Genomic profiling of primary histiocytic sarcoma reveals two molecular subgroups

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Supplementary Material:

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Supplementary Methods

Case selection. Twenty-one cases of primary histiocytic sarcoma (pHS) with a tumor content of at least 40% were identified from the files of the Hematopathology Section of the National Cancer Institute under an IRB approved protocol. All cases were reviewed by a panel of hematopathologists (ESJ, SP, CE, AN). Cases were defined as pHS if they showed typical histomorphology and expression of at least two of CD68, CD163, CD4 and lysozyme, no expression of CD20, CD3, CD30, no markers of Langerhans cell or follicular dendritic cell differentiation, and no known history of lymphoid malignancy or mediastinal germ cell tumor. One patient had a history of myelodysplastic syndrome with del(5q), but the cytogenetic aberration was not present in the HS. One case had insufficient material for a complete immunohistochemical panel but had an appropriate morphology and expressed histiocytic markers. The histologic and immunophenotypic features and clonality characteristics of the 21 cases are detailed in **Figure 1** and **Supplementary Table S3**.

Immunohistochemistry. Additional immunohistochemical studies were performed using antibodies to CD68 (KP-1, predilute; Roche, Indianapolis, IN, USA), CD163 (MRQ-26, predilute; Cell Marque, Rocklin, CA, USA), lysozyme (EC.3.2.1.17, 1:2000; Dako, Santa Clara, CA, USA), CD4 (SP35, predilute; Roche), CD21 (1F8, 1:30; Dako), clusterin (41D, 1:5000; Millipore, Burlington, MA, USA), CD1a (EP3622, predilute; Roche), langerin (12D6, 1:200; Leica Biosystems, Buffalo Grove, IL, USA), CD30 (JCM182, predilute; Leica Biosystems), CD20 (L26, predilute; Roche), CD3 (2GV6, predilute; Ventana, Tucson, AZ, USA), S100 (15E2E2, 1:8000; BioGenex, Fremont, CA, USA), AE1/AE3 (AE1/AE3, 1:100; Dako) and Ki67 (MIB-1, 1:200; Dako) if required. Immunohistochemistry was performed on either a Ventana Benchmark Ultra automated immunostainer using UltraView detection (Ventana) or on a Leica Bond Max using Bond Polymer Refine detection systems (Leica Biosystems). The proliferation index obtained using Ki67 immunohistochemistry was the percentage of positive cells counted in three high power fields (400x). Images were taken using an Olympus Microscope Digital Camera Model DP71 on an Olympus BX50 microscope and cells were counted with the Cell Counter plugin in ImageJ (https://imagej.nih.gov/ij/index.html)[1].

Nucleic acid extraction. DNA and RNA were extracted from formalin-fixed paraffin embedded (FFPE) tissue sections using QIAGEN QIAamp DNA FFPE Tissue Kit and RNeasy FFPE Kit on a QIAcube robotic system according to the manufacturer's protocol (QIAGEN, Germantown, MD, USA). Co-extraction, when performed, used a modified version of the QIAGEN AllPrep DNA/RNA FFPE protocol.

Immunoglobulin gene and T-cell receptor gene rearrangement studies. Polymerase chain reaction (PCR) for immunoglobulin gene (IGH and IGK loci) and T-cell receptor gene (TRG locus) rearrangements was performed according to methods described in detail elsewhere[2, 3]. To interrogate IGH rearrangements, laboratory designed consensus primers directed against V_H framework II, V_H framework III and the joining region (J_H) were employed as described previously[4, 5], or alternatively, commercially available BIOMED-2 primer sets to all three V_H framework regions (Invivoscribe Technologies, San Diego, CA, USA) were used. IGK analysis was performed using the commercially available BIOMED-2 primer sets (Invivoscribe Technologies) and interrogated rearrangements involving the Vκ loci and Jκ (Tube A), the Vκ locus and the κDE locus (Tube B) and the κ-intron RSS locus and the κDE locus (Tube B)[6] as described by the supplier. The TRG locus was assessed using a single multiplexed PCR reaction, with primers directed at all known Vγ family members and the Jγ1/2, JP1/2 and JP joining segments[3]. PCR products were separated by capillary electrophoresis on an ABI 3130xl Genetic Analyzer (Applied Biosystems, Foster City, CA, USA) and electropherograms were analyzed using GeneMapper software version 4.0.

IGH/*BCL2* (MBR) translocation. PCR was performed using assays modified from a previous study[7] designed to detect translocations between the major breakpoint region (MBR) of *BCL2* on chromosome 18q21 and the IGH joining region (J_H) on chromosome 14q32. The primers/probe sequences used were: *BCL2:* 5' –TTAGAGAGTTGCTTTACGTGGCCTG-3', *JHa:* 5'-ACCTGAGGAGACGGTGACC-3'*, BCL2 probe:* FAM-CACACAGACCCACCCAG. The PCR reaction was 50 μL in total volume composed of 25 μL QUANTITECT Master Mix Buffer 2X (QIAGEN), 2.5 μL of GAPDH primer/probe mix, 2.5 μL of IGH/*BCL2* primer/probe mix and 15 μL nuclease-free water with a sample DNA input of 5 μL. The reaction was incubated at 95˚C for 15 minutes and run for 45 cycles of 95˚C for 45 seconds followed by 60˚C for 60 seconds.

Whole exome sequencing. Library preparation was performed using Agilent SureSelect[XT] Human All Exon V5 + UTRs target enrichment kit (Agilent Technologies, Santa Clara, CA, USA). Sequencing was performed on either an Illumina HiSeq2500 with TruSeq V4 chemistry or on an Illumina HiSeq3000 with TruSeq V2 chemistry (Illumina, San Diego, CA, USA). Reads were trimmed using Trimmomatic v0.33[8] and mapped to the hs37d5 version of the human reference genome (ftp://ftp.1000genomes.ebi.ac.uk/vol1/ftp/technical/reference/phase2_reference_assembly_seque nce/hs37d5.fa.gz) using BWA-MEM v07.15[9]. Following alignment, BAM files were processed using Samtools v1.3 (http://www.htslib.org/)[10] and duplicates were marked using Picard v2.1.1

(http://broadinstitute.github.io/picard/). GATK v3.5.0[11] was used to perform indel realignment and base recalibration. Read- and alignment-level quality control visualization was performed using MultiQC v1.1 (http://multiqc.info/)[12] to aggregate QC metrics from FastQC (http://www.bioinformatics.babraham.ac.uk/projects/fastqc/), FastQ Screen (https://www.bioinformatics.babraham.ac.uk/projects/fastq_screen/), Picard, BamTools stats (http://github.org/pezmaster31/bamtools)[13] and Trimmomatic.

Variant calling was performed with MuTect 1.1.7 and MuTect2[14]. A panel of normals, developed from ExAC (excluding the TCGA) r0.3.1[15] and the 1000 Genomes Project[16] including only variants > 0.001 in frequency in the general population was used in cases without a matched germline. Tumor variants with an allele frequency of ≤ 0.05 and ≥ 0.99 were excluded. Variants were annotated using Ensembl VEP 92[17], CADD GRCh37-v1.4[18] and the COSMIC database v88 (http://cancer.sanger.ac.uk)[19].

Identification of target genes. As matched germline samples were unavailable in most cases, we focused on genes with a known role in cancer to reduce the number of variants for assessment, an approach similar in concept to using a targeted sequencing panel. Genes were obtained from the COSMIC Cancer Gene Census v88 (http://cancer.sanger.ac.uk)[20], excluding genes that were germline only or only associated with the terms 'T' (translocation), 'F' (fusion), 'A' (amplification) or 'D' (large deletions) and from a review of relevant literature **(Supplementary Table S2)**, designed to also include genes associated with RASopathies[21-24] and lymphoid malignancies[25-49], as histiocytic sarcoma is known to harbor RAS pathway mutations and may be associated with B- and T-cell neoplasms. Genes from the exome data were included if they were mutated in ≥ 3 samples following application of the coverage, CADD score and minor allele frequency filters (described below) and verification of the mutations in the Integrative Genomics Viewer (IGV)[50]. The resulting targeted gene list (430 genes) is presented in **Supplementary Table S9**.

Variant filtration. Synonymous mutations and variants in UTRs, intronic and intergenic locations and in the mitochondrial genome were excluded. Variants with < 6 reads and < 20x coverage by read proportions were also excluded. We applied a stringent filter based on population allele frequencies to remove as many potential germline events as possible, retaining only those mutations with a total allele frequency of < 0.0001 and a total allele count of < 10 in the Genome Aggregation Database (gnomAD), v2.1 (non-cancer)[15]. We also removed any variant that was filtered from the COSMIC database as a SNP. As recognized pathogenic, somatic mutations may be present in population

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databases, we included mutations that were present at a higher frequency/allele count only if documented in ClinVar[51] as both pathogenic and somatic. This resulted in the addition of a single *JAK2* p.V617F mutation to the dataset. Finally, only variants with a CADD phred-like score[18] of > 20 and that passed manual inspection in IGV[50] were retained.

In the cases without a matched germline sample, variants in the targeted gene list meeting one of the following criteria were considered significant:

(1) Present in a recurrently mutated gene (gene mutated in ≥ 4 samples).

(2) Splice site or nonsense mutation, or frameshift or in-frame insertion/deletion.

(3) Variant is present recurrently (mutation count ≥ 2) in the COSMIC database v88 (http://cancer.sanger.ac.uk)[19] or designated as pathogenic/likely pathogenic in ClinVar[51].

(4) Variant is present once in the COSMIC database v88 (http://cancer.sanger.ac.uk)[19] but occurs within a known hotspot/domain described in the literature.

See **Supplementary Figure S1**.

This approach yielded 125 mutations in 63 genes (range: 1-16 mutations per case; median: 4 mutations per case). All variants had a population allele frequency of <0.0001 with the exception of *JAK2* p.V617F (0.0003295). **Figure 2** provides an overview of the major genes and pathways mutated and the complete list of mutations classed as significant by our algorithm is reported in **Supplementary Table S4**.

RNA library preparation and sequencing. Whole transcriptome sequencing was performed on 17 tumor samples in two groups, with four samples of reactive nodal histiocytic infiltrates sequenced in parallel for comparison as normal tissue. Libraries were prepared for both groups using NEBNext® Ultra™ RNA Directional Library Prep Kit for Illumina (New England Biolabs, Inc., Ipswich, MA, USA). Samples were pooled and sequenced on an Illumina HiSeq2500 with TruSeq V4 chemistry (Illumina). Three technical replicates from the first group were sequenced with the second group to control for batch effect.

RNA sequencing. RNA-Seq analysis was conducted using the CCBR RNA-Seq pipeline (https://github.com/CCBR/Pipeliner). For RNA-Seq gene expression analysis, contaminating adapter sequences were removed using Trimmomatic v0.36[8]. Trimmed reads were mapped to the GRCh37 human reference genome using STAR v2.5.3[52] run in 2-pass mode. RSEM v1.3.0[53] was used for gene-level expression quantification, and edgeR v3.20.8[54] was used to assess differential expression. Batch

correction was performed using ComBat, a component of the SVA package v3.26.0[55] implemented in R. Only genes expressed at a level of 10 raw counts and with a CPM of at least 0.8 in a minimum of 4 samples based on the size of the smallest library were carried forward for differential expression analysis. Following exploratory visualization of the data, three samples were outliers and excluded from further analysis.

Read- and alignment-level quality was assessed using MultiQC v0.9 (http://multiqc.info/)[12] to aggregate QC metrics from FastQC (http://www.bioinformatics.babraham.ac.uk/projects/fastqc/), FastQ Screen (https://www.bioinformatics.babraham.ac.uk/projects/fastq_screen/), Picard, RSeQC (http://rseqc.sourceforge.net/) and Trimmomatic.

Fusion detection and confirmation. Potential fusion transcripts were identified using STAR-fusion (https://github.com/STAR-Fusion/STAR-Fusion/) and FusionCatcher 0.99.6a[56]. Candidate fusion transcripts were validated using FusionInspector (https://github.com/FusionInspector/FusionInspector/) and those that retained support were retained for further analysis. The oncogenic potential of the identified fusions was predicted using OncoFuse v1.1.1[57]. A *TTYH3-BRAF* fusion was confirmed by RT-PCR with primers designed using OligoAnalyzer on the Integrated DNA Technologies website (https://www.idtdna.com) and by fluorescent in-situ hybridization (FISH) using a commercially available dual color *BRAF* (7q34) Break Apart probe (Empire Genomics), as described below.

Copy number analysis. Copy number was estimated from the exome sequencing data using default settings for CNVkit v0.8.5[58] and PureCN v1.8.1[59] against a pooled reference of the simultaneously sequenced normal samples. B-allele frequencies were calculated using matched germline samples. In cases without a matched sample, allele specific copy number values were inferred from a reference derived from 1000 genome SNPs. Data from CNVkit was exported in nexus.ogt format and processed using the SNP-FASST2 algorithm in Nexus 9.0 Software (BioDiscovery, Hawthorne, CA) for manual review and annotation. Subsequently, copy number alterations called by both algorithms were further reviewed with specific reference to gains and losses involving genes of the COSMIC Cancer Gene Census[20] and losses involving genes in the Tumor Suppressor Gene Database (TSGene 2.0)[60]. Nine samples were successfully processed using the OncoScan CNV FFPE Assay (Affymetrix, Santa Clara, CA) according to the manufacturer's protocol. Copy number and LOH calls were made using the TuScan algorithm and were visualized and compared across samples using Nexus 9.0 Software (BioDiscovery). Re-centering and individual sample visualization were performed using

Chromosome Analysis Suite (ChAS) 3.3 (Thermo Fisher Scientific, Waltham, MA, USA). One sample was suboptimal for assessment by both OncoScan and exome copy number analysis [His17]. Another sample [His16] was assessed using only the SNP-FASST2 algorithm to allow re-centering of a non-diploid genome.

Graphics and data visualization. In addition to the software and packages mentioned above, R 3.4.3 (https://www.R-project.org) and Bioconductor 3.6 packages chimeraviz[61] and DGCA[62] were used to visualize data and generate graphics. Lollipop plots were created using Maftools[63]. **Figure 2, Figure 6A** and **Supplementary Figure S1** were generated using Microsoft Excel (2016) and Microsoft PowerPoint (2016). Heatmaps were generated using the ClustVis webtool[64]. Photomicrographs of H&E/immunohistochemistry stained sections were taken using an Olympus Microscope Digital Camera Model DP73 on an Olympus BX53 microscope (Olympus, Shinjuku, Tokyo, Japan) and the main and supplementary figures were edited and assembled in Adobe Photoshop.

Validation of *BRAF-TTYH3* fusion by RT-PCR. cDNA was synthesized with SuperScript VILO cDNA Synthesis Kit (Invitrogen, Thermo Fisher Scientific, Waltham, MA, USA) according to the manufacturer's instruction, using 1 µg each of His06 (*TTYH3-BRAF* fusion positive RNA) and His13 (negative control RNA). Primers to detect the fusion junction between *TTYH3* exon 12 and *BRAF* exon 8 were designed using OligoAnalyzer on the Integrated DNA Technologies website (https://www.idtdna.com) and purchased from IDT. A concurrent set of RT-PCR reaction was performed using a GUSB Primer Mix (Integrated DNA Technologies) for RNA/cDNA quality control. Primer sequences are detailed in **Supplementary Table S10**. The RT-PCR reactions were incubated at 95°C for 15 minutes, run for 48 cycles of 94°C for 20 seconds, 52°C for 20 seconds and 72°C for 30 seconds, and then terminated at 72°C for 5 minutes. Gel electrophoresis was performed for 7 µl of each PCR reaction on a 2.2% FlashGel DNA Cassette (Lonza, Basel, Switzerland) with FlashGel #57033 DNA size marker for size confirmation of the PCR products.

Fluorescent in-situ hybridization (FISH). Details of the FISH probes used are presented in **Supplementary Table S11**. Depending on available material, 3 to 5 µm thick sections were cut from FFPE tissue for FISH analysis. The slides were incubated for 1 hour at 60°C to melt paraffin, and subsequently deparaffinized in xylene and rehydrated in a decreasing ethanol series finishing with PBS washes. Slides were steamed for 30 minutes in IHC-TEK epitope retrieval solution (IHC World, Ellicott City, MD, USA). Digestion was performed using a solution of 100 mg/ml of Pepsin stock

(Sigma, St. Louis, MO, USA) and 0.01 N HCL at 37°C. Probes were pre-denatured at 78°C for 10 minutes in provided hybridization buffer and applied to the slides. Co-denaturation was performed on the Thermobrite System (Abbott Molecular, Des Plaines IL, USA) at 73°C for 5 minutes, followed by cooling to 37°C and transferal to a humid chamber for overnight hybridization in a 37°C oven. The slides were then washed in 0.4 x SSC (K.D Medical, Columbia, MD, USA)/0.3% Tween20 (Sigma) at 72°C for 2 minutes followed by immersion for 1 minute in 2 x SSC (K.D Medical)/ 0.1% Tween20 (Sigma) at room temperature and counterstained with 4',6-diamidino-2-phenylindole (VECTASHIELD Mounting Medium with DAPI, Vector Laboratories, Burlingame, CA, USA).

Images were captured using Bioview Duet Automatic Imaging System v3.7.0.6 (Bioview, Billerica, MA, USA). Approximately twenty images were scanned at 60x on an Olympus BX61 microscope with the appropriate filter. The images were analyzed on a Bioview SOLO workstation. A minimum of 100 non-overlapping nuclei were counted in samples with adequate signals. Copy number loss was called if the total ratio of the locus-specific probe to the reference probe was < 0.8.

Assessment of GI site and cell cycle in the tumor subgroups. Heatmap visualization of the log transformed normalized counts of the differentially expressed genes between tumor (both subgroups) and normal samples (FDR < 0.05 and absolute log FC of > 1, 2205 genes) using Euclidean distance with complete linkage **(Supplementary Figure S5)** shows segregation of the tumor samples into the subgroups correlating with *NF1/PTPN11* status, as was observed during unsupervised clustering.

A list of GI site-related genes was compiled using the top 100 expressed genes in the small intestine, sigmoid colon and transverse colon from the GTEx Portal, Release v7 (https://www.gtexportal.org/home/) and the GI-related tissue signatures from the BioQC package (Colon_NGS_RNASEQATLAS_0.6_3, Intestine_Colon_NR_0.7_3 and Intestine_small_NR_0.7_3)[65]. Twenty-seven genes from the GI site list **(Supplementary Table S6)** were among the differentially expressed genes between the tumor and normal samples and were removed. The heatmap was re-drawn using the remaining 2178 genes. The intratumoral clustering by *NF1/PTPN11* status was unchanged **(Supplementary Figure S6)**; however, a group of 136 genes **(Supplementary Table S7)** were clearly differentially expressed between the tumor subgroups (indicated in the heatmap, **Supplementary Figure S6**, by the red box). Functional enrichment performed on these 136 genes using ToppFun (https://toppgene.cchmc.org) showed enrichment for cell cycle-related biological processes **(Supplementary Table S8)** and removal of these cell cycle-related genes from the differentially expressed genes and re-drawing of the heatmap resulted in alteration of the clustering

with the *NF1/PTPN11* subgroup no longer separate from the wild-type samples **(Supplementary Figure S7)**.

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Supplementary Tables

Supplementary Table S1. Reported cases of histiocytic sarcoma (pHS and sHS) with *BRAF* V600E data.

Reference	No of *BRAF* V600E mutations	No of cases
Haroche et al[66]	0	3
Michonneau et al[67]*	1	1
Go et al[68]	5	8
Brunner et al[69]	0	1
Heath et al[70]	0	1
Idbaih et al[71]	1	1
Frampton et al[72]	0	1
Mehrotra et al[73]	1	1
Gatalica et al[74]	0	1
Kordes et al[75]	0	1
Curry et al[76]	0	1
Ansari et al[77]	0	1
Burger et al[78]	0	1
Liu et al[79#]	0	5
Batra et al[80]	0	1
Thakral et al[81]	0	1
Vaughn et al[82]	1	1
Zanelli et al[83]	0	1
Facchetti et al[84]*	1	4
Kim et al[85]	1	1
Hung et al[86]	0	4
Shimono et al[87]	2	33
Voruz et al[88]	0	1
Marguet et al[89]	0	1
Gounder et al[90]*	0	1
May et al[91]	0	1
Broadwater et al[92]	0	1
Takahashi et al[93]	0	1
Kumamoto et al[94]	0	1
Shanmugam et al[95#]	0	27
Byers et al[96]	0	1
Total	**13**	**108**

*#Cases with identical mutational and clinical profiles are included with only one reference to avoid duplication

Supplementary Table S2. RAS/MAPK and PI3K/AKT pathway genes mutated in histiocytic sarcoma.
Parenthesis indicate the number of mutated cases.

Primary cases/Cases with no reported hematological history		
Gene	**Protein Change**	**Reference**
BRAF	V600E (5)	Go et al[68]
	V600E (1)	Idbaih et al[71]
	V600E (1)	Facchetti et al[84]
	V600E (1)	Kim et al[85]
	V600E (2)	Shimono et al[87]
	F595L (1)	Kordes et al[75]
	G464V (1), G466R (1), N581S (1)	Liu et al[79]
	G469R (1)	Shanmugam et al[95]
BRAF-CLIP2	Fusion (1)	Facchetti et al[84]
MAP2K1	C121S (2), I103N (2), L177M (1), F53S (2), F53L (1)	Shanmugam et al[95]
KRAS	Q61H (1)	Liu et al[79]
	G13D (1)	Shanmugam et al[95]
HRAS	Q61R (1)	Kordes et al[75]
PTPN11	G503V (1)	Liu et al[79]
	Y63S (1), Q506R (1)	Batra et al[80]
	E72K (1)	Voruz at al[88]
	G60V (1), E69K (1)	Shanmugam et al[95]
NF1	W2229* (1)	Shanmugam et al[95]
CBL	Y371C (1)	Hung at al[86]
	T402_L405del (1)	Shanmugam et al[95]
RAC1	D63N (1)	Kordes et al[75]
TPM3–NTRK1	Fusion (1)	Shanmugam et al[95]
PTEN	L125E (1), R130Q (1)	Liu et al[79]
	c.635-7_639del (1)	Gatalica et al[74]
	Q171R (1), D24H (1)	Shanmugam et al[95]
PIK3CA	H1047L (1)	Liu et al[79]/ Shanmugam et al[95]
MTOR	S2215F (1)	Shanmugam et al[95]

Secondary cases			
Gene	**Protein Change**	**Reference**	**Associated hematologic disorder**
BRAF	G469A (1)	Burger et al[78]	CLL
	V600E (1)	Mehrotra et al[73]	FL
	V600E (1)	Michonneau et al[67]	HCL
	V600E (1)	Vaughn et al[82]	SMZL
	D594N (1)	Shanmugam et al[95]	DLBCL
KRAS	A146T (2), G12D (1)	Shanmugam et al[95]	DLBCL/FL/Low grade BCL
MAP2K1	F53L (1)	Kumamoto et al[94]	Rosai-Dorfman
	F53L (1)	Gounder et al[90]	FL
	C121S (1)	Hung et al[86]	FL
NRAS	Q61K (1)	Burger et al[78]	CLL
	G12C (1)	Shanmugam et al[95]	B-ALL
	G12D (1)	Thakral et al[81]	B-ALL
MTOR	S2215Y (1)	Shanmugam et al[95]	B-ALL
NF1	C1032Lfs*7 (1)	Shanmugam et al[95]	B-ALL
PIK3R1	c.1425+1G>A (1)	Shanmugam et al[95]	FL

Supplementary Table S3. Immunohistochemical profile, clonality and IGH/*BCL2* studies of pHS.

Case no	Age	Gender	Site of sample	Tumor %	Histiocytic				Langerhans cell			Follicular dendritic cell				B- and T-cell			CK	Melano-cytic	Ki67 %	Other (aberrant)	RNA
					CD68	CD163	CD4	Lysozyme	CD1a	S100	Langerin	CD21	CD23	CD35	Clusterin	CD30	CD3	CD20			Overall		
His01	70	F	Small bowel	50	POS	POS	-	-	NEG	NEG	NEG	NEG	-	-	NEG	NEG	NEG	NEG	NEG	NEG	10		Yes
His02	78	M	Rectosigmoid	70	POS	POS	POS	-	NEG	POS	NEG	NEG	-	-	NEG	NEG	NEG	NEG	NEG	-	3		Yes
His03	52	F	Mesenteric LN	70	POS	POS	-	NEG	NEG	POS (foc)	NEG	NEG	-	-	NEG	NEG	NEG	NEG	NEG	-	13		Yes
His04	15	M	Tonsil	60	POS	POS	-	POS	NEG	NEG	NEG	NEG	-	-	NEG	NEG	NEG	NEG	NEG	NEG	-		Yes
His05	45	F	Liver	60	POS	NEG	POS	NEG	NEG	POS (foc)	NEG	NEG	-	-	NS	NEG	NEG	NEG	NEG	-	27		Yes
His06	78	F	Soft tissue scalp	70	POS	-	POS (foc)	-	NEG	POS (foc)	NEG	NEG	-	-	NEG	NEG	NEG	NEG	NEG	-			Yes / Outlier
His07	51	F	Neck mass	60	POS	-	POS	POS	-	POS (foc)	-	NEG	-	-	-	NEG	-	-	NEG	NEG	-		No
His08	37	F	Axilla, LN	40	POS	-	POS	NEG	NEG	NEG	NEG	NEG	-	-	NEG	NEG	NEG	NEG	NEG	NEG	23		Yes
His09	70	M	Mediastinal mass / LN	70	POS	-	POS	-	NEG	NEG	NEG	NEG	-	-	NEG	NEG	NEG	NEG	NEG	NEG	-		Yes / Outlier
His10	61	F	Inguinal LN	80	POS	POS (foc)	-	-	NEG	POS (foc)	NEG	NEG	-	-	NEG	NEG	NEG	NEG	NEG	-	-		Yes / Outlier
His11	45	F	Neck mass	60	POS	POS	POS	-	NEG	NEG	NEG	NEG	-	NEG	NEG	NEG	NEG	NEG	NEG	NEG	23		Yes
His12	57	M	Small bowel	70	POS	POS	-	NEG	NEG	NEG	NEG	NEG	-	NEG	NEG	NEG	NEG	NEG	NEG	NEG	-		Yes
His13*	61	F	Retroperitoneal LN	60	POS (wpar)	NEG	NEG	POS (wpar)	NEG	NEG	NEG	NEG	NEG	-	NEG	NEG	NEG	NEG	NEG	NEG	66	CD7(POS); Perforin(POS); TIA(rare cells POS)	Yes
His14	22	F	LN, NOS	40	POS	POS	-	-	NEG	POS (foc)	NEG	NEG	-	-	NEG	NEG	NEG	NEG	NEG	-	14		Yes
His15	14	M	Tonsil	80	POS	POS	POS	NEG	NEG	POS	NEG	NEG	NEG	-	NEG	NEG	NEG	NEG	NEG	-	38		Yes
His16	8	M	Brain, frontal mass	80	POS	POS	POS	-	-	-	NEG	-	-	-	-	NEG	NEG[†]	NEG	-	NEG	-		No
His17	28	F	Supraclavicular LN	60	POS	POS	-	-	NEG	NEG	NEG	NEG	-	-	NEG	NEG	NEG	NEG	-	-	17		No
His18	67	F	Small bowel	50	POS	POS	POS	-	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	NEG	-	NEG	16		Yes
His19	33	M	Brain, frontal mass	70	POS	POS	POS	POS (foc)	NEG	NEG	-	NEG	-	-	-	NEG	NEG	NEG	NEG	-	47		Yes
His20	66	F	Liver	70	POS	POS	-	-	NEG	POS	NEG	NEG	NEG	-	-	NEG	NEG	NEG	NEG	NEG	4		No
His21	55	F	Neck, LN	60	POS	POS	POS	-	NEG	POS	NEG	NEG	NEG	-	-	NEG	NEG	NEG	-	-	34		Yes

Size Control	IG PCR	TRG PCR	IGH/*BCL2* PCR
200	Polyclonal	Polyclonal	NEG
100	No amplification products	No amplification products	NEG
200	No significant clonal rearrangement detected	Polyclonal	NEG
200	Clonal	No amplification products	NEG
200	No significant clonal rearrangement detected	Weak polyclonal	NEG
200	No significant clonal rearrangement detected	Weak polyclonal	NEG
200	-	-	-
200	Polyclonal	Weak polyclonal	NEG
200	Polyclonal	Weak polyclonal	-
200	Clonal	No amplification products	POS
200	Polyclonal	Polyclonal	NEG
200	Indeterminate for significant clonal rearrangement	Polyclonal	NEG
300	Polyclonal	Clonal	NEG
300	Clonal	Polyclonal	NEG
300	No significant clonal rearrangement detected	Polyclonal	NEG
300	-	-	-
200	Polyclonal	Polyclonal	NEG
200	No significant clonal rearrangement detected	No significant clonal rearrangement detected	NEG
400	No significant amplification products	Polyclonal	NEG
300	Clonal	Clonal	-
400	Clonal	Suspicious	NEG

*   Aberrant Immunophenotype
NS   Unsatisfactory
(foc)   Focal
(wpar)   Weak, partial
†   By flow cytometry

Supplementary Table S4. Significant mutations identified in pHS by whole exome sequencing.

Hugo_Symbol	Chromosome	Start_Position	End_Position	Variant_Classification	Variant_Type	Reference_Allele	Tumor_Seq_Allele	Tumor_Sample_Barcode	HGVSc	HGVSp_Short	Transcript_ID	tumor_freq	Matched Normal	CADD Phred score	GNOMAD: Total allele frequency	GNOMAD: Total allele count	COSMIC	COSMIC Count	CLINVAR Significance
SETD2	3	47059231	47059231	Splice_Site	SNP	T	G	His01	c.7432-2A>C	p.X2478_splice	ENST00000409792	0.351351351	Yes	33	-	-	-		-
SHANK2	11	70332938	70332938	Missense_Mutation	SNP	C	T	His01	c.3463G>A	p.E1155K	ENST00000338508	0.071428571	Yes	23	0.000011312	3	-		-
PTPN11	12	112888195	112888195	Missense_Mutation	SNP	T	G	His01	c.211T>G	p.F71V	ENST00000351677	0.215686275	Yes	28.3	-	-	-		-
NF1	17	29654712	29654712	Nonsense_Mutation	SNP	C	T	His01	c.5464C>T	p.Q1822*	ENST00000358273	0.523178808	Yes	39	-	-	COSM3515877,COSM3515876	3,3	-
SETD2	3	47125811	47125811	Missense_Mutation	SNP	A	T	His02	c.5459T>A	p.V1820E	ENST00000409792	0.314285714	No	27.6	-	-	-		-
FBN2	5	127710383	127710383	Missense_Mutation	SNP	C	G	His02	c.2033G>C	p.G678A	ENST00000508053	0.525925926	No	24.6	0.000004230	1	-		-
PTPN11	12	112888211	112888211	Missense_Mutation	SNP	A	G	His02	c.227A>G	p.E76G	ENST00000351677	0.285714286	No	29.1	-	-	COSM13017	45	Pathogenic
NF1	17	29560068	29560068	Missense_Mutation	SNP	T	A	His02	c.3545T>A	p.V1182D	ENST00000358273	0.452830189	No	28.1	-	-	-		-
MTOR	1	11169374	11169374	Missense_Mutation	SNP	T	A	His03	c.7501A>T	p.I2501F	ENST00000361445	0.277777778	No	28.1	-	-	COSM4140746	2	-
SETD2	3	47165731	47165731	Frame_Shift_Del	DEL	G	-	His03	c.395del	p.P132Hfs*20	ENST00000409792	0.434782609	No	26.5	-	-	-		-
BRAF	7	140453136	140453136	Missense_Mutation	SNP	A	T	His04	c.1799T>A	p.V600E	ENST00000288602	0.458333333	No	30	0.000004224	1	COSM476	28288	Pathogenic
DTX1	12	113496108	113496115	Nonsense_Mutation	DEL	GCGGCCCT	-	His04	c.111_118del	p.W37*	ENST00000257600	0.258064516	No	34	-	-	-		-
KIAA1239	4	37448604	37448604	Missense_Mutation	SNP	T	C	His05	c.4994T>C	p.I1665T	ENST00000309447	0.240384615	No	24.1	-	-	-		-
PCLO	7	82390044	82390044	Missense_Mutation	SNP	T	C	His05	c.15199A>G	p.K5067E	ENST00000333891	0.127272727	No	31	-	-	-		-
MAP2K1	15	66727453	66727453	Missense_Mutation	SNP	A	G	His05	c.169A>G	p.K57E	ENST00000307102	0.224719101	No	27	-	-	COSM5369532	9	Likely pathogenic
FBN2	5	127624213	127624213	Missense_Mutation	SNP	T	C	His06	c.6674A>G	p.N2225S	ENST00000508053	0.358208955	No	21.9	0.000004225	1	-		-
BTG2	1	203274867	203274867	Missense_Mutation	SNP	G	A	His07	c.133G>A	p.A45T	ENST00000290551	0.183333333	No	23.2	0.000000000	0	COSM220663	3	-
CTNNB1	3	41267240	41267240	Nonsense_Mutation	SNP	T	A	His07	c.824T>A	p.L275*	ENST00000349496	0.123076923	No	37	-	-	-		-
RHOA	3	49405932	49405932	Missense_Mutation	SNP	A	C	His07	c.206T>G	p.L69R	ENST00000418115	0.193548387	No	29.9	-	-	COSM3357716	5	-
RHOA	3	49412976	49412976	Missense_Mutation	SNP	C	T	His07	c.47G>A	p.C16Y	ENST00000418115	0.224806202	No	29.6	-	-	COSM6023263	1	-
EBF1	5	158223401	158223401	Missense_Mutation	SNP	G	T	His07	c.861C>A	p.F287L	ENST00000313708	0.1125	No	32	-	-	COSM1204858	3	-
LTB	6	31549336	31549336	Missense_Mutation	SNP	C	T	His07	c.280G>A	p.G94S	ENST00000429299	0.174311927	No	34	0.000004276	1	COSM4406159	1	-
LTB	6	31549630	31549630	Nonsense_Mutation	SNP	C	A	His07	c.169G>T	p.E57*	ENST00000429299	0.159509202	No	32	-	-	-		-
SGK1	6	134493893	134493893	Missense_Mutation	SNP	C	T	His07	c.854G>A	p.R285K	ENST00000367858	0.204724409	No	24.6	-	-	-		-
SGK1	6	134494282	134494282	Missense_Mutation	SNP	A	G	His07	c.713T>C	p.I238T	ENST00000367858	0.276190476	No	24.5	-	-	-		-
SGK1	6	134494286	134494286	Missense_Mutation	SNP	G	A	His07	c.709C>T	p.H237Y	ENST00000367858	0.273584906	No	29.2	-	-	-		-
SGK1	6	134494476	134494476	Missense_Mutation	SNP	T	C	His07	c.638A>G	p.K213R	ENST00000367858	0.181818182	No	23.4	-	-	-		-
SGK1	6	134495217	134495217	Missense_Mutation	SNP	G	A	His07	c.439C>T	p.P147S	ENST00000367858	0.162162162	No	21.4	-	-	-		-
PCLO	7	82578823	82578823	Missense_Mutation	SNP	C	A	His07	c.11081G>T	p.R3694M	ENST00000333891	0.28358209	No	27.4	-	-	-		-
KRAS	12	25380275	25380275	Missense_Mutation	SNP	T	G	His07	c.183A>C	p.Q61H	ENST00000256078	0.538461538	No	24	0.000000000	0	COSM1135364,COSM554	122,278	Pathogenic/Likely pathogenic
TP53	17	7577548	7577548	Missense_Mutation	SNP	C	T	His07	c.733G>A	p.G245S	ENST00000269305	0.395061728	No	28.8	0.000003728	1	COSM121035,COSM1640833,COSM6932,COSM121036,COSM3356965,COSM121037	209,198,530,209,182,209	Pathogenic
LTB	6	31549591	31549591	Missense_Mutation	SNP	C	G	His08	c.208G>C	p.G70R	ENST00000429299	0.194285714	Yes	24.1	0.000008661	2	-		-
TOX	8	59739379	59739379	Splice_Site	SNP	A	G	His08	c.1005+2T>C	p.X335_splice	ENST00000361421	0.114285714	Yes	32	-	-	-		-
FAM135B	8	139144915	139144915	Missense_Mutation	SNP	G	T	His08	c.4142C>A	p.A1381D	ENST00000395297	0.098939929	Yes	29.4	-	-	-		-
EGR2	10	64575756	64575756	Missense_Mutation	SNP	C	T	His08	c.34G>A	p.V12I	ENST00000242480	0.073170732	Yes	23	-	-	-		-
KMT2A	11	118307483	118307483	Missense_Mutation	SNP	T	C	His08	c.256T>C	p.S86P	ENST00000534358	0.089552239	Yes	22.5	0.000000000	0	-		-
BCL7A	12	122460020	122460020	Missense_Mutation	SNP	C	A	His08	c.23C>A	p.A8D	ENST00000538010	0.164179104	Yes	24.9	-	-	COSM5654260	2	-
BCL7A	12	122460025	122460025	Missense_Mutation	SNP	A	G	His08	c.28A>G	p.T10A	ENST00000538010	0.166666667	Yes	24.7	0.000000000	0	-		-
MAP2K1	15	66729153	66729153	Missense_Mutation	SNP	T	A	His08	c.361T>A	p.C121S	ENST00000307102	0.085365854	Yes	27.7	-	-	COSM555601	8	Likely pathogenic
IRF8	16	85942773	85942773	Missense_Mutation	SNP	C	A	His08	c.352C>A	p.Q118K	ENST00000268638	0.20754717	Yes	22.4	-	-	-		-
GNA13	17	63052702	63052702	Missense_Mutation	SNP	A	C	His08	c.10T>G	p.F4V	ENST00000439174	0.159793814	Yes	26	-	-	-		-
SBNO2	19	1112407	1112407	Nonsense_Mutation	SNP	G	A	His08	c.2509C>T	p.Q837*	ENST00000361757	0.107142857	Yes	52	-	-	-		-
TMSB4X	X	12994440	12994440	Missense_Mutation	SNP	C	T	His08	c.60G>T	p.K20N	ENST00000380636	0.116883117	Yes	23.6	-	-	-		-
KRAS	12	25398285	25398285	Missense_Mutation	SNP	C	A	His09	c.34G>T	p.G12C	ENST00000256078	0.474074074	No	29.9	0.000000000	0	COSM1140136,COSM516	456,5134	Pathogenic/Likely pathogenic
ARID1A	1	27106419	27106419	Frame_Shift_Del	DEL	C	-	His10	c.6031del	p.L2011Wfs*4	ENST00000324856	0.292207792	No	35	-	-	-		-
KIAA1239	4	37445084	37445084	Missense_Mutation	SNP	C	A	His10	c.1474C>A	p.L492I	ENST00000309447	0.080808081	No	25.4	-	-	-		-
FBN2	5	127626477	127626477	Missense_Mutation	SNP	A	G	His10	c.6392T>C	p.M2131T	ENST00000508053	0.508196721	No	23	-	-	COSM4943295,COSM4943296	1,1	-
BRAF	7	140481402	140481402	Missense_Mutation	SNP	C	T	His10	c.1406G>T	p.G469V	ENST00000288602	0.333333333	No	29.1	-	-	COSM459	27	Pathogenic
STAT6	12	57496661	57496661	Missense_Mutation	SNP	T	C	His10	c.1256A>G	p.Q419R	ENST00000300134	0.27173913	No	29.6	-	-	COSM220668	16	-
MAP2K1	15	66727441	66727441	Missense_Mutation	SNP	T	C	His10	c.157T>C	p.F53L	ENST00000307102	0.17	No	27.2	-	-	COSM555604	5	Pathogenic
CREBBP	16	3788656	3788656	Missense_Mutation	SNP	T	C	His10	c.4298A>G	p.Y1433C	ENST00000262367	0.226804124	No	32	-	-	COSM3736955	2	-
IKZF3	17	37947776	37947776	Missense_Mutation	SNP	A	C	His10	c.485T>G	p.L162R	ENST00000346872	0.210526316	No	29.5	0.000008442	2	COSM145512	13	-
BCL2	18	60985492	60985492	Missense_Mutation	SNP	G	C	His10	c.408G>C	p.E136D	ENST00000398117	0.250793651	No	24.1	-	-	COSM4170902,COSM4170901,COSM4170900	3,3,3	-
LTB	6	31550038	31550038	Missense_Mutation	SNP	C	T	His11	c.157G>A	p.G53R	ENST00000429299	0.233766234	No	22	-	-	COSM5620009	1	-
MAP2K1	15	66729153	66729153	Missense_Mutation	SNP	T	A	His11	c.361T>A	p.C121S	ENST00000307102	0.224806202	No	27.7	-	-	COSM555601	8	Likely pathogenic
MAP2K1	15	66729166	66729166	Missense_Mutation	SNP	A	G	His11	c.374A>G	p.Y125C	ENST00000307102	0.213235294	No	28.6	-	-	-		-
MAP2K1	15	66730109	66730109	Missense_Mutation	SNP	G	A	His11	c.542G>A	p.R181K	ENST00000307102	0.2	No	23	-	-	-		-
P2RY8	X	1584748	1584748	Missense_Mutation	SNP	G	A	His11	c.704C>T	p.A235V	ENST00000381297	0.107692308	No	21.9	0.000000000	0	COSM4710699,COSM4710698	2,2	-
FBN2	5	127624150	127624150	Missense_Mutation	SNP	G	T	His12	c.6737G>A	p.G2246E	ENST00000508053	0.157894737	No	29.5	-	-	-		-
JAK2	9	5073770	5073770	Missense_Mutation	SNP	G	T	His12	c.1849G>T	p.V617F	ENST00000381652	0.333333333	No	31	0.000329462	88	COSM12600	41495	Pathogenic
PTPN11	12	112888199	112888199	Missense_Mutation	SNP	C	T	His12	c.215C>T	p.A72V	ENST00000351677	0.318181818	No	25.9	-	-	COSM13015	78	Conflicting_interpretations_of_pathogenicity
NF1	17	29527461	29527461	Nonsense_Mutation	SNP	C	T	His12	c.910C>T	p.R304*	ENST00000358273	0.331707317	No	35	0.000004222	1	COSM1666613,COSM24486	4,10	Pathogenic
NF1	17	29654571	29654571	Nonsense_Mutation	SNP	C	T	His12	c.5323C>T	p.Q1775*	ENST00000358273	0.288389513	No	41	-	-	-		-
NOTCH3	19	15302233	15302233	Splice_Site	SNP	A	G	His12	c.1036+2T>C	p.X346_splice	ENST00000263388	0.154639175	No	33	-	-	-		-
LZTR1	22	21341825	21341825	Missense_Mutation	SNP	A	T	His13	c.353G>A	p.R118H	ENST00000215739	0.358333333	No	32	0.000021117	5	COSM3308552	1	-
ACVR2A	2	148683686	148683686	Frame_Shift_Del	DEL	A	-	His14	c.1310del	p.K437Rfs*5	ENST00000241416	0.208737864	No	35	0.000012909	3	COSM252949	134	-
LTB	6	31548632	31548632	Missense_Mutation	SNP	A	T	His14	c.589T>G	p.Y197D	ENST00000429299	0.120300752	No	21.8	-	-	-		-
SGK1	6	134495171	134495171	Missense_Mutation	SNP	T	C	His14	c.485A>G	p.E162G	ENST00000367858	0.107843137	No	32	-	-	-		-
SGK1	6	134495679	134495679	Missense_Mutation	SNP	T	C	His14	c.407A>G	p.K136R	ENST00000367858	0.309677419	No	23.5	-	-	-		-
POT1	7	124493078	124493078	Missense_Mutation	SNP	G	A	His14	c.817C>T	p.R273W	ENST00000357628	0.399159664	No	29.5	-	-	COSM7076629,COSM7076630	2,2	Uncertain_significance
ATM	11	108172389	108172389	Nonsense_Mutation	SNP	A	C	His14	c.5192T>G	p.S1731*	ENST00000278616	0.15625	No	39	-	-	-		Likely pathogenic
BTG1	12	92539204	92539204	Missense_Mutation	SNP	C	G	His14	c.108G>C	p.Q36H	ENST00000256015	0.132075472	No	23.9	0.000004665	1	COSM220612	2	-
MAP2K1	15	66727441	66727441	Missense_Mutation	SNP	T	C	His14	c.157T>C	p.F53L	ENST00000307102	0.159793814	No	27.2	-	-	COSM555604	5	Pathogenic
MAP2K1	15	66729100	66729100	Missense_Mutation	SNP	T	A	His14	c.308T>A	p.I103N	ENST00000307102	0.115942029	No	31	-	-	COSM3728157	3	Likely pathogenic
NCOR1	16	15950304	15950304	Missense_Mutation	SNP	G	A	His14	c.6640C>T	p.R2214C	ENST00000268712	0.050314465	No	29.7	0.000008530	2	COSM3514551,COSM4504392	3,3	-
TMSB4X	X	12994477	12994496	Splice_Site	DEL	GAAAGTGAGCTCCGACCCAC	-	His14	c.97_100+16del	p.X33_splice	ENST00000380636	0.124463519	No	34	-	-	-		-
BUB1	2	111411102	111411102	Splice_Site	SNP	C	G	His15	c.1877-2A>G	p.X626_splice	ENST00000302759	0.508264463	No	32	-	-	-		-
BRAF	7	140453136	140453136	Missense_Mutation	SNP	A	T	His15	c.1799T>A	p.V600E	ENST00000288602	0.433333333	No	30	0.000004224	1	COSM476	28288	Pathogenic
CSMD3	8	113678526	113678527	Frame_Shift_Del	DEL	AG	-	His15	c.2795_2796del	p.S932Yfs*6	ENST00000297405	0.252427184	No	35	-	-	-		-
TMSB4X	X	12994474	12994474	Nonsense_Mutation	SNP	A	T	His15	c.94A>T	p.K32*	ENST00000380636	0.427419355	No	38	-	-	-		-
IDH1	2	209116263	209116263	Frame_Shift_Del	DEL	T	-	His16	c.13del	p.I5Sfs*7	ENST00000415913	0.103448276	Yes	27.6	-	-	COSM3729843	6	-
MLH1	3	37035097	37035106	Frame_Shift_Del	DEL	CGGCGGGGGA	-	His16	c.59_68del	p.A20Efs*13	ENST00000231790	0.583673469	Yes	34	-	-	-		-
PTEN	10	89711893	89711893	Nonsense_Mutation	SNP	C	T	His16	c.511C>T	p.Q171*	ENST00000371953	0.447368421	Yes	39	-	-	COSM5149	32	-
TP53	17	7578406	7578406	Missense_Mutation	SNP	C	A	His16	c.524G>A	p.R175H	ENST00000269305	0.742268041	Yes	24.1	0.000004224	1	COSM99024,COSM10648,COSM99023,COSM10648,COSM99914,COSM99022,COSM3355994	660,611,660,1566,657,659,578	Pathogenic
NF1	17	29559149	29559149	Nonsense_Mutation	SNP	C	T	His16	c.3256C>T	p.Q1086*	ENST00000358273	0.590909091	Yes	37	-	-	COSM6910324,COSM6910323	1,1	-
SETD2	3	47155365	47155365	Splice_Site	SNP	C	A	His17	c.4715+1G>T	p.X1572_splice	ENST00000409792	0.290640394	No	33	-	-	COSM3365355,COSM3365356	4,4	-
GNAI2	3	50293695	50293695	Missense_Mutation	SNP	G	A	His17	c.536G>A	p.R179H	ENST00000313601	0.476744186	No	32	-	-	COSM158737,COSM3355994	8,4	Pathogenic
NF1	17	29527444	29527444	Nonsense_Mutation	SNP	T	A	His17	c.893T>A	p.L298*	ENST00000358273	0.321100917	No	35	-	-	COSM158737,COSM4777477		-

Gene	Chr	Start	End	Variant_Classification	Type	Ref	Alt	Sample	cDNA	Protein	Transcript	VAF					COSMIC		Clinical
NF1	17	29552243	29552243	Frame_Shift_Del	DEL	G	-	His17	c.1977del	p.K660Rfs*28	ENST00000358273	0.222929936	No	33	-	-	-	-	-
SETD2	3	47059230	47059230	Splice_Site	SNP	C	T	His18	c.7432-1G>A	p.X2478_splice	ENST00000409792	0.708333333	No	34	0.000004224	1	-	-	-
TP63	3	189586386	189586386	Missense_Mutation	SNP	G	A	His18	c.1010G>A	p.R337Q	ENST00000264731	0.219298246	No	34	-	-	COSM6925998,COSM6925997,COSM1308942	3,3,3	Pathogenic
KIAA1239	4	37445164	37445164	Missense_Mutation	SNP	G	C	His18	c.1554G>C	p.Q518H	ENST00000309447	0.443661972	No	23.3	-	-	-	-	-
PCLO	7	82545418	82545418	Nonsense_Mutation	SNP	T	A	His18	c.11884A>T	p.K3962*	ENST00000333891	0.133928571	No	45	-	-	-	-	-
SHANK2	11	70332247	70332247	Missense_Mutation	SNP	G	A	His18	c.4154C>T	p.A1385V	ENST00000338508	0.187393526	No	22.7	0.000014919	4	COSM1676271,COSM4200455,COSM1676272	3,2,3	-
PTPN11	12	112888210	112888210	Missense_Mutation	SNP	G	A	His19	c.226G>A	p.E76K	ENST00000351677	0.859296482	No	32	-	-	COSM13000	117	Pathogenic
NRAS	1	115256529	115256529	Missense_Mutation	SNP	T	C	His19	c.182A>G	p.Q61R	ENST00000369535	0.527131783	No	23.1	-	-	COSM584	1698	Pathogenic
MEF2B	19	19260102	19260102	Missense_Mutation	SNP	C	T	His19	c.191G>A	p.R64H	ENST00000162023	0.458333333	No	26.6	0.000025390	6	COSM3388759,COSM3388760	2,2	-
PIK3CD	1	9787030	9787030	Missense_Mutation	SNP	G	A	His20	c.3061G>A	p.E1021K	ENST00000377346	0.277665996	No	24.7	0.000000000	0	COSM4243207,COSM1581454	12,15	Pathogenic
ARID1A	1	27106648	27106648	Missense_Mutation	SNP	G	A	His20	c.6259G>A	p.G2087R	ENST00000324856	0.289134438	No	32	-	-	COSM132992	16	other
NOTCH2	1	120458436	120458436	Frame_Shift_Del	DEL	G	-	His20	c.6909del	p.I2304Lfs*2	ENST00000256646	0.275058275	No	34	-	-	COSM4615431,COSM329074	2,3	Pathogenic
KIAA1239	4	37445565	37445565	Missense_Mutation	SNP	A	C	His20	c.1955A>C	p.K652T	ENST00000309447	0.29245283	No	21.6	-	-	-	-	-
EBF1	5	158523375	158523376	In_Frame_Ins	INS	-	GTA	His20	c.328_330dup	p.Y110dup	ENST00000313708	0.228070175	No	22.3	-	-	-	-	-
NFKBIE	6	44227989	44227989	Frame_Shift_Del	DEL	G	-	His20	c.1228del	p.L410Wfs*21	ENST00000275015	0.280701754	No	35	-	-	-	-	-
SGK1	6	134495711	134495711	Missense_Mutation	SNP	C	G	His20	c.375G>C	p.Q125H	ENST00000367858	0.345762712	No	24.2	0.000004221	1	-	-	-
PCLO	7	82544696	82544696	Missense_Mutation	SNP	T	A	His20	c.12606A>T	p.K4202N	ENST00000333891	0.344827586	No	23.7	-	-	-	-	-
PTEN	10	89624296	89624296	Missense_Mutation	SNP	G	C	His20	c.70G>C	p.D24H	ENST00000371953	0.2890625	No	29.8	-	-	COSM1603823	5	Pathogenic
PTEN	10	89624306	89624306	Splice_Site	SNP	G	C	His20	c.79+1G>C	p.X27_splice	ENST00000371953	0.328467153	No	33	-	-	-	-	-
POU2AF1	11	111249885	111249885	Splice_Site	SNP	A	C	His20	c.16+2T>G	p.X6_splice	ENST00000393067	0.284965035	No	34	-	-	-	-	-
KRAS	12	25378561	25378561	Missense_Mutation	SNP	G	A	His20	c.437C>T	p.A146V	ENST00000256078	0.625	No	32	-	-	COSM19900,COSM1360827	65,30	Pathogenic
KMT2D	12	49434880	49434880	Frame_Shift_Del	DEL	C	-	His20	c.6673del	p.E2225Nfs*39	ENST00000301067	0.393501805	No	35	-	-	-	-	-
KMT2D	12	49437708	49437714	Frame_Shift_Del	DEL	TTGCTTC	-	His20	c.5256_5262del	p.K1752Nfs*31	ENST00000301067	0.203672788	No	34	-	-	-	-	-
AXIN2	17	63526204	63526205	Frame_Shift_Ins	INS	-	T	His20	c.2421dup	p.A808Sfs*4	ENST00000307078	0.329896907	No	35	-	-	-	-	-
DDX3X	X	41202541	41202541	Missense_Mutation	SNP	G	A	His20	c.616G>A	p.V206M	ENST00000399959	0.437956204	No	29.5	-	-	-	-	Pathogenic
TNFRSF14	1	2492096	2492097	Frame_Shift_Ins	INS	-	C	His21	c.500dup	p.T169Dfs*65	ENST00000355716	0.221428571	No	26.3	0.000004229	1	COSM6987236,COSM6987237	1,1	-
RAF1	3	12627259	12627259	Missense_Mutation	SNP	T	C	His21	c.1457A>G	p.D486G	ENST00000251849	0.312741313	No	31	-	-	-	-	Pathogenic/Likely pathogenic
RFTN1	3	16419224	16419224	Splice_Site	SNP	C	G	His21	c.826+1G>C	p.X276_splice	ENST00000334133	0.21799308	No	29.2	0.000004430	1	-	-	-
RFTN1	3	16419312	16419312	Nonsense_Mutation	SNP	C	A	His21	c.739G>T	p.G247*	ENST00000334133	0.246710526	No	35	-	-	-	-	-
SGK1	6	134495648	134495648	Splice_Site	SNP	C	T	His21	c.437+1G>A	p.X146_splice	ENST00000367858	0.218844985	No	35	-	-	COSM5652536,COSM5652533,COSM5652534,COSM5652537,COSM5652535	1,1,1,1,1	-
SGK1	6	134495725	134495725	Splice_Site	SNP	C	T	His21	c.362-1G>A	p.X121_splice	ENST00000367858	0.323580034	No	35	0.000004221	1	COSM1161582,COSM1161581,COSM1161579,COSM1161580,COSM3357951	2,2,2,2,1	-
CARD11	7	2983994	2983994	Missense_Mutation	SNP	C	T	His21	c.536G>A	p.R179Q	ENST00000396946	0.391608392	No	24.9	-	-	COSM6620089	2	-
PCLO	7	82583801	82583801	Missense_Mutation	SNP	T	C	His21	c.6468A>G	p.I2156M	ENST00000333891	0.192810458	No	23.6	-	-	-	-	-
CDKN2A	9	21971120	21971120	Nonsense_Mutation	SNP	G	A	His21	c.238C>T	p.R80*	ENST00000498124	0.1875	No	38	0.000000000	0	COSM1314729,COSM12475,COSM99191,COSM99935	107,226,123,122	_risk_factor
CDKN2A	9	21971205	21971222	Splice_Site	DEL	GACCTGCCAGAGAACA	-	His21	c.151-15_153del	p.X51_splice	ENST00000498124	0.058479532	No	28.9	-	-	-	-	-
PTEN	10	89692935	89692935	Nonsense_Mutation	SNP	T	G	His21	c.419T>G	p.L140*	ENST00000371953	0.255847953	No	36	-	-	COSM921095	3	-
KRAS	12	25398284	25398284	Missense_Mutation	SNP	C	T	His21	c.35G>A	p.G12D	ENST00000256078	0.256972112	No	24.5	0.000004255	1	COSM1135366,COSM521	1590,15125	Pathogenic

Supplementary Table S5. Differentially expressed genes between tumor and normal samples (absolute logFC > 1 and FDR < 0.05). (See Supplementary Methods, Supplementary Tables S6-S8 and Supplementary Figures S5-S7)

	logFC	logCPM	F	PValue	FDR	FC
ENSG00000133063.11|CHIT1	-8.55089	8.8515	283.6784	5.30E-13	1.16E-08	-375.038
ENSG00000079691.15|LRRC16A	-2.65946	4.527823	124.6913	6.62E-10	7.24E-06	-6.31797
ENSG00000182566.8|CLEC4G	-5.59641	3.180722	114.5692	1.46E-09	1.07E-05	-48.3825
ENSG00000104938.12|CLEC4M	-7.19123	3.942243	106.9988	2.58E-09	1.13E-05	-146.143
ENSG00000148935.6|GAS2	-3.34032	-0.47997	108.7512	2.09E-09	1.13E-05	-10.1283
ENSG00000198574.4|SH2D1B	-3.03718	0.133278	101.0318	3.84E-09	1.40E-05	-8.20884
ENSG00000119514.5|GALNT12	-2.6996	2.961785	95.09975	6.30E-09	1.97E-05	-6.49623
ENSG00000170074.15|FAM153A	-3.72705	0.622031	81.5558	2.17E-08	5.93E-05	-13.242
ENSG00000138207.8|RBP4	-6.17115	0.344631	80.54502	2.49E-08	6.05E-05	-72.0611
ENSG00000211445.7|GPX3	-2.99688	5.905076	78.39862	3.12E-08	6.21E-05	-7.98272
ENSG00000211961.2|IGHV1-45	-5.36569	0.099561	78.1227	3.11E-08	6.21E-05	-41.2319
ENSG00000164935.2|DCSTAMP	-4.91936	2.898794	75.25245	4.34E-08	7.91E-05	-30.2604
ENSG00000183908.5|LRRC55	-4.61974	2.522793	74.47381	4.70E-08	7.91E-05	-24.5855
ENSG00000180287.12|PLD5	-5.49172	-0.62904	73.20483	5.10E-08	7.97E-05	-44.9957
ENSG00000073734.8|ABCB11	-5.24405	-0.0894	70.76393	6.72E-08	8.55E-05	-37.898
ENSG00000103888.11|KIAA1199	-2.88524	6.218274	69.27363	8.21E-08	8.55E-05	-7.38827
ENSG00000107736.15|CDH23	-1.85458	5.117112	68.98624	8.02E-08	8.55E-05	-3.61646
ENSG00000114107.4|CEP70	-2.35595	1.748545	70.90892	6.49E-08	8.55E-05	-5.11931
ENSG00000137502.5|RAB30	-2.23528	4.705388	70.47147	6.81E-08	8.55E-05	-4.70855
ENSG00000137976.7|DNASE2B	-6.0395	1.9522	69.97064	7.61E-08	8.55E-05	-65.7766
ENSG00000234184.1|RP5-887A10.1	-5.48674	-0.22605	69.53423	7.70E-08	8.55E-05	-44.8407
ENSG00000239264.4|TXNDC5	-2.76191	7.707172	68.14546	8.99E-08	8.94E-05	-6.78294
ENSG00000147606.4|SLC26A7	-4.99241	2.226289	67.75273	9.73E-08	9.25E-05	-31.8321
ENSG00000113594.5|LIFR	-4.09192	5.754141	66.99757	1.06E-07	9.43E-05	-17.0526
ENSG00000122966.9|CIT	2.632411	5.309861	66.02497	1.12E-07	9.43E-05	6.200612
ENSG00000170323.4|FABP4	-4.45022	0.465719	66.21691	1.12E-07	9.43E-05	-21.8599
ENSG00000069188.12|SDK2	-3.66715	3.136287	65.83322	1.20E-07	9.70E-05	-12.7034
ENSG00000158482.8|SNX29P1	-2.76453	0.957615	64.34428	1.36E-07	0.000103	-6.79525
ENSG00000166819.7|PLIN1	-4.00561	0.69651	64.51542	1.35E-07	0.000103	-16.0624
ENSG00000150938.5|CRIM1	-1.76344	6.027548	61.94818	1.82E-07	0.000132	-3.39507
ENSG00000207008.1|SNORA54	-3.07619	5.549598	61.98625	1.90E-07	0.000134	-8.43387
ENSG00000135929.4|CYP27A1	-4.08738	6.39956	60.88912	2.17E-07	0.00014	-16.999
ENSG00000181938.9|GINS3	1.995557	2.65959	60.54835	2.15E-07	0.00014	3.987701
ENSG00000211673.2|IGLV3-1	-6.74248	7.689303	61.21082	2.09E-07	0.00014	-107.075
ENSG00000257950.3|P2RX5-TAX1BP3	-2.43657	2.966318	60.01121	2.30E-07	0.000144	-5.41353
ENSG00000176928.4|GCNT4	-2.62172	1.278054	58.70222	2.71E-07	0.00016	-6.15485
ENSG00000211893.3|IGHG2	-4.85108	9.67765	59.14868	2.69E-07	0.00016	-28.8616
ENSG00000091181.15|IL5RA	-4.29095	-0.20279	58.51564	2.79E-07	0.000161	-19.5752
ENSG00000105538.4|RASIP1	-1.70916	3.26045	57.67387	3.09E-07	0.00017	-3.2697
ENSG00000271699.1|SNX29P2	-3.15312	1.242253	57.64535	3.10E-07	0.00017	-8.8958

ENSG00000151892.10|GFRA1	-5.38572	3.645005	57.67831	3.24E-07	0.000173	-41.8084
ENSG00000213088.5|DARC	-2.99845	3.820198	57.15382	3.42E-07	0.000178	-7.99142
ENSG00000104044.11|OCA2	-5.60282	0.622972	56.93885	3.56E-07	0.000181	-48.5979
ENSG00000136014.7|USP44	-2.64173	-0.33149	56.11843	3.78E-07	0.000188	-6.24081
ENSG00000108511.8|HOXB6	3.290092	3.549278	55.45478	4.13E-07	0.000196	9.781746
ENSG00000225698.2|IGHV3-72	-4.93443	2.986865	55.84576	4.11E-07	0.000196	-30.5781
ENSG00000130558.14|OLFM1	-2.45322	2.51305	54.62459	4.61E-07	0.000201	-5.47636
ENSG00000144218.14|AFF3	-3.11389	4.303699	55.09841	4.53E-07	0.000201	-8.65716
ENSG00000147509.9|RGS20	-2.67179	0.698467	54.72917	4.54E-07	0.000201	-6.37221
ENSG00000168497.4|SDPR	-3.50878	3.935197	54.99121	4.59E-07	0.000201	-11.3828
ENSG00000167077.8|MEI1	-2.94318	3.647165	54.56159	4.78E-07	0.000205	-7.69105
ENSG00000181234.8|TMEM132C	-4.97158	0.476912	54.0737	5.17E-07	0.000218	-31.3757
ENSG00000119042.12|SATB2	2.816362	4.538223	53.21153	5.59E-07	0.000226	7.043841
ENSG00000244405.3|ETV5	2.807021	6.617238	53.40749	5.49E-07	0.000226	6.998378
ENSG00000167191.7|GPRC5B	-2.0784	4.117233	52.89898	5.81E-07	0.000227	-4.22339
ENSG00000177301.9|KCNA2	-3.66239	2.002912	53.06338	5.80E-07	0.000227	-12.6617
ENSG00000154065.12|ANKRD29	-2.87025	2.996954	52.68259	6.08E-07	0.000229	-7.31193
ENSG00000205038.7|PKHD1L1	-4.89579	2.12113	52.79396	6.17E-07	0.000229	-29.7701
ENSG00000236901.3|MIR600HG	-2.16556	4.559457	52.72105	6.03E-07	0.000229	-4.48642
ENSG00000108622.6|ICAM2	-2.05973	3.982439	51.64751	6.91E-07	0.000248	-4.16907
ENSG00000138439.10|FAM117B	-1.22448	4.356351	51.63516	6.92E-07	0.000248	-2.33671
ENSG00000247982.2|LINC00926	-2.67202	4.545511	51.72989	7.12E-07	0.000251	-6.3732
ENSG00000116748.15|AMPD1	-5.59732	1.691896	51.24099	7.64E-07	0.000265	-48.4129
ENSG00000132561.9|MATN2	-2.50668	3.290403	50.64611	8.02E-07	0.00027	-5.68311
ENSG00000147180.12|ZNF711	-2.44717	0.619319	50.57085	8.04E-07	0.00027	-5.45347
ENSG00000082438.11|COBLL1	-2.40738	4.711655	50.41805	8.43E-07	0.000273	-5.3051
ENSG00000171658.4|RP11-443P15.2	-3.8622	0.184941	50.28337	8.47E-07	0.000273	-14.5425
ENSG00000211933.2|IGHV6-1	-4.87102	3.4051	50.65216	8.29E-07	0.000273	-29.2633
ENSG00000205730.5|ITPRIPL2	1.932979	7.711444	49.55794	9.28E-07	0.000294	3.818428
ENSG00000213494.5|CCL14	-3.35504	3.301383	49.61624	9.60E-07	0.0003	-10.2322
ENSG00000144331.14|ZNF385B	-4.45521	0.19598	49.23875	9.97E-07	0.000307	-21.9357
ENSG00000171208.5|NETO2	2.701839	3.96498	48.42815	1.09E-06	0.000332	6.506307
ENSG00000173175.10|ADCY5	-2.60621	2.629931	48.09095	1.15E-06	0.000344	-6.08904
ENSG00000165209.14|STRBP	-2.06274	4.38114	47.96903	1.17E-06	0.000345	-4.17779
ENSG00000185697.12|MYBL1	-1.50154	3.015672	47.89314	1.18E-06	0.000345	-2.83144
ENSG00000167749.7|KLK4	-4.36417	-0.39528	47.63283	1.25E-06	0.000358	-20.5942
ENSG00000069702.6|TGFBR3	-2.29572	4.201594	47.45053	1.28E-06	0.00036	-4.90997
ENSG00000102575.6|ACP5	-3.4305	7.941841	47.5429	1.30E-06	0.00036	-10.7816
ENSG00000144645.9|OSBPL10	-2.31297	4.414687	47.36191	1.30E-06	0.00036	-4.96905
ENSG00000120907.13|ADRA1A	-3.3542	0.452267	46.95954	1.36E-06	0.000371	-10.2262
ENSG00000138316.6|ADAMTS14	3.013439	4.403249	46.963	1.38E-06	0.000371	8.074869
ENSG00000112293.10|GPLD1	-2.2193	0.629078	46.73173	1.40E-06	0.000373	-4.65666
ENSG00000162373.8|BEND5	-3.02588	0.553795	46.68207	1.41E-06	0.000373	-8.14479
ENSG00000173267.9|SNCG	-2.44603	0.952458	46.38447	1.48E-06	0.000383	-5.44916
ENSG00000211670.2|IGLV3-9	-4.58848	3.488303	46.60462	1.49E-06	0.000383	-24.0586
ENSG00000222477.1|RNU2-23P	-2.515	1.40284	46.20388	1.52E-06	0.000387	-5.71598
ENSG00000011426.6|ANLN	3.921477	4.666822	46.21239	1.58E-06	0.000397	15.15243

ENSG00000137573.9|SULF1	4.090314	6.462672	45.91666	1.65E-06	0.00041	17.03363
ENSG00000128218.7|VPREB3	-3.95162	1.808648	45.65988	1.72E-06	0.000422	-15.4724
ENSG00000186481.11|ANKRD20A5P	-2.85909	2.008727	45.08559	1.81E-06	0.000434	-7.25556
ENSG00000231475.2|IGHV4-31	-4.65845	5.687858	45.37657	1.79E-06	0.000434	-25.2541
ENSG00000164619.4|BMPER	-4.58381	1.446722	44.88431	1.93E-06	0.000459	-23.9808
ENSG00000037280.11|FLT4	-1.97787	4.378671	44.36794	2.02E-06	0.000465	-3.9391
ENSG00000169031.14|COL4A3	-3.37072	3.273949	44.55992	2.03E-06	0.000465	-10.344
ENSG00000223749.3|MIR503HG	3.779348	1.559836	44.27815	2.04E-06	0.000465	13.73084
ENSG00000241755.1|IGKV1-9	-4.83688	5.195878	44.6683	2.00E-06	0.000465	-28.5789
ENSG00000211949.2|IGHV3-23	-4.76865	7.45506	44.38659	2.09E-06	0.00047	-27.2587
ENSG00000119866.16|BCL11A	-2.95356	3.911324	44.30254	2.11E-06	0.000472	-7.74657
ENSG00000038427.11|VCAN	4.134562	7.799713	44.20754	2.14E-06	0.000474	17.56415
ENSG00000178607.11|ERN1	-1.60297	6.28354	43.70563	2.23E-06	0.000486	-3.03769
ENSG00000197476.2|RP11-170L3.7	-4.64639	0.14348	43.90542	2.24E-06	0.000486	-25.0439
ENSG00000244575.1|IGKV1-27	-5.36079	4.993029	43.81883	2.28E-06	0.000489	-41.092
ENSG00000184113.8|CLDN5	-2.36713	3.944808	43.37264	2.39E-06	0.000507	-5.15915
ENSG00000106689.6|LHX2	4.148801	3.046848	43.15273	2.48E-06	0.000511	17.73836
ENSG00000167261.9|DPEP2	-2.06796	4.409567	43.16836	2.46E-06	0.000511	-4.19292
ENSG00000240382.1|IGKV1-17	-4.90917	4.661956	43.33002	2.46E-06	0.000511	-30.0474
ENSG00000197705.5|KLHL14	-3.96426	2.00061	43.20623	2.51E-06	0.000512	-15.6085
ENSG00000233999.3|IGKV3OR2-268	-4.0352	0.634987	43.0657	2.53E-06	0.000512	-16.3951
ENSG00000139572.3|GPR84	5.255006	4.368913	42.9601	2.61E-06	0.000523	38.1869
ENSG00000235532.1|LINC00402	-3.7571	2.237564	42.77324	2.69E-06	0.000531	-13.5208
ENSG00000243290.1|IGKV1-12	-4.8637	5.515358	42.75662	2.69E-06	0.000531	-29.1152
ENSG00000211941.2|IGHV3-11	-5.11912	5.725315	42.53481	2.79E-06	0.000545	-34.7543
ENSG00000185664.10|PMEL	-2.90655	2.188013	42.28786	2.83E-06	0.000548	-7.49825
ENSG00000048462.6|TNFRSF17	-3.37929	1.178595	42.09272	2.92E-06	0.000556	-10.4056
ENSG00000124374.8|PAIP2B	-2.62849	2.956406	42.04408	2.95E-06	0.000556	-6.18377
ENSG00000162144.5|CYB561A3	-1.58831	6.563187	41.97287	2.94E-06	0.000556	-3.00697
ENSG00000172349.12|IL16	-1.38264	6.432655	41.58657	3.13E-06	0.000585	-2.60746
ENSG00000189430.8|NCR1	-2.6768	0.054208	41.49441	3.18E-06	0.000585	-6.39438
ENSG00000118849.5|RARRES1	-2.95287	4.427848	41.65935	3.21E-06	0.000585	-7.74286
ENSG00000116147.12|TNR	-3.76672	1.553569	41.56262	3.24E-06	0.000586	-13.6111
ENSG00000243238.1|IGKV2-30	-4.77364	5.260497	41.49265	3.30E-06	0.000591	-27.3532
ENSG00000199678.1|RNY4P5	-2.4125	-0.50077	41.06081	3.42E-06	0.000602	-5.32395
ENSG00000231292.5|IGKV1OR2-108	-4.31478	-0.36525	41.17918	3.40E-06	0.000602	-19.9012
ENSG00000012048.15|BRCA1	2.075713	4.819617	40.75187	3.59E-06	0.000629	4.215528
ENSG00000103184.7|SEC14L5	-4.26448	-0.28795	40.76555	3.65E-06	0.000633	-19.2192
ENSG00000140470.9|ADAMTS17	-2.07071	2.004913	40.61524	3.68E-06	0.000633	-4.20095
ENSG00000054690.9|PLEKHH1	2.872071	4.444836	40.53172	3.78E-06	0.000635	7.321152
ENSG00000198780.7|FAM169A	-1.58697	1.64039	40.50495	3.74E-06	0.000635	-3.00419
ENSG00000253364.1|RP11-731F5.2	-4.6427	1.918245	40.66636	3.77E-06	0.000635	-24.9799
ENSG00000132465.6|IGJ	-4.82948	7.982971	40.52971	3.86E-06	0.000645	-28.4328
ENSG00000119986.6|AVPI1	-2.01947	2.69267	40.26252	3.90E-06	0.000646	-4.05434
ENSG00000099889.9|ARVCF	-1.51517	2.90372	40.11046	4.00E-06	0.000657	-2.85833
ENSG00000116191.13|RALGPS2	-3.06214	4.76499	39.88885	4.29E-06	0.00068	-8.3521
ENSG00000160877.5|NACC1	1.286603	6.778445	39.70658	4.28E-06	0.00068	2.43953

