>MYL3</i>	0.00004	0.00002	0.00002	2.02784	0.00000	0.00005	0.04266
<i>LEFTY1</i>	0.00011	0.00000	0.00011	2.18968	0.00001	0.00022	0.02862
<i>KCNH4</i>	0.00011	0.00000	0.00011	2.18968	0.00001	0.00022	0.02862
<i>LINC00470</i>	0.00011	0.00000	0.00011	2.18968	0.00001	0.00022	0.02862

<i>BRINP3</i>	0.00014	0.00000	0.00013	2.28936	0.00002	0.00025	0.02213
<i>WNT9B</i>	0.00014	0.00000	0.00014	1.98114	0.00000	0.00027	0.04767
<i>PCDHGA8</i>	0.00018	0.00002	0.00015	1.98314	0.00000	0.00031	0.04744
<i>DAGLA</i>	0.00018	0.00003	0.00016	1.98756	0.00000	0.00031	0.04695
<i>SERPIND1</i>	0.00020	0.00000	0.00020	2.01275	0.00001	0.00040	0.04423
<i>ZMYND12</i>	0.00029	0.00007	0.00021	2.95054	0.00007	0.00036	0.00320
<i>SNTG2</i>	0.00026	0.00003	0.00023	2.02905	0.00001	0.00046	0.04254
<i>SULT1C2</i>	0.00035	0.00012	0.00024	2.17608	0.00002	0.00045	0.02963
<i>PCSK6</i>	0.00025	0.00000	0.00025	2.35059	0.00004	0.00046	0.01881
<i>TDGF1</i>	0.00027	0.00001	0.00026	2.02074	0.00001	0.00051	0.04339
<i>IGF2BP3</i>	0.00035	0.00007	0.00029	2.06232	0.00001	0.00056	0.03926
<i>PAX3</i>	0.00043	0.00012	0.00031	2.19470	0.00003	0.00058	0.02826
<i>HOXA-AS2</i>	0.00048	0.00015	0.00033	2.14859	0.00003	0.00064	0.03175
<i>ZNF69</i>	0.00064	0.00029	0.00036	2.40870	0.00007	0.00065	0.01607
<i>IKBKE</i>	0.00084	0.00048	0.00036	2.13304	0.00003	0.00069	0.03300
<i>ADAM11</i>	0.00084	0.00048	0.00036	2.13304	0.00003	0.00069	0.03300
<i>MATK</i>	0.00046	0.00009	0.00037	2.18731	0.00004	0.00070	0.02880
<i>ISM1</i>	0.00048	0.00007	0.00041	2.44871	0.00008	0.00073	0.01439
<i>FBXO15</i>	0.00078	0.00030	0.00048	2.45260	0.00010	0.00087	0.01424
<i>DCST2</i>	0.00058	0.00009	0.00049	2.33293	0.00008	0.00090	0.01972
<i>NPAS4</i>	0.00106	0.00057	0.00049	2.03489	0.00002	0.00097	0.04195
<i>VPS9D1-AS1</i>	0.00106	0.00057	0.00049	2.03489	0.00002	0.00097	0.04195
<i>ITGAL</i>	0.00117	0.00065	0.00051	2.05805	0.00002	0.00100	0.03967
<i>CCDC36</i>	0.00117	0.00065	0.00052	2.51802	0.00012	0.00093	0.01185
<i>HOXA3</i>	0.00107	0.00051	0.00055	2.76830	0.00016	0.00095	0.00567
<i>STAC2</i>	0.00075	0.00017	0.00057	2.61580	0.00014	0.00100	0.00895
<i>RNF125</i>	0.00067	0.00006	0.00060	2.98105	0.00021	0.00100	0.00290
<i>CAPN11</i>	0.00077	0.00017	0.00060	2.78939	0.00018	0.00103	0.00531
<i>ROPNIL</i>	0.00067	0.00006	0.00061	2.29969	0.00009	0.00114	0.02153
<i>LY9</i>	0.00088	0.00024	0.00065	2.44056	0.00013	0.00116	0.01472
<i>TRPA1</i>	0.00160	0.00093	0.00067	2.44809	0.00013	0.00121	0.01442
<i>BRICD5</i>	0.00112	0.00043	0.00069	2.57177	0.00016	0.00121	0.01017

<i>HIST1H2BC</i>	0.00135	0.00066	0.00069	2.35585	0.00012	0.00127	0.01854
<i>WWTR1-AS1</i>	0.00173	0.00104	0.00069	1.99667	0.00001	0.00138	0.04595
<i>FBN2</i>	0.00127	0.00054	0.00073	2.06631	0.00004	0.00143	0.03888
<i>ZMYND15</i>	0.00146	0.00072	0.00074	2.10862	0.00005	0.00142	0.03506
<i>USHBP1</i>	0.00131	0.00056	0.00075	2.15745	0.00007	0.00143	0.03105
<i>IL4I1</i>	0.00099	0.00021	0.00078	2.02117	0.00002	0.00154	0.04335
<i>ITGA2B</i>	0.00092	0.00013	0.00079	2.20215	0.00009	0.00149	0.02773
<i>GIN53</i>	0.00195	0.00115	0.00080	2.09937	0.00005	0.00155	0.03587
<i>PDE6B</i>	0.00143	0.00062	0.00081	2.17787	0.00008	0.00153	0.02949
<i>CORIN</i>	0.00092	0.00002	0.00090	2.73913	0.00025	0.00154	0.00620
<i>OPRK1</i>	0.00092	0.00002	0.00090	2.73913	0.00025	0.00154	0.00620
<i>CELSR3</i>	0.00160	0.00069	0.00090	2.15570	0.00008	0.00173	0.03119
<i>IL20RA</i>	0.00195	0.00104	0.00091	2.14668	0.00008	0.00174	0.03190
<i>IL31RA</i>	0.00274	0.00182	0.00092	2.23069	0.00011	0.00173	0.02577
<i>KLRD1</i>	0.00220	0.00126	0.00094	2.01741	0.00003	0.00185	0.04374
<i>MAB21L1</i>	0.00115	0.00021	0.00094	2.35239	0.00016	0.00173	0.01872
<i>VIPRI-AS1</i>	0.00290	0.00193	0.00097	1.98359	0.00001	0.00193	0.04739
<i>WDR17</i>	0.00200	0.00101	0.00100	2.75593	0.00029	0.00171	0.00589
<i>KCNK7</i>	0.00300	0.00200	0.00100	2.11026	0.00007	0.00193	0.03492
<i>CCL1</i>	0.00119	0.00017	0.00102	2.42994	0.00020	0.00184	0.01516
<i>KCNJ5</i>	0.00110	0.00008	0.00102	2.92555	0.00034	0.00171	0.00346
<i>EPCAM</i>	0.00172	0.00069	0.00103	2.06408	0.00005	0.00201	0.03910
<i>PYDC1</i>	0.00115	0.00011	0.00104	3.01197	0.00036	0.00171	0.00262
<i>MCOLN2</i>	0.00262	0.00157	0.00105	1.96619	0.00000	0.00209	0.04937
<i>DSP</i>	0.00216	0.00111	0.00105	1.99618	0.00002	0.00208	0.04600
<i>PRPH2</i>	0.00295	0.00190	0.00105	1.97127	0.00001	0.00210	0.04878
<i>NPIPA5</i>	0.00299	0.00193	0.00106	2.18508	0.00011	0.00201	0.02896
<i>IL20RB</i>	0.00177	0.00071	0.00106	2.17266	0.00010	0.00203	0.02988
<i>ANKRD2</i>	0.00170	0.00063	0.00107	2.49626	0.00023	0.00191	0.01260
<i>EXOC3L2</i>	0.00250	0.00140	0.00109	1.99991	0.00002	0.00217	0.04560
<i>XPNPEP2</i>	0.00192	0.00077	0.00116	2.75936	0.00033	0.00198	0.00583
<i>REEP6</i>	0.00407	0.00291	0.00116	2.10315	0.00008	0.00224	0.03553

<i>TTL9</i>	0.00141	0.00023	0.00117	3.10106	0.00043	0.00192	0.00195
<i>BCAN</i>	0.00352	0.00234	0.00118	2.39247	0.00021	0.00214	0.01680
<i>NFATC2</i>	0.00430	0.00312	0.00118	1.97889	0.00001	0.00234	0.04792
<i>PCDH12</i>	0.00235	0.00116	0.00119	2.46060	0.00024	0.00214	0.01393
<i>WFIKKN2</i>	0.00331	0.00212	0.00119	2.06113	0.00006	0.00233	0.03938
<i>B3GNT5</i>	0.00470	0.00348	0.00122	1.97931	0.00001	0.00242	0.04787
<i>RAPGEF4</i>	0.00274	0.00152	0.00122	2.06968	0.00006	0.00238	0.03857
<i>ALDH1L1-AS1</i>	0.00222	0.00097	0.00125	2.35691	0.00021	0.00228	0.01849
<i>LRRIQ1</i>	0.00317	0.00187	0.00131	2.42488	0.00025	0.00236	0.01537
<i>CHDH</i>	0.00220	0.00089	0.00131	2.36694	0.00022	0.00239	0.01800
<i>LINC01465</i>	0.00180	0.00048	0.00132	2.98476	0.00045	0.00219	0.00286
<i>LINC00504</i>	0.00429	0.00296	0.00133	2.03455	0.00005	0.00260	0.04198
<i>NAV3</i>	0.00257	0.00122	0.00134	2.37130	0.00023	0.00245	0.01779
<i>CTXN1</i>	0.00468	0.00334	0.00135	2.02537	0.00004	0.00265	0.04292
<i>PNLIPRP1</i>	0.00587	0.00452	0.00135	2.03418	0.00005	0.00265	0.04202
<i>RNASEH2B-AS1</i>	0.00262	0.00126	0.00135	2.41326	0.00025	0.00245	0.01587
<i>CRACR2A</i>	0.00246	0.00109	0.00137	2.34671	0.00023	0.00252	0.01900
<i>HOXB-AS3</i>	0.00264	0.00126	0.00137	2.44735	0.00027	0.00247	0.01445
<i>TNKS2-AS1</i>	0.00529	0.00391	0.00138	2.00072	0.00003	0.00273	0.04551
<i>TMEM52</i>	0.00453	0.00313	0.00140	2.20362	0.00015	0.00264	0.02763
<i>TSPAN18</i>	0.00399	0.00259	0.00140	2.09942	0.00009	0.00271	0.03586
<i>KCP</i>	0.00371	0.00225	0.00146	2.03185	0.00005	0.00286	0.04226
<i>FAM71F2</i>	0.00290	0.00142	0.00148	2.92741	0.00049	0.00247	0.00344
<i>FRAT1</i>	0.00415	0.00266	0.00148	2.23866	0.00018	0.00278	0.02525
<i>SYK</i>	0.00354	0.00204	0.00150	2.05600	0.00007	0.00294	0.03987
<i>DANT2</i>	0.00369	0.00217	0.00152	2.07611	0.00008	0.00295	0.03797
<i>SMIM2-AS1</i>	0.00493	0.00340	0.00153	2.05292	0.00007	0.00299	0.04017
<i>KIF20A</i>	0.00733	0.00579	0.00153	2.04956	0.00007	0.00300	0.04049
<i>DIAPH3</i>	0.00839	0.00684	0.00154	1.96548	0.00000	0.00308	0.04945
<i>RAB11FIP3</i>	0.00460	0.00302	0.00158	2.38126	0.00028	0.00288	0.01731
<i>CCT6B</i>	0.00778	0.00619	0.00159	2.08580	0.00010	0.00308	0.03708
<i>ITIH1</i>	0.00758	0.00597	0.00161	2.05114	0.00007	0.00314	0.04034

<i>TFEC</i>	0.01025	0.00864	0.00161	2.14595	0.00014	0.00308	0.03196
<i>LRRC61</i>	0.00508	0.00345	0.00162	2.09292	0.00010	0.00314	0.03644
<i>EFNA4</i>	0.00689	0.00526	0.00163	2.26400	0.00022	0.00304	0.02364
<i>ARHGEF19</i>	0.00342	0.00179	0.00163	2.28380	0.00023	0.00303	0.02245
<i>TNNT3</i>	0.00535	0.00371	0.00163	2.00021	0.00003	0.00323	0.04557
<i>HIST1H2AH</i>	0.00262	0.00097	0.00165	2.75593	0.00047	0.00282	0.00589
<i>ACAD11</i>	0.00401	0.00234	0.00167	2.28782	0.00024	0.00310	0.02222
<i>TUB</i>	0.00776	0.00608	0.00168	2.24107	0.00021	0.00315	0.02509
<i>TPX2</i>	0.00343	0.00175	0.00168	2.41618	0.00032	0.00304	0.01574
<i>USP3-AS1</i>	0.00624	0.00454	0.00170	1.98174	0.00002	0.00339	0.04760
<i>LINC01186</i>	0.01219	0.01045	0.00173	1.97873	0.00002	0.00345	0.04794
<i>FGF10-AS1</i>	0.00334	0.00159	0.00175	2.75734	0.00051	0.00300	0.00586
<i>PLEKHA7</i>	0.00374	0.00192	0.00181	2.02054	0.00005	0.00357	0.04342
<i>HIST1H4E</i>	0.00721	0.00539	0.00182	1.96817	0.00001	0.00363	0.04914
<i>TRIM55</i>	0.00770	0.00587	0.00183	2.03737	0.00007	0.00359	0.04170
<i>NHLRC4</i>	0.00600	0.00417	0.00184	1.96852	0.00001	0.00367	0.04910
<i>CFHR3</i>	0.00557	0.00373	0.00184	2.33235	0.00029	0.00339	0.01975
<i>CHI3L2</i>	0.00749	0.00564	0.00185	2.46185	0.00038	0.00332	0.01388
<i>SLC38A5</i>	0.00880	0.00694	0.00186	1.98938	0.00003	0.00370	0.04675
<i>VPREB3</i>	0.00645	0.00456	0.00189	1.97255	0.00001	0.00377	0.04864
<i>ITPKB</i>	0.00706	0.00515	0.00190	2.17319	0.00019	0.00362	0.02984
<i>CAPN15</i>	0.00887	0.00695	0.00191	2.06014	0.00009	0.00374	0.03947
<i>OXCT2</i>	0.00562	0.00369	0.00194	2.03895	0.00007	0.00380	0.04154
<i>TINCR</i>	0.00563	0.00368	0.00195	3.05529	0.00070	0.00320	0.00227
<i>ARIH2OS</i>	0.00961	0.00759	0.00202	2.20933	0.00023	0.00382	0.02723
<i>MIF-AS1</i>	0.00715	0.00512	0.00203	2.39976	0.00037	0.00369	0.01647
<i>CCNF</i>	0.00476	0.00273	0.00203	2.96620	0.00069	0.00337	0.00304
<i>PRICKLE4</i>	0.00495	0.00290	0.00204	2.72177	0.00057	0.00351	0.00653
<i>ZKSCAN8</i>	0.00700	0.00493	0.00207	2.63561	0.00053	0.00361	0.00844
<i>GXYLT2</i>	0.00518	0.00310	0.00207	2.19891	0.00022	0.00392	0.02796
<i>MBLAC1</i>	0.01193	0.00984	0.00209	2.13256	0.00017	0.00401	0.03304
<i>FOXP2</i>	0.00713	0.00504	0.00210	2.06629	0.00011	0.00409	0.03889

<i>CNIH3</i>	0.00696	0.00485	0.00211	2.22430	0.00025	0.00397	0.02620
<i>TUBB4A</i>	0.00583	0.00370	0.00212	2.21984	0.00025	0.00400	0.02650
<i>FBXO45</i>	0.01116	0.00903	0.00213	2.05713	0.00010	0.00415	0.03976
<i>MYO7B</i>	0.00883	0.00666	0.00217	2.53576	0.00049	0.00385	0.01127
<i>PCDHGA5</i>	0.00645	0.00425	0.00220	2.14089	0.00019	0.00422	0.03236
<i>LAMB3</i>	0.00456	0.00234	0.00222	2.95318	0.00075	0.00369	0.00317
<i>BEGAIN</i>	0.00409	0.00187	0.00222	2.60128	0.00055	0.00390	0.00933
<i>CD3D</i>	0.00860	0.00637	0.00223	2.02676	0.00007	0.00438	0.04277
<i>TEP1</i>	0.00724	0.00500	0.00223	2.04982	0.00010	0.00437	0.04047
<i>LINC01544</i>	0.00337	0.00113	0.00223	3.24037	0.00088	0.00358	0.00121
<i>INTS7</i>	0.01119	0.00895	0.00224	2.19996	0.00024	0.00423	0.02789
<i>STRBP</i>	0.00960	0.00736	0.00225	2.08577	0.00013	0.00436	0.03708
<i>IPMK</i>	0.00764	0.00539	0.00225	2.42018	0.00043	0.00407	0.01557
<i>CYP4F11</i>	0.00822	0.00597	0.00225	2.09373	0.00014	0.00436	0.03637
<i>ZNF763</i>	0.00923	0.00697	0.00226	2.10695	0.00016	0.00436	0.03520
<i>SPN</i>	0.00337	0.00107	0.00229	2.69405	0.00062	0.00397	0.00710
<i>CAHM</i>	0.00835	0.00603	0.00232	2.05800	0.00011	0.00453	0.03968
<i>ZNF81</i>	0.00703	0.00471	0.00232	2.65083	0.00060	0.00403	0.00807
<i>GATA5</i>	0.00802	0.00570	0.00232	2.14194	0.00020	0.00445	0.03228
<i>TMEM256-PLSCR3</i>	0.00657	0.00424	0.00232	2.05520	0.00011	0.00454	0.03995
<i>PAMR1</i>	0.00694	0.00461	0.00233	1.99190	0.00004	0.00461	0.04647
<i>NUDT11</i>	0.01179	0.00941	0.00238	1.98735	0.00003	0.00473	0.04697
<i>ZNF530</i>	0.00791	0.00552	0.00239	2.29736	0.00035	0.00444	0.02167
<i>P2RX7</i>	0.01011	0.00771	0.00239	2.13841	0.00020	0.00459	0.03256
<i>ATAD2B</i>	0.01015	0.00773	0.00241	2.41528	0.00045	0.00437	0.01578
<i>IGSF10</i>	0.00741	0.00499	0.00243	2.43350	0.00047	0.00438	0.01501
<i>F2RL3</i>	0.00708	0.00463	0.00244	1.96531	0.00001	0.00488	0.04947
<i>IGSF6</i>	0.01451	0.01206	0.00244	2.06036	0.00012	0.00477	0.03945
<i>FITM1</i>	0.00932	0.00684	0.00248	2.97952	0.00085	0.00411	0.00291
<i>GPHA2</i>	0.00642	0.00393	0.00249	2.30561	0.00037	0.00460	0.02120
<i>ZNF337-AS1</i>	0.00705	0.00456	0.00249	2.17727	0.00025	0.00474	0.02954
<i>WNT2B</i>	0.01181	0.00929	0.00252	1.98249	0.00003	0.00502	0.04752

