

Supplemental Figures and Legends

Supplemental Figure 1. PLIN2KD significantly altered TGF β /SMAD pathway genes.

(A) Heat maps showing significantly elevated levels of TGF β /SMAD pathway-related genes in PLIN2KD EndoC β H2-Cre β cells. The color keys represent the row-wise Z-score. (B) Notably, *GDF15* level appears to be PLIN2 dependent (directly extracted from bulk RNA-seq data), TPM: Transcripts Per Million. All error bars indicate SD, n=3, * P<0.05 vs Sham.

Supplemental Figure 2. NAC cannot rescue EA induced effectors of ER stress.

EndoC β H2-Cre cells (termed Sham) were treated with EA (500 μ M, 24h) in the presence of absence of N-acetyl cysteine (NAC, 1mM). The expression of stress induced IRE1 α and XBP-1 ratio (i.e., spliced/total) mRNA levels were analyzed by qPCR. All error bars indicate SD, n=3, * P<0.05, ** P<0.01, *** P<0.005 vs Sham

Supplemental Figure 3. EA provoked a stronger stress gene response than PA.

Sham cells were treated with PA (500 μ M, 48 hours) or EA (500 μ M, 24 hours) and then analyzed by qRT-PCR for FEV, IRE1 α and XBP-1 ratio (i.e., spliced/total). All of these PLIN2KD and ER stress markers were more highly elevated in EA cells. All error bars indicate SD, n=3, * P<0.05, ** P<0.01, *** P<0.005 vs Sham.

Supplemental Figure 4. PLIN2 manipulation induced many changes in the expression of gene important to mitochondria function and health.

Heat maps showing changes in many different mitochondrial genes in PLIN2KD and PLIN2OE cells, including (A) electron transport chain and mitochondrial encoding, (B) fusion and fission, (C) ion balance and (D) mitophagy. The color keys represent the row-wise Z-score.

Supplemental Figure 5. PLIN2KD DEGs partly overlapped with those altered in human islets under lipotoxic condition.

Venn diagram and pathway analysis uncovered 149 out of 1972 DEGs in PLIN2KD cell overlapped with the 1196 DEGs found in human islets treated with palmitic acid (1). Those involved in β cell function and stress response pathways are highlighted in red.

Supplemental Figure 6. PLIN2KD DEGs share genes dysregulated in T2D in human islets.

(A) Venn diagram and heatmaps demonstrated 19 of 1972 DEGs in PLIN2KD overlapped with signature genes found T2D islet based on human GWAS datasets (2,3). (B) T2D signatures genes include two FFA handling genes, *FADS1* (4) and *GPR120* (5), which were down regulated in PLIN2KD. The color keys represent the row-wise Z-score.

Supplemental Figure 7. Expression of many genes essential to lipid homeostasis are impacted by PLIN2KD.

Venn diagram showed 104 out of 1972 PLIN2KD DEGs overlapped with the master list of 1108 major lipid handling and homeostasis genes (Gene Ontology online database: <http://amigo.geneontology.org/amigo/landing> (6)). GO term analysis highlighted in red depict some enriched processes, including effects on phospholipid metabolism, lipid transport/remodeling, and long-chain FA metabolism.

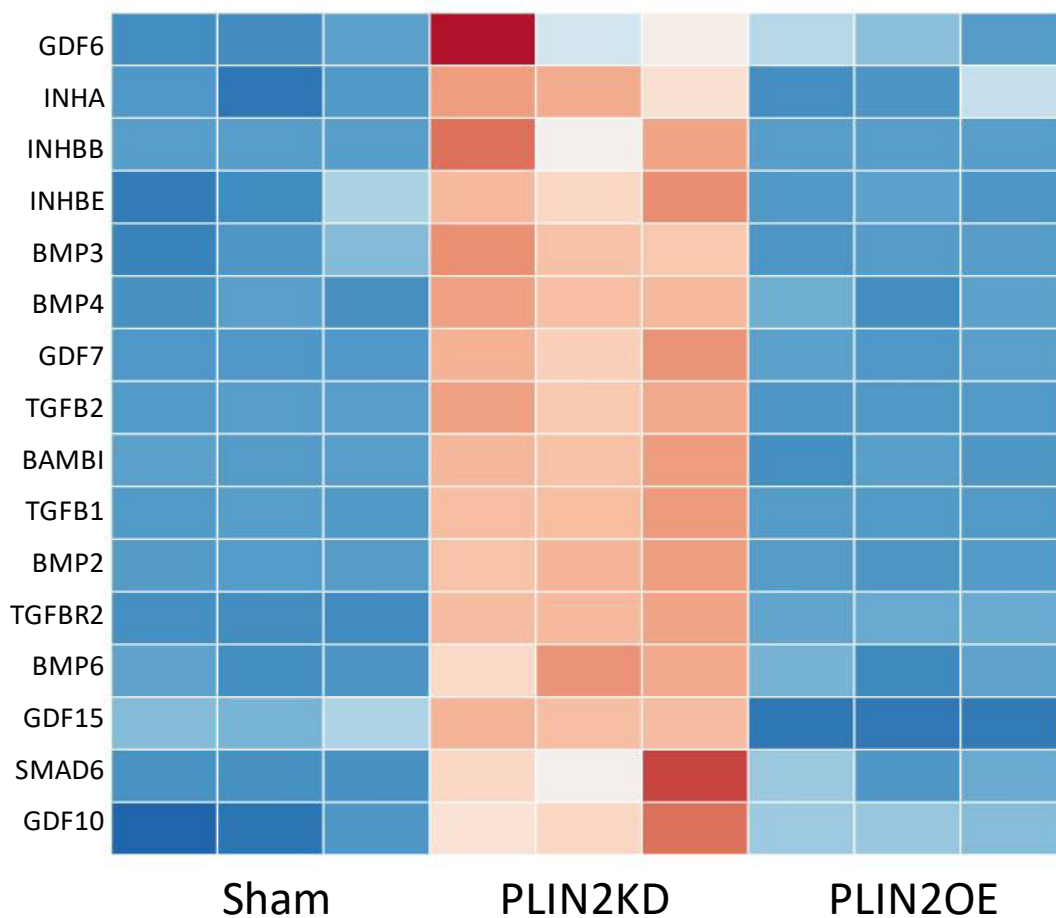
Reference

1. Igoillo-Esteve M, Marselli L, Cunha DA, Ladrière L, Ortis F, Grieco FA, Dotta F, Weir GC, Marchetti P, Eizirik DL, Cnop M. Palmitate induces a pro-inflammatory response in human pancreatic islets that mimics CCL2 expression by beta cells in type 2 diabetes. *Diabetologia*. 2010 Jul;53(7):1395-405.
2. Taneera J, Lang S, Sharma A, Fadista J, Zhou Y, Ahlqvist E, et al. A systems genetics approach identifies genes and pathways for type 2 diabetes in human islets. *Cell Metab*. 2012 Jul 3;16(1):122–34.
3. Bunt M van de, Fox JEM, Dai X, Barrett A, Grey C, Li L, et al. Transcript expression data from human islets links regulatory signals from Genome-Wide Association Studies for type 2 diabetes and glycemic traits to their downstream effectors. *PLOS Genetics*. 2015 Dec 1;11(12):e1005694.
4. Gromovsky Anthony D., Schugar Rebecca C., Brown Amanda L., Helsley Robert N., Burrows Amy C., Ferguson Daniel, et al. Δ -5 Fatty Acid Desaturase FADS1 impacts metabolic disease by balancing proinflammatory and proresolving lipid mediators. *Arteriosclerosis, Thrombosis, and Vascular Biology*. 2018 Jan 1;38(1):218–31.
5. Wang Y, Xie T, Zhang D, Leung PS. GPR120 protects lipotoxicity-induced pancreatic β -cell dysfunction through regulation of PDX1 expression and inhibition of islet inflammation. *Clinical Science*. 2019 Jan 11;133(1):101–16.
6. Carbon S, Ireland A, Mungall CJ, Shu S, Marshall B, Lewis S, et al. AmiGO: online access to ontology and annotation data. *Bioinformatics*. 2009 Jan 15;25(2):288–9.