ENSG00000168477.13|TNXB	-2.08643	5.597828	39.89613	4.23E-06	0.00068	-4.24697
ENSG00000171631.10|P2RY6	3.125263	5.043465	39.91585	4.26E-06	0.00068	8.725651
ENSG00000173269.9|MMRN2	-1.50415	4.362838	39.70338	4.28E-06	0.00068	-2.83658
ENSG00000211895.3|IGHA1	-5.28861	10.92465	39.79306	4.36E-06	0.000682	-39.0869
ENSG00000246790.2|RP11-730K11.1	-2.22446	1.285619	39.58587	4.36E-06	0.000682	-4.67336
ENSG00000153993.9|SEMA3D	-3.60755	1.799164	39.69533	4.42E-06	0.000685	-12.1893
ENSG00000151150.16|ANK3	-1.87953	4.08078	39.42405	4.48E-06	0.000691	-3.67955
ENSG00000115414.14|FN1	4.914157	10.84772	39.31848	4.66E-06	0.000708	30.15147
ENSG00000211953.2|IGHV3-30	-4.70052	7.532362	39.4332	4.63E-06	0.000708	-26.0015
ENSG00000171132.9|PRKCE	-1.4135	4.328	39.14081	4.70E-06	0.00071	-2.66383
ENSG00000173320.5|STOX2	-2.42642	2.541561	39.08072	4.75E-06	0.000712	-5.37557
ENSG00000224389.4|C4B	-2.54901	5.629878	39.18839	4.83E-06	0.000718	-5.85232
ENSG00000224607.3|IGKV1D-27	-4.67445	0.13668	39.0761	4.92E-06	0.000727	-25.5359
ENSG00000211637.2|IGLV4-69	-4.46536	3.806502	38.83285	5.13E-06	0.000753	-22.0906
ENSG00000204296.7|C6orf10	-3.16294	-0.45584	38.50821	5.24E-06	0.000764	-8.95655
ENSG00000005884.13|ITGA3	-2.46704	5.144268	38.60962	5.33E-06	0.000766	-5.52908
ENSG00000240864.1|IGKV1-16	-4.574	4.107528	38.63915	5.30E-06	0.000766	-23.8184
ENSG00000271880.1|RP11-96C23.5	-4.03159	0.20721	38.45743	5.40E-06	0.000771	-16.3542
ENSG00000196724.8|ZNF418	-1.91458	2.274979	37.89488	5.83E-06	0.000827	-3.77004
ENSG00000177596.1|AL355390.1	-3.80182	-0.90537	37.81172	5.92E-06	0.000835	-13.9464
ENSG00000104921.10|FCER2	-4.06862	2.834359	37.90312	6.01E-06	0.000837	-16.7794
ENSG00000135916.11|ITM2C	-2.32391	5.6667	37.92812	5.99E-06	0.000837	-5.00689
ENSG00000078098.9|FAP	4.989008	3.416581	37.66382	6.27E-06	0.000857	31.75712
ENSG00000117724.8|CENPF	3.167064	5.949758	37.68162	6.25E-06	0.000857	8.982168
ENSG00000174428.12|GTF2IRD2B	-1.088	4.468157	37.47639	6.27E-06	0.000857	-2.12579
ENSG00000128165.7|ADM2	-2.56769	2.454377	37.39131	6.41E-06	0.000871	-5.9286
ENSG00000115648.9|MLPH	-3.54628	2.63613	37.26695	6.71E-06	0.000893	-11.6826
ENSG00000165406.11|MARCH8	-1.0009	5.226982	37.0845	6.71E-06	0.000893	-2.00125
ENSG00000232216.1|IGHV3-43	-4.86497	3.981129	37.24407	6.74E-06	0.000893	-29.1409
ENSG00000244625.1|CTA-211A9.5	-1.18678	2.928155	37.08115	6.72E-06	0.000893	-2.27643
ENSG00000068976.9|PYGM	-1.83451	1.324621	36.99184	6.82E-06	0.000898	-3.5665
ENSG00000154814.9|OXNAD1	-1.08329	5.142672	36.96404	6.86E-06	0.000898	-2.11886
ENSG00000118473.17|SGIP1	3.089853	2.628113	36.75181	7.12E-06	0.000921	8.514091
ENSG00000069966.14|GNB5	-1.34543	3.806452	36.62427	7.28E-06	0.000937	-2.54107
ENSG00000091490.6|SEL1L3	-1.96765	6.688433	36.56737	7.48E-06	0.000956	-3.91129
ENSG00000253234.1|IGLV2-5	-5.72775	1.86168	36.52419	7.65E-06	0.000973	-52.9936
ENSG00000149970.10|CNKSR2	-2.51457	0.615136	36.19925	7.85E-06	0.000993	-5.71427
ENSG00000177272.7|KCNA3	-2.19972	4.936774	36.32682	7.92E-06	0.000996	-4.5939
ENSG00000184305.10|CCSER1	-1.82523	3.510456	36.07473	8.03E-06	0.001004	-3.54364
ENSG00000227467.3|RP11-169D4.1	-3.12797	0.75637	36.09856	8.08E-06	0.001004	-8.74206
ENSG00000132669.8|RIN2	1.685577	6.659289	36.00036	8.14E-06	0.001006	3.216689
ENSG00000111321.6|LTBR	1.262599	5.942102	35.91666	8.26E-06	0.001015	2.399275
ENSG00000157870.10|FAM213B	-1.41131	4.667418	35.75612	8.51E-06	0.001039	-2.65979
ENSG00000153162.8|BMP6	-2.91404	2.249901	35.75392	8.63E-06	0.001043	-7.53728
ENSG00000158234.8|FAIM	-2.02711	2.482286	35.67524	8.63E-06	0.001043	-4.07587
ENSG00000135253.9|KCP	-2.90192	4.075125	35.77259	8.75E-06	0.001049	-7.47421
ENSG00000162745.6|OLFML2B	2.815118	5.980495	35.74589	8.78E-06	0.001049	7.03777

ENSG00000133636.6|NTS	-5.47496	0.31633	35.71509	8.84E-06	0.001051	-44.4762
ENSG00000226945.1|RP11-564A8.4	-2.58648	1.67022	35.43573	9.01E-06	0.001066	-6.0063
ENSG00000105011.4|ASF1B	2.548835	3.852962	35.32519	9.24E-06	0.001087	5.851615
ENSG00000162706.8|CADM3	-3.04058	2.931393	35.42239	9.32E-06	0.00109	-8.22821
ENSG00000133985.2|TTC9	-2.45289	3.124718	35.07525	9.76E-06	0.001135	-5.47513
ENSG00000211956.2|IGHV4-34	-4.25881	5.377009	35.13459	9.82E-06	0.001136	-19.1439
ENSG00000081052.10|COL4A4	-2.24633	4.058643	34.97668	9.98E-06	0.001149	-4.74475
ENSG00000134709.6|HOOK1	-2.82834	1.310993	34.86562	1.01E-05	0.001153	-7.10258
ENSG00000257008.2|GPR142	-2.54664	-1.11133	34.58108	1.05E-05	0.001201	-5.84271
ENSG00000211651.2|IGLV1-44	-4.49315	6.062044	34.67128	1.07E-05	0.00121	-22.5203
ENSG00000168487.13|BMP1	1.664915	5.018442	34.3806	1.09E-05	0.001221	3.170951
ENSG00000198934.3|MAGEE1	-2.08999	1.113271	34.43455	1.08E-05	0.001221	-4.25745
ENSG00000231486.3|AC096579.7	-4.40539	9.43	34.54254	1.09E-05	0.001221	-21.1912
ENSG00000128268.11|MGAT3	-1.48193	3.606721	34.2826	1.11E-05	0.001235	-2.79323
ENSG00000175662.13|TOM1L2	-1.18914	5.754392	34.2609	1.12E-05	0.001235	-2.28016
ENSG00000117289.7|TXNIP	-1.79298	9.200022	34.19456	1.13E-05	0.001244	-3.46529
ENSG00000143387.8|CTSK	-3.23293	6.872049	34.18709	1.17E-05	0.001271	-9.40175
ENSG00000207501.1|RNVU1-14	-1.80687	1.273222	34.02518	1.17E-05	0.001271	-3.49882
ENSG00000091651.4|ORC6	2.153165	3.00295	33.93445	1.19E-05	0.00128	4.448025
ENSG00000185013.12|NT5C1B	-1.50901	0.015168	33.94698	1.19E-05	0.00128	-2.84614
ENSG00000271856.1|RP11-861A13.4	-3.07409	2.220809	34.01967	1.19E-05	0.00128	-8.42156
ENSG00000137462.6|TLR2	2.549572	6.948275	33.91762	1.21E-05	0.001285	5.854604
ENSG00000173715.11|C11orf80	-1.81345	2.579704	33.84484	1.21E-05	0.001285	-3.51481
ENSG00000129204.12|USP6	-2.24099	1.618652	33.74499	1.23E-05	0.001296	-4.72721
ENSG00000137033.7|IL33	-2.34364	3.972545	33.85928	1.24E-05	0.001296	-5.07581
ENSG00000169760.13|NLGN1	-2.91782	-0.7564	33.72131	1.24E-05	0.001296	-7.55705
ENSG00000236296.3|GUSBP5	-2.18151	-0.35716	33.65363	1.25E-05	0.001305	-4.53627
ENSG00000179604.8|CDC42EP4	-1.55471	3.790702	33.59803	1.27E-05	0.001312	-2.93775
ENSG00000143842.10|SOX13	-2.00482	4.022524	33.5575	1.29E-05	0.00133	-4.0134
ENSG00000230393.1|AC092667.2	-3.33913	1.471673	33.51764	1.31E-05	0.001345	-10.1199
ENSG00000211968.2|IGHV1-58	-5.52933	2.1387	33.53169	1.32E-05	0.001348	-46.1843
ENSG00000103005.7|USB1	1.476202	6.369894	33.31231	1.34E-05	0.001359	2.782154
ENSG00000156298.8|TSPAN7	-3.13519	3.50279	33.39866	1.35E-05	0.001359	-8.78587
ENSG00000171903.12|CYP4F11	-4.37611	0.339664	33.43779	1.34E-05	0.001359	-20.7653
ENSG00000239951.1|IGKV3-20	-4.12112	7.602397	33.39158	1.35E-05	0.001359	-17.4013
ENSG00000102265.7|TIMP1	2.006507	7.106148	33.14826	1.38E-05	0.001359	4.018083
ENSG00000125319.10|C17orf53	1.880264	2.223336	33.14273	1.38E-05	0.001359	3.681425
ENSG00000198369.5|SPRED2	1.016206	5.066591	33.17929	1.37E-05	0.001359	2.022593
ENSG00000237424.1|FOXD2-AS1	2.169414	3.189336	33.17097	1.37E-05	0.001359	4.498405
ENSG00000145107.11|TM4SF19	-3.83998	3.547396	33.16998	1.41E-05	0.001383	-14.3202
ENSG00000233834.2|AC005083.1	5.316457	3.306212	33.15313	1.42E-05	0.001383	39.84858
ENSG00000240754.1|RP11-38J22.6	-3.4757	0.296023	33.00584	1.44E-05	0.001398	-11.1247
ENSG00000162409.6|PRKAA2	-2.93602	-0.71523	32.86938	1.45E-05	0.001406	-7.65295
ENSG00000117322.12|CR2	-4.77892	4.701398	32.82469	1.51E-05	0.001453	-27.4535
ENSG00000071539.9|TRIP13	2.982678	2.308454	32.50822	1.56E-05	0.001462	7.904523
ENSG00000136011.10|STAB2	-5.97867	5.179055	32.67212	1.55E-05	0.001462	-63.0606
ENSG00000151575.10|TEX9	-2.19509	1.712176	32.54593	1.55E-05	0.001462	-4.57918

ENSG00000174607.6|UGT8	-2.53945	1.366426	32.59185	1.53E-05	0.001462	-5.81367
ENSG00000175356.8|SCUBE2	-1.84914	1.951724	32.58439	1.53E-05	0.001462	-3.60285
ENSG00000211599.2|IGKV5-2	-4.78117	0.698391	32.71575	1.54E-05	0.001462	-27.4963
ENSG00000136295.10|TTYH3	1.874856	9.251791	32.43215	1.58E-05	0.001477	3.66765
ENSG00000068489.8|PRR11	2.811904	4.16489	32.40932	1.61E-05	0.001486	7.022105
ENSG00000081059.15|TCF7	-1.75644	6.075451	32.39903	1.61E-05	0.001486	-3.37864
ENSG00000137714.2|FDX1	-1.61059	4.319582	32.31333	1.62E-05	0.001486	-3.05377
ENSG00000237343.1|RP11-763B22.4	-2.02674	-0.34971	32.36054	1.60E-05	0.001486	-4.07484
ENSG00000065325.8|GLP2R	-3.49529	0.142957	32.276	1.65E-05	0.001494	-11.2768
ENSG00000074966.6|TXK	-2.01164	3.126537	32.20504	1.65E-05	0.001494	-4.03239
ENSG00000101842.9|VSIG1	-2.40822	-0.37309	32.236	1.64E-05	0.001494	-5.30817
ENSG00000108405.3|P2RX1	-2.6613	3.737301	32.38177	1.64E-05	0.001494	-6.32602
ENSG00000007312.8|CD79B	-3.22118	3.884112	32.22434	1.69E-05	0.001498	-9.32548
ENSG00000113389.11|NPR3	-3.43456	0.390243	32.23122	1.67E-05	0.001498	-10.812
ENSG00000152078.5|TMEM56	-3.23793	1.073778	32.17407	1.69E-05	0.001498	-9.43439
ENSG00000211972.2|IGHV3-66	-4.86851	2.633239	32.20185	1.70E-05	0.001498	-29.2124
ENSG00000233806.3|AC131097.3	-2.23957	1.426797	32.13077	1.67E-05	0.001498	-4.72256
ENSG00000235897.1|TM4SF19-AS1	-2.88394	2.167824	32.16031	1.69E-05	0.001498	-7.38163
ENSG00000069812.7|HES2	-4.86415	3.181326	31.84844	1.82E-05	0.001572	-29.1243
ENSG00000114948.8|ADAM23	-2.14749	1.493571	31.73167	1.81E-05	0.001572	-4.43057
ENSG00000135960.5|EDAR	-2.9657	-0.42866	31.77801	1.79E-05	0.001572	-7.81205
ENSG00000154016.9|GRAP	-1.35713	3.849814	31.71239	1.82E-05	0.001572	-2.56175
ENSG00000211947.2|IGHV3-21	-4.48822	6.076551	31.87846	1.81E-05	0.001572	-22.4433
ENSG00000114346.9|ECT2	1.851361	3.836849	31.67744	1.83E-05	0.001575	3.608403
ENSG00000242580.1|IGKV1D-43	-4.85865	0.165285	31.76943	1.85E-05	0.001584	-29.0134
ENSG00000137077.3|CCL21	-5.58104	7.026924	31.74562	1.86E-05	0.001585	-47.8698
ENSG00000051108.10|HERPUD1	-1.49104	7.131374	31.51394	1.89E-05	0.001589	-2.81091
ENSG00000108821.9|COL1A1	4.485788	11.33647	31.62373	1.88E-05	0.001589	22.40561
ENSG00000226200.2|RP11-50E11.3	-1.15634	2.948583	31.53077	1.88E-05	0.001589	-2.22891
ENSG00000253193.4|FCGR1C	5.098587	4.617963	31.70432	1.87E-05	0.001589	34.26316
ENSG00000167553.10|TUBA1C	1.954711	6.681376	31.48792	1.90E-05	0.001595	3.876383
ENSG00000271680.1|RP11-564A8.8	-3.0533	0.581464	31.40812	1.95E-05	0.001625	-8.30111
ENSG00000264558.1|RP11-138C9.1	2.058866	2.085649	31.32487	1.96E-05	0.00163	4.166585
ENSG00000132849.14|INADL	-2.13372	4.458287	31.37765	1.99E-05	0.001637	-4.38847
ENSG00000183856.6|IQGAP3	3.769124	4.885443	31.38323	1.99E-05	0.001637	13.63388
ENSG00000239732.2|TLR9	-2.11737	3.151884	31.30485	1.98E-05	0.001637	-4.33903
ENSG00000253293.3|HOXA10	4.189454	3.288331	31.23065	2.05E-05	0.00168	18.24532
ENSG00000061656.5|SPAG4	-2.10753	2.472654	31.06208	2.06E-05	0.001685	-4.30953
ENSG00000100346.13|CACNA1I	-3.53543	2.477875	31.11368	2.10E-05	0.001698	-11.595
ENSG00000117707.11|PROX1	-2.24937	3.982513	31.10195	2.10E-05	0.001698	-4.75474
ENSG00000181045.10|SLC26A11	-2.58984	5.874007	31.0824	2.11E-05	0.001698	-6.02033
ENSG00000228196.1|PTPN2P1	-2.56817	0.997814	30.95036	2.11E-05	0.001698	-5.93057
ENSG00000005073.5|HOXA11	7.074934	1.553109	30.99595	2.15E-05	0.001706	134.824
ENSG00000072163.14|LIMS2	-1.8256	4.605451	30.88827	2.16E-05	0.001706	-3.54455
ENSG00000100321.10|SYNGR1	-2.54948	3.186829	30.98334	2.15E-05	0.001706	-5.85424
ENSG00000161513.7|FDXR	1.553926	3.655121	30.85196	2.15E-05	0.001706	2.936151
ENSG00000198848.8|CES1	-3.99865	2.768156	30.96633	2.16E-05	0.001706	-15.985

ENSG00000165475.9|CRYL1	-1.95032	4.093507	30.81394	2.19E-05	0.001707	-3.86461
ENSG00000167861.11|HID1	-2.85549	3.590913	30.89155	2.19E-05	0.001707	-7.23749
ENSG00000184156.11|KCNQ3	4.310268	5.529629	30.93424	2.17E-05	0.001707	19.83901
ENSG00000211677.2|IGLC2	-4.55599	9.326588	30.91696	2.18E-05	0.001707	-23.5228
ENSG00000171914.10|TLN2	3.015224	6.401513	30.85434	2.21E-05	0.00171	8.084866
ENSG00000239219.2|RP11-379K17.4	-3.00578	-0.7033	30.71372	2.21E-05	0.00171	-8.03213
ENSG00000143105.5|KCNA10	-4.68255	0.660634	30.82153	2.22E-05	0.001712	-25.6796
ENSG00000038295.3|TLL1	-1.93722	1.784871	30.64617	2.24E-05	0.001715	-3.82967
ENSG00000107438.4|PDLIM1	-1.78004	4.953351	30.69439	2.24E-05	0.001715	-3.43435
ENSG00000259577.1|RP11-430B1.2	-2.56679	-0.44908	30.60934	2.26E-05	0.001721	-5.92491
ENSG00000101849.11|TBL1X	-1.42555	4.332526	30.56437	2.28E-05	0.001729	-2.68618
ENSG00000149292.12|TTC12	-1.38393	3.119401	30.553	2.28E-05	0.001729	-2.60979
ENSG00000273331.1|TM4SF19-TCTEX1D2	-4.98234	-0.10184	30.65409	2.30E-05	0.001734	-31.6107
ENSG00000179456.9|ZBTB18	-1.09111	4.121507	30.43807	2.34E-05	0.001757	-2.13038
ENSG00000110848.4|CD69	-2.11453	4.018677	30.49644	2.35E-05	0.001759	-4.33049
ENSG00000211974.2|IGHV2-70	-4.32143	3.394884	30.42644	2.41E-05	0.001795	-19.9931
ENSG00000130768.10|SMPDL3B	-2.37467	0.128523	30.27853	2.41E-05	0.001796	-5.18616
ENSG00000187796.9|CARD9	2.435583	5.841452	30.31974	2.44E-05	0.001807	5.409831
ENSG00000122224.13|LY9	-2.19054	4.530204	30.17372	2.53E-05	0.001863	-4.56475
ENSG00000243466.1|IGKV1-5	-4.18807	6.862395	30.1831	2.53E-05	0.001863	-18.2278
ENSG00000101825.7|MXRA5	4.694952	7.346549	30.14822	2.54E-05	0.001866	25.90129
ENSG00000260027.3|HOXB7	2.4692	2.406561	29.98554	2.56E-05	0.001873	5.537365
ENSG00000197385.5|ZNF860	-2.94856	1.16532	29.90533	2.63E-05	0.001916	-7.71979
ENSG00000080561.9|MID2	-1.91071	2.176576	29.83387	2.64E-05	0.001916	-3.75995
ENSG00000116194.8|ANGPTL1	-2.34917	2.512475	29.86457	2.65E-05	0.001916	-5.0953
ENSG00000233029.3|RP11-439A17.9	4.3391	4.037677	29.79736	2.73E-05	0.00197	20.23948
ENSG00000112379.8|KIAA1244	-2.54861	2.49464	29.66124	2.77E-05	0.001987	-5.8507
ENSG00000257337.2|RP11-983P16.4	-1.35619	2.665207	29.5978	2.77E-05	0.001987	-2.56008
ENSG00000132003.5|ZSWIM4	1.318502	4.926429	29.526	2.81E-05	0.002003	2.49407
ENSG00000161649.8|CD300LG	-3.10415	-0.21562	29.525	2.83E-05	0.002003	-8.5989
ENSG00000180879.9|SSR4	-1.57403	6.252236	29.54384	2.82E-05	0.002003	-2.97735
ENSG00000203747.5|FCGR3A	4.731815	9.344991	29.62902	2.82E-05	0.002003	26.57164
ENSG00000072954.2|TMEM38A	-1.86506	0.051337	29.4304	2.87E-05	0.002003	-3.64284
ENSG00000085999.7|RAD54L	2.478038	3.185011	29.45839	2.85E-05	0.002003	5.571392
ENSG00000164398.8|ACSL6	-2.11125	1.400858	29.47313	2.84E-05	0.002003	-4.32064
ENSG00000167383.4|ZNF229	-2.12963	0.671643	29.44167	2.86E-05	0.002003	-4.37606
ENSG00000211644.2|IGLV1-51	-4.26705	5.772835	29.51981	2.89E-05	0.002011	-19.2536
ENSG00000105369.5|CD79A	-3.71027	5.032321	29.42407	2.94E-05	0.002038	-13.0889
ENSG00000233030.2|RP11-196G18.3	5.188505	3.924664	29.42768	2.94E-05	0.002038	36.46663
ENSG00000170476.11|MZB1	-3.11414	5.058645	29.3536	2.99E-05	0.002061	-8.65865
ENSG00000108387.10|SEPT4	-1.10115	3.336161	29.20387	3.00E-05	0.002066	-2.14526
ENSG00000099958.10|DERL3	-2.59382	5.074425	29.25533	3.05E-05	0.002089	-6.03695
ENSG00000100767.11|PAPLN	-1.94671	6.415626	29.16414	3.10E-05	0.00211	-3.85495
ENSG00000143869.5|GDF7	-2.9166	1.800913	29.11405	3.11E-05	0.00211	-7.55066
ENSG00000244116.1|IGKV2-28	-4.51295	5.924633	29.17851	3.10E-05	0.00211	-22.8314
ENSG00000108001.9|EBF3	-2.92869	2.428531	29.12277	3.13E-05	0.002114	-7.61417
ENSG00000224041.2|IGKV3D-15	-4.56733	4.116999	29.13596	3.12E-05	0.002114	-23.7085

ENSG00000138778.7|CENPE	2.507811	4.548727	29.01347	3.17E-05	0.002135	5.687564
ENSG00000211664.2|IGLV2-18	-4.41558	2.366528	28.99424	3.22E-05	0.002157	-21.3414
ENSG00000180535.3|BHLHA15	-3.06952	0.692969	28.90556	3.23E-05	0.002161	-8.39493
ENSG00000227218.3|RP11-203J24.8	-2.21659	1.251955	28.78631	3.27E-05	0.002183	-4.64794
ENSG00000100473.11|COCH	-2.45469	1.168291	28.73763	3.31E-05	0.002199	-5.48195
ENSG00000170456.10|DENND5B	-2.34702	4.561707	28.78535	3.36E-05	0.002218	-5.08774
ENSG00000185245.6|GP1BA	-2.01102	3.614336	28.72331	3.35E-05	0.002218	-4.03068
ENSG00000157404.11|KIT	-1.78783	1.815381	28.5885	3.41E-05	0.002248	-3.45295
ENSG00000188687.11|SLC4A5	-1.29801	2.425113	28.56009	3.43E-05	0.002254	-2.45889
ENSG00000212195.1|U3	-1.99159	0.850884	28.54611	3.44E-05	0.002254	-3.97676
ENSG00000183508.4|FAM46C	-2.68133	6.343672	28.60926	3.48E-05	0.002273	-6.41449
ENSG00000237943.2|PRKCQ-AS1	-1.88433	2.107356	28.43803	3.52E-05	0.002292	-3.69181
ENSG00000104043.10|ATP8B4	2.838225	6.615416	28.45662	3.59E-05	0.002332	7.151398
ENSG00000167634.8|NLRP7	-2.30613	-0.47222	28.29115	3.63E-05	0.002343	-4.94556
ENSG00000168421.8|RHOH	-1.71567	4.944657	28.33839	3.63E-05	0.002343	-3.28448
ENSG00000196639.6|HRH1	1.967803	2.984464	28.22925	3.68E-05	0.002366	3.911719
ENSG00000128590.4|DNAJB9	-1.32523	4.061068	28.0655	3.81E-05	0.00243	-2.50573
ENSG00000131015.4|ULBP2	3.970172	0.340424	28.0559	3.82E-05	0.00243	15.6726
ENSG00000166068.8|SPRED1	2.311994	7.605899	28.09026	3.82E-05	0.00243	4.96569
ENSG00000264324.1|RP11-287D1.3	-2.12157	0.05684	28.08479	3.79E-05	0.00243	-4.35167
ENSG00000047346.8|FAM214A	-1.08152	5.50507	28.02483	3.84E-05	0.002435	-2.11626
ENSG00000092096.10|SLC22A17	-2.33233	2.833516	28.05486	3.86E-05	0.002439	-5.03619
ENSG00000189152.6|GRAPL	-1.60217	3.758049	27.95706	3.90E-05	0.002455	-3.036
ENSG00000102384.9|CENPI	2.446059	2.792681	27.93319	3.92E-05	0.002461	5.449255
ENSG00000101412.9|E2F1	2.513973	3.679577	27.94143	3.94E-05	0.00247	5.71191
ENSG00000111339.6|ART4	-2.91944	2.177159	27.96104	3.99E-05	0.002484	-7.5655
ENSG00000140543.9|DET1	-1.16139	2.097263	27.81083	4.02E-05	0.002484	-2.23673
ENSG00000239855.1|IGKV1-6	-4.59047	4.380599	27.94956	4.00E-05	0.002484	-24.0918
ENSG00000253701.1|AL928768.3	-4.18811	1.623458	27.92168	4.02E-05	0.002484	-18.2284
ENSG00000272173.1|U47924.31	-1.45903	0.78415	27.82834	4.00E-05	0.002484	-2.74923
ENSG00000131242.11|RAB11FIP4	-1.49259	4.982758	27.80454	4.03E-05	0.002486	-2.81394
ENSG00000135378.3|PRRG4	2.549638	3.083339	27.74451	4.09E-05	0.00251	5.854875
ENSG00000211592.2|IGKC	-4.02036	10.97933	27.81341	4.11E-05	0.00252	-16.2274
ENSG00000255397.1|AC022182.2	-2.29546	0.938911	27.68006	4.13E-05	0.002524	-4.90912
ENSG00000084112.10|SSH1	1.016857	7.194752	27.64696	4.16E-05	0.002525	2.023505
ENSG00000146918.15|NCAPG2	1.893914	5.216996	27.66005	4.18E-05	0.002525	3.716422
ENSG00000170989.8|S1PR1	-1.61679	4.612531	27.69115	4.15E-05	0.002525	-3.06692
ENSG00000178075.15|GRAMD1C	-2.11135	1.198036	27.62521	4.18E-05	0.002525	-4.32096
ENSG00000211937.2|IGHV2-5	-4.30913	5.156721	27.7024	4.21E-05	0.002537	-19.8234
ENSG00000106809.6|OGN	1.678385	2.915277	27.57772	4.22E-05	0.002537	3.200694
ENSG00000143515.12|ATP8B2	-1.42015	5.77477	27.54374	4.26E-05	0.002545	-2.67613
ENSG00000259834.1|RP11-284N8.3	-1.94196	3.625721	27.58236	4.26E-05	0.002545	-3.84227
ENSG00000062524.11|LTK	-2.34138	1.156104	27.47934	4.31E-05	0.002569	-5.06789
ENSG00000130635.11|COL5A1	3.390636	7.993818	27.57862	4.32E-05	0.002569	10.48777
ENSG00000083454.17|P2RX5	-2.53147	4.850898	27.55309	4.35E-05	0.002576	-5.7816
ENSG00000068366.15|ACSL4	1.672937	6.913574	27.40872	4.38E-05	0.002583	3.18863
ENSG00000188404.4|SELL	-2.05308	5.386866	27.51378	4.38E-05	0.002583	-4.14991

ENSG00000152315.4|KCNK13	4.188078	3.930499	27.50025	4.39E-05	0.002584	18.22792
ENSG00000232613.2|AC007386.4	-1.86172	-0.26873	27.36691	4.42E-05	0.00259	-3.63441
ENSG00000154153.9|FAM134B	-1.69142	2.044862	27.34946	4.43E-05	0.002593	-3.22974
ENSG00000005513.9|SOX8	-3.32731	2.156653	27.36416	4.52E-05	0.002623	-10.0374
ENSG00000068383.14|INPP5A	-1.36253	3.142575	27.28035	4.50E-05	0.002623	-2.57135
ENSG00000148671.9|ADIRF	-2.43147	1.189913	27.24848	4.53E-05	0.002623	-5.39442
ENSG00000187912.7|CLEC17A	-3.14985	2.470889	27.36967	4.52E-05	0.002623	-8.87561
ENSG00000130702.9|LAMA5	-1.51476	6.552946	27.18683	4.62E-05	0.00266	-2.85751
ENSG00000198168.4|SVIP	-1.63764	2.700594	27.16802	4.61E-05	0.00266	-3.11156
ENSG00000232381.1|OR52U1P	-2.08891	-0.17506	27.13813	4.64E-05	0.002663	-4.25426
ENSG00000159216.14|RUNX1	1.358682	7.672972	27.1089	4.67E-05	0.002673	2.564508
ENSG00000241351.1|IGKV3-11	-4.10088	6.437775	27.14726	4.74E-05	0.002706	-17.1589
ENSG00000137310.7|TCF19	1.518324	4.499558	27.01164	4.77E-05	0.002716	2.864581
ENSG00000060558.3|GNA15	2.086358	5.560453	27.02297	4.81E-05	0.002731	4.246746
ENSG00000175928.5|LRRN1	-2.25335	1.574975	26.95618	4.83E-05	0.002734	-4.76788
ENSG00000161888.7|SPC24	2.765482	2.907367	26.93026	4.89E-05	0.002758	6.799752
ENSG00000163683.7|SMIM14	-1.0115	5.413362	26.89179	4.89E-05	0.002758	-2.016
ENSG00000173200.8|PARP15	-1.6111	5.771342	26.852	4.98E-05	0.002799	-3.05484
ENSG00000105991.7|HOXA1	2.189753	1.897622	26.77868	5.01E-05	0.002812	4.562274
ENSG00000229950.1|TFAP2A-AS1	3.321837	0.513346	26.75461	5.04E-05	0.00282	9.999371
ENSG00000144152.8|FBLN7	-1.367	2.719743	26.69294	5.11E-05	0.002843	-2.57934
ENSG00000172578.7|KLHL6	-1.76573	6.953616	26.76145	5.10E-05	0.002843	-3.40046
ENSG00000083544.9|TDRD3	-1.40566	4.41365	26.66231	5.14E-05	0.002848	-2.64939
ENSG00000136068.10|FLNB	-1.3493	7.166666	26.66468	5.14E-05	0.002848	-2.54788
ENSG00000106686.12|SPATA6L	-1.58828	1.110786	26.59297	5.22E-05	0.002869	-3.00691
ENSG00000211632.2|IGKV3D-11	-4.17618	2.051211	26.70597	5.21E-05	0.002869	-18.0782
ENSG00000211653.2|IGLV1-40	-4.21474	6.405744	26.64859	5.28E-05	0.002885	-18.5679
ENSG00000241294.1|IGKV2-24	-3.60633	3.147359	26.65968	5.26E-05	0.002885	-12.179
ENSG00000099204.14|ABLIM1	-1.85267	5.561527	26.63475	5.29E-05	0.002887	-3.61169
ENSG00000111796.3|KLRB1	-1.938	1.557693	26.49357	5.34E-05	0.002889	-3.83174
ENSG00000211598.2|IGKV4-1	-4.13759	6.927396	26.60228	5.33E-05	0.002889	-17.601
ENSG00000225194.2|LINC00092	-1.79372	0.321455	26.50876	5.32E-05	0.002889	-3.46707
ENSG00000124772.7|CPNE5	-2.17944	3.766343	26.56625	5.37E-05	0.002896	-4.52978
ENSG00000186185.9|KIF18B	3.245865	4.299881	26.56207	5.38E-05	0.002896	9.48643
ENSG00000251149.1|MTND5P5	-3.29798	-0.23785	26.48764	5.39E-05	0.002896	-9.8354
ENSG00000144837.4|PLA1A	-2.21705	1.989401	26.38817	5.47E-05	0.002917	-4.64942
ENSG00000185905.3|C16orf54	-1.39747	4.359814	26.38656	5.46E-05	0.002917	-2.63439
ENSG00000221946.3|FXYD7	-1.7012	0.317709	26.38219	5.47E-05	0.002917	-3.25171
ENSG00000100219.12|XBP1	-1.48097	6.93876	26.32372	5.55E-05	0.00294	-2.79136
ENSG00000166833.15|NAV2	-1.60772	4.864728	26.36482	5.53E-05	0.00294	-3.0477
ENSG00000211650.2|IGLV5-45	-4.94779	3.805508	26.41469	5.55E-05	0.00294	-30.8626
ENSG00000168081.4|PNOC	-2.90744	1.298126	26.35528	5.58E-05	0.002945	-7.50288
ENSG00000158008.5|EXTL1	-2.80363	0.189069	26.31171	5.59E-05	0.002947	-6.98193
ENSG00000163072.10|NOSTRIN	-1.21686	1.915454	26.2686	5.61E-05	0.002947	-2.32441
ENSG00000076555.11|ACACB	-2.00136	5.243525	26.25274	5.75E-05	0.003004	-4.00379
ENSG00000176601.7|MAP3K19	-1.97686	-0.04175	26.11678	5.80E-05	0.003004	-3.93637
ENSG00000177455.7|CD19	-3.23491	3.923365	26.22265	5.79E-05	0.003004	-9.41469

ENSG00000259436.1|CTC-378H22.2	-1.67735	0.685543	26.15626	5.75E-05	0.003004	-3.19839
ENSG00000269968.1|RP5-940J5.9	2.063203	5.814299	26.19801	5.76E-05	0.003004	4.17913
ENSG00000051341.9|POLQ	2.463555	4.208543	26.16137	5.82E-05	0.003008	5.515742
ENSG00000140931.15|CMTM3	1.433608	6.206021	26.05632	5.87E-05	0.00303	2.701214
ENSG00000171241.4|SHCBP1	2.593556	4.020846	26.09097	5.91E-05	0.003035	6.035846
ENSG00000273079.1|GRIN2B	-3.52183	2.683069	26.12845	5.91E-05	0.003035	-11.4862
ENSG00000012223.8|LTF	-2.84419	1.731007	26.05833	5.95E-05	0.003041	-7.18104
ENSG00000108924.9|HLF	-2.52094	1.242072	26.03006	5.95E-05	0.003041	-5.73955
ENSG00000182742.5|HOXB4	1.489684	3.678786	25.98583	5.97E-05	0.003042	2.808274
ENSG00000187848.8|P2RX2	-1.9465	-0.34352	25.9717	5.98E-05	0.003044	-3.85439
ENSG00000166562.4|SEC11C	-1.26609	4.11415	25.94517	6.02E-05	0.003049	-2.40509
ENSG00000211663.2|IGLV3-19	-4.52693	5.965993	26.04365	6.02E-05	0.003049	-23.0537
ENSG00000112320.7|SOBP	2.516504	4.198617	25.99077	6.04E-05	0.003051	5.721937
ENSG00000153064.7|BANK1	-3.45367	4.651352	25.95943	6.13E-05	0.003091	-10.9561
ENSG00000172243.13|CLEC7A	2.307241	7.229456	25.87138	6.20E-05	0.003118	4.949356
ENSG00000125454.7|SLC25A19	2.479669	5.308259	25.8908	6.23E-05	0.003124	5.577694
ENSG00000147457.9|CHMP7	-1.03806	5.805863	25.78155	6.24E-05	0.003124	-2.05346
ENSG00000070759.12|TESK2	-1.1844	3.24337	25.72055	6.33E-05	0.00316	-2.27269
ENSG00000179331.2|RAB39A	2.308736	3.69929	25.74044	6.34E-05	0.00316	4.954487
ENSG00000111424.6|VDR	1.814626	5.011855	25.70794	6.38E-05	0.003165	3.517684
ENSG00000198019.8|FCGR1B	4.16317	4.62663	25.78097	6.38E-05	0.003165	17.91592
ENSG00000183929.6|DUSP5P1	4.465152	1.445946	25.71362	6.42E-05	0.003166	22.08741
ENSG00000186642.11|PDE2A	-1.89485	3.64901	25.6867	6.43E-05	0.003166	-3.71883
ENSG00000241566.1|IGKV2D-24	-3.80133	-0.07673	25.75506	6.42E-05	0.003166	-13.9416
ENSG00000258399.2|MEG8	4.019669	-0.55991	25.62862	6.46E-05	0.003174	16.21963
ENSG00000234571.1|RP5-998N21.4	4.806166	3.925376	25.61531	6.62E-05	0.003246	27.97694
ENSG00000164647.4|STEAP1	4.127684	1.31348	25.52528	6.66E-05	0.00326	17.48061
ENSG00000233355.2|CHRM3-AS2	-2.98047	1.904032	25.54975	6.72E-05	0.003279	-7.89243
ENSG00000212588.1|SNORA26	-1.82404	2.948721	25.42737	6.76E-05	0.003291	-3.54072
ENSG00000186994.7|KANK3	-1.53164	2.889627	25.41103	6.78E-05	0.003295	-2.89114
ENSG00000142552.3|RCN3	1.546903	4.983405	25.37219	6.84E-05	0.003317	2.921892
ENSG00000060718.14|COL11A1	10.12809	5.005957	25.36734	7.00E-05	0.003366	1119.074
ENSG00000165338.12|HECTD2	1.575155	4.415144	25.26769	7.00E-05	0.003366	2.979676
ENSG00000211896.2|IGHG1	-4.20921	12.58408	25.38862	6.96E-05	0.003366	-18.4969
ENSG00000271605.1|MILR1	2.234355	3.845233	25.30394	6.99E-05	0.003366	4.705523
ENSG00000269911.1|FAM226B	-2.28959	0.446285	25.20872	7.10E-05	0.003403	-4.88917
ENSG00000254709.2|IGLL5	-3.67197	6.398048	25.2481	7.18E-05	0.003438	-12.746
ENSG00000085563.10|ABCB1	-1.50858	2.117961	25.13251	7.22E-05	0.003447	-2.8453
ENSG00000072858.6|SIDT1	-1.71669	4.321694	25.15389	7.24E-05	0.003449	-3.28682
ENSG00000146477.4|SLC22A3	-3.41411	3.281368	25.20571	7.25E-05	0.003449	-10.6598
ENSG00000206597.1|SNORA57	-1.45844	5.605268	25.11553	7.29E-05	0.003461	-2.74811
ENSG00000146592.12|CREB5	3.382445	5.296082	25.16869	7.31E-05	0.003462	10.42839
ENSG00000146376.6|ARHGAP18	1.486971	6.302026	25.06062	7.34E-05	0.003466	2.802999
ENSG00000241244.1|IGKV1D-16	-3.93157	2.498771	25.10899	7.41E-05	0.003494	-15.2588
ENSG00000239819.1|IGKV1D-8	-4.19973	0.409148	25.08934	7.45E-05	0.003494	-18.3757
ENSG00000137203.6|TFAP2A	4.280044	2.148688	25.04635	7.52E-05	0.003521	19.42772
ENSG00000170458.9|CD14	2.346981	9.033683	24.9676	7.54E-05	0.003524	5.087586

ENSG00000214548.10|MEG3	2.889852	5.98042	25.00624	7.59E-05	0.003538	7.411945
ENSG00000243766.3|HOTTIP	7.302976	1.718499	24.97695	7.64E-05	0.003553	157.9119
ENSG00000121577.9|POPDC2	-1.94178	2.882012	24.8817	7.68E-05	0.003566	-3.8418
ENSG00000169495.4|HTRA4	-2.74768	2.542837	24.93407	7.71E-05	0.003573	-6.71636
ENSG00000173110.6|HSPA6	2.886415	6.246701	24.9018	7.77E-05	0.003588	7.394308
ENSG00000178732.4|GP5	-2.23382	-0.29347	24.80016	7.78E-05	0.003588	-4.70379
ENSG00000182667.10|NTM	2.831586	1.905439	24.79456	7.79E-05	0.003588	7.118564
ENSG00000076382.12|SPAG5	2.397264	4.780194	24.84179	7.86E-05	0.003597	5.268031
ENSG00000188822.6|CNR2	-3.34431	3.505853	24.84801	7.86E-05	0.003597	-10.1564
ENSG00000266456.1|RP11-806L2.2	3.648955	-0.85012	24.75562	7.86E-05	0.003597	12.54426
ENSG00000159685.6|CHCHD6	-2.01783	2.617612	24.74529	7.91E-05	0.003612	-4.04973
ENSG00000141540.6|TTYH2	-1.24479	4.884767	24.68236	7.99E-05	0.003643	-2.36984
ENSG00000137103.12|TMEM8B	-1.60593	2.700041	24.62377	8.10E-05	0.003662	-3.04391
ENSG00000147642.12|SYBU	-2.34072	0.839572	24.61404	8.12E-05	0.003662	-5.06556
ENSG00000154102.6|C16orf74	-2.98178	1.341439	24.7089	8.08E-05	0.003662	-7.89959
ENSG00000161800.8|RACGAP1	2.055409	4.578583	24.64787	8.12E-05	0.003662	4.156615
ENSG00000169607.8|CKAP2L	3.032813	3.419392	24.72426	8.07E-05	0.003662	8.18404
ENSG00000179593.11|ALOX15B	-3.73495	4.31544	24.63852	8.24E-05	0.00371	-13.3147
ENSG00000196141.8|SPATS2L	1.081769	5.771659	24.50438	8.33E-05	0.003739	2.11663
ENSG00000141622.9|RNF165	-1.96812	1.601777	24.47248	8.39E-05	0.003759	-3.91259
ENSG00000211652.2|IGLV7-43	-4.02525	3.53734	24.54592	8.42E-05	0.003766	-16.2825
ENSG00000198759.7|EGFL6	4.885899	1.439025	24.41414	8.67E-05	0.003862	29.56666
ENSG00000211640.3|IGLV6-57	-4.09239	4.617059	24.42532	8.65E-05	0.003862	-17.0582
ENSG00000111206.8|FOXM1	2.202394	4.826778	24.28359	8.87E-05	0.003936	4.602423
ENSG00000140945.11|CDH13	1.792404	2.656876	24.22736	8.87E-05	0.003936	3.463917
ENSG00000039537.9|C6	-4.11088	-0.67148	24.25066	9.01E-05	0.00396	-17.2781
ENSG00000131747.10|TOP2A	2.765157	5.891415	24.26656	8.97E-05	0.00396	6.798221
ENSG00000137807.9|KIF23	2.94458	3.388869	24.25023	8.97E-05	0.00396	7.698516
ENSG00000168542.8|COL3A1	4.187945	10.73779	24.26009	8.99E-05	0.00396	18.22623
ENSG00000242534.2|IGKV2D-28	-4.61427	5.971427	24.24656	9.02E-05	0.00396	-24.4925
ENSG00000244968.2|LIFR-AS1	-3.42118	0.155157	24.22817	9.05E-05	0.003968	-10.7122
ENSG00000255518.1|RP11-148O21.4	-3.44297	0.13163	24.09775	9.33E-05	0.004081	-10.8752
ENSG00000263264.1|CTB-133G6.1	-2.87373	3.565456	24.08817	9.35E-05	0.004082	-7.32957
ENSG00000104059.4|FAM189A1	-2.60266	-0.34377	23.94504	9.47E-05	0.004125	-6.07405
ENSG00000251453.1|HAUS1P1	4.207935	1.564439	23.99144	9.49E-05	0.004125	18.48054
ENSG00000137812.15|CASC5	2.708506	4.913125	23.99573	9.55E-05	0.004145	6.536444
ENSG00000273472.1|RP11-102N12.3	-1.72531	1.844235	23.88667	9.60E-05	0.004158	-3.30652
ENSG00000115306.11|SPTBN1	-1.34112	7.900383	23.87448	9.63E-05	0.004162	-2.53347
ENSG00000139318.7|DUSP6	1.698255	7.19941	23.84845	9.69E-05	0.00418	3.245082
ENSG00000136492.4|BRIP1	1.927577	3.34847	23.83353	9.72E-05	0.004182	3.804158
ENSG00000259343.1|RP11-761I4.3	-2.37099	-0.12002	23.82851	9.73E-05	0.004182	-5.17295
ENSG00000152952.7|PLOD2	2.306804	3.937448	23.84612	9.77E-05	0.004189	4.947858
ENSG00000087088.15|BAX	1.069803	5.776128	23.78025	9.84E-05	0.004196	2.099146
ENSG00000111817.12|DSE	2.03003	6.965238	23.82146	9.84E-05	0.004196	4.084133
ENSG00000151725.7|MLF1IP	2.064537	2.91737	23.77145	9.86E-05	0.004196	4.182996
ENSG00000160224.12|AIRE	-3.18326	1.467195	23.86187	9.85E-05	0.004196	-9.08356
ENSG00000138180.11|CEP55	3.289488	3.68595	23.77719	0.0001	0.004257	9.77765

ENSG00000147536.7|GINS4	1.440285	3.322002	23.68486	0.000101	0.004257	2.713745
ENSG00000184702.13|SEPT5	-1.90446	3.028762	23.72772	0.0001	0.004257	-3.74369
ENSG00000260807.2|RP11-161M6.2	-2.3552	2.490608	23.70749	0.000101	0.004278	-5.11664
ENSG00000071242.7|RPS6KA2	-1.81665	5.646182	23.72466	0.000102	0.004279	-3.52261
ENSG00000143476.13|DTL	2.522825	3.416713	23.66999	0.000102	0.004279	5.747065
ENSG00000186564.5|FOXD2	1.997304	2.720831	23.59772	0.000103	0.004312	3.992533
ENSG00000107242.13|PIP5K1B	-1.32776	2.119248	23.53397	0.000104	0.004339	-2.51012
ENSG00000118729.10|CASQ2	-3.06775	-1.00781	23.55927	0.000104	0.004339	-8.38467
ENSG00000137496.13|IL18BP	-1.23613	5.789285	23.52773	0.000104	0.004339	-2.35566
ENSG00000139734.13|DIAPH3	3.041797	2.972728	23.57961	0.000104	0.004339	8.235161
ENSG00000157613.6|CREB3L1	3.844306	2.836331	23.62273	0.000104	0.004339	14.36321
ENSG00000167483.13|FAM129C	-3.4349	4.990886	23.60615	0.000105	0.004339	-10.8145
ENSG00000123485.7|HJURP	2.795501	3.262537	23.54521	0.000105	0.004359	6.94272
ENSG00000185480.7|PARPBP	1.610858	2.338299	23.47391	0.000106	0.004364	3.054333
ENSG00000211940.2|IGHV3-9	-6.34167	7.876303	23.5573	0.000106	0.004364	-81.1024
ENSG00000088325.11|TPX2	2.828607	4.826855	23.54868	0.000106	0.004365	7.103877
ENSG00000140009.14|ESR2	-1.76999	3.068131	23.45663	0.000106	0.004372	-3.41051
ENSG00000211965.2|IGHV3-49	-3.74087	4.114346	23.51626	0.000107	0.004381	-13.3694
ENSG00000153253.11|SCN3A	-3.44318	1.118412	23.49121	0.000107	0.004399	-10.8768
ENSG00000130449.5|ZSWIM6	1.427136	6.032151	23.3901	0.000108	0.004408	2.689124
ENSG00000197943.5|PLCG2	-1.23469	6.52055	23.37407	0.000108	0.004417	-2.3533
ENSG00000229106.1|RP11-4M23.2	-3.07464	1.646043	23.43999	0.000109	0.004427	-8.4248
ENSG00000088538.12|DOCK3	-2.65957	3.221403	23.42144	0.000109	0.004434	-6.31845
ENSG00000251791.1|SCARNA6	-1.42266	5.763537	23.3601	0.000109	0.004434	-2.6808
ENSG00000164330.12|EBF1	-1.75851	3.736169	23.35219	0.00011	0.004439	-3.3835
ENSG00000106123.7|EPHB6	-1.42298	3.713142	23.30922	0.00011	0.004443	-2.68138
ENSG00000260655.1|CTA-250D10.23	-3.11694	3.274259	23.36998	0.00011	0.004458	-8.67546
ENSG00000074416.9|MGLL	-2.01836	6.413936	23.32429	0.000112	0.004498	-4.05122
ENSG00000103942.8|HOMER2	-1.56359	2.003894	23.21573	0.000112	0.004509	-2.95589
ENSG00000143772.5|ITPKB	-1.40271	7.080183	23.22764	0.000112	0.004509	-2.64397
ENSG00000165124.13|SVEP1	-2.66526	5.488101	23.27512	0.000113	0.004517	-6.34341
ENSG00000271725.1|RP11-761I4.4	-1.6271	0.551648	23.19524	0.000113	0.004517	-3.0889
ENSG00000136048.9|DRAM1	2.523718	7.115715	23.21443	0.000115	0.004574	5.750624
ENSG00000106034.13|CPED1	2.285088	5.678907	23.18677	0.000115	0.004594	4.873939
ENSG00000176659.5|C20orf197	3.068534	2.41351	23.12876	0.000116	0.004594	8.389205
ENSG00000068615.12|REEP1	-2.2192	0.513688	23.06492	0.000116	0.004622	-4.65636
ENSG00000123473.11|STIL	2.12111	3.903193	23.06788	0.000117	0.00464	4.350284
ENSG00000100678.14|SLC8A3	-1.90814	-0.5126	23.00167	0.000118	0.004661	-3.75324
ENSG00000127564.12|PKMYT1	3.273157	4.016487	23.07687	0.000118	0.004661	9.667594
ENSG00000165591.6|FAAH2	-2.08762	1.205922	22.99017	0.000119	0.004661	-4.25045
ENSG00000211967.2|IGHV3-53	-4.37243	4.608342	23.06552	0.000119	0.004661	-20.7125
ENSG00000244437.1|IGKV3-15	-4.34701	6.745126	23.0804	0.000118	0.004661	-20.3507
ENSG00000129353.10|SLC44A2	-1.55233	5.965388	23.01794	0.000119	0.004666	-2.93291
ENSG00000211955.2|IGHV3-33	-3.868	6.171162	23.0452	0.000119	0.004666	-14.6011
ENSG00000272899.1|RP11-309L24.9	-1.98475	1.112727	22.95329	0.00012	0.00467	-3.95795
ENSG00000012124.10|CD22	-3.65089	5.716041	22.97136	0.000121	0.004725	-12.5611
ENSG00000204054.7|LINC00963	1.103577	6.361498	22.8891	0.000121	0.004725	2.148868

ENSG00000006740.12|ARHGAP44	-1.48081	2.486527	22.85092	0.000123	0.004731	-2.79105
ENSG00000127947.11|PTPN12	1.225666	6.657052	22.83924	0.000123	0.004731	2.338634
ENSG00000146285.9|SCML4	-2.00511	4.142963	22.94307	0.000122	0.004731	-4.0142
ENSG00000159147.13|DONSON	1.463161	3.927172	22.83908	0.000123	0.004731	2.757118
ENSG00000205268.6|PDE7A	-1.13482	6.249467	22.8461	0.000123	0.004731	-2.19592
ENSG00000105383.10|CD33	2.028271	5.822061	22.86551	0.000124	0.00474	4.079158
ENSG00000234358.1|AC003080.4	2.445395	2.559176	22.82049	0.000123	0.00474	5.446748
ENSG00000211966.2|IGHV5-51	-4.07187	6.29002	22.88059	0.000124	0.00475	-16.8172
ENSG00000198774.3|RASSF9	-2.8052	0.027753	22.81833	0.000124	0.004752	-6.98955
ENSG00000181754.6|AMIGO1	-2.18653	2.294487	22.75878	0.000126	0.004812	-4.5521
ENSG00000120334.11|CENPL	1.198909	2.652717	22.72061	0.000126	0.004816	2.29566
ENSG00000092853.9|CLSPN	3.107206	4.175864	22.77406	0.000127	0.004829	8.61712
ENSG00000118777.6|ABCG2	-2.1982	1.555046	22.70845	0.000127	0.004829	-4.58905
ENSG00000063127.11|SLC6A16	-2.32453	2.012035	22.71297	0.000128	0.004834	-5.00901
ENSG00000072571.15|HMMR	2.961066	3.070933	22.69665	0.000129	0.004862	7.786993
ENSG00000160352.11|ZNF714	1.460119	4.353109	22.64456	0.000129	0.004862	2.751311
ENSG00000122641.9|INHBA	3.682459	4.806662	22.71618	0.000129	0.004863	12.83898
ENSG00000102096.9|PIM2	-1.88098	6.57879	22.70123	0.000129	0.004872	-3.68324
ENSG00000204262.7|COL5A2	3.157353	7.151342	22.66162	0.000131	0.004909	8.921915
ENSG00000163545.7|NUAK2	-1.19847	3.962358	22.57431	0.000131	0.004911	-2.29497
ENSG00000182578.9|CSF1R	2.064295	9.098322	22.55307	0.000132	0.004932	4.182295
ENSG00000103647.8|CORO2B	-2.21691	1.228706	22.51915	0.000133	0.004945	-4.64898
ENSG00000211668.2|IGLV2-11	-4.09218	5.452932	22.59936	0.000133	0.004945	-17.0557
ENSG00000224373.2|IGHV4-59	-4.29947	6.765154	22.60095	0.000133	0.004945	-19.6911
ENSG00000147912.8|FBXO10	-1.26877	3.784181	22.4876	0.000134	0.004963	-2.40955
ENSG00000211938.2|IGHV3-7	-3.91499	6.17558	22.56926	0.000134	0.004963	-15.0844
ENSG00000150054.14|MPP7	-1.82065	1.636847	22.46234	0.000134	0.004985	-3.5324
ENSG00000211943.2|IGHV3-15	-3.63664	5.340787	22.52371	0.000135	0.004997	-12.4377
ENSG00000151623.10|NR3C2	-1.89732	3.709043	22.42699	0.000137	0.005061	-3.72519
ENSG00000198046.7|ZNF667	-1.59271	0.920491	22.3786	0.000137	0.005061	-3.01616
ENSG00000258947.2|TUBB3	2.975676	2.373595	22.39363	0.000138	0.005067	7.86625
ENSG00000140534.9|TICRR	2.246638	3.730943	22.36814	0.000139	0.005087	4.745756
ENSG00000234913.1|XXbac-B476C20.13	-2.25488	-0.69938	22.33628	0.000139	0.005087	-4.77294
ENSG00000261439.1|CTD-2050B12.2	-2.05262	-0.42394	22.32793	0.000139	0.005089	-4.1486
ENSG00000100307.8|CBX7	-1.18218	6.491089	22.31723	0.000139	0.005094	-2.26919
ENSG00000175985.8|PLEKHD1	-2.12134	-0.24036	22.28751	0.00014	0.005113	-4.35099
ENSG00000257907.2|EEF1A1P17	-1.52094	-0.43558	22.29249	0.00014	0.005113	-2.86977
ENSG00000111247.10|RAD51AP1	2.077113	3.188748	22.27467	0.000141	0.005121	4.21962
ENSG00000151062.10|CACNA2D4	3.209134	5.973396	22.32602	0.000142	0.005127	9.247955
ENSG00000164120.9|HPGD	-2.8555	1.474429	22.33349	0.000141	0.005127	-7.23756
ENSG00000171320.10|ESCO2	2.612052	2.717769	22.27567	0.000141	0.005127	6.113726
ENSG00000099364.12|FBXL19	1.133698	5.507345	22.23472	0.000142	0.005128	2.194205
ENSG00000203437.3|RP11-820K3.3	-2.00471	-0.32184	22.22309	0.000142	0.005134	-4.01309
ENSG00000130766.4|SESN2	1.201103	4.10091	22.15296	0.000145	0.00515	2.299154
ENSG00000157554.14|ERG	-1.48182	3.497191	22.15653	0.000145	0.00515	-2.79302
ENSG00000170222.11|ADPRM	-1.25671	1.868375	22.1447	0.000145	0.00515	-2.3895
ENSG00000172071.7|EIF2AK3	-1.01673	4.629688	22.14263	0.000145	0.00515	-2.02333

ENSG00000184988.4|TMEM106A	1.700753	6.817554	22.20956	0.000144	0.00515	3.250705
ENSG00000211659.2|IGLV3-25	-4.32639	6.141151	22.26025	0.000144	0.00515	-20.062
ENSG00000211945.2|IGHV1-18	-4.01727	6.135919	22.2598	0.000144	0.00515	-16.1927
ENSG00000247708.3|STX18-AS1	-1.41095	2.044215	22.18039	0.000144	0.00515	-2.65913
ENSG00000267454.1|ZNF582-AS1	-1.72794	0.323039	22.16031	0.000145	0.00515	-3.31255
ENSG00000186047.9|DLEU7	2.305424	3.333355	22.13117	0.000147	0.005186	4.943127
ENSG00000166313.14|APBB1	-1.40542	3.680769	22.07735	0.000148	0.005216	-2.64895
ENSG00000006074.4|CCL18	-3.74985	5.013948	22.10243	0.000149	0.005269	-13.4529
ENSG00000118193.7|KIF14	3.083829	3.803721	22.06485	0.000151	0.005269	8.47862
ENSG00000143845.10|ETNK2	-2.02493	0.455853	22.00287	0.00015	0.005269	-4.06972
ENSG00000187621.10|TCL6	-2.5484	1.205533	22.02025	0.000151	0.005269	-5.84987
ENSG00000213057.4|C1orf220	-2.05159	1.909242	21.99479	0.000151	0.005269	-4.14563
ENSG00000236946.2|HNRNPA1P70	-2.59285	1.453414	22.06106	0.00015	0.005269	-6.0329
ENSG00000248441.2|CTD-2536I1.1	-1.87324	0.295684	21.99683	0.000151	0.005269	-3.66353
ENSG00000002745.8|WNT16	-1.83759	-0.10948	21.94237	0.000153	0.005279	-3.57412
ENSG00000117971.7|CHRNB4	-3.16748	-0.71371	21.98199	0.000152	0.005279	-8.98477
ENSG00000127124.9|HIVEP3	2.186707	7.40269	21.99069	0.000152	0.005279	4.552651
ENSG00000175489.9|LRRC25	1.927775	6.704809	21.98498	0.000152	0.005279	3.804681
ENSG00000185739.9|SRL	-1.98421	0.003135	21.95125	0.000152	0.005279	-3.95645
ENSG00000245869.2|RP11-158I9.5	-3.07244	0.841298	22.03407	0.000152	0.005279	-8.41196
ENSG00000211890.3|IGHA2	-3.94812	7.38533	22.00459	0.000153	0.005287	-15.4348
ENSG00000087586.13|AURKA	2.3033	3.310386	21.93197	0.000154	0.005306	4.935855
ENSG00000163815.5|CLEC3B	-1.58489	1.916232	21.88262	0.000155	0.005332	-2.99984
ENSG00000162738.5|VANGL2	-2.20335	3.05144	21.93499	0.000155	0.005336	-4.60549
ENSG00000166856.1|GPR182	-1.87958	1.361336	21.85985	0.000156	0.005336	-3.67967
ENSG00000186340.10|THBS2	3.119715	6.454104	21.9379	0.000156	0.005336	8.692159
ENSG00000197520.6|FAM177B	-2.83701	1.234584	21.91201	0.000156	0.005338	-7.14536
ENSG00000235888.1|AF064858.8	-2.2832	-0.11711	21.81481	0.000157	0.005378	-4.86758
ENSG00000118200.10|CAMSAP2	1.083061	5.502715	21.7894	0.000158	0.005399	2.118526
ENSG00000267508.1|ZNF285	-1.48251	0.342007	21.7863	0.000158	0.005399	-2.79434
ENSG00000154839.5|SKA1	2.961462	2.49336	21.7987	0.000159	0.005411	7.789129
ENSG00000177508.11|IRX3	-2.41039	0.460457	21.76861	0.00016	0.005429	-5.31616
ENSG00000248458.2|AL139147.1	2.601535	-0.02712	21.72932	0.000161	0.005445	6.069319
ENSG00000135451.8|TROAP	3.155039	3.538076	21.77185	0.000162	0.00546	8.907613
ENSG00000171860.4|C3AR1	1.755044	6.666104	21.72114	0.000162	0.00546	3.375367
ENSG00000183624.9|HMCES	-1.04501	4.285194	21.7032	0.000162	0.00546	-2.06339
ENSG00000063587.12|ZNF275	-1.0961	5.064554	21.66707	0.000163	0.005481	-2.13775
ENSG00000101004.10|NINL	-1.77793	3.256918	21.67196	0.000164	0.005481	-3.42935
ENSG00000151376.12|ME3	-1.86686	2.978127	21.68393	0.000163	0.005481	-3.64739
ENSG00000128512.15|DOCK4	2.14405	7.80677	21.64475	0.000166	0.005538	4.420012
ENSG00000107611.10|CUBN	-1.21184	3.588208	21.58426	0.000167	0.005553	-2.31633
ENSG00000120915.9|EPHX2	-1.99143	2.577519	21.57316	0.000168	0.005557	-3.9763
ENSG00000152465.13|NMT2	-1.23434	3.187677	21.558	0.000168	0.005557	-2.35273
ENSG00000152766.5|ANKRD22	3.992533	4.403562	21.63181	0.000168	0.005557	15.9174
ENSG00000174371.12|EXO1	2.599897	2.357765	21.55954	0.000168	0.005557	6.062435
ENSG00000196169.10|KIF19	-2.3126	1.646933	21.58881	0.000167	0.005557	-4.96776
ENSG00000124440.11|HIF3A	-3.03822	2.328717	21.54861	0.000171	0.005639	-8.21479

ENSG00000188610.8|FAM72B	2.114914	2.969721	21.47239	0.000171	0.005639	4.331641
ENSG00000211665.2|IGLV3-16	-3.60006	0.639854	21.5365	0.000172	0.005642	-12.1263
ENSG00000110328.5|GALNT18	-1.50801	2.452462	21.45255	0.000172	0.00565	-2.84417
ENSG00000136237.14|RAPGEF5	-1.32915	4.498522	21.42585	0.000173	0.005679	-2.51255
ENSG00000066279.12|ASPM	2.907846	5.374171	21.46286	0.000175	0.005719	7.504968
ENSG00000267767.2|CTC-523E23.4	-1.82335	-0.54221	21.38025	0.000175	0.005726	-3.53903
ENSG00000108439.5|PNPO	1.493068	5.118466	21.37126	0.000176	0.005731	2.814869
ENSG00000079337.11|RAPGEF3	-1.31016	5.037065	21.35339	0.000177	0.005741	-2.47969
ENSG00000165304.3|MELK	2.94745	2.958316	21.40135	0.000176	0.005741	7.713844
ENSG00000233953.1|AC009970.1	-2.68694	-0.33805	21.36495	0.000177	0.005741	-6.43944
ENSG00000106031.6|HOXA13	7.205526	2.135251	21.39531	0.000178	0.005753	147.5977
ENSG00000167613.11|LAIR1	1.278189	7.268	21.32467	0.000178	0.005753	2.425343
ENSG00000068001.9|HYAL2	-1.13389	5.385521	21.30992	0.000178	0.005758	-2.19449
ENSG00000007908.11|SELE	2.272816	2.298328	21.28558	0.000179	0.005768	4.832655
ENSG00000187244.6|BCAM	-1.6059	4.084543	21.31614	0.000179	0.005768	-3.04386
ENSG00000215218.3|UBE2QL1	-2.01841	0.324863	21.28516	0.000179	0.005768	-4.05136
ENSG00000119326.10|CTNNAL1	-1.31393	2.024503	21.23864	0.000181	0.00581	-2.48619
ENSG00000271288.1|IGHV1OR15-3	-2.92345	-0.29976	21.26653	0.000181	0.00581	-7.58659
ENSG00000271550.1|RP11-561N12.7	-1.44881	0.772443	21.24101	0.000181	0.00581	-2.72983
ENSG00000187017.10|ESPN	-2.67494	0.033345	21.2325	0.000183	0.005845	-6.38612
ENSG00000130479.6|MAP1S	1.573049	6.569315	21.19933	0.000184	0.005862	2.975328
ENSG00000168077.9|SCARA3	-2.41485	2.646927	21.2537	0.000184	0.005864	-5.33266
ENSG00000180044.3|C3orf80	3.609323	1.057634	21.19922	0.000184	0.005868	12.20435
ENSG00000144642.16|RBMS3	-1.53232	3.706465	21.16888	0.000185	0.00588	-2.8925
ENSG00000167106.7|FAM102A	-1.44713	6.145664	21.18029	0.000185	0.005881	-2.72665
ENSG00000255733.1|IFNG-AS1	-2.45626	2.539222	21.2172	0.000186	0.005883	-5.48792
ENSG00000211611.2|IGKV6-21	-4.6195	1.826683	21.19077	0.000187	0.005896	-24.5815
ENSG00000211679.2|IGLC3	-3.82315	8.700542	21.1953	0.000187	0.005896	-14.1541
ENSG00000265787.1|CYP4F35P	-3.33184	1.198408	21.19337	0.000187	0.005896	-10.0689
ENSG00000161643.8|SIGLEC16	3.281845	4.799666	21.15215	0.000189	0.005944	9.725986
ENSG00000261051.1|RP11-274H2.5	2.882521	-0.13618	21.06481	0.000189	0.005962	7.374375
ENSG00000156738.13|MS4A1	-3.82336	5.658198	21.12663	0.00019	0.005965	-14.1561
ENSG00000184347.10|SLIT3	-2.04847	4.812596	21.10376	0.000191	0.00599	-4.13666
ENSG00000135476.7|ESPL1	2.436681	4.682648	21.09349	0.000191	0.005997	5.413947
ENSG00000100100.8|PIK3IP1	-1.83771	6.497545	21.06531	0.000193	0.006003	-3.57443
ENSG00000128052.8|KDR	-1.11158	4.363348	20.99444	0.000193	0.006003	-2.16083
ENSG00000211671.2|IGLV2-8	-4.00496	5.813144	21.06527	0.000193	0.006003	-16.0551
ENSG00000267749.1|CTC-265F19.1	-2.36514	2.759244	21.0606	0.000193	0.006003	-5.15202
ENSG00000269290.1|RP11-869B15.1	-1.53758	-0.08369	21.01278	0.000192	0.006003	-2.90307
ENSG00000157214.9|STEAP2	2.476966	3.330179	21.01258	0.000194	0.006016	5.567256
ENSG00000089685.10|BIRC5	2.893719	3.603644	21.03689	0.000194	0.006022	7.431837
ENSG00000272709.1|RP11-458D21.6	-2.93891	0.006169	20.99514	0.000195	0.006035	-7.66833
ENSG00000074410.9|CA12	3.308268	3.523178	21.01005	0.000195	0.006045	9.905762
ENSG00000100979.10|PLTP	2.933198	7.650241	21.00291	0.000196	0.006047	7.638017
ENSG00000196584.2|XRCC2	2.541697	2.862774	20.94357	0.000196	0.00606	5.822735
ENSG00000162062.10|C16orf59	2.324668	1.815913	20.87714	0.000199	0.006104	5.009504
ENSG00000199883.1|RN7SKP90	-1.7736	2.271334	20.87434	0.000199	0.006104	-3.41906