<i>CCDC181</i>	0.01517	0.01263	0.00255	2.28882	0.00036	0.00473	0.02216
<i>ADM5</i>	0.00680	0.00423	0.00257	2.46159	0.00052	0.00461	0.01389
<i>DLEU1</i>	0.01134	0.00876	0.00258	2.03895	0.00010	0.00505	0.04154
<i>FSCN2</i>	0.00864	0.00606	0.00258	2.07343	0.00014	0.00502	0.03822
<i>HID1</i>	0.00848	0.00589	0.00259	2.39617	0.00047	0.00471	0.01663
<i>DLGAP1-AS2</i>	0.01700	0.01439	0.00261	2.03393	0.00009	0.00512	0.04205
<i>MSX1</i>	0.00821	0.00557	0.00264	2.57736	0.00063	0.00464	0.01000
<i>SKP2</i>	0.01126	0.00861	0.00265	2.07353	0.00014	0.00516	0.03821
<i>C9orf50</i>	0.00930	0.00665	0.00265	2.28548	0.00038	0.00492	0.02235
<i>CEP19</i>	0.01052	0.00781	0.00271	2.49344	0.00058	0.00484	0.01270
<i>SHC2</i>	0.00985	0.00713	0.00272	2.13680	0.00022	0.00521	0.03269
<i>CD247</i>	0.01775	0.01502	0.00273	2.38023	0.00048	0.00498	0.01736
<i>NDST2</i>	0.02414	0.02139	0.00275	1.98328	0.00003	0.00547	0.04743
<i>ZNF519</i>	0.02290	0.02013	0.00277	2.00403	0.00006	0.00548	0.04516
<i>C12orf54</i>	0.00823	0.00544	0.00279	2.24100	0.00035	0.00523	0.02510
<i>TSNARE1</i>	0.01058	0.00779	0.00279	2.36291	0.00048	0.00511	0.01819
<i>ACP5</i>	0.01172	0.00892	0.00280	2.23127	0.00034	0.00527	0.02574
<i>HIP1R</i>	0.00928	0.00643	0.00285	2.63468	0.00073	0.00496	0.00846
<i>MIATNB</i>	0.01992	0.01706	0.00286	2.36095	0.00048	0.00524	0.01829
<i>TBX1</i>	0.00720	0.00434	0.00286	2.38358	0.00051	0.00522	0.01721
<i>MPP3</i>	0.01876	0.01590	0.00286	1.96701	0.00001	0.00572	0.04927
<i>MCF2L</i>	0.02406	0.02118	0.00288	2.02505	0.00009	0.00567	0.04295
<i>DUSP5</i>	0.00971	0.00680	0.00291	2.59878	0.00071	0.00510	0.00940
<i>CA9</i>	0.00767	0.00474	0.00293	2.58456	0.00071	0.00516	0.00980
<i>KIAA0408</i>	0.01566	0.01273	0.00294	2.03157	0.00010	0.00577	0.04228
<i>PHOSPHO2</i>	0.02838	0.02544	0.00294	2.07734	0.00017	0.00572	0.03785
<i>ADPRH</i>	0.01639	0.01343	0.00296	2.09778	0.00019	0.00572	0.03601
<i>GPT2</i>	0.01419	0.01121	0.00297	2.45066	0.00059	0.00535	0.01432
<i>FBF1</i>	0.00784	0.00484	0.00300	2.66085	0.00079	0.00521	0.00784
<i>WBP1</i>	0.02713	0.02411	0.00302	2.28942	0.00043	0.00561	0.02212
<i>CD86</i>	0.02034	0.01731	0.00303	2.21261	0.00034	0.00571	0.02700
<i>PARD6G</i>	0.02503	0.02199	0.00304	2.09748	0.00020	0.00588	0.03603

<i>LINC00865</i>	0.01086	0.00782	0.00304	2.68629	0.00082	0.00526	0.00726
<i>NTM</i>	0.01288	0.00982	0.00305	2.33042	0.00048	0.00562	0.01985
<i>ATRN</i>	0.01497	0.01191	0.00306	2.48487	0.00064	0.00547	0.01301
<i>KIAA1211L</i>	0.01264	0.00957	0.00306	2.71690	0.00085	0.00527	0.00663
<i>FAM180A</i>	0.02839	0.02530	0.00309	2.16685	0.00029	0.00588	0.03032
<i>GNG2</i>	0.00968	0.00659	0.00309	2.31647	0.00047	0.00570	0.02060
<i>SYPL2</i>	0.02230	0.01915	0.00315	2.64765	0.00082	0.00549	0.00815
<i>TRIM68</i>	0.02922	0.02606	0.00315	2.21357	0.00036	0.00595	0.02693
<i>RAB38</i>	0.01456	0.01138	0.00318	2.45985	0.00064	0.00571	0.01395
<i>FGR</i>	0.00965	0.00646	0.00319	2.26478	0.00043	0.00595	0.02360
<i>ADRB2</i>	0.01673	0.01354	0.00319	2.09760	0.00021	0.00617	0.03602
<i>DENND2A</i>	0.01317	0.00997	0.00319	3.39829	0.00135	0.00504	0.00069
<i>MAG</i>	0.00577	0.00255	0.00321	2.42466	0.00061	0.00581	0.01538
<i>ACSM3</i>	0.01224	0.00901	0.00323	2.15131	0.00029	0.00617	0.03153
<i>ZNF674</i>	0.01483	0.01159	0.00323	2.12778	0.00025	0.00621	0.03344
<i>NAGS</i>	0.02682	0.02358	0.00324	2.10853	0.00023	0.00625	0.03507
<i>MTBP</i>	0.00774	0.00448	0.00326	3.02039	0.00115	0.00538	0.00255
<i>ZBTB33</i>	0.01829	0.01498	0.00332	2.30781	0.00050	0.00614	0.02108
<i>MX2</i>	0.01668	0.01335	0.00334	2.24262	0.00042	0.00625	0.02499
<i>SCD</i>	0.00857	0.00523	0.00334	2.71395	0.00093	0.00575	0.00669
<i>LINC01355</i>	0.02585	0.02249	0.00337	2.10217	0.00023	0.00651	0.03562
<i>PRX</i>	0.00837	0.00499	0.00338	2.28859	0.00048	0.00628	0.02217
<i>CHEK2</i>	0.01188	0.00849	0.00339	2.20401	0.00037	0.00640	0.02760
<i>KLRB1</i>	0.00816	0.00473	0.00344	3.16907	0.00131	0.00556	0.00154
<i>ADCY4</i>	0.00884	0.00541	0.00344	2.76476	0.00100	0.00587	0.00573
<i>RHBDF2</i>	0.02566	0.02216	0.00349	2.03158	0.00012	0.00687	0.04228
<i>MAP7</i>	0.01674	0.01324	0.00351	2.32884	0.00055	0.00646	0.01993
<i>MMP16</i>	0.01630	0.01279	0.00351	2.04806	0.00015	0.00687	0.04064
<i>PIK3R4</i>	0.01837	0.01484	0.00353	2.03926	0.00014	0.00693	0.04151
<i>CCL26</i>	0.01939	0.01585	0.00354	2.06840	0.00018	0.00690	0.03869
<i>ATAD5</i>	0.01708	0.01354	0.00354	2.04164	0.00014	0.00695	0.04127
<i>TLN2</i>	0.02363	0.02009	0.00354	2.40422	0.00065	0.00644	0.01627

<i>POLR1A</i>	0.01889	0.01531	0.00358	3.14777	0.00135	0.00581	0.00166
<i>NUDT17</i>	0.02542	0.02182	0.00360	1.98963	0.00005	0.00715	0.04672
<i>UPF1</i>	0.02140	0.01777	0.00363	2.07061	0.00019	0.00707	0.03848
<i>ZNF300</i>	0.01878	0.01511	0.00367	2.75935	0.00106	0.00627	0.00583
<i>EPHB4</i>	0.01474	0.01108	0.00367	2.23969	0.00046	0.00688	0.02518
<i>ZNF780A</i>	0.02233	0.01866	0.00367	2.24122	0.00046	0.00688	0.02508
<i>SCX</i>	0.03157	0.02788	0.00370	2.11436	0.00027	0.00713	0.03457
<i>ZNF318</i>	0.03307	0.02936	0.00371	2.18469	0.00038	0.00705	0.02899
<i>ZC3H12C</i>	0.02597	0.02225	0.00372	2.15004	0.00033	0.00711	0.03163
<i>AHCYL2</i>	0.01195	0.00823	0.00372	2.56585	0.00088	0.00656	0.01034
<i>SH3RF3</i>	0.02095	0.01722	0.00373	2.27817	0.00052	0.00694	0.02279
<i>WDR35</i>	0.02925	0.02552	0.00373	2.17236	0.00036	0.00710	0.02991
<i>ARHGEF39</i>	0.02213	0.01840	0.00374	2.39671	0.00068	0.00679	0.01660
<i>ACHE</i>	0.01907	0.01531	0.00376	2.35883	0.00063	0.00688	0.01840
<i>LINC00909</i>	0.02966	0.02584	0.00382	2.15943	0.00035	0.00729	0.03090
<i>ACVR2A</i>	0.02173	0.01791	0.00382	2.22154	0.00045	0.00720	0.02639
<i>NP1A1</i>	0.02361	0.01977	0.00384	2.27106	0.00053	0.00716	0.02321
<i>IGFBP7-AS1</i>	0.03884	0.03498	0.00386	2.06840	0.00020	0.00751	0.03869
<i>AGAP6</i>	0.02470	0.02083	0.00387	2.07463	0.00021	0.00753	0.03810
<i>C14orf93</i>	0.01230	0.00843	0.00387	3.73892	0.00184	0.00591	0.00019
<i>KIAA0513</i>	0.03372	0.02985	0.00388	2.20618	0.00043	0.00732	0.02745
<i>GALNT15</i>	0.01236	0.00846	0.00390	3.34287	0.00161	0.00618	0.00084
<i>TMEM79</i>	0.02528	0.02139	0.00390	2.60465	0.00096	0.00683	0.00924
<i>PCGF3</i>	0.02777	0.02383	0.00394	2.04361	0.00016	0.00772	0.04108
<i>SMURF1</i>	0.03391	0.02994	0.00396	2.09557	0.00025	0.00767	0.03620
<i>LINC01133</i>	0.01133	0.00730	0.00402	2.61200	0.00100	0.00705	0.00905
<i>ANKRD26</i>	0.03066	0.02662	0.00404	2.31411	0.00062	0.00746	0.02073
<i>TMOD2</i>	0.04620	0.04212	0.00408	2.03938	0.00016	0.00800	0.04150
<i>C9orf40</i>	0.03585	0.03174	0.00412	2.12755	0.00032	0.00791	0.03345
<i>APIAR</i>	0.02687	0.02274	0.00413	2.10467	0.00028	0.00797	0.03540
<i>CHADL</i>	0.01002	0.00587	0.00415	2.87149	0.00132	0.00699	0.00411
<i>LRRC34</i>	0.02937	0.02515	0.00422	2.00908	0.00010	0.00834	0.04462

<i>RASSF8-AS1</i>	0.04559	0.04136	0.00423	2.07047	0.00022	0.00823	0.03849
<i>NGEF</i>	0.01895	0.01466	0.00429	2.55040	0.00099	0.00759	0.01081
<i>ZNF746</i>	0.03672	0.03235	0.00437	2.18108	0.00044	0.00829	0.02925
<i>CDYL</i>	0.02224	0.01787	0.00437	2.76711	0.00127	0.00747	0.00569
<i>BALAP2</i>	0.02126	0.01689	0.00437	2.37609	0.00076	0.00798	0.01756
<i>CLASP1</i>	0.03696	0.03258	0.00438	2.34468	0.00072	0.00804	0.01911
<i>CDA</i>	0.01775	0.01336	0.00440	2.07453	0.00024	0.00855	0.03811
<i>ROBO3</i>	0.02690	0.02250	0.00440	2.02376	0.00014	0.00866	0.04308
<i>ZXDC</i>	0.02995	0.02553	0.00442	2.28997	0.00064	0.00820	0.02209
<i>ZMYM3</i>	0.04350	0.03908	0.00443	2.09859	0.00029	0.00857	0.03594
<i>THBS4</i>	0.01338	0.00892	0.00445	2.58788	0.00108	0.00783	0.00970
<i>MRC1</i>	0.02156	0.01710	0.00446	2.01171	0.00011	0.00880	0.04434
<i>RASSF8</i>	0.02281	0.01832	0.00449	2.59626	0.00110	0.00788	0.00947
<i>PLPP6</i>	0.03473	0.03023	0.00450	2.65653	0.00118	0.00782	0.00794
<i>RIC1</i>	0.02628	0.02177	0.00451	2.27204	0.00062	0.00840	0.02315
<i>SMO</i>	0.01359	0.00907	0.00453	3.62044	0.00207	0.00698	0.00030
<i>GAD1</i>	0.05280	0.04827	0.00453	1.96982	0.00002	0.00904	0.04895
<i>SLC2A13</i>	0.03111	0.02657	0.00454	2.13517	0.00037	0.00871	0.03283
<i>SGCD</i>	0.05121	0.04663	0.00458	2.18021	0.00046	0.00870	0.02932
<i>TMC6</i>	0.04036	0.03578	0.00458	2.11539	0.00033	0.00883	0.03448
<i>GRASP</i>	0.02010	0.01552	0.00459	2.38966	0.00082	0.00835	0.01692
<i>CD24</i>	0.01223	0.00764	0.00459	2.78338	0.00136	0.00782	0.00541
<i>ASAP3</i>	0.02419	0.01959	0.00460	2.42406	0.00088	0.00832	0.01541
<i>UCK2</i>	0.01713	0.01250	0.00464	2.88853	0.00149	0.00778	0.00390
<i>NLRX1</i>	0.03189	0.02721	0.00469	2.10449	0.00032	0.00905	0.03542
<i>TYK2</i>	0.03987	0.03518	0.00469	2.26843	0.00064	0.00874	0.02337
<i>PARVB</i>	0.03185	0.02715	0.00469	2.13130	0.00038	0.00901	0.03315
<i>MPHOSPH9</i>	0.04436	0.03965	0.00470	2.07042	0.00025	0.00916	0.03850
<i>FYN</i>	0.03244	0.02770	0.00475	2.01841	0.00014	0.00936	0.04364
<i>PYCR1</i>	0.01767	0.01287	0.00480	2.58847	0.00116	0.00843	0.00969
<i>ZNF784</i>	0.03091	0.02607	0.00484	2.52828	0.00109	0.00859	0.01151
<i>TNFRSF1B</i>	0.03320	0.02835	0.00486	2.39840	0.00089	0.00883	0.01653