Supplemental Fig. 1

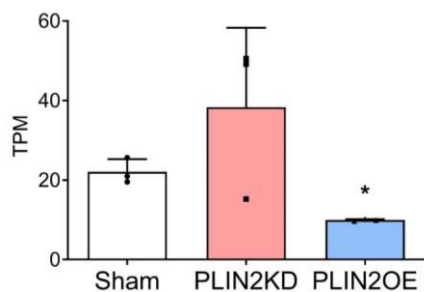
A)

TGF β /SMAD pathways

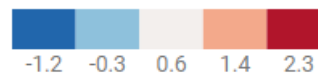


B)

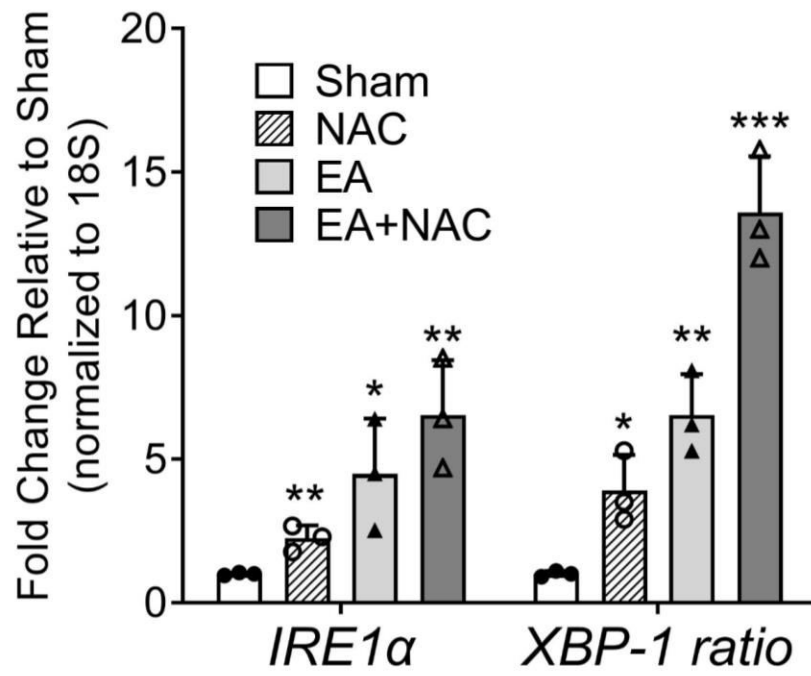
GDF15



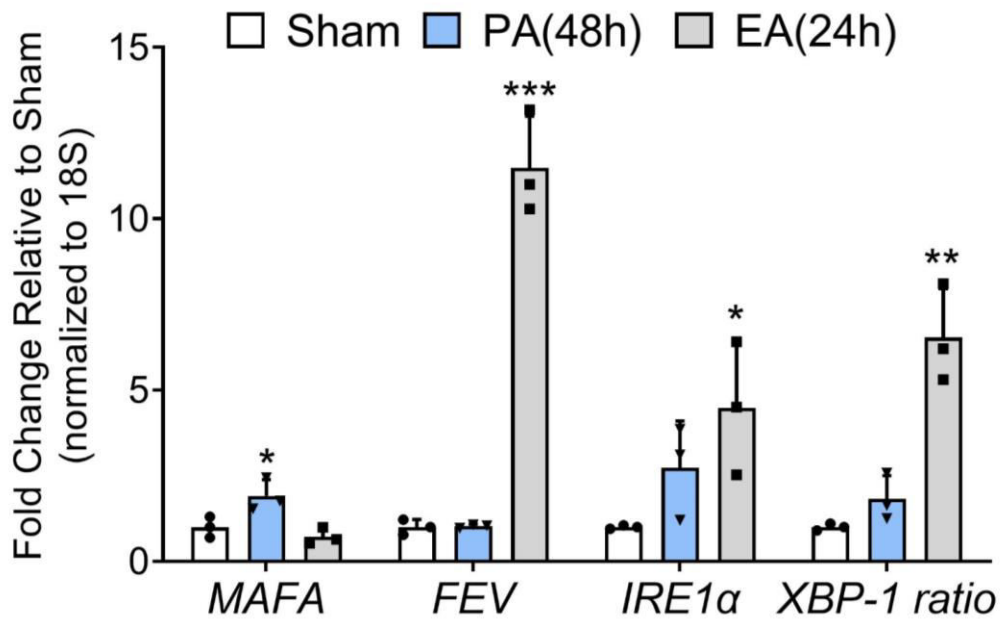
Row-wise Z-score



Supplemental Fig. 2

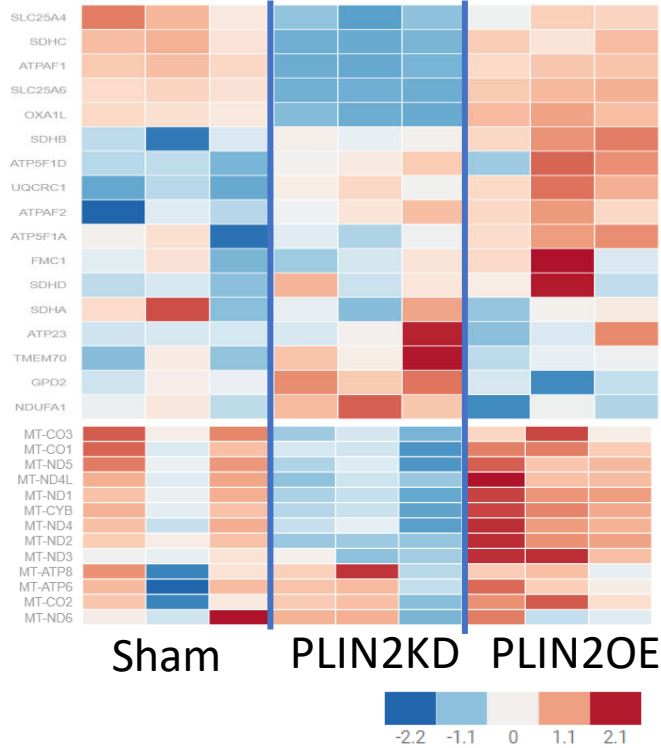


Supplemental Fig. 3

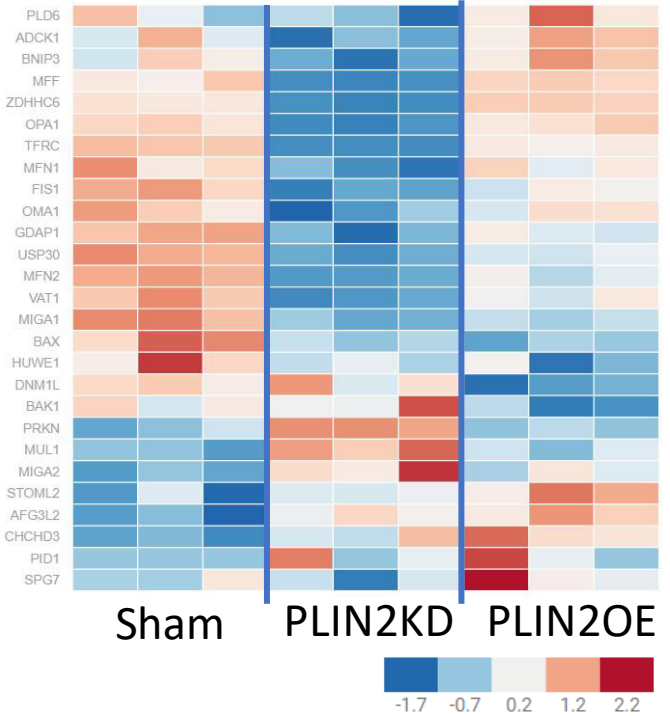


Supplemental Fig. 4

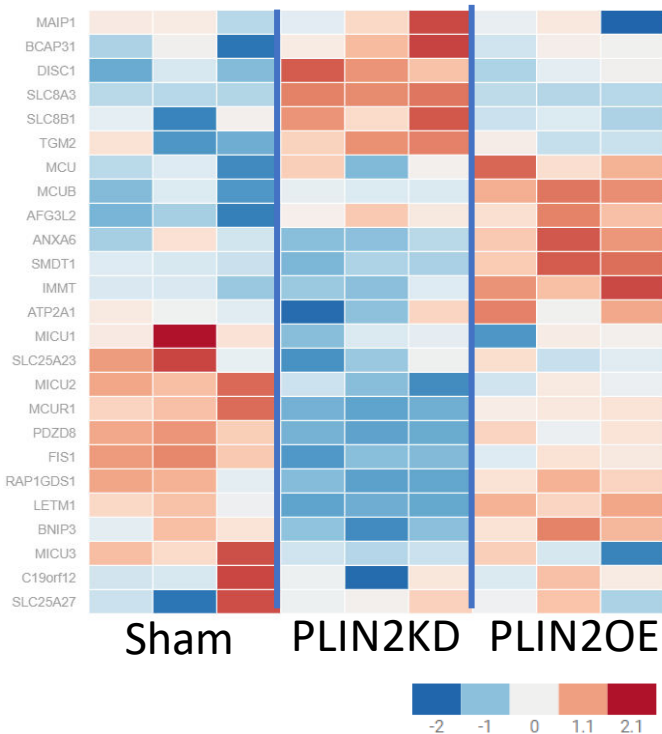
A) Electron transport chain and mitochondrial encoding genes