ENSG00000179855.5|GIPC3	-1.49684	2.112908	20.81889	0.000201	0.006181	-2.82223
ENSG00000255734.1|HNRNPABP1	1.98072	-0.55951	20.8129	0.000202	0.006181	3.9469
ENSG00000172965.10|MIR4435-1HG	1.228896	5.175235	20.79761	0.000203	0.006189	2.343876
ENSG00000251442.1|RP11-792D21.2	3.673015	4.698456	20.86481	0.000203	0.006189	12.75521
ENSG00000102359.5|SRPX2	3.351126	3.517233	20.83716	0.000204	0.006207	10.20445
ENSG00000196616.8|ADH1B	-4.31104	3.039256	20.83662	0.000204	0.006207	-19.8497
ENSG00000208772.1|SNORD94	-1.83778	5.471175	20.84264	0.000204	0.006207	-3.57459
ENSG00000086991.8|NOX4	3.682041	1.105887	20.7462	0.000207	0.006266	12.83527
ENSG00000121104.3|FAM117A	-1.57126	3.792002	20.73552	0.000207	0.006266	-2.97164
ENSG00000149582.11|TMEM25	-1.49424	1.998252	20.71742	0.000207	0.006266	-2.81715
ENSG00000113532.8|ST8SIA4	1.537365	6.64469	20.68031	0.000209	0.006324	2.902638
ENSG00000185155.7|MIXL1	-2.69175	-0.07963	20.67991	0.00021	0.00634	-6.46098
ENSG00000185291.6|IL3RA	-1.72333	1.807186	20.63471	0.000211	0.00635	-3.30198
ENSG00000259261.2|IGHV4OR15-8	-3.69288	1.662386	20.7029	0.000211	0.00635	-12.9321
ENSG00000120885.15|CLU	-2.78725	5.640336	20.69138	0.000212	0.006358	-6.90313
ENSG00000108018.11|SORCS1	-2.76003	1.251695	20.66549	0.000212	0.006373	-6.7741
ENSG00000182230.7|FAM153B	-3.01185	0.622205	20.63943	0.000214	0.006424	-8.06601
ENSG00000211959.2|IGHV4-39	-3.67455	6.301684	20.61981	0.000215	0.006447	-12.7688
ENSG00000148773.8|MKI67	3.23162	7.6133	20.59564	0.000217	0.006477	9.39322
ENSG00000163535.13|SGOL2	1.784429	3.241256	20.49727	0.000219	0.006512	3.44482
ENSG00000164430.11|MB21D1	1.345136	4.813606	20.49633	0.000219	0.006512	2.540541
ENSG00000187824.4|TMEM220	-1.55362	1.781785	20.49191	0.000219	0.006512	-2.93554
ENSG00000161640.11|SIGLEC11	3.963912	5.269037	20.51695	0.000221	0.006562	15.60474
ENSG00000170214.3|ADRA1B	-3.45114	-0.73567	20.44778	0.000224	0.006648	-10.937
ENSG00000271109.1|CTC-523E23.11	-1.80924	-0.7248	20.3845	0.000225	0.006655	-3.50457
ENSG00000055118.10|KCNH2	-2.37812	0.272845	20.36783	0.000227	0.006701	-5.19859
ENSG00000123213.18|NLN	1.650277	5.674477	20.3679	0.000227	0.006704	3.13894
ENSG00000198624.8|CCDC69	-1.01561	5.649669	20.32228	0.000228	0.006732	-2.02176
ENSG00000259370.1|RP11-1069G10.1	3.107847	1.163749	20.33395	0.000229	0.006732	8.620949
ENSG00000115008.5|IL1A	3.864367	1.334873	20.3087	0.000232	0.006789	14.56432
ENSG00000270980.1|RP11-626A5.2	5.06065	1.727757	20.33599	0.000231	0.006789	33.37394
ENSG00000184838.10|PRR16	2.469846	1.174145	20.25427	0.000232	0.006806	5.539847
ENSG00000178795.5|GDPD4	1.936271	0.466841	20.20642	0.000235	0.006871	3.827152
ENSG00000138336.8|TET1	-1.15741	2.727004	20.19075	0.000236	0.006882	-2.23057
ENSG00000181722.11|ZBTB20	-1.06579	5.049272	20.18997	0.000236	0.006882	-2.09332
ENSG00000211649.2|IGLV7-46	-3.23155	2.647425	20.23939	0.000237	0.006892	-9.39278
ENSG00000211973.2|IGHV1-69	-4.08688	6.794001	20.23859	0.000237	0.006892	-16.9931
ENSG00000201512.1|SNORA71C	2.07846	0.592017	20.14461	0.000239	0.006928	4.22356
ENSG00000178104.15|PDE4DIP	-1.05039	7.659319	20.13581	0.00024	0.006932	-2.07109
ENSG00000165244.6|ZNF367	1.792719	2.855373	20.1299	0.00024	0.006933	3.464673
ENSG00000173239.9|LIPM	4.879702	0.195046	20.15684	0.000241	0.006946	29.43993
ENSG00000011028.9|MRC2	1.807069	7.038824	20.1204	0.000242	0.006974	3.499307
ENSG00000107798.13|LIPA	-2.44963	8.353872	20.13342	0.000244	0.006988	-5.46278
ENSG00000133639.3|BTG1	-1.18522	7.09081	20.06301	0.000244	0.006988	-2.27398
ENSG00000163884.3|KLF15	-3.41547	0.994125	20.14461	0.000243	0.006988	-10.6699
ENSG00000173391.4|OLR1	5.158179	3.758922	20.1308	0.000244	0.006988	35.70808
ENSG00000214140.6|PRCD	-1.99463	2.751684	20.101	0.000243	0.006988	-3.98515

ENSG00000110675.8|ELMOD1	5.219259	-0.2393	20.07617	0.000245	0.00701	37.25232
ENSG00000128245.10|YWHAH	2.075242	6.850383	20.09918	0.000246	0.00701	4.214151
ENSG00000240350.1|AC017002.1	1.427735	2.575614	20.02622	0.000246	0.007027	2.690241
ENSG00000150337.9|FCGR1A	3.866366	6.478517	20.07616	0.000247	0.007033	14.58452
ENSG00000164292.8|RHOBTB3	2.271446	6.152982	20.07828	0.000247	0.007033	4.828069
ENSG00000165655.14|ZNF503	1.713818	3.85529	20.00774	0.000248	0.007033	3.280277
ENSG00000140563.10|MCTP2	-1.30613	4.276581	20.00223	0.000248	0.007034	-2.47278
ENSG00000211962.2|IGHV1-46	-3.55468	5.276826	20.05253	0.000249	0.007049	-11.7507
ENSG00000055163.14|CYFIP2	-1.53783	6.336819	20.01707	0.00025	0.007059	-2.90357
ENSG00000155966.9|AFF2	-1.63394	0.879336	19.94061	0.000252	0.00711	-3.1036
ENSG00000213731.2|RAB5CP1	-1.29306	0.59615	19.94039	0.000252	0.00711	-2.45048
ENSG00000240834.1|IGKV1D-12	-3.88371	2.51712	19.99044	0.000253	0.007125	-14.7609
ENSG00000198832.6|SELM	-1.21752	3.770482	19.91416	0.000254	0.007139	-2.32547
ENSG00000174514.8|MFSD4	-1.11912	2.202497	19.90383	0.000254	0.007149	-2.17214
ENSG00000075218.14|GTSE1	2.914536	3.895689	19.95696	0.000255	0.007159	7.53985
ENSG00000133256.8|PDE6B	-1.64033	1.595784	19.83425	0.000259	0.007251	-3.11737
ENSG00000265415.1|CTD-2510F5.4	3.0227	-0.89382	19.83842	0.000259	0.007251	8.126871
ENSG00000211625.2|IGKV3D-20	-3.45501	2.708607	19.8886	0.000259	0.007257	-10.9663
ENSG00000119522.11|DENND1A	1.128769	6.364289	19.79397	0.000262	0.007308	2.186721
ENSG00000130787.9|HIP1R	-1.83697	4.487422	19.85084	0.000262	0.007309	-3.57258
ENSG00000240583.6|AQP1	-1.94802	5.738099	19.84133	0.000263	0.007318	-3.85844
ENSG00000249348.1|UGDH-AS1	-1.03837	2.109145	19.76925	0.000263	0.007327	-2.05391
ENSG00000143603.14|KCNN3	-1.74758	2.833979	19.75028	0.000266	0.007379	-3.35795
ENSG00000122025.10|FLT3	-2.19848	2.135532	19.74592	0.000267	0.007388	-4.58994
ENSG00000258376.1|RP4-647C14.2	-1.60991	2.30582	19.72508	0.000266	0.007388	-3.05232
ENSG00000146070.12|PLA2G7	-2.17331	5.19445	19.77133	0.000267	0.007404	-4.51058
ENSG00000235587.2|GAPDHP65	2.516318	0.579737	19.69569	0.000268	0.00742	5.721201
ENSG00000121797.9|CCRL2	-1.31329	3.720211	19.63496	0.000273	0.007502	-2.48508
ENSG00000130309.6|COLGALT1	1.369722	8.049444	19.63393	0.000273	0.007502	2.584208
ENSG00000182481.4|KPNA2	1.756152	5.595384	19.67098	0.000272	0.007502	3.377959
ENSG00000136573.8|BLK	-3.59159	4.411388	19.67655	0.000274	0.00753	-12.0553
ENSG00000211891.4|IGHE	-3.27075	0.249099	19.65722	0.000275	0.007558	-9.65149
ENSG00000180914.6|OXTR	2.186727	0.612717	19.58485	0.000276	0.00757	4.552716
ENSG00000175287.14|PHYHD1	-1.76651	0.916408	19.57066	0.000277	0.007581	-3.40229
ENSG00000178343.4|SHISA3	-3.59269	0.886828	19.62851	0.000277	0.007581	-12.0644
ENSG00000273361.1|RP11-378A13.2	1.591842	0.986208	19.56467	0.000278	0.007581	3.014339
ENSG00000138795.5|LEF1	-1.57864	4.240316	19.57782	0.000279	0.007582	-2.98687
ENSG00000172061.7|LRRC15	6.049483	4.125123	19.61773	0.000278	0.007582	66.2332
ENSG00000259188.1|CTD-2647E9.3	2.965274	2.208813	19.57654	0.000278	0.007582	7.809738
ENSG00000224722.3|RP11-255B23.1	-1.47588	-0.26314	19.53519	0.00028	0.007592	-2.78154
ENSG00000114013.11|CD86	1.609651	6.079974	19.53761	0.000281	0.00761	3.05178
ENSG00000231831.1|MTHFD1P1	-1.87237	1.247214	19.51815	0.000281	0.00761	-3.66133
ENSG00000121210.11|KIAA0922	-1.19241	5.392118	19.50814	0.000282	0.007617	-2.28533
ENSG00000239257.1|RPL23AP1	-1.66205	0.498064	19.50345	0.000282	0.007617	-3.16467
ENSG00000100721.6|TCL1A	-3.73769	2.953061	19.55669	0.000283	0.007623	-13.34
ENSG00000129173.8|E2F8	2.965397	2.568944	19.48484	0.000286	0.007701	7.8104
ENSG00000141179.9|PCTP	1.079748	4.156452	19.44261	0.000287	0.007701	2.113667

ENSG00000268000.1|hsa-mir-150	-2.06604	-0.75582	19.44305	0.000287	0.007701	-4.18736
ENSG00000083444.12|PLOD1	1.421027	6.399096	19.4293	0.000288	0.007714	2.677761
ENSG00000259649.1|RP11-351M8.1	-1.57631	-0.25138	19.42656	0.000288	0.007714	-2.98207
ENSG00000177098.4|SCN4B	-2.1475	1.809608	19.43988	0.000288	0.007716	-4.43058
ENSG00000007264.9|MATK	-2.19218	2.859286	19.47191	0.000289	0.007717	-4.56994
ENSG00000167900.7|TK1	2.077618	4.334175	19.44843	0.000289	0.007717	4.221096
ENSG00000111602.7|TIMELESS	1.303835	5.039253	19.40043	0.00029	0.007721	2.468843
ENSG00000164403.10|SHROOM1	2.940392	4.392723	19.45552	0.00029	0.007721	7.676196
ENSG00000166979.8|EVA1C	-1.77231	2.939949	19.41686	0.00029	0.007721	-3.41601
ENSG00000189233.7|NUGGC	-2.51053	2.504415	19.43512	0.000292	0.007727	-5.69829
ENSG00000228742.5|RP5-884M6.1	6.483435	2.905421	19.44134	0.000291	0.007727	89.47637
ENSG00000251546.1|IGKV1D-39	-3.74549	7.100448	19.43382	0.000292	0.007727	-13.4124
ENSG00000257221.1|RP11-689B22.2	-1.67356	0.946109	19.3819	0.000291	0.007727	-3.19
ENSG00000164692.13|COL1A2	3.253092	10.10812	19.41981	0.000293	0.007746	9.534066
ENSG00000156239.7|N6AMT1	-1.05513	2.878779	19.35009	0.000294	0.007756	-2.07791
ENSG00000212993.3|POU5F1B	-1.68489	-0.406	19.33724	0.000295	0.007773	-3.21516
ENSG00000244734.2|HBB	-3.88069	5.781613	19.38409	0.000296	0.00779	-14.7301
ENSG00000137941.12|TTLL7	-1.65369	1.508717	19.30773	0.000297	0.007814	-3.14637
ENSG00000122679.4|RAMP3	-1.31374	3.501558	19.2958	0.000298	0.00782	-2.48586
ENSG00000158089.10|GALNT14	-1.75483	-0.06485	19.29708	0.000298	0.00782	-3.37487
ENSG00000250337.1|LINC01021	6.051036	0.486213	19.31919	0.000301	0.007876	66.30456
ENSG00000137825.6|ITPKA	2.398505	-0.3022	19.23105	0.000303	0.007911	5.272566
ENSG00000225572.1|DOCK4-AS1	2.42387	4.103176	19.28838	0.000303	0.007911	5.366087
ENSG00000211950.2|IGHV1-24	-3.35327	4.593421	19.26825	0.000305	0.007933	-10.2196
ENSG00000243156.3|MICAL3	-1.45811	6.233756	19.24743	0.000304	0.007933	-2.74749
ENSG00000141448.4|GATA6	-1.9034	2.756404	19.22038	0.000306	0.007946	-3.74094
ENSG00000183722.7|LHFP	-1.49232	4.114869	19.19891	0.000307	0.007968	-2.81341
ENSG00000196083.5|IL1RAP	1.467706	4.114482	19.14477	0.00031	0.00803	2.765818
ENSG00000117122.9|MFAP2	2.915367	1.852916	19.15011	0.000311	0.008031	7.544197
ENSG00000184661.9|CDCA2	3.040034	3.401811	19.19	0.000311	0.008031	8.225102
ENSG00000240990.5|HOXA11-AS	5.214499	1.216816	19.19188	0.000311	0.008031	37.12964
ENSG00000105855.5|ITGB8	3.181725	4.548983	19.17476	0.000312	0.008044	9.073912
ENSG00000161544.5|CYGB	-1.88345	3.801613	19.1777	0.000312	0.008044	-3.68957
ENSG00000228716.2|DHFR	1.245722	4.741932	19.09027	0.000314	0.008079	2.371371
ENSG00000237149.4|ZNF503-AS2	2.408872	1.403006	19.03499	0.000319	0.008188	5.310588
ENSG00000176160.5|HSF5	-1.63846	0.416889	19.01617	0.000321	0.008219	-3.11334
ENSG00000267458.1|CTC-425F1.4	1.686821	1.145323	19.01004	0.000321	0.008223	3.219465
ENSG00000143369.10|ECM1	2.74793	4.639586	19.0617	0.000322	0.008228	6.717525
ENSG00000155760.1|FZD7	-1.59438	3.310048	19.00818	0.000322	0.008239	-3.01965
ENSG00000158882.8|TOMM40L	1.222982	4.318789	18.96358	0.000325	0.008295	2.334287
ENSG00000196550.6|FAM72A	2.025624	3.858744	18.98069	0.000325	0.008295	4.071678
ENSG00000134690.6|CDCA8	2.568354	3.486758	18.91828	0.000334	0.008488	5.931325
ENSG00000168685.10|IL7R	-2.06924	6.854861	18.91244	0.000335	0.008488	-4.19666
ENSG00000171848.9|RRM2	2.953558	5.038425	18.9175	0.000334	0.008488	7.746573
ENSG00000214215.3|C12orf74	-2.8292	0.067565	18.89178	0.000334	0.008488	-7.1068
ENSG00000250303.2|RP11-356J5.12	-1.26602	1.799528	18.82424	0.000337	0.008547	-2.40497
ENSG00000169258.6|GPRIN1	1.743705	2.798966	18.81127	0.000338	0.008567	3.348941

ENSG00000251595.3|ABCA11P	-1.36516	1.954502	18.79394	0.00034	0.008596	-2.57604
ENSG00000122188.8|LAX1	-1.72998	4.110587	18.82641	0.000341	0.008601	-3.31722
ENSG00000167105.3|TMEM92	3.270267	0.535739	18.79507	0.000341	0.008601	9.648246
ENSG00000146670.5|CDCA5	2.688422	3.974999	18.82074	0.000343	0.008616	6.446077
ENSG00000111913.11|FAM65B	-1.87976	5.812105	18.79997	0.000345	0.008644	-3.68014
ENSG00000211666.2|IGLV2-14	-3.65252	7.046479	18.80335	0.000344	0.008644	-12.5753
ENSG00000159958.3|TNFRSF13C	-3.1036	3.082893	18.78851	0.000346	0.00866	-8.59561
ENSG00000187498.10|COL4A1	1.749522	8.151408	18.73742	0.000346	0.008662	3.362471
ENSG00000204165.5|CXorf65	-1.59351	0.706785	18.72214	0.000347	0.008662	-3.01784
ENSG00000232627.1|AC021876.4	7.065382	-0.5463	20.22115	0.000348	0.0087	133.9343
ENSG00000090920.9|FCGBP	8.213185	13.42087	18.74435	0.00035	0.008702	296.7666
ENSG00000166452.7|AKIP1	1.116522	3.775696	18.68755	0.00035	0.008702	2.168236
ENSG00000231906.1|RP11-541M12.3	2.73446	-0.18804	18.69333	0.000349	0.008702	6.6551
ENSG00000211970.2|IGHV4-61	-3.7639	4.69283	18.72488	0.000352	0.008729	-13.5846
ENSG00000224383.3|C17orf72	-1.41474	2.352398	18.66752	0.000352	0.008729	-2.66612
ENSG00000077943.7|ITGA8	-3.24479	3.260483	18.68909	0.000355	0.008786	-9.47939
ENSG00000109458.4|GAB1	-1.31064	4.708848	18.65244	0.000355	0.008786	-2.48051
ENSG00000166402.4|TUB	-1.66126	2.333487	18.63027	0.000355	0.008786	-3.16292
ENSG00000261996.1|CTC-281F24.1	-1.78671	-0.45382	18.61608	0.000356	0.00881	-3.45028
ENSG00000131370.11|SH3BP5	-1.4071	5.680074	18.6143	0.00036	0.008873	-2.65203
ENSG00000149639.10|SOGA1	1.000614	7.723626	18.58138	0.00036	0.008873	2.000852
ENSG00000112902.7|SEMA5A	-2.13226	5.31391	18.61608	0.000362	0.0089	-4.38404
ENSG00000135077.4|HAVCR2	1.43285	6.667361	18.56548	0.000362	0.0089	2.699796
ENSG00000163131.6|CTSS	-1.21094	8.628022	18.55703	0.000362	0.0089	-2.31488
ENSG00000196678.9|ERI2	1.36504	3.593881	18.55211	0.000363	0.008901	2.575835
ENSG00000126970.11|ZC4H2	-1.24719	1.671659	18.53679	0.000364	0.008918	-2.37378
ENSG00000112742.5|TTK	2.605096	2.540571	18.53595	0.000366	0.008931	6.084321
ENSG00000167476.6|JSRP1	-2.06644	1.45296	18.5284	0.000366	0.008931	-4.18853
ENSG00000171714.10|ANO5	-1.72303	0.506882	18.51545	0.000366	0.008931	-3.30129
ENSG00000160683.4|CXCR5	-2.92472	3.922358	18.55827	0.000367	0.008947	-7.59324
ENSG00000223764.2|RP11-54O7.3	-2.58533	1.189668	18.5389	0.000368	0.008947	-6.00152
ENSG00000116983.8|HPCAL4	-2.17221	-0.2727	18.49385	0.000368	0.008951	-4.50712
ENSG00000267206.1|LCN6	-3.2663	-0.17933	18.53377	0.00037	0.008978	-9.62176
ENSG00000077274.7|CAPN6	-3.18797	-0.10665	18.52432	0.000371	0.008991	-9.11328
ENSG00000185101.8|ANO9	-2.04961	5.467921	18.49427	0.000374	0.009053	-4.13994
ENSG00000099250.13|NRP1	1.60223	7.765705	18.42834	0.000375	0.009085	3.036123
ENSG00000258544.1|RP11-750I4.2	4.36661	-1.01469	18.41055	0.000377	0.009103	20.62911
ENSG00000090889.10|KIF4A	3.457623	3.923483	18.44284	0.000379	0.009108	10.98622
ENSG00000133216.12|EPHB2	2.156985	5.817564	18.44981	0.000378	0.009108	4.45982
ENSG00000179088.10|C12orf42	-2.30406	0.626452	18.40912	0.000379	0.009108	-4.93844
ENSG00000252010.1|SCARNA5	-1.40211	7.504237	18.40919	0.000379	0.009108	-2.64288
ENSG00000267653.1|RP1-193H18.3	-2.39723	-0.68814	18.40066	0.000378	0.009108	-5.26792
ENSG00000240671.1|IGKV1-8	-4.10245	2.213405	18.42026	0.000381	0.009153	-17.1776
ENSG00000168398.5|BDKRB2	2.434215	2.071187	18.36144	0.000382	0.00916	5.4047
ENSG00000105246.5|EBI3	2.434247	4.845655	18.40176	0.000383	0.009179	5.404822
ENSG00000162892.11|IL24	-2.03686	3.422533	18.36291	0.000387	0.009264	-4.10351
ENSG00000154529.10|CNTNAP3B	-1.75942	1.750998	18.29644	0.000388	0.009283	-3.38563

ENSG00000163808.12|KIF15	2.548843	3.235392	18.32986	0.000389	0.009283	5.851649
ENSG00000227082.1|AL592494.5	4.060062	2.001479	18.31856	0.000392	0.009334	16.68016
ENSG00000237940.3|AC093642.3	-2.05277	2.47082	18.27986	0.000393	0.009354	-4.14901
ENSG00000152592.9|DMP1	8.297722	3.157639	18.28374	0.000395	0.009366	314.6757
ENSG00000168060.10|NAALADL1	-1.1564	1.272187	18.22336	0.000396	0.009366	-2.22901
ENSG00000186638.11|KIF24	1.481469	3.283074	18.22556	0.000396	0.009366	2.79233
ENSG00000206417.4|H1FX-AS1	-1.74869	1.072792	18.2336	0.000395	0.009366	-3.36054
ENSG00000267006.1|CTC-448F2.4	-1.61991	0.157199	18.22908	0.000396	0.009366	-3.07357
ENSG00000271793.1|RP11-321N4.5	1.771173	0.430449	18.23762	0.000395	0.009366	3.413314
ENSG00000144810.11|COL8A1	3.934766	3.668343	18.26293	0.000398	0.009393	15.29265
ENSG00000154025.11|SLC5A10	-1.36095	2.770429	18.19808	0.000399	0.00941	-2.56854
ENSG00000197550.3|RP11-460N11.2	-2.2615	2.001492	18.21952	0.0004	0.009418	-4.7949
ENSG00000221968.4|FADS3	-1.22587	4.236191	18.187	0.0004	0.009418	-2.33897
ENSG00000148468.12|FAM171A1	-1.46406	2.921744	18.18234	0.000401	0.00942	-2.75883
ENSG00000110195.7|FOLR1	-3.34722	0.745002	18.22534	0.000402	0.009432	-10.1769
ENSG00000143226.9|FCGR2A	2.999399	8.28789	18.22346	0.000402	0.009432	7.996668
ENSG00000149403.7|GRIK4	-1.85304	-0.32136	18.16378	0.000403	0.009437	-3.6126
ENSG00000145287.6|PLAC8	-2.39998	4.151652	18.20999	0.000403	0.009446	-5.27794
ENSG00000258227.2|CLEC5A	7.422761	7.300562	18.19863	0.000405	0.009465	171.5828
ENSG00000166770.6|ZNF667-AS1	-1.63519	0.753623	18.13823	0.000405	0.009472	-3.10628
ENSG00000165816.8|VWA2	-2.01143	-0.62752	18.11484	0.000408	0.009512	-4.03182
ENSG00000241106.2|HLA-DOB	-1.87807	3.708376	18.15479	0.000409	0.009537	-3.67582
ENSG00000235784.2|HNRNPA1P29	3.320396	-0.56513	18.07864	0.000412	0.009585	9.989385
ENSG00000152591.8|DSPP	7.966989	3.512991	18.11027	0.000414	0.009631	250.2088
ENSG00000011422.7|PLAUR	2.161827	6.431506	18.07713	0.000418	0.009645	4.474813
ENSG00000101955.10|SRPX	-2.07709	1.672017	18.03516	0.000419	0.009645	-4.21955
ENSG00000115295.15|CLIP4	-1.60714	4.795421	18.09393	0.000416	0.009645	-3.04647
ENSG00000159423.12|ALDH4A1	-1.41128	3.428816	18.02511	0.000418	0.009645	-2.65972
ENSG00000162734.8|PEA15	1.342189	7.588829	18.0328	0.000417	0.009645	2.535357
ENSG00000174175.12|SELP	-1.54189	2.309297	18.03812	0.000417	0.009645	-2.91176
ENSG00000187987.5|ZSCAN23	-1.53784	-0.1151	18.01877	0.000419	0.009645	-2.90359
ENSG00000120156.16|TEK	-1.34526	2.682179	17.99634	0.000421	0.009685	-2.54075
ENSG00000123453.12|SARDH	-2.0029	3.063281	18.04061	0.000422	0.009685	-4.00806
ENSG00000092529.18|CAPN3	-1.09207	4.579853	17.98841	0.000422	0.009689	-2.1318
ENSG00000122733.11|KIAA1045	-2.13573	0.676331	17.98622	0.000423	0.009691	-4.39459
ENSG00000271858.1|XXcos-LUCA11.4	-1.9829	0.126757	17.98155	0.000423	0.009691	-3.95287
ENSG00000093072.11|CECR1	-1.27357	7.710498	17.97604	0.000424	0.009691	-2.41758
ENSG00000187951.6|ARHGAP11B	1.884051	4.666292	17.98549	0.000426	0.009741	3.6911
ENSG00000022267.12|FHL1	-1.6584	3.775044	17.97657	0.000427	0.009753	-3.15665
ENSG00000169418.9|NPR1	-1.41246	2.785078	17.92495	0.00043	0.009786	-2.66191
ENSG00000236668.2|RP11-85O21.2	4.249099	1.914776	17.98109	0.000429	0.009786	19.01543
ENSG00000261997.1|RP11-212I21.4	2.57215	3.538688	17.96747	0.000431	0.009802	5.946951
ENSG00000145428.10|RNF175	2.58964	2.547162	17.91937	0.000432	0.009832	6.019487
ENSG00000178764.6|ZHX2	-1.43061	5.056777	17.91991	0.000434	0.009853	-2.69562
ENSG00000159640.10|ACE	-1.89081	5.331366	17.91341	0.000437	0.009916	-3.70844
ENSG00000156970.8|BUB1B	2.990341	3.678492	17.90907	0.000438	0.009918	7.946618
ENSG00000224959.1|AC017002.2	1.714434	3.427552	17.83676	0.00044	0.009962	3.281679

ENSG00000092621.7|PHGDH	-1.64038	1.914694	17.80568	0.000444	0.01003	-3.11747
ENSG00000130202.5|PVRL2	1.240008	5.923571	17.80136	0.000444	0.01003	2.361998
ENSG00000224769.1|AC069213.1	-2.77883	0.585675	17.8524	0.000444	0.01003	-6.86297
ENSG00000186377.6|CYP4X1	-2.76161	0.076552	17.82101	0.000446	0.01005	-6.78153
ENSG00000113083.8|LOX	2.157916	3.940725	17.81599	0.000447	0.010067	4.462697
ENSG00000088340.11|FER1L4	-2.86462	4.92064	17.80401	0.00045	0.010071	-7.28342
ENSG00000144230.12|GPR17	-1.76527	2.710013	17.77646	0.000449	0.010071	-3.39939
ENSG00000188848.11|BEND4	-2.08036	1.895094	17.79011	0.000448	0.010071	-4.22913
ENSG00000240002.1|YBX1P3	-1.36592	0.404126	17.75174	0.00045	0.010071	-2.57741
ENSG00000249001.1|RP11-742B18.1	8.768433	2.44433	17.80988	0.00045	0.010071	436.0752
ENSG00000259442.1|RP11-752G15.8	-1.20251	0.781973	17.76713	0.000448	0.010071	-2.3014
ENSG00000005020.8|SKAP2	1.616592	6.949847	17.76033	0.000451	0.010082	3.066497
ENSG00000207067.1|SNORA72	-1.6497	2.429688	17.74018	0.000452	0.010082	-3.13768
ENSG00000143228.8|NUF2	2.820431	2.055819	17.74772	0.000453	0.010104	7.063733
ENSG00000053747.11|LAMA3	-2.18134	3.994306	17.77614	0.000454	0.010105	-4.53576
ENSG00000137804.8|NUSAP1	2.338341	4.198803	17.74235	0.000458	0.01018	5.057206
ENSG00000268861.1|CTD-2207O23.3	-2.84128	2.885192	17.74136	0.000458	0.01018	-7.16656
ENSG00000125462.12|C1orf61	2.714193	2.689214	17.70343	0.00046	0.010213	6.562263
ENSG00000186462.7|NAP1L2	-1.8288	0.222121	17.67078	0.00046	0.010213	-3.55241
ENSG00000189057.6|FAM111B	2.266585	3.245888	17.68758	0.000462	0.010229	4.811827
ENSG00000016391.6|CHDH	-2.25519	1.349114	17.66729	0.000463	0.010246	-4.77397
ENSG00000264663.1|KRT8P34	-2.30254	-0.05831	17.65218	0.000464	0.010246	-4.93325
ENSG00000271590.1|RP11-181E10.3	1.824755	1.387153	17.64501	0.000464	0.010246	3.542468
ENSG00000105894.7|PTN	-2.24909	-0.10625	17.63271	0.000466	0.010265	-4.75383
ENSG00000235621.4|LINC00494	-3.30494	1.888563	17.68231	0.000465	0.010265	-9.88296
ENSG00000151079.6|KCNA6	-1.55609	1.285483	17.61927	0.000467	0.010285	-2.94056
ENSG00000211898.3|IGHD	-3.83441	3.681758	17.66677	0.000467	0.010285	-14.265
ENSG00000151834.11|GABRA2	-2.61974	-0.78525	17.59997	0.000471	0.010343	-6.14637
ENSG00000172568.4|FNDC9	-1.45339	2.007579	17.58438	0.000471	0.010343	-2.73851
ENSG00000207304.1|SNORA8	-1.53128	3.409719	17.58629	0.000473	0.01037	-2.89043
ENSG00000267551.3|AC005264.2	2.129593	1.991246	17.56384	0.000474	0.010381	4.375939
ENSG00000078687.12|TNRC6C	-1.36229	5.356938	17.55787	0.000478	0.010422	-2.57094
ENSG00000146410.7|MTFR2	1.906454	1.336364	17.53101	0.000478	0.010422	3.748866
ENSG00000157827.15|FMNL2	1.541828	7.486508	17.53997	0.000479	0.010422	2.911632
ENSG00000172794.15|RAB37	-1.66221	3.557996	17.56657	0.000477	0.010422	-3.16501
ENSG00000249242.3|TMEM150C	-1.71938	2.221844	17.53531	0.000478	0.010422	-3.29295
ENSG00000161405.12|IKZF3	-1.56257	5.239349	17.57467	0.000479	0.010422	-2.9538
ENSG00000262202.3|SNORD3D	-1.57651	5.174476	17.5407	0.000484	0.010499	-2.98248
ENSG00000025708.8|TYMP	1.800328	8.916062	17.48745	0.000485	0.010517	3.482994
ENSG00000054282.11|SDCCAG8	1.410773	5.6156	17.48444	0.000486	0.010521	2.658795
ENSG00000261061.1|RP11-303E16.2	2.508799	1.029836	17.4722	0.000486	0.010521	5.691462
ENSG00000136231.9|IGF2BP3	3.586678	5.094748	17.50407	0.000489	0.010542	12.01427
ENSG00000116106.7|EPHA4	-1.15519	2.486318	17.44333	0.00049	0.010551	-2.22713
ENSG00000228232.1|GAPDHP1	1.55356	1.856009	17.44025	0.000491	0.010551	2.935405
ENSG00000232013.1|AC107021.1	2.438255	-0.60231	17.44385	0.00049	0.010551	5.419857
ENSG00000167987.6|VPS37C	1.269657	5.948187	17.4157	0.000494	0.010602	2.411042
ENSG00000164764.10|SBSPON	-1.39936	0.974461	17.40789	0.000495	0.010614	-2.63785

ENSG00000167889.8|MGAT5B	-2.16132	-0.45382	17.38693	0.000498	0.010628	-4.47325
ENSG00000245694.4|CRNDE	2.443609	0.387953	17.39691	0.000497	0.010628	5.440009
ENSG00000250036.1|IGKV1D-37	-3.65	-0.95378	17.44111	0.000497	0.010628	-12.5533
ENSG00000169750.4|RAC3	2.390939	0.842249	17.37262	0.0005	0.010656	5.244986
ENSG00000005189.15|AC004381.6	1.68279	1.622999	17.31047	0.000509	0.01082	3.210483
ENSG00000243414.4|TICAM2	1.885896	3.584268	17.32639	0.000508	0.01082	3.695824
ENSG00000068323.12|TFE3	1.097178	6.502585	17.28967	0.000512	0.010872	2.139358
ENSG00000107679.10|PLEKHA1	-1.24811	5.172818	17.2949	0.000513	0.010881	-2.3753
ENSG00000252159.1|RNY4P1	-2.17501	0.256341	17.28903	0.000512	0.010881	-4.51588
ENSG00000145824.8|CXCL14	-3.4062	3.109649	17.31676	0.000515	0.010903	-10.6015
ENSG00000211660.3|IGLV2-23	-3.76926	6.373104	17.3041	0.000516	0.010924	-13.6352
ENSG00000100626.12|GALNT16	-2.24622	2.720036	17.2489	0.000524	0.011039	-4.7444
ENSG00000109805.5|NCAPG	2.529708	3.752755	17.25134	0.000524	0.011039	5.774546
ENSG00000130508.6|PXDN	1.715336	5.701554	17.23159	0.000524	0.011039	3.283732
ENSG00000135823.9|STX6	1.079382	6.204154	17.21356	0.000522	0.011039	2.113131
ENSG00000211964.2|IGHV3-48	-3.84625	5.301561	17.25067	0.000524	0.011039	-14.3826
ENSG00000082293.8|COL19A1	-3.36862	2.444874	17.22574	0.000528	0.011099	-10.3289
ENSG00000128438.6|TBC1D27	-2.87822	3.581147	17.19168	0.000533	0.011182	-7.35242
ENSG00000164530.9|PI16	-2.99493	-0.20278	17.18861	0.000533	0.011182	-7.97194
ENSG00000100344.6|PNPLA3	-2.84529	0.604746	17.18035	0.000534	0.011186	-7.18648
ENSG00000187922.9|LCN10	-2.95552	2.430644	17.18378	0.000534	0.011186	-7.75713
ENSG00000186193.7|SAPCD2	3.173448	3.690366	17.14822	0.000539	0.011274	9.022004
ENSG00000188517.10|COL25A1	-2.8762	-0.58704	17.12157	0.00054	0.011274	-7.34213
ENSG00000218582.2|GAPDHP63	2.162851	-0.56374	17.09335	0.00054	0.011274	4.477988
ENSG00000071246.6|VASH1	1.422352	7.426689	17.08719	0.000541	0.011282	2.680221
ENSG00000196209.8|SIRPB2	2.047792	5.974386	17.12544	0.000543	0.011282	4.134726
ENSG00000065357.15|DGKA	-1.27533	6.511631	17.0875	0.000544	0.011291	-2.42055
ENSG00000224650.2|IGHV3-74	-3.66133	5.405128	17.09177	0.000548	0.011367	-12.6524
ENSG00000124406.12|ATP8A1	-1.45435	5.227015	17.07246	0.000549	0.011372	-2.74032
ENSG00000211669.2|IGLV3-10	-4.13279	4.831613	17.07825	0.00055	0.011388	-17.5426
ENSG00000132464.7|ENAM	-2.54822	0.6139	17.05426	0.000551	0.011394	-5.84911
ENSG00000267473.1|AC005789.11	1.921119	0.428769	17.01919	0.000552	0.011401	3.787168
ENSG00000145623.8|OSMR	-1.0963	4.971665	16.97795	0.000558	0.011512	-2.13805
ENSG00000180190.7|TDRP	-1.13101	1.789551	16.97994	0.000558	0.011512	-2.19012
ENSG00000068831.14|RASGRP2	-2.23657	5.882224	17.01818	0.000559	0.011526	-4.71276
ENSG00000067840.8|PDZD4	-1.99103	1.990232	16.98256	0.00056	0.011528	-3.97521
ENSG00000018280.12|SLC11A1	3.67033	7.385434	17.00577	0.000561	0.011533	12.7315
ENSG00000176945.12|MUC20	-2.25624	3.464053	17.00746	0.000561	0.011533	-4.77745
ENSG00000171817.12|ZNF540	-1.54063	1.673941	16.94681	0.000563	0.011558	-2.90922
ENSG00000101003.8|GINS1	2.019746	3.311574	16.94965	0.000565	0.01158	4.055123
ENSG00000271178.1|IGHV3OR16-13	-3.6855	0.631326	16.98261	0.000565	0.01158	-12.8661
ENSG00000162437.10|RAVER2	-1.54242	2.098429	16.92395	0.000566	0.0116	-2.91283
ENSG00000187513.8|GJA4	-1.02566	2.756006	16.91894	0.000567	0.011606	-2.03589
ENSG00000015413.5|DPEP1	-2.77866	0.504817	16.95508	0.000569	0.011632	-6.86216
ENSG00000139910.15|NOVA1	-2.41418	0.994534	16.93141	0.00057	0.011637	-5.33018
ENSG00000124795.10|DEK	1.392346	6.810949	16.88415	0.000574	0.011689	2.625052
ENSG00000197584.7|KCNMB2	3.488133	0.119933	16.89512	0.000574	0.011689	11.22103

ENSG00000232021.2|LEF1-AS1	-2.06349	0.1437	16.8736	0.000575	0.011689	-4.17996
ENSG00000164112.8|TMEM155	4.544775	0.154786	16.90812	0.000576	0.011707	23.34068
ENSG00000184226.10|PCDH9	-2.54883	1.422117	16.9002	0.000578	0.011735	-5.85158
ENSG00000146112.7|PPP1R18	1.007287	7.896907	16.8463	0.000579	0.011746	2.010128
ENSG00000197457.5|STMN3	-1.1888	4.131044	16.83989	0.00058	0.011756	-2.27962
ENSG00000258745.1|RP11-218E20.5	4.488527	-0.48907	16.84646	0.000582	0.011781	22.44818
ENSG00000081041.8|CXCL2	-2.37723	3.026879	16.85319	0.000586	0.011792	-5.19537
ENSG00000105464.3|GRIN2D	2.794686	3.99549	16.86069	0.000584	0.011792	6.9388
ENSG00000149571.6|KIRREL3	-1.41656	0.345773	16.80641	0.000585	0.011792	-2.66949
ENSG00000160957.8|RECQL4	2.144664	4.38366	16.86509	0.000584	0.011792	4.421892
ENSG00000262292.2|RP11-160E2.11	-1.59307	2.685607	16.81355	0.000584	0.011792	-3.01691
ENSG00000128045.5|RASL11B	-1.69269	0.744901	16.77548	0.000591	0.011883	-3.23259
ENSG00000157240.2|FZD1	1.911137	5.739148	16.81851	0.000591	0.011885	3.761054
ENSG00000105989.4|WNT2	5.497495	1.84923	16.81328	0.000592	0.011892	45.17632
ENSG00000261519.2|Y_RNA	1.684395	0.882509	16.74744	0.000595	0.011945	3.214057
ENSG00000228382.1|ITPKB-IT1	-1.57348	1.134137	16.73746	0.000597	0.011967	-2.97622
ENSG00000173698.13|GPR64	-1.55905	2.472111	16.72067	0.0006	0.012013	-2.9466
ENSG00000253755.1|IGHGP	-3.64033	3.827346	16.76166	0.000601	0.012021	-12.4695
ENSG00000183098.6|GPC6	2.889249	3.314023	16.7475	0.000603	0.012058	7.408848
ENSG00000156750.7|AQP7P3	-2.39337	0.614554	16.7047	0.000607	0.012107	-5.25382
ENSG00000158402.14|CDC25C	2.84143	0.80688	16.69133	0.000607	0.012107	7.167299
ENSG00000129757.8|CDKN1C	-1.3948	1.403596	16.66508	0.000609	0.012148	-2.62952
ENSG00000176890.11|TYMS	2.605524	4.392673	16.70483	0.00061	0.01215	6.086123
ENSG00000198901.9|PRC1	2.08348	4.486234	16.70183	0.000611	0.01215	4.238282
ENSG00000265361.1|RN7SL867P	2.845451	-0.48327	16.65464	0.000611	0.01215	7.187308
ENSG00000234197.1|ETV5-AS1	2.92917	1.135127	16.66237	0.000612	0.012162	7.61672
ENSG00000111077.13|TENC1	-1.22089	5.73535	16.64923	0.000615	0.012163	-2.3309
ENSG00000161996.13|WDR90	1.124764	5.551351	16.64045	0.000614	0.012163	2.180659
ENSG00000230806.1|RP11-343N15.1	1.876557	2.428526	16.64397	0.000613	0.012163	3.671977
ENSG00000262319.1|CTC-457L16.2	-1.39139	5.349004	16.66531	0.000614	0.012163	-2.62331
ENSG00000130545.11|CRB3	-1.96716	-0.64751	16.62773	0.000616	0.012177	-3.90999
ENSG00000215252.7|GOLGA8B	-1.64172	6.173431	16.66986	0.000616	0.01218	-3.12038
ENSG00000182492.11|BGN	2.366167	7.214963	16.6632	0.000618	0.012191	5.155696
ENSG00000253161.1|RP11-150O12.1	4.223013	-0.38579	16.61109	0.000622	0.01226	18.6747
ENSG00000122497.13|NBPF14	-1.09643	5.004193	16.57175	0.000626	0.012316	-2.13824
ENSG00000184232.4|OAF	1.158149	4.257492	16.57381	0.000625	0.012316	2.231709
ENSG00000133392.12|MYH11	-1.57092	6.203441	16.59872	0.000629	0.012359	-2.97095
ENSG00000112486.10|CCR6	-3.16006	2.890265	16.59399	0.00063	0.012365	-8.93867
ENSG00000019144.12|PHLDB1	1.064409	6.756235	16.53556	0.000632	0.012398	2.091313
ENSG00000087116.9|ADAMTS2	3.048113	6.800316	16.55813	0.000636	0.012462	8.271295
ENSG00000138160.4|KIF11	2.229493	4.371171	16.54374	0.000639	0.012497	4.68969
ENSG00000136542.4|GALNT5	4.830979	1.199374	16.53471	0.00064	0.012502	28.46228
ENSG00000227507.2|LTB	-2.01471	5.159126	16.53418	0.000641	0.012502	-4.041
ENSG00000236383.3|LINC00854	1.455349	4.90176	16.4973	0.000641	0.012502	2.742229
ENSG00000024526.12|DEPDC1	2.838343	2.403071	16.48971	0.000645	0.01257	7.15198
ENSG00000007171.12|NOS2	-2.06175	0.371552	16.41947	0.000654	0.012667	-4.17492
ENSG00000007402.7|CACNA2D2	-1.29567	0.758965	16.41018	0.000655	0.012667	-2.45491

ENSG00000133805.11|AMPD3	1.112913	6.36298	16.42018	0.000653	0.012667	2.16282
ENSG00000150782.7|IL18	1.669998	5.866741	16.43821	0.000655	0.012667	3.182141
ENSG00000168447.6|SCNN1B	-3.1231	0.744144	16.46038	0.000654	0.012667	-8.71259
ENSG00000211897.3|IGHG3	-3.47962	9.094206	16.46647	0.000653	0.012667	-11.155
ENSG00000254879.1|AC103828.1	1.8419	1.263125	16.41658	0.000654	0.012667	3.584818
ENSG00000181035.9|SLC25A42	-1.40304	3.585574	16.41218	0.000656	0.012681	-2.64459
ENSG00000102935.7|ZNF423	-1.51647	2.93889	16.38877	0.000659	0.012696	-2.86091
ENSG00000167566.12|NCKAP5L	1.216204	6.397527	16.38701	0.000659	0.012696	2.323346
ENSG00000181074.3|OR52N4	-2.33419	-0.0228	16.40503	0.000659	0.012696	-5.04267
ENSG00000245164.2|LINC00861	-1.64687	4.836049	16.43905	0.000658	0.012696	-3.13154
ENSG00000198826.6|ARHGAP11A	2.341736	4.553601	16.42688	0.00066	0.012702	5.069121
ENSG00000188869.8|TMC3	-2.08351	-0.04433	16.36973	0.000663	0.012713	-4.23837
ENSG00000227028.2|SLC8A1-AS1	1.802002	3.338695	16.38466	0.000662	0.012713	3.487039
ENSG00000230006.3|ANKRD36BP2	-2.6108	4.411412	16.41631	0.000662	0.012713	-6.10844
ENSG00000211892.2|IGHG4	-3.34469	7.462487	16.41068	0.000663	0.012716	-10.159
ENSG00000100311.12|PDGFB	1.367653	4.794424	16.35199	0.000666	0.012746	2.580504
ENSG00000134201.6|GSTM5	-2.15559	0.286314	16.3594	0.000667	0.012746	-4.45552
ENSG00000082512.10|TRAF5	-1.09461	5.916981	16.34101	0.000668	0.01275	-2.13555
ENSG00000240518.2|RP11-515C16.1	3.95702	0.319016	16.37024	0.000668	0.01275	15.53037
ENSG00000104067.12|TJP1	-1.20317	5.127175	16.33381	0.000672	0.012816	-2.30246
ENSG00000120833.9|SOCS2	-1.60753	2.654837	16.30069	0.000676	0.012888	-3.04731
ENSG00000057294.9|PKP2	-2.3302	1.555914	16.31167	0.000679	0.01293	-5.02875
ENSG00000109452.8|INPP4B	-1.38099	4.725425	16.302	0.00068	0.012932	-2.60447
ENSG00000255354.1|RP11-148O21.2	-3.07247	0.241414	16.30092	0.000684	0.013005	-8.41211
ENSG00000127528.5|KLF2	-1.79116	6.031841	16.29359	0.000686	0.013021	-3.46093
ENSG00000108700.4|CCL8	5.476007	4.453703	16.25774	0.000693	0.013132	44.50844
ENSG00000127083.7|OMD	1.403103	2.740843	16.2158	0.000692	0.013132	2.644698
ENSG00000110002.11|VWA5A	-1.2899	4.327198	16.21759	0.000695	0.013154	-2.44511
ENSG00000122986.9|HVCN1	-1.14633	4.709776	16.19994	0.000696	0.013161	-2.2135
ENSG00000132681.12|ATP1A4	-2.43852	-0.35071	16.18657	0.000701	0.013223	-5.42087
ENSG00000167670.11|CHAF1A	1.358959	4.712975	16.16797	0.000702	0.013223	2.565001
ENSG00000168813.12|ZNF507	-1.11801	4.440821	16.17182	0.000701	0.013223	-2.17047
ENSG00000173918.10|C1QTNF1	-1.32461	4.396641	16.18429	0.000702	0.013223	-2.50465
ENSG00000189056.9|RELN	-3.04841	2.577563	16.2098	0.000702	0.013223	-8.273
ENSG00000258867.1|RP11-300J18.3	3.575455	1.323776	16.20408	0.000703	0.013223	11.92118
ENSG00000094804.5|CDC6	1.907107	2.573632	16.16093	0.000703	0.013229	3.750563
ENSG00000161692.13|DBF4B	1.003246	4.339203	16.1539	0.000705	0.013244	2.004505
ENSG00000154358.15|OBSCN	-1.59573	6.093837	16.16657	0.000711	0.013345	-3.02247
ENSG00000270505.1|IGHV1OR15-1	-3.00637	0.710259	16.16513	0.000711	0.013345	-8.0354
ENSG00000167535.3|CACNB3	1.441915	3.503902	16.11267	0.000713	0.013367	2.716813
ENSG00000105967.11|TFEC	1.328198	7.06309	16.10067	0.000716	0.013402	2.510889
ENSG00000130413.11|STK33	-2.09303	-0.00088	16.06433	0.000723	0.013531	-4.26644
ENSG00000108179.9|PPIF	1.466989	5.982755	16.05232	0.000729	0.013611	2.764443
ENSG00000108679.8|LGALS3BP	1.559924	7.518302	16.04028	0.000731	0.013611	2.948383
ENSG00000147862.10|NFIB	-1.50543	5.54861	16.0812	0.000729	0.013611	-2.8391
ENSG00000160213.5|CSTB	-1.48478	6.758807	16.06885	0.000731	0.013611	-2.79874
ENSG00000180758.10|GPR157	-1.01369	4.155348	16.03001	0.00073	0.013611	-2.01907

ENSG00000211899.3|IGHM	-3.13389	8.744907	16.07028	0.000731	0.013611	-8.77798
ENSG00000158220.9|ESYT3	-2.07875	0.559055	16.00282	0.000738	0.013734	-4.22442
ENSG00000120659.10|TNFSF11	-3.23665	1.954697	16.02607	0.00074	0.013758	-9.42603
ENSG00000121933.13|ADORA3	4.014422	6.202015	16.02082	0.000742	0.013767	16.16075
ENSG00000166947.7|EPB42	-1.10668	1.163591	15.97343	0.000742	0.013773	-2.1535
ENSG00000142945.8|KIF2C	3.024553	4.058375	16.01046	0.000744	0.013785	8.137319
ENSG00000129167.5|TPH1	-1.30742	0.115844	15.96341	0.000745	0.01379	-2.47498
ENSG00000162374.12|ELAVL4	3.76573	1.757856	16.0012	0.000746	0.013798	13.60184
ENSG00000255168.1|RP11-458D21.5	-1.25625	4.669801	15.96014	0.000748	0.013824	-2.38874
ENSG00000082269.12|FAM135A	1.733093	5.683983	15.97327	0.000751	0.013825	3.324397
ENSG00000154114.8|TBCEL	-1.19442	4.890273	15.95344	0.000749	0.013825	-2.28853
ENSG00000154277.8|UCHL1	-2.34569	1.673898	15.97473	0.00075	0.013825	-5.08302
ENSG00000227318.4|RP11-282E4.1	-2.65385	0.30813	15.97764	0.00075	0.013825	-6.29347
ENSG00000104738.12|MCM4	1.78898	5.304117	15.97049	0.000752	0.013827	3.455705
ENSG00000242766.1|IGKV1D-17	-3.79058	1.003157	15.97187	0.000752	0.013827	-13.8382
ENSG00000075884.8|ARHGAP15	-1.13955	5.155963	15.92781	0.000753	0.013835	-2.20313
ENSG00000230638.3|RP11-486B10.4	1.926623	3.43051	15.93262	0.000755	0.013848	3.801644
ENSG00000138639.13|ARHGAP24	-1.20492	4.499824	15.91186	0.000757	0.013864	-2.30525
ENSG00000179909.11|ZNF154	-1.13175	4.441383	15.90937	0.000756	0.013864	-2.19124
ENSG00000118785.9|SPP1	5.12516	10.93059	15.93684	0.00076	0.013886	34.90011
ENSG00000170312.11|CDK1	2.609008	3.348638	15.93535	0.00076	0.013886	6.100839
ENSG00000235920.1|AC073109.2	1.975004	-0.53145	15.87919	0.000763	0.013929	3.931294
ENSG00000175063.12|UBE2C	2.790339	3.063622	15.91449	0.000765	0.013947	6.917924
ENSG00000179314.9|WSCD1	-1.50677	1.388209	15.86835	0.000765	0.01395	-2.84174
ENSG00000223973.2|AC068491.3	1.819214	0.648805	15.85966	0.000767	0.013973	3.528889
ENSG00000165905.12|GYLTL1B	-2.79384	1.204747	15.89451	0.000769	0.013981	-6.93473
ENSG00000236841.3|AC007750.5	2.744664	0.087949	15.85318	0.000769	0.013981	6.702334
ENSG00000235823.1|LINC00263	1.353499	2.726459	15.83953	0.000772	0.014008	2.555312
ENSG00000243175.1|RP11-58H15.1	-1.47822	1.120624	15.84103	0.000771	0.014008	-2.78604
ENSG00000236609.3|ZNF853	-1.67055	1.421909	15.81197	0.000778	0.014109	-3.18337
ENSG00000169679.10|BUB1	2.208707	4.064424	15.85032	0.000779	0.014113	4.622608
ENSG00000138111.10|TMEM180	1.130978	4.02464	15.80327	0.00078	0.014122	2.190072
ENSG00000054277.8|OPN3	-1.31697	3.871552	15.79987	0.000782	0.014142	-2.49142
ENSG00000198951.7|NAGA	1.334236	6.704962	15.79751	0.000782	0.014142	2.52142
ENSG00000180340.5|FZD2	1.920906	2.974467	15.79396	0.000784	0.014167	3.786609
ENSG00000085840.8|ORC1	2.11368	2.842046	15.79278	0.000786	0.014176	4.327939
ENSG00000177425.6|PAWR	-1.46937	3.589889	15.77449	0.00079	0.014229	-2.769
ENSG00000143702.11|CEP170	1.216914	7.451054	15.75185	0.000792	0.014231	2.324489
ENSG00000157657.10|ZNF618	1.648079	5.888856	15.77688	0.000792	0.014231	3.134161
ENSG00000174804.3|FZD4	-1.27285	4.728182	15.76899	0.000791	0.014231	-2.41639
ENSG00000123612.11|ACVR1C	-1.81704	0.213757	15.74186	0.000794	0.014253	-3.52358
ENSG00000152253.4|SPC25	2.441333	1.075664	15.73947	0.000795	0.014253	5.431435
ENSG00000170439.5|METTL7B	5.826972	4.258977	15.76059	0.000799	0.014319	56.76668
ENSG00000141574.3|SECTM1	1.77189	5.356816	15.74869	0.000802	0.014356	3.415012
ENSG00000106462.6|EZH2	1.882709	4.564246	15.74304	0.000803	0.014357	3.687668
ENSG00000115183.9|TANC1	-1.22293	5.108287	15.70986	0.000805	0.014357	-2.3342
ENSG00000179348.7|GATA2	-1.42756	1.77961	15.69859	0.000804	0.014357	-2.68991

ENSG00000258082.1|RP11-443B7.3	1.931676	0.805719	15.69745	0.000804	0.014357	3.814981
ENSG00000120279.6|MYCT1	-1.35337	1.956493	15.68759	0.000807	0.014379	-2.55508
ENSG00000244342.1|LINC00698	8.729424	2.388896	15.72641	0.000807	0.014379	424.4421
ENSG00000185666.10|SYN3	-1.88424	-0.81125	15.67708	0.000809	0.014399	-3.69158
ENSG00000273226.1|RP11-513M16.8	-1.21532	-0.45318	15.671	0.000811	0.014413	-2.32192
ENSG00000122824.6|NUDT10	-2.05519	-0.3058	15.66202	0.000813	0.014416	-4.15599
ENSG00000165233.13|C9orf89	1.529395	5.272823	15.67799	0.000813	0.014416	2.886648
ENSG00000260719.1|AC009133.17	-1.97605	0.468115	15.66383	0.000813	0.014416	-3.93414
ENSG00000176619.6|LMNB2	1.353049	5.909507	15.67166	0.000813	0.014418	2.554514
ENSG00000186854.6|TRABD2A	-1.88479	3.414759	15.69532	0.000815	0.014427	-3.693
ENSG00000259448.2|RP11-16E12.1	-1.34845	1.077493	15.62556	0.000821	0.014535	-2.54639
ENSG00000203817.5|FAM72C	3.24456	-0.65388	15.61049	0.000825	0.014587	9.477854
ENSG00000176597.7|B3GNT5	1.822702	4.261155	15.62442	0.000828	0.014624	3.53743
ENSG00000163687.9|DNASE1L3	-2.97629	2.63138	15.63756	0.000828	0.014624	-7.86962
ENSG00000141905.13|NFIC	1.048431	7.741474	15.58866	0.00083	0.014645	2.068279
ENSG00000225684.3|FAM225B	1.881534	3.037487	15.59156	0.000832	0.014664	3.684668
ENSG00000159450.8|TCHH	4.844285	5.169446	15.6115	0.000835	0.014688	28.726
ENSG00000211675.2|IGLC1	-3.09627	7.710073	15.60443	0.000836	0.014694	-8.55205
ENSG00000234191.1|RP11-157D23.2	5.097835	-0.98247	15.58069	0.000836	0.014694	34.24532
ENSG00000105355.4|PLIN3	1.031822	5.951027	15.55188	0.000839	0.01472	2.044605
ENSG00000269815.1|CTD-2278I10.4	1.706716	0.013132	15.55378	0.000839	0.01472	3.26417
ENSG00000139194.3|RBP5	-1.59624	3.465991	15.56733	0.000841	0.014732	-3.02353
ENSG00000170677.5|SOCS6	2.487177	5.807509	15.57687	0.000843	0.014754	5.606799
ENSG00000186407.4|CD300E	4.114646	5.744116	15.57673	0.000843	0.014754	17.32335
ENSG00000258168.1|RP11-588H23.3	2.144882	2.982572	15.54604	0.000844	0.014764	4.42256
ENSG00000142910.11|TINAGL1	-1.83848	4.257087	15.5596	0.000847	0.014804	-3.57633
ENSG00000270547.1|RP11-536O18.2	4.316859	2.678166	15.52319	0.000857	0.01495	19.92985
ENSG00000111371.11|SLC38A1	-1.72623	6.72449	15.51378	0.000859	0.014961	-3.30863
ENSG00000163507.9|KIAA1524	1.271001	3.415835	15.47001	0.00086	0.014961	2.41329
ENSG00000184227.3|ACOT1	-1.9345	1.791418	15.48156	0.00086	0.014961	-3.82246
ENSG00000185418.11|TARSL2	-1.25973	3.157326	15.46653	0.000861	0.014961	-2.39451
ENSG00000239002.2|SCARNA10	-1.10474	8.108716	15.46767	0.00086	0.014961	-2.15061
ENSG00000185339.4|TCN2	-1.57862	5.189024	15.50354	0.000861	0.014965	-2.98685
ENSG00000160145.11|KALRN	-1.29032	4.073484	15.46745	0.000863	0.014977	-2.44583
ENSG00000141485.11|SLC13A5	-2.19724	-0.19589	15.44919	0.000866	0.015022	-4.58601
ENSG00000120256.5|LRP11	1.081773	3.633437	15.43756	0.000868	0.015041	2.116636
ENSG00000162407.8|PPAP2B	-1.52155	5.220939	15.45655	0.000873	0.015112	-2.871
ENSG00000196781.9|TLE1	-1.79965	3.948528	15.45011	0.000875	0.015128	-3.48135
ENSG00000075702.12|WDR62	1.896079	3.820365	15.42332	0.000878	0.015145	3.722004
ENSG00000156802.8|ATAD2	1.417638	5.077854	15.41052	0.000878	0.015145	2.671478
ENSG00000171246.5|NPTX1	-2.80585	0.254285	15.43902	0.000878	0.015145	-6.99272
ENSG00000184860.5|SDR42E1	-1.8507	0.588786	15.39208	0.00088	0.015159	-3.60676
ENSG00000196990.4|FAM163B	-3.23406	-0.93978	15.4232	0.000882	0.015188	-9.40914
ENSG00000105810.5|CDK6	1.42737	6.854173	15.39068	0.000883	0.015197	2.689559
ENSG00000189166.6|TNRC18P3	1.548743	0.150892	15.37459	0.000884	0.015202	2.925621
ENSG00000112984.7|KIF20A	2.965381	3.293598	15.4094	0.000886	0.015214	7.810315
ENSG00000105699.12|LSR	-1.55379	4.060554	15.39295	0.000887	0.01522	-2.93588

ENSG00000149054.10|ZNF215	-2.40103	1.581237	15.38905	0.000891	0.015281	-5.2818
ENSG00000240505.4|TNFRSF13B	-2.80478	3.353843	15.37173	0.000895	0.015339	-6.98752
ENSG00000268849.1|SIGLEC22P	1.578494	2.286216	15.33069	0.000896	0.015339	2.98658
ENSG00000234737.1|KRT18P15	-1.70468	-0.15564	15.32153	0.000898	0.015369	-3.25958
ENSG00000215845.6|TSTD1	-1.11467	2.61965	15.29726	0.000904	0.015467	-2.16545
ENSG00000168461.8|RAB31	1.21592	6.785073	15.29264	0.000906	0.015476	2.322889
ENSG00000004799.7|PDK4	-2.63589	4.803079	15.32797	0.000907	0.015482	-6.21558
ENSG00000120693.9|SMAD9	-1.26014	2.217567	15.28339	0.000908	0.015482	-2.39519
ENSG00000141469.12|SLC14A1	-1.65634	1.812731	15.28383	0.000908	0.015482	-3.15216
ENSG00000163491.12|NEK10	3.275188	3.592269	15.30151	0.000914	0.015569	9.681215
ENSG00000162073.9|PAQR4	2.214206	4.591229	15.29575	0.000916	0.015581	4.640263
ENSG00000272789.1|RP11-286H15.1	-1.76621	0.075584	15.25382	0.000916	0.015581	-3.4016
ENSG00000188536.8|HBA2	-3.72849	5.846925	15.28754	0.000918	0.015596	-13.2552
ENSG00000159388.5|BTG2	-1.15234	7.098296	15.24526	0.00092	0.015617	-2.22274
ENSG00000155011.4|DKK2	4.910033	4.071674	15.26452	0.000924	0.015669	30.06542
ENSG00000174292.8|TNK1	-1.47755	2.188075	15.22435	0.000924	0.015669	-2.78475
ENSG00000159556.5|ISL2	2.785018	1.168133	15.23243	0.000926	0.015682	6.892457
ENSG00000134013.11|LOXL2	1.814211	5.121635	15.25001	0.000928	0.015709	3.516672
ENSG00000149294.12|NCAM1	-2.03165	2.256073	15.22602	0.00093	0.015714	-4.08872
ENSG00000170011.9|MYRIP	-1.64429	1.982041	15.20336	0.00093	0.015714	-3.12594
ENSG00000240888.1|RP13-635I23.3	2.078361	0.672442	15.20165	0.00093	0.015714	4.223272
ENSG00000136842.9|TMOD1	-1.62262	1.33183	15.19147	0.000933	0.015749	-3.07934
ENSG00000007968.6|E2F2	2.069898	3.978887	15.21751	0.000937	0.015752	4.19857
ENSG00000107551.16|RASSF4	1.589724	8.306107	15.19175	0.000936	0.015752	3.009918
ENSG00000115163.10|CENPA	2.441917	1.886903	15.19832	0.000935	0.015752	5.433631
ENSG00000169116.7|PARM1	-1.69053	4.778288	15.21714	0.000937	0.015752	-3.22774
ENSG00000196263.3|ZNF471	-1.61033	1.858427	15.18447	0.000935	0.015752	-3.05322
ENSG00000034063.9|UHRF1	1.847524	5.393622	15.20406	0.000941	0.0158	3.59882
ENSG00000120262.8|CCDC170	2.143314	4.240636	15.17467	0.000949	0.015806	4.417758
ENSG00000135063.13|FAM189A2	-1.8361	0.269944	15.15168	0.000944	0.015806	-3.57043
ENSG00000166347.14|CYB5A	-1.01713	3.676365	15.13539	0.000949	0.015806	-2.02389
ENSG00000167207.7|NOD2	1.844429	5.251922	15.1979	0.000942	0.015806	3.591107
ENSG00000198178.6|CLEC4C	-3.05101	0.026917	15.18147	0.000947	0.015806	-8.28789
ENSG00000204472.8|AIF1	1.774975	6.326123	15.17695	0.000948	0.015806	3.42232
ENSG00000232259.1|RP11-4C20.3	2.404675	1.008439	15.13521	0.000949	0.015806	5.295161
ENSG00000251405.2|CTB-109A12.1	-1.3491	2.478683	15.13666	0.000949	0.015806	-2.54753
ENSG00000225746.4|AL132709.5	2.194083	-0.76052	15.12861	0.000951	0.015825	4.575987
ENSG00000162129.8|CLPB	1.355884	5.118004	15.12964	0.000954	0.015861	2.559538
ENSG00000144395.13|CCDC150	2.104122	1.871824	15.1087	0.000956	0.015895	4.29936
ENSG00000228157.2|AC007952.5	-1.34213	3.61078	15.1121	0.000957	0.015901	-2.53525
ENSG00000111665.7|CDCA3	1.900161	3.050569	15.0664	0.000972	0.016129	3.732549
ENSG00000131797.8|CLUHP3	-1.42892	3.892122	15.06609	0.000973	0.016129	-2.69244
ENSG00000235098.4|ANKRD65	-1.78538	1.461448	15.04163	0.000976	0.016166	-3.44709
ENSG00000065717.10|TLE2	-1.40694	2.587142	15.03099	0.000979	0.016188	-2.65175
ENSG00000152910.14|CNTNAP4	6.650376	4.614376	15.07087	0.000978	0.016188	100.4529
ENSG00000259330.1|LINC00984	1.653475	2.312438	15.02931	0.000979	0.016188	3.145904
ENSG00000134222.12|PSRC1	2.786949	3.083943	15.04899	0.000985	0.016255	6.901686

ENSG00000254395.1|IGHV4-55	-3.41921	0.892223	15.05109	0.000984	0.016255	-10.6976
ENSG00000197291.4|RAMP2-AS1	-1.86075	0.821901	15.00513	0.000986	0.016268	-3.63197
ENSG00000135678.7|CPM	-1.53339	6.802009	15.03306	0.000989	0.016294	-2.89465
ENSG00000150045.7|KLRF1	-2.77951	-0.1717	15.02915	0.00099	0.016294	-6.86619
ENSG00000165914.10|TTC7B	-1.1388	4.333442	14.99208	0.00099	0.016294	-2.20199
ENSG00000233429.5|HOTAIRM1	1.048263	2.716456	14.98962	0.000991	0.016294	2.068039
ENSG00000156509.9|FBXO43	2.315948	0.775278	14.98671	0.000992	0.016296	4.979319
ENSG00000165929.8|TC2N	-1.5108	4.50934	15.00746	0.000997	0.01637	-2.84969
ENSG00000135144.3|DTX1	-1.84553	3.752909	14.9924	0.001001	0.016383	-3.59384
ENSG00000175183.5|CSRP2	-1.4101	2.462475	14.95375	0.001002	0.016383	-2.65755
ENSG00000176845.8|METRNL	1.445345	6.557925	14.96978	0.001001	0.016383	2.72328
ENSG00000251682.1|RP11-631M6.3	1.422803	2.917181	14.95553	0.001001	0.016383	2.681059
ENSG00000256663.1|RP11-424C20.2	2.949489	1.419786	14.95989	0.001006	0.016436	7.724752
ENSG00000250461.1|RP11-631M6.2	1.889393	1.471098	14.93641	0.001007	0.016444	3.704793
ENSG00000117984.8|CTSD	-1.73702	10.42962	14.94573	0.001008	0.016455	-3.33345
ENSG00000035499.8|DEPDC1B	2.304813	2.092858	14.93096	0.001012	0.016504	4.941033
ENSG00000169896.12|ITGAM	1.875027	7.781242	14.94475	0.001014	0.016518	3.668084
ENSG00000167523.9|SPATA33	1.001493	3.00626	14.90027	0.001018	0.01656	2.00207
ENSG00000226125.1|AC098823.3	3.801169	0.194021	14.92557	0.001017	0.01656	13.9401
ENSG00000233746.1|LINC00656	4.510649	-0.82138	14.903	0.001021	0.016592	22.79506
ENSG00000253840.1|RP11-767C6.1	4.452886	-0.50125	14.89373	0.001027	0.01667	21.9004
ENSG00000267583.1|RP11-322E11.5	-1.65044	-0.32453	14.86445	0.001029	0.016689	-3.13929
ENSG00000198948.7|MFAP3L	-2.17622	2.083641	14.89548	0.00103	0.016701	-4.51966
ENSG00000253557.1|RP11-1080G15.1	3.650453	1.635982	14.89358	0.001031	0.016708	12.55729
ENSG00000111052.3|LIN7A	-1.44496	2.151764	14.84692	0.001034	0.016722	-2.72255
ENSG00000116991.6|SIPA1L2	1.3342	5.811488	14.85846	0.001034	0.016722	2.521356
ENSG00000239202.2|RN7SL499P	-1.74593	0.349462	14.84552	0.001034	0.016722	-3.3541
ENSG00000230838.1|AC093850.2	4.685543	0.040855	14.87312	0.001038	0.01676	25.73292
ENSG00000271366.1|AC002128.5	-1.82048	-0.6192	14.80773	0.001046	0.016862	-3.53198
ENSG00000175592.4|FOSL1	2.019327	2.021085	14.79587	0.00105	0.016898	4.053947
ENSG00000188596.5|C12orf55	-1.38946	1.442622	14.79583	0.00105	0.016898	-2.6198
ENSG00000018236.10|CNTN1	-2.67261	1.244456	14.79991	0.001061	0.016936	-6.37581
ENSG00000150625.12|GPM6A	-3.05832	-0.245	14.81225	0.001057	0.016936	-8.33002
ENSG00000151388.6|ADAMTS12	2.223663	4.158258	14.82241	0.001053	0.016936	4.670779
ENSG00000182162.5|P2RY8	-1.46913	4.162245	14.79098	0.001059	0.016936	-2.76854
ENSG00000213402.2|PTPRCAP	-1.40688	5.34455	14.80441	0.001059	0.016936	-2.65163
ENSG00000242086.4|LINC00969	-1.04533	6.762611	14.77292	0.001057	0.016936	-2.06384
ENSG00000249274.1|PDLIM1P4	1.741449	2.421957	14.76327	0.00106	0.016936	3.343707
ENSG00000111252.6|SH2B3	1.176646	8.173488	14.75666	0.001062	0.016948	2.260506
ENSG00000100351.12|GRAP2	-1.28584	4.465474	14.76125	0.001065	0.016952	-2.43824
ENSG00000102053.11|ZC3H12B	-1.0794	2.159252	14.74044	0.001068	0.016952	-2.11316
ENSG00000136546.9|SCN7A	-2.61207	-1.09038	14.75037	0.001068	0.016952	-6.11381
ENSG00000186806.5|VSIG10L	1.50959	2.671992	14.73936	0.001068	0.016952	2.847292
ENSG00000197928.6|ZNF677	-1.32106	2.222759	14.74174	0.001067	0.016952	-2.4985
ENSG00000106367.9|AP1S1	1.436694	4.345667	14.7393	0.001071	0.01696	2.706998
ENSG00000130270.12|ATP8B3	1.163735	2.465514	14.73488	0.001069	0.01696	2.240367
ENSG00000253210.1|RP11-809O17.1	1.891702	2.304632	14.73071	0.001071	0.01696	3.710728