<i>RAB30</i>	0.03565	0.03079	0.00486	2.26708	0.00066	0.00906	0.02346
<i>LOXL3</i>	0.03271	0.02785	0.00487	2.12383	0.00037	0.00936	0.03377
<i>ZNF395</i>	0.02718	0.02231	0.00487	2.76058	0.00141	0.00833	0.00580
<i>CEP112</i>	0.02651	0.02163	0.00487	2.56072	0.00114	0.00860	0.01049
<i>PCED1A</i>	0.02389	0.01901	0.00488	2.61298	0.00122	0.00854	0.00902
<i>GNAI3</i>	0.04255	0.03767	0.00488	2.00587	0.00011	0.00966	0.04496
<i>SPRED2</i>	0.03784	0.03294	0.00490	2.37098	0.00085	0.00895	0.01780
<i>PTAR1</i>	0.04187	0.03696	0.00492	2.01025	0.00012	0.00971	0.04449
<i>STRN</i>	0.04534	0.04041	0.00493	2.35724	0.00083	0.00903	0.01847
<i>NIPSNAP3B</i>	0.02480	0.01981	0.00499	2.85666	0.00157	0.00842	0.00431
<i>SLC16A9</i>	0.04958	0.04458	0.00500	2.19616	0.00054	0.00946	0.02816
<i>COLCA2</i>	0.01899	0.01398	0.00501	3.27764	0.00201	0.00801	0.00106
<i>GPM6A</i>	0.01885	0.01380	0.00506	2.26130	0.00067	0.00944	0.02381
<i>TCEAL5</i>	0.06010	0.05503	0.00507	2.18799	0.00053	0.00961	0.02875
<i>CDC44</i>	0.03988	0.03480	0.00507	2.12640	0.00040	0.00975	0.03355
<i>ZFYVE28</i>	0.02248	0.01740	0.00508	2.98040	0.00174	0.00842	0.00290
<i>SLC9B2</i>	0.03538	0.03027	0.00511	2.45575	0.00103	0.00918	0.01412
<i>VIPR2</i>	0.05257	0.04745	0.00511	2.28792	0.00073	0.00949	0.02221
<i>DUSP16</i>	0.02608	0.02094	0.00514	3.22742	0.00202	0.00827	0.00126
<i>LURAP1</i>	0.04322	0.03802	0.00519	2.65088	0.00135	0.00903	0.00807
<i>COX15</i>	0.03939	0.03420	0.00520	2.27433	0.00072	0.00967	0.02302
<i>ABHD6</i>	0.03584	0.03058	0.00526	2.53448	0.00119	0.00933	0.01131
<i>CADM4</i>	0.03979	0.03452	0.00526	2.11821	0.00039	0.01014	0.03424
<i>TMEM161B</i>	0.02481	0.01953	0.00528	2.81700	0.00161	0.00896	0.00488
<i>CSNK1G1</i>	0.02174	0.01645	0.00529	3.25633	0.00210	0.00847	0.00114
<i>GAL3ST4</i>	0.05260	0.04731	0.00529	2.16279	0.00049	0.01009	0.03064
<i>RAPGEF1</i>	0.02272	0.01743	0.00529	3.19881	0.00205	0.00853	0.00139
<i>CEP170</i>	0.04803	0.04273	0.00530	2.10455	0.00036	0.01023	0.03541
<i>MAST2</i>	0.05413	0.04883	0.00530	2.23032	0.00064	0.00996	0.02580
<i>C4orf36</i>	0.03489	0.02958	0.00531	2.30209	0.00079	0.00984	0.02140
<i>WDTC1</i>	0.07018	0.06486	0.00532	2.01039	0.00013	0.01052	0.04448
<i>ZBED5-AS1</i>	0.03780	0.03245	0.00535	2.39087	0.00096	0.00974	0.01687

<i>PRMT7</i>	0.02976	0.02441	0.00535	2.93118	0.00177	0.00893	0.00340
<i>KRBA1</i>	0.04979	0.04442	0.00537	2.60988	0.00133	0.00940	0.00910
<i>DTX2</i>	0.04305	0.03766	0.00539	2.29103	0.00078	0.01001	0.02203
<i>ZNF514</i>	0.02767	0.02226	0.00541	3.12861	0.00202	0.00880	0.00177
<i>SSH1</i>	0.04070	0.03525	0.00545	2.17080	0.00053	0.01038	0.03002
<i>GAB2</i>	0.06126	0.05581	0.00545	2.28475	0.00077	0.01013	0.02240
<i>EFHD2</i>	0.01876	0.01331	0.00545	2.98051	0.00187	0.00904	0.00290
<i>ABHD17B</i>	0.08000	0.07454	0.00546	1.99735	0.00010	0.01082	0.04588
<i>HCFC1</i>	0.05108	0.04560	0.00548	2.36375	0.00094	0.01003	0.01815
<i>MCC</i>	0.01908	0.01357	0.00552	3.36683	0.00230	0.00873	0.00077
<i>TICAM1</i>	0.07544	0.06988	0.00556	2.08855	0.00034	0.01077	0.03683
<i>ZSCAN9</i>	0.06518	0.05959	0.00559	2.18759	0.00058	0.01060	0.02878
<i>DNMT3A</i>	0.05002	0.04443	0.00559	2.02036	0.00016	0.01101	0.04343
<i>F8</i>	0.02650	0.02088	0.00563	2.74601	0.00161	0.00964	0.00607
<i>TSTD2</i>	0.04465	0.03901	0.00564	2.71500	0.00157	0.00972	0.00667
<i>NKD1</i>	0.08263	0.07698	0.00565	2.02361	0.00018	0.01112	0.04310
<i>ZDHHC8</i>	0.03457	0.02891	0.00566	2.19674	0.00061	0.01071	0.02811
<i>LINC00672</i>	0.05199	0.04633	0.00566	2.03982	0.00022	0.01110	0.04145
<i>TMEM54</i>	0.04855	0.04287	0.00568	2.10310	0.00038	0.01098	0.03554
<i>MCPH1</i>	0.07004	0.06436	0.00569	2.01202	0.00014	0.01123	0.04431
<i>ZNF599</i>	0.04369	0.03797	0.00573	2.63994	0.00147	0.00998	0.00833
<i>MED9</i>	0.04387	0.03814	0.00573	2.17468	0.00056	0.01090	0.02973
<i>SLC35C1</i>	0.03805	0.03228	0.00577	2.28261	0.00081	0.01073	0.02252
<i>HCG18</i>	0.07304	0.06724	0.00580	2.14893	0.00051	0.01110	0.03172
<i>PLBD1</i>	0.02682	0.02100	0.00582	3.03051	0.00206	0.00959	0.00246
<i>CCNK</i>	0.05361	0.04778	0.00582	2.13707	0.00048	0.01117	0.03267
<i>SPHK1</i>	0.04487	0.03904	0.00583	2.09314	0.00037	0.01130	0.03642
<i>TNIK</i>	0.04203	0.03619	0.00584	2.82917	0.00179	0.00989	0.00470
<i>ZMIZ1</i>	0.03508	0.02923	0.00585	2.25068	0.00075	0.01095	0.02448
<i>SOX18</i>	0.03047	0.02461	0.00586	2.11361	0.00042	0.01130	0.03463
<i>MPP5</i>	0.05199	0.04611	0.00589	2.31715	0.00091	0.01087	0.02056
<i>POLR2J2</i>	0.06277	0.05688	0.00589	2.09969	0.00039	0.01139	0.03584

<i>SMARCD2</i>	0.06043	0.05453	0.00590	2.33014	0.00094	0.01086	0.01986
<i>TSPAN17</i>	0.05247	0.04650	0.00597	2.56065	0.00140	0.01055	0.01050
<i>RBP7</i>	0.04537	0.03935	0.00602	1.97536	0.00004	0.01199	0.04832
<i>TRIM2</i>	0.05517	0.04912	0.00605	2.36781	0.00104	0.01106	0.01796
<i>ALKBH1</i>	0.03843	0.03236	0.00607	2.52384	0.00135	0.01078	0.01166
<i>ZC3H7B</i>	0.06714	0.06107	0.00607	2.16505	0.00057	0.01157	0.03046
<i>TFF3</i>	0.03903	0.03290	0.00614	2.38028	0.00108	0.01119	0.01736
<i>RAD51D</i>	0.03669	0.03055	0.00614	2.76431	0.00179	0.01050	0.00574
<i>RNF170</i>	0.07350	0.06735	0.00615	2.12925	0.00049	0.01181	0.03331
<i>PQLC1</i>	0.03869	0.03254	0.00615	2.52976	0.00138	0.01091	0.01146
<i>GPR183</i>	0.07467	0.06851	0.00615	2.06164	0.00030	0.01200	0.03933
<i>KDEL1C</i>	0.02286	0.01670	0.00616	3.36366	0.00257	0.00975	0.00078
<i>CCDC157</i>	0.01931	0.01315	0.00616	3.56548	0.00277	0.00955	0.00037
<i>GSTO2</i>	0.06054	0.05436	0.00618	2.17253	0.00060	0.01176	0.02989
<i>LRIF1</i>	0.07277	0.06659	0.00618	2.00624	0.00014	0.01222	0.04492
<i>MTIF2</i>	0.08245	0.07623	0.00622	1.97799	0.00005	0.01239	0.04802
<i>ZNF554</i>	0.03938	0.03316	0.00622	2.91114	0.00203	0.01042	0.00363
<i>FANCL</i>	0.06692	0.06069	0.00623	2.29633	0.00091	0.01154	0.02173
<i>SOX13</i>	0.03381	0.02757	0.00624	2.99020	0.00215	0.01032	0.00281
<i>DOK1</i>	0.07981	0.07355	0.00626	2.16247	0.00058	0.01193	0.03066
<i>MED1</i>	0.04542	0.03915	0.00627	2.84335	0.00195	0.01059	0.00449
<i>SLX4IP</i>	0.06918	0.06291	0.00628	2.18741	0.00065	0.01190	0.02879
<i>ATM</i>	0.08581	0.07952	0.00629	2.33317	0.00100	0.01157	0.01970
<i>TIMM8A</i>	0.04137	0.03507	0.00630	2.93383	0.00209	0.01052	0.00337
<i>RANGAP1</i>	0.07994	0.07361	0.00633	2.18975	0.00066	0.01199	0.02862
<i>CARD8</i>	0.07599	0.06965	0.00634	2.33548	0.00102	0.01166	0.01958
<i>CRKL</i>	0.05290	0.04653	0.00637	2.69363	0.00173	0.01101	0.00711
<i>COX6A2</i>	0.06036	0.05394	0.00642	1.97831	0.00006	0.01279	0.04798
<i>FEN1</i>	0.08322	0.07674	0.00647	1.96146	0.00000	0.01294	0.04992
<i>PIGO</i>	0.05394	0.04745	0.00649	2.80510	0.00195	0.01103	0.00506
<i>KRII</i>	0.09657	0.09007	0.00650	2.03885	0.00025	0.01275	0.04155
<i>TGFBR3</i>	0.05618	0.04967	0.00651	2.08336	0.00038	0.01263	0.03730

<i>RELN</i>	0.02337	0.01685	0.00652	3.31639	0.00266	0.01037	0.00092
<i>DOCK6</i>	0.04627	0.03975	0.00652	2.22707	0.00078	0.01226	0.02602
<i>GNS</i>	0.07422	0.06769	0.00653	2.23415	0.00080	0.01226	0.02555
<i>MBP</i>	0.04823	0.04169	0.00654	2.21091	0.00074	0.01234	0.02712
<i>CLN8</i>	0.07543	0.06887	0.00655	2.25140	0.00085	0.01226	0.02443
<i>RAB3D</i>	0.05647	0.04988	0.00659	2.45441	0.00133	0.01186	0.01417
<i>TMEM97</i>	0.05258	0.04598	0.00660	3.18580	0.00254	0.01066	0.00146
<i>TRPC6</i>	0.06849	0.06187	0.00662	2.37613	0.00116	0.01208	0.01756
<i>CDK13</i>	0.05377	0.04715	0.00662	3.27223	0.00265	0.01059	0.00108
<i>PCDHB5</i>	0.06828	0.06166	0.00662	2.41582	0.00125	0.01200	0.01576
<i>ACER3</i>	0.05097	0.04433	0.00664	2.86075	0.00209	0.01119	0.00426
<i>PPFIA2</i>	0.06087	0.05422	0.00664	2.90247	0.00216	0.01113	0.00373
<i>MANBA</i>	0.09121	0.08453	0.00668	2.05967	0.00032	0.01303	0.03952
<i>POM121C</i>	0.04233	0.03564	0.00669	2.61752	0.00168	0.01171	0.00890
<i>CCDC28B</i>	0.06447	0.05776	0.00671	2.14924	0.00059	0.01283	0.03169
<i>SMG1</i>	0.09709	0.09037	0.00672	1.98517	0.00008	0.01336	0.04722
<i>ICAM2</i>	0.04079	0.03407	0.00673	2.18569	0.00069	0.01277	0.02891
<i>TSHZ2</i>	0.03751	0.03077	0.00674	2.15668	0.00061	0.01288	0.03111
<i>LRBA</i>	0.06757	0.06082	0.00675	2.52090	0.00150	0.01200	0.01176
<i>HMG20A</i>	0.07501	0.06822	0.00679	2.01827	0.00019	0.01339	0.04365
<i>CD53</i>	0.06388	0.05708	0.00680	2.32721	0.00107	0.01254	0.02002
<i>ZNF615</i>	0.03650	0.02964	0.00685	3.16143	0.00260	0.01110	0.00159
<i>CARNS1</i>	0.07212	0.06523	0.00690	2.65356	0.00180	0.01199	0.00801
<i>PLPPR2</i>	0.09776	0.09086	0.00690	2.38020	0.00122	0.01259	0.01736
<i>LRRC14</i>	0.05715	0.05021	0.00695	2.73176	0.00196	0.01193	0.00634
<i>OSBP</i>	0.10487	0.09792	0.00695	2.19637	0.00075	0.01316	0.02814
<i>TLCD2</i>	0.06711	0.06015	0.00696	2.80293	0.00209	0.01182	0.00510
<i>FANI</i>	0.06327	0.05630	0.00696	2.75545	0.00201	0.01192	0.00590
<i>AIFM1</i>	0.09735	0.09039	0.00696	2.38712	0.00124	0.01268	0.01704
<i>ELMOD2</i>	0.10237	0.09540	0.00697	1.97542	0.00005	0.01388	0.04831
<i>SPIDR</i>	0.07534	0.06829	0.00705	2.56717	0.00167	0.01243	0.01030
<i>DIAPH1</i>	0.12423	0.11715	0.00708	2.06829	0.00037	0.01379	0.03870

<i>EIF4E3</i>	0.07998	0.07289	0.00709	2.30254	0.00105	0.01312	0.02137
<i>MGAT5</i>	0.05745	0.05035	0.00710	2.27103	0.00097	0.01322	0.02322
<i>RNF166</i>	0.07416	0.06704	0.00712	2.56053	0.00167	0.01257	0.01050
<i>CA5B</i>	0.05264	0.04550	0.00715	2.96174	0.00241	0.01188	0.00308
<i>TBC1D25</i>	0.09830	0.09114	0.00716	2.44769	0.00143	0.01290	0.01443
<i>IKZF4</i>	0.06021	0.05304	0.00717	2.65280	0.00187	0.01247	0.00802
<i>ZNF76</i>	0.11996	0.11277	0.00719	1.99285	0.00012	0.01426	0.04637
<i>LRCH3</i>	0.09739	0.09020	0.00719	2.12066	0.00054	0.01384	0.03403
<i>PID1</i>	0.08478	0.07755	0.00723	2.04870	0.00031	0.01415	0.04058
<i>COQ5</i>	0.12646	0.11922	0.00725	2.02288	0.00022	0.01428	0.04317
<i>TESK1</i>	0.05528	0.04799	0.00730	3.20640	0.00283	0.01176	0.00136
<i>EIF2AK3</i>	0.05834	0.05102	0.00732	2.41371	0.00137	0.01327	0.01585
<i>PDE8A</i>	0.03457	0.02725	0.00732	3.20282	0.00284	0.01181	0.00138
<i>INTS5</i>	0.09530	0.08797	0.00733	2.37413	0.00128	0.01338	0.01765
<i>HIF3A</i>	0.09602	0.08868	0.00734	2.35254	0.00122	0.01346	0.01871
<i>POMGNT2</i>	0.11557	0.10822	0.00735	2.06647	0.00038	0.01432	0.03887
<i>SPRTN</i>	0.12145	0.11410	0.00735	2.01270	0.00019	0.01451	0.04424
<i>FGD4</i>	0.09547	0.08809	0.00738	2.28982	0.00106	0.01370	0.02210
<i>CFI</i>	0.06940	0.06194	0.00747	2.31400	0.00114	0.01379	0.02073
<i>ACTR8</i>	0.10521	0.09772	0.00749	2.27556	0.00104	0.01395	0.02294
<i>LYSMD3</i>	0.08350	0.07597	0.00753	2.38322	0.00133	0.01372	0.01722
<i>HS3ST1</i>	0.03712	0.02957	0.00756	3.30564	0.00307	0.01204	0.00096
<i>IGF2</i>	0.06138	0.05382	0.00756	2.20614	0.00084	0.01427	0.02745
<i>STAT5A</i>	0.12977	0.12220	0.00757	2.03224	0.00027	0.01488	0.04222
<i>TP53</i>	0.12670	0.11905	0.00766	1.97321	0.00005	0.01526	0.04856
<i>RNASEH1-ASI</i>	0.09784	0.09016	0.00768	2.12774	0.00060	0.01476	0.03344
<i>CLDN12</i>	0.11411	0.10642	0.00769	2.11970	0.00058	0.01480	0.03411
<i>CDK17</i>	0.10396	0.09623	0.00773	1.99306	0.00013	0.01534	0.04634
<i>TRAF4</i>	0.07475	0.06699	0.00776	2.10205	0.00052	0.01500	0.03563
<i>FRS2</i>	0.04769	0.03989	0.00780	3.77306	0.00375	0.01186	0.00016
<i>GABPB1-ASI</i>	0.09791	0.09007	0.00784	2.00549	0.00017	0.01550	0.04500
<i>MTERF2</i>	0.09829	0.09045	0.00784	2.17401	0.00077	0.01491	0.02978