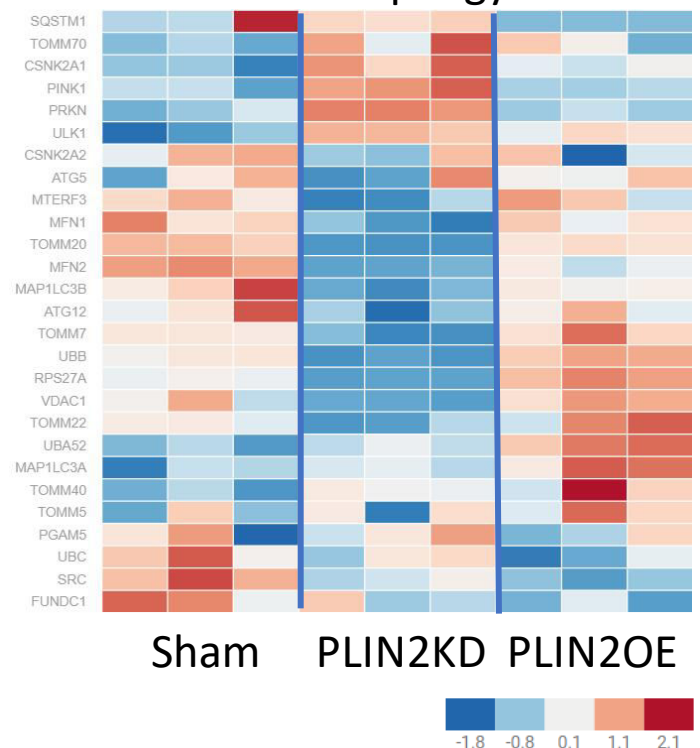
B) Fusion & Fission



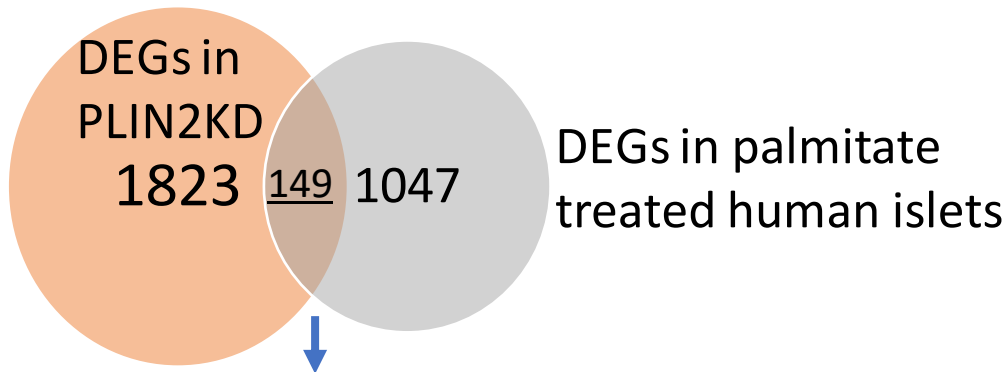
C) Mitochondrial ion balance



D) Mitophagy



Supplemental Fig. 5

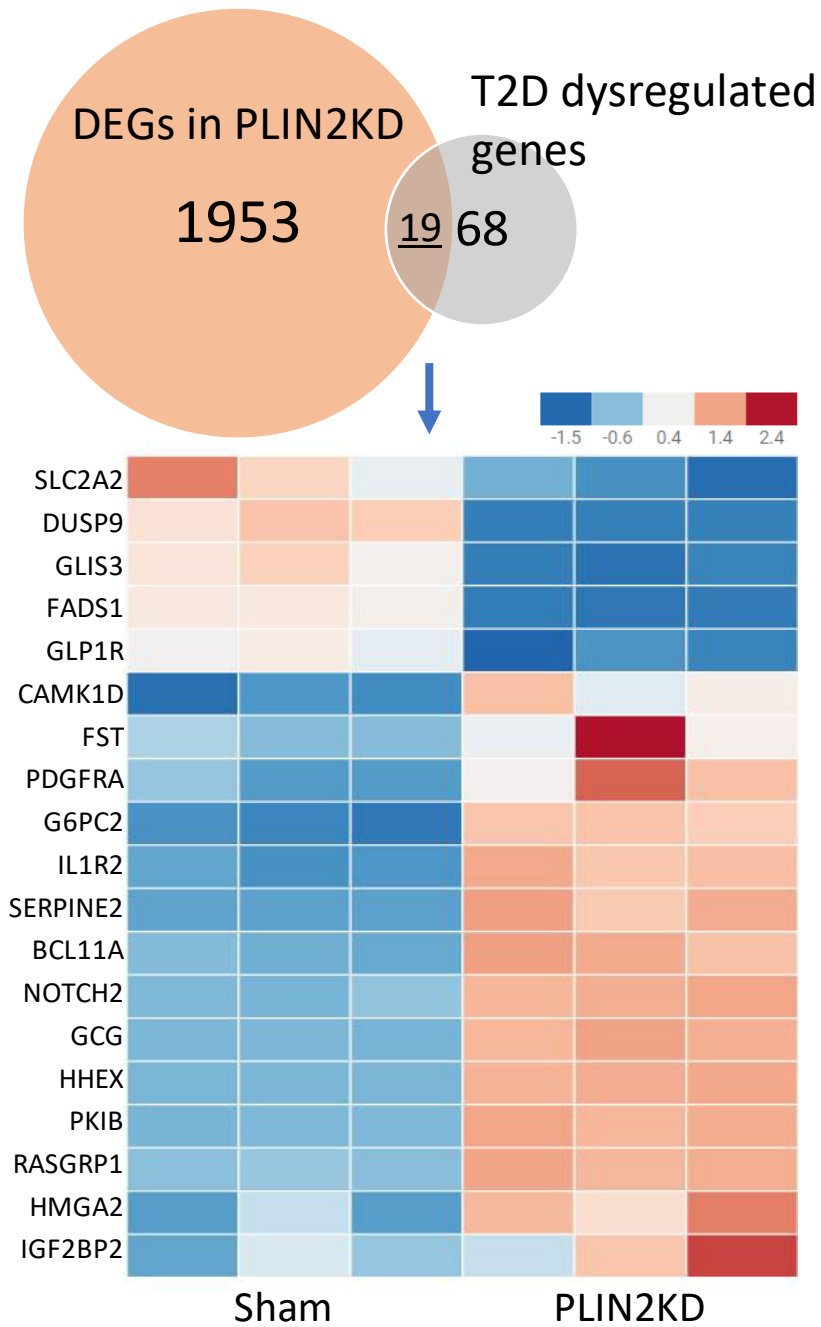


KEGG	P-value	Genes
Pathways in cancer	1.72E-04	NOTCH2;PTGER4;TGFB2;FOS;PLD1;FGF2;RASGRP1;AGT;SMO;LPAR6;MYC;FGF18;HMOX1
Ferroptosis	2.19E-04	ACSL1;HMOX1;SLC7A11;GCLM
MAPK signaling pathway	3.77E-04	DUSP4;TGFB2;DUSP3;MYC;HSPA6;FGF18;FOS;FGF2;RASGRP1
Legionellosis	7.51E-04	EEF1A2;HSPA6;CXCL1;TLR5
Breast cancer	8.25E-04	NOTCH2;SHC4;MYC;FGF18;FOS;FGF2
Neuroactive ligand-receptor interaction	9.95E-04	PTGER4;PYY;EDN3;LPAR6;LEPR;IAPP;ADM;GCG;AGT
Parathyroid hormone synthesis, secretion and action	0.001189	EGR1;CASR;MMP14;FOS;PLD1
Circadian rhythm	0.001563	BHLHE40;BHLHE41;NPAS2
Adipocytokine signaling pathway	0.001757	ACSL1;LEPR;PPARGC1A;PCK2
MicroRNAs in cancer	0.001836	NOTCH2;SHC4;TGFB2;MYC;DDIT4;HMOX1;SPRY2;VIM
PPAR signaling pathway	0.002272	FABP5;ACSL1;PLIN2;PCK2
cAMP signaling pathway	0.005176	PDE10A;EDN3;GCG;FOS;PLD1;MYL9
Gastric cancer	0.005203	SHC4;TGFB2;MYC;FGF18;FGF2
AGE-RAGE signaling pathway in diabetic complications	0.006675	EGR1;TGFB2;COL1A2;AGT
Insulin resistance	0.008716	PPARGC1A;PPARGC1B;AGT;PCK2
Renin-angiotensin system	0.012589	CTSA;AGT
Renin secretion	0.014838	PTGER4;EDN3;AGT
Maturity onset diabetes of the young	0.015938	IAPP;BHLHA15
PI3K-Akt signaling pathway	0.016991	COL1A2;LPAR6;MYC;DDIT4;FGF18;FGF2;PCK2
Vascular smooth muscle contraction	0.017153	EDN3;ADM;MYL9;AGT

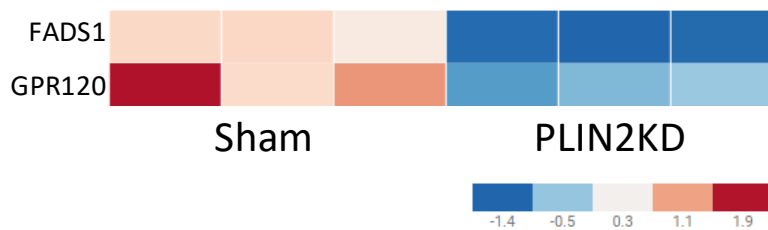
GO (biological process) Term	P-value	Genes
insulin-like growth factor II binding (GO:0031995)	1.39E-05	IGFBP1;IGFBP4;IGFBP6