ENSG00000105472.8|CLEC11A	2.184269	3.956274	14.75902	0.001074	0.016978	4.544965
ENSG00000151773.8|CCDC122	-1.34472	1.230179	14.72232	0.001073	0.016978	-2.53982
ENSG00000235649.2|MXRA5P1	3.77965	1.818017	14.74497	0.001078	0.017025	13.73371
ENSG00000134333.9|LDHA	1.570856	7.545974	14.71751	0.001079	0.017033	2.970809
ENSG00000197043.9|ANXA6	-1.13139	6.534369	14.70724	0.001082	0.017056	-2.1907
ENSG00000178878.8|APOLD1	-1.85965	4.710986	14.72857	0.001083	0.017072	-3.6292
ENSG00000214745.2|RP11-54I5.1	-1.34317	-0.42898	14.66416	0.001092	0.0172	-2.53708
ENSG00000131773.9|KHDRBS3	2.876982	4.047434	14.68826	0.001097	0.017229	7.346117
ENSG00000205056.8|RP11-693J15.5	-2.37835	3.191209	14.6887	0.001096	0.017229	-5.19944
ENSG00000232788.1|AC078883.3	-1.07821	0.470199	14.65532	0.001095	0.017229	-2.11141
ENSG00000011083.4|SLC6A7	-2.07984	1.066703	14.65321	0.0011	0.017266	-4.2276
ENSG00000152503.5|TRIM36	2.592282	3.026386	14.67157	0.001102	0.017266	6.030517
ENSG00000181109.3|OR52P1P	-1.95619	-0.65813	14.63803	0.001101	0.017266	-3.88037
ENSG00000135549.10|PKIB	4.957555	3.903145	14.64878	0.00111	0.017348	31.07226
ENSG00000182095.10|TNRC18	1.111569	8.907231	14.61201	0.00111	0.017348	2.160806
ENSG00000145040.3|UCN2	4.056227	0.195278	14.6166	0.00112	0.017495	16.63589
ENSG00000251348.1|HSPD1P11	2.442589	2.710436	14.60136	0.001121	0.017497	5.436165
ENSG00000152154.6|TMEM178A	-1.37223	-0.50722	14.56356	0.001126	0.017529	-2.58871
ENSG00000232859.5|LYRM9	-1.10714	2.779522	14.56369	0.001126	0.017529	-2.15418
ENSG00000243264.1|IGKV2D-29	-3.08378	2.195945	14.60001	0.001126	0.017529	-8.47832
ENSG00000256546.1|AC156455.1	3.062282	1.997298	14.60362	0.001125	0.017529	8.35293
ENSG00000101333.12|PLCB4	-1.5829	1.557555	14.54203	0.001133	0.017618	-2.99572
ENSG00000038002.4|AGA	-1.19283	2.933368	14.53312	0.001136	0.01764	-2.28601
ENSG00000188315.3|C3orf62	1.584348	5.504493	14.55609	0.001136	0.01764	2.998722
ENSG00000253821.1|RP11-246K15.1	8.972464	1.225933	15.51085	0.001137	0.017642	502.3204
ENSG00000072310.12|SREBF1	1.270315	6.815723	14.52483	0.00114	0.017675	2.412142
ENSG00000115468.7|EFHD1	-1.49524	0.80065	14.51462	0.001143	0.017696	-2.81911
ENSG00000106477.14|CEP41	1.130855	3.522288	14.50252	0.001147	0.017729	2.189885
ENSG00000159904.7|ZNF890P	-1.49864	-0.09084	14.47375	0.001157	0.017855	-2.82575
ENSG00000173376.9|NDNF	-2.95859	-0.7118	14.50447	0.001158	0.017855	-7.77363
ENSG00000235101.1|SETP9	-1.68962	-0.72445	14.47442	0.001157	0.017855	-3.22572
ENSG00000100644.12|HIF1A	1.349438	7.543871	14.46026	0.001163	0.017895	2.548129
ENSG00000133110.10|POSTN	4.40495	6.956243	14.49548	0.001162	0.017895	21.18469
ENSG00000145386.5|CCNA2	2.450628	3.635333	14.48934	0.001164	0.017895	5.466541
ENSG00000270031.1|RP3-426I6.6	2.335804	-0.74126	14.45002	0.001165	0.017899	5.048324
ENSG00000126787.8|DLGAP5	2.639062	3.068566	14.47576	0.001169	0.017942	6.229265
ENSG00000110436.7|SLC1A2	-2.14416	1.611507	14.45289	0.001172	0.017974	-4.42034
ENSG00000172156.3|CCL11	7.592425	-0.07906	15.39689	0.001173	0.017974	192.9957
ENSG00000232260.1|BTF3L4P1	4.704051	-0.73037	14.44877	0.001174	0.017974	26.06517
ENSG00000169071.10|ROR2	2.84782	3.227627	14.45396	0.001177	0.01801	7.199117
ENSG00000008118.5|CAMK1G	-1.69687	-0.07951	14.40048	0.001183	0.018056	-3.24198
ENSG00000163251.3|FZD5	1.961452	5.024659	14.43811	0.001182	0.018056	3.894538
ENSG00000106819.7|ASPN	2.601686	3.094588	14.43157	0.001185	0.018069	6.069955
ENSG00000065328.12|MCM10	2.552973	2.594354	14.40516	0.00119	0.018105	5.868422
ENSG00000115363.9|EVA1A	2.826155	0.367768	14.39306	0.00119	0.018105	7.091813
ENSG00000123080.6|CDKN2C	2.241344	4.08081	14.42034	0.001189	0.018105	4.728372
ENSG00000101938.10|CHRDL1	-3.08839	2.379927	14.4049	0.001194	0.018152	-8.50546

ENSG00000138738.6|PRDM5	-1.23953	1.398933	14.34972	0.001201	0.018248	-2.36121
ENSG00000117650.8|NEK2	3.337936	2.289941	14.36494	0.001209	0.018348	10.11158
ENSG00000196878.8|LAMB3	2.600984	4.10181	14.35498	0.001213	0.018382	6.067003
ENSG00000270704.2|SNORD64	-1.52988	0.533539	14.3188	0.001213	0.018382	-2.88762
ENSG00000150540.9|HNMT	1.238121	5.32574	14.31637	0.001215	0.018393	2.358911
ENSG00000259388.1|CTD-2647E9.1	2.51512	0.640684	14.31504	0.001215	0.018393	5.716452
ENSG00000104415.9|WISP1	2.887426	4.467866	14.34151	0.001218	0.018415	7.399493
ENSG00000183023.14|SLC8A1	1.604253	7.737206	14.31238	0.00122	0.018441	3.040382
ENSG00000149554.8|CHEK1	1.537689	3.240928	14.28393	0.001226	0.018502	2.90329
ENSG00000160117.10|ANKLE1	1.567124	2.109253	14.28427	0.001226	0.018502	2.963134
ENSG00000158163.10|DZIP1L	1.434227	3.965351	14.27204	0.001231	0.018571	2.702373
ENSG00000013016.10|EHD3	-1.08679	3.651704	14.23529	0.001244	0.018752	-2.12401
ENSG00000137745.7|MMP13	4.881398	1.304456	14.2654	0.001246	0.018755	29.47455
ENSG00000211734.3|TRBV5-1	-2.04761	-0.04949	14.23526	0.001246	0.018755	-4.13419
ENSG00000123360.7|PDE1B	1.687842	5.484442	14.2536	0.00125	0.018796	3.221744
ENSG00000129911.4|KLF16	1.134999	6.020778	14.22009	0.00125	0.018796	2.196184
ENSG00000151490.9|PTPRO	1.649254	5.189774	14.2267	0.001259	0.018914	3.136714
ENSG00000162711.12|NLRP3	2.221787	5.72535	14.213	0.001266	0.019004	4.66471
ENSG00000167513.4|CDT1	2.015814	3.826357	14.20406	0.001269	0.019026	4.044086
ENSG00000250651.1|PABPC1P7	-1.40665	-0.50726	14.17195	0.001268	0.019026	-2.65121
ENSG00000180096.7|SEPT1	-1.27659	5.058708	14.18691	0.001271	0.019035	-2.42265
ENSG00000154734.10|ADAMTS1	-1.81458	5.589516	14.18257	0.001278	0.019129	-3.51758
ENSG00000179071.3|CCDC89	2.544067	1.016082	14.13597	0.001286	0.01924	5.832307
ENSG00000102802.5|MEDAG	1.906958	2.190732	14.11908	0.001289	0.019263	3.750176
ENSG00000260396.1|AC012065.7	-1.92902	0.739211	14.12689	0.001289	0.019263	-3.80798
ENSG00000272167.1|RP11-53A1.2	-1.97098	-0.07333	14.1104	0.001293	0.019297	-3.92035
ENSG00000258885.1|RP11-344B23.2	-2.32304	-0.77655	14.10121	0.001299	0.019366	-5.00385
ENSG00000152527.9|PLEKHH2	-1.71526	3.86566	14.1074	0.001307	0.019466	-3.28357
ENSG00000255248.2|RP11-166D19.1	1.284248	2.919951	14.06991	0.001309	0.019472	2.43555
ENSG00000101445.5|PPP1R16B	-1.44267	6.05534	14.10102	0.00131	0.019478	-2.71823
ENSG00000140836.10|ZFHX3	1.25995	7.867096	14.06176	0.001312	0.019494	2.394875
ENSG00000137267.5|TUBB2A	1.962687	4.157699	14.08682	0.001316	0.019536	3.897873
ENSG00000141441.11|GAREM	1.648061	2.816182	14.02133	0.001328	0.019711	3.134122
ENSG00000109674.3|NEIL3	2.417233	1.502946	14.01859	0.001334	0.019773	5.341455
ENSG00000256894.1|RP11-283G6.3	-1.64508	0.216802	14.00677	0.001334	0.019773	-3.12765
ENSG00000187800.9|PEAR1	-1.31547	3.740505	14.00982	0.001337	0.019792	-2.48883
ENSG00000270120.1|RP11-327F22.6	2.163985	1.098669	14.00038	0.001337	0.019792	4.481511
ENSG00000159189.7|C1QC	1.987862	9.459397	14.00798	0.00134	0.01982	3.966489
ENSG00000140443.9|IGF1R	-1.17824	5.393697	13.98833	0.001347	0.019882	-2.26301
ENSG00000228599.1|RP6-11O7.2	-1.3631	0.731195	13.96944	0.00135	0.019907	-2.57237
ENSG00000237649.3|KIFC1	2.653295	4.137886	13.99981	0.001351	0.019915	6.291024
ENSG00000168062.5|BATF2	2.132343	3.953794	13.99733	0.001352	0.019917	4.384289
ENSG00000159840.11|ZYX	1.51361	8.99497	13.9465	0.001359	0.020008	2.855236
ENSG00000145936.4|KCNMB1	1.785726	4.26398	13.95986	0.001365	0.020069	3.447919
ENSG00000204103.2|MAFB	1.426093	8.201066	13.92858	0.001368	0.020111	2.687181
ENSG00000261098.1|RP11-819C21.1	-1.16429	2.78897	13.91011	0.001375	0.020179	-2.24123
ENSG00000259709.1|CTD-2184D3.7	-1.60268	0.67438	13.90738	0.001376	0.020183	-3.03707

ENSG00000152256.9|PDK1	-1.2138	6.095737	13.91994	0.001378	0.020198	-2.31948
ENSG00000164128.2|NPY1R	-3.02541	1.069966	13.91887	0.001385	0.02028	-8.14215
ENSG00000100065.10|CARD10	-1.18159	2.671608	13.8787	0.001388	0.020281	-2.26826
ENSG00000163170.7|BOLA3	1.123949	2.065776	13.88176	0.001387	0.020281	2.179427
ENSG00000178922.12|HYI	-1.08925	3.828905	13.8807	0.001387	0.020281	-2.12763
ENSG00000224707.1|E2F3-IT1	1.444899	-0.12299	13.87199	0.001391	0.020309	2.722438
ENSG00000164045.7|CDC25A	2.45014	2.595347	13.88974	0.001392	0.020313	5.464692
ENSG00000007516.9|BAIAP3	-1.45688	1.839715	13.85364	0.001399	0.020371	-2.74513
ENSG00000173905.4|GOLIM4	1.62786	5.80313	13.88695	0.001399	0.020371	3.090543
ENSG00000188483.6|IER5L	1.237803	5.116877	13.853	0.001401	0.020385	2.358391
ENSG00000133134.7|BEX2	-1.76683	0.197681	13.84173	0.001404	0.020419	-3.40305
ENSG00000166707.6|ZCCHC18	-1.28151	1.153511	13.83282	0.001408	0.020461	-2.43094
ENSG00000189129.9|PLAC9	-1.13371	1.192062	13.81097	0.001418	0.020573	-2.19422
ENSG00000251039.2|IGKV2D-40	-3.70847	1.869379	13.84445	0.001417	0.020573	-13.0726
ENSG00000260877.1|RP11-211G23.2	4.892641	-0.17821	13.84062	0.001419	0.020582	29.70515
ENSG00000118004.13|COLEC11	-2.17729	0.19781	13.812	0.001423	0.020587	-4.52304
ENSG00000226453.1|RP11-379B8.1	3.811805	0.980724	13.83131	0.001423	0.020587	14.04325
ENSG00000249437.3|NAIP	1.249935	7.583803	13.80451	0.00142	0.020587	2.378307
ENSG00000102385.8|DRP2	2.965946	0.551583	13.79103	0.001432	0.020683	7.813373
ENSG00000134871.13|COL4A2	1.368111	8.016029	13.77496	0.001434	0.020704	2.581324
ENSG00000150907.6|FOXO1	-1.1408	5.990182	13.77243	0.00144	0.020729	-2.20504
ENSG00000237575.4|PYY2	2.049794	-0.13736	13.76099	0.00144	0.020729	4.140469
ENSG00000255980.1|AP000439.1	6.731822	2.293411	13.79478	0.001439	0.020729	106.287
ENSG00000164086.8|DUSP7	1.162045	5.589399	13.75446	0.001443	0.020758	2.237744
ENSG00000212232.1|SNORD17	-1.57256	6.470439	13.78462	0.001444	0.020762	-2.97431
ENSG00000172927.3|MYEOV	3.850412	4.368073	13.76827	0.001451	0.02084	14.42412
ENSG00000211936.2|IGHV4-4	-3.53583	5.12646	13.75256	0.001458	0.020928	-11.5982
ENSG00000164303.6|ENPP6	-2.61439	-0.17337	13.73597	0.001463	0.020974	-6.12366
ENSG00000272501.1|XXbac-BPG299F13.17	-1.2501	2.167771	13.70847	0.001463	0.020974	-2.37859
ENSG00000130595.12|TNNT3	-1.72764	0.020914	13.66356	0.001484	0.021241	-3.31186
ENSG00000169962.4|TAS1R3	-1.71664	2.694472	13.67465	0.001486	0.021247	-3.28671
ENSG00000269927.1|RP6-91H8.3	2.32583	0.741546	13.65835	0.001486	0.021247	5.01354
ENSG00000203999.4|RP11-290F20.1	2.651919	1.320126	13.6509	0.001495	0.021349	6.285026
ENSG00000171388.9|APLN	3.115502	1.725188	13.66821	0.001497	0.021356	8.666817
ENSG00000103855.13|CD276	1.215402	6.50167	13.62167	0.001505	0.021447	2.322055
ENSG00000121769.3|FABP3	-2.803	2.729932	13.65039	0.001505	0.021447	-6.9789
ENSG00000085465.11|OVGP1	-1.33169	1.365394	13.61555	0.001506	0.021449	-2.51697
ENSG00000092470.7|WDR76	1.191596	3.593527	13.60664	0.001511	0.021466	2.284053
ENSG00000109501.9|WFS1	-1.3246	4.437369	13.62794	0.00151	0.021466	-2.50464
ENSG00000269890.1|RP5-1139B12.2	-1.38078	1.668521	13.60852	0.00151	0.021466	-2.6041
ENSG00000174125.3|TLR1	1.513962	6.332376	13.62235	0.001512	0.02148	2.855933
ENSG00000143494.11|VASH2	-1.41512	1.577808	13.59435	0.001516	0.021507	-2.66682
ENSG00000237638.1|AC007386.2	-2.13677	0.313285	13.60663	0.001516	0.021507	-4.39777
ENSG00000167680.11|SEMA6B	1.346219	4.800349	13.60174	0.001518	0.021511	2.542449
ENSG00000130598.11|TNNI2	-1.75461	0.741639	13.58756	0.00152	0.021511	-3.37435
ENSG00000197582.5|GPX1P1	1.509936	1.117917	13.58836	0.001519	0.021511	2.847974
ENSG00000142185.12|TRPM2	1.365268	7.262634	13.59153	0.001522	0.021537	2.576242

ENSG00000141526.10|SLC16A3	1.715843	8.141056	13.59871	0.001523	0.021538	3.284886
ENSG00000243033.2|GAPDHP47	2.031658	1.68888	13.56972	0.001528	0.021575	4.088746
ENSG00000147576.11|ADHFE1	-1.19524	2.007504	13.56623	0.00153	0.021585	-2.28983
ENSG00000131724.6|IL13RA1	1.561314	7.155876	13.58038	0.001532	0.021589	2.951224
ENSG00000162063.8|CCNF	1.706091	4.41422	13.56343	0.001542	0.021673	3.262755
ENSG00000014257.11|ACPP	4.318152	4.218237	13.56939	0.001544	0.021683	19.94773
ENSG00000079435.5|LIPE	-1.06479	3.292484	13.53417	0.001545	0.02169	-2.09186
ENSG00000143318.8|CASQ1	-2.15916	0.396972	13.54019	0.001548	0.021719	-4.46656
ENSG00000157456.3|CCNB2	2.331283	2.869919	13.54453	0.001553	0.021763	5.032526
ENSG00000164221.8|CCDC112	1.628134	3.167421	13.52075	0.001553	0.021763	3.091129
ENSG00000040608.9|RTN4R	-2.66811	2.08971	13.53952	0.001558	0.021802	-6.35598
ENSG00000165891.11|E2F7	2.566061	2.509538	13.53428	0.001558	0.021802	5.921903
ENSG00000204583.5|LRCOL1	-2.86764	-0.99645	13.52321	0.00156	0.021814	-7.2987
ENSG00000168476.7|REEP4	1.351223	5.070785	13.49865	0.001568	0.021884	2.551282
ENSG00000186918.9|ZNF395	-1.14144	5.175272	13.50132	0.001566	0.021884	-2.20601
ENSG00000232774.3|RP11-47I22.3	1.640524	-0.05518	13.48732	0.001568	0.021884	3.117792
ENSG00000146733.9|PSPH	1.053476	2.652829	13.47653	0.001573	0.021944	2.075525
ENSG00000103042.4|SLC38A7	1.607894	5.932757	13.49922	0.001578	0.021993	3.048066
ENSG00000197208.5|SLC22A4	2.533284	1.910822	13.47335	0.001582	0.022039	5.788879
ENSG00000122952.12|ZWINT	2.266323	3.517722	13.48708	0.001584	0.022045	4.810955
ENSG00000196866.2|HIST1H2AD	2.063084	3.34794	13.47478	0.001586	0.022045	4.178786
ENSG00000206579.7|XKR4	-2.51832	1.51728	13.48461	0.001585	0.022045	-5.72913
ENSG00000140287.6|HDC	-2.39333	0.527968	13.4554	0.001598	0.022179	-5.25368
ENSG00000238005.2|RP11-443B7.1	1.753018	0.03512	13.4284	0.001597	0.022179	3.370629
ENSG00000257277.1|RP11-434H14.1	-1.31105	0.021066	13.42304	0.0016	0.022188	-2.48123
ENSG00000157064.6|NMNAT2	-1.49967	0.858321	13.41067	0.001606	0.02226	-2.82777
ENSG00000178695.4|KCTD12	1.325308	8.912547	13.40776	0.001608	0.022267	2.505863
ENSG00000103528.12|SYT17	2.449724	4.195439	13.43051	0.001612	0.022307	5.463114
ENSG00000151025.9|GPR158	6.604036	2.151486	13.42946	0.001613	0.022307	97.27763
ENSG00000269996.1|RP11-343N15.5	1.359527	3.210485	13.38709	0.001618	0.022369	2.566009
ENSG00000076351.8|SLC46A1	1.749978	6.42822	13.40352	0.001626	0.022433	3.363534
ENSG00000261334.1|RP11-65J3.14	2.352354	0.350093	13.37179	0.001626	0.022433	5.106569
ENSG00000023902.9|PLEKHO1	1.088354	7.511209	13.36306	0.00163	0.022454	2.126313
ENSG00000139055.2|ERP27	-1.43436	1.478595	13.34448	0.00164	0.022571	-2.70262
ENSG00000182021.5|RP11-381O7.3	-2.11744	1.310691	13.35893	0.001642	0.02259	-4.33924
ENSG00000187323.7|DCC	-2.49074	-0.11957	13.35633	0.001644	0.022596	-5.62066
ENSG00000110427.10|KIAA1549L	3.814311	1.779059	13.34568	0.001655	0.022685	14.06767
ENSG00000132518.6|GUCY2D	-1.83987	0.157504	13.3174	0.001654	0.022685	-3.57978
ENSG00000168874.8|ATOH8	-1.63756	3.015442	13.3353	0.001654	0.022685	-3.11138
ENSG00000243560.2|RN7SL364P	-1.76258	1.139915	13.32166	0.001653	0.022685	-3.39305
ENSG00000152582.8|SPEF2	-1.56216	1.93803	13.30288	0.001662	0.022712	-2.95295
ENSG00000188766.8|SPRED3	1.582401	0.389651	13.3035	0.001661	0.022712	2.994679
ENSG00000254682.1|RP11-660L16.2	-1.54437	-0.46683	13.30318	0.001661	0.022712	-2.91677
ENSG00000226751.2|AF127936.5	2.844259	2.250657	13.32574	0.001666	0.022742	7.181368
ENSG00000267123.1|CTD-2357A8.3	2.544063	0.089901	13.29656	0.001665	0.022742	5.832294
ENSG00000138722.5|MMRN1	-2.53083	3.313966	13.30327	0.001678	0.022889	-5.77903
ENSG00000149177.8|PTPRJ	1.112022	7.706813	13.2621	0.001683	0.022948	2.161483

ENSG00000251259.1|AC004069.2	2.147483	-0.62727	13.25974	0.001684	0.022951	4.430542
ENSG00000070193.4|FGF10	-3.09416	-0.37847	13.28645	0.001687	0.022958	-8.53957
ENSG00000166851.10|PLK1	1.867278	4.357949	13.28581	0.001687	0.022958	3.648436
ENSG00000101447.9|FAM83D	2.172432	2.083906	13.26173	0.001688	0.022963	4.507827
ENSG00000137265.10|IRF4	-1.64739	5.519496	13.2754	0.001692	0.023004	-3.13266
ENSG00000133597.5|ADCK2	1.713751	6.001117	13.27241	0.001694	0.023012	3.280124
ENSG00000154640.10|BTG3	1.490777	3.317579	13.23742	0.001696	0.023027	2.810404
ENSG00000116337.11|AMPD2	1.228908	6.297972	13.23976	0.0017	0.023031	2.343894
ENSG00000123610.3|TNFAIP6	2.62217	1.002418	13.24154	0.0017	0.023031	6.156754
ENSG00000234492.4|RPL34-AS1	-1.74265	-0.3842	13.2337	0.001698	0.023031	-3.3465
ENSG00000072818.7|ACAP1	-1.1905	6.26013	13.23719	0.001705	0.023078	-2.28231
ENSG00000154122.8|ANKH	1.089901	7.48909	13.22071	0.001705	0.023078	2.128595
ENSG00000271984.1|RP3-337O18.9	3.503447	2.094959	13.24787	0.001707	0.02309	11.34077
ENSG00000182472.4|CAPN12	-1.47694	1.832087	13.2124	0.00171	0.02311	-2.78358
ENSG00000125538.7|IL1B	3.963086	6.716299	13.23367	0.001715	0.023152	15.59581
ENSG00000171033.8|PKIA	-1.32546	1.137757	13.20268	0.001715	0.023152	-2.50613
ENSG00000239642.1|AC034228.7	4.495806	0.119889	13.22184	0.001721	0.023222	22.56173
ENSG00000074370.13|ATP2A3	-1.45328	7.200259	13.21143	0.001727	0.023274	-2.73829
ENSG00000087245.8|MMP2	3.177888	6.65857	13.20894	0.001728	0.023274	9.049813
ENSG00000251322.3|SHANK3	-1.13756	6.439951	13.19106	0.001727	0.023274	-2.20009
ENSG00000102010.10|BMX	-2.09385	-0.14118	13.16756	0.001739	0.023362	-4.26887
ENSG00000116260.12|QSOX1	1.401931	6.809474	13.17406	0.001737	0.023362	2.642551
ENSG00000155158.16|TTC39B	-1.18614	4.634098	13.171	0.001738	0.023362	-2.27543
ENSG00000171999.6|OR52P2P	4.336028	0.8697	13.19031	0.001738	0.023362	20.19643
ENSG00000181649.5|PHLDA2	1.939712	0.983557	13.15021	0.001744	0.023367	3.83629
ENSG00000197503.4|LINC00477	6.246985	1.718355	13.18484	0.001741	0.023367	75.95039
ENSG00000197813.4|CTC-301O7.4	-1.71805	0.308797	13.15163	0.001743	0.023367	-3.28991
ENSG00000244300.2|RP11-475N22.4	-1.41627	-0.06281	13.14287	0.001748	0.023407	-2.66894
ENSG00000029993.10|HMGB3	1.770079	3.09227	13.14384	0.001752	0.023441	3.410726
ENSG00000225614.2|ZNF469	2.234134	6.7367	13.16071	0.001755	0.023458	4.704802
ENSG00000211935.2|IGHV1-3	-3.16887	2.68916	13.15607	0.001757	0.023463	-8.9934
ENSG00000197249.8|SERPINA1	2.648461	7.286042	13.1387	0.001767	0.023549	6.269983
ENSG00000233276.2|GPX1	1.375768	8.322111	13.09475	0.001775	0.023633	2.595061
ENSG00000089505.13|CMTM1	1.913532	2.787528	13.09495	0.00178	0.023677	3.767303
ENSG00000137474.15|MYO7A	1.593025	6.308824	13.09146	0.001794	0.023846	3.016812
ENSG00000112531.12|QKI	1.14062	8.068696	13.04558	0.001803	0.023936	2.204757
ENSG00000223350.2|IGLV9-49	-3.55586	2.096564	13.07608	0.001802	0.023936	-11.7603
ENSG00000140525.13|FANCI	1.332441	4.77915	13.04815	0.001806	0.023973	2.518284
ENSG00000136869.13|TLR4	2.40165	7.668381	13.06288	0.00181	0.02399	5.28407
ENSG00000163534.10|FCRL1	-2.92815	4.49094	13.06351	0.001809	0.02399	-7.61133
ENSG00000144031.7|ANKRD53	-1.36035	0.441166	13.0166	0.001819	0.024085	-2.56748
ENSG00000095752.2|IL11	4.389282	-0.00865	13.04273	0.001821	0.0241	20.95586
ENSG00000142731.6|PLK4	1.899594	2.733773	13.01974	0.001823	0.024103	3.731083
ENSG00000176293.15|ZNF135	-1.83488	1.608517	13.01366	0.001827	0.024128	-3.56742
ENSG00000254054.2|RP11-156K13.3	5.766883	0.276783	13.03356	0.001827	0.024128	54.45085
ENSG00000197497.6|ZNF665	-1.65462	0.955739	12.99762	0.00183	0.024158	-3.14841
ENSG00000184254.12|ALDH1A3	2.082799	3.939824	13.02129	0.001834	0.024176	4.236282

ENSG00000128536.11|CDHR3	-1.14663	1.203813	12.98317	0.001839	0.024186	-2.21396
ENSG00000213413.2|PVRIG	-1.47599	3.26229	12.9961	0.001838	0.024186	-2.78175
ENSG00000227066.1|RP3-340N1.2	3.201272	2.371592	13.01341	0.001838	0.024186	9.19769
ENSG00000237336.1|RP11-230L22.4	1.609176	1.623991	12.98264	0.001839	0.024186	3.050775
ENSG00000110218.4|PANX1	1.236476	4.618856	12.97045	0.001848	0.024289	2.356223
ENSG00000206561.8|COLQ	-1.31735	3.120276	12.95849	0.001854	0.024355	-2.49209
ENSG00000164087.3|POC1A	1.58176	2.271762	12.93894	0.001865	0.024481	2.993348
ENSG00000269934.1|RP5-1139B12.3	-1.55081	0.538391	12.93304	0.001868	0.024513	-2.92983
ENSG00000181291.5|TMEM132E	-1.34163	-0.47579	12.9255	0.001873	0.024557	-2.53438
ENSG00000173418.7|NAA20	1.05632	5.147624	12.92248	0.001875	0.024566	2.07962
ENSG00000105223.14|PLD3	-1.7194	8.17961	12.94818	0.001877	0.024567	-3.293
ENSG00000072062.9|PRKACA	1.108137	6.861318	12.9136	0.00188	0.024589	2.155671
ENSG00000254554.1|RP11-351I24.1	2.802903	-0.33614	12.90674	0.001885	0.024627	6.978432
ENSG00000147697.4|GSDMC	4.662187	1.609337	12.93208	0.001887	0.024634	25.31967
ENSG00000249084.1|RP11-376O6.2	3.360405	-0.72058	12.90772	0.001889	0.024647	10.27029
ENSG00000142621.15|FHAD1	3.655719	6.332361	12.91539	0.001897	0.024706	12.60321
ENSG00000145721.7|LIX1	-1.95508	0.718271	12.89657	0.001896	0.024706	-3.87738
ENSG00000113810.11|SMC4	1.390297	6.128973	12.87962	0.00191	0.024795	2.621326
ENSG00000091409.10|ITGA6	-1.06498	5.576783	12.86796	0.001913	0.024803	-2.09213
ENSG00000228741.2|RP11-309I15.1	2.868841	-0.85359	12.86062	0.001912	0.024803	7.304781
ENSG00000168273.3|SMIM4	1.855419	3.619235	12.8723	0.001916	0.024825	3.618569
ENSG00000223891.1|OSER1-AS1	-1.05165	1.412192	12.84127	0.001924	0.024914	-2.0729
ENSG00000196092.8|PAX5	-2.52537	5.440725	12.86395	0.001928	0.024939	-5.7572
ENSG00000247809.3|NR2F2-AS1	-1.77402	1.516101	12.84347	0.001928	0.024939	-3.42007
ENSG00000125910.4|S1PR4	-1.66971	3.771725	12.85852	0.001931	0.024965	-3.18151
ENSG00000136824.14|SMC2	1.134953	4.95718	12.82163	0.001936	0.025012	2.196115
ENSG00000131477.6|RAMP2	-1.22503	1.933238	12.81065	0.001943	0.025086	-2.3376
ENSG00000197506.6|SLC28A3	-2.08966	1.31488	12.82615	0.001944	0.02509	-4.25647
ENSG00000109654.10|TRIM2	-1.37077	3.392834	12.80289	0.001954	0.025114	-2.58609
ENSG00000110077.10|MS4A6A	1.957018	7.498789	12.82149	0.001954	0.025114	3.882587
ENSG00000175894.10|TSPEAR	-2.39419	-0.1359	12.81654	0.00195	0.025114	-5.25681
ENSG00000260290.2|CTD-2033A16.2	1.089806	0.186097	12.79601	0.001952	0.025114	2.128454
ENSG00000197093.6|GAL3ST4	4.219224	5.506071	12.8173	0.001957	0.025133	18.62572
ENSG00000185482.3|STAC3	1.724911	3.400361	12.77843	0.00197	0.025285	3.305598
ENSG00000218052.4|RP11-561C5.5	-1.66871	-0.24183	12.76004	0.001975	0.025332	-3.1793
ENSG00000203805.6|PPAPDC1A	5.397528	-0.71853	12.77811	0.001982	0.025405	42.15196
ENSG00000225883.2|BMS1P11	-2.49841	-0.14247	12.7709	0.001983	0.025405	-5.65063
ENSG00000065609.10|SNAP91	-2.9183	-0.36175	12.76897	0.001987	0.025405	-7.55952
ENSG00000108379.5|WNT3	-1.47117	-0.14669	12.7433	0.001985	0.025405	-2.77246
ENSG00000184613.6|NELL2	-1.87788	3.552195	12.76966	0.001987	0.025405	-3.67536
ENSG00000251630.1|RP11-241F15.9	4.795514	0.83769	12.77319	0.001985	0.025405	27.77112
ENSG00000127824.9|TUBA4A	-1.49684	4.385204	12.71709	0.002021	0.025777	-2.82224
ENSG00000224356.3|RP11-151A6.4	-1.115	1.373908	12.68771	0.002021	0.025777	-2.16595
ENSG00000233954.4|RP11-169K16.7	1.743702	1.324462	12.68591	0.002022	0.025777	3.348934
ENSG00000183763.4|TRAIP	1.184915	1.971514	12.67434	0.00203	0.025858	2.2735
ENSG00000080986.8|NDC80	2.121636	2.920275	12.68219	0.002036	0.02589	4.351871
ENSG00000136810.8|TXN	-1.3367	4.474751	12.68428	0.002035	0.02589	-2.52572

ENSG00000162894.7|FAIM3	-2.14485	6.029208	12.69343	0.002036	0.02589	-4.42246
ENSG00000198286.5|CARD11	-1.53745	5.185004	12.69022	0.002038	0.02589	-2.90282
ENSG00000255080.1|RP11-1082L8.3	3.841008	-0.71454	12.67248	0.002038	0.02589	14.33041
ENSG00000134802.13|SLC43A3	1.295167	6.736064	12.66712	0.002041	0.025909	2.454055
ENSG00000137868.14|STRA6	3.030542	3.435017	12.67377	0.002049	0.025995	8.171166
ENSG00000119121.17|TRPM6	-1.38492	0.305112	12.6273	0.002061	0.026117	-2.61158
ENSG00000226149.1|RP1-69D17.4	1.957961	0.756572	12.62784	0.002061	0.026117	3.885126
ENSG00000185010.9|F8	-1.62448	4.252226	12.65385	0.002062	0.026117	-3.0833
ENSG00000260618.1|RP11-23N2.4	-1.44109	-0.27611	12.61898	0.002067	0.026157	-2.71525
ENSG00000170027.5|YWHAG	1.218283	7.817029	12.61597	0.002069	0.026167	2.326697
ENSG00000146216.7|TTBK1	2.412851	1.167671	12.61909	0.002072	0.0262	5.325256
ENSG00000095303.10|PTGS1	1.594147	5.970622	12.63177	0.002077	0.026221	3.01916
ENSG00000133083.10|DCLK1	-1.78171	3.190691	12.62891	0.002079	0.026221	-3.43833
ENSG00000167996.11|FTH1	-1.21808	10.41249	12.60126	0.002078	0.026221	-2.32637
ENSG00000176170.9|SPHK1	1.22462	5.016874	12.59664	0.002087	0.0263	2.336939
ENSG00000110799.9|VWF	-1.18153	7.962858	12.58799	0.002093	0.026342	-2.26817
ENSG00000234881.1|PIGFP2	1.754027	0.638626	12.58016	0.002093	0.026342	3.372987
ENSG00000272636.1|DOC2B	-1.44051	1.103026	12.57402	0.002097	0.026372	-2.71417
ENSG00000215784.4|FAM72D	1.755718	2.905292	12.56941	0.002106	0.02647	3.376942
ENSG00000133808.4|MICALCL	1.611454	1.647233	12.53622	0.002123	0.02665	3.055596
ENSG00000134668.8|SPOCD1	2.15963	2.405781	12.54212	0.002126	0.026669	4.468002
ENSG00000145569.5|FAM105A	1.345538	5.623702	12.54063	0.002128	0.026677	2.541249
ENSG00000268357.1|VN1R81P	1.581282	-0.3352	12.52247	0.002132	0.026698	2.992355
ENSG00000198182.8|ZNF607	-1.31951	2.056322	12.51411	0.002138	0.026734	-2.49581
ENSG00000206172.4|HBA1	-3.63369	5.540742	12.54309	0.002137	0.026734	-12.4122
ENSG00000261115.1|TMEM178B	-2.07412	2.577297	12.53845	0.00214	0.02675	-4.21086
ENSG00000139174.6|PRICKLE1	-1.19639	2.446287	12.50227	0.002146	0.026806	-2.29166
ENSG00000146476.6|C6orf211	1.698848	4.557335	12.52308	0.002151	0.026845	3.246416
ENSG00000172594.8|SMPDL3A	2.339117	4.497477	12.52213	0.002152	0.026845	5.059928
ENSG00000125144.9|MT1G	5.288395	2.292882	12.5056	0.002163	0.026974	39.08099
ENSG00000211455.3|STK38L	1.29009	5.137599	12.48493	0.002165	0.026979	2.445432
ENSG00000198542.9|ITGBL1	3.023022	2.677921	12.4984	0.002168	0.02699	8.128686
ENSG00000256223.1|ZNF10	-1.0509	2.64934	12.47064	0.002168	0.02699	-2.07182
ENSG00000137877.8|SPTBN5	2.539935	5.393802	12.49459	0.002171	0.027008	5.815627
ENSG00000216809.1|RP11-57K17.1	-1.11988	1.008929	12.45915	0.002176	0.027045	-2.17329
ENSG00000256812.1|CAPNS2	2.511591	1.16231	12.46934	0.002176	0.027045	5.702487
ENSG00000066336.7|SPI1	1.115355	7.669052	12.45403	0.00218	0.027075	2.166483
ENSG00000237489.2|LINC00959	-1.1399	0.738176	12.44852	0.002184	0.027108	-2.20367
ENSG00000182263.9|FIGN	-1.73329	1.33484	12.4337	0.002199	0.027268	-3.32484
ENSG00000240040.1|AC096579.13	-2.51468	-0.40979	12.40998	0.002224	0.027538	-5.71471
ENSG00000161835.6|GRASP	-1.52947	4.000132	12.40901	0.002232	0.02761	-2.8868
ENSG00000161638.6|ITGA5	1.016115	7.00617	12.37528	0.002237	0.02762	2.022465
ENSG00000171649.7|ZIK1	-1.33841	2.385021	12.37593	0.002236	0.02762	-2.52872
ENSG00000198478.6|SH3BGRL2	-1.81987	2.58493	12.39932	0.002235	0.02762	-3.5305
ENSG00000148680.11|HTR7	3.196772	3.869754	12.39879	0.002239	0.027624	9.16905
ENSG00000120075.5|HOXB5	3.085656	1.308242	12.38885	0.002247	0.027697	8.48936
ENSG00000196867.3|ZFP28	-1.26208	2.318682	12.35438	0.002252	0.027746	-2.39841

ENSG00000162174.8|ASRGL1	-1.56487	2.530288	12.35587	0.002257	0.027794	-2.95851
ENSG00000239961.2|LILRA4	-2.1364	2.212364	12.3477	0.002277	0.028007	-4.39663
ENSG00000231106.2|AP000688.8	5.21893	0.163043	12.34087	0.002282	0.028053	37.24385
ENSG00000165521.11|EML5	-1.00054	2.804095	12.30232	0.00229	0.028142	-2.00075
ENSG00000104760.12|FGL1	8.03192	1.700523	12.32246	0.002296	0.028176	261.7272
ENSG00000104894.7|CD37	-1.39741	7.327224	12.31917	0.002298	0.028176	-2.63428
ENSG00000130294.10|KIF1A	4.736339	2.629187	12.31712	0.0023	0.028176	26.65509
ENSG00000169385.2|RNASE2	4.37946	0.849368	12.32201	0.002296	0.028176	20.81368
ENSG00000228140.1|RP3-467K16.4	3.70731	2.984325	12.31757	0.002299	0.028176	13.06206
ENSG00000148053.11|NTRK2	-2.22694	2.325635	12.31084	0.002304	0.028218	-4.68139
ENSG00000120903.6|CHRNA2	-1.7583	0.312447	12.27552	0.002311	0.028267	-3.383
ENSG00000129667.8|RHBDF2	1.116791	7.626922	12.27163	0.002313	0.028267	2.168641
ENSG00000135407.6|AVIL	1.589694	3.797889	12.2842	0.002312	0.028267	3.009856
ENSG00000172508.6|CARNS1	-1.04839	3.430357	12.27316	0.002312	0.028267	-2.06822
ENSG00000100342.16|APOL1	1.118879	6.219947	12.26837	0.002318	0.028295	2.171781
ENSG00000106025.4|TSPAN12	-1.43228	1.00653	12.26357	0.00232	0.028295	-2.69872
ENSG00000220749.3|RPL21P28	-1.46531	1.343603	12.25557	0.002326	0.028348	-2.76122
ENSG00000248544.2|CTB-47B11.3	-1.183	1.801593	12.25435	0.002327	0.028348	-2.27049
ENSG00000222047.4|C10orf55	3.655534	3.383204	12.26377	0.00234	0.028494	12.60159
ENSG00000127418.10|FGFRL1	-1.16196	3.391814	12.23274	0.002343	0.028518	-2.23761
ENSG00000158258.11|CLSTN2	-2.85855	3.866706	12.24995	0.00235	0.028575	-7.25288
ENSG00000214595.7|EML6	-1.11252	3.318166	12.22414	0.00235	0.028575	-2.16224
ENSG00000213889.6|PPM1N	2.246776	3.44448	12.24369	0.002355	0.028604	4.74621
ENSG00000244682.3|FCGR2C	2.963763	7.774331	12.24351	0.002355	0.028604	7.801563
ENSG00000258498.2|DIO3OS	-2.62845	1.74186	12.23374	0.002363	0.028663	-6.18363
ENSG00000093217.5|XYLB	1.291928	3.25987	12.19768	0.00237	0.028735	2.44855
ENSG00000108813.9|DLX4	3.036362	0.673654	12.20217	0.002379	0.028815	8.204198
ENSG00000163359.11|COL6A3	2.158797	9.733013	12.21064	0.002379	0.028815	4.465425
ENSG00000228981.3|RP11-364L4.1	-1.27173	2.142975	12.18278	0.002382	0.028828	-2.4145
ENSG00000126353.3|CCR7	-2.37209	4.935308	12.19362	0.002394	0.028897	-5.17692
ENSG00000183784.5|C9orf66	2.397782	4.243605	12.19442	0.002393	0.028897	5.269924
ENSG00000239552.2|HOXB-AS2	1.325388	0.32744	12.17202	0.00239	0.028897	2.506002
ENSG00000267412.1|CTC-265F19.2	-2.04774	1.514646	12.18785	0.002392	0.028897	-4.13457
ENSG00000211655.2|IGLV1-36	-3.64425	2.458247	12.18883	0.002398	0.028926	-12.5034
ENSG00000164535.10|DAGLB	1.230414	5.931725	12.1653	0.002403	0.028968	2.346344
ENSG00000154917.6|RAB6B	-2.45138	3.618579	12.17783	0.002407	0.028999	-5.46939
ENSG00000157551.13|KCNJ15	2.371832	2.152428	12.16523	0.002408	0.029003	5.175981
ENSG00000116096.5|SPR	1.486579	3.649434	12.152	0.002412	0.029007	2.802238
ENSG00000272412.1|Metazoa_SRP	-1.3211	0.824514	12.13773	0.002417	0.029049	-2.49856
ENSG00000140848.12|CPNE2	1.350101	5.54154	12.1189	0.002444	0.029306	2.549299
ENSG00000164512.13|ANKRD55	-1.96921	0.434681	12.11004	0.002447	0.02932	-3.91553
ENSG00000222898.1|RN7SKP97	3.08753	0.403657	12.10683	0.002455	0.029373	8.500396
ENSG00000121211.3|MND1	3.054219	0.274485	12.10072	0.00246	0.029413	8.306377
ENSG00000269974.1|RP11-932O9.10	1.934224	0.704172	12.07832	0.002465	0.029444	3.821726
ENSG00000149256.10|TENM4	1.930665	4.789997	12.09972	0.002469	0.029463	3.81231
ENSG00000144712.7|CAND2	-1.23391	1.613758	12.07097	0.002471	0.029467	-2.35203
ENSG00000148082.5|SHC3	2.721713	0.870059	12.08063	0.002473	0.029474	6.596555

ENSG00000182397.10|DNM1P46	-1.63356	0.476357	12.06251	0.002478	0.029508	-3.10279
ENSG00000272250.1|RP11-346C20.4	2.450736	0.684086	12.06987	0.002478	0.029508	5.466947
ENSG00000234176.1|HSPA8P1	2.024541	1.295112	12.0553	0.002484	0.029555	4.068624
ENSG00000062822.8|POLD1	1.154426	5.420971	12.05666	0.002488	0.029568	2.225957
ENSG00000104154.5|SLC30A4	1.39781	4.816084	12.06232	0.002489	0.029568	2.635013
ENSG00000229759.1|MRPS18AP1	-1.27065	1.508885	12.04191	0.002495	0.029573	-2.4127
ENSG00000111669.10|TPI1	1.329015	7.543576	12.04326	0.0025	0.029611	2.512311
ENSG00000153982.6|GDPD1	2.894019	2.535507	12.06009	0.002501	0.029611	7.433381
ENSG00000244161.1|FLNB-AS1	-1.15588	2.533197	12.03172	0.002503	0.029611	-2.22821
ENSG00000178882.9|FAM101A	2.270562	1.850145	12.03411	0.002509	0.029647	4.825111
ENSG00000106823.8|ECM2	1.079181	3.575739	12.02222	0.002511	0.029653	2.112837
ENSG00000118922.12|KLF12	-1.35043	5.257962	12.03175	0.002525	0.029782	-2.54987
ENSG00000121413.8|ZSCAN18	-1.53583	4.515028	12.03277	0.002524	0.029782	-2.89956
ENSG00000253837.1|RP11-177H13.2	1.276547	2.780133	11.99663	0.002532	0.02984	2.422585
ENSG00000167103.7|PIP5KL1	-1.26051	0.516129	11.99211	0.002536	0.029865	-2.3958
ENSG00000174500.8|GCSAM	-1.62346	1.818743	11.99723	0.002537	0.029865	-3.08113
ENSG00000080573.6|COL5A3	1.916943	5.586506	12.00899	0.002544	0.029923	3.776219
ENSG00000054983.12|GALC	1.364582	6.096533	11.98813	0.002553	0.029966	2.575018
ENSG00000091428.13|RAPGEF4	-1.30669	1.495456	11.97329	0.002552	0.029966	-2.47374
ENSG00000165996.9|PTPLA	-1.27174	-0.20738	11.9583	0.002565	0.030075	-2.41453
ENSG00000211648.2|IGLV1-47	-3.25803	5.260145	11.97017	0.002576	0.030196	-9.56673
ENSG00000125968.7|ID1	-1.29917	2.712624	11.9298	0.002589	0.030327	-2.46087
ENSG00000271009.2|RP11-346C20.3	2.133785	1.894265	11.92787	0.002597	0.03041	4.388672
ENSG00000072682.14|P4HA2	1.463113	3.496534	11.91889	0.002604	0.030468	2.757027
ENSG00000240889.1|NDUFB2-AS1	1.201998	1.134955	11.90577	0.00261	0.03052	2.30058
ENSG00000133317.10|LGALS12	5.70872	3.517758	11.924	0.002616	0.030535	52.29933
ENSG00000169994.14|MYO7B	-1.68633	3.30455	11.92337	0.002616	0.030535	-3.21837
ENSG00000198732.6|SMOC1	-2.32592	0.538527	11.92654	0.002614	0.030535	-5.01384
ENSG00000233665.4|RP11-523O18.5	-1.15764	0.612202	11.89789	0.002616	0.030535	-2.23091
ENSG00000040275.12|SPDL1	1.258165	3.155152	11.87523	0.002636	0.030732	2.391914
ENSG00000007314.7|SCN4A	-2.58198	0.277441	11.88872	0.002647	0.030837	-5.9876
ENSG00000196517.7|SLC6A9	-1.40071	1.907067	11.85923	0.00265	0.030847	-2.64031
ENSG00000248571.1|RP11-768B22.2	-1.38378	1.380782	11.8596	0.00265	0.030847	-2.60952
ENSG00000174669.7|SLC29A2	-1.6936	1.36231	11.85704	0.002658	0.030917	-3.23462
ENSG00000273045.1|C2ORF15	-1.25385	-0.53398	11.8451	0.002663	0.030959	-2.38478
ENSG00000063438.12|AHRR	2.592249	2.995223	11.86735	0.002665	0.030974	6.030382
ENSG00000160298.13|C21orf58	1.570549	3.807232	11.84805	0.002669	0.030979	2.970177
ENSG00000120875.4|DUSP4	1.910325	5.633447	11.85547	0.002676	0.031035	3.758939
ENSG00000066405.8|CLDN18	1.84217	2.235251	11.81175	0.002695	0.031101	3.58549
ENSG00000106397.7|PLOD3	1.24621	6.457654	11.81083	0.002701	0.031101	2.372175
ENSG00000126218.7|F10	-2.14677	-0.06516	11.82902	0.002685	0.031101	-4.42836
ENSG00000143819.8|EPHX1	-1.68678	5.371084	11.82623	0.002702	0.031101	-3.21937
ENSG00000185008.13|ROBO2	-2.86608	0.834801	11.83125	0.002697	0.031101	-7.2908
ENSG00000188486.3|H2AFX	1.867995	4.998621	11.8345	0.002694	0.031101	3.650249
ENSG00000204482.6|LST1	1.424293	5.644497	11.82485	0.002696	0.031101	2.68383
ENSG00000211654.2|IGLV5-37	-3.54732	-0.52937	11.82924	0.002699	0.031101	-11.691
ENSG00000227486.1|RP13-188A5.1	-1.3411	0.689859	11.80458	0.002699	0.031101	-2.53344

ENSG00000251370.1|CTD-2201E9.1	-1.42437	0.25134	11.80447	0.002699	0.031101	-2.68397
ENSG00000236256.5|DIAPH2-AS1	1.639512	1.573174	11.79309	0.002709	0.031134	3.115605
ENSG00000101986.8|ABCD1	1.801227	6.47881	11.81569	0.002711	0.031136	3.485166
ENSG00000165168.6|CYBB	1.817035	10.29404	11.79502	0.002714	0.031146	3.523563
ENSG00000204673.6|AKT1S1	1.474473	5.927888	11.80951	0.002716	0.031149	2.77882
ENSG00000090661.7|CERS4	-1.28405	3.60729	11.79072	0.002719	0.031164	-2.43522
ENSG00000255495.1|FAM85A	-1.44686	1.830657	11.78043	0.00272	0.031164	-2.72615
ENSG00000270145.1|CTD-2267D19.6	1.691733	-0.424	11.77055	0.002729	0.031231	3.230446
ENSG00000132704.11|FCRL2	-2.44043	3.872926	11.78362	0.00274	0.031313	-5.42802
ENSG00000184205.10|TSPYL2	-1.27426	4.65049	11.76844	0.002747	0.031377	-2.41875
ENSG00000033867.12|SLC4A7	1.618645	7.251011	11.77128	0.002752	0.031408	3.070864
ENSG00000205885.3|C1RL-AS1	-1.03625	4.767424	11.7496	0.002754	0.031408	-2.05089
ENSG00000228600.1|POLR2CP	2.391264	1.500989	11.75249	0.002754	0.031408	5.246167
ENSG00000106952.3|TNFSF8	-1.32175	3.492745	11.74535	0.002761	0.031433	-2.49968
ENSG00000145423.4|SFRP2	4.254455	4.285593	11.75951	0.002762	0.031433	19.08617
ENSG00000215044.2|AHCYP1	-1.55937	1.393627	11.73498	0.002762	0.031433	-2.94724
ENSG00000258976.1|CTD-2207P18.2	3.798645	-0.50638	11.74309	0.002769	0.031487	13.91573
ENSG00000230826.1|RP11-417B4.2	1.572417	2.080786	11.72484	0.002771	0.031503	2.974026
ENSG00000242371.1|IGKV1-39	-3.29142	4.431169	11.73891	0.002781	0.031577	-9.79073
ENSG00000238258.1|RP11-342D11.2	1.885118	0.752293	11.70809	0.002787	0.031613	3.693832
ENSG00000150076.18|C10orf68	-1.37284	0.678312	11.70005	0.002794	0.031682	-2.58979
ENSG00000260167.1|RP11-146F11.5	2.51041	-0.73497	11.68914	0.002805	0.031748	5.69782
ENSG00000054356.9|PTPRN	4.901511	0.690605	11.70619	0.002812	0.031813	29.88835
ENSG00000176697.14|BDNF	-1.3212	-0.45522	11.67402	0.002819	0.03186	-2.49873
ENSG00000183807.6|FAM162B	-1.74992	-0.53301	11.67254	0.00282	0.03186	-3.3634
ENSG00000226777.3|KIAA0125	-2.68476	4.343412	11.69441	0.002823	0.031872	-6.42972
ENSG00000101353.10|MROH8	-1.19922	0.601756	11.66115	0.002831	0.031923	-2.29616
ENSG00000173894.6|CBX2	1.456506	2.066414	11.65732	0.002835	0.031923	2.744429
ENSG00000229118.1|AC068491.2	1.687052	0.755279	11.65956	0.002832	0.031923	3.219981
ENSG00000021355.8|SERPINB1	1.023601	6.156166	11.64885	0.002843	0.031949	2.032987
ENSG00000174945.9|AMZ1	-1.16313	3.968359	11.65783	0.002841	0.031949	-2.23942
ENSG00000261705.1|RP11-61A14.2	1.15683	0.363848	11.64864	0.002843	0.031949	2.229669
ENSG00000141570.6|CBX8	1.88782	3.428067	11.65156	0.002859	0.032066	3.700755
ENSG00000163009.4|C2orf48	2.128106	0.345374	11.63175	0.002859	0.032066	4.371432
ENSG00000158869.6|FCER1G	1.437732	6.706219	11.63851	0.002867	0.032121	2.708948
ENSG00000051180.12|RAD51	1.926784	2.243439	11.61738	0.002879	0.03223	3.802068
ENSG00000164611.8|PTTG1	1.725539	2.918013	11.61342	0.002884	0.03223	3.307037
ENSG00000198225.4|FKBP1C	1.016517	1.417652	11.60566	0.002884	0.03223	2.023029
ENSG00000237861.1|RP11-332L8.1	-1.32632	-0.83205	11.60709	0.002883	0.03223	-2.50762
ENSG00000051128.14|HOMER3	1.754728	4.932104	11.61779	0.002896	0.032313	3.374627
ENSG00000133818.8|RRAS2	-1.23967	3.114337	11.59518	0.002894	0.032313	-2.36145
ENSG00000249936.2|RAC1P2	1.476911	0.66094	11.59411	0.002895	0.032313	2.783521
ENSG00000129993.10|CBFA2T3	-1.62789	4.414966	11.5977	0.002915	0.032514	-3.0906
ENSG00000162636.11|FAM102B	1.176693	5.811394	11.57156	0.002924	0.0326	2.26058
ENSG00000185499.12|MUC1	2.1951	2.59597	11.56945	0.002934	0.03267	4.579213
ENSG00000116711.8|PLA2G4A	1.685527	4.021279	11.57221	0.002936	0.032676	3.216578
ENSG00000160949.12|TONSL	1.463536	4.665624	11.56184	0.002941	0.03272	2.757834

ENSG00000254639.1|CTD-2589M5.5	3.57948	-1.22451	11.54666	0.002947	0.032759	11.95448
ENSG00000166278.10|C2	1.332226	7.461382	11.54277	0.002954	0.032795	2.51791
ENSG00000164509.9|IL31RA	4.299262	0.158043	11.55578	0.002956	0.032795	19.68824
ENSG00000164659.10|KIAA1324L	-1.33761	2.137551	11.5311	0.002957	0.032795	-2.52733
ENSG00000110092.3|CCND1	1.768622	6.941458	11.55071	0.002961	0.032812	3.407282
ENSG00000167074.10|TEF	-1.02804	3.432123	11.51923	0.002969	0.032813	-2.03925
ENSG00000197279.3|ZNF165	-1.27234	-0.65066	11.52302	0.002965	0.032813	-2.41553
ENSG00000213903.4|LTB4R	1.25748	5.896712	11.51922	0.002978	0.032862	2.390778
ENSG00000164342.8|TLR3	2.373131	3.551275	11.51961	0.002992	0.032988	5.180641
ENSG00000169783.8|LINGO1	1.366168	1.073345	11.49648	0.002992	0.032988	2.577849
ENSG00000228986.1|RP13-228J13.8	-1.30984	-0.05495	11.48445	0.003004	0.033079	-2.47913
ENSG00000267102.1|RP11-686D22.7	1.253915	1.700535	11.48566	0.003003	0.033079	2.384877
ENSG00000189292.11|FAM150B	-2.64562	0.58492	11.50218	0.00301	0.033131	-6.25763
ENSG00000121621.6|KIF18A	1.927269	2.148389	11.47558	0.003019	0.033202	3.803346
ENSG00000104723.16|TUSC3	-1.11045	1.736094	11.45536	0.003033	0.033231	-2.15914
ENSG00000129946.6|SHC2	-1.40197	2.380921	11.45735	0.003031	0.033231	-2.64263
ENSG00000149591.12|TAGLN	-1.20148	6.871723	11.47198	0.003031	0.033231	-2.29975
ENSG00000166451.9|CENPN	1.418849	3.182363	11.4622	0.003026	0.033231	2.673722
ENSG00000178999.8|AURKB	2.474169	3.264943	11.47916	0.003033	0.033231	5.556472
ENSG00000200785.1|SNORD8	-1.34298	0.377882	11.4549	0.003034	0.033231	-2.53675
ENSG00000087258.9|GNAO1	-1.19579	2.467874	11.44477	0.003044	0.033247	-2.2907
ENSG00000143297.14|FCRL5	-2.23983	5.50977	11.47309	0.00304	0.033247	-4.72343
ENSG00000151612.11|ZNF827	-1.01499	4.071215	11.44261	0.003046	0.033247	-2.02089
ENSG00000154608.9|CEP170P1	1.412126	2.337736	11.44348	0.003045	0.033247	2.661291
ENSG00000215326.3|GPX1P2	1.815307	-0.73509	11.44923	0.00304	0.033247	3.519345
ENSG00000257261.1|RP11-96H19.1	-1.25858	0.573243	11.44086	0.003048	0.03325	-2.3926
ENSG00000259354.1|RP11-519G16.3	3.937338	2.724497	11.45632	0.003057	0.033327	15.31993
ENSG00000121807.5|CCR2	-1.01785	4.606284	11.42661	0.003066	0.033391	-2.0249
ENSG00000072274.8|TFRC	-1.51377	7.454968	11.44524	0.003068	0.033401	-2.85556
ENSG00000166342.14|NETO1	-1.93721	0.004472	11.42515	0.003072	0.033416	-3.82964
ENSG00000132164.5|SLC6A11	4.613288	-0.72386	11.43709	0.003077	0.03343	24.47587
ENSG00000268222.1|EEF1A1P7	-1.08467	0.817273	11.41306	0.003077	0.03343	-2.12089
ENSG00000152413.10|HOMER1	1.469197	3.185132	11.41238	0.00308	0.033446	2.768678
ENSG00000198554.7|WDHD1	1.197958	3.352267	11.4018	0.003089	0.033507	2.294148
ENSG00000135245.9|HILPDA	1.335231	2.835337	11.38571	0.003105	0.03364	2.523159
ENSG00000225349.2|RP11-820K3.2	-1.61839	-0.54721	11.38703	0.003104	0.03364	-3.07031
ENSG00000069535.12|MAOB	-1.78534	1.272625	11.37852	0.003121	0.033765	-3.447
ENSG00000168268.6|NT5DC2	1.877386	5.401268	11.39386	0.003122	0.033765	3.674087
ENSG00000198216.6|CACNA1E	3.11235	2.318862	11.38795	0.003128	0.033816	8.647901
ENSG00000173080.4|RXFP4	-1.41882	0.024237	11.34521	0.003148	0.034002	-2.67367
ENSG00000145757.11|SPATA9	2.076999	0.267238	11.34224	0.003151	0.034019	4.219287
ENSG00000270074.1|RP11-351I21.11	-1.57223	-0.26384	11.34087	0.003153	0.034019	-2.97363
ENSG00000102221.9|PHF16	-1.10173	2.795861	11.33388	0.00316	0.034083	-2.14612
ENSG00000132170.15|PPARG	-1.41133	3.393088	11.34153	0.003167	0.03414	-2.65983
ENSG00000122691.8|TWIST1	2.21379	1.541022	11.32912	0.003174	0.034162	4.638924
ENSG00000184566.2|AC132216.1	6.525031	0.986891	11.33307	0.003186	0.034258	92.0937
ENSG00000198075.5|SULT1C4	-1.45751	-0.21011	11.30851	0.003188	0.034258	-2.74633

ENSG00000254788.2|CKLF-CMTM1	1.731912	2.494681	11.30907	0.00319	0.034266	3.321677
ENSG00000124491.11|F13A1	2.728509	6.9305	11.32111	0.003199	0.034349	6.627703
ENSG00000230903.5|RPL9P8	-1.48411	4.3999	11.31068	0.00321	0.034419	-2.79745
ENSG00000237550.4|RPL9P9	-1.48411	4.3999	11.31068	0.00321	0.034419	-2.79745
ENSG00000114115.5|RBP1	-1.51481	1.972722	11.28026	0.003221	0.034517	-2.85762
ENSG00000090339.4|ICAM1	1.538173	7.653793	11.27777	0.003237	0.034635	2.904265
ENSG00000177283.4|FZD8	-1.59618	2.015582	11.27102	0.003236	0.034635	-3.02342
ENSG00000106714.13|CNTNAP3	-1.80813	0.411507	11.24584	0.003263	0.034884	-3.50188
ENSG00000073905.8|VDAC1P1	1.420654	-0.58227	11.2307	0.003273	0.034969	2.677069
ENSG00000153310.14|FAM49B	1.098421	6.715807	11.22705	0.003279	0.03502	2.141203
ENSG00000076662.5|ICAM3	-1.15547	5.124038	11.23082	0.003288	0.035064	-2.22757
ENSG00000176533.8|GNG7	-2.2326	4.232297	11.24252	0.003285	0.035064	-4.69979
ENSG00000256433.1|RP1-102E24.8	1.741065	-0.36172	11.2183	0.003287	0.035064	3.342817
ENSG00000163519.9|TRAT1	-1.67922	2.166745	11.22266	0.003292	0.035078	-3.20255
ENSG00000221955.6|SLC12A8	1.603157	2.850466	11.21432	0.003296	0.035078	3.038073
ENSG00000248208.1|RP11-153M7.1	5.025777	3.411848	11.23538	0.003293	0.035078	32.57688
ENSG00000272544.1|CTA-357J21.1	1.703889	1.694643	11.20863	0.003298	0.035078	3.25778
ENSG00000163995.14|ABLIM2	-1.31803	1.877467	11.20297	0.003304	0.035111	-2.49325
ENSG00000162493.12|PDPN	3.235998	4.669641	11.2207	0.00331	0.035122	9.421772
ENSG00000173085.9|COQ2	1.187162	3.968449	11.19776	0.00331	0.035122	2.277044
ENSG00000152760.5|TCTEX1D1	5.173664	1.282568	11.2061	0.003326	0.035262	36.09341
ENSG00000112195.8|TREML2	-1.56943	2.012208	11.18015	0.003338	0.035333	-2.96788
ENSG00000245904.2|RP11-796E2.4	-1.16282	2.562835	11.17466	0.003336	0.035333	-2.23895
ENSG00000181408.2|UTS2R	-2.13554	-0.61046	11.17583	0.003343	0.035351	-4.394
ENSG00000227825.3|SLC9A7P1	5.201779	4.810287	11.18878	0.003346	0.035367	36.8037
ENSG00000181634.7|TNFSF15	2.272874	5.041496	11.18679	0.003348	0.035374	4.832849
ENSG00000091592.11|NLRP1	-1.07555	6.908923	11.16606	0.003355	0.035408	-2.10752
ENSG00000260585.1|RP13-192B19.2	5.04623	1.398885	11.18133	0.003354	0.035408	33.04203
ENSG00000163751.3|CPA3	-2.81244	0.687512	11.17538	0.003361	0.03546	-7.02472
ENSG00000138435.10|CHRNA1	-3.35775	2.05704	11.1735	0.003363	0.035465	-10.2514
ENSG00000165731.13|RET	-1.28665	0.894229	11.12973	0.003387	0.03567	-2.43961
ENSG00000158714.6|SLAMF8	1.070844	7.517368	11.12224	0.003396	0.035743	2.100662
ENSG00000122861.11|PLAU	3.022749	6.910033	11.14347	0.003398	0.035743	8.127149
ENSG00000220201.3|ZGLP1	1.172794	2.061927	11.11628	0.003403	0.035781	2.254479
ENSG00000111732.6|AICDA	-2.38395	-0.9683	11.12203	0.003406	0.035796	-5.21966
ENSG00000178718.5|RPP25	1.628167	4.625057	11.1315	0.003411	0.035805	3.091199
ENSG00000100298.11|APOBEC3H	1.414935	1.258205	11.09642	0.003426	0.035921	2.666477
ENSG00000237286.1|AC004906.3	-1.50906	-0.06172	11.09242	0.003431	0.035953	-2.84625
ENSG00000100526.15|CDKN3	2.11771	1.373978	11.08512	0.003447	0.036087	4.340045
ENSG00000182993.3|C12orf60	-1.67464	1.08384	11.07474	0.003458	0.03617	-3.1924
ENSG00000236045.1|RP3-467K16.7	3.588696	0.650015	11.08925	0.003461	0.036174	12.0311
ENSG00000171094.11|ALK	-1.90877	1.329057	11.07659	0.003465	0.036194	-3.75489
ENSG00000145194.13|ECE2	1.190307	1.44064	11.05999	0.003469	0.036215	2.282013
ENSG00000143178.8|TBX19	1.013369	3.830267	11.05134	0.003479	0.036277	2.01862
ENSG00000244356.2|RN7SL398P	1.620061	0.864288	11.05082	0.00348	0.036277	3.07388
ENSG00000142765.13|SYTL1	-1.52608	5.139702	11.05942	0.003496	0.03643	-2.88002
ENSG00000155961.4|RAB39B	-1.3814	1.674943	11.03092	0.003504	0.036447	-2.60522

ENSG00000214846.4|RP11-115L11.1	1.69353	-0.51369	11.03017	0.003505	0.036447	3.234472
ENSG00000242841.1|KRT8P35	8.598934	0.862206	11.62743	0.003504	0.036447	387.7369
ENSG00000117114.15|LPHN2	-1.05877	3.694926	11.02439	0.003512	0.036502	-2.08316
ENSG00000018625.10|ATP1A2	-2.88253	0.830404	11.03874	0.003521	0.036549	-7.37443
ENSG00000106483.7|SFRP4	3.693727	3.569659	11.04053	0.003519	0.036549	12.93966
ENSG00000139679.11|LPAR6	1.705088	6.17937	11.03982	0.00352	0.036549	3.260488
ENSG00000271978.1|RP11-428J1.4	-1.22135	0.162882	11.01257	0.003526	0.03658	-2.33164
ENSG00000226445.1|XXyac-YX65C7_A.2	1.41981	0.231055	11.00667	0.003533	0.036611	2.675502
ENSG00000251413.1|RP11-534L6.5	2.046259	-0.47865	11.00706	0.003532	0.036611	4.130335
ENSG00000256618.1|MTRNR2L1	-2.55164	2.090885	11.0282	0.003534	0.036611	-5.863
ENSG00000248374.1|RP11-501M7.1	1.602366	1.536841	11.00176	0.003539	0.036647	3.036409
ENSG00000253915.1|MAPRE1P1	2.376661	-0.12916	10.98831	0.003555	0.036799	5.193334
ENSG00000008056.8|SYN1	1.323265	0.566614	10.9838	0.003561	0.036821	2.502318
ENSG00000136830.7|FAM129B	1.893495	7.185014	11.00652	0.00356	0.036821	3.715341
ENSG00000267745.1|RP11-686D22.8	1.550646	1.533261	10.9731	0.003574	0.036921	2.929482
ENSG00000250742.1|RP11-834C11.4	2.071918	3.152899	10.99363	0.003576	0.036924	4.204452
ENSG00000261295.1|RP11-524D16__A.3	3.834521	1.023421	10.97834	0.003594	0.0371	14.26612
ENSG00000237971.1|RP11-231N9.1	-1.7195	-0.31229	10.94493	0.003609	0.037192	-3.29322
ENSG00000131849.10|ZNF132	-1.0425	2.419253	10.94028	0.003614	0.037234	-2.0598
ENSG00000248334.2|WHAMMP2	-1.1806	1.188276	10.93826	0.003617	0.037242	-2.26672
ENSG00000117090.10|SLAMF1	-1.28137	3.829581	10.94563	0.003622	0.037256	-2.4307
ENSG00000231799.2|RP13-93L13.2	-1.0886	2.946275	10.92781	0.00363	0.037324	-2.12668
ENSG00000240890.2|RP11-65E22.2	2.816792	-0.43323	10.92914	0.003637	0.037376	7.045937
ENSG00000121101.11|TEX14	-1.54133	-0.22327	10.91969	0.00364	0.037393	-2.91063
ENSG00000243759.1|ST13P15	1.772508	1.508761	10.91608	0.003644	0.037422	3.416475
ENSG00000263394.1|RP11-160E2.19	-1.30112	1.924189	10.90544	0.003658	0.037541	-2.46421
ENSG00000180539.4|C9orf139	1.733009	4.11736	10.92538	0.00366	0.037549	3.324204
ENSG00000171049.8|FPR2	2.764008	2.826314	10.92026	0.003667	0.037597	6.792806
ENSG00000222009.4|BTBD19	1.0433	4.946455	10.89692	0.003669	0.037599	2.060937
ENSG00000237187.4|NR2F1-AS1	-1.57473	1.722831	10.90023	0.003671	0.037608	-2.9788
ENSG00000140030.4|GPR65	1.503383	4.688569	10.91211	0.003676	0.037637	2.835067
ENSG00000216817.1|R3HDM2P2	5.25767	0.485973	10.90374	0.003688	0.037722	38.25749
ENSG00000132793.7|LPIN3	1.9666	4.348569	10.90123	0.003691	0.037737	3.908458
ENSG00000170954.7|ZNF415	-1.39607	0.126173	10.87356	0.003698	0.037796	-2.63184
ENSG00000081803.11|CADPS2	-1.57492	3.519362	10.88929	0.003706	0.037857	-2.97919
ENSG00000149968.7|MMP3	7.019151	2.534299	10.88348	0.003713	0.037914	129.7105
ENSG00000078589.8|P2RY10	-1.5768	3.325026	10.8819	0.003715	0.037917	-2.98308
ENSG00000127903.12|ZNF835	-1.77661	0.370883	10.85593	0.003729	0.038	-3.42619
ENSG00000213872.3|AC092798.2	-1.00683	0.70429	10.85225	0.003725	0.038	-2.00949
ENSG00000240869.2|RN7SL128P	-1.35788	3.91689	10.86777	0.003727	0.038	-2.56308
ENSG00000176134.4|AL445665.1	-2.084	0.098004	10.85743	0.003735	0.038051	-4.23982
ENSG00000211638.2|IGLV8-61	-3.4129	3.74476	10.85632	0.003748	0.038145	-10.6509
ENSG00000117479.8|SLC19A2	-1.25283	2.751051	10.83051	0.003754	0.038165	-2.38309
ENSG00000114268.7|PFKFB4	1.304988	4.381287	10.83555	0.003757	0.03818	2.470817
ENSG00000114698.10|PLSCR4	-1.25702	2.896696	10.81823	0.003771	0.038274	-2.39002
ENSG00000129810.10|SGOL1	1.394152	2.46023	10.81578	0.003773	0.038274	2.62834
ENSG00000143847.11|PPFIA4	2.275809	2.895733	10.83704	0.003773	0.038274	4.84269