<i>ATXN1</i>	0.05880	0.05092	0.00788	3.37697	0.00330	0.01245	0.00074
<i>ZNF91</i>	0.10467	0.09676	0.00791	2.26008	0.00105	0.01477	0.02389
<i>FOXO1</i>	0.10234	0.09443	0.00791	2.20663	0.00088	0.01495	0.02741
<i>MAML2</i>	0.05072	0.04281	0.00792	2.51548	0.00175	0.01409	0.01194
<i>ZNF562</i>	0.09909	0.09113	0.00796	2.26845	0.00108	0.01483	0.02337
<i>ABHD5</i>	0.05213	0.04417	0.00796	2.99546	0.00275	0.01317	0.00276
<i>TMEM100</i>	0.03169	0.02372	0.00797	2.41156	0.00149	0.01446	0.01594
<i>LINC01184</i>	0.12028	0.11229	0.00798	2.39576	0.00145	0.01452	0.01665
<i>MYO9B</i>	0.08410	0.07611	0.00799	2.36693	0.00137	0.01461	0.01800
<i>RABL6</i>	0.11770	0.10965	0.00805	2.23947	0.00100	0.01509	0.02520
<i>APOL2</i>	0.10892	0.10087	0.00805	2.13782	0.00067	0.01544	0.03261
<i>TMTC1</i>	0.06150	0.05344	0.00806	3.31981	0.00330	0.01282	0.00091
<i>MRPL46</i>	0.15068	0.14261	0.00806	2.07293	0.00044	0.01569	0.03826
<i>WSB2</i>	0.12536	0.11729	0.00806	2.06194	0.00040	0.01573	0.03930
<i>LRTM1</i>	0.03337	0.02528	0.00809	3.04352	0.00288	0.01330	0.00236
<i>POGLUT1</i>	0.12625	0.11812	0.00813	2.11483	0.00059	0.01567	0.03453
<i>HTRA3</i>	0.03396	0.02582	0.00814	2.92688	0.00269	0.01359	0.00345
<i>STMN3</i>	0.07200	0.06383	0.00817	2.36958	0.00141	0.01492	0.01787
<i>GJC1</i>	0.04766	0.03947	0.00819	3.08192	0.00298	0.01340	0.00208
<i>SLC39A11</i>	0.07156	0.06333	0.00822	2.63812	0.00211	0.01434	0.00838
<i>UQCRHL</i>	0.14438	0.13613	0.00825	2.03622	0.00031	0.01619	0.04182
<i>FASTKD2</i>	0.09094	0.08269	0.00825	2.44821	0.00164	0.01486	0.01441
<i>SEMA3C</i>	0.05998	0.05170	0.00828	2.42086	0.00157	0.01499	0.01554
<i>MTA3</i>	0.07932	0.07102	0.00829	2.63092	0.00211	0.01447	0.00856
<i>EZH1</i>	0.10946	0.10113	0.00833	2.23581	0.00102	0.01563	0.02544
<i>RDH5</i>	0.04058	0.03224	0.00835	3.57165	0.00376	0.01293	0.00036
<i>NPHP3</i>	0.08874	0.08037	0.00838	2.32395	0.00131	0.01544	0.02019
<i>LDB2</i>	0.06462	0.05624	0.00838	2.16525	0.00079	0.01596	0.03045
<i>MCEE</i>	0.09710	0.08871	0.00839	2.27297	0.00115	0.01563	0.02310
<i>FCF1</i>	0.11517	0.10672	0.00845	2.19818	0.00091	0.01598	0.02801
<i>MOK</i>	0.10193	0.09346	0.00847	2.33494	0.00136	0.01558	0.01961
<i>NOC3L</i>	0.08897	0.08048	0.00848	2.39243	0.00153	0.01544	0.01680

<i>TMEM186</i>	0.10659	0.09803	0.00856	2.47144	0.00177	0.01536	0.01351
<i>CLEC14A</i>	0.04712	0.03852	0.00860	2.38368	0.00153	0.01567	0.01720
<i>HILPDA</i>	0.08672	0.07806	0.00866	2.70094	0.00237	0.01494	0.00695
<i>CBFB</i>	0.10832	0.09966	0.00866	1.98243	0.00009	0.01722	0.04752
<i>DECR2</i>	0.11980	0.11114	0.00866	2.54618	0.00199	0.01533	0.01094
<i>ZADH2</i>	0.05073	0.04207	0.00866	2.06181	0.00042	0.01690	0.03931
<i>ARHGAP5-AS1</i>	0.11291	0.10425	0.00866	2.45298	0.00174	0.01559	0.01422
<i>ZDHC1</i>	0.06007	0.05139	0.00868	2.87822	0.00277	0.01459	0.00403
<i>SNHG21</i>	0.07967	0.07091	0.00876	2.42667	0.00168	0.01584	0.01530
<i>CHERP</i>	0.14312	0.13434	0.00878	2.35564	0.00147	0.01609	0.01855
<i>ME3</i>	0.12569	0.11690	0.00879	2.17233	0.00086	0.01672	0.02991
<i>LPCAT4</i>	0.07261	0.06381	0.00880	3.04236	0.00313	0.01448	0.00237
<i>AMT</i>	0.05899	0.05018	0.00881	3.98117	0.00447	0.01315	0.00007
<i>HDAC11</i>	0.10829	0.09944	0.00885	2.68271	0.00238	0.01532	0.00734
<i>TOM1L2</i>	0.09787	0.08900	0.00887	2.04251	0.00036	0.01739	0.04119
<i>NEDD9</i>	0.12047	0.11157	0.00890	2.13331	0.00072	0.01708	0.03298
<i>ZNF830</i>	0.19192	0.18300	0.00892	2.00147	0.00018	0.01765	0.04543
<i>KHDRBS3</i>	0.09031	0.08138	0.00893	2.64073	0.00230	0.01556	0.00832
<i>NAAA</i>	0.11477	0.10573	0.00904	1.99917	0.00017	0.01790	0.04568
<i>MAPK10</i>	0.10745	0.09840	0.00905	2.50619	0.00197	0.01613	0.01226
<i>PHRF1</i>	0.03320	0.02414	0.00906	4.80184	0.00536	0.01277	0.00000
<i>BAZ2B</i>	0.12423	0.11503	0.00920	2.17031	0.00089	0.01752	0.03006
<i>TOR3A</i>	0.14567	0.13646	0.00921	2.12922	0.00073	0.01770	0.03332
<i>TMEM218</i>	0.12425	0.11502	0.00922	2.07939	0.00053	0.01792	0.03767
<i>LZTS2</i>	0.16802	0.15875	0.00927	2.03351	0.00033	0.01821	0.04209
<i>UBAP2L</i>	0.12649	0.11706	0.00943	2.24735	0.00120	0.01765	0.02469
<i>LDLRAD3</i>	0.07590	0.06646	0.00944	2.04378	0.00038	0.01849	0.04106
<i>SLN</i>	0.02554	0.01609	0.00944	3.00614	0.00328	0.01560	0.00267
<i>HUWE1</i>	0.15717	0.14769	0.00948	2.28915	0.00136	0.01760	0.02214
<i>KLF3</i>	0.11191	0.10237	0.00954	2.41158	0.00178	0.01729	0.01594
<i>MPDU1</i>	0.11446	0.10488	0.00958	2.20127	0.00105	0.01811	0.02779
<i>STAM</i>	0.10309	0.09348	0.00961	1.97844	0.00009	0.01914	0.04797

<i>FADD</i>	0.16079	0.15111	0.00968	2.37068	0.00167	0.01769	0.01782
<i>UBTD1</i>	0.10717	0.09746	0.00971	2.75154	0.00279	0.01662	0.00597
<i>KPNA1</i>	0.15284	0.14310	0.00974	1.98683	0.00013	0.01935	0.04703
<i>FLJ20021</i>	0.09579	0.08603	0.00975	2.26751	0.00132	0.01819	0.02343
<i>GALK2</i>	0.17251	0.16275	0.00976	2.14299	0.00083	0.01868	0.03219
<i>ZNF558</i>	0.07534	0.06554	0.00981	2.27967	0.00137	0.01824	0.02270
<i>ZNF322</i>	0.13232	0.12248	0.00984	2.56301	0.00231	0.01737	0.01042
<i>NUP107</i>	0.11111	0.10123	0.00987	2.27601	0.00137	0.01838	0.02292
<i>POLR3F</i>	0.13100	0.12111	0.00988	2.47478	0.00205	0.01771	0.01339
<i>RALA</i>	0.15521	0.14532	0.00990	2.49539	0.00212	0.01767	0.01263
<i>BAG5</i>	0.14441	0.13449	0.00992	2.36995	0.00171	0.01813	0.01785
<i>SLC2A4RG</i>	0.14867	0.13874	0.00993	2.24221	0.00125	0.01862	0.02502
<i>MAP3K7</i>	0.20613	0.19614	0.00999	2.01838	0.00029	0.01969	0.04364
<i>FBXW7</i>	0.09624	0.08625	0.00999	2.00207	0.00021	0.01977	0.04537
<i>PDE1B</i>	0.15154	0.14152	0.01002	2.21232	0.00114	0.01891	0.02702
<i>SERPINB9</i>	0.05490	0.04485	0.01005	3.17548	0.00384	0.01626	0.00151
<i>B3GLCT</i>	0.10047	0.09042	0.01005	1.97637	0.00008	0.02002	0.04820
<i>TNFSF10</i>	0.04011	0.03004	0.01007	2.62259	0.00254	0.01760	0.00877
<i>MAPKAPK5</i>	0.11405	0.10395	0.01010	2.35045	0.00168	0.01853	0.01881
<i>MARCKSL1</i>	0.07340	0.06316	0.01024	2.14239	0.00087	0.01962	0.03224
<i>TMEM246</i>	0.18900	0.17873	0.01027	2.12115	0.00078	0.01977	0.03399
<i>C12orf49</i>	0.11892	0.10862	0.01030	2.59356	0.00251	0.01809	0.00954
<i>NKIRAS2</i>	0.21246	0.20213	0.01033	1.97751	0.00009	0.02058	0.04808
<i>IVD</i>	0.26133	0.25098	0.01035	1.99566	0.00018	0.02052	0.04606
<i>PDE6D</i>	0.15170	0.14128	0.01043	2.04542	0.00043	0.02042	0.04090
<i>MRPL45</i>	0.26475	0.25431	0.01044	1.98768	0.00014	0.02073	0.04694
<i>NECAP1</i>	0.13507	0.12461	0.01046	2.07129	0.00056	0.02036	0.03842
<i>WWP2</i>	0.19649	0.18603	0.01046	2.01222	0.00027	0.02065	0.04428
<i>CHCHD6</i>	0.12821	0.11773	0.01048	2.99411	0.00362	0.01735	0.00277
<i>TSC22D4</i>	0.20528	0.19479	0.01048	2.06651	0.00054	0.02043	0.03886
<i>KALRN</i>	0.16465	0.15416	0.01049	2.08715	0.00064	0.02034	0.03696
<i>TRUB2</i>	0.16696	0.15647	0.01049	2.25124	0.00135	0.01963	0.02444

<i>POLR2A</i>	0.13511	0.12460	0.01051	2.44747	0.00209	0.01892	0.01444
<i>EPHX2</i>	0.13467	0.12411	0.01056	2.66701	0.00280	0.01832	0.00769
<i>RHOQ</i>	0.20101	0.19044	0.01056	2.16125	0.00098	0.02015	0.03075
<i>HEPH</i>	0.20371	0.19311	0.01060	2.03972	0.00041	0.02079	0.04147
<i>OSMR</i>	0.09657	0.08592	0.01065	2.32909	0.00168	0.01961	0.01992
<i>TFDP2</i>	0.18700	0.17634	0.01066	2.07069	0.00057	0.02075	0.03847
<i>PRKAA2</i>	0.17508	0.16441	0.01067	2.05682	0.00050	0.02084	0.03979
<i>ZNF75A</i>	0.13851	0.12784	0.01067	2.37279	0.00185	0.01949	0.01772
<i>AFMID</i>	0.13776	0.12706	0.01070	2.56887	0.00253	0.01886	0.01025
<i>SRGAP2C</i>	0.09793	0.08719	0.01074	2.41591	0.00202	0.01946	0.01575
<i>IGF1</i>	0.04147	0.03072	0.01074	2.64389	0.00278	0.01871	0.00824
<i>SENP5</i>	0.18543	0.17462	0.01081	1.97644	0.00009	0.02153	0.04820
<i>GTF2IRD2B</i>	0.10237	0.09155	0.01082	2.83486	0.00334	0.01830	0.00461
<i>ACINI</i>	0.22506	0.21419	0.01087	2.12511	0.00084	0.02089	0.03366
<i>ATG4A</i>	0.10917	0.09822	0.01096	3.17037	0.00418	0.01773	0.00154
<i>BPHL</i>	0.09038	0.07942	0.01096	3.61143	0.00501	0.01692	0.00031
<i>FTX</i>	0.10206	0.09106	0.01100	3.06906	0.00397	0.01803	0.00217
<i>IPO8</i>	0.08499	0.07398	0.01101	2.39077	0.00198	0.02005	0.01687
<i>INIP</i>	0.12871	0.11769	0.01102	2.97346	0.00375	0.01829	0.00297
<i>UBE2R2</i>	0.22546	0.21444	0.01103	2.05654	0.00051	0.02154	0.03982
<i>RRAS2</i>	0.19789	0.18686	0.01103	2.32718	0.00174	0.02033	0.02002
<i>KLHDC4</i>	0.17020	0.15913	0.01107	2.51963	0.00246	0.01968	0.01180
<i>FUZ</i>	0.14521	0.13411	0.01110	2.72198	0.00310	0.01909	0.00653
<i>CEP63</i>	0.23186	0.22076	0.01111	2.07410	0.00061	0.02160	0.03815
<i>SKA2</i>	0.28710	0.27599	0.01112	2.02861	0.00037	0.02186	0.04259
<i>RPP21</i>	0.12303	0.11166	0.01137	2.51843	0.00252	0.02022	0.01184
<i>MT1F</i>	0.17352	0.16208	0.01144	1.99125	0.00018	0.02270	0.04654
<i>HDHD3</i>	0.16766	0.15620	0.01147	2.57784	0.00274	0.02019	0.00999
<i>UHMK1</i>	0.13450	0.12302	0.01148	2.21367	0.00131	0.02165	0.02693
<i>E2F6</i>	0.11647	0.10496	0.01151	2.18673	0.00119	0.02184	0.02884
<i>NF1</i>	0.15298	0.14143	0.01154	2.38868	0.00207	0.02102	0.01697
<i>TNRC6A</i>	0.25824	0.24663	0.01162	1.99358	0.00019	0.02304	0.04629

<i>WDR82</i>	0.20976	0.19813	0.01163	2.14559	0.00100	0.02226	0.03199
<i>CHMP4C</i>	0.16128	0.14957	0.01172	2.19283	0.00124	0.02219	0.02840
<i>ZNF800</i>	0.16315	0.15144	0.01172	2.47070	0.00242	0.02102	0.01354
<i>TMEM189</i>	0.14262	0.13085	0.01177	3.14202	0.00443	0.01912	0.00169
<i>VWF</i>	0.08447	0.07265	0.01182	1.99289	0.00019	0.02345	0.04636
<i>FAM8A1</i>	0.09821	0.08638	0.01183	2.10262	0.00080	0.02286	0.03558
<i>WARS2</i>	0.12025	0.10832	0.01194	2.36851	0.00206	0.02182	0.01792
<i>MAP3K5</i>	0.10651	0.09454	0.01197	2.31807	0.00184	0.02209	0.02051
<i>MORC4</i>	0.10197	0.08995	0.01203	2.04235	0.00048	0.02357	0.04120
<i>ELAC2</i>	0.18970	0.17755	0.01215	2.59964	0.00299	0.02131	0.00938
<i>KMT5A</i>	0.16813	0.15597	0.01216	2.32774	0.00192	0.02240	0.01999
<i>NSMCE2</i>	0.22087	0.20871	0.01217	2.05930	0.00058	0.02375	0.03955
<i>IFT46</i>	0.17453	0.16236	0.01217	2.48752	0.00258	0.02176	0.01292
<i>TRIM28</i>	0.13280	0.12062	0.01218	2.65825	0.00320	0.02117	0.00790
<i>PN01</i>	0.26170	0.24946	0.01224	2.20694	0.00137	0.02311	0.02739
<i>RNF213</i>	0.15776	0.14547	0.01229	2.14722	0.00107	0.02350	0.03186
<i>HDAC7</i>	0.19224	0.17995	0.01229	2.15930	0.00113	0.02345	0.03091
<i>HLA-DRB5</i>	0.13361	0.12131	0.01230	2.31102	0.00186	0.02274	0.02090
<i>IRF3</i>	0.24619	0.23387	0.01232	2.20535	0.00137	0.02327	0.02750
<i>CAMK2D</i>	0.16831	0.15587	0.01244	2.97914	0.00425	0.02063	0.00291
<i>CFAP20</i>	0.21067	0.19821	0.01246	2.61475	0.00312	0.02180	0.00897
<i>DR1</i>	0.22332	0.21078	0.01254	2.24207	0.00157	0.02351	0.02503
<i>PNPT1</i>	0.13332	0.12076	0.01257	2.68136	0.00338	0.02176	0.00737
<i>ALKBH3</i>	0.20217	0.18956	0.01261	2.49431	0.00270	0.02253	0.01267
<i>USP1</i>	0.27668	0.26406	0.01262	2.14286	0.00107	0.02417	0.03220
<i>KIAA2026</i>	0.14981	0.13718	0.01263	2.59232	0.00308	0.02219	0.00958
<i>NACA2</i>	0.20708	0.19444	0.01264	2.10914	0.00089	0.02438	0.03501
<i>ANKRD35</i>	0.15643	0.14376	0.01267	2.79852	0.00379	0.02154	0.00517
<i>FBXW2</i>	0.29227	0.27958	0.01269	1.97878	0.00012	0.02526	0.04793
<i>KCNK15</i>	0.18293	0.17013	0.01281	2.06443	0.00064	0.02497	0.03906
<i>RNF121</i>	0.13281	0.11998	0.01283	2.25021	0.00165	0.02400	0.02451
<i>NUPR2</i>	0.11105	0.09811	0.01294	3.31629	0.00529	0.02058	0.00092