hormone activity (GO:0005179)	3.64E-05	PYY;EDN3;VGF;GPNMB;GCG;AGT
insulin-like growth factor I binding (GO:0031994)	1.10E-04	IGFBP1;IGFBP4;IGFBP6
insulin-like growth factor binding (GO:0005520)	1.39E-04	IGFBP1;IGFBP4;IGFBP6
activating transcription factor binding (GO:0033613)	0.001665	MYC;BHLHE40;BHLHE41;FOS
MAP kinase phosphatase activity (GO:0033549)	0.001918	DUSP4;DUSP3
E-box binding (GO:0070888)	0.002047	MYC;BHLHE40;BHLHE41
G-protein coupled receptor binding (GO:0001664)	0.003213	PRKN;PYY;GPRC5B;ADM;GCG
fibroblast growth factor receptor binding (GO:0005104)	0.003465	FGF18;FGF2
protein homodimerization activity (GO:0042803)	0.004125	ERN1;TRIM9;CASR;TGFB2;STC2;BHLHE40;BHLHE41;AGR2;HMOX1;RASGRP1;ATF3;MGLL
transcription corepressor activity (GO:0003714)	0.004199	ZNF85;BHLHE40;BHLHE41;PBXIP1;MEIS2;ATF3
growth factor receptor binding (GO:0070851)	0.004978	ERN1;AGR2;TLR5;FGF2
transcription factor activity, RNA polymerase II core promoter proximal region sequence-specific binding (GO:0000982)	0.005081	TSHZ3;MYC;BHLHE40;BHLHE41;FOS;MEIS2;ATF3
RNA polymerase II activating transcription factor binding (GO:0001102)	0.00517	BHLHE40;BHLHE41;FOS
cytokine activity (GO:0005125)	0.006134	TGFB2;GDF15;TNFRSF11B;CXCL1;FGF2
transcription regulatory region DNA binding (GO:0044212)	0.007055	PRKN;EGR1;MYC;BHLHE40;BHLHE41;FOS;ATF3;NPAS2
bHLH transcription factor binding (GO:0043425)	0.01155	BHLHE40;BHLHE41
ligand-dependent nuclear receptor transcription coactivator activity (GO:0030374)	0.012639	FGF2;PPARGC1A;PPARGC1B
carboxy-lyase activity (GO:0016831)	0.015938	DDC;PCK2
Hsp70 protein binding (GO:0030544)	0.01713	PRKN;ERN1