ENSG00000181856.10|SLC2A4	-1.72942	0.514231	10.8053	0.003793	0.038444	-3.31594
ENSG00000116833.9|NR5A2	-1.11432	2.29584	10.79812	0.003796	0.038451	-2.16493
ENSG00000224152.1|AC009506.1	1.111516	2.615804	10.79049	0.003806	0.038535	2.160725
ENSG00000115165.5|CYTIP	-1.23598	5.685742	10.80837	0.00381	0.038564	-2.35542
ENSG00000151640.8|DPYSL4	-1.25761	0.473742	10.78183	0.003817	0.038615	-2.39099
ENSG00000196778.2|OR52K1	5.349892	-0.77526	10.79963	0.003822	0.038627	40.78289
ENSG00000204228.3|HSD17B8	-1.15233	1.953803	10.76386	0.003841	0.038784	-2.22273
ENSG00000058335.11|RASGRF1	-1.51905	2.15704	10.75891	0.003856	0.038862	-2.86602
ENSG00000146966.8|DENND2A	-1.16349	2.062172	10.7518	0.003857	0.038862	-2.23998
ENSG00000186265.5|BTLA	-2.00312	3.289997	10.77018	0.003861	0.038878	-4.00867
ENSG00000156140.4|ADAMTS3	-1.40449	0.508664	10.73859	0.003875	0.038932	-2.64725
ENSG00000245526.4|LINC00461	4.730886	0.253163	10.75946	0.003875	0.038932	26.55452
ENSG00000112936.14|C7	-3.54835	6.56437	10.75686	0.003879	0.038949	-11.6993
ENSG00000110777.7|POU2AF1	-2.52638	6.19467	10.74948	0.003889	0.039002	-5.76125
ENSG00000131462.3|TUBG1	1.099139	4.071546	10.72625	0.003891	0.039002	2.142268
ENSG00000154511.7|FAM69A	-1.02129	2.898063	10.72506	0.003893	0.039002	-2.02974
ENSG00000243742.1|RPLP0P2	2.384218	1.155936	10.7264	0.003902	0.039069	5.22061
ENSG00000171659.9|GPR34	2.297202	6.103503	10.73303	0.003911	0.039091	4.915037
ENSG00000159128.10|IFNGR2	1.27056	6.76858	10.7143	0.00392	0.039117	2.412552
ENSG00000171346.9|KRT15	6.915094	1.746916	10.72732	0.003918	0.039117	120.6843
ENSG00000199363.1|SNORA63	-1.7364	-0.54333	10.70473	0.00392	0.039117	-3.33202
ENSG00000226958.1|CTD-2328D6.1	-2.41662	3.646115	10.72229	0.003925	0.039129	-5.33918
ENSG00000211829.2|TRDC	-1.73886	0.400254	10.70127	0.003932	0.039181	-3.33771
ENSG00000251151.2|HOXC-AS3	2.823992	0.254047	10.69737	0.003948	0.039316	7.081193
ENSG00000246627.2|CACNA1C-AS1	-1.28008	0.644369	10.6741	0.003962	0.039427	-2.42853
ENSG00000183242.7|WT1-AS	4.477078	-0.92793	10.68968	0.003969	0.039472	22.27074
ENSG00000141391.9|SLMO1	1.488022	2.079932	10.66278	0.003978	0.039512	2.80504
ENSG00000146072.6|TNFRSF21	2.529952	6.480571	10.68366	0.003978	0.039512	5.775524
ENSG00000239948.2|RN7SL368P	2.034411	0.977062	10.66539	0.003976	0.039512	4.096555
ENSG00000248152.1|RP11-650J17.1	2.190925	1.0866	10.65833	0.003993	0.039643	4.565982
ENSG00000149926.9|FAM57B	2.467839	-0.22619	10.64235	0.00401	0.039721	5.532144
ENSG00000248323.1|LUCAT1	2.746404	3.480477	10.65923	0.004012	0.039721	6.710424
ENSG00000137571.6|SLCO5A1	-1.82127	2.829048	10.65309	0.00402	0.039752	-3.53393
ENSG00000250133.2|HOXC-AS2	2.331587	1.007413	10.6408	0.004019	0.039752	5.033586
ENSG00000166803.6|KIAA0101	2.419579	2.331234	10.64465	0.004032	0.039778	5.350147
ENSG00000184060.6|ADAP2	2.760057	7.395987	10.64589	0.00403	0.039778	6.774228
ENSG00000214110.3|LDHAP4	1.678486	0.253692	10.62686	0.004028	0.039778	3.200918
ENSG00000254461.1|RP11-755F10.3	1.760034	-0.7747	10.62443	0.004031	0.039778	3.387062
ENSG00000259417.2|RP11-2E17.1	-1.87065	-0.08806	10.63452	0.004026	0.039778	-3.65697
ENSG00000175745.7|NR2F1	-1.88402	3.509406	10.63897	0.00404	0.039821	-3.69101
ENSG00000165379.9|LRFN5	1.655071	-0.26366	10.61214	0.004049	0.039875	3.149386
ENSG00000223704.1|RP1-90L6.2	-1.30152	3.280112	10.61671	0.004052	0.039887	-2.46488
ENSG00000164105.3|SAP30	1.276441	2.897999	10.60756	0.004055	0.039895	2.422407
ENSG00000157227.8|MMP14	1.565146	7.857893	10.62202	0.004058	0.039911	2.959074
ENSG00000224411.2|RP11-1033A18.1	1.458371	1.073929	10.60378	0.00406	0.039912	2.747979
ENSG00000101331.11|CCM2L	-1.13138	1.703087	10.60113	0.004064	0.039913	-2.19068
ENSG00000167619.7|TMEM145	3.455401	0.038305	10.62262	0.004063	0.039913	10.96931

ENSG00000152595.12|MEPE	7.232087	-0.39243	11.15064	0.004072	0.039955	150.3402
ENSG00000188158.10|NHS	1.630308	3.677385	10.60483	0.004077	0.039985	3.09579
ENSG00000223839.3|FAM95B1	-1.59944	2.821909	10.60383	0.004081	0.040006	-3.03026
ENSG00000187741.10|FANCA	1.349488	5.321789	10.60148	0.004083	0.04001	2.548217
ENSG00000064225.8|ST3GAL6	1.314448	4.62038	10.58847	0.004096	0.040059	2.487072
ENSG00000073464.7|CLCN4	-1.7144	2.505353	10.59466	0.004097	0.040059	-3.2816
ENSG00000147036.7|LANCL3	2.381426	2.063203	10.59939	0.00409	0.040059	5.210514
ENSG00000242539.2|AC007620.3	1.378572	4.927797	10.58919	0.004099	0.040059	2.600109
ENSG00000269690.1|AC096677.1	1.275415	3.352536	10.57717	0.004098	0.040059	2.420685
ENSG00000272821.1|CTA-384D8.36	1.884086	4.333537	10.59754	0.004099	0.040059	3.691191
ENSG00000151229.8|SLC2A13	1.460331	4.606831	10.59083	0.004103	0.040076	2.751716
ENSG00000138821.8|SLC39A8	2.604229	6.566032	10.58203	0.004121	0.040181	6.080664
ENSG00000159217.5|IGF2BP1	7.159556	3.835149	10.58223	0.00412	0.040181	142.9688
ENSG00000088305.14|DNMT3B	1.902972	1.623793	10.55695	0.004131	0.040222	3.739827
ENSG00000211939.2|IGHV1-8	-3.4414	3.230802	10.57587	0.00413	0.040222	-10.8633
ENSG00000248347.3|RP11-1134I14.2	8.17158	0.455917	11.10622	0.00413	0.040222	288.3305
ENSG00000176076.6|KCNE1L	2.370851	-0.18374	10.55306	0.004134	0.04024	5.172461
ENSG00000270589.1|RP11-348N5.7	-1.00686	1.932863	10.55079	0.004136	0.04024	-2.00953
ENSG00000133816.9|MICAL2	1.189691	6.292986	10.53846	0.004165	0.040453	2.281039
ENSG00000136235.11|GPNMB	-1.87814	9.300056	10.55107	0.004165	0.040453	-3.67601
ENSG00000106852.11|LHX6	-1.21666	1.848422	10.52114	0.004179	0.040568	-2.32409
ENSG00000054392.8|HHAT	-1.10708	2.455926	10.50958	0.004196	0.040708	-2.15409
ENSG00000093009.5|CDC45	2.567271	2.51765	10.52925	0.004197	0.040708	5.926871
ENSG00000134072.6|CAMK1	2.190557	4.272152	10.51927	0.004212	0.040831	4.564818
ENSG00000215093.3|EEF1A1P29	-1.34772	-0.27447	10.48778	0.004228	0.040953	-2.5451
ENSG00000114541.10|FRMD4B	1.847223	6.921827	10.49647	0.004245	0.041084	3.598069
ENSG00000105492.11|SIGLEC6	-1.76362	0.179417	10.47398	0.004256	0.041144	-3.39549
ENSG00000175920.11|DOK7	-1.49186	1.647593	10.46913	0.004257	0.041144	-2.81251
ENSG00000174791.6|RIN1	1.531822	3.358869	10.47312	0.004261	0.041163	2.891507
ENSG00000257702.3|LBX2-AS1	1.542051	3.845495	10.47452	0.004266	0.041193	2.912082
ENSG00000107186.12|MPDZ	-1.04697	3.909526	10.46168	0.004268	0.041197	-2.06618
ENSG00000136603.9|SKIL	1.162703	6.764693	10.46444	0.004272	0.0412	2.238764
ENSG00000168329.9|CX3CR1	3.709275	5.214629	10.47518	0.004277	0.0412	13.07986
ENSG00000228548.1|ITPKB-AS1	-1.21077	-0.67232	10.45351	0.004279	0.0412	-2.31462
ENSG00000267895.1|SIGLEC19P	2.056591	-0.35972	10.44451	0.004293	0.041285	4.160021
ENSG00000218153.2|KRT18P22	2.355909	-0.4009	10.43815	0.004302	0.041352	5.119167
ENSG00000215030.4|RPL13P12	-1.78721	3.951574	10.44491	0.004322	0.0415	-3.45147
ENSG00000225217.1|HSPA7	2.648629	7.656699	10.44032	0.004329	0.041548	6.270709
ENSG00000144596.7|GRIP2	2.233952	4.177803	10.42616	0.004351	0.041699	4.704209
ENSG00000234068.2|PAGE2	8.546629	2.208074	10.41874	0.004362	0.041789	373.9311
ENSG00000168646.8|AXIN2	-1.41771	1.835101	10.39645	0.004366	0.041789	-2.67162
ENSG00000238057.4|ZEB2-AS1	1.348593	3.688119	10.40237	0.004366	0.041789	2.546637
ENSG00000079277.15|MKNK1	1.319835	7.105974	10.40064	0.004377	0.04188	2.496375
ENSG00000136238.13|RAC1	1.063752	7.325066	10.38429	0.004384	0.041909	2.090361
ENSG00000233077.1|RP11-290F20.2	2.88015	0.574357	10.40151	0.004383	0.041909	7.362265
ENSG00000137841.7|PLCB2	1.314594	8.148846	10.38385	0.004394	0.041952	2.487323
ENSG00000165480.11|SKA3	1.972375	2.076914	10.38569	0.004393	0.041952	3.924136

ENSG00000245552.2|RP11-712B9.2	-1.1239	1.603287	10.37321	0.004401	0.041999	-2.17935
ENSG00000235834.1|RP1-60N8.1	2.588668	0.67904	10.38326	0.004404	0.042008	6.01543
ENSG00000178966.11|RMI1	1.07047	3.453135	10.36453	0.004415	0.04209	2.100117
ENSG00000132718.7|SYT11	1.221861	5.147826	10.36256	0.00443	0.042179	2.332474
ENSG00000153815.12|CMIP	1.047407	7.272699	10.35484	0.00443	0.042179	2.066812
ENSG00000166922.4|SCG5	3.25833	1.275234	10.37552	0.004429	0.042179	9.568745
ENSG00000249717.1|RP11-44F21.3	-1.36169	0.638686	10.35102	0.004436	0.042217	-2.56985
ENSG00000075651.11|PLD1	1.161409	5.617953	10.35342	0.004444	0.042273	2.236758
ENSG00000198108.3|CHSY3	1.568329	2.654331	10.34345	0.004451	0.042288	2.96561
ENSG00000197261.7|C6orf141	-2.04139	-0.39183	10.33894	0.004465	0.042406	-4.11643
ENSG00000130489.8|SCO2	1.592684	5.118214	10.33225	0.004496	0.04259	3.016099
ENSG00000163644.10|PPM1K	-1.05039	5.839732	10.32444	0.004493	0.04259	-2.07109
ENSG00000236338.1|AC015987.2	9.933521	2.156715	10.84453	0.004491	0.04259	977.8847
ENSG00000269404.2|SPIB	-2.20515	3.916475	10.33347	0.004494	0.04259	-4.61121
ENSG00000117632.16|STMN1	1.540732	5.322808	10.32829	0.004503	0.042594	2.909421
ENSG00000237683.5|AL627309.1	2.285989	6.72935	10.32628	0.004506	0.042605	4.876983
ENSG00000108688.7|CCL7	8.854656	1.107405	10.82777	0.004516	0.042677	462.9318
ENSG00000163486.8|SRGAP2	1.510084	7.279304	10.3188	0.004518	0.042677	2.848266
ENSG00000175264.3|CHST1	1.043229	2.472643	10.29808	0.004519	0.042677	2.060835
ENSG00000100504.12|PYGL	2.404977	6.59121	10.31544	0.004523	0.042687	5.29627
ENSG00000259030.2|FPGT-TNNI3K	-1.68858	0.921353	10.30107	0.004524	0.042687	-3.22339
ENSG00000086967.9|MYBPC2	-2.33586	0.096198	10.31284	0.004527	0.042695	-5.04851
ENSG00000257198.2|FAM205B	-1.75038	-0.71959	10.29196	0.004529	0.042695	-3.36447
ENSG00000225101.3|OR52K3P	3.874108	1.597837	10.31016	0.004531	0.0427	14.66299
ENSG00000115318.7|LOXL3	1.317308	5.504124	10.30179	0.004534	0.042707	2.492007
ENSG00000204789.3|ZNF204P	-1.37046	0.800915	10.28464	0.004541	0.04275	-2.58552
ENSG00000146828.13|SLC12A9	1.383003	7.35586	10.2917	0.004549	0.04279	2.608106
ENSG00000226085.2|UQCRFS1P1	1.543808	0.595582	10.2787	0.00455	0.04279	2.91563
ENSG00000268362.1|CTD-2017D11.1	-1.17274	3.480151	10.28405	0.004551	0.04279	-2.2544
ENSG00000152454.3|ZNF256	-1.51886	1.821615	10.27525	0.004564	0.042818	-2.86565
ENSG00000159753.9|RLTPR	-1.52335	4.949495	10.2912	0.004562	0.042818	-2.87457
ENSG00000234380.1|AP000330.8	2.40755	0.437307	10.27895	0.004561	0.042818	5.305725
ENSG00000242324.1|RP4-576H24.2	1.664618	0.948728	10.27449	0.004557	0.042818	3.170298
ENSG00000142973.8|CYP4B1	-3.14946	-1.03628	10.28866	0.004566	0.042821	-8.87326
ENSG00000255968.1|RP11-513G19.1	1.333537	0.991413	10.25488	0.004589	0.043016	2.520197
ENSG00000123388.4|HOXC11	3.492797	1.257857	10.27032	0.004595	0.043061	11.25736
ENSG00000169047.5|IRS1	-1.11783	3.788489	10.25043	0.004605	0.04312	-2.17021
ENSG00000249096.2|RP11-290F5.1	-1.4591	2.120481	10.24922	0.004606	0.04312	-2.74937
ENSG00000133055.4|MYBPH	5.010865	2.296586	10.26211	0.004609	0.04313	32.24189
ENSG00000145087.8|STXBP5L	2.351284	0.275748	10.24343	0.004617	0.043172	5.102782
ENSG00000269720.1|CTD-2521M24.5	2.049779	1.394297	10.24348	0.004617	0.043172	4.140425
ENSG00000182983.10|ZNF662	-1.21472	1.960369	10.23109	0.004627	0.043207	-2.32097
ENSG00000142661.14|MYOM3	3.111958	-0.28273	10.22514	0.004656	0.043428	8.645551
ENSG00000119457.7|SLC46A2	1.27513	1.921821	10.208	0.004665	0.043492	2.420207
ENSG00000023839.6|ABCC2	-1.00847	0.937094	10.20494	0.00467	0.043502	-2.01178
ENSG00000113368.7|LMNB1	1.98708	5.992238	10.2244	0.00467	0.043502	3.964337
ENSG00000236521.1|NPAP1P4	-2.64876	2.055246	10.21838	0.00468	0.043576	-6.27129

ENSG00000156381.4|ANKRD9	1.28689	3.94285	10.20331	0.004683	0.043579	2.440016
ENSG00000077152.5|UBE2T	2.034448	1.50232	10.18564	0.004712	0.043745	4.096659
ENSG00000196533.6|C1orf186	-2.06462	1.84828	10.2021	0.004707	0.043745	-4.18323
ENSG00000225399.3|RP11-3B7.1	2.067789	1.207899	10.18674	0.00471	0.043745	4.192436
ENSG00000130529.11|TRPM4	1.249143	5.690179	10.18519	0.004722	0.043802	2.377001
ENSG00000169435.9|RASSF6	-2.61318	1.256238	10.19083	0.004726	0.043815	-6.11852
ENSG00000211448.7|DIO2	4.236036	3.08762	10.18232	0.00474	0.043928	18.84403
ENSG00000173442.7|EHBP1L1	1.155204	8.913322	10.14319	0.004774	0.044182	2.227158
ENSG00000125246.11|CLYBL	-1.08318	2.20117	10.1412	0.004777	0.044194	-2.1187
ENSG00000155465.14|SLC7A7	1.026222	6.659507	10.13068	0.004796	0.044336	2.036683
ENSG00000120949.10|TNFRSF8	1.032451	2.331956	10.12474	0.004805	0.044378	2.045497
ENSG00000179630.6|LACC1	1.388921	4.85125	10.12905	0.004824	0.044536	2.618828
ENSG00000167972.9|ABCA3	-1.60635	3.575543	10.12893	0.00483	0.044576	-3.04481
ENSG00000243333.2|RN7SL174P	-1.45068	-0.01275	10.10592	0.004837	0.044619	-2.73338
ENSG00000141384.7|TAF4B	-1.41865	3.38529	10.10933	0.004856	0.044654	-2.67335
ENSG00000142512.10|SIGLEC10	1.125046	5.648937	10.10775	0.004845	0.044654	2.181085
ENSG00000144451.14|SPAG16	-1.18091	1.175095	10.10209	0.004844	0.044654	-2.26721
ENSG00000155659.10|VSIG4	3.229624	7.939775	10.11919	0.004847	0.044654	9.380235
ENSG00000205959.3|RP11-689P11.2	-1.18393	0.358433	10.09424	0.004857	0.044654	-2.27195
ENSG00000234511.4|C5orf58	1.067907	3.148429	10.09549	0.004855	0.044654	2.096389
ENSG00000269553.1|U62631.5	-2.65155	0.332821	10.11565	0.004853	0.044654	-6.28342
ENSG00000272098.1|AC092299.8	3.439567	5.785594	10.11456	0.004855	0.044654	10.84958
ENSG00000271344.1|RP11-274B21.9	1.923047	0.357575	10.08726	0.004869	0.044727	3.792233
ENSG00000141040.10|ZNF287	-1.03293	1.427616	10.07857	0.004884	0.044846	-2.04618
ENSG00000215559.4|ANKRD20A11P	-2.85728	1.512837	10.09247	0.004893	0.044909	-7.24648
ENSG00000002746.10|HECW1	2.719065	0.802993	10.0853	0.004898	0.044936	6.584461
ENSG00000140451.8|PIF1	1.755067	3.881223	10.07949	0.004916	0.045018	3.375421
ENSG00000187791.7|FAM205CP	-2.16535	-0.42907	10.06983	0.004917	0.045018	-4.48575
ENSG00000264743.2|DPRXP4	1.590136	2.392436	10.05797	0.00492	0.045025	3.010778
ENSG00000120149.7|MSX2	3.250011	0.016915	10.07095	0.004931	0.045101	9.513729
ENSG00000267701.1|RP11-28F1.2	-1.45294	-0.50693	10.03236	0.004965	0.045323	-2.73766
ENSG00000172403.6|SYNPO2	-1.3153	5.400279	10.04638	0.004974	0.045382	-2.48854
ENSG00000161944.12|ASGR2	2.390638	1.831494	10.03299	0.004991	0.045519	5.24389
ENSG00000124785.4|NRN1	1.822099	4.288689	10.03446	0.004995	0.045537	3.535954
ENSG00000204839.4|MROH6	2.128065	4.363309	10.02536	0.005011	0.045646	4.371309
ENSG00000250138.3|RP11-848G14.5	1.744141	6.782427	10.02335	0.005015	0.04566	3.349954
ENSG00000228192.3|RP11-342M1.3	1.019952	0.106422	9.991995	0.005037	0.045751	2.027851
ENSG00000223965.2|ZNF587P1	-1.73664	0.309866	9.996166	0.00504	0.045759	-3.33257
ENSG00000212734.4|C17orf100	-1.65593	0.767575	9.986374	0.005057	0.045892	-3.15127
ENSG00000217555.8|CKLF	1.87976	4.503656	9.997614	0.005061	0.045898	3.680138
ENSG00000239353.1|RP11-492E3.51	1.601209	-0.17732	9.975901	0.005066	0.045919	3.033975
ENSG00000232586.1|RP11-46A10.4	1.945409	1.145066	9.969884	0.005081	0.046034	3.851469
ENSG00000116691.6|MIIP	1.209145	5.337215	9.97177	0.005091	0.046086	2.312005
ENSG00000259772.2|RP11-16E12.2	-1.50377	1.201639	9.954574	0.005105	0.046175	-2.83583
ENSG00000075399.8|VPS9D1	1.331307	5.58269	9.964276	0.005117	0.04621	2.516305
ENSG00000140479.12|PCSK6	-1.78717	2.975911	9.967936	0.005114	0.04621	-3.45137
ENSG00000175305.12|CCNE2	1.048995	2.210096	9.948354	0.005116	0.04621	2.069088

ENSG00000256139.2|RP11-968O1.5	-1.66113	-0.03453	9.948756	0.005116	0.04621	-3.16264
ENSG00000137491.10|SLCO2B1	1.629027	9.241378	9.953488	0.005127	0.04626	3.093044
ENSG00000250771.2|RP11-153M7.3	4.84119	4.34976	9.951551	0.005144	0.046378	28.66443
ENSG00000131398.9|KCNC3	1.88097	5.944095	9.9446	0.005157	0.046446	3.683227
ENSG00000231047.1|GCNT1P3	1.686343	-0.40501	9.925514	0.005158	0.046446	3.218399
ENSG00000144355.10|DLX1	4.847106	0.489029	9.936963	0.005171	0.046524	28.78221
ENSG00000223799.1|IL10RB-AS1	1.006341	4.599007	9.915646	0.005177	0.046537	2.00881
ENSG00000101605.8|MYOM1	-1.2311	1.925431	9.909629	0.005188	0.046614	-2.34746
ENSG00000243055.1|GK-AS1	2.00351	2.330237	9.918886	0.005191	0.046621	4.009743
ENSG00000079819.12|EPB41L2	1.4075	8.104765	9.905295	0.005213	0.046652	2.65277
ENSG00000106789.8|CORO2A	-1.48106	3.104959	9.911531	0.005212	0.046652	-2.79153
ENSG00000111640.10|GAPDH	1.39961	9.475911	9.903276	0.005205	0.046652	2.638302
ENSG00000118017.3|A4GNT	2.452147	0.020402	9.90532	0.005206	0.046652	5.472298
ENSG00000143570.13|SLC39A1	1.083737	6.452824	9.901722	0.005213	0.046652	2.119519
ENSG00000240489.1|SETP14	1.218249	0.242637	9.896389	0.005212	0.046652	2.326641
ENSG00000270039.1|RP11-571M6.17	1.507383	0.428581	9.894045	0.005217	0.046664	2.842939
ENSG00000202198.1|RN7SK	-1.06199	13.80083	9.892658	0.005219	0.046668	-2.0878
ENSG00000105339.6|DENND3	1.745203	8.860386	9.908567	0.005224	0.04669	3.35242
ENSG00000131471.2|AOC3	-1.10588	4.187598	9.89572	0.005226	0.046693	-2.1523
ENSG00000234982.1|RP11-280O24.3	-1.18235	-0.19453	9.882797	0.005238	0.046738	-2.26946
ENSG00000179362.10|HMGN2P46	2.579401	1.178339	9.894997	0.005241	0.046751	5.976915
ENSG00000251066.1|CTC-534B23.1	7.670062	1.393989	9.897718	0.005244	0.046757	203.666
ENSG00000247095.2|MIR210HG	2.497203	2.310681	9.889873	0.005259	0.04685	5.645896
ENSG00000206082.8|LINC01002	2.755271	5.609599	9.888054	0.005262	0.046854	6.751795
ENSG00000248791.1|CTD-2165H16.3	1.620096	1.480225	9.869078	0.005264	0.046854	3.073954
ENSG00000167851.9|CD300A	1.20019	5.915788	9.876412	0.00527	0.046877	2.2977
ENSG00000265401.1|RP11-138I1.4	-1.59017	2.299104	9.875337	0.00527	0.046877	-3.01084
ENSG00000159164.5|SV2A	-1.25388	1.987926	9.861077	0.005279	0.046901	-2.38482
ENSG00000241693.2|RN7SL704P	-1.23552	0.847676	9.860581	0.00528	0.046901	-2.35466
ENSG00000260213.1|RP11-303E16.3	1.495305	-0.87764	9.86256	0.005276	0.046901	2.819238
ENSG00000115884.6|SDC1	-2.28874	5.012899	9.873957	0.005289	0.046953	-4.88629
ENSG00000234428.2|RP11-666F17.1	1.270849	1.42467	9.848325	0.005303	0.047012	2.413035
ENSG00000241684.1|ADAMTS9-AS2	-1.45546	1.925605	9.85329	0.005301	0.047012	-2.74245
ENSG00000183386.5|FHL3	1.338237	4.16855	9.850157	0.005313	0.047083	2.528421
ENSG00000155393.8|HEATR3	1.005843	5.245169	9.835224	0.005331	0.047224	2.008117
ENSG00000272264.1|RP11-92K15.3	-1.4042	-0.2973	9.832201	0.005334	0.047228	-2.64672
ENSG00000272692.1|RP11-399K21.14	1.971796	-0.64613	9.830238	0.005337	0.047242	3.92256
ENSG00000090382.2|LYZ	-1.6857	8.813455	9.844851	0.005344	0.047268	-3.21697
ENSG00000167676.3|PLIN4	-1.40671	3.267824	9.837602	0.005345	0.047268	-2.65132
ENSG00000161328.10|LRRC56	-1.14322	1.61788	9.820701	0.005356	0.047347	-2.20874
ENSG00000087253.7|LPCAT2	2.196523	6.276302	9.822855	0.005387	0.047565	4.583733
ENSG00000135363.7|LMO2	2.048193	5.898665	9.81427	0.005403	0.047611	4.135877
ENSG00000095383.15|TBC1D2	-1.31416	5.306232	9.811202	0.005409	0.047626	-2.48657
ENSG00000159259.7|CHAF1B	1.184702	2.484093	9.788204	0.005419	0.047633	2.273165
ENSG00000196381.6|ZNF781	-1.49095	0.381107	9.788569	0.005418	0.047633	-2.81073
ENSG00000213123.6|TCTEX1D2	-1.16233	0.762725	9.791108	0.005413	0.047633	-2.23818
ENSG00000224137.1|AC079767.4	-1.60384	0.996337	9.78498	0.005434	0.04775	-3.03951

ENSG00000105509.6|HAS1	2.347544	-0.19296	9.779202	0.005443	0.047807	5.089571
ENSG00000259293.1|RP11-355N15.1	2.461765	0.536963	9.767014	0.005476	0.047988	5.508902
ENSG00000114654.6|EFCC1	-1.59688	0.588111	9.757578	0.005483	0.048023	-3.02488
ENSG00000244731.3|C4A	-1.38395	5.691676	9.763929	0.005502	0.048168	-2.60982
ENSG00000171552.8|BCL2L1	1.207497	7.088011	9.741757	0.005523	0.048339	2.309367
ENSG00000224020.1|MIR181A2HG	1.579168	-0.57102	9.72744	0.005539	0.048434	2.987976
ENSG00000223648.2|IGHV3-64	-2.69378	1.925508	9.74223	0.005545	0.048468	-6.47004
ENSG00000211642.2|IGLV10-54	-3.50921	2.019248	9.740776	0.005548	0.048474	-11.3862
ENSG00000226415.1|TPI1P1	1.474445	0.918886	9.721035	0.005551	0.048488	2.778767
ENSG00000231621.1|AC013264.2	-1.05701	0.747557	9.719711	0.005554	0.048492	-2.08061
ENSG00000117009.7|KMO	-1.21408	3.973953	9.726352	0.005562	0.048506	-2.31993
ENSG00000181908.4|AP003774.4	2.045754	0.739713	9.720164	0.005562	0.048506	4.128891
ENSG00000257640.1|RP11-570L15.2	-1.23086	0.137311	9.716053	0.005561	0.048506	-2.34707
ENSG00000018869.12|ZNF582	-1.23748	0.710897	9.710274	0.005573	0.04856	-2.35786
ENSG00000003249.9|DBNDD1	-1.38302	0.756184	9.708117	0.005577	0.048575	-2.60814
ENSG00000105664.6|COMP	5.98773	3.268189	9.724553	0.00558	0.048575	63.45798
ENSG00000124731.8|TREM1	3.458639	4.484079	9.723894	0.005581	0.048575	10.99396
ENSG00000029559.5|IBSP	10.43362	6.174716	9.719517	0.00559	0.048632	1383.03
ENSG00000007255.6|TRAPPC6A	-1.03568	2.663052	9.699596	0.005594	0.048642	-2.05009
ENSG00000166578.5|IQCD	1.390376	0.922542	9.691056	0.005612	0.048704	2.621471
ENSG00000138182.10|KIF20B	1.233763	4.430376	9.667294	0.005674	0.049201	2.351796
ENSG00000204650.9|CRHR1-IT1	-1.06746	3.276564	9.655468	0.005684	0.049265	-2.09574
ENSG00000269624.1|AL138847.1	1.200255	1.010716	9.654986	0.005685	0.049265	2.297803
ENSG00000187210.8|GCNT1	1.710841	5.760127	9.666477	0.005698	0.04932	3.273516
ENSG00000226675.1|RP11-666A1.3	-1.39888	-0.28006	9.648605	0.005699	0.04932	-2.63697
ENSG00000130518.12|KIAA1683	-1.18466	4.143486	9.651102	0.005715	0.049413	-2.27311
ENSG00000171604.7|CXXC5	-1.2937	4.704423	9.657705	0.005716	0.049413	-2.45156
ENSG00000261606.1|RP11-414J4.2	3.450918	2.292243	9.658037	0.005715	0.049413	10.93528
ENSG00000120694.15|HSPH1	1.218835	6.141046	9.647961	0.005722	0.049443	2.327587
ENSG00000015133.14|CCDC88C	-1.33711	6.533052	9.653614	0.005724	0.049445	-2.52644
ENSG00000089692.4|LAG3	2.331012	4.579759	9.652635	0.005726	0.049445	5.031583
ENSG00000111057.6|KRT18	-1.30549	1.616328	9.628361	0.00574	0.049507	-2.47167
ENSG00000154920.10|EME1	1.24467	1.899425	9.627729	0.005742	0.049507	2.369644
ENSG00000246223.4|C14orf64	-1.48286	2.350177	9.633744	0.005743	0.049507	-2.79502
ENSG00000258667.1|HIF1A-AS2	2.265249	2.029652	9.639762	0.005746	0.049518	4.807372
ENSG00000106546.8|AHR	1.107639	7.640102	9.62132	0.005759	0.049591	2.154926
ENSG00000241269.1|AC093620.5	1.387615	2.035784	9.61321	0.005772	0.049662	2.616458
ENSG00000164294.9|GPX8	1.877308	2.594643	9.619741	0.00578	0.049695	3.673889
ENSG00000248476.1|BACH1-IT1	1.281519	1.372548	9.604905	0.005789	0.049753	2.430947
ENSG00000197565.11|COL4A6	-1.43948	0.192719	9.600563	0.005799	0.049792	-2.71223
ENSG00000254838.4|GVINP1	-1.05511	6.576218	9.611412	0.005798	0.049792	-2.07787
ENSG00000212456.1|RNVU1-13	-1.66415	-0.21764	9.596367	0.005807	0.049829	-3.16926
ENSG00000108691.5|CCL2	2.385227	6.387174	9.611464	0.005812	0.049848	5.224259
ENSG00000121966.6|CXCR4	-1.6977	7.247447	9.610543	0.005814	0.049848	-3.24383
ENSG00000131831.13|RAI2	-1.4738	1.659647	9.59483	0.005817	0.04985	-2.77752
ENSG00000257202.1|RP11-512N21.3	1.991338	-0.52536	9.590759	0.005819	0.04985	3.976057
ENSG00000259078.2|PTBP1P	-2.17182	0.676547	9.607163	0.005821	0.04985	-4.50591

ENSG00000164654.11|MIOS	1.034776	5.692001	9.593833	0.005824	0.049854	2.048796
ENSG00000182272.7|B4GALNT4	-1.82773	-0.26744	9.588733	0.005834	0.049919	-3.54978
ENSG00000135636.9|DYSF	1.938972	6.98728	9.598039	0.005841	0.049956	3.834323

Supplementary Table S6. Assessment of GI site and cell cycle clustering. GI-related genes removed from analysis during assessment of GI site-related clustering.

ABCB1	ANO9	CTSD	DPEP1	FCGBP	FTH1	GAPDH	GPX3	GSDMC
HOXA13	IGHA1	IGHA2	IGHM	IGJ	IGKV3-20	ITM2C	KRT18	MYH11
NAALADL1	NEK2	NTS	SATB2	SLC12A8	TAGLN	TRPM6	TXNIP	VDR

Supplementary Table S7. Assessment of GI site and cell cycle clustering. Genes most clearly differentially expressed between the tumor subgroups ('Red Box' in **Supplementary Figure S6**).

AMPD2	MIIP	RP3-340N1.2	RP11-169K16.7	CTD-2033A16.2
CENPL	RP5-940J5.9	TTBK1	FAM72A	FAM72B
FAM72D	CHAF1B	FBXO43	C2orf48	PIF1
FANCA	PLK4	EZH2	NCAPG	E2F7
CDCA2	NEIL3	SMC4	SGOL1	MCM10
BUB1	MND1	KIF20B	DEPDC1	KIF18A
HMMR	KIF15	DIAPH3	ATAD2	STMN1
CKLF	WDR76	KPNA2	UBE2T	UHRF1
MCM4	NDC80	NUSAP1	CCNB2	CEP55
MKI67	BUB1B	KIF11	ARHGAP11A	ZWINT
CDK1	RRM2	CDKN3	CCNA2	KIAA1524
DEPDC1B	DLGAP5	PTTG1	KIAA0101	RAD51
FANCI	LMNB1	CDC25A	E2F2	FAM83D
SAPCD2	MELK	CENPN	CHEK1	KIF20A
AURKA	CDC25C	CDCA3	PRC1	CCNF
KIF2C	PLK1	CDC45	AURKB	KIFC1
TPI1	CDKN2C	HIST1H2AD	TCF19	TK1
LDHA	CCNE2	SKA3	LDHAP4	SMC2
ZNF367	CTD-2267D19.6	CAMK1	TUBG1	LMNB2
CCDC150	RP11-424C20.2	EME1	CLSPN	RACGAP1
SPC24	SPAG5	KIF23	TRIP13	DTL
KIF4A	EXO1	HJURP	KIF18B	FOXM1
TICRR	ESPL1	BIRC5	CDCA5	CDC6
TROAP	GTSE1	E2F8	ORC1	NUF2
CDCA8	UBE2C	SPC25	TYMS	CENPA
SKA1	RAD54L	STIL	CASC5	ESCO2
TTK	CKAP2L	CENPF	ASPM	KIF14
PKMYT1				

Supplementary Table S8. Assessment of GI site and cell cycle clustering. Functional enrichment performed on the 136 most differentially expressed genes between the tumor subgroups (**Supplementary Table S7**) using ToppFun. The top 10 GO Biological Processes are enriched for cell cycle-related terms.

ID	Name	p-value	q-value Bonferroni	q-value FDR B&H	q-value FDR B&Y	Hit Count in Query List	Hit Count in Genome
GO:0007049	cell cycle	3.25E-76	5.92E-73	5.92E-73	4.78E-72	97	1766
GO:1903047	mitotic cell cycle process	1.03E-75	1.87E-72	9.33E-73	7.54E-72	81	931
GO:0000278	mitotic cell cycle	3.61E-74	6.58E-71	2.19E-71	1.77E-70	82	1016
GO:0022402	cell cycle process	1.59E-73	2.90E-70	7.24E-71	5.85E-70	89	1385
GO:0000280	nuclear division	2.72E-58	4.96E-55	9.91E-56	8.02E-55	61	599
GO:0048285	organelle fission	1.13E-56	2.05E-53	3.42E-54	2.76E-53	61	636
GO:0051301	cell division	5.15E-51	9.38E-48	1.34E-48	1.08E-47	58	668
GO:0007059	chromosome segregation	4.93E-49	8.99E-46	1.12E-46	9.08E-46	46	333
GO:0000819	sister chromatid segregation	2.73E-45	4.96E-42	5.52E-43	4.46E-42	39	225
GO:0098813	nuclear chromosome segregation	2.53E-44	4.61E-41	4.61E-42	3.73E-41	41	283

Supplementary Table S9. Targeted gene list (430 genes).

A1CF	A2ML1	ABL1	ACTB	ACVR1
ACVR2A	AKT1	ALK	AMER1	ANK1
APC	AR	ARAF	ARHGAP26	ARHGAP5
ARID1A	ARID1B	ARID2	ASXL1	ASXL2
ATM	ATP1A1	ATP2B3	ATP6V1B2	ATR
ATRX	AXIN1	AXIN2	B2M	BAP1
BARD1	BAX	BAZ2A	BCL10	BCL11B
BCL2	BCL2L12	BCL6	BCL7A	BCL9L
BCLAF1	BCOR	BCORL1	BIRC3	BIRC6
BMP5	BRAF	BRCA1	BRCA2	BRCC3
BTG1	BTG2	BTK	BUB1	CACNA1D
CALR	CARD11	CASP8	CBL	CBLB
CCND3	CCR4	CCR7	CD209	CD28
CD58	CD70	CD79A	CD79B	CDC73
CDH1	CDH10	CDH17	CDK12	CDKN1A
CDKN2A	CEBPA	CHD2	CHD4	CHEK2
CIC	CIITA	CNBD1	CNOT3	CNTNAP2
CNTNAP5	COL2A1	CREBBP	CRLF2	CRNKL1
CSF1R	CSF3R	CSMD3	CTCF	CTNNA2
CTNNB1	CTNND1	CTNND2	CUL3	CUX1
CXCR4	CYLD	CYP2C8	CYSLTR2	DAXX
DCAF12L2	DCC	DCHS1	DDR2	DDX10
DDX3X	DGCR8	DICER1	DNM2	DNMT3A
DROSHA	DTX1	EBF1	ECT2L	EED
EEF1A1	EGFR	EGR2	EIF1AX	ELF3
ELF4	EP300	EPAS1	EPHA3	EPHA7
ERBB2	ERBB3	ERBB4	ESR1	ETNK1
ETS1	ETV6	EZH2	FAM135B	FAM46C
FAM47C	FAM50A	FAS	FAT1	FAT3
FAT4	FBLN2	FBN2	FBXO11	FBXW7
FES	FGFR2	FGFR3	FGFR4	FKBP9
FLNA	FLT3	FOXA1	FOXL2	FOXO1
FUBP1	GATA1	GATA2	GATA3	GNA11
GNA13	GNAI2	GNAQ	GNAS	GNB1
GRB2	GRIN2A	GRM3	H3F3A	H3F3B
HIF1A	HIST1H1B	HIST1H1C	HIST1H1D	HIST1H1E
HIST1H2AC	HIST1H2AM	HIST1H2BC	HIST1H2BK	HIST1H3B
HLA-A	HLA-B	HLA-C	HNF1A	HRAS
HVCN1	ID3	IDH1	IDH2	IGLL5
IKBKB	IKZF1	IKZF3	IL6ST	IL7R
IRF4	IRF8	IRS4	ISX	JAK1
JAK2	JAK3	KAT7	KCNJ5	KDM5C
KDM6A	KDR	KEAP1	KIAA1239	KIT
KLF4	KLF6	KLH6	KLHDC8B	KLHL14
KLHL6	KMT2A	KMT2C	KMT2D	KNSTRN
KRAS	LATS1	LATS2	LEF1	LRP1B
LRRN3	LTB	LYN	LZTR1	MACC1

MAP2K1	MAP2K2	MAP2K4	MAP3K1	MAP3K8
MAPK1	MAX	MB21D2	MED12	MEF2B
MEN1	MET	MGA	MLH1	MLL2
MPEG1	MPL	MSH2	MSH6	MTOR
MUC16	MUC4	MYC	MYCN	MYD88
MYH7B	MYOD1	MYST4	NCOR1	NCOR2
NF1	NF2	NFE2L2	NFKBIA	NFKBIE
NOTCH1	NOTCH2	NOTCH3	NRAS	NT5C2
OSBPL10	P2RY8	PABPC1	PAX5	PBRM1
PCBP1	PCDH19	PCLO	PDGFRA	PHF6
PHOX2B	PIK3CA	PIK3CB	PIK3CD	PIK3R1
PIM1	PLCG1	PMS1	POLD1	POLE
POLG	POLQ	POT1	POU2AF1	POU2F2
PPM1D	PPP1CB	PPP2R1A	PPP6C	PRDM1
PRDM2	PREX2	PRKACA	PRKAR1A	PRKCB
PRPF40B	PTCH1	PTEN	PTK6	PTPN11
PTPN13	PTPN14	PTPN6	PTPRB	PTPRC
PTPRD	PTPRT	QKI	RAC1	RAD21
RAF1	RASA2	RB1	RBM10	RET
RFTN1	RGPD3	RGS7	RHOA	RIT1
RNF43	RPL10	RPL5	RPS15	RRAS
RUNX1	S100A7	SALL4	SAMHD1	SBNO2
SDHA	SETBP1	SETD1B	SETD2	SETDB1
SF3B1	SFRP4	SGK1	SH2B3	SHANK2
SHC	SHOC2	SHP2	SIRPA	SIX1
SIX2	SKI	SMAD2	SMAD3	SMAD4
SMARCA4	SMARCB1	SMARCD1	SMC1A	SMEK1
SMO	SOCS1	SOS	SOS1	SOS2
SPEN	SPOP	SPRED1	SPRY1	SRC
SRSF2	STAG1	STAG2	STAT3	STAT5B
STAT6	STK11	SUFU	SUZ12	SYNE1
SYNGAP1	TBL1XR1	TBX3	TET2	TGFBR2
TMEM30A	TMSB4X	TNC	TNFAIP3	TNFRSF14
TOX	TP53	TP63	TRAF2	TRAF7
TRRAP	TSC1	TSC2	TSHR	U2AF1
UBR5	USP8	VAV1	VHL	VPS13D
WHSC1	WNK2	WT1	XPO1	ZC3H12A
ZEB1	ZEB2	ZFHX3	ZMYM3	ZNF292
ZNF429	ZNF479	ZNF608	ZNRF3	ZRSR2

Supplementary Table S10. Primer sequences used in the RT-PCR validation of the *TTYH3-BRAF* fusion.

Primer	Sequence	Tm
TTYH3 – Forward	5'-AGT GAG ACC AGC ATC CC-3'	54.0˚C
BRAF – Reverse	5'-GCT GTG GAA TTG GAA TGG A-3'	52.9˚C
GUSB – Forward	5'-CTC ATT TGG AAT TTT GCC GAT T-3'	52.3˚C
GUSB – Reverse	5'-CCG AGT GAA GAT CCC CTT TTT A-3'	54.4 ˚C

Supplementary Table S11. Probes used in fluorescent in-situ hybridization (FISH).

Gene/Locus	Probe/BAC Clone	Reference Probe
NF1	Human BAC FISH Probe RP11-142O6 Orange (Empire Genomics, Buffalo, NY, USA)	Vysis CEP 17 (D17Z1) SpectrumGreen Probe (17p11.1-q11.1 Alpha Satellite DNA) (Abbott Molecular, Des Plaines IL, USA)
CDKN2A	Vysis LSI *CDKN2A* SpectrumOrange Probe (9p21) (Abbott Molecular)	Vysis CEP 9 (9p11-q11 Alpha Satellite DNA) Aqua Probe (Abbott Molecular) *or* Con 9 (9q21.3) Green (Empire Genomics)
PTPN11	Human BAC FISH Probes RP11-748H13 Green, RP11-90F3 Green, RP11.9P8 Orange, RP11-660M3 Orange (Empire Genomics)	CON 12 (12p11) Aqua (Empire Genomics)
TP53	LSI *TP53* SpectrumOrange Probe (17p13.1) (Abbott Molecular)	Vysis CEP 17 (D17Z1) SpectrumGreen Probe (17p11.1-q11.1 Alpha Satellite DNA) (Abbott Molecular)
PTEN	Vysis LSI *PTEN* SpectrumOrange/CEP 10 SpectrumGreen (Abbott Molecular)	
BRAF	*BRAF* Break Apart Probe Orange and Green (7q34) (Empire Genomics)	

Supplementary Table S12. Differentially expressed genes between *NF1/PTPN11* altered and *NF1/PTPN11* wild-type cases (absolute logFC > 1 and FDR < 0.05).

	logFC	logCPM	F	PValue	FDR	FC
ENSG00000185594.4|SPATA8	8.117482	1.146888	145.3632	2.51E-09	5.29E-05	277.719
ENSG00000151651.11|ADAM8	-2.88933	6.762325	100.2554	3.34E-08	0.000228	-7.40925
ENSG00000177675.4|CD163L1	3.432824	6.392334	97.06045	4.32E-08	0.000228	10.79899
ENSG00000243232.3|PCDHAC2	5.464626	4.80993	103.1109	3.20E-08	0.000228	44.1587
ENSG00000013810.14|TACC3	-1.62385	5.930589	90.19122	6.85E-08	0.000289	-3.08196
ENSG00000267934.1|CTB-176F20.3	2.995825	3.389182	87.39821	8.46E-08	0.000297	7.97688
ENSG00000219665.4|CTD-2006C1.2	2.872639	4.550297	80.78828	1.43E-07	0.00043	7.324036
ENSG00000067057.12|PFKP	-3.37568	6.413626	71.07998	3.40E-07	0.00056	-10.3796
ENSG00000100031.14|GGT1	-1.92797	4.378388	65.06233	5.84E-07	0.00056	-3.8052
ENSG00000138180.11|CEP55	-2.28783	4.028304	71.57376	3.16E-07	0.00056	-4.8832
ENSG00000145431.6|PDGFC	3.302806	4.131753	70.89499	3.46E-07	0.00056	9.868333
ENSG00000165568.13|AKR1E2	3.127501	1.02429	75.67293	2.20E-07	0.00056	8.739197
ENSG00000171314.8|PGAM1	-1.76395	7.331917	70.48811	3.49E-07	0.00056	-3.39627
ENSG00000185442.8|FAM174B	3.260381	3.851472	66.82631	5.06E-07	0.00056	9.582359
ENSG00000188171.10|ZNF626	2.943973	3.141536	67.69926	4.53E-07	0.00056	7.695273
ENSG00000196963.2|PCDHB16	3.975996	1.262508	65.84028	5.41E-07	0.00056	15.73599
ENSG00000197647.7|ZNF433	2.861759	3.783735	70.90886	3.36E-07	0.00056	7.269012
ENSG00000213988.5|ZNF90	3.331136	3.100026	66.74228	4.96E-07	0.00056	10.06403
ENSG00000214424.5|FAM149B1P1	5.193472	-0.03882	67.5193	4.61E-07	0.00056	36.5924
ENSG00000224376.1|AC017104.6	2.995662	0.772874	67.96346	4.42E-07	0.00056	7.975978
ENSG00000260555.1|RP11-728K20.2	3.279444	2.050721	67.92522	4.43E-07	0.00056	9.709818
ENSG00000267924.1|RP11-255H23.4	4.694411	1.716839	65.05819	5.84E-07	0.00056	25.89158
ENSG00000132010.11|ZNF20	2.937318	3.129594	62.23909	7.74E-07	0.00071	7.659858
ENSG00000070019.3|GUCY2C	2.990034	-0.5746	59.89587	9.87E-07	0.000759	7.944929
ENSG00000107815.3|C10orf2	-1.94505	3.018833	59.78667	9.98E-07	0.000759	-3.85051
ENSG00000108106.9|UBE2S	-2.17866	4.394147	59.36179	1.04E-06	0.000759	-4.52731
ENSG00000255836.1|RP11-157G21.2	2.864288	1.235746	59.82238	9.94E-07	0.000759	7.281764
ENSG00000260704.1|LINC00543	4.428162	-0.78626	59.45249	1.03E-06	0.000759	21.52829
ENSG00000266554.1|RP11-527H14.2	6.356322	0.017221	60.74154	9.23E-07	0.000759	81.9301
ENSG00000112984.7|KIF20A	-2.63539	3.627737	58.95567	1.09E-06	0.000766	-6.21343
ENSG00000128340.10|RAC2	-1.9665	6.804471	58.01276	1.21E-06	0.00077	-3.9082
ENSG00000144407.5|PTH2R	4.415162	1.056101	58.25404	1.17E-06	0.00077	21.33518
ENSG00000257167.2|TMPO-AS1	-1.61031	3.01815	58.17718	1.18E-06	0.00077	-3.05318
ENSG00000032389.8|TSSC1	-1.94568	3.926331	57.30625	1.30E-06	0.000807	-3.8522
ENSG00000061455.10|PRDM6	2.794909	1.630398	56.40399	1.44E-06	0.000814	6.939872
ENSG00000185313.6|SCN10A	7.273142	0.883822	57.18839	1.42E-06	0.000814	154.6799
ENSG00000214652.4|RP11-3N2.13	5.031088	1.298137	56.47738	1.46E-06	0.000814	32.69704
ENSG00000260581.1|CTB-113P19.4	5.127021	-0.94131	56.21102	1.47E-06	0.000814	34.94518
ENSG00000138623.5|SEMA7A	-1.58542	4.251782	55.20058	1.64E-06	0.000849	-3.00096
ENSG00000178999.8|AURKB	-2.6717	3.577879	55.1205	1.66E-06	0.000849	-6.37181
ENSG00000188486.3|H2AFX	-1.99894	5.274904	55.19136	1.64E-06	0.000849	-3.99706
ENSG00000260160.1|CTC-471J1.2	3.390689	0.24644	54.93311	1.69E-06	0.000849	10.48815
ENSG00000237440.4|ZNF737	2.496405	3.993517	54.50997	1.78E-06	0.00085	5.642774
ENSG00000257446.2|ZNF878	3.321097	1.381592	54.54607	1.77E-06	0.00085	9.99424
ENSG00000088367.16|EPB41L1	2.79967	4.76384	54.67019	1.82E-06	0.000854	6.962809
ENSG00000113248.3|PCDHB15	2.765815	1.364729	53.56964	1.98E-06	0.000905	6.801321
ENSG00000123080.6|CDKN2C	-2.13518	4.381436	53.15771	2.07E-06	0.000929	-4.39292
ENSG00000119865.4|CNRIP1	2.097543	3.605775	52.43859	2.25E-06	0.000967	4.279797

ENSG00000120327.4|PCDHB14	2.528338	1.562213	52.11049	2.34E-06	0.000967	5.769067
ENSG00000151632.12|AKR1C2	3.532458	2.185385	52.12483	2.34E-06	0.000967	11.57113
ENSG00000232406.2|RP11-234K24.3	3.701156	2.211675	52.29294	2.29E-06	0.000967	13.00645
ENSG00000187134.8|AKR1C1	3.924642	4.060169	52.57082	2.43E-06	0.000985	15.18571
ENSG00000248383.3|PCDHAC1	4.336272	1.912645	51.35995	2.62E-06	0.001041	20.19984
ENSG00000151322.14|NPAS3	3.467676	1.631409	50.73681	2.75E-06	0.001075	11.06304
ENSG00000196588.10|MKL1	-1.30469	6.406157	50.34238	2.89E-06	0.001107	-2.47031
ENSG00000179299.12|NSUN7	4.129909	2.551329	50.32531	3.03E-06	0.00113	17.5076
ENSG00000182218.5|HHIPL1	3.093714	4.923406	50.4461	3.06E-06	0.00113	8.53691
ENSG00000167232.9|ZNF91	1.744824	5.89942	49.02718	3.39E-06	0.001211	3.351539
ENSG00000226524.2|RP1-102H19.8	1.690958	1.774865	49.09088	3.36E-06	0.001211	3.22871
ENSG00000127884.4|ECHS1	-1.60146	5.104719	48.06755	3.82E-06	0.001231	-3.0345
ENSG00000137309.15|HMGA1	-1.86022	6.98346	48.43334	3.65E-06	0.001231	-3.63062
ENSG00000138160.4|KIF11	-1.90931	4.670154	48.40127	3.66E-06	0.001231	-3.75628
ENSG00000182572.2|HIST1H3I	-2.6797	4.416129	47.9875	3.86E-06	0.001231	-6.40724
ENSG00000198901.9|PRC1	-1.82505	4.775414	48.10157	3.80E-06	0.001231	-3.5432
ENSG00000214189.4|ZNF788	3.26694	4.242867	48.93046	3.67E-06	0.001231	9.626024
ENSG00000271382.1|RP11-1060G2.2	2.974472	-0.96799	48.03759	3.83E-06	0.001231	7.85969
ENSG00000141748.8|ARL5C	2.965465	1.00202	47.62466	4.04E-06	0.00126	7.810769
ENSG00000153291.11|SLC25A27	2.288815	2.14364	47.56809	4.07E-06	0.00126	4.886546
ENSG00000148843.9|PDCD11	-1.28836	5.844084	47.35507	4.18E-06	0.001261	-2.4425
ENSG00000237649.3|KIFC1	-2.46402	4.46007	47.21947	4.25E-06	0.001261	-5.51752
ENSG00000256229.3|ZNF486	2.685662	3.43665	47.24872	4.23E-06	0.001261	6.433758
ENSG00000240038.2|AMY2B	1.656875	4.472799	46.62611	4.58E-06	0.001341	3.153327
ENSG00000132623.11|ANKEF1	2.021973	2.228961	46.38689	4.72E-06	0.001345	4.061389
ENSG00000233224.1|HIST1H2AM	-3.05164	4.583954	46.66353	4.69E-06	0.001345	-8.29154
ENSG00000111206.8|FOXM1	-1.56596	5.122738	46.11374	4.89E-06	0.001375	-2.96074
ENSG00000182389.14|CACNB4	3.235016	3.596054	46.10104	5.13E-06	0.001424	9.415357
ENSG00000146001.4|PCDHB18	2.182638	-0.10909	45.24305	5.48E-06	0.0015	4.539828
ENSG00000111424.6|VDR	-1.24093	5.279861	45.00539	5.65E-06	0.001501	-2.36351
ENSG00000113211.3|PCDHB6	3.78399	-0.76215	45.07874	5.60E-06	0.001501	13.77509
ENSG00000197153.3|HIST1H3J	-3.43494	4.157818	45.15592	5.77E-06	0.001501	-10.8149
ENSG00000205181.5|LINC00654	2.363721	3.760102	44.86809	5.76E-06	0.001501	5.146962
ENSG00000130962.13|PRRG1	2.050283	2.555175	44.60692	5.96E-06	0.001506	4.141873
ENSG00000185345.14|PARK2	3.242531	1.134571	44.66793	5.91E-06	0.001506	9.464528
ENSG00000196268.7|ZNF493	1.616092	5.007223	44.54942	6.00E-06	0.001506	3.065436
ENSG00000132507.13|EIF5A	-1.55302	7.100826	44.19314	6.29E-06	0.001542	-2.93431
ENSG00000177932.6|ZNF354C	1.855053	3.199906	44.26426	6.23E-06	0.001542	3.617651
ENSG00000067225.13|PKM	-1.8324	9.719661	42.92263	7.47E-06	0.001657	-3.5613
ENSG00000148773.8|MKI67	-2.3302	7.955833	42.99517	7.39E-06	0.001657	-5.02875
ENSG00000151790.4|TDO2	5.961754	7.91174	43.77247	7.20E-06	0.001657	62.32563
ENSG00000153071.10|DAB2	3.249479	8.861084	43.94414	6.87E-06	0.001657	9.51022
ENSG00000175093.4|SPSB4	6.425976	2.548816	44.00257	6.98E-06	0.001657	85.98279
ENSG00000188107.9|EYS	1.693953	2.692396	42.98828	7.40E-06	0.001657	3.235421
ENSG00000198176.8|TFDP1	-1.72075	5.343589	43.06551	7.32E-06	0.001657	-3.29609
ENSG00000204388.5|HSPA1B	-2.63047	7.436709	43.0078	7.45E-06	0.001657	-6.19229
ENSG00000271871.1|AC005740.6	2.210646	1.568247	43.06771	7.32E-06	0.001657	4.628826
ENSG00000175352.6|NRIP3	-3.80636	4.194295	43.28387	7.56E-06	0.001659	-13.9904
ENSG00000120457.7|KCNJ5	4.211102	4.594553	43.25064	7.72E-06	0.001677	18.52116
ENSG00000153002.7|CPB1	5.84237	-1.225	42.53176	7.88E-06	0.001677	57.37578
ENSG00000240875.1|LINC00886	2.575673	1.421681	42.55707	7.85E-06	0.001677	5.961491
ENSG00000143452.11|HORMAD1	3.241122	3.03389	42.56186	8.12E-06	0.001703	9.455292
ENSG00000235257.4|AC093415.2	2.559672	2.125316	42.27601	8.16E-06	0.001703	5.895737
ENSG00000100242.11|SUN2	-1.22638	7.84919	41.88781	8.61E-06	0.001711	-2.3398

ENSG00000162599.11|NFIA	1.465874	4.880877	41.92585	8.56E-06	0.001711	2.762308
ENSG00000196787.2|HIST1H2AG	-2.76018	4.980646	42.11637	8.60E-06	0.001711	-6.7748
ENSG00000196890.3|HIST3H2BB	-2.87411	2.585633	41.82354	8.69E-06	0.001711	-7.33152
ENSG00000203335.4|AC006019.3	5.917516	3.523506	42.4136	8.64E-06	0.001711	60.44354
ENSG00000233363.1|AC006019.4	6.138776	3.537179	42.41371	8.64E-06	0.001711	70.46213
ENSG00000175084.7|DES	4.108709	2.04282	41.90209	8.92E-06	0.001741	17.25221
ENSG00000133135.9|RNF128	6.810397	2.945185	41.8617	9.32E-06	0.001769	112.2364
ENSG00000171853.11|TRAPPC12	-1.4939	6.025167	41.36651	9.26E-06	0.001769	-2.8165
ENSG00000237273.1|RSL24D1P8	3.394372	-0.126	41.33578	9.30E-06	0.001769	10.51496
ENSG00000162063.8|CCNF	-1.65385	4.677175	41.15902	9.53E-06	0.001794	-3.14671
ENSG00000108175.12|ZMIZ1	-1.23755	8.027517	40.93297	9.84E-06	0.001835	-2.35797
ENSG00000103187.6|COTL1	-1.53759	8.567671	40.74494	1.01E-05	0.001864	-2.90309
ENSG00000112319.13|EYA4	5.687988	1.866536	41.22364	1.02E-05	0.001864	51.55314
ENSG00000131401.7|NAPSB	-3.55132	5.413257	41.10375	1.03E-05	0.001879	-11.7234
ENSG00000266904.1|LINC00663	1.855599	1.860732	40.46531	1.05E-05	0.001894	3.61902
ENSG00000146670.5|CDCA5	-1.99658	4.297597	40.3889	1.06E-05	0.001898	-3.99052
ENSG00000130544.7|ZNF557	1.024123	4.674958	40.1345	1.10E-05	0.001936	2.033723
ENSG00000152931.7|PART1	4.368759	3.553605	40.66814	1.10E-05	0.001936	20.65987
ENSG00000100379.13|KCTD17	-1.05689	4.299701	40.01759	1.12E-05	0.001936	-2.08044
ENSG00000148180.12|GSN	-1.97711	8.930353	40.01974	1.12E-05	0.001936	-3.93703
ENSG00000188229.5|TUBB4B	-1.91155	6.152097	39.92002	1.14E-05	0.001948	-3.76212
ENSG00000137692.7|DCUN1D5	-1.21366	3.261208	39.77386	1.16E-05	0.001972	-2.31926
ENSG00000148840.6|PPRC1	-1.06235	5.979064	39.72283	1.17E-05	0.001972	-2.08833
ENSG00000103335.15|PIEZO1	-1.27388	8.188802	39.55111	1.20E-05	0.001987	-2.41811
ENSG00000198374.3|HIST1H2AL	-2.88291	4.257066	39.65179	1.21E-05	0.001987	-7.37635
ENSG00000203813.4|HIST1H3H	-2.95547	5.104597	39.79196	1.21E-05	0.001987	-7.75686
ENSG00000234338.1|RP11-797H7.1	1.554721	1.765331	39.45138	1.22E-05	0.001987	2.937768
ENSG00000137259.2|HIST1H2AB	-2.99495	3.257651	39.12158	1.28E-05	0.002034	-7.97202
ENSG00000138172.6|CALHM2	-1.63136	5.469291	38.96049	1.31E-05	0.002034	-3.09805
ENSG00000186193.7|SAPCD2	-2.51181	4.030163	38.95247	1.31E-05	0.002034	-5.70334
ENSG00000227579.1|RP1-35C21.2	4.930417	-1.17634	38.92751	1.31E-05	0.002034	30.49322
ENSG00000230992.2|FAM201B	3.51674	0.200147	39.18558	1.26E-05	0.002034	11.44575
ENSG00000236494.1|RP11-89N17.4	2.403244	-0.31784	39.0384	1.29E-05	0.002034	5.289914
ENSG00000240047.2|RPS3AP32	2.732472	0.41915	39.09469	1.28E-05	0.002034	6.645933
ENSG00000011201.6|KAL1	3.790984	5.169942	39.2505	1.34E-05	0.002068	13.84204
ENSG00000075218.14|GTSE1	-2.13055	4.226715	38.50677	1.40E-05	0.002133	-4.37885
ENSG00000185130.4|HIST1H2BL	-3.20254	3.911137	38.56975	1.43E-05	0.002171	-9.20575
ENSG00000077312.4|SNRPA	-1.20136	4.67001	38.17105	1.47E-05	0.002194	-2.29956
ENSG00000120322.2|PCDHB8	3.988094	0.42318	38.215	1.47E-05	0.002194	15.8685
ENSG00000170889.9|RPS9	-1.51137	7.781505	38.09615	1.48E-05	0.002203	-2.85081
ENSG00000166136.11|NDUFB8	-1.45644	4.595709	37.98298	1.51E-05	0.002224	-2.74431
ENSG00000197124.7|ZNF682	2.035976	2.263051	37.9159	1.52E-05	0.002231	4.101
ENSG00000136997.10|MYC	-1.9679	5.368644	37.78059	1.56E-05	0.002261	-3.91199
ENSG00000227913.1|KRT8P44	3.093153	0.225649	37.66643	1.58E-05	0.002283	8.533588
ENSG00000267612.1|CTD-3116E22.7	2.526854	-0.26841	37.62592	1.59E-05	0.002283	5.763135
ENSG00000187372.9|PCDHB13	2.432993	1.85574	37.50614	1.62E-05	0.002299	5.400125
ENSG00000237484.5|AP000476.1	3.193355	2.07774	37.48893	1.63E-05	0.002299	9.147354
ENSG00000074800.9|ENO1	-1.86473	8.819681	37.37172	1.65E-05	0.002302	-3.642
ENSG00000140678.12|ITGAX	-1.60134	8.849468	37.34736	1.66E-05	0.002302	-3.03426
ENSG00000249364.1|RP11-434D9.1	3.634772	0.225207	37.35122	1.66E-05	0.002302	12.42154
ENSG00000151623.10|NR3C2	1.534037	3.033411	37.26943	1.68E-05	0.002314	2.89595
ENSG00000170624.9|SGCD	2.712872	3.053442	37.17644	1.73E-05	0.002362	6.556257
ENSG00000109099.9|PMP22	2.560403	5.737443	37.29439	1.77E-05	0.00239	5.898725
ENSG00000184661.9|CDCA2	-2.23368	3.737004	36.92734	1.77E-05	0.00239	-4.70331

ENSG00000124635.7|HIST1H2BJ	-2.82899	4.275508	36.93323	1.82E-05	0.002416	-7.10574
ENSG00000164611.8|PTTG1	-1.73999	3.182102	36.71636	1.83E-05	0.002416	-3.34033
ENSG00000179542.11|SLITRK4	4.050193	2.739801	37.10643	1.84E-05	0.002416	16.56646
ENSG00000196374.5|HIST1H2BM	-4.24424	4.382333	37.09783	1.84E-05	0.002416	-18.9515
ENSG00000203812.2|HIST2H2AA4	-2.26021	7.054343	36.65001	1.85E-05	0.002416	-4.7906
ENSG00000196331.5|HIST1H2BO	-3.05675	4.367183	36.79795	1.88E-05	0.002445	-8.32098
ENSG00000172164.9|SNTB1	-1.96254	4.567961	36.44173	1.91E-05	0.002449	-3.89747
ENSG00000236581.4|STARD13-AS	2.103357	3.290984	36.46882	1.90E-05	0.002449	4.297081
ENSG00000111665.7|CDCA3	-1.68518	3.326298	36.13032	2.00E-05	0.002494	-3.2158
ENSG00000198521.7|ZNF43	1.454512	4.376875	36.17322	1.99E-05	0.002494	2.740638
ENSG00000203852.3|HIST2H3A	-2.50167	5.786841	36.4476	1.97E-05	0.002494	-5.66342
ENSG00000231205.7|ZNF826P	2.377375	2.123549	36.14213	2.00E-05	0.002494	5.195904
ENSG00000240972.1|MIF	-2.16351	5.360257	36.28354	1.96E-05	0.002494	-4.48003
ENSG00000139988.5|RDH12	2.435429	0.256855	36.01981	2.03E-05	0.002522	5.409253
ENSG00000087586.13|AURKA	-1.60035	3.611891	35.96903	2.05E-05	0.002527	-3.03216
ENSG00000093009.5|CDC45	-2.74748	2.835656	35.56585	2.18E-05	0.002627	-6.71541
ENSG00000100401.15|RANGAP1	-1.16556	6.601677	35.51469	2.20E-05	0.002627	-2.2432
ENSG00000103653.12|CSK	-1.08306	7.44148	35.54238	2.19E-05	0.002627	-2.11853
ENSG00000167207.7|NOD2	-1.58642	5.522774	35.53095	2.20E-05	0.002627	-3.00304
ENSG00000197409.6|HIST1H3D	-2.1841	5.2057	35.52896	2.21E-05	0.002627	-4.54442
ENSG00000261015.1|RP1-90J20.11	1.790124	2.324232	35.50826	2.20E-05	0.002627	3.458446
ENSG00000107874.6|CUEDC2	-1.35982	3.827921	35.37369	2.25E-05	0.002663	-2.56653
ENSG00000166803.6|KIAA0101	-2.4278	2.640439	35.33929	2.26E-05	0.002663	-5.38074
ENSG00000196482.12|ESRRG	4.11672	0.720276	35.4232	2.28E-05	0.002674	17.34827
ENSG00000167513.4|CDT1	-1.84326	4.112742	35.13428	2.34E-05	0.00272	-3.58821
ENSG00000170312.11|CDK1	-2.038	3.666985	34.90274	2.42E-05	0.002801	-4.10677
ENSG00000171848.9|RRM2	-2.11744	5.372511	34.89651	2.44E-05	0.002801	-4.33925
ENSG00000229228.1|LINC00582	1.78199	-0.81531	34.84416	2.45E-05	0.002801	3.439002
ENSG00000072315.3|TRPC5	2.003066	1.12053	34.62945	2.53E-05	0.002869	4.008511
ENSG00000231948.2|HS1BP3-IT1	1.983937	-0.33323	34.62344	2.53E-05	0.002869	3.95571
ENSG00000234284.2|ZNF879	1.669845	1.95963	34.59224	2.55E-05	0.002869	3.181805
ENSG00000143466.9|IKBKE	-1.46359	5.699615	34.53001	2.57E-05	0.002882	-2.75794
ENSG00000136942.10|RPL35	-1.30792	6.618999	34.20675	2.71E-05	0.003004	-2.47585
ENSG00000181982.13|CCDC149	1.836771	3.70773	34.12428	2.74E-05	0.003022	3.572095
ENSG00000233183.2|RP3-468B3.2	3.548962	-0.37971	34.10396	2.75E-05	0.003022	11.70426
ENSG00000073050.7|XRCC1	-1.11148	4.418625	33.89067	2.85E-05	0.003028	-2.16068
ENSG00000105963.9|ADAP1	-2.21354	4.836604	33.97886	2.83E-05	0.003028	-4.63812
ENSG00000125148.6|MT2A	-2.14367	6.110459	34.0758	2.80E-05	0.003028	-4.41884
ENSG00000126453.5|BCL2L12	-1.63763	3.096189	33.83953	2.87E-05	0.003028	-3.11153
ENSG00000142945.8|KIF2C	-2.49005	4.395835	34.05143	2.82E-05	0.003028	-5.61797
ENSG00000175063.12|UBE2C	-2.31508	3.390964	33.85972	2.86E-05	0.003028	-4.97633
ENSG00000227911.3|RP11-141M1.1	3.049012	1.081964	33.86774	2.86E-05	0.003028	8.276449
ENSG00000142669.9|SH3BGRL3	-1.43324	8.100886	33.7102	2.93E-05	0.003061	-2.70052
ENSG00000168356.7|SCN11A	3.328712	1.907438	33.81902	2.93E-05	0.003061	10.04713
ENSG00000140859.11|KIFC3	-1.72809	6.372229	33.61295	2.98E-05	0.003095	-3.31289
ENSG00000178187.3|ZNF454	2.818494	1.107956	33.55413	3.01E-05	0.003109	7.054255
ENSG00000171532.4|NEUROD2	2.427364	0.263791	33.48133	3.05E-05	0.003123	5.379098
ENSG00000267065.1|CTD-2246P4.1	2.284126	-0.18719	33.43749	3.07E-05	0.003123	4.870688
ENSG00000130812.6|ANGPTL6	-2.77529	2.218696	33.38501	3.09E-05	0.003127	-6.84613
ENSG00000140534.9|TICRR	-1.55651	4.028699	33.36992	3.10E-05	0.003127	-2.94141
ENSG00000101057.11|MYBL2	-2.49527	4.51178	33.34944	3.18E-05	0.003176	-5.63835
ENSG00000204961.5|PCDHA9	3.858562	1.220797	33.38053	3.18E-05	0.003176	14.50584
ENSG00000184357.3|HIST1H1B	-3.13033	5.852362	33.54565	3.21E-05	0.003186	-8.75637
ENSG00000123572.12|NRK	4.451198	-0.24434	33.0506	3.32E-05	0.003199	21.87481