<i>CLN3</i>	0.21032	0.19736	0.01296	2.00855	0.00031	0.02561	0.04467
<i>APIG1</i>	0.17573	0.16274	0.01299	2.84535	0.00404	0.02194	0.00447
<i>SSH3</i>	0.19239	0.17923	0.01316	2.40978	0.00245	0.02388	0.01602
<i>HNRNP1LL</i>	0.24345	0.23028	0.01317	2.26024	0.00175	0.02460	0.02388
<i>TPD52</i>	0.15851	0.14529	0.01322	2.73408	0.00374	0.02270	0.00629
<i>SMAD9</i>	0.24394	0.23070	0.01324	1.96432	0.00002	0.02646	0.04958
<i>TBL2</i>	0.20701	0.19376	0.01325	2.91044	0.00432	0.02218	0.00364
<i>PDCD7</i>	0.22738	0.21411	0.01327	1.98205	0.00014	0.02641	0.04756
<i>MGST1</i>	0.05676	0.04344	0.01332	3.26117	0.00531	0.02132	0.00112
<i>TSPAN12</i>	0.19408	0.18075	0.01333	2.16335	0.00125	0.02541	0.03059
<i>DNAJC9</i>	0.20767	0.19425	0.01342	2.32548	0.00210	0.02473	0.02011
<i>PUM3</i>	0.17170	0.15828	0.01343	2.88526	0.00430	0.02255	0.00394
<i>DPH7</i>	0.19627	0.18283	0.01344	2.52906	0.00302	0.02386	0.01149
<i>POLR2H</i>	0.22708	0.21346	0.01362	2.38963	0.00244	0.02479	0.01693
<i>TMPO</i>	0.12239	0.10877	0.01362	2.85354	0.00426	0.02299	0.00435
<i>NFASC</i>	0.16522	0.15159	0.01363	3.05722	0.00489	0.02237	0.00225
<i>SLC7A2</i>	0.21299	0.19931	0.01367	2.02366	0.00043	0.02692	0.04309
<i>XPC</i>	0.27963	0.26588	0.01375	2.11537	0.00101	0.02650	0.03448
<i>SCAMP3</i>	0.21241	0.19866	0.01375	2.09907	0.00091	0.02660	0.03589
<i>OGDH</i>	0.17558	0.16175	0.01383	2.42949	0.00267	0.02499	0.01518
<i>CCND3</i>	0.30980	0.29591	0.01390	2.33083	0.00221	0.02559	0.01983
<i>BPGM</i>	0.20718	0.19319	0.01398	2.49969	0.00302	0.02495	0.01248
<i>C12orf29</i>	0.24223	0.22814	0.01409	2.43464	0.00274	0.02544	0.01496
<i>POLR2M</i>	0.32782	0.31368	0.01414	2.08365	0.00083	0.02744	0.03728
<i>CDIP1</i>	0.13587	0.12165	0.01422	3.36356	0.00593	0.02252	0.00078
<i>C1orf109</i>	0.13507	0.12084	0.01423	1.96449	0.00003	0.02843	0.04956
<i>SYNJ2BP</i>	0.38827	0.37404	0.01423	2.13265	0.00115	0.02732	0.03303
<i>SLC43A3</i>	0.13946	0.12516	0.01430	3.17399	0.00547	0.02313	0.00152
<i>CDV3</i>	0.26702	0.25263	0.01439	2.56284	0.00338	0.02540	0.01043
<i>TTC14</i>	0.36336	0.34893	0.01443	1.98325	0.00016	0.02871	0.04743
<i>TM9SF3</i>	0.32038	0.30595	0.01444	2.08679	0.00087	0.02800	0.03699
<i>FOSL2</i>	0.29867	0.28413	0.01454	2.03418	0.00052	0.02855	0.04202

<i>GMPR</i>	0.37027	0.35573	0.01454	1.97503	0.00011	0.02897	0.04836
<i>PIGP</i>	0.37879	0.36423	0.01456	2.08796	0.00089	0.02824	0.03688
<i>TGFB3</i>	0.25482	0.24024	0.01458	2.10997	0.00103	0.02813	0.03494
<i>MDK</i>	0.12899	0.11440	0.01459	2.13667	0.00120	0.02798	0.03271
<i>IST1</i>	0.43248	0.41788	0.01460	1.99003	0.00021	0.02898	0.04668
<i>MAP3K11</i>	0.07824	0.06363	0.01461	3.67536	0.00681	0.02240	0.00024
<i>TRIP10</i>	0.42834	0.41370	0.01464	2.06350	0.00073	0.02855	0.03915
<i>ZNF83</i>	0.19594	0.18130	0.01464	2.58805	0.00355	0.02573	0.00970
<i>UTP6</i>	0.20598	0.19122	0.01476	2.40315	0.00272	0.02681	0.01631
<i>IL10RB</i>	0.16546	0.15069	0.01477	3.61661	0.00676	0.02278	0.00030
<i>WARS</i>	0.14349	0.12870	0.01479	2.97166	0.00503	0.02455	0.00299
<i>NPRL3</i>	0.29707	0.28227	0.01480	2.14054	0.00124	0.02835	0.03239
<i>COMMD5</i>	0.30662	0.29173	0.01488	2.03958	0.00058	0.02919	0.04148
<i>NAPRT</i>	0.29759	0.28260	0.01499	2.66325	0.00396	0.02603	0.00778
<i>ETFDH</i>	0.25552	0.24050	0.01502	2.59288	0.00366	0.02638	0.00956
<i>TMA16</i>	0.29732	0.28213	0.01519	2.30518	0.00227	0.02812	0.02122
<i>SECISBP2</i>	0.24105	0.22572	0.01534	2.49077	0.00326	0.02741	0.01280
<i>RPA3</i>	0.39286	0.37750	0.01536	2.02876	0.00051	0.03020	0.04257
<i>SDR39U1</i>	0.37251	0.35715	0.01536	2.32178	0.00239	0.02833	0.02031
<i>ITFG2</i>	0.11063	0.09523	0.01540	3.72705	0.00730	0.02350	0.00020
<i>ALG5</i>	0.38884	0.37330	0.01554	2.20633	0.00173	0.02934	0.02744
<i>CBY1</i>	0.37621	0.36052	0.01568	2.25519	0.00205	0.02932	0.02419
<i>HGSNAT</i>	0.11856	0.10285	0.01571	3.79666	0.00760	0.02382	0.00015
<i>NAA50</i>	0.27513	0.25926	0.01587	2.42060	0.00301	0.02872	0.01555
<i>SLC30A9</i>	0.21709	0.20102	0.01607	3.12747	0.00599	0.02614	0.00178
<i>SDHAF2</i>	0.30919	0.29310	0.01609	2.48163	0.00338	0.02880	0.01313
<i>AATF</i>	0.40174	0.38561	0.01613	1.98342	0.00018	0.03208	0.04741
<i>CPSF7</i>	0.33471	0.31854	0.01617	2.40233	0.00297	0.02937	0.01635
<i>GPS1</i>	0.38318	0.36700	0.01618	2.19168	0.00170	0.03066	0.02848
<i>GSK3B</i>	0.15776	0.14155	0.01621	3.11903	0.00602	0.02640	0.00183
<i>NR4A2</i>	0.25327	0.23699	0.01628	1.96339	0.00002	0.03254	0.04969
<i>PLEC</i>	0.25545	0.23907	0.01637	2.38195	0.00290	0.02985	0.01728

<i>MRPL3</i>	0.57032	0.55370	0.01662	2.03256	0.00059	0.03265	0.04218
<i>ABI2</i>	0.25813	0.24144	0.01669	2.30605	0.00250	0.03089	0.02118
<i>PRKG1</i>	0.49388	0.47712	0.01675	2.13187	0.00134	0.03216	0.03310
<i>IMMP2L</i>	0.45182	0.43496	0.01686	2.13360	0.00137	0.03236	0.03296
<i>TXN2</i>	0.60350	0.58657	0.01693	1.97609	0.00013	0.03372	0.04824
<i>CMAS</i>	0.38786	0.37071	0.01714	2.03239	0.00060	0.03368	0.04220
<i>UBE2G2</i>	0.31413	0.29685	0.01728	2.52493	0.00386	0.03070	0.01162
<i>PTRHD1</i>	0.19651	0.17917	0.01734	3.09383	0.00635	0.02833	0.00199
<i>CLSTN1</i>	0.23572	0.21834	0.01738	2.81736	0.00528	0.02947	0.00487
<i>VPS25</i>	0.34982	0.33233	0.01749	2.67606	0.00467	0.03030	0.00749
<i>MUM1</i>	0.44839	0.43090	0.01749	2.17407	0.00172	0.03326	0.02978
<i>OFD1</i>	0.17568	0.15817	0.01751	4.52486	0.00992	0.02510	0.00001
<i>COA4</i>	0.46167	0.44406	0.01761	2.05418	0.00080	0.03442	0.04004
<i>CNP</i>	0.35751	0.33984	0.01767	2.35451	0.00296	0.03239	0.01861
<i>SWAP70</i>	0.35480	0.33706	0.01774	1.97540	0.00013	0.03535	0.04831
<i>GNAI1</i>	0.29155	0.27367	0.01788	2.69323	0.00486	0.03089	0.00712
<i>DECR1</i>	0.29298	0.27500	0.01798	2.65629	0.00471	0.03125	0.00794
<i>KMT2C</i>	0.19488	0.17682	0.01807	2.97210	0.00615	0.02999	0.00298
<i>CLIP1</i>	0.41816	0.39995	0.01821	2.50468	0.00396	0.03247	0.01231
<i>TIAL1</i>	0.31207	0.29384	0.01822	2.57188	0.00433	0.03212	0.01016
<i>ATG5</i>	0.22490	0.20659	0.01831	2.74190	0.00522	0.03140	0.00614
<i>GSPT1</i>	0.31517	0.29679	0.01838	2.40734	0.00341	0.03336	0.01613
<i>NOLC1</i>	0.20613	0.18767	0.01846	2.73383	0.00522	0.03169	0.00630
<i>WDR34</i>	0.23140	0.21290	0.01849	2.58674	0.00448	0.03251	0.00974
<i>PYGM</i>	0.17128	0.15267	0.01861	3.86862	0.00918	0.02804	0.00011
<i>TCEAL7</i>	0.33677	0.31806	0.01871	2.41344	0.00351	0.03391	0.01586
<i>KRAS</i>	0.21329	0.19446	0.01883	2.16662	0.00179	0.03588	0.03034
<i>FXD6</i>	0.22812	0.20926	0.01886	2.16966	0.00182	0.03591	0.03011
<i>TADA3</i>	0.53542	0.51654	0.01887	2.18611	0.00195	0.03580	0.02888
<i>WFS1</i>	0.58202	0.56299	0.01903	2.04993	0.00083	0.03722	0.04046
<i>TLE1</i>	0.40672	0.38755	0.01916	2.48929	0.00407	0.03426	0.01285
<i>OXAIL</i>	0.46201	0.44281	0.01921	2.22754	0.00230	0.03611	0.02598

<i>SNAP47</i>	0.19540	0.17615	0.01925	3.33348	0.00793	0.03057	0.00087
<i>ILVBL</i>	0.28489	0.26556	0.01933	2.16650	0.00184	0.03683	0.03035
<i>ARMC10</i>	0.34297	0.32338	0.01959	2.58211	0.00471	0.03447	0.00987
<i>HLA-F</i>	0.28356	0.26383	0.01973	2.54215	0.00451	0.03494	0.01107
<i>MRPS2</i>	0.32296	0.30323	0.01973	2.42283	0.00376	0.03570	0.01546
<i>SMARCA1</i>	0.39352	0.37355	0.01998	2.24779	0.00255	0.03740	0.02466
<i>ANGPT1</i>	0.26947	0.24942	0.02005	2.21713	0.00232	0.03778	0.02669
<i>AHI1</i>	0.37681	0.35669	0.02012	2.49304	0.00429	0.03594	0.01272
<i>CKLF</i>	0.27644	0.25629	0.02016	2.35453	0.00337	0.03694	0.01861
<i>EGLN2</i>	0.54546	0.52522	0.02024	2.14032	0.00170	0.03878	0.03241
<i>MX1</i>	0.20649	0.18612	0.02037	3.92280	0.01019	0.03056	0.00009
<i>IFI27</i>	0.17379	0.15322	0.02057	2.18890	0.00214	0.03899	0.02868
<i>TULP3</i>	0.32093	0.30029	0.02064	2.04139	0.00082	0.04046	0.04130
<i>PTN</i>	0.19116	0.17043	0.02074	2.85552	0.00650	0.03497	0.00433
<i>GPN3</i>	0.47237	0.45156	0.02081	2.42471	0.00398	0.03763	0.01538
<i>SZRD1</i>	0.61539	0.59445	0.02095	2.06910	0.00110	0.04079	0.03862
<i>PFKL</i>	0.63864	0.61767	0.02097	2.13395	0.00170	0.04023	0.03293
<i>SNAPC5</i>	0.48151	0.46054	0.02097	2.68095	0.00563	0.03631	0.00738
<i>PFDN6</i>	0.45251	0.43130	0.02121	2.89651	0.00685	0.03557	0.00380
<i>PTOV1</i>	0.72868	0.70726	0.02142	2.06487	0.00108	0.04176	0.03902
<i>RABGGTB</i>	0.40952	0.38789	0.02162	2.79921	0.00648	0.03677	0.00516
<i>NMD3</i>	0.49616	0.47418	0.02198	2.30662	0.00330	0.04067	0.02114
<i>SOX4</i>	0.39165	0.36966	0.02199	2.25950	0.00291	0.04108	0.02392
<i>COPS4</i>	0.63747	0.61546	0.02201	2.15380	0.00197	0.04204	0.03133
<i>SMIM12</i>	0.87360	0.85150	0.02210	1.99157	0.00034	0.04386	0.04651
<i>MED4</i>	0.99536	0.97321	0.02215	2.01119	0.00056	0.04375	0.04439
<i>TMEM128</i>	0.22355	0.20114	0.02241	3.40700	0.00951	0.03531	0.00067
<i>ATG3</i>	0.56067	0.53801	0.02267	2.61391	0.00566	0.03967	0.00900
<i>PDE5A</i>	0.38142	0.35864	0.02279	2.49114	0.00485	0.04072	0.01279
<i>CLDN5</i>	0.10329	0.08043	0.02286	2.97116	0.00777	0.03794	0.00299
<i>JAK1</i>	0.55756	0.53450	0.02306	2.14258	0.00196	0.04416	0.03223
<i>MFF</i>	0.65735	0.63412	0.02323	2.40389	0.00428	0.04217	0.01628

<i>GTF3C6</i>	0.84866	0.82531	0.02335	1.97492	0.00017	0.04653	0.04837
<i>SRP68</i>	0.61118	0.58732	0.02386	2.15245	0.00212	0.04559	0.03144
<i>SCAF11</i>	0.74198	0.71802	0.02397	2.10435	0.00164	0.04630	0.03543
<i>NOP56</i>	0.74974	0.72566	0.02408	2.15329	0.00215	0.04600	0.03137
<i>DTWD1</i>	0.36265	0.33856	0.02409	2.40111	0.00442	0.04376	0.01641
<i>DARS</i>	0.88833	0.86418	0.02414	2.12599	0.00188	0.04641	0.03358
<i>CSNK1D</i>	0.44511	0.42081	0.02430	2.98073	0.00832	0.04029	0.00290
<i>CFDP1</i>	0.75062	0.72615	0.02447	2.70371	0.00672	0.04221	0.00690
<i>UBE2E2</i>	0.59393	0.56924	0.02469	2.30528	0.00369	0.04568	0.02122
<i>NEMF</i>	0.57656	0.55170	0.02487	2.62187	0.00627	0.04346	0.00879
<i>FAM32A</i>	0.60717	0.58197	0.02519	2.04388	0.00102	0.04936	0.04105
<i>FGD5-AS1</i>	0.47454	0.44920	0.02534	3.00439	0.00880	0.04188	0.00268
<i>PHF14</i>	0.56725	0.54176	0.02549	2.63964	0.00656	0.04443	0.00834
<i>HDAC2</i>	0.71496	0.68927	0.02569	2.26083	0.00341	0.04797	0.02384
<i>MPHOSPH10</i>	0.29261	0.26685	0.02575	3.82344	0.01255	0.03896	0.00013
<i>PLSCR1</i>	0.33606	0.31015	0.02590	2.47497	0.00538	0.04643	0.01338
<i>PAIP1</i>	0.81356	0.78751	0.02604	2.18328	0.00265	0.04943	0.02909
<i>DDA1</i>	0.39511	0.36903	0.02608	3.01847	0.00914	0.04302	0.00256
<i>STK25</i>	0.45578	0.42954	0.02625	3.17389	0.01003	0.04246	0.00152
<i>KAT5</i>	0.61448	0.58823	0.02625	2.72528	0.00736	0.04514	0.00646
<i>NT5C3B</i>	0.76367	0.73716	0.02651	2.19229	0.00280	0.05023	0.02843
<i>MAP7D1</i>	0.91396	0.88738	0.02658	1.97694	0.00022	0.05294	0.04814
<i>MAGED1</i>	0.49034	0.46356	0.02678	3.26527	0.01070	0.04287	0.00111
<i>CD2BP2</i>	0.55123	0.52438	0.02685	2.60304	0.00663	0.04708	0.00929
<i>PHB2</i>	1.00825	0.98137	0.02688	2.05746	0.00126	0.05249	0.03973
<i>NDUFB5</i>	0.83567	0.80807	0.02760	2.42439	0.00528	0.04992	0.01539
<i>MAT2A</i>	0.48023	0.45181	0.02842	2.82528	0.00870	0.04815	0.00475
<i>HEXB</i>	0.75541	0.72674	0.02867	2.35166	0.00477	0.05258	0.01875
<i>RAB18</i>	1.01028	0.98151	0.02876	2.31199	0.00437	0.05316	0.02084
<i>PSMD7</i>	0.77278	0.74364	0.02914	2.60284	0.00719	0.05109	0.00929
<i>PSMG2</i>	1.02873	0.99937	0.02936	2.21496	0.00337	0.05534	0.02684
<i>GORASP2</i>	0.56840	0.53902	0.02938	2.20039	0.00320	0.05556	0.02785