Supplemental Fig. 6

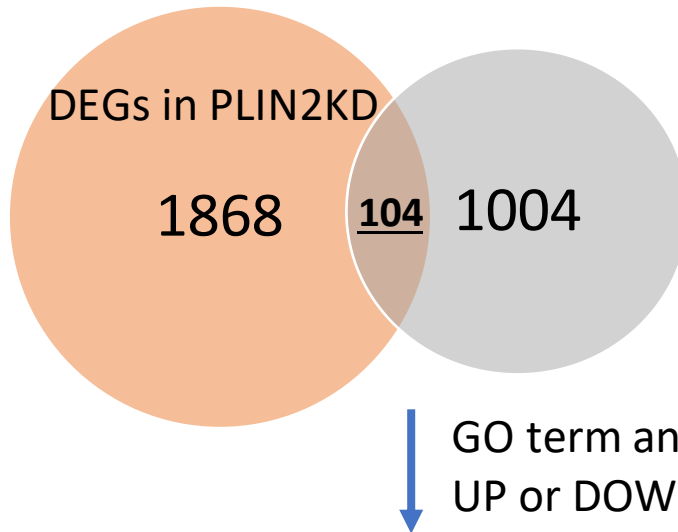
A)



B)



Supplemental Fig. 7



Master gene list including genes involved in:

- LD homeostasis
- Lipid metabolism
- Phospholipid metabolism
- Lipase

rank	Top 10 GO term (biological process) on UP regulated DEGs in P2KD	P value
1	phospholipid transport (GO:0015914)	3.75E-13
2	regulation of phosphatidylinositol 3-kinase activity (GO:0043551)	1.39E-09
3	phosphatidylcholine metabolic process (GO:0046470)	4.75E-09
4	cholesterol transport (GO:0030301)	8.60E-09
5	positive regulation of phosphatidylinositol 3-kinase activity (GO:0043552)	2.12E-08
6	lipid transport (GO:0006869)	2.74E-08
7	positive regulation of lipid kinase activity (GO:0090218)	3.21E-08
8	positive regulation of phospholipid metabolic process (GO:1903727)	3.90E-08
9	regulation of lipid metabolic process (GO:0019216)	5.29E-08
10	high-density lipoprotein particle remodeling (GO:0034375)	2.98E-07

rank	Top 10 GO term (biological process) on DOWN regulated DEGs in P2KD	P value
1	glycerophospholipid biosynthetic process (GO:0046474)	3.08E-07
2	fatty acid catabolic process (GO:0009062)	4.38E-06
3	long-chain fatty acid transport (GO:0015909)	1.01E-05
4	phosphatidylinositol biosynthetic process (GO:0006661)	2.25E-05
5	phosphatidylinositol metabolic process (GO:0046488)	3.8E-05
6	fatty acid homeostasis (GO:0055089)	0.0001
7	long-chain fatty acid metabolic process (GO:0001676)	0.000111
8	carnitine shuttle (GO:0006853)	0.000153
9	fatty acid transmembrane transport (GO:1902001)	0.000153
10	lipid biosynthetic process (GO:0008610)	0.000247

Supplemental Tables and Legends

Supplemental Table 1. Primers and antibodies used in qPCR or immunoblotting

Supplemental Table 2. Differentially expressed genes in PLIN2KD cells

The 1972 differentially expressed gene (DEGs) ID, name and description of PLIN2KD cells were listed in alphabetical order. “Fold-change” was calculated as average TPM in PLIN2KD divided by average TPM in Sham. Log₂ (fold-change) were highlighted and average TPM in PLIN2OE were italic as a reference. TPM: Transcripts Per Million

Supplemental Table 3. Differentially expressed genes in PLIN2OE cells

The 285 DEGs ID, name and description in PLIN2OE cells were listed in alphabetical order. “Fold-change” was calculated as average TPM in PLIN2OE divided by average TPM in Sham. Log₂ (fold-change) were highlighted and average TPM in PLIN2KD were italic as a reference.

Supplemental Table 4. Pathway analysis of up or down regulated PLIN2KD DEGs

Kyoto Encyclopedia of Genes and Genomes (KEGG) pathway (Human 2019) and GO molecular function (2018) analyses of PLIN2KD genes was performed using the Enrichr online server on 1479 upregulated and 493 down regulated DEGs. Top 20 enriched pathways/molecular function terms were listed in ascending order of the p-value. DEGs included in each term were also listed. Highlighted terms were mentioned in the main text.

Supplemental Table 5. Pathway analysis of up or down regulated PLIN2OE DEGs

KEGG pathway (Human 2019) and GO molecular function (2018) analyses of PLIN2OE genes was performed using Enrichr online server on 237 upregulated and 48 down regulated DEGs. Top 20 enriched pathways/molecular function terms were listed in ascending order of the p-

value. DEGs included in each term were also listed. Highlighted terms were mentioned in the main text.

Supplemental Table 6. Top up and down regulated PLIN2KD genes

Top 20 most up or down regulated genes in PLIN2KD (readily detectable with average TPM>5) were listed in descending order of the absolute value of the log2 (Fold-change). “Fold-change” was calculated as average TPM in PLIN2KD divided by average TPM in Sham. Highlighted genes belong to pathways that were discussed in the main text.

Supplemental Table 7. Top up and down regulated genes in PLIN2OE genes

Top 20 most up or down regulated genes in PLIN2OE (readily detectable with average TPM>5) were listed in descending order of the absolute value of log2 (Fold-change). “Fold-change” was calculated as average TPM in PLIN2OE divided by average TPM in Sham. Highlighted genes belong to pathways that were discussed in the main text.