ENSG00000164032.7|H2AFZ	-1.86821	5.798212	32.97683	3.31E-05	0.003199	-3.6508
ENSG00000183044.7|ABAT	1.557519	4.455171	32.91981	3.34E-05	0.003199	2.943472
ENSG00000196532.4|HIST1H3C	-2.47118	4.593214	33.18577	3.27E-05	0.003199	-5.54496
ENSG00000196866.2|HIST1H2AD	-1.85411	3.634592	32.92473	3.34E-05	0.003199	-3.61529
ENSG00000198865.5|CCDC152	3.547334	4.033963	33.29706	3.34E-05	0.003199	11.69106
ENSG00000251695.2|AC124890.1	2.173828	0.373259	32.93946	3.33E-05	0.003199	4.512191
ENSG00000256018.1|HIST1H3G	-2.81147	4.385424	33.29422	3.25E-05	0.003199	-7.02
ENSG00000099901.12|RANBP1	-1.41703	4.922976	32.87864	3.36E-05	0.003207	-2.67035
ENSG00000268438.1|CTD-2607J13.1	2.421005	-0.76915	32.80016	3.41E-05	0.003234	5.355441
ENSG00000263818.1|CTD-2206N4.4	2.401908	1.208203	32.74299	3.44E-05	0.00325	5.285016
ENSG00000242498.3|C15orf38	1.831167	4.277274	32.68557	3.47E-05	0.003252	3.558247
ENSG00000258881.2|AC007040.11	2.589315	0.936261	32.70666	3.46E-05	0.003252	6.018129
ENSG00000233836.3|RP11-255H23.2	3.790473	0.937211	32.72794	3.50E-05	0.003266	13.83713
ENSG00000130226.12|DPP6	6.63989	4.237422	32.91071	3.55E-05	0.003267	99.72549
ENSG00000136044.7|APPL2	1.257824	5.536017	32.56398	3.54E-05	0.003267	2.391348
ENSG00000141456.10|PELP1	-1.06412	5.574567	32.54709	3.55E-05	0.003267	-2.0909
ENSG00000148680.11|HTR7	-2.9899	4.206822	32.73511	3.59E-05	0.003267	-7.94417
ENSG00000165886.4|UBTD1	-1.93584	4.30026	32.4467	3.61E-05	0.003267	-3.826
ENSG00000177602.4|GSG2	-2.07459	2.896709	32.43317	3.62E-05	0.003267	-4.21223
ENSG00000179051.9|RCC2	-1.15703	7.50186	32.43429	3.62E-05	0.003267	-2.22998
ENSG00000182611.3|HIST1H2AJ	-3.29113	4.748775	32.78417	3.63E-05	0.003267	-9.78881
ENSG00000225107.1|AC092484.1	-10.6494	5.311443	32.75343	3.65E-05	0.003269	-1606.19
ENSG00000249853.3|HS3ST5	3.819853	-0.24749	32.33446	3.68E-05	0.003287	14.12181
ENSG00000124693.2|HIST1H3B	-2.56972	5.584406	32.42697	3.78E-05	0.003358	-5.93694
ENSG00000184348.2|HIST1H2AK	-2.24384	2.627424	32.112	3.82E-05	0.003383	-4.73657
ENSG00000108561.4|C1QBP	-1.63466	4.809981	31.99953	3.89E-05	0.003434	-3.10514
ENSG00000134278.10|SPIRE1	1.088811	5.167337	31.88909	3.97E-05	0.003484	2.126986
ENSG00000203872.6|C6orf163	1.285252	2.062416	31.77797	4.04E-05	0.003535	2.437247
ENSG00000128482.11|RNF112	3.594213	1.402795	31.80951	4.11E-05	0.003575	12.07719
ENSG00000151465.9|CDC123	-1.33461	4.856583	31.57309	4.19E-05	0.00361	-2.52207
ENSG00000233382.5|NKAPP1	1.235339	2.752726	31.53282	4.21E-05	0.00361	2.354367
ENSG00000256316.1|HIST1H3F	-2.53467	4.925439	31.73146	4.21E-05	0.00361	-5.79443
ENSG00000156970.8|BUB1B	-2.20705	4.012836	31.44876	4.28E-05	0.003647	-4.61729
ENSG00000160256.8|FAM207A	-1.68387	2.811004	31.35302	4.35E-05	0.003678	-3.21289
ENSG00000161509.9|GRIN2C	2.560966	3.225129	31.46598	4.34E-05	0.003678	5.901028
ENSG00000157456.3|CCNB2	-1.96425	3.173949	31.30529	4.38E-05	0.003693	-3.90209
ENSG00000040633.8|PHF23	-1.05536	4.709524	31.19552	4.46E-05	0.003748	-2.07823
ENSG00000121210.11|KIAA0922	-1.05587	5.047416	31.16445	4.49E-05	0.003753	-2.07897
ENSG00000186814.8|ZSCAN30	1.232097	5.006221	31.12666	4.52E-05	0.003763	2.349082
ENSG00000196747.3|HIST1H2AI	-2.72954	5.0427	31.35041	4.55E-05	0.003774	-6.63244
ENSG00000103257.4|SLC7A5	-2.51724	7.331251	31.21913	4.58E-05	0.003781	-5.72487
ENSG00000149503.8|INCENP	-1.514	5.253914	31.00922	4.61E-05	0.003795	-2.856
ENSG00000110711.5|AIP	-1.23621	4.529511	30.9661	4.64E-05	0.003796	-2.35579
ENSG00000214050.3|FBXO16	3.16626	-0.66306	30.96211	4.65E-05	0.003796	8.977169
ENSG00000255970.1|RP11-43N5.1	1.971279	-0.24571	30.913	4.69E-05	0.003813	3.921155
ENSG00000142494.9|SLC47A1	4.27279	3.670037	31.20048	4.72E-05	0.003829	19.33027
ENSG00000126457.16|PRMT1	-1.53821	5.351158	30.65398	4.90E-05	0.003885	-2.90434
ENSG00000172893.11|DHCR7	-1.93571	2.640467	30.73638	4.83E-05	0.003885	-3.82566
ENSG00000175604.2|RP11-276H1.3	1.459752	2.64138	30.6951	4.87E-05	0.003885	2.750611
ENSG00000184825.4|HIST1H2AH	-3.03769	4.164913	30.937	4.88E-05	0.003885	-8.21173
ENSG00000188629.7|ZNF177	2.050706	2.401653	30.69226	4.87E-05	0.003885	4.143086
ENSG00000183171.5|RP11-49C9.2	3.356775	-0.26094	30.60812	4.94E-05	0.0039	10.24448
ENSG00000134057.10|CCNB1	-2.44781	3.935125	30.56402	5.04E-05	0.003965	-5.45588
ENSG00000138449.6|SLC40A1	5.133894	7.791645	30.77517	5.08E-05	0.003966	35.11204

ENSG00000187193.8|MT1X	-2.17987	3.775085	30.42616	5.10E-05	0.003966	-4.53112
ENSG00000135451.8|TROAP	-2.06894	3.876396	30.38903	5.13E-05	0.003977	-4.19578
ENSG00000160298.13|C21orf58	-1.55925	4.057199	30.32078	5.19E-05	0.003995	-2.947
ENSG00000188385.7|JAKMIP3	2.405174	0.489254	30.32815	5.19E-05	0.003995	5.296994
ENSG00000244165.1|P2RY11	-1.34312	4.797921	30.3008	5.21E-05	0.003995	-2.537
ENSG00000143851.11|PTPN7	-2.29951	6.728924	30.36796	5.28E-05	0.004023	-4.92289
ENSG00000175602.2|CCDC85B	-1.60556	4.138027	30.19858	5.31E-05	0.004023	-3.04313
ENSG00000260077.1|RP11-254F7.2	2.365636	1.873793	30.20617	5.30E-05	0.004023	5.153797
ENSG00000166451.9|CENPN	-1.32277	3.418171	30.16272	5.34E-05	0.004034	-2.50147
ENSG00000183696.9|UPP1	-2.15348	6.899102	30.18587	5.40E-05	0.004061	-4.44901
ENSG00000111641.6|NOP2	-1.14777	5.273803	30.07954	5.42E-05	0.004064	-2.21571
ENSG00000225630.1|MTND2P28	3.632162	7.019085	30.36912	5.45E-05	0.004071	12.39909
ENSG00000188321.9|ZNF559	1.254785	4.330161	29.97233	5.52E-05	0.004112	2.386316
ENSG00000105202.3|FBL	-1.64068	5.062217	29.93787	5.56E-05	0.004112	-3.11812
ENSG00000152953.8|STK32B	2.42656	2.742466	29.93225	5.56E-05	0.004112	5.3761
ENSG00000111669.10|TPI1	-1.30741	7.770932	29.85531	5.64E-05	0.004154	-2.47497
ENSG00000100297.11|MCM5	-1.45214	6.644571	29.74503	5.75E-05	0.004191	-2.73613
ENSG00000112874.5|NUDT12	2.324334	1.508385	29.76642	5.73E-05	0.004191	5.008345
ENSG00000137807.9|KIF23	-1.81095	3.719789	29.7126	5.78E-05	0.004191	-3.50874
ENSG00000158270.10|COLEC12	2.98178	4.821433	30.02046	5.79E-05	0.004191	7.899605
ENSG00000239389.3|PCDHA13	4.364037	1.182884	29.97001	5.77E-05	0.004191	20.59236
ENSG00000111679.12|PTPN6	-1.04754	7.379092	29.62432	5.87E-05	0.004223	-2.067
ENSG00000162947.4|AC007364.1	3.417795	-0.84158	29.60647	5.89E-05	0.004223	10.68707
ENSG00000177542.6|SLC25A22	-1.17368	4.606086	29.6122	5.89E-05	0.004223	-2.25586
ENSG00000162631.14|NTNG1	-4.7828	3.884846	29.83991	5.97E-05	0.004266	-27.5275
ENSG00000105650.17|PDE4C	1.755017	1.440398	29.44723	6.06E-05	0.004301	3.375304
ENSG00000186862.13|PDZD7	-1.72083	1.92218	29.45203	6.06E-05	0.004301	-3.29627
ENSG00000267565.1|CTC-559E9.8	1.979983	-0.18662	29.39807	6.11E-05	0.004324	3.944886
ENSG00000166851.10|PLK1	-1.71898	4.633633	29.34523	6.17E-05	0.004328	-3.29204
ENSG00000203760.4|CENPW	-2.5033	1.015628	29.34619	6.17E-05	0.004328	-5.66981
ENSG00000269044.1|CTC-429P9.3	1.264206	3.234845	29.33751	6.18E-05	0.004328	2.401949
ENSG00000130592.9|LSP1	-1.57021	6.801315	29.28633	6.24E-05	0.004353	-2.96949
ENSG00000158296.9|SLC13A3	2.793206	0.477162	29.25305	6.28E-05	0.004364	6.931684
ENSG00000170727.7|BOP1	-1.86923	4.758872	29.18205	6.36E-05	0.004406	-3.65338
ENSG00000134690.6|CDCA8	-1.87523	3.803404	29.07627	6.48E-05	0.004423	-3.6686
ENSG00000186185.9|KIF18B	-1.86099	4.641582	29.10392	6.45E-05	0.004423	-3.63257
ENSG00000249158.2|PCDHA11	3.940654	0.80353	29.2755	6.44E-05	0.004423	15.35518
ENSG00000258308.1|RP11-554E23.2	1.824674	-0.1008	29.1416	6.40E-05	0.004423	3.542269
ENSG00000269657.1|AC079210.1	2.079551	3.780541	29.1118	6.48E-05	0.004423	4.226757
ENSG00000185518.7|SV2B	2.759223	2.789427	29.00043	6.72E-05	0.004568	6.770315
ENSG00000160233.6|LRRC3	2.315696	1.877293	28.83779	6.76E-05	0.00458	4.978449
ENSG00000124496.8|TRERF1	-1.98261	5.834356	28.80064	6.90E-05	0.004647	-3.95207
ENSG00000138092.6|CENPO	-1.15192	4.579942	28.66707	6.98E-05	0.00467	-2.22209
ENSG00000168274.3|HIST1H2AE	-2.57594	4.834244	28.88559	6.98E-05	0.00467	-5.9626
ENSG00000119715.10|ESRRB	3.040241	0.455497	28.62927	7.02E-05	0.004679	8.226286
ENSG00000251664.2|PCDHA12	3.818949	1.112412	28.77759	7.04E-05	0.004679	14.11296
ENSG00000172059.6|KLF11	1.452592	4.264022	28.57263	7.10E-05	0.004702	2.736993
ENSG00000122952.12|ZWINT	-1.98473	3.819828	28.54522	7.13E-05	0.004711	-3.9579
ENSG00000168242.3|HIST1H2BI	-2.88004	4.512358	28.72312	7.20E-05	0.004726	-7.36172
ENSG00000170779.10|CDCA4	-1.41898	4.006538	28.51014	7.18E-05	0.004726	-2.67396
ENSG00000113262.10|GRM6	2.892149	-0.04677	28.44952	7.26E-05	0.004735	7.423754
ENSG00000178562.13|CD28	2.746194	6.504037	28.7567	7.24E-05	0.004735	6.709446
ENSG00000100162.10|CENPM	-2.2203	2.711009	28.42211	7.29E-05	0.004744	-4.65991
ENSG00000196172.8|ZNF681	2.135465	2.16966	28.3983	7.33E-05	0.00475	4.393787

ENSG00000269982.1|RP11-1020A11.2	1.235298	2.791367	28.36453	7.37E-05	0.004765	2.3543
ENSG00000143228.8|NUF2	-2.09657	2.381983	28.27873	7.49E-05	0.004825	-4.27691
ENSG00000181218.4|HIST3H2A	-2.69942	1.517992	28.24925	7.53E-05	0.004837	-6.49542
ENSG00000226241.2|LL0XNC01-221F2.2	3.255783	0.320028	28.20624	7.59E-05	0.004848	9.551872
ENSG00000119403.9|PHF19	-1.19746	5.960596	28.17141	7.64E-05	0.004859	-2.29336
ENSG00000196226.2|HIST1H2BB	-3.08103	3.004693	28.25822	7.66E-05	0.004859	-8.46218
ENSG00000204584.1|RP11-304F15.3	1.56229	2.707468	28.12045	7.71E-05	0.004878	2.953223
ENSG00000142634.8|EFHD2	-1.28942	7.839103	28.10414	7.73E-05	0.004878	-2.4443
ENSG00000133121.16|STARD13	1.817139	5.189241	28.13044	7.80E-05	0.004893	3.523816
ENSG00000136830.7|FAM129B	-1.86264	7.460287	28.05485	7.80E-05	0.004893	-3.63673
ENSG00000144045.9|DQX1	3.376335	1.033153	28.08632	7.86E-05	0.004916	10.38432
ENSG00000144668.7|ITGA9	2.196506	5.177565	28.11305	8.04E-05	0.005013	4.583679
ENSG00000213462.4|ERV3-1	3.05541	7.106125	28.15374	8.07E-05	0.005016	8.313237
ENSG00000224113.2|RP5-837J1.2	1.124625	3.284143	27.81292	8.16E-05	0.005057	2.180448
ENSG00000197459.2|HIST1H2BH	-2.40812	4.69632	27.93871	8.20E-05	0.005068	-5.30781
ENSG00000100092.16|SH3BP1	-1.22416	6.573493	27.74008	8.27E-05	0.005084	-2.3362
ENSG00000198911.7|SREBF2	-1.34707	6.762069	27.65289	8.41E-05	0.005149	-2.54395
ENSG00000125753.9|VASP	-1.40975	7.475071	27.60674	8.48E-05	0.005178	-2.65692
ENSG00000087116.9|ADAMTS2	1.955355	7.108758	27.49293	8.86E-05	0.00538	3.878113
ENSG00000165724.5|ZMYND19	-1.35556	3.377271	27.37697	8.85E-05	0.00538	-2.55897
ENSG00000143951.11|WDPCP	1.081943	4.189791	27.341	8.91E-05	0.005395	2.116886
ENSG00000035499.8|DEPDC1B	-1.79566	2.393915	27.26223	9.04E-05	0.005452	-3.47175
ENSG00000097021.15|ACOT7	-1.73102	3.628708	27.25518	9.05E-05	0.005452	-3.31962
ENSG00000172731.9|LRRC20	-1.42183	2.471705	27.18653	9.17E-05	0.005507	-2.67926
ENSG00000232224.1|LINC00202-1	2.17168	1.117752	27.16149	9.22E-05	0.005517	4.505478
ENSG00000119969.10|HELLS	-1.4751	5.15169	27.1384	9.26E-05	0.005525	-2.78002
ENSG00000125534.5|PPDPF	-1.73524	5.380177	27.11773	9.29E-05	0.005531	-3.32936
ENSG00000130487.4|KLHDC7B	-2.44704	3.697245	27.14051	9.37E-05	0.005564	-5.45296
ENSG00000121152.5|NCAPH	-1.85306	3.783291	27.01013	9.48E-05	0.005606	-3.61265
ENSG00000187837.2|HIST1H1C	-1.49544	6.620086	27.0019	9.50E-05	0.005606	-2.81951
ENSG00000123485.7|HJURP	-1.73452	3.586651	26.92504	9.64E-05	0.005638	-3.32768
ENSG00000165304.3|MELK	-1.77777	3.289409	26.91336	9.66E-05	0.005638	-3.42896
ENSG00000267659.1|RP11-118B18.1	2.066031	-0.44878	26.93986	9.61E-05	0.005638	4.18733
ENSG00000148303.12|RPL7A	-1.33957	8.029627	26.86965	9.74E-05	0.005661	-2.53075
ENSG00000233822.3|HIST1H2BN	-2.18317	4.393186	26.93068	9.75E-05	0.005661	-4.54151
ENSG00000130725.3|UBE2M	-1.29931	4.503613	26.74971	9.96E-05	0.005705	-2.46111
ENSG00000138134.7|STAMBPL1	-1.28727	4.701878	26.78222	9.90E-05	0.005705	-2.44066
ENSG00000168298.4|HIST1H1E	-1.40929	6.623364	26.77186	9.92E-05	0.005705	-2.65606
ENSG00000171295.8|ZNF440	1.422072	4.792089	26.79671	9.87E-05	0.005705	2.679702
ENSG00000268070.1|AC006539.3	2.451685	-0.52081	26.75466	9.95E-05	0.005705	5.470546
ENSG00000108010.7|GLRX3	-1.17633	4.022378	26.70678	0.0001	0.005736	-2.26001
ENSG00000012779.6|ALOX5	-1.55936	6.209844	26.62262	0.000102	0.005751	-2.94723
ENSG00000110169.6|HPX	1.703189	0.048276	26.65501	0.000101	0.005751	3.2562
ENSG00000142002.12|DPP9	1.074237	7.451677	26.62547	0.000102	0.005751	2.105608
ENSG00000170743.12|SYT9	2.547047	1.472007	26.59621	0.000103	0.005765	5.84437
ENSG00000076382.12|SPAG5	-1.48718	5.086684	26.54836	0.000104	0.005774	-2.80341
ENSG00000164604.8|GPR85	2.803052	3.088847	26.74171	0.000104	0.005774	6.979154
ENSG00000197013.5|ZNF429	1.38266	2.682157	26.55819	0.000103	0.005774	2.607487
ENSG00000105372.2|RPS19	-1.53359	7.718655	26.49477	0.000105	0.005816	-2.89505
ENSG00000143674.6|MLK4	-1.99884	3.366937	26.47589	0.000105	0.005821	-3.99679
ENSG00000066279.12|ASPM	-1.82185	5.70555	26.41254	0.000107	0.00588	-3.53533
ENSG00000113205.2|PCDHB3	3.564071	0.593589	26.49847	0.000107	0.00588	11.82748
ENSG00000228294.2|BMS1P17	4.427836	0.9401	26.61842	0.000107	0.00588	21.52342
ENSG00000162783.8|IER5	-1.50078	5.858891	26.36511	0.000107	0.005881	-2.82996

ENSG00000197846.3|HIST1H2BF	-2.48679	4.497474	26.51406	0.000107	0.005881	-5.60528
ENSG00000198826.6|ARHGAP11A	-1.81709	4.858648	26.32688	0.000108	0.005897	-3.52369
ENSG00000175040.4|CHST2	-2.63954	5.733431	26.53428	0.000109	0.005936	-6.23135
ENSG00000227394.1|AC007386.3	2.094255	-0.34974	26.21476	0.00011	0.005964	4.270055
ENSG00000188987.2|HIST1H4D	-1.97215	3.694495	26.16594	0.000111	0.006005	-3.92352
ENSG00000137804.8|NUSAP1	-1.69057	4.5033	26.093	0.000113	0.006044	-3.22784
ENSG00000215009.5|ACSM4	3.406427	-0.26652	26.10189	0.000113	0.006044	10.60319
ENSG00000260793.2|RP5-882C2.2	1.570992	3.384687	26.095	0.000113	0.006044	2.971089
ENSG00000116039.7|ATP6V1B1	2.672905	0.772929	26.05798	0.000114	0.006054	6.377119
ENSG00000256087.2|ZNF432	2.177168	4.663131	26.2671	0.000113	0.006054	4.522649
ENSG00000127564.12|PKMYT1	-2.01622	4.35869	26.00412	0.000115	0.006099	-4.04522
ENSG00000158485.6|CD1B	-5.40211	-0.2156	26.04648	0.000115	0.006099	-42.2861
ENSG00000228290.2|RP11-132M7.3	3.409115	-0.88572	25.99818	0.000115	0.006099	10.62297
ENSG00000257178.2|MIR10A	1.807975	2.610841	25.89549	0.000117	0.006186	3.501506
ENSG00000017427.11|IGF1	3.786382	6.013165	26.06488	0.000119	0.006261	13.79795
ENSG00000183941.8|HIST2H4A	-2.59104	5.816525	26.05446	0.000119	0.006261	-6.02531
ENSG00000066382.12|MPPED2	2.917063	0.408583	25.79261	0.00012	0.006264	7.553071
ENSG00000187741.10|FANCA	-1.38759	5.551137	25.75867	0.000121	0.00629	-2.61642
ENSG00000112852.4|PCDHB2	3.330969	1.275472	25.85212	0.000121	0.006294	10.06286
ENSG00000110660.10|SLC35F2	-2.01237	3.591612	25.70754	0.000122	0.006306	-4.03445
ENSG00000163590.9|PPM1L	1.498092	5.17925	25.70734	0.000122	0.006306	2.82469
ENSG00000183054.7|RGPD6	1.570759	4.483301	25.64637	0.000123	0.006366	2.97061
ENSG00000184270.3|HIST2H2AB	-1.95981	3.684781	25.62569	0.000124	0.006376	-3.89011
ENSG00000089685.10|BIRC5	-1.86184	3.934972	25.59648	0.000124	0.006382	-3.63472
ENSG00000132517.10|SLC52A1	1.948094	2.61954	25.58383	0.000125	0.006382	3.858645
ENSG00000186076.4|RP11-887P2.3	-3.19395	0.735154	25.589	0.000125	0.006382	-9.15114
ENSG00000238105.3|GOLGA2B	1.48448	4.81329	25.57068	0.000125	0.006383	2.798163
ENSG00000170921.10|TANC2	1.771135	7.201215	25.61845	0.000125	0.006386	3.413224
ENSG00000005187.7|ACSM3	1.959925	1.313436	25.52727	0.000126	0.006407	3.890418
ENSG00000249034.1|AC005609.1	3.674154	0.764685	25.58568	0.000128	0.006468	12.76528
ENSG00000154265.11|ABCA5	1.209347	5.142843	25.43126	0.000129	0.006482	2.312329
ENSG00000271795.1|CTC-251D13.1	2.028279	3.248482	25.38232	0.00013	0.006529	4.079179
ENSG00000106723.12|SPIN1	1.168511	5.990126	25.34866	0.000131	0.006557	2.247797
ENSG00000187699.6|C2orf88	1.202362	3.306479	25.31777	0.000131	0.006581	2.301162
ENSG00000113368.7|LMNB1	-2.02854	6.278749	25.41174	0.000132	0.006589	-4.07992
ENSG00000140451.8|PIF1	-1.79675	4.147071	25.25433	0.000133	0.006621	-3.47438
ENSG00000151229.8|SLC2A13	1.317265	4.834753	25.25141	0.000133	0.006621	2.491933
ENSG00000134508.8|CABLES1	2.871676	5.168531	25.40213	0.000135	0.006718	7.31915
ENSG00000173862.3|RP11-89N17.1	1.743074	-0.05466	25.15299	0.000136	0.006719	3.347476
ENSG00000140025.11|EFCAB11	1.011967	2.711627	25.11438	0.000137	0.006728	2.016659
ENSG00000268509.1|AC026202.1	-2.64702	0.567282	25.11112	0.000137	0.006728	-6.26372
ENSG00000270114.1|RP5-1048B16.1	4.928395	0.902765	25.36092	0.000137	0.006728	30.45053
ENSG00000271926.1|CTD-2376I4.1	3.078773	0.264613	25.09926	0.000137	0.006728	8.448958
ENSG00000007968.6|E2F2	-1.65337	4.268699	25.02156	0.000139	0.00673	-3.14567
ENSG00000124575.5|HIST1H1D	-1.52656	5.716671	25.00627	0.00014	0.00673	-2.88099
ENSG00000138182.10|KIF20B	-1.28706	4.647169	25.04022	0.000139	0.00673	-2.44031
ENSG00000143321.14|HDGF	-1.04202	6.882098	25.03934	0.000139	0.00673	-2.0591
ENSG00000166145.10|SPINT1	-2.13402	4.548421	25.12617	0.000139	0.00673	-4.3894
ENSG00000169282.13|KCNAB1	2.718305	2.861719	25.1382	0.00014	0.00673	6.580993
ENSG00000182141.5|ZNF708	1.025023	4.859088	24.99339	0.00014	0.00673	2.034992
ENSG00000261734.1|RP11-669C19.1	2.041591	0.355892	25.00875	0.00014	0.00673	4.116994
ENSG00000263501.1|RP11-269G24.2	2.369912	-0.40031	25.03687	0.000139	0.00673	5.169096
ENSG00000085840.8|ORC1	-1.67559	3.132968	24.96785	0.000141	0.006746	-3.19451
ENSG00000262096.1|PCDHB19P	2.348543	-0.71775	24.95858	0.000141	0.006746	5.093097

ENSG00000130726.7|TRIM28	-1.32809	7.189753	24.88752	0.000143	0.006813	-2.5107
ENSG00000233593.2|RP4-665J23.1	2.409655	-0.12913	24.85166	0.000144	0.006845	5.313474
ENSG00000231154.1|MORF4L2-AS1	1.499084	-0.06805	24.78017	0.000146	0.006928	2.826633
ENSG00000104783.7|KCNN4	-2.867	6.2881	24.8751	0.00015	0.007052	-7.29544
ENSG00000148841.11|ITPRIP	-1.07639	5.847678	24.64641	0.00015	0.007052	-2.10875
ENSG00000187990.4|HIST1H2BG	-2.30437	4.554041	24.79183	0.00015	0.007052	-4.93951
ENSG00000234028.3|AC062029.1	1.411187	0.796335	24.65049	0.00015	0.007052	2.659559
ENSG00000135476.7|ESPL1	-1.62473	4.993498	24.62227	0.000151	0.007071	-3.08384
ENSG00000054148.13|PHPT1	-1.19905	4.798906	24.58975	0.000152	0.007074	-2.29589
ENSG00000221971.3|TTC4P1	3.105999	-0.51422	24.58731	0.000152	0.007074	8.609915
ENSG00000249859.3|PVT1	-1.20465	4.959287	24.6076	0.000151	0.007074	-2.30482
ENSG00000227039.2|ITGB2-AS1	-2.38103	6.187754	24.74766	0.000153	0.007083	-5.20908
ENSG00000112312.5|GMNN	-1.39775	2.726879	24.43914	0.000157	0.007224	-2.63491
ENSG00000121410.7|A1BG	-2.25088	2.47943	24.4489	0.000156	0.007224	-4.75975
ENSG00000196176.7|HIST1H4A	-2.3603	3.899714	24.54615	0.000156	0.007224	-5.13478
ENSG00000260488.1|RP11-166B2.7	1.782087	-0.05864	24.39368	0.000158	0.007275	3.439233
ENSG00000108107.8|RPL28	-1.40092	7.735205	24.28658	0.000162	0.007406	-2.64071
ENSG00000158406.2|HIST1H4H	-2.41136	5.330044	24.3743	0.000164	0.007406	-5.31977
ENSG00000167747.9|C19orf48	-1.25956	4.466217	24.20345	0.000164	0.007406	-2.39423
ENSG00000171425.5|ZNF581	-1.63302	3.008908	24.23448	0.000163	0.007406	-3.10161
ENSG00000187554.7|TLR5	1.554328	3.4592	24.24281	0.000163	0.007406	2.936969
ENSG00000196653.7|ZNF502	1.437117	0.984795	24.20436	0.000164	0.007406	2.707791
ENSG00000214194.4|LINC00998	1.357649	4.39433	24.18916	0.000165	0.007406	2.562673
ENSG00000215146.4|RP11-313J2.1	2.278999	1.092504	24.19978	0.000164	0.007406	4.853412
ENSG00000257027.1|RP11-705C15.3	1.085462	5.300552	24.18848	0.000165	0.007406	2.122055
ENSG00000108179.9|PPIF	-1.18421	6.222528	24.16859	0.000165	0.00742	-2.27239
ENSG00000158481.8|CD1C	-4.32363	3.086862	24.33185	0.000167	0.00749	-20.0236
ENSG00000180817.7|PPA1	-2.05952	5.210523	24.15439	0.00017	0.007576	-4.16846
ENSG00000053372.4|MRTO4	-1.25227	4.200073	23.97927	0.000172	0.007588	-2.38215
ENSG00000160957.8|RECQL4	-1.63998	4.677918	23.97566	0.000172	0.007588	-3.11662
ENSG00000161800.8|RACGAP1	-1.29724	4.865221	24.02128	0.000171	0.007588	-2.45759
ENSG00000165637.9|VDAC2	-1.27017	5.171525	23.98355	0.000172	0.007588	-2.41191
ENSG00000247270.2|AC132186.1	2.175472	3.417629	24.06937	0.000172	0.007588	4.517335
ENSG00000080986.8|NDC80	-1.74826	3.211238	23.94131	0.000173	0.007626	-3.35952
ENSG00000091640.3|SPAG7	-1.08554	4.057918	23.86126	0.000176	0.007735	-2.12217
ENSG00000161671.12|EMC10	-1.2631	6.094493	23.82456	0.000178	0.007778	-2.40012
ENSG00000253626.2|EIF5AL1	-1.61031	0.925816	23.81396	0.000178	0.007778	-3.05318
ENSG00000168496.3|FEN1	-1.4809	4.472149	23.79026	0.000179	0.0078	-2.79122
ENSG00000164066.8|INTU	2.546104	3.784801	23.89226	0.000182	0.007939	5.840548
ENSG00000258315.1|C17orf49	-1.1549	4.552962	23.68204	0.000183	0.007943	-2.22669
ENSG00000142657.16|PGD	-1.15046	6.125781	23.64645	0.000184	0.007952	-2.21984
ENSG00000226769.1|GAPDHP54	3.327676	0.563954	23.72106	0.000185	0.007959	10.03992
ENSG00000126267.4|COX6B1	-1.20775	5.192926	23.57222	0.000187	0.007997	-2.30976
ENSG00000150995.13|ITPR1	-1.42181	7.153146	23.5742	0.000187	0.007997	-2.67922
ENSG00000183598.3|HIST2H3D	-2.39549	3.775912	23.65055	0.000187	0.007997	-5.26157
ENSG00000261616.1|RP11-6O2.3	2.034494	0.476065	23.59904	0.000186	0.007997	4.096791
ENSG00000269955.2|LUC7L2	-2.42894	2.458644	23.56955	0.000187	0.007997	-5.38498
ENSG00000048471.9|SNX29	1.099189	6.680378	23.49997	0.00019	0.00808	2.142342
ENSG00000116133.7|DHCR24	-3.29901	5.403296	23.66318	0.000192	0.008117	-9.84239
ENSG00000131982.5|UBE2L2	2.409202	-0.33478	23.46144	0.000191	0.008117	5.311804
ENSG00000197702.7|PARVA	1.501928	4.832312	23.44885	0.000192	0.008117	2.83221
ENSG00000176438.8|SYNE3	-1.34564	5.659681	23.38312	0.000194	0.008212	-2.54143
ENSG00000137812.15|CASC5	-1.58314	5.234759	23.35364	0.000196	0.008246	-2.99622
ENSG00000081818.1|PCDHB4	2.889584	0.127565	23.31713	0.000197	0.008281	7.410569

ENSG00000132361.12|CLUH	-1.29334	6.605978	23.25664	0.0002	0.008347	-2.45095
ENSG00000197054.7|ZNF763	1.521041	2.822265	23.22701	0.000201	0.008366	2.86998
ENSG00000153982.6|GDPD1	2.164947	2.8487	23.20029	0.000203	0.008404	4.484501
ENSG00000198558.2|HIST1H4L	-2.7654	2.743157	23.24559	0.000202	0.008404	-6.79938
ENSG00000235703.1|LINC00894	1.329061	5.053183	23.17583	0.000203	0.008406	2.51239
ENSG00000170638.5|TRABD	-1.15906	5.8247	23.15047	0.000204	0.008434	-2.23312
ENSG00000111640.10|GAPDH	-1.46761	9.711562	23.12536	0.000205	0.008451	-2.76563
ENSG00000161179.9|YDJC	-1.33872	4.049855	23.11595	0.000206	0.008451	-2.52928
ENSG00000169607.8|CKAP2L	-1.68071	3.75195	23.11268	0.000206	0.008451	-3.20586
ENSG00000176890.11|TYMS	-1.90866	4.713556	23.10906	0.000208	0.008517	-3.75461
ENSG00000130303.8|BST2	-1.4168	6.729747	23.01544	0.00021	0.008574	-2.66993
ENSG00000116809.7|ZBTB17	-1.23436	4.770693	22.91938	0.000214	0.008619	-2.35277
ENSG00000122034.8|GTF3A	-1.06098	5.222388	22.97161	0.000212	0.008619	-2.08635
ENSG00000148400.9|NOTCH1	-1.1192	7.653123	22.91329	0.000214	0.008619	-2.17227
ENSG00000148803.7|FUOM	-1.8523	3.350771	22.90812	0.000215	0.008619	-3.61075
ENSG00000161888.7|SPC24	-1.5498	3.231435	22.94991	0.000213	0.008619	-2.92776
ENSG00000175550.3|DRAP1	-1.12695	4.823609	22.97795	0.000212	0.008619	-2.18396
ENSG00000178741.7|COX5A	-1.2245	5.079149	22.92623	0.000214	0.008619	-2.33675
ENSG00000213971.3|RP11-15H20.6	1.266005	3.228117	22.93403	0.000214	0.008619	2.404946
ENSG00000221716.1|SNORA11	1.926322	1.658504	22.91548	0.000214	0.008619	3.800851
ENSG00000148672.7|GLUD1	-1.0453	6.500953	22.88923	0.000216	0.008621	-2.06379
ENSG00000181788.3|SIAH2	-1.02405	4.427758	22.89539	0.000215	0.008621	-2.03362
ENSG00000269430.1|LRRC3DN	2.283071	1.767687	22.86923	0.000216	0.008641	4.867128
ENSG00000132535.14|DLG4	-1.19087	4.867444	22.85987	0.000217	0.008642	-2.28291
ENSG00000076928.13|ARHGEF1	-1.031	8.164488	22.84337	0.000218	0.008655	-2.04344
ENSG00000083845.4|RPS5	-1.79389	6.774605	22.82608	0.000221	0.008723	-3.4675
ENSG00000165527.5|ARF6	-1.19207	6.281564	22.77318	0.000221	0.008723	-2.28481
ENSG00000239636.1|RP4-728D4.2	-1.69548	1.523004	22.79712	0.00022	0.008723	-3.23885
ENSG00000130402.7|ACTN4	-1.05358	7.33909	22.75432	0.000222	0.008737	-2.07567
ENSG00000229914.1|RP11-404O13.4	-9.67455	1.71197	28.14612	0.000222	0.008737	-817.201
ENSG00000251369.4|ZNF550	-1.36446	3.20974	22.73123	0.000223	0.008747	-2.5748
ENSG00000147647.8|DPYS	2.022866	-0.21792	22.70874	0.000224	0.008759	4.063904
ENSG00000100348.5|TXN2	-1.11741	4.886095	22.64933	0.000227	0.008834	-2.16958
ENSG00000203650.3|RP4-562J12.2	2.908769	-0.05105	22.63634	0.000227	0.008834	7.509771
ENSG00000159640.10|ACE	-1.66725	4.672695	22.5994	0.000229	0.008862	-3.1761
ENSG00000225192.1|ZNF33BP1	1.843169	-0.10922	22.5906	0.00023	0.008863	3.587973
ENSG00000197238.3|HIST1H4J	-2.51877	5.958787	22.72967	0.000232	0.008955	-5.73095
ENSG00000161677.7|JOSD2	-1.0825	3.701871	22.51341	0.000233	0.008971	-2.1177
ENSG00000144724.14|PTPRG	2.108017	5.723018	22.66338	0.000236	0.00903	4.310983
ENSG00000025770.14|NCAPH2	-1.06915	4.722097	22.44439	0.000237	0.009043	-2.09819
ENSG00000123095.5|BHLHE41	-2.83508	6.329656	22.60139	0.000239	0.009097	-7.13583
ENSG00000150048.6|CLEC1A	3.187929	3.744556	22.58864	0.000239	0.009097	9.113016
ENSG00000183172.8|SMDT1	-1.29982	3.902242	22.39094	0.00024	0.009097	-2.46199
ENSG00000261534.1|RP11-244O19.1	1.54507	1.261572	22.3593	0.000241	0.009142	2.918182
ENSG00000255864.1|RP11-444D3.1	2.019503	0.486046	22.34599	0.000242	0.009152	4.054442
ENSG00000035862.8|TIMP2	1.646104	8.486123	22.29727	0.000244	0.009205	3.129873
ENSG00000189283.5|FHIT	1.799896	2.24518	22.29357	0.000245	0.009205	3.481952
ENSG00000269837.1|RP11-15H20.5	1.456756	2.53256	22.30559	0.000244	0.009205	2.744904
ENSG00000100823.7|APEX1	-1.20972	6.017985	22.28416	0.000245	0.009207	-2.31293
ENSG00000142541.12|RPL13A	-1.54776	8.858104	22.27256	0.000246	0.009214	-2.92363
ENSG00000124701.5|APOBEC2	1.22531	0.628424	22.25937	0.000246	0.009224	2.338056
ENSG00000148291.5|SURF2	-1.3421	1.816954	22.19511	0.00025	0.009318	-2.5352
ENSG00000155974.7|GRIP1	1.618006	1.431196	22.18142	0.000251	0.009329	3.069506
ENSG00000168234.8|TTC39C	-1.12449	4.792865	22.13264	0.000253	0.009411	-2.18025

ENSG00000100266.13|PACSIN2	-1.1746	6.465487	22.09489	0.000255	0.009438	-2.2573
ENSG00000100453.8|GZMB	-2.15322	2.652789	22.09472	0.000255	0.009438	-4.44821
ENSG00000004478.5|FKBP4	-1.7545	5.424454	22.09561	0.000258	0.009473	-3.37408
ENSG00000026652.9|AGPAT4	1.912139	4.534958	22.16387	0.000258	0.009473	3.763667
ENSG00000117399.9|CDC20	-3.53609	4.605392	22.23689	0.000258	0.009473	-11.6003
ENSG00000169371.9|SNUPN	-1.03241	3.18147	22.04493	0.000258	0.009473	-2.04544
ENSG00000063177.8|RPL18	-1.30511	7.236974	22.01365	0.00026	0.009494	-2.47103
ENSG00000106462.6|EZH2	-1.43921	4.83953	22.01076	0.00026	0.009494	-2.71171
ENSG00000157423.13|HYDIN	2.333323	1.958663	22.00233	0.00026	0.009494	5.039647
ENSG00000261394.1|RP11-165M1.3	1.394388	0.443519	22.00435	0.00026	0.009494	2.62877
ENSG00000077348.4|EXOSC5	-1.43701	2.901924	21.98678	0.000261	0.009505	-2.70759
ENSG00000107223.8|EDF1	-1.06402	5.207233	21.98087	0.000262	0.009505	-2.09074
ENSG00000197697.3|HIST1H2BE	-2.3249	3.384295	22.01934	0.000262	0.009509	-5.01031
ENSG00000204264.4|PSMB8	-1.19153	5.75116	21.92188	0.000265	0.009594	-2.28395
ENSG00000272780.1|RP11-822E23.8	1.368934	0.965671	21.90987	0.000266	0.009603	2.582797
ENSG00000196230.8|TUBB	-1.28295	8.916908	21.90095	0.000266	0.009605	-2.43337
ENSG00000066654.8|THUMPD1	1.039381	5.478314	21.88403	0.000267	0.009623	2.055346
ENSG00000180573.8|HIST1H2AC	-1.17318	5.691423	21.8603	0.000269	0.009656	-2.25508
ENSG00000262097.1|CTD-2135D7.5	-4.47264	0.564056	21.94141	0.000269	0.009659	-22.2024
ENSG00000197914.2|HIST1H4K	-2.11793	4.385439	21.87154	0.000273	0.009789	-4.34072
ENSG00000102893.11|PHKB	1.070013	6.725775	21.74507	0.000275	0.009834	2.099452
ENSG00000226469.1|ADAM1B	1.404108	0.912893	21.74995	0.000275	0.009834	2.646541
ENSG00000164124.6|TMEM144	1.599227	4.419245	21.74487	0.000276	0.009838	3.02981
ENSG00000164627.13|KIF6	3.996628	1.034708	21.91204	0.000276	0.009838	15.96264
ENSG00000238246.1|RP11-575A19.2	2.046054	0.198148	21.66206	0.00028	0.009962	4.129749
ENSG00000237233.2|RP11-809M12.1	4.153796	0.83695	21.83617	0.000281	0.009965	17.79988
ENSG00000169230.5|PRELID1	-1.21565	5.814414	21.63633	0.000282	0.009984	-2.32245
ENSG00000158402.14|CDC25C	-1.89761	1.127609	21.62287	0.000283	0.009997	-3.72596
ENSG00000115756.8|HPCAL1	-1.27829	5.912998	21.60556	0.000284	0.010001	-2.42552
ENSG00000205929.5|C21orf62	1.621697	0.810046	21.61155	0.000283	0.010001	3.077368
ENSG00000104327.3|CALB1	1.969206	1.47957	21.556	0.000287	0.010026	3.915526
ENSG00000109805.5|NCAPG	-1.78587	4.067089	21.56252	0.000286	0.010026	-3.44827
ENSG00000156515.17|HK1	-1.18174	7.075607	21.56376	0.000286	0.010026	-2.2685
ENSG00000184678.8|HIST2H2BE	-1.48142	5.712942	21.55879	0.000287	0.010026	-2.79223
ENSG00000023892.9|DEF6	-1.40191	5.853295	21.54692	0.000287	0.010029	-2.6425
ENSG00000080293.5|SCTR	3.422952	0.805436	21.60783	0.000291	0.010091	10.72534
ENSG00000101282.4|RSPO4	3.033062	0.382308	21.52053	0.000292	0.010091	8.185449
ENSG00000139572.3|GPR84	-1.94707	4.739099	21.57567	0.000291	0.010091	-3.8559
ENSG00000167900.7|TK1	-1.43424	4.622439	21.47696	0.000292	0.010091	-2.70239
ENSG00000197262.8|CCL4L2	2.649345	4.380302	21.62738	0.000294	0.010117	6.273826
ENSG00000165891.11|E2F7	-2.05957	2.822133	21.40308	0.000297	0.010165	-4.16862
ENSG00000205930.4|C21orf49	1.606767	0.607228	21.41197	0.000296	0.010165	3.045686
ENSG00000099968.13|BCL2L13	-1.06215	5.387851	21.35743	0.0003	0.010251	-2.08804
ENSG00000160321.10|ZNF208	3.103041	1.809696	21.45335	0.000301	0.010273	8.592282
ENSG00000139514.8|SLC7A1	-1.73755	5.497337	21.37484	0.000302	0.010282	-3.33468
ENSG00000185090.10|MANEAL	-1.37998	3.295113	21.31464	0.000302	0.010297	-2.60264
ENSG00000158488.11|CD1E	-4.74121	1.814874	21.47305	0.000304	0.010309	-26.7452
ENSG00000184922.9|FMNL1	-1.13491	8.076679	21.24049	0.000307	0.010416	-2.19606
ENSG00000117154.7|IGSF21	4.109834	4.181226	21.39143	0.000309	0.010421	17.26567
ENSG00000159289.6|GOLGA6A	2.51834	-0.68471	21.22111	0.000309	0.010421	5.729226
ENSG00000197696.5|NMB	-1.33838	0.571516	21.20927	0.00031	0.010421	-2.52868
ENSG00000204055.4|RP11-247A12.2	1.807826	-0.17031	21.21212	0.000309	0.010421	3.501144
ENSG00000249258.2|RP11-468H14.2	2.729373	0.18303	21.19997	0.00031	0.010426	6.631674
ENSG00000115523.12|GNLY	-2.48067	3.938633	21.31995	0.000311	0.01044	-5.58156

ENSG00000186300.7|ZNF555	1.43218	3.236925	21.17227	0.000312	0.010456	2.698542
ENSG00000145386.5|CCNA2	-1.91274	3.947177	21.17233	0.000313	0.010467	-3.76523
ENSG00000152253.4|SPC25	-1.86054	1.380789	21.12977	0.000315	0.010522	-3.63143
ENSG00000062822.8|POLD1	-1.07899	5.629159	21.07402	0.000319	0.010618	-2.11256
ENSG00000177192.9|PUS1	-1.02098	4.806108	21.0775	0.000319	0.010618	-2.0293
ENSG00000100300.13|TSPO	-1.7328	5.729012	21.08142	0.000322	0.010665	-3.32371
ENSG00000120802.9|TMPO	-1.26293	7.167235	21.04355	0.000321	0.010665	-2.39982
ENSG00000203401.4|AC009061.1	1.876852	0.353458	21.03814	0.000321	0.010665	3.672727
ENSG00000111783.8|RFX4	4.73085	2.063244	21.1656	0.000325	0.010737	26.55387
ENSG00000268119.1|CTD-2561J22.5	2.414575	2.20463	21.03312	0.000325	0.010737	5.331625
ENSG00000174628.12|IQCK	1.761378	1.721902	20.91958	0.00033	0.010868	3.390217
ENSG00000213096.5|ZNF254	1.254269	3.77912	20.92435	0.00033	0.010868	2.385462
ENSG00000273247.1|RP11-83A24.2	1.136023	4.116248	20.91213	0.000331	0.01087	2.197743
ENSG00000158062.16|UBXN11	-1.18291	6.034788	20.88936	0.000332	0.010908	-2.27033
ENSG00000042753.7|AP2S1	-1.42744	5.909093	20.67443	0.000349	0.010913	-2.68968
ENSG00000075702.12|WDR62	-1.49289	4.096586	20.69685	0.000347	0.010913	-2.81452
ENSG00000085063.10|CD59	1.15542	6.936958	20.85684	0.000335	0.010913	2.227491
ENSG00000085999.7|RAD54L	-1.3286	3.494293	20.74173	0.000343	0.010913	-2.51159
ENSG00000101361.10|NOP56	-1.00561	5.594458	20.79966	0.000339	0.010913	-2.00779
ENSG00000102760.12|RGCC	-2.43709	4.71816	21.00185	0.000337	0.010913	-5.41548
ENSG00000104760.12|FGL1	4.051451	2.057616	20.90391	0.000344	0.010913	16.58091
ENSG00000122254.6|HS3ST2	6.18945	4.893216	21.04118	0.000334	0.010913	72.98107
ENSG00000129173.8|E2F8	-1.88925	2.900473	20.79213	0.00034	0.010913	-3.70443
ENSG00000132613.10|MTSS1L	1.805704	5.046204	20.82745	0.000345	0.010913	3.495998
ENSG00000136261.10|BZW2	-1.35499	4.377175	20.66927	0.000349	0.010913	-2.55795
ENSG00000140988.11|RPS2	-1.41428	8.585636	20.84236	0.000336	0.010913	-2.66527
ENSG00000147614.3|ATP6V0D2	5.654462	4.359133	20.9628	0.00034	0.010913	50.36892
ENSG00000148362.6|C9orf142	-1.29107	4.311607	20.74299	0.000343	0.010913	-2.44709
ENSG00000152926.10|ZNF117	2.97676	7.038956	20.89454	0.000345	0.010913	7.872161
ENSG00000172476.3|RAB40A	2.386489	0.894798	20.671	0.000349	0.010913	5.228834
ENSG00000173421.12|CCDC36	1.446648	2.511182	20.67207	0.000349	0.010913	2.72574
ENSG00000173559.8|NABP1	1.782384	8.722135	20.77931	0.000342	0.010913	3.439942
ENSG00000173660.7|UQCRH	-1.27868	5.188922	20.76746	0.000341	0.010913	-2.42617
ENSG00000178726.6|THBD	2.433664	5.979486	20.84449	0.000349	0.010913	5.402638
ENSG00000196923.9|PDLIM7	-1.1761	5.919852	20.70321	0.000346	0.010913	-2.25965
ENSG00000197479.4|PCDHB11	2.116818	0.293731	20.72153	0.000345	0.010913	4.337363
ENSG00000234741.3|GAS5	-1.42085	5.266223	20.81268	0.000338	0.010913	-2.67742
ENSG00000235609.4|AF127936.7	1.435031	2.228552	20.81187	0.000338	0.010913	2.703881
ENSG00000267370.1|CTD-2623N2.3	1.767387	1.186123	20.7468	0.000343	0.010913	3.404367
ENSG00000117676.9|RPS6KA1	-1.57632	7.176942	20.61216	0.000354	0.011037	-2.98208
ENSG00000130958.7|SLC35D2	1.141887	2.927946	20.56938	0.000357	0.011097	2.206695
ENSG00000158373.7|HIST1H2BD	-2.0672	5.027595	20.67656	0.000358	0.011097	-4.19073
ENSG00000177410.8|ZFAS1	-1.85751	3.770299	20.55986	0.000358	0.011097	-3.62382
ENSG00000198339.3|HIST1H4I	-2.17343	3.90728	20.62988	0.000358	0.011097	-4.51093
ENSG00000159860.5|FAM115D	-1.94809	1.459193	20.50993	0.000362	0.011145	-3.85864
ENSG00000183578.5|TNFAIP8L3	-3.0026	3.246326	20.6513	0.000361	0.011145	-8.0144
ENSG00000197608.7|ZNF841	1.926599	5.304755	20.64566	0.000361	0.011145	3.80158
ENSG00000268058.1|CTD-2017D11.3	1.667778	0.121299	20.51555	0.000361	0.011145	3.177249
ENSG00000100147.9|CCDC134	-1.26832	2.600254	20.43686	0.000368	0.011298	-2.4088
ENSG00000120053.9|GOT1	-1.03321	3.47302	20.43645	0.000368	0.011298	-2.04658
ENSG00000081377.12|CDC14B	1.691526	3.945302	20.41283	0.000372	0.011368	3.229981
ENSG00000112039.3|FANCE	-1.87431	2.793959	20.3376	0.000376	0.01142	-3.66627
ENSG00000230255.1|RP11-423O2.1	2.669773	1.453611	20.37494	0.000377	0.01142	6.363289
ENSG00000230880.2|RP11-417J8.3	2.954824	0.936685	20.40259	0.000375	0.01142	7.753373

ENSG00000240694.4|PNMA2	2.719278	2.167649	20.41848	0.000377	0.01142	6.585434
ENSG00000184635.9|ZNF93	1.638383	3.15969	20.27316	0.000382	0.011555	3.113167
ENSG00000241472.2|PTPRG-AS1	2.271638	0.626256	20.24972	0.000384	0.0116	4.828711
ENSG00000188060.6|RAB42	3.038908	4.630819	20.40529	0.000384	0.011604	8.21869
ENSG00000070915.5|SLC12A3	-3.58315	1.751384	20.30838	0.000386	0.011629	-11.9849
ENSG00000183091.15|NEB	2.701426	7.149428	20.35807	0.000388	0.011693	6.504443
ENSG00000260342.2|RP11-1035H13.3	-9.80022	1.840366	24.55171	0.000389	0.011693	-891.577
ENSG00000070540.8|WIPI1	1.23806	4.750148	20.1771	0.00039	0.011694	2.358811
ENSG00000070731.5|ST6GALNAC2	2.157189	2.80434	20.20597	0.000391	0.011694	4.46045
ENSG00000175155.4|YPEL2	1.002811	6.205803	20.16373	0.000391	0.011694	2.003901
ENSG00000198885.5|ITPRIPL1	-1.60725	2.818653	20.17344	0.00039	0.011694	-3.04671
ENSG00000271755.1|RP1-153G14.4	2.253146	-0.3644	20.14792	0.000393	0.01172	4.767214
ENSG00000108828.11|VAT1	1.665533	6.917785	20.20884	0.000394	0.011732	3.172308
ENSG00000254288.1|RP11-6I2.3	2.203898	-0.60604	20.13511	0.000394	0.011732	4.607224
ENSG00000048162.15|NOP16	-1.27623	2.989013	20.09659	0.000397	0.01175	-2.42206
ENSG00000109066.9|TMEM104	1.193188	5.462286	20.07501	0.000399	0.01175	2.286574
ENSG00000119669.3|IRF2BPL	-1.35294	6.760591	20.0773	0.000399	0.01175	-2.55433
ENSG00000164109.9|MAD2L1	-1.92553	2.931653	20.1073	0.000396	0.01175	-3.79877
ENSG00000203814.5|HIST2H2BF	-2.00073	5.82913	20.20394	0.000399	0.01175	-4.00202
ENSG00000225670.3|CTA-134P22.2	1.827183	0.863504	20.07563	0.000399	0.01175	3.548436
ENSG00000236830.2|CBR3-AS1	1.460178	2.522185	20.09485	0.000397	0.01175	2.751423
ENSG00000268362.1|CTD-2017D11.1	1.20664	3.132997	20.10008	0.000397	0.01175	2.307995
ENSG00000270614.1|CTC-325H20.7	1.744795	0.3558	20.05395	0.000401	0.01179	3.351471
ENSG00000204387.8|C6orf48	-1.3416	4.853251	20.03128	0.000403	0.011834	-2.53433
ENSG00000175806.10|MSRA	-1.01027	3.487015	19.99606	0.000406	0.011897	-2.01428
ENSG00000265218.1|RP11-927P21.1	1.192917	2.385416	19.98737	0.000407	0.011899	2.286145
ENSG00000029559.5|IBSP	-9.04623	6.561907	20.11611	0.00041	0.011927	-528.673
ENSG00000100526.15|CDKN3	-1.87468	1.663018	19.92968	0.000413	0.011927	-3.66719
ENSG00000156345.13|CDK20	1.407248	1.808338	19.92633	0.000413	0.011927	2.652307
ENSG00000228252.4|COL6A4P2	3.58857	1.196675	20.07704	0.000411	0.011927	12.03004
ENSG00000235508.2|RPS2P7	-1.63656	0.479336	19.94595	0.000411	0.011927	-3.10923
ENSG00000258838.1|ERCC6-PGBD3	-1.82987	2.414708	19.95428	0.00041	0.011927	-3.55506
ENSG00000249669.3|MIR143HG	1.186	5.790555	19.90654	0.000415	0.011954	2.27521
ENSG00000146216.7|TTBK1	-2.03904	1.471028	19.88665	0.000417	0.011966	-4.10972
ENSG00000183207.8|RUVBL2	-1.43797	4.405642	19.84321	0.000421	0.012053	-2.70939
ENSG00000262814.2|MRPL12	-1.23707	4.230112	19.84357	0.000421	0.012053	-2.35719
ENSG00000213976.3|CTD-2561J22.2	1.91806	0.572917	19.8122	0.000424	0.012122	3.779145
ENSG00000123473.11|STIL	-1.27754	4.192572	19.7992	0.000425	0.012142	-2.42426
ENSG00000160949.12|TONSL	-1.34922	4.906036	19.76719	0.000428	0.012199	-2.54775
ENSG00000172572.6|PDE3A	2.043485	3.792744	19.84949	0.00043	0.0122	4.122401
ENSG00000128833.8|MYO5C	1.38068	2.597447	19.74821	0.00043	0.012203	2.60391
ENSG00000110063.4|DCPS	-1.09725	3.462064	19.73483	0.000432	0.012224	-2.13947
ENSG00000145912.4|NHP2	-1.29036	4.18964	19.72034	0.000433	0.012248	-2.44589
ENSG00000104859.10|CLASRP	-1.00777	5.380331	19.70831	0.000434	0.01225	-2.01081
ENSG00000141526.10|SLC16A3	-1.42258	8.402142	19.69884	0.000435	0.01226	-2.68064
ENSG00000261295.1|RP11-524D16__A.3	2.486472	1.342548	19.68724	0.000436	0.012276	5.604057
ENSG00000132481.2|TRIM47	1.511335	5.03075	19.70028	0.000439	0.01232	2.850738
ENSG00000169228.9|RAB24	-1.35107	4.922254	19.66018	0.000439	0.01232	-2.55101
ENSG00000139626.11|ITGB7	-1.70231	5.135944	19.66349	0.000443	0.012408	-3.25422
ENSG00000260306.1|RP11-645C24.5	2.842916	2.2554	19.72724	0.000445	0.012443	7.174689
ENSG00000268521.1|VN1R83P	1.654043	1.040134	19.57896	0.000447	0.012504	3.147144
ENSG00000184260.4|HIST2H2AC	-1.20792	4.42684	19.55137	0.00045	0.012567	-2.31005
ENSG00000267203.1|SNRPGP4	1.501281	-0.47652	19.54149	0.000451	0.012579	2.83094
ENSG00000034063.9|UHRF1	-1.45611	5.668373	19.53425	0.000452	0.012584	-2.74367

ENSG00000164045.7|CDC25A	-1.97113	2.906837	19.52815	0.000453	0.012585	-3.92074
ENSG00000119547.5|ONECUT2	3.744623	0.542663	19.61509	0.000457	0.01268	13.40429
ENSG00000143450.10|OAZ3	1.32572	1.307523	19.48441	0.000457	0.01268	2.50658
ENSG00000143199.13|ADCY10	1.644856	-0.26836	19.4643	0.000459	0.012723	3.127166
ENSG00000251632.1|RP11-714L20.1	3.139063	1.844608	19.57273	0.000461	0.012739	8.809517
ENSG00000026025.9|VIM	-1.22433	10.1338	19.43976	0.000462	0.012741	-2.33647
ENSG00000117724.8|CENPF	-1.39543	6.288074	19.41323	0.000465	0.012741	-2.63066
ENSG00000132341.7|RAN	-1.15094	6.589385	19.42985	0.000463	0.012741	-2.22058
ENSG00000267646.1|CTC-499B15.7	2.685566	-0.17796	19.44024	0.000462	0.012741	6.433333
ENSG00000081803.11|CADPS2	1.5641	2.999593	19.38077	0.000468	0.012809	2.956929
ENSG00000160072.15|ATAD3B	-1.04286	5.615422	19.37918	0.000469	0.012809	-2.06031
ENSG00000127774.6|EMC6	-1.35294	2.528805	19.3633	0.00047	0.012824	-2.55432
ENSG00000234456.3|MAGI2-AS3	1.401085	3.057853	19.36276	0.00047	0.012824	2.641001
ENSG00000107738.15|C10orf54	-1.59184	7.350398	19.31146	0.000476	0.012893	-3.01433
ENSG00000235397.1|EPN2-AS1	1.498959	0.70654	19.31898	0.000475	0.012893	2.826387
ENSG00000186376.10|ZNF75D	1.047904	5.095328	19.28294	0.000479	0.012923	2.067524
ENSG00000197915.5|HRNR	2.742291	4.653282	19.43062	0.00048	0.012923	6.691318
ENSG00000105281.8|SLC1A5	-1.1386	6.496479	19.26102	0.000482	0.012932	-2.20167
ENSG00000149273.10|RPS3	-1.3151	8.060605	19.23695	0.000484	0.012955	-2.4882
ENSG00000154493.13|C10orf90	3.616168	-0.44339	19.32113	0.000483	0.012955	12.26239
ENSG00000179750.11|APOBEC3B	-2.28004	3.008993	19.27969	0.000484	0.012955	-4.85691
ENSG00000110455.9|ACCS	1.197037	5.531029	19.22972	0.000485	0.012961	2.292684
ENSG00000079616.8|KIF22	-1.1205	5.240503	19.2179	0.000487	0.012964	-2.17422
ENSG00000272767.1|JMJD1C-AS1	-1.47465	2.762164	19.22107	0.000486	0.012964	-2.77916
ENSG00000160255.12|ITGB2	-1.55368	9.437257	19.19697	0.000489	0.012994	-2.93566
ENSG00000121621.6|KIF18A	-1.71092	2.426676	19.17013	0.000492	0.013056	-3.27369
ENSG00000133138.15|TBC1D8B	1.358425	3.224418	19.16596	0.000493	0.013056	2.56405
ENSG00000011426.6|ANLN	-1.50172	5.022542	19.14031	0.000496	0.013069	-2.83179
ENSG00000073803.9|MAP3K13	1.144673	4.258854	19.14511	0.000495	0.013069	2.21096
ENSG00000162594.10|IL23R	2.143722	0.422006	19.14767	0.000495	0.013069	4.419005
ENSG00000185909.10|KLHDC8B	2.623928	5.471041	19.28226	0.000496	0.013073	6.164262
ENSG00000165283.11|STOML2	-1.2045	4.275602	19.09562	0.000501	0.013158	-2.30457
ENSG00000196189.8|SEMA4A	-1.03045	5.633609	19.08007	0.000503	0.013189	-2.04267
ENSG00000238755.3|RP11-23D24.2	4.437983	4.079324	19.22143	0.000503	0.013192	21.67534
ENSG00000135931.13|ARMC9	1.532249	3.999059	19.01424	0.00051	0.013362	2.892364
ENSG00000152082.9|MZT2B	-1.53382	4.551881	18.98139	0.000514	0.013449	-2.89551
ENSG00000182993.3|C12orf60	1.668677	0.535919	18.94875	0.000518	0.013519	3.179229
ENSG00000138435.10|CHRNA1	3.654848	0.506701	19.02816	0.000523	0.013614	12.5956
ENSG00000101230.5|ISM1	1.975562	0.111988	18.89737	0.000525	0.013651	3.932815
ENSG00000176014.8|TUBB6	-1.11571	5.121554	18.88163	0.000527	0.013676	-2.16701
ENSG00000180596.7|HIST1H2BC	-1.89564	4.953771	18.95525	0.000528	0.013678	-3.72088
ENSG00000102362.11|SYTL4	2.014561	3.600428	18.89533	0.000535	0.013798	4.040576
ENSG00000171206.9|TRIM8	-1.02978	6.498253	18.82141	0.000534	0.013798	-2.04172
ENSG00000120318.11|ARAP3	-1.86262	5.272448	18.8767	0.000538	0.013829	-3.63668
ENSG00000123329.13|ARHGAP9	-1.4914	6.782953	18.7924	0.000538	0.013829	-2.81162
ENSG00000150977.9|RILPL2	-1.11228	5.045328	18.7979	0.000537	0.013829	-2.16186
ENSG00000164946.15|FREM1	1.850349	2.127239	18.77925	0.00054	0.01385	3.605873
ENSG00000078900.10|TP73	-1.87915	2.974624	18.74834	0.000544	0.013902	-3.67858
ENSG00000104825.12|NFKBIB	-1.07165	4.239136	18.75012	0.000543	0.013902	-2.10183
ENSG00000124529.3|HIST1H4B	-2.25984	4.43341	18.8301	0.000547	0.013967	-4.78937
ENSG00000148835.9|TAF5	-1.05349	2.330311	18.70089	0.00055	0.013998	-2.07555
ENSG00000126787.8|DLGAP5	-1.92579	3.389195	18.68897	0.000551	0.014013	-3.79945
ENSG00000180198.11|RCC1	-1.32291	4.759793	18.67839	0.000553	0.014032	-2.5017
ENSG00000232528.3|RP4-673D20.3	1.578115	-0.23363	18.66068	0.000555	0.014074	2.985795

ENSG00000092853.9|CLSPN	-1.78328	4.513648	18.67384	0.000559	0.014161	-3.44207
ENSG00000167555.9|ZNF528	1.619826	4.093111	18.65263	0.000561	0.01419	3.07338
ENSG00000132109.8|TRIM21	-1.16362	4.870774	18.59961	0.000563	0.014212	-2.24019
ENSG00000172586.7|CHCHD1	-1.05349	2.469053	18.60246	0.000563	0.014212	-2.07554
ENSG00000214428.3|NPM1P10	3.101548	-0.71296	18.5926	0.000565	0.014234	8.583395
ENSG00000232725.1|U52111.14	1.564775	1.564969	18.56796	0.000567	0.014251	2.958315
ENSG00000236709.1|DAPK1-IT1	2.10906	0.613664	18.5586	0.000569	0.014266	4.314102
ENSG00000100316.11|RPL3	-1.36822	8.927002	18.5251	0.000573	0.014364	-2.58152
ENSG00000183765.16|CHEK2	-1.20376	3.26479	18.47661	0.00058	0.014514	-2.30339
ENSG00000272070.1|AC005618.6	2.20584	1.135064	18.46555	0.000581	0.014535	4.613432
ENSG00000109072.9|VTN	1.505593	2.019448	18.45567	0.000583	0.014544	2.839414
ENSG00000247950.2|SEC24B-AS1	1.229652	-0.22952	18.45322	0.000583	0.014544	2.345104
ENSG00000171320.10|ESCO2	-1.51568	3.033861	18.44351	0.000585	0.01456	-2.85934
ENSG00000137076.14|TLN1	-1.0033	9.788085	18.40006	0.000591	0.014678	-2.00458
ENSG00000236028.1|RP11-323C15.2	3.551585	0.28202	18.51191	0.00059	0.014678	11.72556
ENSG00000198931.6|APRT	-1.0646	5.173974	18.3922	0.000592	0.014689	-2.09159
ENSG00000243251.4|PGBD3	-1.72914	2.463041	18.38614	0.000593	0.014693	-3.3153
ENSG00000100029.13|PES1	-1.05511	4.948012	18.35914	0.000596	0.014755	-2.07788
ENSG00000136160.10|EDNRB	2.861941	3.906435	18.49574	0.000597	0.014755	7.269927
ENSG00000197980.7|LEKR1	1.673916	0.511777	18.3539	0.000597	0.014755	3.190796
ENSG00000144554.6|FANCD2	-1.03252	4.745518	18.33942	0.000599	0.014789	-2.04559
ENSG00000264098.1|CTD-2350C19.1	1.344556	3.695795	18.33365	0.0006	0.014792	2.53952
ENSG00000146409.6|SLC18B1	2.247981	4.664308	18.44998	0.000603	0.014851	4.750176
ENSG00000182612.6|TSPAN10	4.439066	3.046471	18.42592	0.000607	0.01489	21.69161
ENSG00000196605.3|ZNF846	1.045701	3.681332	18.28691	0.000607	0.01489	2.064369
ENSG00000271936.1|RP11-443B20.1	-1.41777	1.505769	18.29634	0.000606	0.01489	-2.67172
ENSG00000130164.7|LDLR	-1.69465	4.576468	18.28325	0.000613	0.014995	-3.23698
ENSG00000255833.1|TIFAB	-2.86244	4.610477	18.37143	0.000615	0.015008	-7.27243
ENSG00000188868.9|ZNF563	1.30999	2.075158	18.22547	0.000616	0.015025	2.479399
ENSG00000100412.11|ACO2	-1.04125	6.136341	18.20447	0.000619	0.015084	-2.05801
ENSG00000165194.10|PCDH19	2.5936	0.547727	18.2125	0.00062	0.015085	6.036032
ENSG00000264112.1|RP11-159D12.2	1.147628	5.453111	18.19442	0.000621	0.015085	2.215493
ENSG00000177663.9|IL17RA	-1.84662	8.659503	18.16114	0.000628	0.015192	-3.59656
ENSG00000184261.4|KCNK12	1.976406	1.649599	18.15257	0.000627	0.015192	3.935117
ENSG00000215450.2|RP5-890O15.3	3.209153	1.080888	18.24904	0.000628	0.015192	9.248072
ENSG00000273297.1|RP11-38M8.1	4.237325	1.209488	18.23963	0.000634	0.015293	18.86088
ENSG00000262999.1|CTD-3088G3.6	2.480439	0.418414	18.09235	0.000636	0.015321	5.580671
ENSG00000257803.2|RP11-575G13.2	1.79354	2.549924	18.06576	0.00064	0.015403	3.466644
ENSG00000188976.6|NOC2L	-1.00598	5.779863	18.05988	0.000641	0.015407	-2.00831
ENSG00000259921.1|AC022819.3	1.614668	0.720912	18.0511	0.000643	0.015422	3.062411
ENSG00000157303.6|SUSD3	-2.50913	3.706197	18.14155	0.000645	0.015441	-5.69278
ENSG00000227638.2|HNRNPA1P14	1.548613	2.64318	18.03218	0.000645	0.015441	2.925358
ENSG00000260260.1|RP11-304L19.5	-2.38268	0.934316	18.03757	0.000645	0.015441	-5.21504
ENSG00000196220.11|SRGAP3	1.834807	5.285887	18.10087	0.000652	0.015583	3.567237
ENSG00000186496.6|ZNF396	1.254878	1.101959	17.94905	0.000659	0.015685	2.386469
ENSG00000137338.4|PGBD1	1.329075	1.684175	17.93705	0.000661	0.015696	2.512416
ENSG00000175756.9|AURKAIP1	-1.31583	4.651492	17.93696	0.000661	0.015696	-2.48946
ENSG00000101447.9|FAM83D	-1.72487	2.378508	17.92286	0.000663	0.015696	-3.30551
ENSG00000187840.4|EIF4EBP1	-1.02957	3.840044	17.92474	0.000663	0.015696	-2.04142
ENSG00000107282.5|APBA1	2.665558	4.239055	17.99068	0.000673	0.015748	6.344726
ENSG00000135047.10|CTSL	2.612529	7.029604	18.01703	0.000669	0.015748	6.115747
ENSG00000170004.12|CHD3	-1.38997	7.896699	17.86351	0.000673	0.015748	-2.62073
ENSG00000182568.12|SATB1	-1.25167	5.526088	17.87295	0.000671	0.015748	-2.38118
ENSG00000204962.4|PCDHA8	3.695214	0.00785	17.99089	0.000669	0.015748	12.953