<i>RBM25</i>	0.96625	0.93687	0.02938	2.08157	0.00171	0.05706	0.03747
<i>CCL21</i>	0.30879	0.27814	0.03066	2.01077	0.00076	0.06055	0.04444
<i>HSPA9</i>	1.19093	1.16027	0.03066	2.09880	0.00202	0.05930	0.03592
<i>RNASE1</i>	0.35054	0.31956	0.03097	2.45158	0.00620	0.05575	0.01428
<i>CDS2</i>	0.60287	0.57180	0.03107	3.49814	0.01365	0.04848	0.00048
<i>GLO1</i>	0.89935	0.86825	0.03109	2.00766	0.00073	0.06146	0.04477
<i>TOMM40</i>	0.36070	0.32960	0.03111	3.47285	0.01354	0.04867	0.00052
<i>AIMP1</i>	0.93684	0.90570	0.03114	2.36635	0.00534	0.05694	0.01803
<i>CTSC</i>	0.31328	0.28211	0.03118	2.26356	0.00417	0.05818	0.02367
<i>EBAG9</i>	0.31275	0.28132	0.03143	4.77416	0.01852	0.04434	0.00000
<i>AHSA1</i>	0.72320	0.69174	0.03146	2.99688	0.01088	0.05204	0.00275
<i>EIF6</i>	1.09816	1.06668	0.03148	2.17953	0.00316	0.05980	0.02937
<i>MRPS36</i>	0.84488	0.81280	0.03208	2.55003	0.00741	0.05675	0.01082
<i>TMEM50B</i>	0.66713	0.63496	0.03217	2.31485	0.00492	0.05942	0.02069
<i>EHD2</i>	1.15353	1.12075	0.03278	2.28175	0.00461	0.06095	0.02257
<i>HLA-DPA1</i>	0.83959	0.80680	0.03280	2.30563	0.00491	0.06069	0.02120
<i>PSMC4</i>	0.74407	0.71109	0.03298	2.98488	0.01132	0.05465	0.00286
<i>SLC41A3</i>	0.32268	0.28875	0.03393	4.88085	0.02030	0.04756	0.00000
<i>NDUFA8</i>	0.62906	0.59509	0.03397	3.16336	0.01291	0.05502	0.00158
<i>PLCG2</i>	0.54907	0.51479	0.03428	2.12837	0.00270	0.06586	0.03339
<i>ST6GALNAC6</i>	1.08196	1.04739	0.03457	2.49802	0.00743	0.06170	0.01254
<i>NDUFS4</i>	1.56418	1.52945	0.03472	2.05248	0.00155	0.06790	0.04021
<i>CHMP4A</i>	0.92468	0.88960	0.03508	2.62559	0.00888	0.06127	0.00869
<i>SERPINF1</i>	0.46337	0.42815	0.03522	2.67206	0.00938	0.06107	0.00758
<i>MRPS26</i>	0.72746	0.69115	0.03632	3.32125	0.01488	0.05776	0.00091
<i>PET100</i>	1.26326	1.22671	0.03655	2.43402	0.00711	0.06599	0.01499
<i>SEC23A</i>	0.66388	0.62660	0.03728	3.38999	0.01572	0.05884	0.00071
<i>HLA-DRB1</i>	0.74137	0.70391	0.03746	2.57350	0.00892	0.06600	0.01011
<i>KDELRI</i>	1.01501	0.97744	0.03756	2.39362	0.00679	0.06834	0.01674
<i>PIN1</i>	1.51354	1.47506	0.03848	2.34554	0.00631	0.07064	0.01906
<i>NUTF2</i>	1.00824	0.96962	0.03862	3.13662	0.01448	0.06276	0.00173
<i>BUD31</i>	1.19842	1.15901	0.03941	2.30319	0.00586	0.07296	0.02134

<i>TCEAL3</i>	1.54555	1.50613	0.03942	1.97097	0.00020	0.07864	0.04882
<i>PRDX3</i>	1.41096	1.37147	0.03949	2.48483	0.00833	0.07065	0.01302
<i>MMADHC</i>	1.22204	1.18151	0.04053	2.77316	0.01187	0.06919	0.00559
<i>TMEM165</i>	1.02839	0.98771	0.04069	2.58673	0.00985	0.07153	0.00974
<i>SNRPB2</i>	1.80070	1.75985	0.04085	2.12244	0.00311	0.07860	0.03388
<i>PCMT1</i>	1.10476	1.06387	0.04089	2.69546	0.01115	0.07064	0.00707
<i>UBXN4</i>	0.81775	0.77679	0.04096	2.74218	0.01167	0.07024	0.00614
<i>UXT</i>	1.31621	1.27460	0.04161	2.39920	0.00760	0.07562	0.01649
<i>SNRPB</i>	1.67022	1.62797	0.04225	2.25783	0.00556	0.07894	0.02403
<i>NDUFV1</i>	1.14451	1.10088	0.04363	3.01207	0.01523	0.07204	0.00262
<i>RNF7</i>	1.62057	1.57650	0.04408	2.35324	0.00735	0.08080	0.01867
<i>RNPS1</i>	1.06916	1.02450	0.04466	2.69721	0.01219	0.07713	0.00703
<i>DCTN2</i>	1.52485	1.47740	0.04745	2.36622	0.00813	0.08677	0.01803
<i>COA3</i>	0.86460	0.81707	0.04752	3.78504	0.02291	0.07214	0.00016
<i>NR2F2</i>	0.95066	0.90242	0.04823	3.10537	0.01778	0.07869	0.00192
<i>C14orf119</i>	0.53716	0.48879	0.04837	5.14384	0.02993	0.06681	0.00000
<i>PPIG</i>	1.50163	1.45280	0.04884	3.04094	0.01735	0.08033	0.00238
<i>SERP1</i>	1.16676	1.11767	0.04909	2.64316	0.01268	0.08551	0.00826
<i>PGK1</i>	2.34545	2.29065	0.05480	2.29984	0.00808	0.10152	0.02152
<i>MRPS21</i>	1.75279	1.69662	0.05618	2.97735	0.01918	0.09317	0.00293
<i>RBM8A</i>	1.37981	1.32198	0.05783	3.19338	0.02232	0.09334	0.00142
<i>ZFYVE21</i>	1.67675	1.61528	0.06146	3.24613	0.02434	0.09859	0.00118
<i>LDHB</i>	3.72983	3.66768	0.06215	2.16802	0.00594	0.11835	0.03023
<i>EPS8</i>	1.74574	1.68326	0.06248	2.28474	0.00886	0.11611	0.02240
<i>EIF4H</i>	1.72136	1.65730	0.06406	3.12755	0.02390	0.10422	0.00178
<i>SNX3</i>	3.73046	3.66605	0.06441	2.01535	0.00174	0.12707	0.04396
<i>TBCA</i>	3.05524	2.98878	0.06647	2.39819	0.01212	0.12081	0.01654
<i>TMBIM6</i>	3.50191	3.43349	0.06842	2.23617	0.00843	0.12842	0.02541
<i>ARPC3</i>	2.79980	2.72909	0.07070	2.59523	0.01729	0.12412	0.00950
<i>OAZ2</i>	2.04775	1.97134	0.07641	2.77145	0.02235	0.13047	0.00561
<i>SEC61B</i>	2.67409	2.59618	0.07791	2.47220	0.01612	0.13970	0.01348
<i>APOE</i>	1.88857	1.80186	0.08671	2.32910	0.01371	0.15970	0.01992

<i>COX6C</i>	8.08626	7.96714	0.11913	2.18398	0.01218	0.22608	0.02904
<i>UQCRI1</i>	6.49554	6.36583	0.12971	2.51016	0.02839	0.23103	0.01212
<i>DDX5</i>	8.60654	8.42733	0.17921	2.37051	0.03098	0.32744	0.01783
<i>RPS20</i>	18.31942	18.12138	0.19805	2.24399	0.02500	0.37109	0.02491
<i>HNRNPA1</i>	12.37161	12.15761	0.21400	2.36998	0.03695	0.39105	0.01785
<i>NPM1</i>	10.25655	10.03965	0.21690	2.64500	0.05611	0.37769	0.00821
<i>CFL1</i>	13.25354	13.02221	0.23133	3.32224	0.09480	0.36785	0.00090
<i>HSP90AB1</i>	10.13270	9.89253	0.24017	2.68210	0.06459	0.41575	0.00736
<i>YBX1</i>	14.39208	14.13839	0.25369	3.27040	0.10159	0.40579	0.00109
<i>RPL8</i>	30.56312	30.25907	0.30405	2.25422	0.03958	0.56852	0.02425
<i>RPS7</i>	22.92202	22.59555	0.32647	3.01037	0.11383	0.53911	0.00263
<i>RPS3A</i>	36.08535	35.70302	0.38233	2.11483	0.02786	0.73681	0.03453
<i>RPS3</i>	30.53291	30.13703	0.39588	2.47043	0.08167	0.71008	0.01355
<i>ACTG1</i>	24.17112	23.75092	0.42020	2.55391	0.09759	0.74281	0.01070
<i>RPS27A</i>	43.52303	43.02586	0.49717	2.24392	0.06274	0.93160	0.02491
<i>RPS2</i>	32.49222	31.96756	0.52466	1.98194	0.00561	1.04371	0.04758
<i>RPL7</i>	44.32903	43.57727	0.75176	3.23644	0.29632	1.20720	0.00122
<i>EEF1A1</i>	87.91344	86.90372	1.00972	2.81461	0.30632	1.71312	0.00492

Supplemental Table 7. Gene set enrichment analyses for genes upregulated in low CD163 SMCs using the Jensen tissues ontology

Term	P-value	Adjusted P-value	Old P-value	Old Adjusted P-value	Odds Ratio	Combined Score
Bone	5.65E-32	2.09E-29	0	0	14.31731	1030.15362
Eye	4.44E-27	8.22E-25	0	0	10.45516	634.40705
Olfactory bulb	6.69E-27	8.25E-25	0	0	9.51953	573.72968
Intestine	5.16E-25	4.77E-23	0	0	9.10083	508.95374
Thymus	1.24E-24	9.17E-23	0	0	8.67287	477.42298
Spinal ganglion	1.39E-23	8.31E-22	0	0	8.03279	422.76456

Pancreatic islet	1.57E-23	8.31E-22	0	0	8.16381	428.65562
Parenchyma	2.18E-23	1.01E-21	0	0	8.16989	426.31937
Ophthalmic nerve	4.81E-22	1.98E-20	0	0	7.48509	367.40806
Small intestine	4.50E-21	1.66E-19	0	0	7.51853	352.24997
Trigeminal ganglion	4.98E-19	1.68E-17	0	0	6.30795	265.83704
Prefrontal cortex	1.71E-18	5.29E-17	0	0	6.22283	254.56133
Caudate nucleus	2.19E-18	6.23E-17	0	0	6.07800	247.15320
Thalamus	3.14E-18	8.30E-17	0	0	6.02938	243.00004
Adrenal cortex	4.52E-18	1.11E-16	0	0	5.97041	238.45205
Pons	5.68E-17	1.31E-15	0	0	5.62172	210.29453
Bronchial epithelial cell	8.55E-17	1.86E-15	0	0	5.54509	205.15818
Pineal gland	1.26E-16	2.58E-15	0	0	5.57548	204.13996
Gut	6.87E-16	1.34E-14	0	0	5.84944	204.22540
Superior cervical ganglion	8.87E-16	1.64E-14	0	0	5.22234	180.99725
Amygdala	1.53E-15	2.69E-14	0	0	5.14945	175.67647
Vascular system	1.86E-15	3.12E-14	0	0	8.66831	294.02650
Medulla oblongata	3.01E-15	4.85E-14	0	0	5.06992	169.51896
Adipose tissue	3.43E-15	5.29E-14	0	0	12.17175	405.39117
Muscle	3.87E-15	5.73E-14	0	0	6.25300	207.50344
Spinal cord	9.38E-14	1.33E-12	0	0	7.59904	227.95272
Monocyte	1.40E-13	1.92E-12	0	0	4.82575	142.83167
Cingulate cortex	2.74E-13	3.62E-12	0	0	4.47381	129.41168
Globus pallidus	3.19E-13	4.08E-12	0	0	4.58968	132.05567
Cerebral peduncle	5.16E-13	6.37E-12	0	0	4.39123	124.23561
Retina	5.37E-13	6.41E-12	0	0	6.46819	182.74288
Embryonic brain	6.75E-13	7.80E-12	0	0	4.35671	122.09571
Subthalamic nucleus	1.38E-12	1.55E-11	0	0	4.31656	117.87460
Hypothalamus	5.69E-12	6.19E-11	0	0	8.51631	220.51356
Thyroid gland	6.76E-12	7.15E-11	0	0	11.11382	285.84618
Heart	2.22E-11	2.28E-10	0	0	13.10142	321.41433
Blood	7.30E-11	7.30E-10	0	0	3.76839	87.95457

Uterus	1.01E-10	9.85E-10	0	0	6.47783	149.08420
Parietal lobe	1.22E-10	1.16E-09	0	0	4.30423	98.23880
Brain	2.63E-10	2.38E-09	0	0	6.75490	149.00804
Occipital lobe	2.64E-10	2.38E-09	0	0	4.19827	92.59017
Ascites	2.75E-10	2.43E-09	0	0	6.31057	138.91372
Nerve	3.48E-10	2.99E-09	0	0	20.59197	448.47956
Erythroid cell	6.24E-10	5.25E-09	0	0	3.59695	76.23832
Dendritic cell	9.93E-10	8.17E-09	0	0	3.46322	71.79336
Cytotoxic T-lymphocyte	1.55E-09	1.25E-08	0	0	3.42993	69.56669
Bladder	4.71E-09	3.71E-08	0	0	8.12458	155.77482
Frontal lobe	7.49E-09	5.78E-08	0	0	4.08503	76.42837
Helper T-lymphocyte	8.02E-09	6.06E-08	0	0	3.24296	60.45245

Supplemental Table 8. Gene set enrichment analyses for genes upregulated in low CD163 SMCs using the Mouse gene atlas ontology

Term	P-value	Adjusted P-value	Old P-value	Old Adjusted P-value	Odds Ratio	Combined Score
Osteoblast day14	3.1E-09	1.8E-07	0	0	10.29429	201.85093
Osteoblast day21	7.8E-08	2.3E-06	0	0	9.70751	158.90136
Uterus	7.2E-05	1.2E-03	0	0	9.44612	90.07944
Umbilical cord	7.9E-05	1.2E-03	0	0	7.45728	70.45591
Lung	3.8E-04	4.4E-03	0	0	4.96856	39.18126
Osteoblast day5	1.8E-03	1.8E-02	0	0	6.17365	39.06785
Macrophage peri LPS thio 0hrs	8.2E-03	6.9E-02	0	0	3.63559	17.45591
3T3-L1	1.3E-02	9.3E-02	0	0	4.69200	20.54354
Nih 3T3	3.7E-02	2.4E-01	0	0	3.33667	11.03718
C3H 10T1 2	4.2E-02	2.5E-01	0	0	4.06024	12.89492
MEF	6.2E-02	3.3E-01	0	0	2.78876	7.75941
Bladder	7.3E-02	3.6E-01	0	0	3.20785	8.41083