Supplemental Table 1

Gene	Forward 5'-3'	Reverse 3'-5'
GCG	CTGAAGGGACCTTTACCACTGA	CCTGGCGGCAAGATTATCAAG
HHEX	ACCCGACGCCCTTTTACATC	GAGAAGGCTGGATGGATCGG
SST	CGCTGTCCATCGTCCTG	GGGCATCATTCTCCGTCT
CHGA	TGACCTCAACGATGCATTTC	CTGTCCTGGCTCTTCTGCTC
GHRL	CAACGCCCCCTTTGATGTTG	CTGCTGGTACTGAACCCCTG
EXOC5	CTTCAGTAATCCAGAAACAGTCCT	TGCTCTGCATCGGACTTCCTAC
GLP1R	GGCTTGAGCACTTGACATC	GGCACTGCCATTTACCTGT
KCNJ11	TGTGTACACGATCCACTCCT	GTTCTGCACGATGAGGATCAGG
SNAP25	CGTCGTATGCTGCAACTGGTTG	GGTTCATGCCTTCTCGACACG
STX1A	GGAACACGCGGTAGACTATGT	CTGGAGTGGAGTGGCAGTTT
VAMP2	CTCCAAACCTCACCAGTAACAGG	AGCTCCGACAGCTTCTGGTCTC
MAFA	GGAACGGAGAACCAGTTCAACGT	TGAGCGGAGAACGGTGATTTCTAAGG
PDX1	TACTGGATTGGCGTTGTTTGTC	AGGGAGCCTTCCAATGTGTATGGT
NKX6.1	ATTCGTTGGGGATGACAGAG	CGAGTCTGCTTCTTCTTGG
NKX2.2	CCTTCTACGACAGCAGCGACAA	ACTTGAGCTTGAGTCCTGAGG
UCN3	CAGCCACAAGTTCATGGGGA	ATCTCTCCCGAGAGTGAC
SOX9	AGGAAGCTCGCGACCACTAC	GGTGGTCCTTCTTGCTGCAC
AMIGO2	GGTACTTCTGCTCCAGGATAGC	GTCTTGCTGTCACAGTGGACCA
DUSP6	CTCGGATCACTGGAGCCAAAAC	GTCACAGTGACTGAGCGGCTAA
FCGRT	GTCAAAAGTGGCGATGAGCACC	CGTGAGTAGCAAGACACCGATG
PBXIP1	GACTCTGATAATAGCTGGGTGCT	GTCCCTTCTCCATCCATGGTC
STC2	GCATGACTTTTCTGCACAACGCT	GGCTTATGCAGCCGAACCTGTG
FEV	CATTACCACTAGACGGGGCG	GATTGAGGGAGCTTCGGTCC
ATF4	GCTAAGGCGGGCTCCTCCGA	ACCCAACAGGGCATCCAAGTCG
BIP/HSP5A	TGACATTGAAGACTTCAAAGCT	CTGCTGTATCCTCTTACCAGT
CHOP/DDIT3	GGAGCATCAGTCCCCACTT	TGTGGGATTGAGGGTCACATC
PERK/EIF2AK3	AATGCCTGGGACGTGGTGGC	TGGTGGTGCTTCGAGCCAGG
DNAJB9	TCGGCATCAGAGCGCCAAATCA	ACCACTAGTAAAAGCACTGTGTCCAAG
IRE1/ERN1	TGCTTAAGGACATGGCTACCATCA	CTGGAACTGCTGGTGCTGGA
Total XBP-1	GGCATCCTGGCTTGCCTCCA	GCCCCCTCAGCAGGTGTCC
Spliced XBP-1	CGCTTGGGGATGGATGCCCTG	CCTGCACCTGCTGCGGACT
WFS1	TGAGGACCTGCCACTGCGTCT	GAAGATGAGCGCGTTGATGTGG
SERCA2b/ATP2A2	ACAATGGCGCTCTCTGTTCT	ATCACCAGGGGCATTATGAG
P21/CDKN1A	CCTGTCACTGTCTTGACCT	GCGTTTGAGTGGTAGAAATCT
IGFBP3	CGCTACAAAGTTGACTACGAGTC	GTCTTCCATTCTCTACGGCAGG
ID2	CGCATCCCACTATTGTCAGC	ATCAGAAGCCTGCAAGGACA
LAMC1	CTTCTGAGGACACTGGCAGG	CTTTGTACCGGCCCTTTTG
PLIN1	TGTGCAATGCCTATGAGAAGG	AGGGCGGGGATCTTTTCCT
PLIN2	TTGCAGTTGCCAATACCTATGC	CCAGTCACAGTAGTCGTCACA
PLIN3	TATGCCTCCACCAAGGAGAG	ATTCGCTGGCTGATGCAATCT
PLIN4	GGCACCAAGAACACTGTCTG	TCGTACCCATGACCATAGACTT
PLIN5	AAGGCCCTGAAGTGGGTTC	GCATGTGGTCTATCAGCTCCA
18S	GGATGTAAAGGATGAAAAATACA	TCCAGGTCTTACGGAGCTTGTT
Target protein	Host species	Manufacturer and catalog #
sXBP1	Rabbit	Proteintech; 24868-1-AP
Pan-Actin	Mouse	MilliporeSigma; MAB1501