ENSG00000207392.1|SNORA20	1.460535	1.732954	17.86114	0.000673	0.015748	2.752104
ENSG00000257663.1|RP11-1100L3.7	4.003622	-0.80105	17.94988	0.000672	0.015748	16.04022
ENSG00000269686.1|AC011755.1	2.595379	2.554844	17.99233	0.000668	0.015748	6.043477
ENSG00000272320.1|RP11-506K6.4	1.651406	3.194372	17.8853	0.000669	0.015748	3.141396
ENSG00000076258.5|FMO4	1.810196	1.824468	17.84602	0.000675	0.015765	3.506898
ENSG00000251152.1|RP11-281P23.1	2.357911	-0.29262	17.84546	0.000676	0.015765	5.126276
ENSG00000140379.7|BCL2A1	-2.00527	3.898066	17.88737	0.000678	0.015812	-4.01463
ENSG00000272872.1|LL22NC03-N14H11.1	3.057231	3.662106	17.93541	0.000682	0.015889	8.323736
ENSG00000171793.9|CTPS1	-1.24901	4.831674	17.78092	0.000686	0.015963	-2.37679
ENSG00000255408.2|PCDHA3	3.101882	0.360269	17.84328	0.000688	0.015981	8.585378
ENSG00000197903.6|HIST1H2BK	-1.77273	5.714659	17.84151	0.000689	0.015996	-3.417
ENSG00000072571.15|HMMR	-1.63964	3.401933	17.74465	0.000692	0.016039	-3.11587
ENSG00000173083.10|HPSE	2.408056	5.511709	17.87384	0.000693	0.016039	5.307588
ENSG00000107816.13|LZTS2	-1.06093	5.232161	17.70813	0.000699	0.016117	-2.08628
ENSG00000171241.4|SHCBP1	-1.35225	4.336772	17.70585	0.000699	0.016117	-2.55309
ENSG00000186522.10|SEPT10	1.709247	3.835647	17.73191	0.0007	0.016117	3.269901
ENSG00000242445.1|RPL7AP11	-1.23453	1.080977	17.69703	0.000701	0.016117	-2.35304
ENSG00000256657.1|RP11-144O23.20	1.796119	1.081122	17.69808	0.0007	0.016117	3.472847
ENSG00000151704.11|KCNJ1	2.22456	1.083903	17.64229	0.00071	0.016299	4.673682
ENSG00000185436.7|IFNLR1	-2.97913	4.608939	17.76708	0.000711	0.016299	-7.88508
ENSG00000100216.4|TOMM22	-1.09153	4.270902	17.62136	0.000714	0.016348	-2.131
ENSG00000266923.1|RP11-693J15.4	-4.30677	1.062016	17.7164	0.000715	0.016354	-19.7909
ENSG00000006468.9|ETV1	2.19031	3.425541	17.67997	0.000721	0.016435	4.564036
ENSG00000259810.2|AC002519.8	2.117676	-0.20519	17.57792	0.000721	0.016435	4.339943
ENSG00000264885.1|RP11-815I9.4	1.393875	1.177603	17.57834	0.000721	0.016435	2.627835
ENSG00000268895.1|A1BG-AS1	-1.76327	3.543358	17.58283	0.00072	0.016435	-3.39466
ENSG00000164466.8|SFXN1	-1.1708	4.734985	17.57229	0.000722	0.01644	-2.25136
ENSG00000244607.1|CCDC13	1.972293	0.813591	17.54846	0.000727	0.016501	3.923912
ENSG00000123219.8|CENPK	-1.22221	2.800188	17.5335	0.000729	0.016544	-2.33304
ENSG00000268087.1|CTC-429P9.2	1.291482	0.631982	17.51534	0.000733	0.016601	2.447794
ENSG00000140525.13|FANCI	-1.1166	5.00648	17.49823	0.000736	0.016615	-2.16836
ENSG00000176320.2|RP11-404O13.5	-5.51438	2.664217	17.6257	0.000736	0.016615	-45.7081
ENSG00000197061.3|HIST1H4C	-2.30452	4.180171	17.59409	0.000736	0.016615	-4.94004
ENSG00000109674.3|NEIL3	-1.88151	1.809061	17.46916	0.000741	0.016701	-3.68462
ENSG00000112578.5|BYSL	-1.14271	3.409751	17.43842	0.000747	0.016757	-2.20795
ENSG00000159069.9|FBXW5	-1.15542	6.499255	17.44065	0.000746	0.016757	-2.22749
ENSG00000168393.8|DTYMK	-1.12239	3.853105	17.43952	0.000746	0.016757	-2.17707
ENSG00000173915.8|USMG5	-1.41024	3.222265	17.45087	0.000744	0.016757	-2.65781
ENSG00000116649.5|SRM	-1.30411	5.190349	17.40636	0.000753	0.01683	-2.46931
ENSG00000128626.7|MRPS12	-1.45742	3.430254	17.38783	0.000756	0.01683	-2.74617
ENSG00000197557.6|TTC30A	1.302817	2.026512	17.38813	0.000756	0.01683	2.467101
ENSG00000198755.6|RPL10A	-1.30652	7.093593	17.39605	0.000755	0.01683	-2.47344
ENSG00000257924.1|RP11-493L12.5	-4.03233	0.187783	17.44763	0.000756	0.01683	-16.3626
ENSG00000270189.1|RP11-258C19.7	1.288275	2.352786	17.39522	0.000755	0.01683	2.442359
ENSG00000116586.7|LAMTOR2	-1.21722	4.217595	17.38097	0.000757	0.016836	-2.32498
ENSG00000132334.12|PTPRE	-1.497	7.811876	17.34158	0.000765	0.016965	-2.82255
ENSG00000174371.12|EXO1	-1.5467	2.67446	17.34534	0.000764	0.016965	-2.92149
ENSG00000139278.5|GLIPR1	1.335058	6.564692	17.3225	0.00077	0.01705	2.522856
ENSG00000267470.1|ZNF571-AS1	1.102535	1.043834	17.30418	0.000772	0.017052	2.147316
ENSG00000133265.6|HSPBP1	-1.37266	3.429355	17.26877	0.000779	0.017184	-2.58947
ENSG00000156802.8|ATAD2	-1.08265	5.313738	17.26277	0.00078	0.017184	-2.11793
ENSG00000269936.2|MIR145	1.219684	3.979401	17.24683	0.000783	0.017207	2.328957
ENSG00000089692.4|LAG3	-2.20348	4.882375	17.36112	0.000785	0.017213	-4.6059
ENSG00000115163.10|CENPA	-1.72327	2.195313	17.23288	0.000786	0.017213	-3.30183

ENSG00000213853.5|EMP2	2.168851	5.55385	17.36024	0.000785	0.017213	4.496652
ENSG00000143476.13|DTL	-1.34801	3.730093	17.21562	0.000789	0.017244	-2.54561
ENSG00000153157.8|SYCP2L	2.724637	-0.16549	17.22157	0.00079	0.017244	6.609938
ENSG00000213390.6|ARHGAP19	-1.07332	4.373206	17.20387	0.000791	0.017266	-2.10427
ENSG00000055950.12|MRPL43	-1.15477	3.761809	17.18376	0.000795	0.017335	-2.22649
ENSG00000170011.9|MYRIP	1.358664	1.43512	17.16918	0.000798	0.01738	2.564476
ENSG00000187391.13|MAGI2	1.287149	2.058101	17.16015	0.0008	0.017402	2.440452
ENSG00000163002.8|NUP35	-1.08022	2.30623	17.13856	0.000804	0.017461	-2.11436
ENSG00000204969.5|PCDHA2	3.208201	0.530346	17.23057	0.000805	0.017461	9.241973
ENSG00000267491.1|CTD-2373H9.5	1.700723	2.953755	17.13415	0.000805	0.017461	3.250638
ENSG00000175416.8|CLTB	-1.19014	4.584513	17.1195	0.000808	0.017501	-2.28174
ENSG00000198366.5|HIST1H3A	-1.77382	2.30705	17.11685	0.000809	0.017501	-3.41957
ENSG00000180938.5|ZNF572	1.426441	1.758368	17.10168	0.000812	0.017549	2.687828
ENSG00000117650.8|NEK2	-2.41847	2.637117	17.12786	0.000813	0.017554	-5.34604
ENSG00000188820.8|FAM26F	-2.17365	4.686403	17.17758	0.000821	0.017679	-4.51163
ENSG00000167037.14|SGSM1	2.696219	1.896314	17.11957	0.000824	0.017697	6.48101
ENSG00000119965.8|C10orf88	-1.14783	2.310993	17.03475	0.000826	0.017719	-2.2158
ENSG00000064652.6|SNX24	1.378917	4.167138	17.00423	0.000832	0.017736	2.60073
ENSG00000079462.3|PAFAH1B3	-2.21895	2.541824	17.02292	0.000828	0.017736	-4.65555
ENSG00000105329.5|TGFB1	-1.2243	7.851325	17.00306	0.000832	0.017736	-2.33642
ENSG00000134490.9|TMEM241	1.416847	3.015638	17.01773	0.000829	0.017736	2.670014
ENSG00000163354.10|DCST2	1.952387	0.447083	17.00259	0.000832	0.017736	3.870143
ENSG00000004777.14|ARHGAP33	-1.19799	4.511795	16.96961	0.000839	0.017775	-2.29421
ENSG00000020129.11|NCDN	-1.0732	4.848334	16.98295	0.000836	0.017775	-2.10409
ENSG00000113272.9|THG1L	-1.13002	2.783558	16.96987	0.000839	0.017775	-2.18861
ENSG00000166922.4|SCG5	-2.85363	1.605742	17.00185	0.000839	0.017775	-7.22818
ENSG00000223547.5|ZNF844	1.778767	4.324288	17.05193	0.00084	0.017775	3.431328
ENSG00000110104.7|CCDC86	-1.32152	4.091092	16.93178	0.000847	0.017876	-2.49929
ENSG00000196154.7|S100A4	-1.9716	6.928994	17.02568	0.000847	0.017876	-3.92202
ENSG00000216285.4|RP11-490H24.5	-1.72129	-0.05433	16.91319	0.000851	0.017928	-3.29731
ENSG00000071242.7|RPS6KA2	1.148396	5.010676	16.89752	0.000855	0.017971	2.216673
ENSG00000103042.4|SLC38A7	1.158267	6.170344	16.89444	0.000855	0.017971	2.231892
ENSG00000065357.15|DGKA	-1.08597	6.133045	16.8628	0.000862	0.018061	-2.1228
ENSG00000180549.7|FUT7	-2.35082	3.15968	16.92492	0.000862	0.018061	-5.10113
ENSG00000268518.1|CTD-2545M3.8	-3.05427	2.506526	16.94475	0.000865	0.018095	-8.30668
ENSG00000168477.13|TNXB	1.058227	4.815493	16.82848	0.00087	0.018132	2.082371
ENSG00000254343.2|RP11-760H22.2	2.331038	-0.08459	16.8275	0.00087	0.018132	5.031672
ENSG00000256973.1|RP11-359J14.2	1.293109	1.342322	16.83599	0.000868	0.018132	2.450556
ENSG00000123643.8|SLC36A1	1.434249	6.489784	16.85801	0.000872	0.018151	2.702415
ENSG00000132185.12|FCRLA	-3.94809	3.594243	16.92681	0.000874	0.018151	-15.4346
ENSG00000163449.6|TMEM169	-1.75243	0.410827	16.80784	0.000874	0.018151	-3.36926
ENSG00000142534.2|RPS11	-1.30275	7.785969	16.78732	0.000879	0.018227	-2.46699
ENSG00000176340.3|COX8A	-1.24237	5.728371	16.77126	0.000882	0.018248	-2.36586
ENSG00000228889.2|UBAC2-AS1	-1.54398	0.059268	16.77321	0.000882	0.018248	-2.91598
ENSG00000258039.2|RP11-406H4.1	4.433097	0.023617	16.89598	0.000881	0.018248	21.60205
ENSG00000198185.7|ZNF334	2.510811	2.082097	16.82986	0.000884	0.018257	5.699403
ENSG00000176563.5|CNTD1	1.079281	2.20294	16.7449	0.000888	0.018316	2.112983
ENSG00000251429.1|RP11-597D13.7	2.197306	1.38884	16.72415	0.000893	0.018394	4.58622
ENSG00000159374.13|M1AP	1.262883	2.39672	16.71928	0.000894	0.018399	2.399748
ENSG00000101333.12|PLCB4	1.317011	1.044948	16.70533	0.000897	0.018432	2.491493
ENSG00000117394.15|SLC2A1	-1.88717	4.567567	16.77562	0.000897	0.018432	-3.69908
ENSG00000121769.3|FABP3	2.607872	1.532507	16.75042	0.0009	0.018448	6.096037
ENSG00000153832.7|FBXO36	1.448303	0.304228	16.69563	0.000899	0.018448	2.728869
ENSG00000242866.5|STRC	1.919891	0.746752	16.65954	0.000908	0.018557	3.783945

ENSG00000251323.2|RP11-452H21.4	1.541096	0.412538	16.65876	0.000908	0.018557	2.910156
ENSG00000028137.12|TNFRSF1B	-1.12836	8.25068	16.63977	0.000912	0.018558	-2.1861
ENSG00000105373.14|GLTSCR2	-1.06047	6.405002	16.64444	0.000911	0.018558	-2.08562
ENSG00000241220.1|RP11-292E2.1	3.587457	1.490635	16.76309	0.000911	0.018558	12.02077
ENSG00000260790.1|RP11-21M24.2	1.233004	0.924643	16.63945	0.000912	0.018558	2.350559
ENSG00000250479.4|CHCHD10	-1.2355	4.80017	16.62462	0.000916	0.018592	-2.35463
ENSG00000162302.8|RPS6KA4	-1.00816	5.762693	16.61404	0.000918	0.018625	-2.01135
ENSG00000077152.5|UBE2T	-1.90013	1.788223	16.59058	0.000924	0.018696	-3.73247
ENSG00000199477.1|SNORA31	1.468909	1.914161	16.58764	0.000924	0.018696	2.768124
ENSG00000125743.6|SNRPD2	-1.38757	4.800879	16.57415	0.000928	0.018725	-2.61638
ENSG00000198963.6|RORB	2.593538	0.945805	16.60679	0.000927	0.018725	6.035772
ENSG00000235244.3|RP11-761E20.1	2.977365	1.213793	16.64401	0.000932	0.018772	7.875465
ENSG00000267474.1|CTC-548K16.6	1.479606	1.676483	16.54401	0.000935	0.018797	2.788725
ENSG00000188223.9|AC002398.9	-1.34795	1.625859	16.50643	0.000944	0.018924	-2.5455
ENSG00000100749.3|VRK1	-1.12395	2.818554	16.47768	0.000951	0.019027	-2.17944
ENSG00000256060.2|TRAPPC2P1	-1.29101	1.335064	16.47127	0.000952	0.01904	-2.447
ENSG00000091844.3|RGS17	1.241811	1.51392	16.44993	0.000957	0.019108	2.364952
ENSG00000104826.7|LHB	-2.38168	-0.53983	16.45039	0.000957	0.019108	-5.21142
ENSG00000120756.8|PLS1	2.490349	1.063459	16.4519	0.000964	0.019206	5.619139
ENSG00000256309.1|AC009469.1	1.920682	2.787697	16.44495	0.000966	0.019222	3.78602
ENSG00000267731.1|RP11-147L13.8	1.755934	1.207659	16.40416	0.000969	0.01926	3.377449
ENSG00000105193.4|RPS16	-1.32685	7.493474	16.39005	0.000972	0.01928	-2.50855
ENSG00000142684.7|ZNF593	-1.49509	2.336143	16.38906	0.000973	0.01928	-2.81882
ENSG00000266912.1|CTC-325H20.2	1.901172	0.810563	16.39098	0.000972	0.01928	3.735165
ENSG00000069998.8|CECR5	-1.17276	5.161056	16.37317	0.000977	0.019305	-2.25442
ENSG00000072952.14|MRVI1	1.754997	4.959678	16.46474	0.000976	0.019305	3.375255
ENSG00000135148.7|TRAFD1	-1.04023	5.95255	16.35972	0.00098	0.019333	-2.05655
ENSG00000173272.9|MZT2A	-1.10916	4.146508	16.35657	0.000981	0.019333	-2.15721
ENSG00000027869.7|SH2D2A	-1.40938	4.393368	16.33341	0.000987	0.019412	-2.65623
ENSG00000234773.2|CTD-2666L21.1	1.414227	0.889888	16.32451	0.000989	0.019438	2.665169
ENSG00000142409.4|ZNF787	-1.02126	5.027895	16.31649	0.000991	0.019442	-2.0297
ENSG00000149823.3|VPS51	-1.0194	5.593293	16.31273	0.000992	0.019442	-2.02707
ENSG00000099341.7|PSMD8	-1.01144	5.353655	16.29753	0.000996	0.0195	-2.01593
ENSG00000143256.4|PFDN2	-1.50034	3.528551	16.28606	0.000999	0.01954	-2.82909
ENSG00000116035.2|VAX2	2.595297	0.016493	16.28594	0.001002	0.019552	6.043135
ENSG00000173457.6|PPP1R14B	-1.27829	5.156853	16.28005	0.001	0.019552	-2.42552
ENSG00000233716.1|AC074367.1	1.407082	0.304771	16.23852	0.001011	0.019689	2.652003
ENSG00000099260.6|PALMD	1.567178	3.725825	16.22931	0.001018	0.019713	2.963244
ENSG00000145908.8|ZNF300	1.485245	2.819856	16.2196	0.001016	0.019713	2.799648
ENSG00000148926.5|ADM	-2.55557	5.046403	16.33141	0.001016	0.019713	-5.87901
ENSG00000163918.6|RFC4	-1.18249	3.044798	16.21929	0.001016	0.019713	-2.26969
ENSG00000126010.5|GRPR	3.05546	1.044215	16.29581	0.001019	0.019715	8.313522
ENSG00000231528.2|FAM225A	-1.77708	4.661751	16.23471	0.001028	0.019854	-3.42732
ENSG00000234380.1|AP000330.8	1.734877	0.714307	16.13553	0.001038	0.019998	3.32851
ENSG00000204963.4|PCDHA7	3.003706	0.343379	16.18673	0.001042	0.020038	8.020579
ENSG00000187595.10|ZNF385C	1.672198	1.560779	16.1108	0.001045	0.020071	3.186997
ENSG00000178982.5|EIF3K	-1.06752	5.763873	16.08708	0.001051	0.020158	-2.09582
ENSG00000137135.13|ARHGEF39	-1.42507	3.122288	16.07996	0.001053	0.020173	-2.68527
ENSG00000226673.1|RP11-359N11.2	1.947908	0.890032	16.06621	0.001057	0.020194	3.858148
ENSG00000172380.5|GNG12	1.488137	4.838421	16.10096	0.001062	0.020252	2.805265
ENSG00000176046.7|NUPR1	2.564491	4.306304	16.15758	0.001062	0.020252	5.915461
ENSG00000070614.10|NDST1	-1.23395	6.911928	16.03433	0.001066	0.020288	-2.35211
ENSG00000198908.7|BHLHB9	1.722865	1.930456	16.02171	0.001069	0.020318	3.300912
ENSG00000203871.4|C6orf164	1.229458	1.346456	16.01139	0.001072	0.020354	2.344788

ENSG00000131037.10|EPS8L1	-2.28714	2.981488	16.04805	0.001076	0.020392	-4.88087
ENSG00000146858.7|ZC3HAV1L	-1.70425	2.446802	16.0001	0.001075	0.020392	-3.25859
ENSG00000260409.1|RP11-403B2.7	2.594666	2.040935	16.06415	0.001079	0.020413	6.040491
ENSG00000268230.1|CTD-2619J13.8	-1.85909	2.500464	15.96742	0.001084	0.020495	-3.62778
ENSG00000227063.4|RPL41P1	-1.59775	5.322264	16.01534	0.001086	0.020502	-3.02671
ENSG00000081026.14|MAGI3	1.343628	3.32366	15.95563	0.001088	0.020503	2.537887
ENSG00000263155.1|MYZAP	3.98188	2.222595	16.06462	0.001088	0.020503	15.8003
ENSG00000146856.10|AGBL3	1.306011	1.296365	15.93986	0.001092	0.020551	2.472569
ENSG00000110697.8|PITPNM1	-1.10164	6.226009	15.92729	0.001096	0.020582	-2.14598
ENSG00000184792.11|OSBP2	1.617135	3.200771	15.91348	0.0011	0.020582	3.067653
ENSG00000205277.5|MUC12	4.176722	4.854836	16.02814	0.001098	0.020582	18.085
ENSG00000229387.2|AC103801.2	-2.45614	0.076978	15.91504	0.001099	0.020582	-5.48746
ENSG00000131504.11|DIAPH1	-1.09014	7.614784	15.90141	0.001103	0.020629	-2.12895
ENSG00000267317.1|CTB-25B13.12	1.344015	2.033981	15.89064	0.001106	0.02065	2.538567
ENSG00000108518.7|PFN1	-1.0861	8.785788	15.88003	0.001109	0.02067	-2.123
ENSG00000109819.4|PPARGC1A	2.839287	-0.0427	15.91284	0.001111	0.02067	7.156662
ENSG00000166197.12|NOLC1	-1.08794	5.665474	15.86993	0.001112	0.02067	-2.1257
ENSG00000197134.7|ZNF257	2.37439	2.292554	15.94214	0.001109	0.02067	5.185164
ENSG00000123975.4|CKS2	-1.93246	2.673027	15.86356	0.001114	0.020686	-3.81706
ENSG00000137193.9|PIM1	-1.98958	6.945932	15.94105	0.001117	0.020698	-3.97122
ENSG00000165502.6|RPL36AL	-1.23124	4.977274	15.8554	0.001116	0.020698	-2.34768
ENSG00000218891.2|ZNF579	-1.1104	3.613669	15.8389	0.001121	0.020765	-2.15905
ENSG00000104147.4|OIP5	-1.57861	0.921744	15.83196	0.001123	0.020785	-2.98682
ENSG00000140511.7|HAPLN3	-1.51484	5.192325	15.84456	0.001128	0.020802	-2.85768
ENSG00000259926.1|RP11-44F14.5	1.185509	-0.11217	15.82473	0.001125	0.020802	2.274436
ENSG00000261589.1|CTC-462L7.1	1.018218	1.37879	15.82063	0.001127	0.020802	2.025415
ENSG00000180113.11|TDRD6	1.976727	3.250688	15.86457	0.001132	0.020844	3.935992
ENSG00000159212.8|CLIC6	2.410765	3.105104	15.87416	0.001142	0.020957	5.31756
ENSG00000198327.3|HIST1H4F	-2.47702	3.776935	15.87166	0.001143	0.020957	-5.56747
ENSG00000230894.1|RP11-67K19.3	2.405927	2.159331	15.83835	0.001139	0.020957	5.299758
ENSG00000183379.4|SYNDIG1L	3.391615	1.212344	15.8608	0.001146	0.020988	10.49489
ENSG00000100908.9|EMC9	-1.2319	2.617891	15.72672	0.001155	0.021033	-2.34876
ENSG00000142937.7|RPS8	-1.37348	7.971946	15.73799	0.001151	0.021033	-2.59095
ENSG00000242193.5|RP11-568K15.1	1.985409	3.769044	15.81355	0.001154	0.021033	3.95975
ENSG00000261187.1|RP11-1007O24.2	1.356583	0.153041	15.72783	0.001154	0.021033	2.560779
ENSG00000267546.2|RP11-666A8.8	1.335341	-0.45953	15.72825	0.001154	0.021033	2.523351
ENSG00000182168.10|UNC5C	2.16449	2.040894	15.74985	0.001156	0.021037	4.483078
ENSG00000169679.10|BUB1	-1.51357	4.362147	15.72563	0.001157	0.021042	-2.85515
ENSG00000224687.1|RASAL2-AS1	1.853267	0.054131	15.69441	0.001165	0.021102	3.613174
ENSG00000205133.7|TRIQK	1.470136	1.647258	15.65512	0.001177	0.021266	2.770481
ENSG00000213972.3|RP3-522P13.2	2.111649	1.098445	15.64587	0.00118	0.0213	4.321849
ENSG00000164104.7|HMGB2	-1.6086	5.750771	15.68717	0.001184	0.021343	-3.04957
ENSG00000004948.9|CALCR	4.119647	2.332018	15.71662	0.00119	0.021397	17.3835
ENSG00000128513.10|POT1	-1.20174	3.372579	15.60905	0.001191	0.021397	-2.30017
ENSG00000267481.1|CTC-559E9.5	1.054202	2.196104	15.61189	0.00119	0.021397	2.07657
ENSG00000254162.1|RP11-48B3.3	1.825277	1.188527	15.58032	0.0012	0.021523	3.543749
ENSG00000224885.1|TSSC1-IT1	-1.83794	-0.0638	15.56826	0.001204	0.021537	-3.575
ENSG00000064042.13|LIMCH1	1.664169	2.911072	15.55548	0.001208	0.02155	3.169311
ENSG00000110080.14|ST3GAL4	-1.00283	2.88026	15.5534	0.001209	0.02155	-2.00392
ENSG00000113810.11|SMC4	-1.12013	6.36019	15.54997	0.00121	0.02155	-2.17366
ENSG00000226415.1|TPI1P1	-1.32724	1.154248	15.5435	0.001212	0.02155	-2.50922
ENSG00000267234.1|CTB-184G21.3	1.43774	0.559133	15.54407	0.001212	0.02155	2.708961
ENSG00000063180.4|CA11	-1.21354	2.485767	15.52761	0.001217	0.021608	-2.31905
ENSG00000248098.6|BCKDHA	-1.21189	3.977007	15.5269	0.001217	0.021608	-2.31642

ENSG00000101680.9|LAMA1	2.031023	2.191302	15.52302	0.001224	0.021689	4.086946
ENSG00000139734.13|DIAPH3	-1.667	3.307222	15.48682	0.00123	0.021728	-3.17553
ENSG00000148834.8|GSTO1	-1.23642	5.275385	15.47098	0.001235	0.021783	-2.35613
ENSG00000148334.10|PTGES2	-1.23003	5.268524	15.44646	0.001243	0.02187	-2.34572
ENSG00000204965.4|PCDHA5	3.494344	0.517675	15.54112	0.001246	0.021896	11.26944
ENSG00000232274.2|RP11-782C8.2	1.951188	4.148339	15.52619	0.001251	0.021946	3.866929
ENSG00000226416.1|MRPL23-AS1	2.093766	0.769873	15.41463	0.001254	0.021982	4.268609
ENSG00000242114.1|MTFP1	-1.54496	2.932219	15.41111	0.001255	0.021984	-2.91795
ENSG00000253854.1|RP11-10N23.2	1.146361	1.035406	15.38368	0.001264	0.022126	2.213549
ENSG00000223704.1|RP1-90L6.2	1.251673	2.879122	15.36507	0.00127	0.022217	2.381174
ENSG00000262061.1|RP11-1260E13.4	1.874472	0.8019	15.35816	0.001273	0.02224	3.666673
ENSG00000104970.6|KIR3DX1	-3.77262	1.511049	15.41123	0.001282	0.022271	-13.667
ENSG00000127586.12|CHTF18	-1.19509	4.936991	15.34697	0.001276	0.022271	-2.28959
ENSG00000198756.6|COLGALT2	-1.45756	2.442462	15.33655	0.00128	0.022271	-2.74643
ENSG00000226435.6|ANKRD18DP	-2.30333	1.125141	15.33186	0.001282	0.022271	-4.93596
ENSG00000248360.3|LINC00504	1.50519	0.423289	15.32937	0.001282	0.022271	2.83862
ENSG00000266411.1|RP11-180P8.3	2.172944	1.517745	15.33843	0.001281	0.022271	4.509425
ENSG00000100075.5|SLC25A1	-1.12973	4.46939	15.26869	0.001303	0.022459	-2.18817
ENSG00000134072.6|CAMK1	-1.95325	4.570693	15.35357	0.001301	0.022459	-3.87247
ENSG00000137869.9|CYP19A1	-7.94313	5.062821	15.37194	0.001302	0.022459	-246.105
ENSG00000152763.12|WDR78	1.301295	0.49683	15.27213	0.001302	0.022459	2.4645
ENSG00000058453.12|CROCC	-1.17199	5.662534	15.23939	0.001314	0.022488	-2.25322
ENSG00000177340.4|AC024940.1	-1.45478	1.909703	15.26016	0.001306	0.022488	-2.74115
ENSG00000183856.6|IQGAP3	-1.66632	5.235304	15.3008	0.001313	0.022488	-3.17405
ENSG00000233757.2|AC092835.2	1.076584	1.527198	15.24234	0.001313	0.022488	2.109036
ENSG00000272256.1|RP11-489E7.4	-2.1033	-0.28124	15.24651	0.001311	0.022488	-4.29692
ENSG00000183814.11|LIN9	-1.15252	1.545161	15.23553	0.001315	0.022493	-2.22302
ENSG00000086289.7|EPDR1	2.693176	3.987352	15.3245	0.001319	0.022533	6.467356
ENSG00000158477.6|CD1A	-3.67687	0.810443	15.29686	0.00132	0.022533	-12.7893
ENSG00000217555.8|CKLF	-1.72558	4.779681	15.27938	0.001321	0.022533	-3.30712
ENSG00000188610.8|FAM72B	-1.20507	3.258241	15.2157	0.001322	0.022539	-2.30549
ENSG00000240207.2|RP11-379F4.4	1.280557	2.810336	15.20394	0.001326	0.022591	2.429327
ENSG00000152433.10|ZNF547	-1.54194	1.203419	15.19398	0.00133	0.022615	-2.91186
ENSG00000152234.11|ATP5A1	-1.22582	7.281459	15.18241	0.001334	0.02263	-2.33888
ENSG00000159423.12|ALDH4A1	-1.03534	2.998186	15.18536	0.001333	0.02263	-2.04959
ENSG00000090674.11|MCOLN1	1.437473	5.619438	15.22506	0.001337	0.022651	2.70846
ENSG00000124333.10|VAMP7	1.166354	4.062812	15.16394	0.00134	0.022651	2.244438
ENSG00000196966.3|HIST1H3E	-2.2095	-0.28106	15.17266	0.001337	0.022651	-4.62514
ENSG00000137726.11|FXYD6	1.592686	4.582331	15.21603	0.001343	0.022679	3.016103
ENSG00000149806.6|FAU	-1.26251	6.456448	15.13829	0.00135	0.022696	-2.39914
ENSG00000179294.5|C17orf96	-1.53516	4.149217	15.14233	0.001351	0.022696	-2.8982
ENSG00000267272.1|RP5-1052I5.1	1.441157	1.289818	15.14615	0.001347	0.022696	2.715385
ENSG00000273448.1|RP11-166O4.6	1.114422	1.985853	15.14432	0.001347	0.022696	2.165082
ENSG00000143947.8|RPS27A	-1.17844	6.971754	15.13012	0.001353	0.022711	-2.26332
ENSG00000106305.5|AIMP2	-1.1753	3.289023	15.11609	0.001358	0.022745	-2.2584
ENSG00000175130.6|MARCKSL1	-1.27954	4.838057	15.11267	0.001359	0.022745	-2.42762
ENSG00000176387.6|HSD11B2	1.617631	1.093378	15.10602	0.001361	0.02275	3.068707
ENSG00000233186.2|RP11-307I14.3	-1.47632	1.087249	15.09654	0.001365	0.022755	-2.78238
ENSG00000221420.2|SNORA81	1.208313	4.994291	15.0622	0.001377	0.02291	2.310673
ENSG00000101049.10|SGK2	2.08231	-0.04297	15.05298	0.001381	0.022948	4.234847
ENSG00000154839.5|SKA1	-1.65876	2.823421	15.02824	0.00139	0.023065	-3.15745
ENSG00000204967.6|PCDHA4	3.231739	0.747956	15.12192	0.001391	0.023072	9.393995
ENSG00000088854.11|C20orf194	1.257891	6.974074	15.01767	0.001394	0.023073	2.391459
ENSG00000143545.4|RAB13	-1.64415	5.557253	15.0767	0.001395	0.023073	-3.12563

ENSG00000159259.7|CHAF1B	-1.09784	2.693375	15.0123	0.001396	0.023073	-2.14033
ENSG00000173698.13|GPR64	1.106902	1.967762	15.01459	0.001395	0.023073	2.153826
ENSG00000242419.1|PCDHGC4	1.367197	2.509014	15.00085	0.0014	0.023126	2.579689
ENSG00000081842.13|PCDHA6	3.527778	1.122154	15.07544	0.001409	0.023212	11.53366
ENSG00000233237.2|LINC00472	2.137795	2.067789	14.99896	0.00141	0.023221	4.40089
ENSG00000183250.7|C21orf67	-2.39671	4.068761	15.06463	0.001413	0.023225	-5.26603
ENSG00000240929.2|HIST2H2BB	2.114803	0.706571	14.96913	0.001412	0.023225	4.33131
ENSG00000204194.1|RPL12P1	-1.43465	-0.131	14.95292	0.001418	0.023281	-2.70318
ENSG00000089157.11|RPLP0	-1.51109	8.223042	14.9462	0.001421	0.023287	-2.85025
ENSG00000123689.5|G0S2	-2.32798	4.096789	15.04519	0.00142	0.023287	-5.02102
ENSG00000107864.10|CPEB3	-1.32994	4.830579	14.93463	0.001425	0.02334	-2.51392
ENSG00000132182.7|NUP210	-1.05158	7.458137	14.92972	0.001427	0.02334	-2.0728
ENSG00000233729.1|AC016909.1	2.708186	1.568664	15.00201	0.001428	0.02334	6.534995
ENSG00000094804.5|CDC6	-1.34067	2.850256	14.91341	0.001434	0.023421	-2.5327
ENSG00000131773.9|KHDRBS3	-1.9948	4.373902	14.98295	0.001436	0.023423	-3.9856
ENSG00000196878.8|LAMB3	-1.87271	4.417062	14.98018	0.001436	0.023423	-3.66221
ENSG00000235865.2|GSN-AS1	-1.40539	6.554645	14.92712	0.001438	0.023436	-2.6489
ENSG00000227986.1|TRIM60P18	1.252602	0.671156	14.87893	0.001447	0.023519	2.382707
ENSG00000250608.1|RP11-933H2.4	1.830153	2.019906	14.8821	0.001446	0.023519	3.555748
ENSG00000267120.3|AD000671.6	-1.63492	1.572356	14.86907	0.001451	0.023543	-3.10571
ENSG00000105255.6|FSD1	-1.81333	-0.10094	14.84328	0.001461	0.023657	-3.51452
ENSG00000105618.9|PRPF31	-1.00852	4.601099	14.84206	0.001462	0.023657	-2.01184
ENSG00000182240.11|BACE2	1.211575	4.553938	14.84379	0.001461	0.023657	2.315903
ENSG00000162897.10|FCAMR	-4.50528	0.180623	14.90874	0.001465	0.023675	-22.7104
ENSG00000167705.7|RILP	-1.15805	2.947657	14.83348	0.001465	0.023675	-2.23156
ENSG00000261528.2|AC002400.1	1.267606	2.348119	14.82201	0.00147	0.023712	2.407617
ENSG00000121211.3|MND1	-2.34526	0.598828	14.79249	0.001481	0.023885	-5.08153
ENSG00000229153.1|EPHA1-AS1	2.218785	2.990349	14.85879	0.001485	0.023919	4.655012
ENSG00000242615.1|CTC-359D24.3	1.862688	1.051452	14.77153	0.00149	0.023984	3.636846
ENSG00000174444.10|RPL4	-1.26629	8.612654	14.76426	0.001493	0.024013	-2.40542
ENSG00000108576.5|SLC6A4	1.817407	-0.58689	14.75603	0.001496	0.024048	3.524471
ENSG00000185010.9|F8	1.411792	3.709527	14.74572	0.0015	0.024066	2.660675
ENSG00000226751.2|AF127936.5	1.835044	2.558982	14.75437	0.001501	0.024066	3.567823
ENSG00000232775.2|AP000525.10	3.558236	1.31016	14.83652	0.001502	0.024066	11.77974
ENSG00000000938.8|FGR	-1.43952	6.091347	14.76827	0.001505	0.024075	-2.71231
ENSG00000225210.5|AL589743.1	2.823648	7.191031	14.82646	0.001506	0.024077	7.079503
ENSG00000025039.10|RRAGD	1.307332	5.007783	14.74069	0.001512	0.024161	2.474834
ENSG00000171357.5|LURAP1	2.590838	1.614587	14.74931	0.001523	0.024276	6.024487
ENSG00000198590.7|C3orf35	1.303414	1.082054	14.68444	0.001525	0.02428	2.468123
ENSG00000270466.1|SEPT1	-8.68358	0.769801	17.14376	0.001525	0.02428	-411.167
ENSG00000237854.3|LINC00674	1.013766	0.994624	14.67471	0.001529	0.024308	2.019175
ENSG00000074416.9|MGLL	1.285329	5.672398	14.68847	0.001534	0.024339	2.437376
ENSG00000114541.10|FRMD4B	1.450746	7.178496	14.71117	0.001533	0.024339	2.733494
ENSG00000110934.6|BIN2	-1.88077	6.224548	14.73377	0.001544	0.024446	-3.68271
ENSG00000255471.1|RP11-736K20.5	1.540842	-0.64022	14.64279	0.001543	0.024446	2.909643
ENSG00000263917.1|RP11-53I6.2	-3.36567	0.287677	14.68015	0.001544	0.024446	-10.3078
ENSG00000197503.4|LINC00477	3.075118	2.062801	14.73044	0.001545	0.024447	8.42758
ENSG00000267488.1|AC131056.3	2.839838	3.040565	14.72509	0.001547	0.024459	7.159399
ENSG00000271798.1|SNORA51	1.661392	-0.62083	14.62979	0.001548	0.024459	3.163217
ENSG00000099977.9|DDT	-1.01933	4.450193	14.61758	0.001553	0.024479	-2.02697
ENSG00000139160.9|METTL20	1.020209	2.547356	14.61534	0.001554	0.024479	2.028213
ENSG00000161016.11|RPL8	-1.26923	7.948243	14.61749	0.001553	0.024479	-2.41033
ENSG00000225216.2|AC007362.3	1.787241	1.220297	14.61872	0.001553	0.024479	3.451541
ENSG00000268992.1|CTB-175P5.2	1.158548	0.743086	14.61317	0.001555	0.024479	2.232326

ENSG00000228878.3|AC007551.3	1.165477	1.862534	14.60294	0.00156	0.024529	2.243074
ENSG00000163625.11|WDFY3	1.575328	7.811817	14.64541	0.001563	0.024556	2.980032
ENSG00000144136.6|SLC20A1	-1.04146	7.48291	14.58958	0.001565	0.024564	-2.0583
ENSG00000179397.13|C1orf101	1.229587	-0.23663	14.5916	0.001565	0.024564	2.344999
ENSG00000122140.6|MRPS2	-1.31181	3.498377	14.57952	0.00157	0.024594	-2.48252
ENSG00000233578.1|RP5-1022P6.3	1.123934	1.75834	14.57689	0.001571	0.024594	2.179405
ENSG00000118193.7|KIF14	-1.64464	4.141279	14.58718	0.001578	0.024654	-3.12669
ENSG00000265205.1|AC010761.13	1.165162	1.113498	14.56173	0.001577	0.024654	2.242584
ENSG00000269019.1|AC005932.1	2.167331	1.13207	14.56045	0.001578	0.024654	4.491915
ENSG00000168028.9|RPSA	-1.12654	7.834984	14.55243	0.001581	0.024685	-2.18335
ENSG00000065328.12|MCM10	-1.83024	2.910465	14.54692	0.001584	0.024704	-3.55595
ENSG00000135390.13|ATP5G2	-1.03431	6.141447	14.53779	0.001588	0.024716	-2.04813
ENSG00000140105.13|WARS	-1.67615	7.866274	14.57616	0.001589	0.024716	-3.19573
ENSG00000171606.13|ZNF274	-1.04506	5.155482	14.5311	0.001591	0.02472	-2.06345
ENSG00000139354.6|GAS2L3	1.341405	4.799744	14.54668	0.001594	0.024757	2.53398
ENSG00000229720.1|RP3-495K2.2	2.847296	-1.20066	14.51311	0.001598	0.024797	7.196504
ENSG00000259899.1|CTD-3037G24.3	1.64667	0.203582	14.51161	0.001599	0.024797	3.131101
ENSG00000187266.9|EPOR	1.490983	3.459628	14.49127	0.001608	0.024918	2.810804
ENSG00000083457.7|ITGAE	-1.57355	3.668396	14.48197	0.001612	0.024926	-2.97636
ENSG00000160111.8|CPAMD8	1.903729	3.392102	14.54604	0.001612	0.024926	3.741791
ENSG00000148225.11|WDR31	1.616608	1.183738	14.474	0.001616	0.024944	3.066533
ENSG00000270091.1|RP11-78O7.2	1.316439	0.64553	14.46428	0.00162	0.024992	2.490505
ENSG00000182836.5|PLCXD3	3.910637	1.31339	14.52063	0.001635	0.025158	15.03901
ENSG00000230850.3|RP11-782C8.1	2.135035	2.646554	14.47304	0.00164	0.025215	4.392478
ENSG00000125144.9|MT1G	-3.68405	2.658763	14.49467	0.001647	0.025299	-12.8532
ENSG00000124614.9|RPS10	-1.19944	6.905733	14.38875	0.001654	0.025349	-2.29651
ENSG00000010704.14|HFE	1.210575	4.836591	14.35544	0.001669	0.025422	2.314298
ENSG00000051180.12|RAD51	-1.58582	2.521621	14.35444	0.00167	0.025422	-3.00177
ENSG00000054598.5|FOXC1	-2.12566	3.212306	14.40188	0.00167	0.025422	-4.36402
ENSG00000135903.14|PAX3	4.692325	1.870395	14.44219	0.001671	0.025422	25.85418
ENSG00000155367.11|PPM1J	-1.39881	0.750974	14.36797	0.001663	0.025422	-2.63684
ENSG00000225125.2|RANP4	1.973079	-0.83177	14.35878	0.001668	0.025422	3.926052
ENSG00000259673.1|IQCH-AS1	1.36895	2.445508	14.35261	0.00167	0.025422	2.582826
ENSG00000145708.6|CRHBP	2.434979	2.071515	14.396	0.00168	0.025528	5.407566
ENSG00000261280.2|CTD-3105H18.13	1.900907	-0.16729	14.32197	0.001685	0.02555	3.734478
ENSG00000162746.10|FCRLB	-2.30666	3.082292	14.37626	0.001689	0.025582	-4.94737
ENSG00000143457.6|GOLPH3L	1.007944	3.973411	14.29666	0.001696	0.025646	2.011043
ENSG00000248187.1|RP11-184M15.1	2.272488	0.621057	14.29809	0.0017	0.025667	4.831555
ENSG00000117118.5|SDHB	-1.22354	4.562119	14.2786	0.001705	0.025701	-2.33519
ENSG00000101187.11|SLCO4A1	-4.70216	6.702423	14.36213	0.001708	0.025724	-26.0311
ENSG00000129355.6|CDKN2D	-1.55011	2.54331	14.25798	0.001715	0.025766	-2.9284
ENSG00000178053.13|MLF1	1.814936	0.538307	14.26064	0.001713	0.025766	3.518439
ENSG00000183657.2|PP13439	1.733087	2.856513	14.26187	0.001722	0.025816	3.324383
ENSG00000240065.3|PSMB9	-1.17474	5.486088	14.24177	0.001722	0.025816	-2.25752
ENSG00000242852.2|ZNF709	1.381168	2.410093	14.2216	0.001732	0.025942	2.604791
ENSG00000113494.12|PRLR	3.700699	3.837458	14.29085	0.001741	0.026044	13.00234
ENSG00000265413.1|RP11-789C17.1	1.720697	-0.02095	14.19802	0.001743	0.026057	3.295956
ENSG00000092820.13|EZR	-1.11554	6.67423	14.19375	0.001745	0.026057	-2.16677
ENSG00000232284.3|GNG12-AS1	1.95624	0.289885	14.19279	0.001746	0.026057	3.880492
ENSG00000118322.8|ATP10B	1.904906	2.476277	14.20197	0.001752	0.026066	3.744845
ENSG00000121552.3|CSTA	-2.01477	3.350254	14.22626	0.001751	0.026066	-4.04115
ENSG00000181163.9|NPM1	-1.19768	7.452388	14.18842	0.001748	0.026066	-2.29371
ENSG00000204394.8|VARS	-1.14088	6.498493	14.17633	0.001754	0.026066	-2.20516
ENSG00000261063.1|RP11-538I12.2	3.34772	-0.78533	14.23096	0.001753	0.026066	10.18039

ENSG00000137154.8|RPS6	-1.10075	8.229826	14.16982	0.001757	0.026068	-2.14467
ENSG00000183011.9|LSMD1	-1.19939	3.252321	14.16617	0.001759	0.026068	-2.29643
ENSG00000196550.6|FAM72A	-1.22002	4.140907	14.16978	0.001757	0.026068	-2.32951
ENSG00000010256.6|UQCRC1	-1.03887	5.876488	14.15473	0.001764	0.026102	-2.05462
ENSG00000105258.4|POLR2I	-1.52248	2.181115	14.14353	0.00177	0.026102	-2.87285
ENSG00000157240.2|FZD1	-1.22989	6.012264	14.14771	0.001768	0.026102	-2.3455
ENSG00000269165.1|AC069547.1	1.292104	1.506567	14.14383	0.00177	0.026102	2.44885
ENSG00000140749.7|IGSF6	1.158866	5.450917	14.13079	0.001776	0.026157	2.232818
ENSG00000127423.6|AUNIP	-1.46079	1.136449	14.12695	0.001778	0.026167	-2.7526
ENSG00000167208.10|SNX20	-1.17544	6.154411	14.12081	0.001781	0.026175	-2.25862
ENSG00000196932.7|TMEM26	3.561413	3.532053	14.19833	0.001786	0.026217	11.80571
ENSG00000224420.3|ADM5	-1.5391	0.917669	14.10967	0.001787	0.026217	-2.90612
ENSG00000244183.1|RP11-641C17.1	2.530503	-0.99042	14.10754	0.001788	0.026217	5.777731
ENSG00000158186.8|MRAS	1.606143	4.793183	14.17	0.001791	0.026244	3.044369
ENSG00000167914.6|GSDMA	2.694689	1.471696	14.1603	0.001796	0.026276	6.474144
ENSG00000215784.4|FAM72D	-1.33103	3.169968	14.09371	0.001795	0.026276	-2.51582
ENSG00000163874.8|ZC3H12A	-1.19042	5.345716	14.08386	0.0018	0.02628	-2.28219
ENSG00000215283.3|HMGB3P24	1.138207	-0.32757	14.08611	0.001798	0.02628	2.201073
ENSG00000073060.11|SCARB1	1.047876	6.500341	14.07679	0.001803	0.026314	2.067484
ENSG00000241484.5|ARHGAP8	4.320996	4.242106	14.15984	0.001805	0.026319	19.98708
ENSG00000267490.1|CTD-3116E22.6	2.848863	-0.11686	14.09993	0.001813	0.026408	7.204326
ENSG00000103642.7|LACTB	-1.14639	4.840125	14.03683	0.001823	0.026498	-2.21359
ENSG00000198939.3|ZFP2	1.893273	-0.4588	14.01814	0.001833	0.026618	3.714771
ENSG00000213830.3|CFL1P5	-1.77134	-0.20578	14.01148	0.001836	0.026649	-3.4137
ENSG00000247157.2|RP11-434C1.1	1.760911	1.24703	14.00172	0.001841	0.026704	3.389122
ENSG00000100060.13|MFNG	-1.1289	5.667207	13.9924	0.001846	0.026732	-2.18693
ENSG00000225745.4|PLAC4	1.745819	0.818284	13.99054	0.001847	0.026732	3.353853
ENSG00000269930.1|RP11-932O9.9	1.33801	0.93906	13.98725	0.001849	0.026738	2.528023
ENSG00000158560.10|DYNC1I1	1.725757	0.064527	13.98333	0.001851	0.026749	3.307536
ENSG00000269968.1|RP5-940J5.9	-1.03178	6.098133	13.97605	0.001854	0.026785	-2.04454
ENSG00000120328.4|PCDHB12	2.248954	0.451012	13.97302	0.001859	0.026833	4.753381
ENSG00000104522.11|TSTA3	-1.10516	4.361068	13.95562	0.001865	0.026847	-2.15122
ENSG00000114812.8|VIPR1	2.580282	2.863902	14.04654	0.001862	0.026847	5.980566
ENSG00000156261.8|CCT8	-1.0392	5.565773	13.95711	0.001864	0.026847	-2.05508
ENSG00000125505.12|MBOAT7	-1.09808	6.099646	13.93695	0.001875	0.026895	-2.1407
ENSG00000262831.1|RP11-498C9.2	1.623543	2.000384	13.94198	0.001872	0.026895	3.081307
ENSG00000185022.7|MAFF	-1.06811	4.159604	13.93354	0.001877	0.026903	-2.09669
ENSG00000261270.1|RP11-325K4.3	1.564889	2.193936	13.92939	0.001879	0.026916	2.958547
ENSG00000198400.7|NTRK1	-2.1993	1.256013	13.90989	0.001889	0.027006	-4.59256
ENSG00000134809.4|TIMM10	-1.26924	2.819319	13.90029	0.001894	0.027044	-2.41035
ENSG00000236853.1|OR2R1P	2.459764	-0.12577	13.88843	0.001905	0.027116	5.501267
ENSG00000260601.1|RP11-552C15.1	1.407457	-0.02765	13.88307	0.001903	0.027116	2.652691
ENSG00000171603.12|CLSTN1	-1.0265	6.650382	13.86992	0.00191	0.027146	-2.03707
ENSG00000140280.9|LYSMD2	-1.26721	3.490897	13.86639	0.001912	0.027155	-2.40696
ENSG00000231233.1|CCDC147-AS1	-1.78012	-0.17759	13.86392	0.001914	0.027155	-3.43455
ENSG00000092010.10|PSME1	-1.01088	5.892952	13.8487	0.001922	0.027253	-2.01514
ENSG00000166349.5|RAG1	2.139847	0.415731	13.83765	0.001928	0.027277	4.407153
ENSG00000175592.4|FOSL1	-1.38382	2.298226	13.83364	0.00193	0.027277	-2.60959
ENSG00000125355.11|TMEM255A	2.986699	2.998939	13.8993	0.00194	0.027317	7.926583
ENSG00000138119.12|MYOF	-1.5924	7.806271	13.84479	0.001941	0.027317	-3.01551
ENSG00000145687.11|SSBP2	1.111478	4.067114	13.81941	0.001938	0.027317	2.160669
ENSG00000168078.5|PBK	-2.35991	1.468995	13.81891	0.001938	0.027317	-5.13337
ENSG00000235872.2|RP11-335O4.3	1.18523	1.182397	13.81508	0.00194	0.027317	2.273996
ENSG00000272365.1|RP11-389C8.3	1.163122	-0.58083	13.8204	0.001937	0.027317	2.239415

ENSG00000224281.4|SLC25A5-AS1	1.355865	2.039383	13.80403	0.001946	0.02734	2.559506
ENSG00000260949.1|KB-1836B5.1	1.646186	0.63318	13.79636	0.00195	0.02738	3.13005
ENSG00000256269.2|HMBS	-1.07233	3.133529	13.78666	0.001956	0.027437	-2.10283
ENSG00000161381.9|PLXDC1	1.462701	5.007914	13.83084	0.001959	0.027454	2.756239
ENSG00000184924.5|PTRHD1	-1.24254	2.014077	13.77977	0.001959	0.027454	-2.36614
ENSG00000149269.5|PAK1	-1.31647	6.42318	13.76553	0.001978	0.027676	-2.49057
ENSG00000167526.9|RPL13	-1.22193	8.312029	13.73588	0.001984	0.027703	-2.33258
ENSG00000267121.1|CTD-2020K17.1	-1.52387	5.857122	13.78544	0.001983	0.027703	-2.87562
ENSG00000073670.9|ADAM11	1.56687	0.480943	13.73142	0.001986	0.027719	2.962612
ENSG00000239672.3|NME1	-1.32691	4.550473	13.71514	0.001995	0.02781	-2.50865
ENSG00000260686.1|CTB-36H16.2	1.30362	1.769551	13.70861	0.001999	0.027843	2.468476
ENSG00000090971.4|NAT14	-1.92366	3.084692	13.72313	0.002003	0.02786	-3.79384
ENSG00000144792.5|ZNF660	1.288268	1.810626	13.70179	0.002003	0.02786	2.442346
ENSG00000112837.12|TBX18	2.917802	3.400865	13.77344	0.002009	0.027931	7.556941
ENSG00000183549.6|ACSM5	3.886353	2.76848	13.76902	0.002012	0.027947	14.78798
ENSG00000270300.1|RP11-359E7.2	-1.70098	1.707055	13.67556	0.002018	0.028011	-3.25123
ENSG00000145592.9|RPL37	-1.05471	7.437926	13.66823	0.002022	0.028017	-2.0773
ENSG00000269948.1|RP11-248J23.6	1.075468	0.876658	13.66784	0.002022	0.028017	2.107406
ENSG00000255043.1|NAV2-AS5	3.032456	1.491849	13.74284	0.002027	0.028052	8.182014
ENSG00000256013.1|RP11-27M24.1	2.6029	0.375632	13.69062	0.002032	0.0281	6.075067
ENSG00000148908.10|RGS10	-1.26744	4.84005	13.63832	0.002039	0.028162	-2.40734
ENSG00000104738.12|MCM4	-1.24131	5.574116	13.62512	0.002047	0.028196	-2.36413
ENSG00000138326.14|RPS24	-1.27771	7.106452	13.61983	0.00205	0.028196	-2.42454
ENSG00000149596.6|JPH2	1.850837	1.043359	13.62479	0.002047	0.028196	3.607093
ENSG00000269700.1|AC069547.2	1.191692	2.919928	13.63128	0.002043	0.028196	2.284204
ENSG00000188460.4|ACTBP11	-1.41051	1.351841	13.61111	0.002055	0.028247	-2.65831
ENSG00000205923.2|CEMP1	1.945057	5.071598	13.69112	0.002056	0.028247	3.85053
ENSG00000077150.13|NFKB2	-1.29808	6.517417	13.61317	0.002061	0.028277	-2.45901
ENSG00000198518.5|HIST1H4E	-1.53528	5.590158	13.63546	0.002069	0.028335	-2.89845
ENSG00000254154.4|RP4-798P15.3	1.776306	3.24849	13.62876	0.002068	0.028335	3.42548
ENSG00000024526.12|DEPDC1	-1.80085	2.730053	13.58142	0.002072	0.028357	-3.48425
ENSG00000116663.6|FBXO6	-1.01163	3.703085	13.57206	0.002078	0.028374	-2.01619
ENSG00000234664.1|HMGN2P5	-1.21037	2.195423	13.57007	0.002079	0.028374	-2.31397
ENSG00000240342.2|RPS2P5	-1.08602	3.97375	13.57636	0.002075	0.028374	-2.12288
ENSG00000253944.1|RP11-156K13.1	-3.06037	-0.11719	13.59348	0.002077	0.028374	-8.34189
ENSG00000266644.1|RP11-927P21.2	1.694355	1.233744	13.56416	0.002082	0.028404	3.236321
ENSG00000112232.8|KHDRBS2	2.424192	-0.04278	13.5592	0.002095	0.028472	5.367284
ENSG00000115828.11|QPCT	-1.71707	2.410614	13.53505	0.0021	0.028472	-3.28768
ENSG00000130598.11|TNNI2	-1.72002	0.188151	13.54221	0.002095	0.028472	-3.29442
ENSG00000147488.7|ST18	-2.13339	3.797249	13.60789	0.002094	0.028472	-4.38748
ENSG00000250722.1|SEPP1	2.996484	8.392907	13.62391	0.002095	0.028472	7.980526
ENSG00000272825.1|LL21NC02-1C16.2	-2.5432	1.700977	13.55617	0.0021	0.028472	-5.82881
ENSG00000224414.1|AC010886.2	1.785724	2.344294	13.52595	0.002105	0.02851	3.447916
ENSG00000259781.1|RP11-673C5.1	-2.0611	3.061168	13.55764	0.00211	0.028555	-4.17303
ENSG00000074071.9|MRPS34	-1.18202	4.559577	13.50485	0.002118	0.028645	-2.26895
ENSG00000197756.5|RPL37A	-1.17211	7.241249	13.49933	0.002121	0.028672	-2.25341
ENSG00000159128.10|IFNGR2	-1.10322	6.987744	13.49375	0.002124	0.028699	-2.14834
ENSG00000177990.7|DPY19L2	1.439097	1.203522	13.48831	0.002128	0.028725	2.711511
ENSG00000007129.13|CEACAM21	-1.37385	2.033861	13.47113	0.002138	0.028762	-2.59161
ENSG00000136167.9|LCP1	-1.05164	9.107205	13.47024	0.002139	0.028762	-2.07288
ENSG00000137818.7|RPLP1	-1.39586	8.042757	13.47154	0.002138	0.028762	-2.63146
ENSG00000213740.2|SERBP1P1	-1.29228	-0.24297	13.47101	0.002138	0.028762	-2.44915
ENSG00000261594.3|TPBGL	2.334275	1.410922	13.51575	0.002133	0.028762	5.042975
ENSG00000183840.5|GPR39	2.315707	-0.0828	13.45713	0.002147	0.028852	4.978487

ENSG00000259716.1|RP5-977B1.11	1.532693	3.772945	13.47786	0.002151	0.028877	2.893254
ENSG00000175857.4|GAPT	-2.281	3.046734	13.4985	0.002159	0.028934	-4.86016
ENSG00000185792.5|NLRP9	1.877344	-0.34045	13.41942	0.00217	0.029052	3.67398
ENSG00000172116.17|CD8B	-1.78737	2.909725	13.40423	0.002179	0.029105	-3.45186
ENSG00000214176.5|PLEKHM1P	1.330898	7.631307	13.42542	0.002179	0.029105	2.515592
ENSG00000258811.1|CTD-3051D23.1	1.223884	-0.5737	13.39687	0.002184	0.029129	2.335747
ENSG00000106804.6|C5	1.192103	3.859773	13.3833	0.002192	0.029213	2.284855
ENSG00000121895.7|TMEM156	-1.54008	3.176702	13.37797	0.002196	0.029213	-2.9081
ENSG00000165732.8|DDX21	-1.10575	6.409238	13.37929	0.002195	0.029213	-2.15211
ENSG00000188660.3|LINC00319	1.597624	-0.1906	13.37887	0.002195	0.029213	3.026445
ENSG00000260744.1|RP11-329J18.3	1.427963	1.172353	13.36444	0.002204	0.02928	2.690666
ENSG00000152439.8|ZNF773	-1.02548	2.375373	13.3482	0.002214	0.029388	-2.03564
ENSG00000270154.1|RP11-419I17.1	1.421178	0.164257	13.34365	0.002217	0.029408	2.67804
ENSG00000152315.4|KCNK13	-1.91601	4.292594	13.39006	0.002227	0.029411	-3.77379
ENSG00000258545.1|RP4-755D9.1	1.775764	0.095689	13.33212	0.002225	0.029411	3.424193
ENSG00000261291.1|RP11-295M3.2	1.245028	0.536511	13.33316	0.002224	0.029411	2.370231
ENSG00000149050.5|ZNF214	1.679594	-0.45717	13.32396	0.00223	0.029426	3.203379
ENSG00000168702.12|LRP1B	4.581591	5.085094	13.39439	0.002235	0.029444	23.94398
ENSG00000265342.1|RP11-16C1.1	1.518891	-0.25713	13.31612	0.002235	0.029444	2.865706
ENSG00000136840.14|ST6GALNAC4	-1.18619	4.181032	13.29314	0.00225	0.029576	-2.27551
ENSG00000219565.2|ZNF259P1	1.236893	0.51369	13.28624	0.002254	0.029579	2.356905
ENSG00000232310.2|RP11-557H15.4	3.425793	0.737837	13.36547	0.002254	0.029579	10.74648
ENSG00000184408.5|KCND2	2.200182	0.387795	13.27426	0.002265	0.029665	4.595372
ENSG00000170962.8|PDGFD	1.87668	1.609895	13.23919	0.002285	0.029777	3.67229
ENSG00000250280.2|RP11-305O6.3	1.490497	0.960949	13.23221	0.002289	0.029818	2.809857
ENSG00000108515.13|ENO3	-1.19995	3.096337	13.2092	0.002305	0.029878	-2.29731
ENSG00000143179.8|UCK2	-1.05131	4.710957	13.2081	0.002305	0.029878	-2.07241
ENSG00000182481.4|KPNA2	-1.03769	5.860739	13.22174	0.002296	0.029878	-2.05294
ENSG00000189057.6|FAM111B	-1.37958	3.544321	13.21564	0.0023	0.029878	-2.60193
ENSG00000226396.1|RPS14P3	-1.03774	1.19383	13.2103	0.002304	0.029878	-2.05301
ENSG00000250120.2|PCDHA10	3.129596	1.268089	13.28255	0.002308	0.02989	8.751896
ENSG00000199347.1|RNU5E-1	-1.63296	4.147705	13.23685	0.002311	0.029891	-3.10148
ENSG00000117395.6|EBNA1BP2	-1.05192	3.885685	13.19466	0.002314	0.02992	-2.07328
ENSG00000267009.2|RP11-120M18.2	1.294097	0.115109	13.19005	0.002317	0.029941	2.452235
ENSG00000234498.2|RPL13AP20	-1.24776	0.560979	13.18453	0.002321	0.029964	-2.37472
ENSG00000259866.1|RP11-177N22.2	1.187782	1.200775	13.17679	0.002326	0.029964	2.278023
ENSG00000265298.1|RP13-104F24.3	1.4429	4.185171	13.21117	0.002325	0.029964	2.718668
ENSG00000267904.1|CTC-429P9.5	1.23848	0.739068	13.1807	0.002324	0.029964	2.359499
ENSG00000236480.1|PKMP1	-1.34281	0.808107	13.17389	0.002328	0.029971	-2.53645
ENSG00000256660.1|CLEC12B	2.015091	1.380394	13.13597	0.002354	0.030245	4.042059
ENSG00000128951.9|DUT	-1.00112	4.604944	13.12937	0.002358	0.030265	-2.00156
ENSG00000009950.11|MLXIPL	-5.36317	5.504038	13.18027	0.002376	0.030291	-41.1599
ENSG00000125398.5|SOX9	2.790699	1.465088	13.18724	0.002362	0.030291	6.91965
ENSG00000142507.5|PSMB6	-1.05286	4.52641	13.10865	0.002372	0.030291	-2.07464
ENSG00000205790.1|AC005594.3	1.267016	2.962755	13.10516	0.002375	0.030291	2.406633
ENSG00000230872.1|AC092338.5	1.344375	0.794492	13.10784	0.002373	0.030291	2.539201
ENSG00000254527.1|ENPP7P12	1.365091	0.860057	13.12192	0.002363	0.030291	2.575926
ENSG00000259807.1|RP11-426C22.4	1.137454	3.412327	13.11465	0.002368	0.030291	2.199925
ENSG00000270571.2|RP11-355F16.1	1.454643	0.732676	13.11814	0.002366	0.030291	2.740888
ENSG00000146701.7|MDH2	-1.21298	6.111257	13.08348	0.00239	0.030366	-2.31816
ENSG00000203989.2|RHOXF2B	1.751807	-0.13784	13.08216	0.002391	0.030366	3.367802
ENSG00000232928.2|DDX3YP1	1.380267	2.438209	13.08318	0.00239	0.030366	2.603166
ENSG00000250536.1|ABHD17AP3	-1.53576	-0.03788	13.08952	0.002385	0.030366	-2.89941
ENSG00000124374.8|PAIP2B	1.241175	1.867859	13.07105	0.002398	0.030425	2.36391

ENSG00000197860.5|SGTB	1.034811	5.68585	13.07155	0.002398	0.030425	2.048845
ENSG00000258757.1|RP11-841O20.2	3.518641	-0.52216	13.13982	0.002401	0.030425	11.46084
ENSG00000261208.1|RP11-452D12.1	3.418788	1.132049	13.14399	0.002401	0.030425	10.69443
ENSG00000159618.11|GPR114	-2.10035	4.651486	13.1281	0.002412	0.030543	-4.28814
ENSG00000106327.8|TFR2	-1.59656	1.387706	13.037	0.002422	0.030618	-3.02421
ENSG00000184258.5|CDR1	2.61558	5.900716	13.11475	0.002421	0.030618	6.128696
ENSG00000176101.7|SSNA1	-1.1093	4.370865	13.03324	0.002425	0.030633	-2.15741
ENSG00000215030.4|RPL13P12	-1.72872	3.347408	13.0322	0.002439	0.030761	-3.31434
ENSG00000270021.1|CTC-203F4.2	1.350517	0.693548	13.01454	0.002438	0.030761	2.550034
ENSG00000206195.6|AP000525.9	3.012395	4.532508	13.07846	0.002446	0.030806	8.069026
ENSG00000226891.2|RP11-182I10.3	1.414398	1.684495	13.00104	0.002447	0.030806	2.665485
ENSG00000232803.1|RP11-93B14.5	-4.4483	3.395068	13.07523	0.002449	0.030806	-21.831
ENSG00000254788.2|CKLF-CMTM1	-1.39081	2.753766	12.99298	0.002453	0.030844	-2.62225
ENSG00000214826.4|DDX12P	-1.1711	4.350669	12.98684	0.002457	0.030881	-2.25183
ENSG00000261646.1|RP11-489G11.3	1.633352	0.541065	12.98471	0.002459	0.030882	3.102329
ENSG00000090889.10|KIF4A	-1.96096	4.274486	13.03226	0.002477	0.030957	-3.8932
ENSG00000130755.8|GMFG	-1.29148	5.248871	12.98508	0.002473	0.030957	-2.4478
ENSG00000180767.5|CHST13	2.714495	0.48508	13.01382	0.002477	0.030957	6.563633
ENSG00000186998.11|EMID1	2.883213	2.972812	13.03137	0.00248	0.030957	7.377915
ENSG00000229500.1|RPL17P1	3.794308	1.053394	13.04246	0.002472	0.030957	13.87396
ENSG00000237214.2|RP11-12M9.3	-1.30949	0.746348	12.95585	0.00248	0.030957	-2.47854
ENSG00000259498.1|RP11-244F12.3	1.360931	4.536514	12.99171	0.002477	0.030957	2.568508
ENSG00000163808.12|KIF15	-1.51543	3.550804	12.95045	0.002484	0.030961	-2.85884
ENSG00000225339.2|RP11-513I15.6	4.582882	1.613429	13.01933	0.002488	0.030961	23.96542
ENSG00000228363.2|AC015971.2	1.066669	1.571993	12.93822	0.002492	0.030961	2.094592
ENSG00000261293.1|RP11-276H1.2	1.632382	-0.66288	12.94127	0.00249	0.030961	3.100244
ENSG00000268927.1|FLJ00418	1.560478	3.38598	12.95731	0.002493	0.030961	2.949515
ENSG00000117632.16|STMN1	-1.35212	5.571977	12.95998	0.002496	0.030975	-2.55287
ENSG00000231794.3|AC009542.2	1.59256	1.519428	12.93098	0.002498	0.03098	3.01584
ENSG00000102001.8|CACNA1F	1.725713	1.12433	12.92026	0.002505	0.031022	3.307435
ENSG00000116288.8|PARK7	-1.17536	5.749833	12.92191	0.002504	0.031022	-2.25849
ENSG00000145864.8|GABRB2	4.530999	1.857192	12.98906	0.00251	0.031059	23.11887
ENSG00000166886.8|NAB2	-1.18267	5.29183	12.90937	0.002513	0.031083	-2.26996
ENSG00000111716.8|LDHB	-1.55514	6.240946	12.96376	0.002515	0.031085	-2.93862
ENSG00000105640.8|RPL18A	-1.12117	7.608298	12.8979	0.002522	0.031133	-2.17523
ENSG00000163923.5|RPL39L	-1.82483	1.547433	12.89472	0.002524	0.031143	-3.54266
ENSG00000099624.3|ATP5D	-1.09987	4.961123	12.88862	0.002529	0.031162	-2.14336
ENSG00000224063.1|AC007319.1	2.229804	-0.07014	12.87881	0.002536	0.031215	4.690702
ENSG00000197380.6|DACT3	-2.5784	3.625048	12.94309	0.002543	0.031272	-5.97276
ENSG00000198286.5|CARD11	-1.48075	4.698287	12.90282	0.002543	0.031272	-2.79094
ENSG00000228594.1|C1orf233	-2.07119	1.817738	12.86211	0.002548	0.031294	-4.20234
ENSG00000272666.1|CTA-384D8.35	-1.85199	0.135977	12.85582	0.002553	0.0313	-3.60997
ENSG00000114770.12|ABCC5	1.189908	7.024279	12.84264	0.002568	0.031452	2.281382
ENSG00000134532.11|SOX5	1.78828	1.742469	12.83489	0.002568	0.031452	3.454029
ENSG00000175643.7|RMI2	-1.44091	2.94764	12.82818	0.002574	0.031495	-2.71492
ENSG00000169302.10|STK32A	2.325167	0.379069	12.84064	0.002578	0.031537	5.011239
ENSG00000071967.7|CYBRD1	1.493398	5.601037	12.86076	0.002593	0.031637	2.815513
ENSG00000132718.7|SYT11	-1.04208	5.360324	12.79234	0.002601	0.031698	-2.05919
ENSG00000248672.1|LY75-CD302	-2.50232	4.048124	12.85879	0.002606	0.031728	-5.66596
ENSG00000272269.1|RP11-500C11.3	-1.17691	3.633726	12.78657	0.002605	0.031728	-2.26091
ENSG00000105520.6|DKFZP761J1410	1.134745	4.454035	12.77818	0.002611	0.03177	2.195797
ENSG00000159884.7|CCDC107	-1.22016	3.12964	12.77658	0.002613	0.03177	-2.32973
ENSG00000166681.9|NGFRAP1	2.171308	3.194343	12.84009	0.00262	0.031783	4.504316
ENSG00000259635.1|AC100830.3	1.694677	-0.40364	12.7677	0.002619	0.031783	3.237045