Kidney	1.4E-01	5.8E-01	0	0	1.87498	3.68296
Iris	1.4E-01	5.8E-01	0	0	3.11167	6.10069
Placenta	1.5E-01	5.8E-01	0	0	2.01671	3.86889
Macrophage peri LPS thio 1hrs	1.7E-01	6.0E-01	0	0	1.73191	3.01880
Hypothalamus	1.8E-01	6.0E-01	0	0	2.09130	3.57306
Bone	1.8E-01	6.0E-01	0	0	2.62667	4.46805
Intestine small	2.0E-01	6.1E-01	0	0	1.77161	2.85161
Ciliary bodies	2.1E-01	6.1E-01	0	0	1.94934	3.06539
Eyecup	2.3E-01	6.4E-01	0	0	1.49745	2.22057
Adipose white	2.6E-01	6.4E-01	0	0	2.06227	2.78848
Macrophage peri LPS thio 7hrs	2.7E-01	6.4E-01	0	0	1.45473	1.89135
Skeletal muscle	2.8E-01	6.4E-01	0	0	1.44832	1.86793
Dorsal root ganglia	2.8E-01	6.4E-01	0	0	1.51830	1.93347
Intestine large	2.8E-01	6.4E-01	0	0	1.64505	2.07860
Heart	3.1E-01	6.8E-01	0	0	1.44360	1.69120
Adrenal gland	3.4E-01	7.2E-01	0	0	1.66798	1.78660
Pancreas	4.2E-01	8.3E-01	0	0	1.22175	1.05611

Supplemental Table 9. Gene set enrichment analyses for genes upregulated in low CD163 SMCs using the PanglaoDB ontology

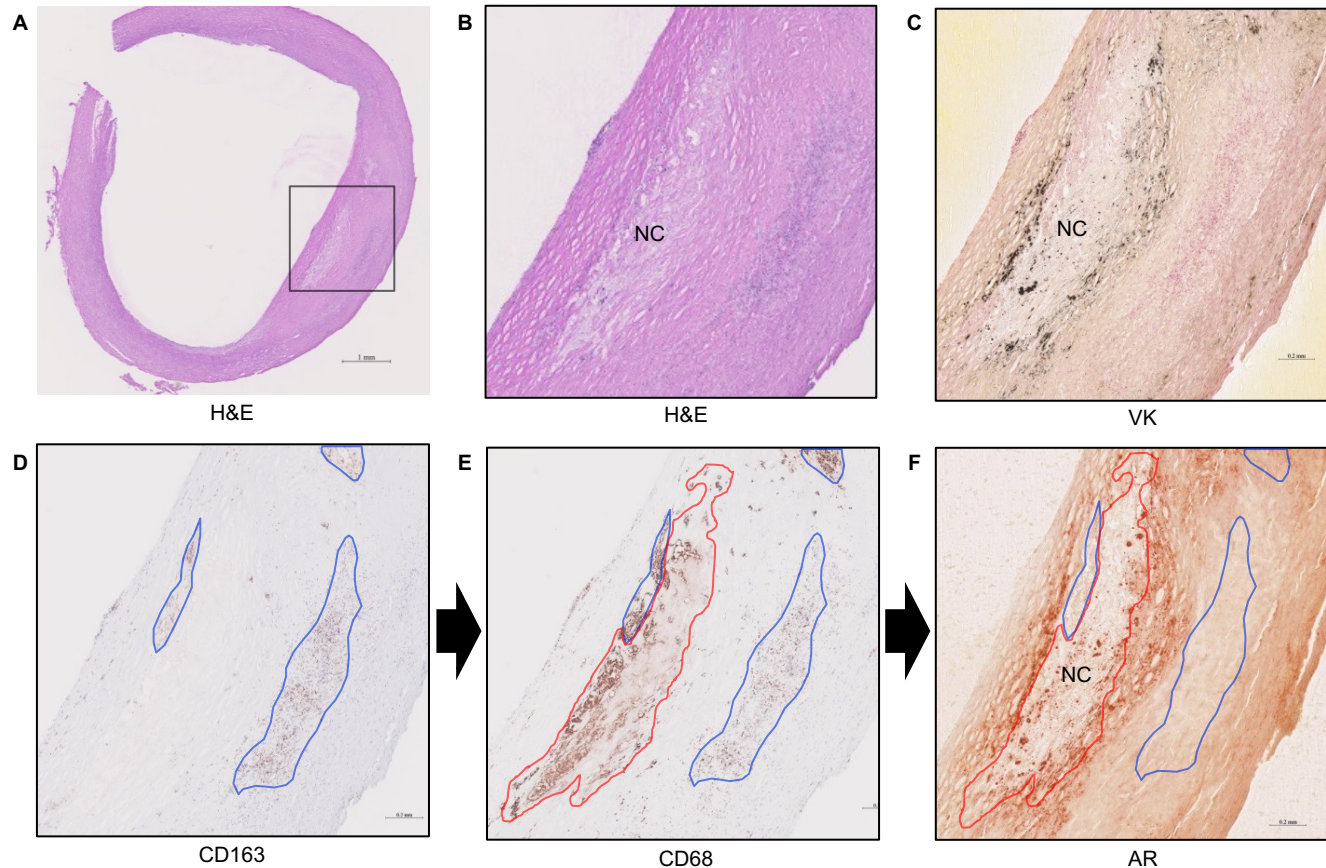
Term	P-value	Adjusted P-value	Old P-value	Old Adjusted P-value	Odds Ratio	Combined Score
Fibroblasts	1.62E-19	1.61E-17	0	0	23.51206	1017.24868
Chondrocytes	1.89E-17	9.36E-16	0	0	29.31752	1128.91531
Stromal Cells	4.47E-17	1.48E-15	0	0	32.42464	1220.64104
Myofibroblasts	2.37E-15	5.86E-14	0	0	34.42689	1159.39644
Pancreatic Stellate Cells	9.57E-15	1.89E-13	0	0	30.54568	986.02848
Osteoblasts	3.06E-14	5.05E-13	0	0	23.24824	723.43715

Hepatic Stellate Cells	9.43E-14	1.33E-12	0	0	25.12859	753.65632
Pulmonary Vascular Smooth Muscle Cells	2.17E-12	2.69E-11	0	0	28.14347	755.77477
Pericytes	1.58E-11	1.74E-10	0	0	19.05763	473.98147
Peritubular Myoid Cells	1.84E-11	1.82E-10	0	0	22.69725	561.05979
Airway Smooth Muscle Cells	6.01E-11	5.41E-10	0	0	25.01199	588.67455
Juxtaglomerular Cells	8.95E-11	7.38E-10	0	0	23.93138	553.69991
Mesangial Cells	1.81E-10	1.38E-09	0	0	18.03285	404.55220
Smooth Muscle Cells	7.50E-10	5.30E-09	0	0	15.61946	328.18667
Adipocytes	9.08E-08	5.99E-07	0	0	11.06798	179.45934
Endothelial Cells (Aorta)	3.45E-07	2.14E-06	0	0	11.20739	166.75613
Endothelial Cells	3.94E-07	2.30E-06	0	0	9.36250	138.06000
Leydig Cells	6.17E-07	3.39E-06	0	0	12.68244	181.33727
Vascular Smooth Muscle Cells	7.90E-07	4.11E-06	0	0	15.69690	220.57017
Mesothelial Cells	7.42E-06	3.67E-05	0	0	10.97652	129.64310
Loop of Henle Cells	8.50E-06	3.82E-05	0	0	10.73967	125.39226
Müller Cells	8.50E-06	3.82E-05	0	0	10.73967	125.39226
Adipocyte Progenitor Cells	2.30E-05	9.89E-05	0	0	11.71471	125.11987
Melanocytes	5.21E-05	2.15E-04	0	0	10.04521	99.05991
Mast Cells	1.68E-04	6.66E-04	0	0	6.56517	57.05191
Meningeal Cells	2.68E-04	9.82E-04	0	0	9.57012	78.71369
Myoepithelial Cells	2.68E-04	9.82E-04	0	0	9.57012	78.71369
Myoblasts	4.08E-04	0.001444065	0	0	8.69527	67.85100
Satellite Cells	6.39E-04	0.002182342	0	0	7.84654	57.71271

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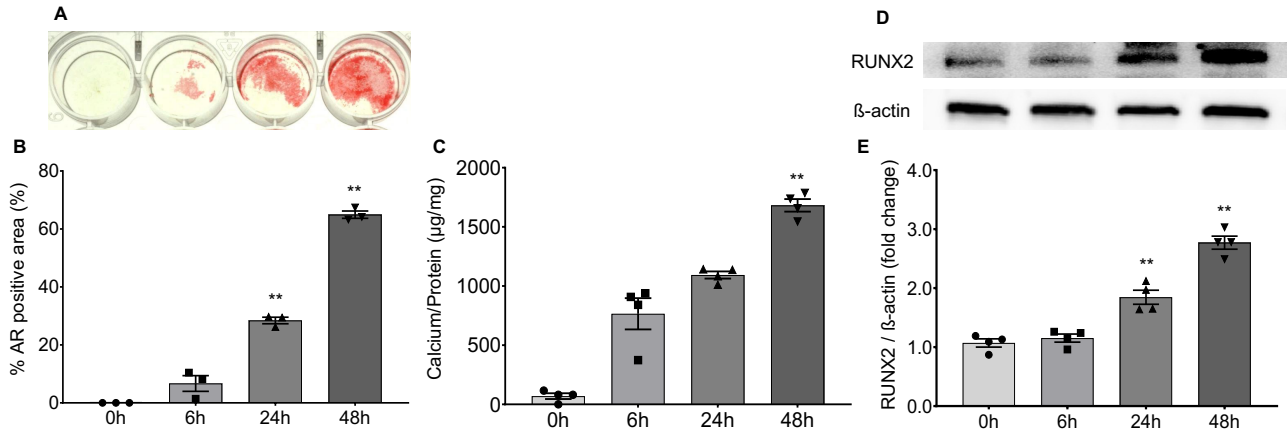
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Supplemental Figure 1. Outline of analysis for the amount of calcification in the spatial area of CD163⁺/CD68⁺ and CD163⁻/CD68⁺ in human atheroma of carotid artery (frozen CEA specimens)

Surgically removed carotid artery pathologic sections from 62-yo male patient. **A:** Low-power H&E image of fibroatheroma. **B-F:** High-power image of H&E (**B**), VK (**C**), CD163 (**D**) and CD68 (**E**) immunostaining, and AR (**F**) images of the corresponding black rectangular field in Image **A**. To determine the spatial distribution of CD163, CD68, and calcification, CD163 positive areas were digitally traced (bordered by blue line [**D**]) in CD163 IHC images (1st step). The CD163 positive area was digitally overlaid on an adjacent CD68 IHC image (2nd step). Subsequently, CD68 positive but CD163 negative area was digitally traced (bordered by red line [**E**]) in CD68 IHC image (3rd step). Both blue border (CD163⁺/CD68⁺) and red (CD163⁻/CD68⁺) border areas were digitally overlaid on an adjacent AR image (4th step). Finally, AR positive areas in blue and red zones were determined by HALO digital software (5th step). Total 70 advanced atheroma sections obtained from 32 patients were applied for this analysis. AR=Alizarin Red, CEA=carotid endarterectomy, IHC=immunohistochemistry, NC=necrotic core, VK=Von Kossa.



Supplemental Figure 2. Time dependent effect of OS media on HASMC calcification in vitro

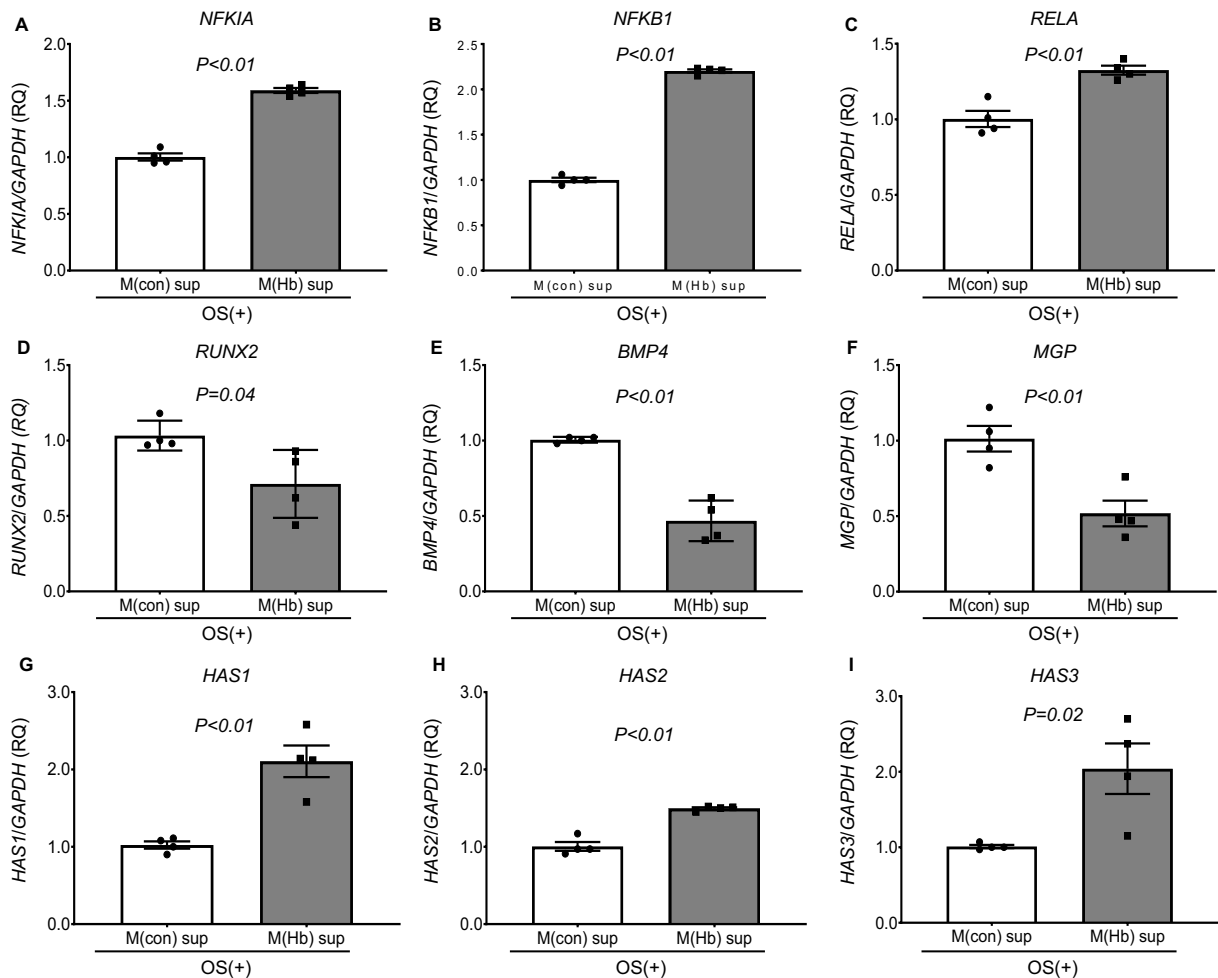
A-B: HASMC were seeded in 24-well culture plates, grown to confluence, and cultivated for 6, 24, and 48 hours. Representative image of AR staining of HASMC (**A**) and summary of % AR positive areas for each time point after exposure to culture media with OS is shown (**B**) (n=3 in each).

C: Summary of calcium amount in samples of each time point examined by colorimetric assay adjusted for protein content (n=4 in each).

D-E: Representative western blot images of RUNX2 and β-actin from protein samples extracted at each time point (**D**). Summary of densitometry analysis is shown in **E** (n=4 in each). ** p<0.01 vs 0h.

Results are presented as the mean±standard error and ANOVA followed by post-hoc Tukey's test was conducted for statistical analysis (**B-C, E**). Data normality was tested by Shapiro-Wilk test. All experiments were performed at least three times to confirm the reproducibility.

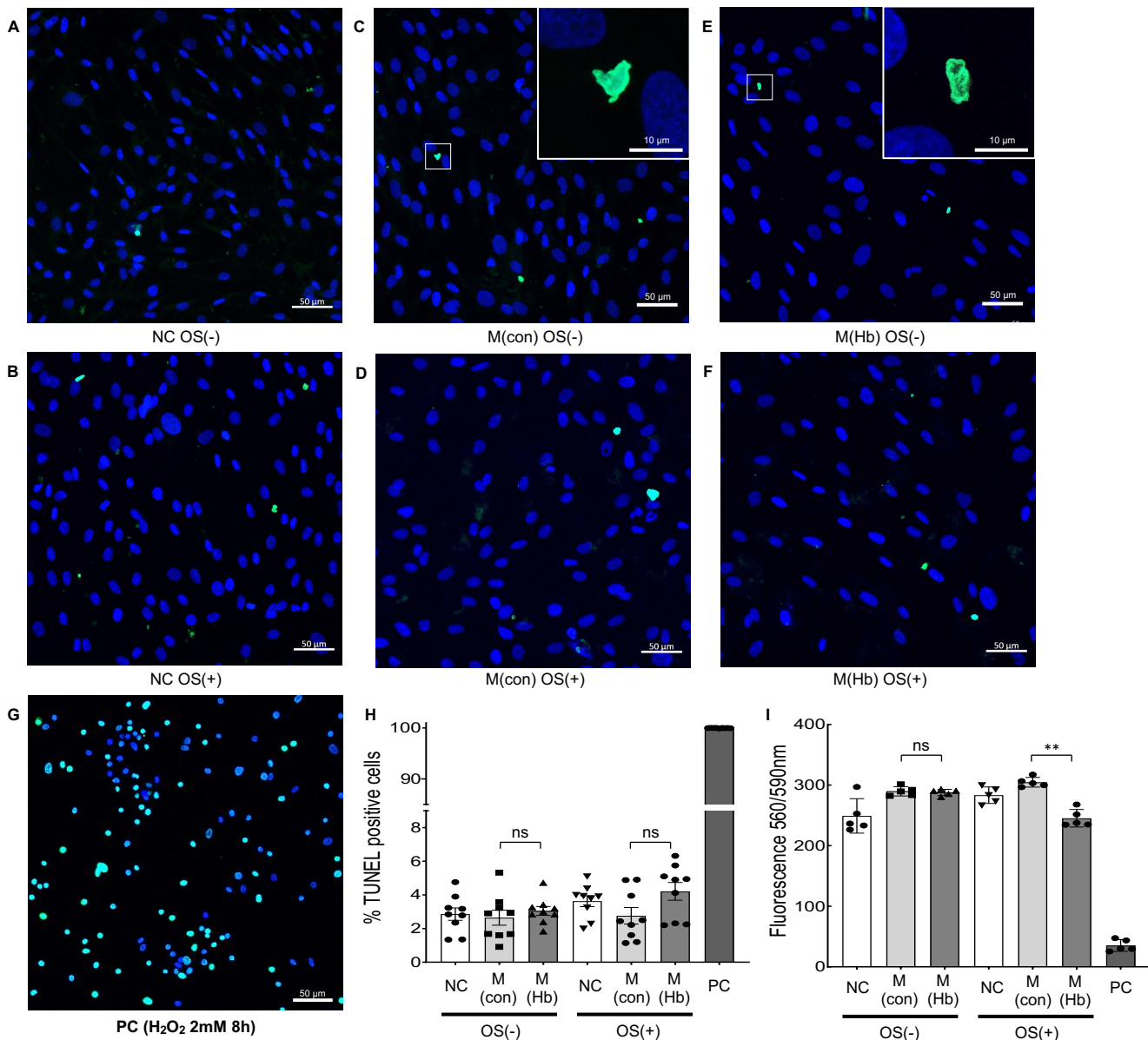
AR=Alizarin Red, HASMC=human aortic smooth muscle cell, OS=osteogenic components supplementation, RUNX2= runt-related transcription factor 2.