Supplemental Table 2

Gene ID	Gene name	Log2(fold-change)	Average TPM in Sham	Average TPM in PLIN2KD	Average TPM in PLIN2OE
ENSG00000245105	A2M-AS1	3.012865719	0.12460112	8.324611328	0.47640881
ENSG00000240602	AADACP1	4.795163272	0	0.20105822	0.013474925
ENSG00000165029	ABCA1	1.766517312	1.364279519	3.404202956	2.231433114
ENSG00000167972	ABCA3	-1.308866068	67.10300456	17.69383034	73.63544689
ENSG00000198691	ABCA4	4.274029283	0.024080549	1.729928519	0.110322708
ENSG00000125257	ABCC4	-1.213142632	1.779345554	9.603918887	1.893291931
ENSG00000069431	ABCC9	3.751434874	0.031270584	0.453263936	0.031629089
ENSG00000118777	ABCG2	1.062018557	3.377453361	4.944101145	4.540040669
ENSG00000172350	ABCG4	1.605523148	0.292247989	0.705847189	0.364527716
ENSG00000143921	ABCG8	2.125466902	0.074618614	2.516241852	0.159264508
ENSG00000114786	ABHD14A-ACY1	2.868078234	0.005019864	0.338454682	0.00643356
ENSG00000229107	ABHD17AP4	1.046924482	5.559573457	7.222502234	6.049422639
ENSG00000140526	ABHD2	-1.160133808	60.23747818	17.93476665	71.44479063
ENSG00000173210	ABLIM3	1.956058621	0.017087596	4.229576903	0.017001287
ENSG00000278727	AC000403.1	1.13374155	1.800621603	11.16732415	1.554481062
ENSG00000274898	AC001226.1	1.979866466	0.909683583	2.273610682	2.083181627
ENSG00000248636	AC002070.1	4.244277406	0	1.620496735	0.061765895
ENSG00000265975	AC002091.1	-1.589810814	4.72164006	2.092460328	4.172180876
ENSG00000266389	AC002091.2	-1.753775625	5.468794911	1.199148539	5.030607688
ENSG00000231170	AC002451.1	4.334843559	0.08658557	2.071690466	0.142182371
ENSG00000284130	AC002472.3	2.050967779	0.807179539	2.444292985	1.698266941
ENSG00000232759	AC002480.1	2.903998468	0.39500518	2.430574601	0.554426119
ENSG00000232949	AC002480.2	4.128380617	0	1.738952833	0
ENSG00000271133	AC004130.2	2.286396307	0.38674623	2.214338215	0.553937335
ENSG00000263571	AC004147.2	-1.432087365	1.134598122	1.055925433	0.767210415
ENSG00000272079	AC004233.2	1.200117325	16.48153541	24.61424586	24.58921818
ENSG00000281530	AC004461.3	-1.384098399	4.23999504	1.548045919	1.655809406
ENSG00000285081	AC004593.1	3.891359957	0.130015489	14.68759875	0.118454819
ENSG00000272768	AC004854.2	1.473750581	3.094213603	5.743538009	4.055707262
ENSG00000272812	AC004908.2	1.190346985	5.237415205	8.894777948	6.553463541
ENSG00000230882	AC005077.4	2.262992901	0.487693778	4.126968233	0.245534891
ENSG00000274712	AC005332.4	1.20410917	18.59803398	29.60178284	22.80476176
ENSG00000259065	AC005520.4	1.106675758	2.13674575	3.675811276	2.413351934
ENSG00000235852	AC005540.1	2.76552293	45.35880011	207.1559759	63.08332307
ENSG00000267131	AC005746.2	1.517956592	6.185327386	14.36894259	9.906857887
ENSG00000247011	AC005920.1	1.161665508	1.176439174	114.9956378	1.136166584
ENSG00000278627	AC005962.1	-1.342420138	5.539459332	6.553853203	4.011899204
ENSG00000231916	AC006033.1	1.521275991	3.538221274	7.635421848	3.692717208
ENSG00000255966	AC006064.3	1.13690649	5.116178347	8.720789503	6.525784983
ENSG00000278847	AC006157.1	1.363230581	3.598330898	9.374346379	3.636564639
ENSG00000236213	AC006369.1	1.272849393	86.14887045	140.7193666	113.6872903
ENSG00000275532	AC006449.2	3.182299946	0.284744858	4.650805987	0.121329775
ENSG00000277969	AC006449.7	1.126811072	6.645513034	76.49910234	8.928785445
ENSG00000261770	AC006504.1	1.064441339	1.73279041	3.422131471	1.457128099
ENSG00000258881	AC007040.2	-1.280253008	2.795492304	6.033108111	1.756154566
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ENSG00000270953	AC007938.3	-1.178017351	28.54711762	10.83354571	15.81706632
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ENSG00000285188	AC008397.2	1.437798082	0.657401349	5.836037352	1.308613084
ENSG00000260686	AC008669.1	-1.474854039	18.91155064	4.596089329	16.87485656
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ENSG00000271259	AC010201.1	1.838844276	1.421941047	8.923178145	0.90226817
ENSG00000271327	AC010201.2	1.589756093	1.165184672	2.539343353	1.392860492
ENSG00000277383	AC010331.1	1.209595607	9.519459409	14.78288789	7.032045464
ENSG00000271714	AC010501.2	1.593741956	0.938705753	2.99300644	1.664097221
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ENSG00000226180	AC010536.1	1.528054513	1.54073565	4.093833081	1.210805364
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ENSG00000268583	AC011466.1	-2.094837477	3.303491872	0.485973258	2.354893421
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ENSG00000227799	AC012358.3	1.120996955	8.498592779	12.65034917	7.940688892
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ENSG00000272267	AC021242.3	1.427453789	1.955280576	3.317033354	2.152994786
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ENSG00000258302	AC025034.1	4.210246086	0	0.891228836	0.103389136
ENSG00000272382	AC025171.5	3.053905306	0.529403761	2.677605725	0.725129012
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ENSG00000271869	AC026979.2	1.081472303	17.27139474	22.97378024	24.93859053
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ENSG00000279146	AC063926.2	1.087112893	2.465583753	5.054661284	1.555858965
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ENSG00000254554	AC080023.1	3.104749519	0.266879405	6.89130322	0.305242764
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ENSG00000261226	AC092384.3	1.428258737	0.567417017	2.216555023	0.241484551
ENSG00000224593	AC092427.1	-1.284054328	4.364996913	1.579513947	0.914876362
ENSG00000230393	AC092667.1	3.417118172	0.081460872	1.337445338	0.300531354
ENSG00000239268	AC092691.1	4.98925813	0.386830617	8.544516737	0.428218028
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ENSG00000236412	AC092941.2	-2.676564648	2.414189219	0.42624217	1.591081269
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ENSG00000245293	AC096564.1	-1.360524843	2.475320751	0.622276299	1.624359509
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ENSG00000235024	AC097468.2	1.746248216	2.594271416	5.651185079	1.868744837
ENSG00000261220	AC103706.1	1.272977404	3.347921424	5.622713574	4.280157385
ENSG00000271938	AC103724.4	2.864400761	0.922874338	8.72213964	1.515018775
ENSG00000272431	AC104117.5	1.290138649	2.749569052	6.76946548	2.558415798
ENSG00000271862	AC104118.1	-1.486526644	3.237266367	2.056979581	2.315654332
ENSG00000271941	AC104184.1	2.370225149	0.675522136	4.581923777	1.183442939
ENSG00000233392	AC104809.2	-1.978633537	0.472592487	0.494895773	0.19441781
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ENSG00000279692	AC110285.6	2.667475958	5.760819665	37.11226186	7.298896441
ENSG00000273077	AC110609.1	1.850356505	2.315953723	5.682797243	1.014293509
ENSG00000253389	AC113133.1	2.426493678	1.095051531	16.78191753	0.596587703
ENSG00000272457	AC113194.1	6.708935325	0	6.857675059	0.391296363
ENSG00000246323	AC113382.1	-2.510663678	0.979443152	1.775437978	0.706785402
ENSG00000280422	AC115284.2	2.862954131	0.210445312	4.858275206	0.482363882
ENSG00000277511	AC116407.2	2.217488351	0.715852892	2.254841865	1.629163725
ENSG00000284727	AC116562.3	1.204893167	1.49801364	2.576360055	3.908182405
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ENSG00000279674	AC123769.1	-1.563945351	0.484047992	0.105882673	0.115704797
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ENSG00000262873	AC127496.5	2.569090825	0.220884678	3.188261268	0.292453025
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ENSG00000274370	AC130371.2	4.475142647	0.118903715	1.631082762	0.106736597
ENSG00000280182	AC131888.1	2.925091665	0.125980468	5.529096171	0.084478137
ENSG00000272710	AC133041.1	4.770966834	0	3.105642642	1.291231874
ENSG00000278716	AC133540.1	-1.646839141	11.75511006	2.325025473	12.28741876
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ENSG00000233836	AC139769.1	4.517651771	0	0.623874201	0
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ENSG00000223855	AC147651.1	1.779108022	0.197140129	14.10290279	0.382340893
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ENSG00000107796	ACTA2	3.240385595	0.684631733	6.753199961	0.332340127
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ENSG00000104755	ADAM2	4.777255016	0	0.305457769	0.004472224
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ENSG00000154734	ADAMTS1	4.901918508	0.187484702	3.683116745	0.465900344
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ENSG00000145536	ADAMTS16	-2.779894733	0.403969692	1.883114226	0.650159426
ENSG00000140873	ADAMTS18	2.227128545	0.042121484	4.848764616	0.077750523
ENSG00000156140	ADAMTS3	2.498692406	0.031720683	0.159808497	0.04294931
ENSG00000154736	ADAMTS5	1.431837836	60.49228584	107.1237911	68.22104112
ENSG00000136378	ADAMTS7	2.933763968	0.170142989	0.882908489	0.310987696
ENSG00000134917	ADAMTS8	2.394276472	0.28597634	54.82868657	0.543351598
ENSG00000164742	ADCY1	-1.639375969	174.6221145	36.94565133	133.3909901
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ENSG00000111452	ADGRD1	-1.454327585	0.595011403	1.978797993	0.614341395