ENSG00000260727.1|SLC7A5P1	-1.52417	1.577693	12.75775	0.002627	0.031817	-2.87621
ENSG00000065923.5|SLC9A7	-1.35746	4.939226	12.75465	0.002644	0.031943	-2.56234
ENSG00000163584.13|RPL22L1	-1.51166	2.615646	12.73251	0.002647	0.031943	-2.85137
ENSG00000257925.1|RP11-493L12.3	1.177397	0.23258	12.73714	0.002643	0.031943	2.261684
ENSG00000267194.1|RP1-193H18.2	1.226295	0.619388	12.71708	0.002659	0.03207	2.339653
ENSG00000111788.9|RP11-22B23.1	-1.02811	3.747112	12.69035	0.002679	0.032156	-2.03935
ENSG00000173275.8|ZNF449	1.08657	3.82105	12.69734	0.002674	0.032156	2.123685
ENSG00000226056.1|MTND4P32	1.121678	-0.39334	12.69767	0.002674	0.032156	2.175999
ENSG00000229119.3|CTB-63M22.1	-1.27643	0.682351	12.69138	0.002679	0.032156	-2.42239
ENSG00000240764.2|PCDHGC5	1.136832	2.486285	12.69332	0.002677	0.032156	2.198977
ENSG00000253864.1|AC131025.8	1.150062	4.653637	12.67947	0.002688	0.032204	2.219234
ENSG00000243509.4|TNFRSF6B	-9.33591	1.385461	14.55798	0.002692	0.032231	-646.235
ENSG00000107833.6|NPM3	-1.79967	2.710568	12.66963	0.002696	0.032261	-3.4814
ENSG00000188474.6|ZNF788	3.069421	2.904732	12.73981	0.002698	0.032265	8.394365
ENSG00000126246.5|IGFLR1	-1.41324	4.754659	12.68683	0.002702	0.032303	-2.66335
ENSG00000267741.1|UBE2L4	1.266637	0.761429	12.65381	0.002708	0.032346	2.406001
ENSG00000164587.7|RPS14	-1.21095	7.291194	12.63448	0.002724	0.032448	-2.3149
ENSG00000237757.1|EEF1A1P30	1.443589	-0.09202	12.63612	0.002722	0.032448	2.719967
ENSG00000271151.1|RP11-394I13.2	1.208956	0.379866	12.63565	0.002723	0.032448	2.311703
ENSG00000239704.6|CDRT4	1.236176	3.190712	12.62411	0.002732	0.032529	2.355733
ENSG00000103852.8|TTC23	1.302015	2.824663	12.62096	0.002735	0.032541	2.46573
ENSG00000051341.9|POLQ	-1.17405	4.517634	12.61719	0.002738	0.032544	-2.25644
ENSG00000126822.11|PLEKHG3	1.219817	4.767234	12.61329	0.002756	0.032607	2.329172
ENSG00000180855.11|ZNF443	1.074627	2.396832	12.60211	0.00275	0.032607	2.106178
ENSG00000186510.7|CLCNKA	-5.25554	1.174394	12.6648	0.002757	0.032607	-38.201
ENSG00000234906.4|APOC2	-4.99624	5.096725	12.6727	0.002751	0.032607	-31.9167
ENSG00000269397.1|CTB-92J24.2	1.649329	-0.34594	12.59503	0.002756	0.032607	3.136877
ENSG00000198520.6|C1orf228	-2.27866	3.140593	12.64215	0.002763	0.032658	-4.85225
ENSG00000143416.16|SELENBP1	2.778755	3.087259	12.65391	0.002766	0.032668	6.862599
ENSG00000197785.9|ATAD3A	-1.25942	4.312381	12.58103	0.002767	0.032668	-2.394
ENSG00000127589.4|TUBBP1	-1.14187	1.643059	12.57902	0.002769	0.032669	-2.20666
ENSG00000182899.10|RPL35A	-1.0515	6.186731	12.55961	0.002785	0.032796	-2.07269
ENSG00000232160.2|RAP2C-AS1	1.12269	2.187561	12.55638	0.002787	0.032796	2.177526
ENSG00000151287.12|TEX30	-1.33818	1.439085	12.55221	0.002791	0.0328	-2.52832
ENSG00000197580.7|BCO2	1.113716	1.815261	12.5504	0.002792	0.0328	2.164024
ENSG00000214694.6|ARHGEF33	1.221518	-0.2248	12.54721	0.002795	0.0328	2.33192
ENSG00000163431.11|LMOD1	1.423142	2.83594	12.53996	0.002801	0.032845	2.681688
ENSG00000052749.9|RRP12	-1.31888	5.52269	12.55693	0.002805	0.032862	-2.49472
ENSG00000111863.8|ADTRP	2.748049	3.040893	12.60468	0.002806	0.032862	6.71808
ENSG00000117425.9|PTCH2	1.543545	3.05137	12.53907	0.002808	0.032862	2.915099
ENSG00000126602.6|TRAP1	-1.01932	5.205535	12.51896	0.002818	0.032921	-2.02697
ENSG00000126264.5|HCST	-1.60007	4.587232	12.55791	0.002821	0.032927	-3.03158
ENSG00000257497.1|RP11-585P4.5	1.419419	1.975509	12.50897	0.002826	0.032964	2.674777
ENSG00000266385.1|RP11-227G15.8	1.55115	-0.45455	12.50279	0.002832	0.033006	2.930507
ENSG00000141338.9|ABCA8	2.533234	2.491905	12.55923	0.002844	0.033048	5.788677
ENSG00000164123.6|C4orf45	1.601882	-0.18623	12.49278	0.00284	0.033048	3.035389
ENSG00000198816.5|ZNF358	1.464326	4.177908	12.52584	0.002842	0.033048	2.759346
ENSG00000228623.2|ZNF883	2.410927	1.964947	12.54349	0.002844	0.033048	5.318159
ENSG00000135912.6|TTLL4	-1.60183	6.061254	12.52304	0.002861	0.03316	-3.03528
ENSG00000241935.4|HOGA1	2.173725	-0.3942	12.46778	0.002861	0.03316	4.511869
ENSG00000260757.1|RP11-120K18.2	3.379982	3.155247	12.53703	0.002862	0.03316	10.4106
ENSG00000127831.6|VIL1	1.473905	0.979603	12.46196	0.002866	0.033168	2.777727
ENSG00000254528.3|RP11-728F11.4	2.815377	0.689041	12.51814	0.002865	0.033168	7.039031
ENSG00000115425.9|PECR	-1.19751	2.165512	12.45443	0.002872	0.033224	-2.29343

ENSG00000254772.5|EEF1G	-1.08229	8.646516	12.44519	0.00288	0.033297	-2.1174
ENSG00000231289.1|RP11-782C8.6	3.151683	-0.12515	12.49086	0.002888	0.033372	8.886917
ENSG00000106605.6|BLVRA	-1.50964	4.656878	12.46327	0.002895	0.033428	-2.84738
ENSG00000108950.7|FAM20A	1.536588	6.391313	12.49459	0.002898	0.033429	2.901077
ENSG00000083454.17|P2RX5	-1.65442	3.831229	12.43191	0.002919	0.033564	-3.14798
ENSG00000197629.5|MPEG1	1.222328	8.400467	12.39559	0.002923	0.03357	2.33323
ENSG00000118162.9|KPTN	-1.43836	2.253472	12.38593	0.002931	0.033629	-2.71013
ENSG00000139112.6|GABARAPL1	1.009377	5.573315	12.38667	0.002931	0.033629	2.013042
ENSG00000143226.9|FCGR2A	1.533626	8.603408	12.41202	0.002938	0.033647	2.895125
ENSG00000178852.11|EFCAB13	1.095138	4.144276	12.37679	0.002939	0.033647	2.136336
ENSG00000239906.1|RP11-34P13.14	-5.77522	1.476339	12.44846	0.002938	0.033647	-54.7663
ENSG00000177600.4|RPLP2	-1.17066	7.221967	12.36419	0.00295	0.033689	-2.25115
ENSG00000243927.1|MRPS6	-1.07152	4.758139	12.36356	0.002951	0.033689	-2.10165
ENSG00000144355.10|DLX1	-3.59556	0.845972	12.3999	0.002975	0.033889	-12.0884
ENSG00000249825.1|CTD-2201I18.1	1.559583	0.440173	12.33427	0.002977	0.033889	2.947686
ENSG00000165233.13|C9orf89	-1.04026	5.516487	12.3263	0.002984	0.033935	-2.05659
ENSG00000164038.10|SLC9B2	-2.05667	2.759125	12.35097	0.002991	0.033978	-4.16024
ENSG00000165409.11|TSHR	1.716596	2.81224	12.33609	0.002993	0.033986	3.2866
ENSG00000151136.10|BTBD11	-1.79644	2.982647	12.33066	0.002996	0.033998	-3.47363
ENSG00000118997.9|DNAH7	1.440085	1.289793	12.30282	0.003005	0.034058	2.713369
ENSG00000176222.7|ZNF404	1.223396	0.558796	12.30152	0.003006	0.034058	2.334957
ENSG00000112742.5|TTK	-1.39159	2.856099	12.29784	0.003009	0.034073	-2.62369
ENSG00000127191.13|TRAF2	-1.00683	4.576984	12.29336	0.003013	0.034073	-2.0095
ENSG00000167136.6|ENDOG	-1.67514	2.609486	12.29282	0.003014	0.034073	-3.19351
ENSG00000260996.1|RP13-122B23.8	1.577926	-0.50203	12.28613	0.00302	0.034123	2.985405
ENSG00000265817.1|FSBP	-2.16437	0.734589	12.28276	0.003023	0.034139	-4.48271
ENSG00000239593.1|RP11-477J21.6	-1.62501	1.872608	12.27448	0.00303	0.034205	-3.08443
ENSG00000160013.4|PTGIR	-1.95398	4.54361	12.33868	0.003034	0.034213	-3.87441
ENSG00000185046.14|ANKS1B	1.354937	1.070828	12.27037	0.003034	0.034213	2.557859
ENSG00000125895.5|TMEM74B	1.279675	2.298235	12.2582	0.003045	0.034317	2.427844
ENSG00000169508.6|GPR183	-1.2807	4.514131	12.25149	0.003051	0.034343	-2.42957
ENSG00000080493.9|SLC4A4	1.926014	0.51739	12.23861	0.003063	0.034408	3.800039
ENSG00000196511.9|TPK1	1.157831	4.236885	12.24031	0.003061	0.034408	2.231218
ENSG00000105379.5|ETFB	-1.01168	5.008819	12.22918	0.003072	0.034422	-2.01626
ENSG00000185338.4|SOCS1	-1.98993	4.120894	12.29648	0.003072	0.034422	-3.97217
ENSG00000261837.1|RP11-264L1.3	1.260263	0.450765	12.20014	0.003098	0.034677	2.395394
ENSG00000019991.11|HGF	1.608063	3.768379	12.23331	0.003106	0.034699	3.048423
ENSG00000244617.1|ASPRV1	1.422999	1.469409	12.19599	0.003102	0.034699	2.681423
ENSG00000258274.1|RP11-887P2.5	1.076268	1.882536	12.19092	0.003107	0.034699	2.108574
ENSG00000258559.2|AC005519.4	1.128003	2.596087	12.19199	0.003106	0.034699	2.18556
ENSG00000165644.6|COMTD1	-1.53281	2.560566	12.18001	0.003117	0.034794	-2.89348
ENSG00000272834.1|RP5-1042K10.13	-1.2651	0.685883	12.17054	0.003126	0.034867	-2.40344
ENSG00000236256.5|DIAPH2-AS1	1.168571	1.812385	12.15065	0.003145	0.035009	2.24789
ENSG00000116691.6|MIIP	-1.07448	5.550324	12.14457	0.00315	0.035035	-2.10596
ENSG00000232611.1|RP11-1114A5.4	1.187557	2.832536	12.14289	0.003152	0.035035	2.277667
ENSG00000259876.1|CTD-3037G24.4	1.332057	0.422859	12.13994	0.003155	0.035047	2.517614
ENSG00000071539.9|TRIP13	-1.24525	2.638844	12.11049	0.003183	0.03532	-2.37059
ENSG00000116670.10|MAD2L2	-1.42378	3.958027	12.11614	0.003185	0.03532	-2.68287
ENSG00000159208.11|C1orf51	-2.39511	2.194202	12.14092	0.003186	0.03532	-5.26017
ENSG00000166508.13|MCM7	-1.02886	6.337014	12.10433	0.003189	0.035331	-2.04042
ENSG00000188897.4|CTD-3088G3.8	1.363804	3.758573	12.09503	0.003211	0.035514	2.573629
ENSG00000231500.2|RPS18	-1.25327	7.861007	12.08073	0.003211	0.035514	-2.38382
ENSG00000152766.5|ANKRD22	-1.69985	4.757935	12.12303	0.003221	0.035565	-3.24867
ENSG00000229117.4|RPL41	-1.09051	7.849631	12.06843	0.003223	0.035565	-2.12949

ENSG00000157734.9|SNX22	-1.2409	3.929895	12.06272	0.003229	0.035589	-2.36345
ENSG00000236438.2|FAM157A	-2.63452	4.952379	12.13063	0.003228	0.035589	-6.20967
ENSG00000213420.3|GPC2	1.1349	1.856124	12.0561	0.003235	0.035604	2.196033
ENSG00000188649.7|CC2D2B	1.12313	0.373737	12.00299	0.003288	0.036009	2.178191
ENSG00000139209.11|SLC38A4	2.04925	0.264889	11.99812	0.003292	0.036043	4.138907
ENSG00000126947.7|ARMCX1	1.995956	3.126768	12.04913	0.003296	0.036051	3.988803
ENSG00000167283.3|ATP5L	-1.04225	5.180239	11.98872	0.003302	0.036071	-2.05943
ENSG00000165092.8|ALDH1A1	2.969798	4.879473	12.05021	0.003306	0.036084	7.834263
ENSG00000172531.10|PPP1CA	-1.03435	6.375548	11.98325	0.003307	0.036084	-2.04819
ENSG00000188191.10|PRKAR1B	-1.85439	3.319547	12.01055	0.003313	0.036115	-3.61599
ENSG00000007944.10|MYLIP	1.196072	4.91886	11.97853	0.003329	0.036254	2.29115
ENSG00000215105.3|TTC3P1	1.377507	2.711909	11.94753	0.003343	0.036353	2.598191
ENSG00000075624.9|ACTB	-1.21925	12.26071	11.94169	0.003349	0.036361	-2.32826
ENSG00000100079.5|LGALS2	-2.55684	1.971916	11.98209	0.003348	0.036361	-5.88416
ENSG00000166825.9|ANPEP	-1.95041	5.74553	12.00914	0.003347	0.036361	-3.86484
ENSG00000118514.9|ALDH8A1	1.415314	0.543949	11.92677	0.003364	0.036469	2.667179
ENSG00000120075.5|HOXB5	1.761152	1.618888	11.91515	0.003376	0.036528	3.389686
ENSG00000249464.1|RP11-93L9.1	2.284397	0.246972	11.93	0.003378	0.036528	4.871604
ENSG00000158715.5|SLC45A3	-1.5155	3.274272	11.90862	0.003383	0.036538	-2.85899
ENSG00000058335.11|RASGRF1	-1.57555	1.687185	11.90395	0.003387	0.036571	-2.98048
ENSG00000265743.1|RP11-848P1.3	2.344934	1.950529	11.94023	0.003403	0.036696	5.08037
ENSG00000065911.7|MTHFD2	-1.00321	6.200242	11.86851	0.003424	0.03689	-2.00445
ENSG00000178809.7|TRIM73	1.103952	2.555273	11.86568	0.003427	0.036895	2.149426
ENSG00000223561.2|AC003090.1	2.870839	0.311663	11.91159	0.003432	0.036919	7.314905
ENSG00000144677.10|CTDSPL	1.298464	3.070985	11.85557	0.003437	0.03696	2.459669
ENSG00000168334.8|XIRP1	-3.45536	2.384803	11.91441	0.003443	0.036981	-10.969
ENSG00000238039.1|AF011889.2	1.439247	0.864233	11.84868	0.003445	0.036981	2.711794
ENSG00000270344.1|RP11-734K2.4	1.268862	-0.5429	11.85176	0.003441	0.036981	2.409714
ENSG00000111344.7|RASAL1	-2.58256	1.841274	11.87098	0.00346	0.037103	-5.99003
ENSG00000116717.7|GADD45A	1.222788	3.771953	11.83446	0.00346	0.037103	2.333973
ENSG00000235398.4|LINC00623	-1.20571	3.131006	11.82384	0.003471	0.037185	-2.30651
ENSG00000176973.7|FAM89B	-1.2082	5.071728	11.8235	0.003477	0.037218	-2.31049
ENSG00000168229.3|PTGDR	2.4043	3.140816	11.86546	0.003495	0.037345	5.293788
ENSG00000118526.6|TCF21	3.804725	0.328591	11.86135	0.003499	0.037347	13.9745
ENSG00000170468.5|AC005280.1	-9.0428	1.098097	13.44966	0.0035	0.037347	-527.416
ENSG00000178401.10|DNAJC22	1.770057	-0.44492	11.79683	0.003499	0.037347	3.410674
ENSG00000155970.7|MICU3	1.592206	1.115921	11.78597	0.003511	0.037388	3.015101
ENSG00000105784.11|RUNDC3B	1.160997	0.792605	11.78108	0.003516	0.037406	2.236119
ENSG00000170017.8|ALCAM	-1.45014	6.465183	11.80962	0.003527	0.037484	-2.73235
ENSG00000244270.1|RPL32P29	-1.34849	0.225443	11.77183	0.003526	0.037484	-2.54645
ENSG00000140368.8|PSTPIP1	-1.30465	6.083583	11.78436	0.003542	0.037624	-2.47024
ENSG00000233493.3|TMEM238	-1.75447	1.266145	11.74315	0.003557	0.037745	-3.37402
ENSG00000161981.6|SNRNP25	-1.41603	3.769713	11.73614	0.003567	0.03779	-2.66851
ENSG00000269066.1|CTD-2528A14.5	1.159997	1.260329	11.73239	0.003569	0.037793	2.234569
ENSG00000244291.1|C7orf13	-2.0237	1.613645	11.7233	0.003579	0.037879	-4.06624
ENSG00000112306.7|RPS12	-1.32787	7.11491	11.72956	0.00359	0.037945	-2.51031
ENSG00000099365.5|STX1B	1.071304	3.589331	11.70739	0.003596	0.037987	2.101332
ENSG00000183558.5|HIST2H2AA3	-1.19214	3.543318	11.70374	0.0036	0.037994	-2.28491
ENSG00000169715.10|MT1E	-1.95594	3.029826	11.73214	0.003604	0.037995	-3.87967
ENSG00000270000.1|RP3-449M8.9	1.517198	0.934092	11.69968	0.003605	0.037995	2.862347
ENSG00000120215.5|MLANA	1.767126	2.935555	11.7108	0.003629	0.038169	3.403753
ENSG00000121316.6|PLBD1	1.649396	4.684004	11.74408	0.003625	0.038169	3.137024
ENSG00000199266.1|SNORA60	1.809961	0.825132	11.67564	0.003631	0.038169	3.506328
ENSG00000221102.1|SNORA11B	1.262712	1.919924	11.67887	0.003628	0.038169	2.399464

ENSG00000233968.2|RP11-354E11.2	-4.49995	1.529347	11.7383	0.003631	0.038169	-22.6267
ENSG00000261471.1|RP11-61F12.1	-1.03534	4.298483	11.67083	0.003637	0.038204	-2.04959
ENSG00000166002.2|SMCO4	-1.24725	3.76118	11.6658	0.003642	0.038243	-2.37389
ENSG00000248124.3|RRN3P1	1.224554	3.698336	11.64901	0.003661	0.038402	2.336831
ENSG00000115738.5|ID2	-1.18684	5.392508	11.65378	0.003666	0.038421	-2.27653
ENSG00000168263.8|KCNV2	-1.21088	0.671602	11.64436	0.003666	0.038421	-2.31479
ENSG00000104823.4|ECH1	-1.13562	5.182317	11.63807	0.003673	0.038449	-2.19713
ENSG00000227502.2|RP1-249H1.4	2.253449	3.099795	11.70166	0.003672	0.038449	4.768213
ENSG00000271127.1|LL22NC03-N64E9.1	3.289705	1.444242	11.67477	0.003702	0.038699	9.779125
ENSG00000197471.7|SPN	-1.33998	6.425673	11.6375	0.003708	0.038723	-2.53148
ENSG00000162433.10|AK4	-1.46122	3.587271	11.59945	0.003721	0.038782	-2.75341
ENSG00000100068.7|LRP5L	-1.00386	4.235433	11.57708	0.003743	0.038925	-2.00536
ENSG00000142583.13|SLC2A5	-3.14992	6.70811	11.62957	0.003753	0.038983	-8.87607
ENSG00000123179.9|EBPL	-1.2398	1.9837	11.56141	0.003761	0.039021	-2.36165
ENSG00000131969.10|ABHD12B	1.924468	1.496141	11.57179	0.003759	0.039021	3.795969
ENSG00000106952.3|TNFSF8	-1.22876	3.099351	11.54336	0.003782	0.039145	-2.34365
ENSG00000137101.8|CD72	-2.30271	4.880855	11.60468	0.003782	0.039145	-4.93384
ENSG00000180992.5|MRPL14	-1.09761	3.444752	11.54494	0.00378	0.039145	-2.14
ENSG00000114670.9|NEK11	1.109887	2.254649	11.5405	0.003785	0.039156	2.158288
ENSG00000185031.6|SLC2A3P2	1.360503	0.586204	11.5279	0.0038	0.039251	2.567747
ENSG00000197728.5|RPS26	-1.43517	6.0398	11.54691	0.003827	0.039442	-2.70414
ENSG00000104951.11|IL4I1	-2.26015	6.41012	11.56069	0.003833	0.039455	-4.79042
ENSG00000138778.7|CENPE	-1.12281	4.859292	11.49968	0.003833	0.039455	-2.17771
ENSG00000136938.8|ANP32B	-1.0782	6.183738	11.47984	0.003856	0.039642	-2.1114
ENSG00000163736.3|PPBP	-8.18014	2.389286	11.53622	0.003862	0.039661	-290.047
ENSG00000196927.4|AC009093.1	1.147659	2.28954	11.46475	0.003874	0.039769	2.215541
ENSG00000159556.5|ISL2	-1.56991	1.482444	11.46184	0.003878	0.03977	-2.96886
ENSG00000236824.1|BCYRN1	1.11624	2.567481	11.45588	0.003885	0.039819	2.167813
ENSG00000113916.13|BCL6	-1.01325	6.591668	11.44024	0.003904	0.039973	-2.01845
ENSG00000229241.1|PNPT1P1	1.28841	1.04258	11.43577	0.003909	0.040009	2.442588
ENSG00000034510.4|TMSB10	-1.04876	8.629168	11.41506	0.003934	0.040188	-2.06875
ENSG00000145536.11|ADAMTS16	2.414946	0.967901	11.44524	0.003944	0.040217	5.332995
ENSG00000175445.10|LPL	2.773637	3.632823	11.46678	0.003945	0.040217	6.838297
ENSG00000188888.7|GPR179	1.495013	0.34724	11.41114	0.003939	0.040217	2.818666
ENSG00000226604.2|PAPPA-AS2	3.315142	0.082601	11.46812	0.003943	0.040217	9.953073
ENSG00000267632.1|RP11-400F19.18	1.479324	4.60574	11.44117	0.00396	0.040295	2.788181
ENSG00000224298.2|AC069363.1	2.134914	1.990882	11.41999	0.003972	0.040333	4.392109
ENSG00000255729.1|AC005618.1	-1.49716	0.523495	11.36903	0.003991	0.040451	-2.82287
ENSG00000165071.10|TMEM71	-1.90986	2.852878	11.37564	0.004015	0.040608	-3.75773
ENSG00000173207.8|CKS1B	-1.51488	3.142466	11.34819	0.004016	0.040608	-2.85775
ENSG00000240050.1|RP1-93H18.1	1.260131	-0.05101	11.34723	0.004018	0.040608	2.395174
ENSG00000142731.6|PLK4	-1.36768	3.009839	11.3444	0.004021	0.040611	-2.58054
ENSG00000197982.12|C1orf122	-1.03445	3.989685	11.34389	0.004022	0.040611	-2.04833
ENSG00000136305.7|CIDEB	-1.00869	4.718509	11.34133	0.004025	0.040623	-2.01208
ENSG00000237975.2|FLG-AS1	1.820581	0.399178	11.33518	0.004033	0.040662	3.532234
ENSG00000140284.6|SLC27A2	-1.99333	0.759762	11.32013	0.004052	0.040755	-3.98155
ENSG00000203811.1|HIST2H3C	-3.02602	5.337114	11.38196	0.004049	0.040755	-8.1456
ENSG00000214975.4|PPIAP29	-1.14008	0.477845	11.31751	0.004055	0.040769	-2.20393
ENSG00000230148.4|HOXB-AS1	2.478187	0.451664	11.34552	0.004066	0.040865	5.571969
ENSG00000259886.1|U82695.10	1.339485	1.494046	11.30474	0.004071	0.040892	2.53061
ENSG00000238002.2|NPAP1P6	3.765071	1.869688	11.35705	0.00408	0.040942	13.59562
ENSG00000100292.12|HMOX1	-1.78874	6.736875	11.35143	0.004087	0.040974	-3.45513
ENSG00000101670.7|LIPG	-1.65522	1.951696	11.28167	0.0041	0.041088	-3.14972
ENSG00000127124.9|HIVEP3	-1.14287	7.695057	11.27882	0.004104	0.041105	-2.2082

ENSG00000134256.8|CD101	-2.05042	3.421398	11.3176	0.004114	0.041143	-4.14226
ENSG00000135736.5|CCDC102A	-1.34754	1.742801	11.26864	0.004117	0.041157	-2.54478
ENSG00000168071.17|CCDC88B	-1.02234	7.266371	11.26491	0.004122	0.041185	-2.03121
ENSG00000123124.9|WWP1	1.299144	5.866941	11.29285	0.00414	0.041348	2.460828
ENSG00000233672.2|RNASEH2B-AS1	1.350909	0.664878	11.24678	0.004145	0.041379	2.550727
ENSG00000259918.1|NDUFA5P11	1.023476	-0.43828	11.24078	0.004153	0.041437	2.032811
ENSG00000105374.5|NKG7	-2.47599	5.067129	11.29183	0.004163	0.041452	-5.56348
ENSG00000161583.12|TBC1D3G	1.660407	3.972565	11.2803	0.004161	0.041452	3.161056
ENSG00000166189.6|HPS6	-1.05236	4.841164	11.23217	0.004164	0.041452	-2.07392
ENSG00000173581.3|CCDC106	-1.55542	2.958627	11.23489	0.00416	0.041452	-2.93919
ENSG00000258725.1|PRC1-AS1	-1.42888	0.274578	11.23199	0.004164	0.041452	-2.69237
ENSG00000168275.10|COA6	-1.20707	2.47061	11.22089	0.004179	0.041537	-2.30868
ENSG00000261336.1|EIF4BP5	1.129699	2.213713	11.21428	0.004187	0.041603	2.18813
ENSG00000154240.12|CEP112	1.165383	2.33196	11.21177	0.00419	0.041616	2.242927
ENSG00000089505.13|CMTM1	-1.37566	3.06055	11.19469	0.004213	0.041697	-2.59486
ENSG00000144036.10|EXOC6B	1.002982	4.901082	11.19154	0.004217	0.041697	2.004139
ENSG00000170217.6|RP11-12A20.2	3.113404	1.502051	11.25107	0.004215	0.041697	8.65422
ENSG00000214628.3|RP11-392M9.2	1.467596	-0.53545	11.19197	0.004216	0.041697	2.765607
ENSG00000248697.1|TOX4P1	1.589216	0.155996	11.19043	0.004218	0.041697	3.008859
ENSG00000268500.1|SIGLEC5	-9.66879	1.706584	12.69413	0.004217	0.041697	-813.948
ENSG00000073111.9|MCM2	-1.40164	5.095857	11.1978	0.004252	0.041874	-2.64202
ENSG00000147206.12|NXF3	3.666354	4.465237	11.22382	0.004251	0.041874	12.69645
ENSG00000152380.5|FAM151B	1.134227	1.499676	11.1688	0.004247	0.041874	2.195009
ENSG00000239642.1|AC034228.7	-2.77258	0.468237	11.18549	0.004262	0.041915	-6.83327
ENSG00000253552.3|HOXA-AS2	1.174471	1.040085	11.15987	0.004259	0.041915	2.257101
ENSG00000270011.2|ZNF559-ZNF177	1.777952	-0.12971	11.15875	0.00426	0.041915	3.429391
ENSG00000101412.9|E2F1	-1.17448	3.991379	11.15078	0.004271	0.041981	-2.25712
ENSG00000112033.9|PPARD	-1.15013	6.770998	11.14462	0.004279	0.042042	-2.21934
ENSG00000147459.13|DOCK5	-1.8197	7.082205	11.19812	0.004285	0.04208	-3.53007
ENSG00000172247.3|C1QTNF4	1.552265	0.238788	11.12172	0.00431	0.042268	2.932772
ENSG00000184068.2|RP5-821D11.7	-1.16318	2.807226	11.12152	0.00431	0.042268	-2.23951
ENSG00000237359.1|RP11-509J21.2	1.405084	-0.29111	11.11802	0.004315	0.042295	2.648332
ENSG00000244457.2|ENO1P1	-1.78502	0.558193	11.107	0.00433	0.042421	-3.44623
ENSG00000154274.10|C4orf19	1.020926	1.357902	11.10513	0.004332	0.042427	2.029221
ENSG00000176809.6|LRRC37A3	1.177069	5.123298	11.12041	0.004339	0.042453	2.26117
ENSG00000106628.6|POLD2	-1.00236	4.780044	11.09808	0.004342	0.042461	-2.00327
ENSG00000076555.11|ACACB	1.057105	4.50856	11.08947	0.004354	0.042536	2.080752
ENSG00000164182.6|NDUFAF2	-1.01197	2.146094	11.08718	0.004357	0.042547	-2.01666
ENSG00000127507.13|EMR2	-1.23702	7.282208	11.09121	0.004366	0.042618	-2.35712
ENSG00000111846.11|GCNT2	-1.21864	4.163149	11.06247	0.004391	0.042707	-2.32728
ENSG00000136895.14|GARNL3	1.006498	2.325221	11.06194	0.004392	0.042707	2.009029
ENSG00000265688.1|MAFG-AS1	1.73661	1.004889	11.06739	0.004384	0.042707	3.332511
ENSG00000272690.1|RP11-803B1.8	1.564809	-0.69102	11.06596	0.004386	0.042707	2.958383
ENSG00000213885.3|RPL13AP7	-1.33704	0.092739	11.0512	0.004406	0.042832	-2.52633
ENSG00000186453.8|FAM228A	1.089444	-0.44427	11.04199	0.004419	0.042861	2.127921
ENSG00000112576.8|CCND3	-1.18673	6.177591	11.05203	0.004426	0.042865	-2.27637
ENSG00000204389.8|HSPA1A	-1.00858	7.458182	11.03878	0.004424	0.042865	-2.01193
ENSG00000103202.8|NME4	-1.38339	4.307737	11.05032	0.004435	0.042936	-2.60881
ENSG00000166133.13|RPUSD2	-1.10414	2.422665	11.02288	0.004446	0.042996	-2.1497
ENSG00000155530.2|LRGUK	1.716315	1.285653	11.01848	0.004452	0.042997	3.28596
ENSG00000169676.4|DRD5	2.259489	-0.17936	11.03386	0.004451	0.042997	4.788219
ENSG00000181649.5|PHLDA2	-1.2849	1.252128	11.01519	0.004456	0.043022	-2.43665
ENSG00000092969.7|TGFB2	3.032948	4.33918	11.05813	0.004476	0.043168	8.184807
ENSG00000251364.2|CTD-2516F10.2	2.36158	5.8363	11.05527	0.00448	0.043186	5.139329

ENSG00000229585.4|RPL21P44	1.433751	0.656279	10.99087	0.004491	0.043233	2.701482
ENSG00000270270.1|CTC-559E9.10	1.226907	-0.36363	10.96227	0.004531	0.043545	2.340647
ENSG00000162994.11|CLHC1	1.441331	2.469237	10.95638	0.00454	0.043606	2.715714
ENSG00000184730.6|APOBR	-1.41746	6.599632	10.98757	0.004546	0.043646	-2.67115
ENSG00000073861.2|TBX21	-1.84399	3.103462	10.95091	0.004588	0.044012	-3.59001
ENSG00000260278.1|RP11-109G23.3	1.568906	-0.54452	10.91505	0.004599	0.044083	2.966796
ENSG00000188227.8|ZNF793	1.743608	2.9142	10.92774	0.004627	0.04426	3.348717
ENSG00000164967.5|RPP25L	-1.17319	2.541445	10.891	0.004634	0.044293	-2.25509
ENSG00000150627.11|WDR17	2.458583	1.195791	10.92705	0.004646	0.044339	5.496766
ENSG00000134686.12|PHC2	-1.24999	7.320587	10.88678	0.004662	0.044467	-2.3784
ENSG00000154678.12|PDE1C	1.537078	1.21157	10.87147	0.004663	0.044467	2.902061
ENSG00000008311.10|AASS	1.273964	2.486771	10.82183	0.004737	0.045046	2.41825
ENSG00000198805.7|PNP	-1.03759	5.425045	10.82063	0.004739	0.045046	-2.0528
ENSG00000139970.12|RTN1	-1.98768	6.216539	10.86493	0.004755	0.045137	-3.96598
ENSG00000268995.1|VN1R82P	1.300286	0.030819	10.81051	0.004754	0.045137	2.462778
ENSG00000249604.1|RP11-286E11.2	1.154816	0.47482	10.80777	0.004758	0.045149	2.226559
ENSG00000267801.1|RP11-552F3.9	1.79707	3.131441	10.8392	0.004776	0.045274	3.475137
ENSG00000130810.15|PPAN	-1.22268	5.091779	10.80482	0.004784	0.045292	-2.33381
ENSG00000164687.6|FABP5	-2.13954	5.83481	10.8475	0.004781	0.045292	-4.40623
ENSG00000236120.2|RP11-733O18.1	2.715023	0.382696	10.83612	0.004782	0.045292	6.56604
ENSG00000183066.10|WBP2NL	1.340476	1.228389	10.78774	0.004789	0.045314	2.532348
ENSG00000103175.6|WFDC1	1.239612	-0.10839	10.78163	0.004798	0.045341	2.36135
ENSG00000137767.9|SQRDL	-1.26582	6.300881	10.80295	0.004803	0.045348	-2.40464
ENSG00000188818.8|ZDHHC11	1.46914	2.234484	10.7742	0.004809	0.045387	2.768569
ENSG00000133424.16|LARGE	1.535544	4.246425	10.81243	0.004816	0.045393	2.898977
ENSG00000179091.4|CYC1	-1.1107	5.555307	10.77429	0.004815	0.045393	-2.1595
ENSG00000170153.6|RNF150	2.531316	4.423284	10.82272	0.004818	0.045393	5.780989
ENSG00000104885.13|DOT1L	-1.14597	7.204832	10.75531	0.004838	0.045559	-2.21295
ENSG00000225140.1|RP11-809C18.3	1.9285	0.744811	10.75663	0.004842	0.045573	3.806593
ENSG00000198478.6|SH3BGRL2	1.455303	1.94615	10.75037	0.004846	0.04559	2.742141
ENSG00000095209.7|TMEM38B	-1.06962	2.228854	10.74413	0.004855	0.04564	-2.09888
ENSG00000128228.4|SDF2L1	-1.28833	3.860623	10.73845	0.004864	0.045649	-2.44245
ENSG00000134333.9|LDHA	-1.06679	7.795561	10.73511	0.004869	0.045649	-2.09476
ENSG00000272568.1|CTB-113D17.1	1.675437	2.561363	10.756	0.004859	0.045649	3.194162
ENSG00000149554.8|CHEK1	-1.03975	3.487211	10.71111	0.004907	0.045949	-2.05587
ENSG00000268759.1|AC135983.2	2.033425	0.197523	10.71402	0.004908	0.045949	4.093755
ENSG00000186081.7|KRT5	-9.53014	6.017336	10.75284	0.004926	0.045953	-739.365
ENSG00000199293.1|SNORA21	1.174242	4.376138	10.71885	0.004916	0.045953	2.256742
ENSG00000224184.1|AC096559.1	-5.16442	0.839274	10.75677	0.00492	0.045953	-35.863
ENSG00000225399.3|RP11-3B7.1	1.448629	1.473704	10.70008	0.004924	0.045953	2.729486
ENSG00000231672.2|DIRC3	1.532001	1.558164	10.70073	0.004923	0.045953	2.891867
ENSG00000240012.1|SLC9A9-AS1	1.374388	0.503725	10.70189	0.004921	0.045953	2.59258
ENSG00000182217.7|HIST2H4B	-2.74541	4.984973	10.74502	0.004938	0.046006	-6.70582
ENSG00000242324.1|RP4-576H24.2	1.15627	1.187894	10.6915	0.004938	0.046006	2.228804
ENSG00000176826.11|FKBP9L	1.472508	-0.28265	10.66656	0.004977	0.046318	2.77504
ENSG00000229874.2|RP11-312O7.2	-1.56795	5.121849	10.70902	0.004978	0.046318	-2.96484
ENSG00000215769.4|hsa-mir-6080	1.232219	5.871595	10.69333	0.004985	0.046365	2.349281
ENSG00000090530.5|LEPREL1	2.132611	3.435877	10.69662	0.005014	0.046572	4.385105
ENSG00000179431.5|FJX1	-1.15703	2.100728	10.63305	0.005031	0.0466	-2.22998
ENSG00000100206.5|DMC1	-2.15208	0.075813	10.6217	0.005049	0.046708	-4.44467
ENSG00000135338.9|LCA5	1.216983	0.936498	10.61496	0.00506	0.046788	2.324601
ENSG00000201533.1|RN7SKP237	1.071679	-0.31198	10.60773	0.005071	0.046876	2.101878
ENSG00000079739.11|PGM1	-1.46506	4.133545	10.62416	0.005087	0.046944	-2.76075
ENSG00000236782.1|RP11-96L14.7	-1.39347	0.014087	10.59969	0.005085	0.046944	-2.62711

ENSG00000243829.1|CTB-33G10.1	-1.48842	0.625058	10.59772	0.005088	0.046944	-2.80581
ENSG00000180525.9|PRR26	1.637894	2.474427	10.60277	0.005102	0.047052	3.112113
ENSG00000198618.4|PPIAP22	-1.13831	3.076882	10.58043	0.005116	0.047142	-2.20123
ENSG00000264529.1|RP11-556O9.3	1.484207	-0.56626	10.56945	0.005134	0.047226	2.797634
ENSG00000100028.7|SNRPD3	-1.0452	4.221801	10.56403	0.005143	0.047267	-2.06366
ENSG00000233954.4|RP11-169K16.7	-1.26234	1.583865	10.56203	0.005146	0.047277	-2.39885
ENSG00000174586.6|ZNF497	-1.13885	2.4859	10.55023	0.005166	0.047388	-2.20205
ENSG00000112818.5|MEP1A	3.990079	0.777398	10.59142	0.005185	0.047505	15.89036
ENSG00000118242.11|MREG	-2.33965	3.073415	10.58848	0.005189	0.047528	-5.06182
ENSG00000052802.8|MSMO1	-1.38431	2.920764	10.52839	0.005202	0.047583	-2.61048
ENSG00000111144.5|LTA4H	-1.00123	6.40941	10.53024	0.005199	0.047583	-2.0017
ENSG00000170209.4|ANKK1	1.894941	-0.37645	10.52296	0.005211	0.047583	3.719067
ENSG00000181274.5|FRAT2	-1.00401	4.190507	10.52534	0.005207	0.047583	-2.00556
ENSG00000185630.14|PBX1	1.319077	4.011396	10.54836	0.005205	0.047583	2.495065
ENSG00000197933.8|ZNF823	1.101684	1.907797	10.52397	0.00521	0.047583	2.146051
ENSG00000258929.2|RP11-58E21.3	-1.63967	2.689784	10.52566	0.005207	0.047583	-3.11594
ENSG00000267274.1|CTD-2006C1.12	1.348518	0.837528	10.51872	0.005218	0.047622	2.546504
ENSG00000163975.7|MFI2	-2.29287	4.179067	10.56156	0.005234	0.04773	-4.90031
ENSG00000068489.8|PRR11	-1.16444	4.487706	10.50328	0.005244	0.047758	-2.24147
ENSG00000270175.1|RP11-793H13.11	1.000712	0.146458	10.50169	0.005247	0.047758	2.000987
ENSG00000108784.5|NAGLU	1.020787	5.623337	10.4831	0.005284	0.047949	2.029025
ENSG00000156103.11|MMP16	1.980169	1.257786	10.49104	0.005288	0.047949	3.945394
ENSG00000164684.9|ZNF704	2.092369	4.042824	10.53202	0.005284	0.047949	4.264478
ENSG00000272533.1|SNORA28	1.375701	1.463955	10.47851	0.005286	0.047949	2.59494
ENSG00000100450.8|GZMH	-1.35353	1.760702	10.46647	0.005307	0.04806	-2.55537
ENSG00000087076.4|HSD17B14	1.878428	2.82536	10.50535	0.00531	0.048068	3.676742
ENSG00000074660.11|SCARF1	-1.44306	5.241149	10.50308	0.005314	0.048079	-2.71897
ENSG00000089558.4|KCNH4	1.58636	1.973331	10.46123	0.005316	0.048079	3.002907
ENSG00000106066.9|CPVL	1.486378	5.498415	10.51091	0.005319	0.048092	2.801846
ENSG00000270165.1|RP11-167P11.2	1.155088	-0.00723	10.4444	0.005345	0.048278	2.226979
ENSG00000246100.3|LINC00900	2.450005	2.588701	10.48399	0.005365	0.048424	5.46418
ENSG00000272444.1|RP11-1017G21.6	1.64932	-0.29523	10.42936	0.005371	0.048451	3.136858
ENSG00000003436.10|TFPI	1.529192	4.805679	10.46347	0.005401	0.048639	2.886242
ENSG00000266820.1|RP13-104F24.1	1.358699	2.900845	10.39872	0.005424	0.048745	2.564537
ENSG00000149243.11|KLHL35	-1.49973	1.140708	10.39678	0.005427	0.048755	-2.8279
ENSG00000005448.12|WDR54	-1.83697	2.818341	10.41196	0.005441	0.048827	-3.5726
ENSG00000236756.4|DNAJC9-AS1	1.906397	-0.4212	10.37715	0.005462	0.048894	3.748716
ENSG00000267987.1|AL161784.1	-4.56672	0.063091	10.42718	0.005464	0.048894	-23.6984
ENSG00000159784.13|FAM131B	-2.89604	4.412786	10.41673	0.005482	0.048958	-7.44382
ENSG00000232833.4|FAM27E3	2.208273	2.232987	10.41137	0.00548	0.048958	4.621216
ENSG00000141570.6|CBX8	-1.40395	3.70428	10.36827	0.005501	0.04898	-2.64625
ENSG00000213741.4|RPS29	-1.21685	5.98129	10.37853	0.005498	0.04898	-2.32438
ENSG00000268027.1|AC006129.2	-1.4759	1.323546	10.35414	0.005503	0.04898	-2.78158
ENSG00000132423.6|COQ3	-1.13372	0.450904	10.34961	0.005511	0.049003	-2.19424
ENSG00000176049.11|JAKMIP2	-2.51311	2.227992	10.37918	0.005529	0.049125	-5.7085
ENSG00000143110.7|C1orf162	-1.57808	4.692154	10.37396	0.005539	0.049187	-2.98572
ENSG00000251615.3|RP11-774O3.3	1.016182	1.152453	10.32993	0.005546	0.049233	2.022559
ENSG00000153563.11|CD8A	-1.52395	5.192874	10.36366	0.005557	0.049288	-2.87577
ENSG00000178175.7|ZNF366	-1.18609	2.700962	10.3243	0.005556	0.049288	-2.27535
ENSG00000124615.13|MOCS1	1.37511	3.593083	10.33316	0.005572	0.049333	2.593877
ENSG00000143631.10|FLG	1.99	3.796979	10.36646	0.005571	0.049333	3.97237
ENSG00000145220.9|LYAR	-1.44216	3.076717	10.31459	0.005574	0.049333	-2.71727
ENSG00000230567.3|FAM203B	-6.38245	1.133267	10.36536	0.005573	0.049333	-83.4273
ENSG00000242150.2|RP11-134G8.6	-3.0941	-0.38739	10.33955	0.005573	0.049333	-8.53919

ENSG00000019169.9|MARCO	-4.53959	5.680611	10.35197	0.005597	0.04948	-23.2569
ENSG00000036530.4|CYP46A1	1.618242	0.900418	10.2841	0.005629	0.049698	3.070008
ENSG00000171858.13|RPS21	-1.18951	5.937031	10.29888	0.005635	0.049724	-2.28075
ENSG00000116183.6|PAPPA2	2.528553	-0.07777	10.29896	0.005657	0.04983	5.769927
ENSG00000168874.8|ATOH8	1.253248	2.465083	10.26708	0.00566	0.04983	2.383775

Supplementary Figures

Supplementary Figure S1. Schematic of variant filtration. Variants present in a targeted gene list were retained based on CADD phred-like scores and minor population allele frequency. Variants in cases without matched germline were filtered based on mutation type or presence in a recurrently mutated gene, ClinVar or COSMIC databases.
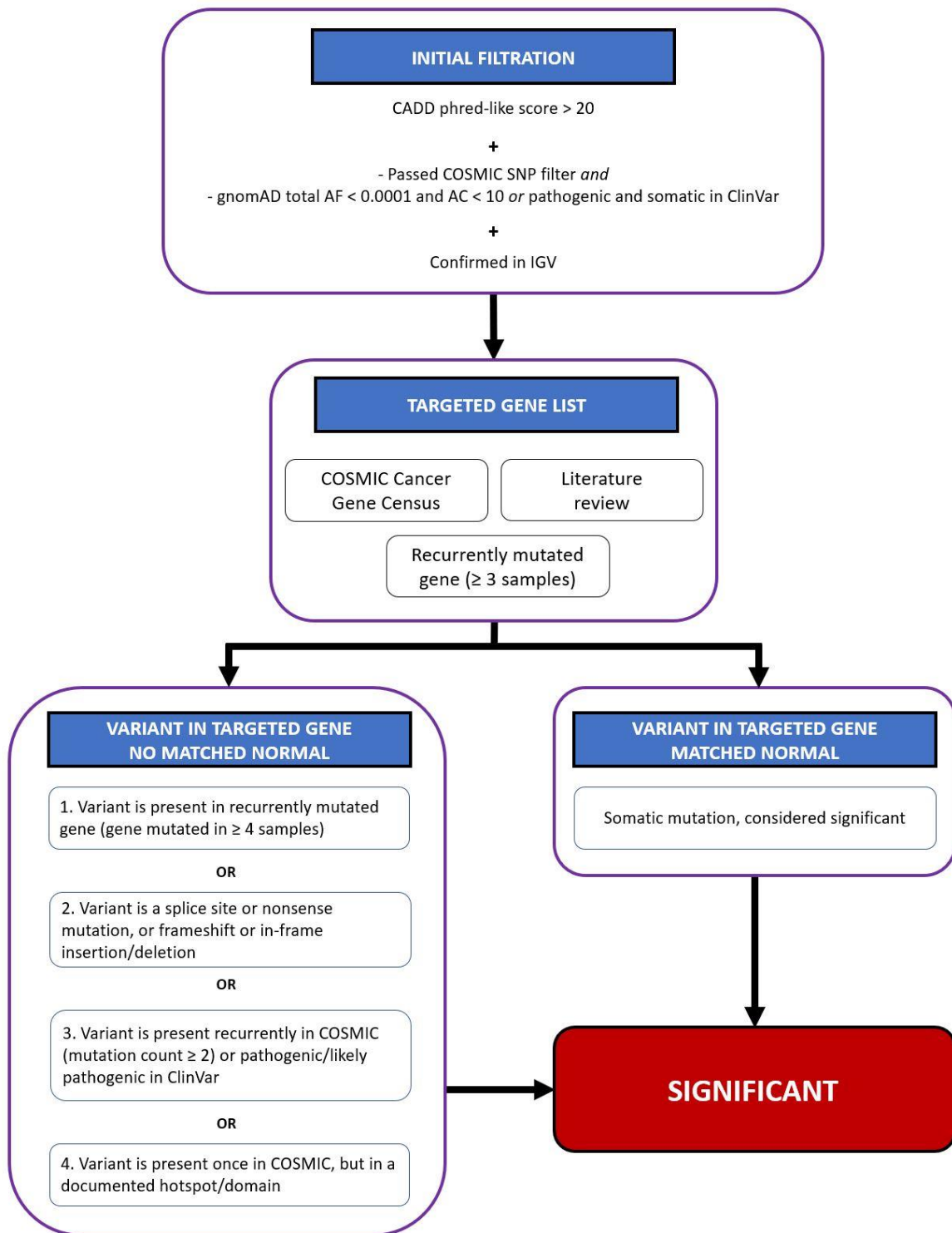
Supplementary Figure S2. RAS/MAPK pathway mutations. Mutations identified within RAS/MAPK pathway genes are shown within involved protein domains.
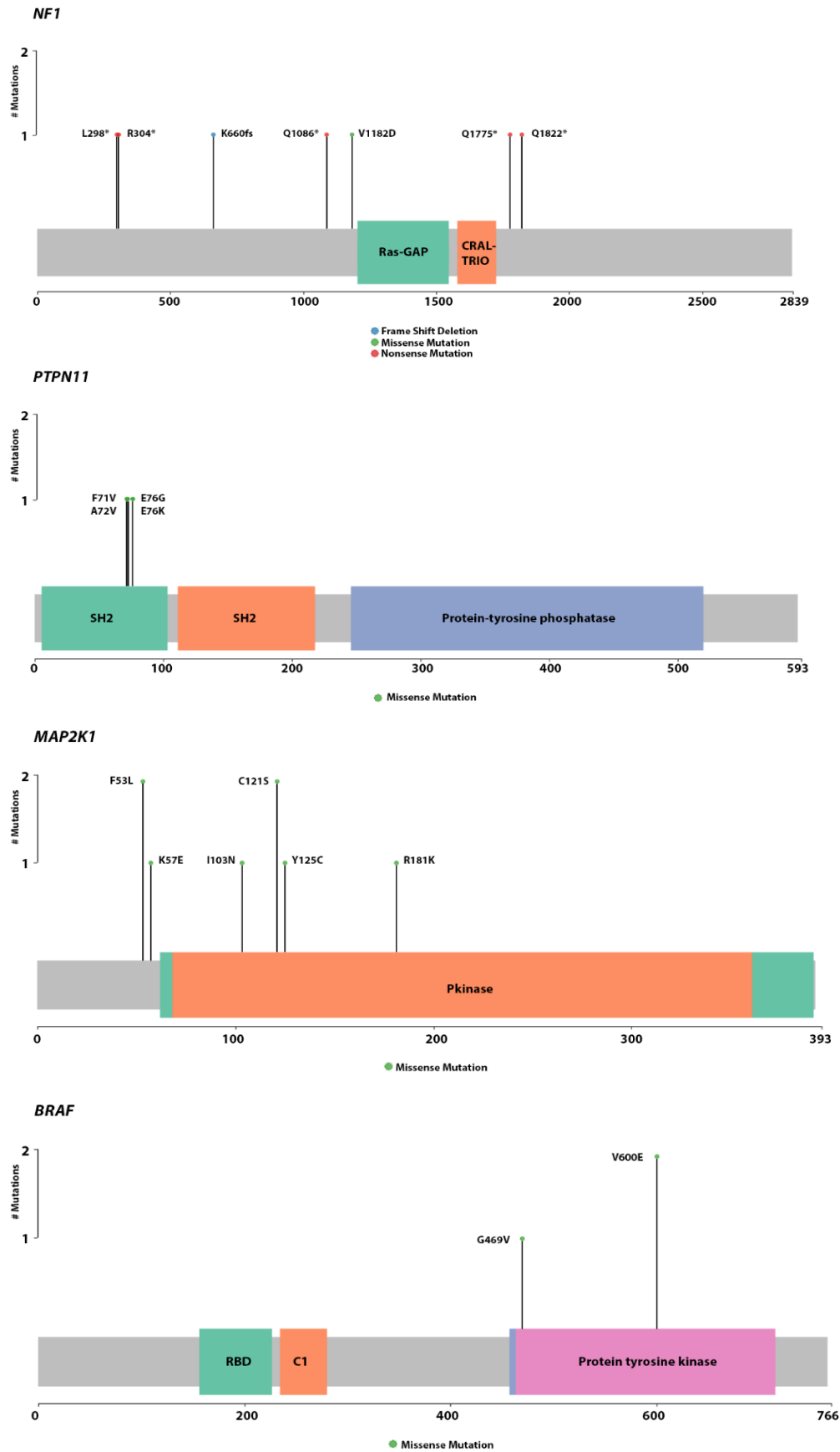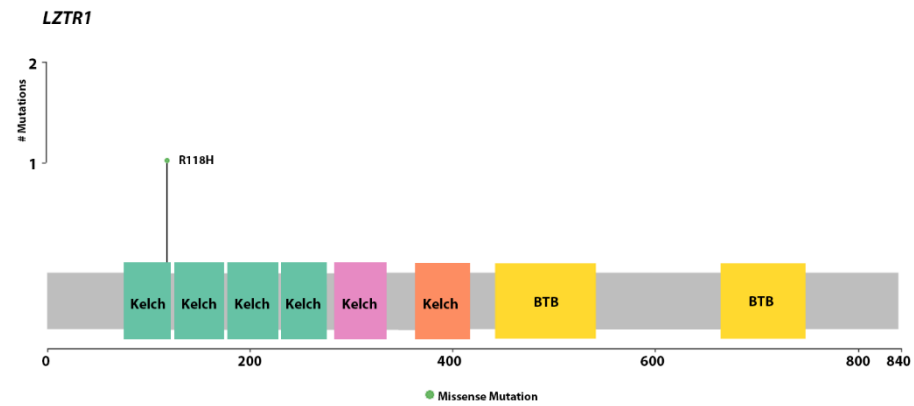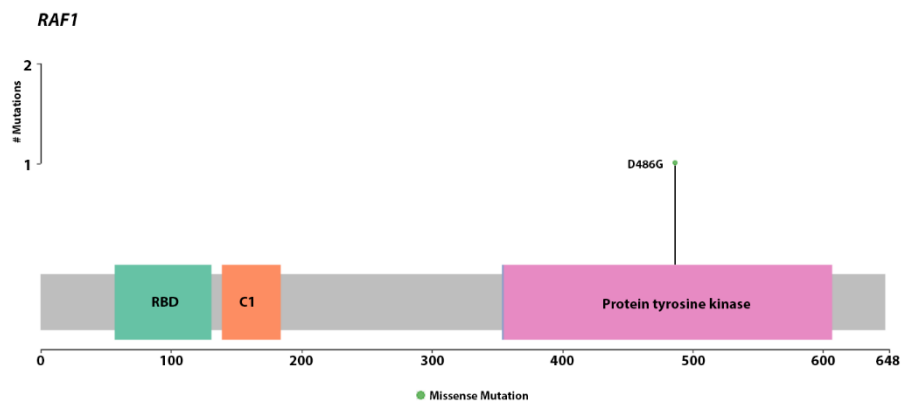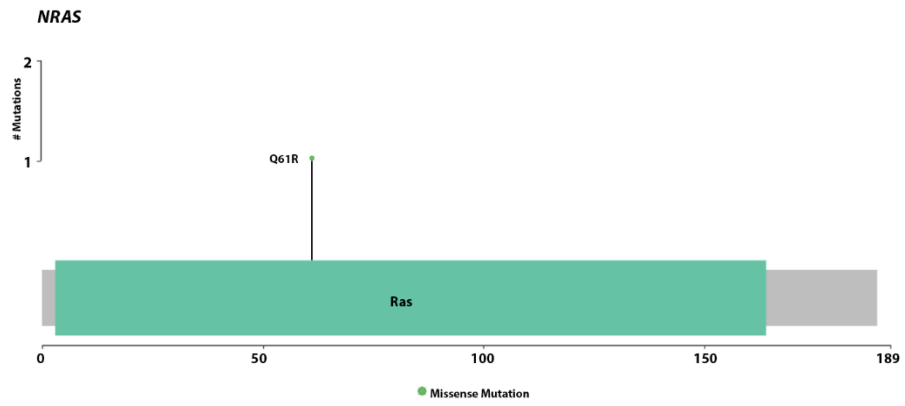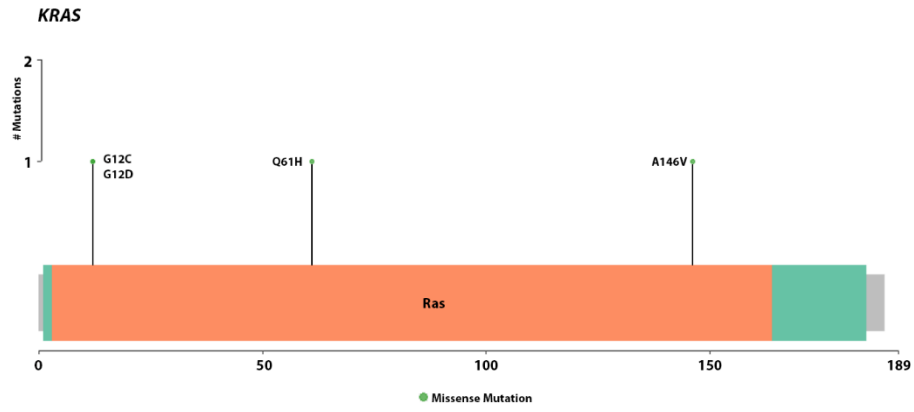
Supplementary Figure S3. Copy number losses. (A-C) *NF1/PTPN11* altered case from the GI tract; (A) H&E stain, original magnification x400, with losses of 10q and 17p confirmed by FISH (B) CEP 10 (green), *PTEN* (orange). (C) CEP 17 (green), 17p13.1 (orange). **(D-E)** *NF1/PTPN11* wild-type case; (D) H&E stain, original magnification x400 with homozygous deletion of *CDKN2A* confirmed by FISH (E); CEP 9 (aqua), 9p21 (orange).
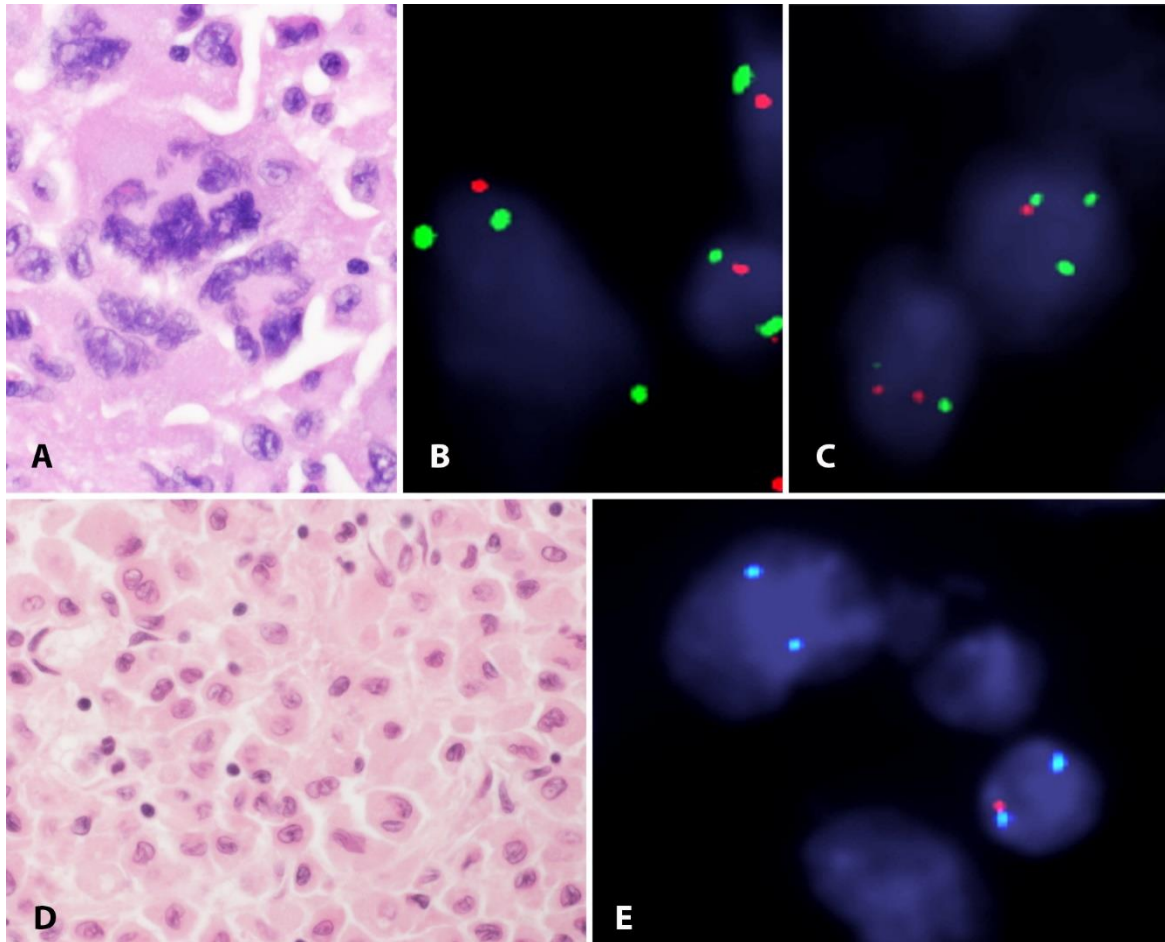
Supplementary Figure S4. Exploratory analysis of RNA-Seq data. Unsupervised clustering based on transcriptome-wide gene expression and using Euclidean distance with complete linkage. **(A)** Two samples (indicated by rectangle) were outliers to both tumor and normal groups and were excluded. **(B)** One sample (indicated by rectangle) clustered separately to the remaining samples in the tumor cohort and was excluded from the comparison of the intratumoral subgroups.
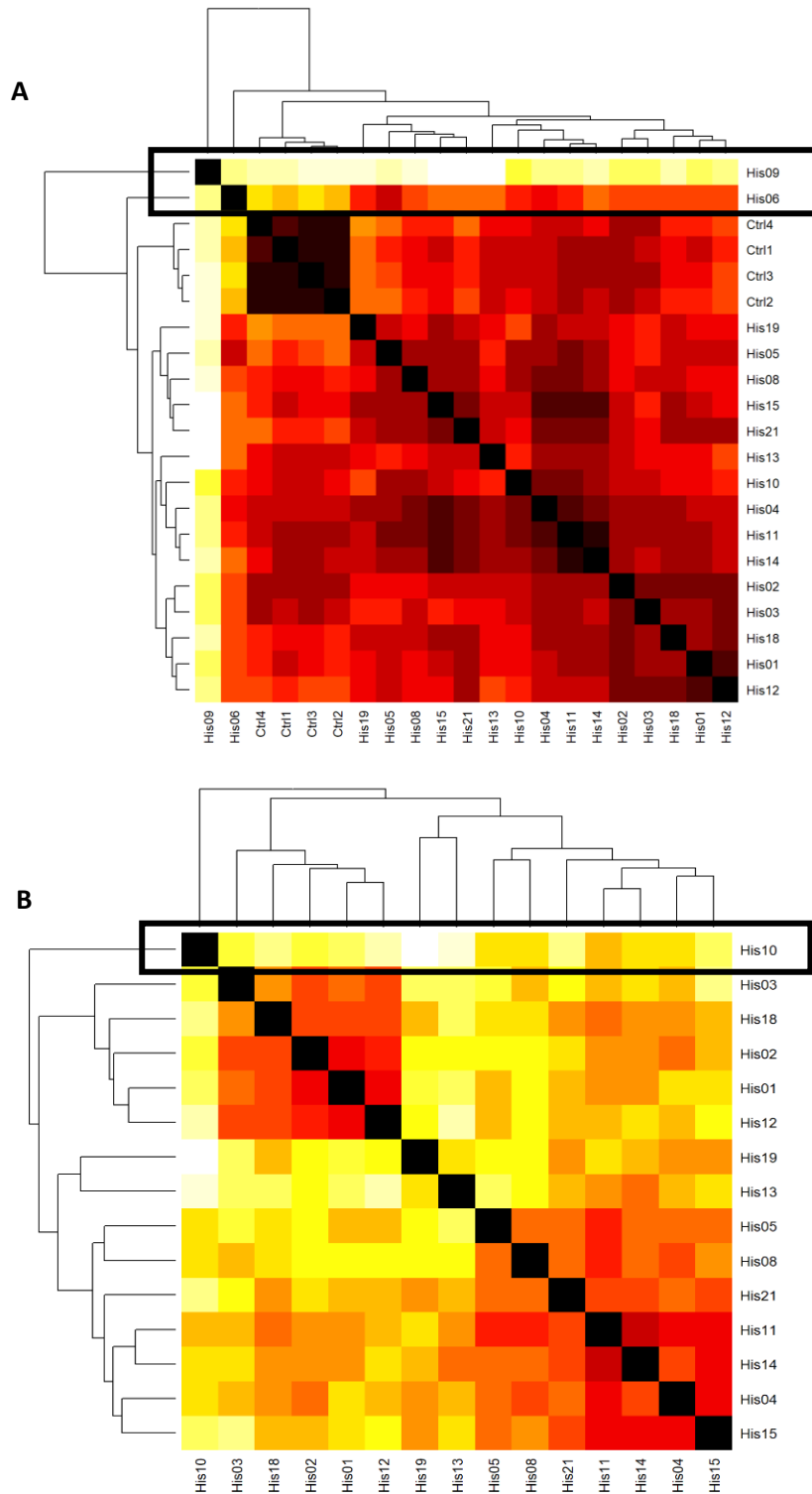
Supplementary Figure S5. Assessment of GI site and cell cycle clustering. Heatmap of log transformed normalized counts of the 2205 differentially expressed genes between tumor and normal samples (absolute log FC of > 1 and FDR of < 0.05). There is separation of the tumor samples into the subgroups identified during exploratory analysis.
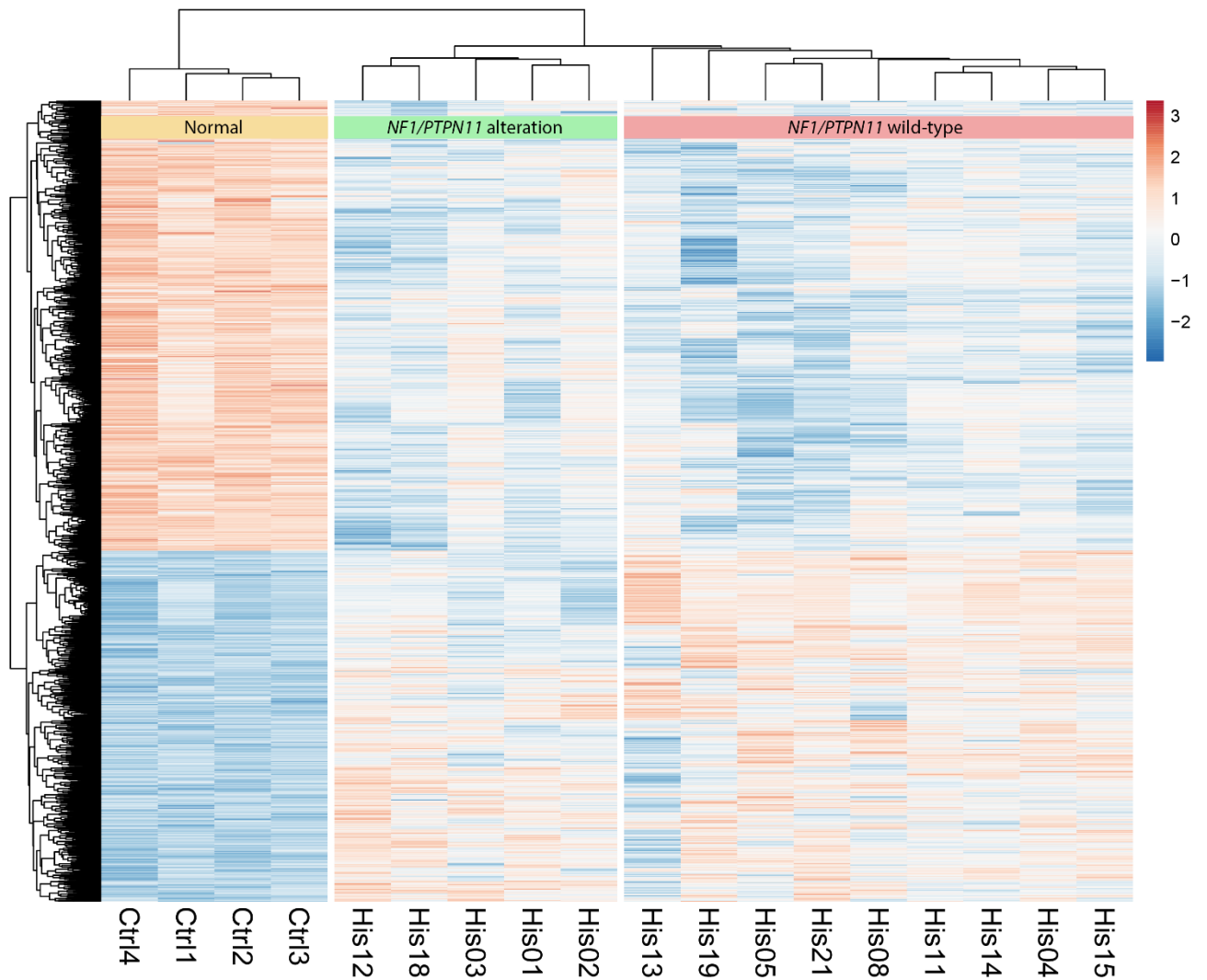
Supplementary Figure S6. Assessment of GI site and cell cycle clustering. Heatmap of log transformed normalized counts of differentially expressed genes between tumor and normal samples (absolute log FC of > 1 and FDR of < 0.05) following removal of GI site-related genes. The clustering is unchanged. The 'Red Box' highlights the genes that appear most differentially expressed between tumor subgroups (listed in **Supplementary Table S7**).
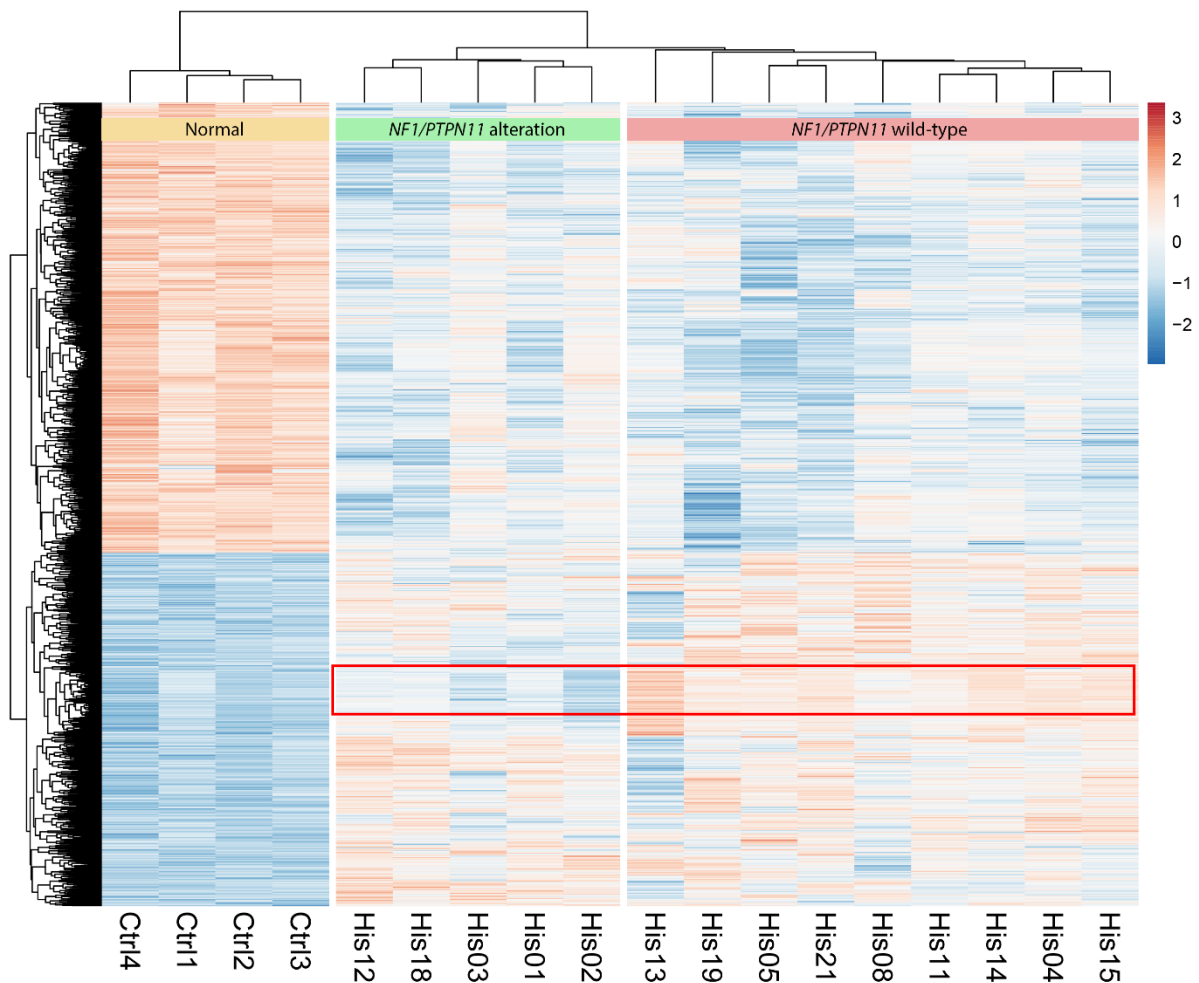
Supplementary Figure S7. Assessment of GI site and cell cycle clustering. Heatmap of log transformed normalized counts of differentially expressed genes between tumor and normal samples (absolute log FC of > 1 and FDR of < 0.05) following removal of the cell cycle-related ('Red Box') genes. There is re-organization of the heatmap with the tumor subgroups no longer clustering.