Supplemental Figure 3. Validation results of RT-PCR in RNA samples extracted from M(con) and M(Hb) plus OS exposed HASMC

HASMCs were treated with M(con) or M(Hb) + OS supernatant for 24 h. Real-time RT-PCR analysis was performed in order to validate the result of microarray analysis (Figure 4) including the expression levels of *NFK1A*, *NFKB1*, *RELA*, *RUNX2*, *BMP4*, *MGP*, *HAS1*, *HAS2*, *HAS3*. Data were normalized with *GAPDH* expression. Results are presented as the mean ± standard error and t-test was conducted for statistical analysis (n=3 per group). Data normality was tested by Shapiro-Wilk test. All experiments were performed at least three times to confirm the reproducibility.

M(con)sup=control macrophage supernatant, M(Hb)sup=HH-differentiated macrophage supernatant, OS=osteogenic components supplementation, RQ=relative quantification.

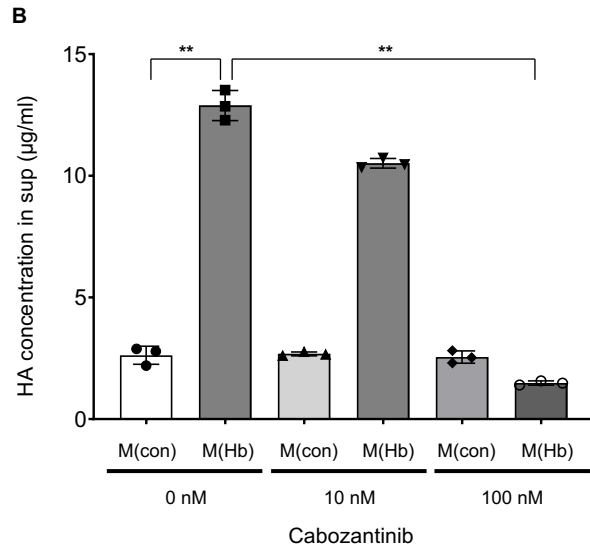
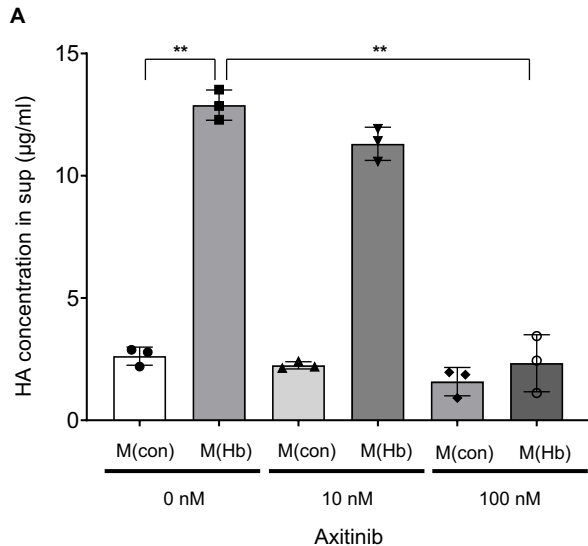


Supplemental Figure 4. The effect of M(con) and M(Hb) supernatant on the cell apoptosis and viability of HASMC

A-G: Representative fluorescent microscopic images of terminal deoxynucleotidyl transferase-mediated dUTP nick-end-labeling (TUNEL) staining of HASMC cultured with normal growth media (negative control; NC) with or without OS (**A**; OS(-), **B**; OS(+)), M(con) with or without OS (**C**; OS(-), **D**; OS(+)), or M(Hb) supernatant with or without OS (**E**; OS(-), **F**; OS(+)) for 48 hours. For positive control (PC), HASMCs were exposed to culture media containing 2mM of H₂O₂ for 8 hours (**G**). DNA fragmentation in apoptotic cells were detected by fluorescein-12-dUTP (green). Nucleus were counterstained by DAPI (blue). Small inset on upper-right in **C** and **E** represent higher magnification of TUNEL positive cells in the white rectangular field of each group. Scale bars indicate 50µm in low power or 10µm in high power fields. **H:** Summarized data of TUNEL positive cells. Bars indicate % of TUNEL positive cells in each condition. The values represent the mean ± standard error from 3 independent experiments, which include 3 different fields involving >100 cells in each (overall n=9 per group). **I:** Summarized data from PrestoBlue HS cell viability assay (n=5 per group) in the same experimental condition as TUNEL assay.

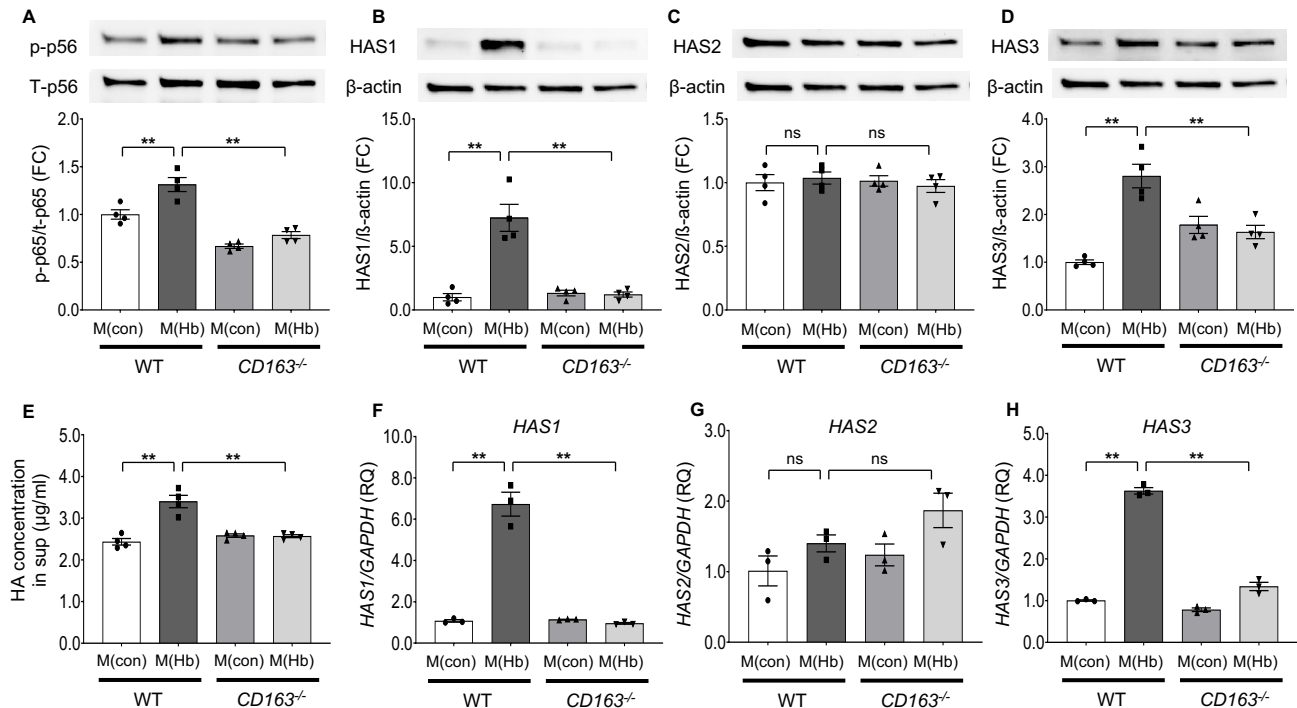
The experiment was performed three times to confirm the reproducibility. The values represent the mean ± standard error. ANOVA followed by post-hoc Tukey's test was applied. Data normality was tested by Shapiro-Wilk test.

NC=negative control, PC=positive control, TUNEL=terminal deoxynucleotidyl transferase-mediated dUTP nick end-labeling, Others are as Supplemental Figure 3.



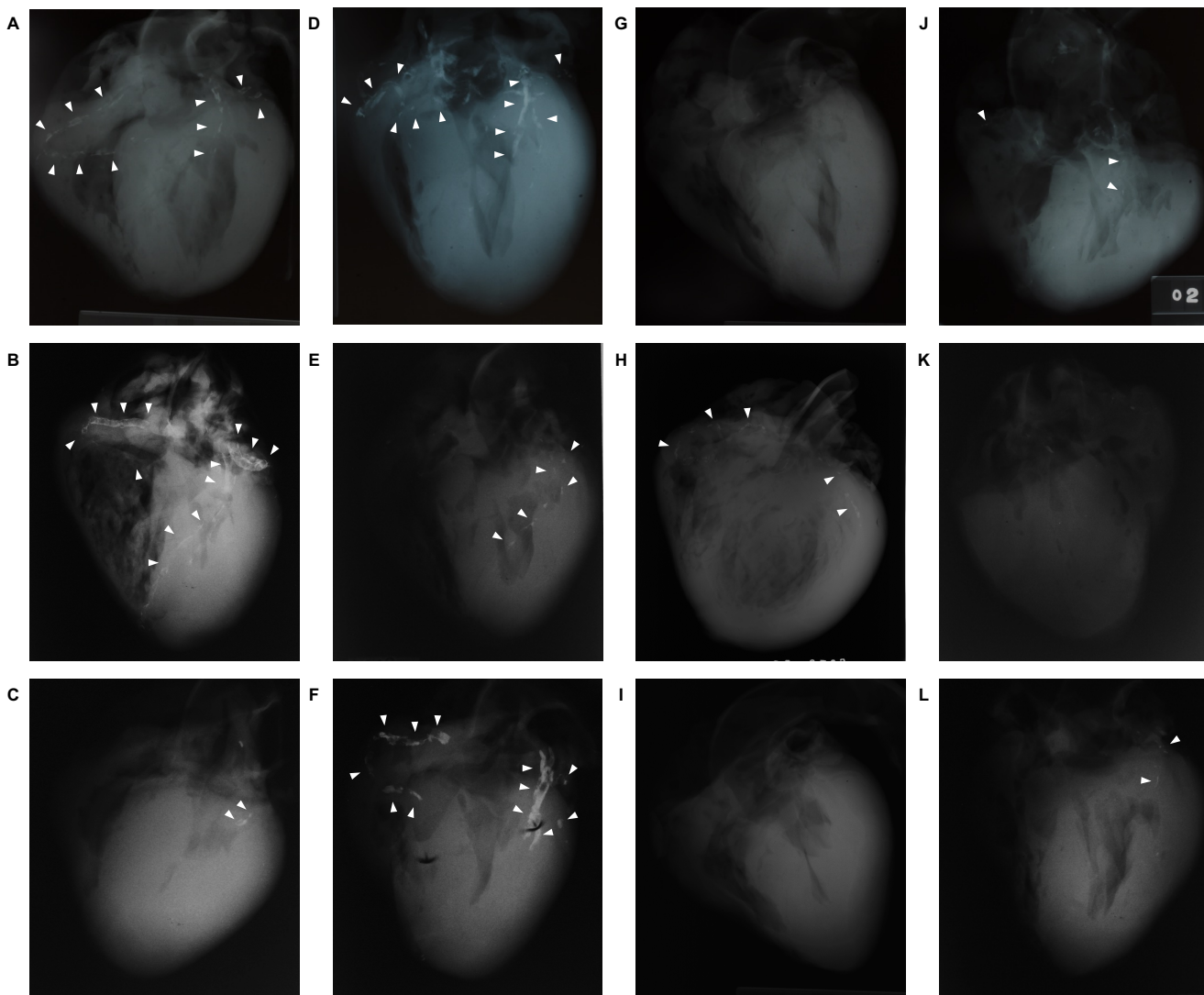
Supplemental Figure 5. Augmented hyaluronan synthesis in HASMC by M(Hb) supernatants exposure is attenuated by VEGF receptor antagonists

A-B: Summary of HA concentration in M(con) and M(Hb) supernatant post-exposing (24 hours) to HASMC (ELISA, n=3 per group) with VEGF receptor antagonist, Axitinib (**A**) or Cabozantinib (**B**), in different dose setting (0, 10, and 100nM). **P<0.01. Results are presented as the mean±standard error. ANOVA followed by post-hoc Tukey's test was applied. Data normality was tested by Shapiro-Wilk test. All experiments were performed at least three times to confirm the reproducibility. HA=hyaluronan, M(con)=control macrophage supernatant, M(Hb)=hemoglobin-haptoglobin complex-differentiated macrophage supernatant.



Supplemental Figure 6. Effect of peritoneal macrophage supernatant obtained from WT or *CD163^{-/-}* mice on NFκB signaling and HA synthesis

Peritoneal macrophages are collected from WT or *CD163^{-/-}* mice and cultured with or without mouse hemoglobin for 24 hours. The supernatant was exposed to HASMC for 24 hours. **A-D**: Immunoblotting of HASMC with quantitation of densitometry for phospho-p65 (Ser 536)/total-p65 (**A**), HAS1/β-actin (**B**), HAS2/β-actin (**C**), and HAS3/β-actin (**D**) in HASMC exposed to mouse peritoneal macrophage supernatant for 24 hours (1: WT M(con), 2: WT M(Hb), 3: *CD163^{-/-}* M(con), and 4: *CD163^{-/-}* M(Hb)) (n=4 per group). **E**: Summary of HA concentration in WT M(con), WT M(Hb), *CD163^{-/-}* M(con), and *CD163^{-/-}* M(Hb) supernatant exposed (24 hours) to HASMC (ELISA, n=4 per group). **F-H**: Result of real-time PCR analysis of HASMC which exposed to peritoneal macrophage supernatant for 24 hours, including expression levels of HAS1 (**F**), HAS2 (**G**), and HAS3 (**H**). Data were normalized with GAPDH expression and presented as mean ± standard error (n=3 per group). Results are presented as the mean ± standard error and ANOVA followed by post-hoc Tukey's test was applied for statistical analysis. Data normality was tested by Shapiro-Wilk test. All experiments were performed at least three times to confirm the reproducibility. *CD163^{-/-}* M(con)=*CD163^{-/-}* macrophage control supernatant, *CD163^{-/-}* M(Hb)=Hb-stimulated *CD163^{-/-}* macrophage supernatant, FC=fold changes, WT=wild type, WT M(con)=WT macrophage control supernatant, WT M(Hb)=Hb-stimulated WT macrophage supernatant



Supplemental Figure 7. Representative radiographs of autopsy hearts of sudden cardiac death cases of African American victims with major AA or minor GG genotype of rs7136716 SNPs

Radiographs of **A-F** are from carriers of major AA genotype and **G-L** are from carriers of minor GG genotype of rs7136716 SNPs. **A:** A heart with severe CAD from 41-year-old male without any cardiac risk factors. **B:** A heart with severe CAD from 61-year-old female with history of hypertension, diabetes, and CKD. **C:** A heart with severe CAD from 50-year-old female with history of hypertension. **D:** A heart with severe CAD from 78-year-old male with history of abdominal aortic aneurysm. **E:** A heart with severe CAD from 41-year-old male with history of OMI, hypertension, and diabetes. **F:** A heart with severe CAD from 47-year-old male with history of OMI. **G:** A heart with severe CAD from 44-year-old male with history of drug use without other cardiac risk factors. **H:** A heart with severe CAD from 62-year-old male with history of hypertension and valvular heart disease. **I:** A heart with severe CAD from 48-year-old male without known cardiac risk factors. **J:** A heart with severe CAD from 74-year-old male with history of diabetes. **K:** A heart with recent MI from 47-year-old female with history of hypertension and smoking. **L:** A heart with severe CAD from 46-year-old male with history of OMI. White arrowheads indicate visible coronary calcification on X-ray. CAD=coronary artery disease, CKD=chronic kidney disease, OMI=old myocardial infarction.

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