ENSG00000256151	ADGRD1-AS1	-2.639190227	3.7902195	0.617595349	4.469961497
ENSG00000205336	ADGRG1	1.066558058	0.251013236	0.425330144	0.280079098
ENSG00000173698	ADGRG2	1.528953932	0.354607127	0.791081548	0.477257078
ENSG00000156920	ADGRG4	-1.430324979	0.460384877	0.296885409	0.278976564
ENSG00000159618	ADGRG5	-1.027215204	4.104397413	1.54376952	4.417135518
ENSG00000150471	ADGRL3	1.196372271	0.269641217	0.457907779	0.523925402
ENSG00000148926	ADM	1.864400765	1.366513146	4.018908631	2.43891044
ENSG00000128165	ADM2	1.57705995	19.0585057	37.28153423	16.77074127
ENSG00000169252	ADRB2	1.635761473	0.737459078	3.228375093	0.91387009
ENSG00000270076	AF131215.7	2.464116662	0.684811633	21.46691147	1.794938219
ENSG00000155966	AFF2	3.048605372	0.381097448	2.725723871	0.285627845
ENSG00000144218	AFF3	2.284852956	0.36268705	2.578091398	0.680899103
ENSG00000106541	AGR2	2.554682457	0.06744808	1.285614164	0.045263328
ENSG00000188157	AGRN	1.260308104	30.6848842	49.22221074	39.72752816
ENSG00000135744	AGT	1.80842616	4.170396197	9.550761361	6.574763639
ENSG00000129474	AJUBA	1.95955004	0.095654144	24.17109191	0.079941967
ENSG00000154027	AK5	1.577010361	0.240947444	5.56677809	0.382682274
ENSG00000228172	AL020996.1	1.027601785	1.90414111	2.676428979	2.016161693
ENSG00000236166	AL021408.1	4.320140903	0	0.802551513	0.346847523
ENSG00000228201	AL022341.1	1.042941483	24.28549254	31.97642044	23.17948289
ENSG00000216316	AL022722.1	1.187619822	6.344136591	10.41956992	6.078610105
ENSG00000275438	AL031008.1	1.696291501	1.405133297	21.58411887	1.497800458
ENSG00000272432	AL031432.3	3.322539429	0.299588329	5.7184032	1.641079278
ENSG00000272402	AL031775.2	-2.059164099	7.819207911	2.201384249	7.501300469
ENSG00000279930	AL032819.2	6.153688823	3.166575694	146.4642927	4.350971173
ENSG00000225129	AL035250.1	-2.105379415	4.777302321	1.357185261	7.065677258
ENSG00000205562	AL049775.1	5.218779722	0	75.03126924	0
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ENSG00000202343	AL078581.1	-2.185788453	23.91194055	4.266340068	19.80264331
ENSG00000258399	AL117190.1	-2.14192356	1.459596926	2.029556485	1.069291353
ENSG00000273759	AL117379.1	-2.122976889	2.763532449	1.693679658	1.583080912
ENSG00000268628	AL121761.1	1.312761038	5.519406212	9.295450996	4.512073019
ENSG00000275620	AL121827.2	2.025923723	0.430816944	1.391276315	0.140956777
ENSG00000273108	AL121929.3	1.33263912	19.89160556	36.94945632	22.16390169
ENSG00000258940	AL132639.2	-1.861214099	1.523848055	0.804350054	1.504392961
ENSG00000261120	AL133299.1	1.209869146	12.08120923	35.48600307	14.2305764
ENSG00000233492	AL133325.2	-1.352155997	9.274245922	2.437676598	11.70535024
ENSG00000227220	AL133346.1	2.23273975	0.705139021	10.92767859	1.554135211
ENSG00000260461	AL133355.1	-1.351936786	8.0918929	3.323099802	7.704643543
ENSG00000273783	AL136040.1	-1.366519752	17.627511	6.312592844	15.65428723
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ENSG00000261135	AL137802.2	2.004923046	0.501291566	3.882029307	0.715815987
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ENSG00000259775	AL138976.2	1.068499957	4.233270392	7.235080433	3.961736492
ENSG00000277763	AL138995.1	1.590588486	1.833221629	4.157421618	1.915041148
ENSG00000272449	AL139246.5	1.396557987	3.838853569	9.102345004	5.712907875
ENSG00000254718	AL157756.1	1.631299232	0.46730188	2.945349357	0.474232178
ENSG00000282787	AL157888.1	1.675017262	5.881194802	15.49753908	6.134978586

ENSG00000279513	AL157902.2	1.475298703	0.880510132	2.094577784	0.517796014
ENSG00000261671	AL158211.1	3.118072287	0.185653987	6.986209677	0.534576423
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ENSG00000274330	AL160191.3	4.278387852	0.031322661	1.034714622	0.029603296
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ENSG00000260475	AL353719.1	2.629208834	1.287165005	5.723688373	2.206318018
ENSG00000224764	AL353768.1	1.4758089	2.328518787	11.64425804	2.392640083
ENSG00000225339	AL354740.1	-1.136011582	1.345901497	2.604824978	1.284588205
ENSG00000225811	AL354771.1	4.312409756	0	2.589336189	0.304233558
ENSG00000278177	AL354811.1	1.144599164	17.33037231	25.43145993	14.62540758
ENSG00000258793	AL355102.4	-1.834029918	5.953958637	1.772511936	8.265578136
ENSG00000271551	AL355297.3	1.320368715	31.75810432	63.32292198	32.90781643
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ENSG00000226334	AL359182.1	2.692995303	0.861874115	4.60402948	0.781017493
ENSG00000258957	AL359317.2	-1.286763423	4.094106702	2.634709259	3.525055002
ENSG00000259834	AL365361.1	1.719054697	26.59116032	59.3176558	25.08432078
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ENSG00000284418	AL391117.1	3.01935425	0.227216953	30.20566415	0.294195227
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ENSG00000272842	AL391834.1	-1.459937499	11.13326267	3.679869105	8.856193343
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ENSG00000272320	AL445309.1	1.680967676	0.415430518	1.88037623	0.249738223
ENSG00000273062	AL449106.1	1.958402306	3.694804589	10.62418267	4.677051049
ENSG00000232590	AL451127.1	3.664620406	1.234550391	11.31960602	0.924108677
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ENSG00000260063	AL512408.1	1.269990201	3.150629601	10.05026698	2.381797681
ENSG00000229422	AL512625.2	1.037186836	45.62335718	64.3350021	42.89268412
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ENSG00000216809	AL589993.1	2.02201865	0.357452243	32.13288018	0.756000708
ENSG00000259357	AL590133.2	-1.693616613	5.947057857	4.404744548	6.920499903
ENSG00000279140	AL590326.1	1.672122764	17.41127203	34.39423139	20.61563179
ENSG00000233926	AL591368.1	1.557964465	0.730038251	1.73353911	0.745268381
ENSG00000233765	AL591479.1	1.308849821	2.406339022	24.84416181	4.807441132
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ENSG00000225643	AL606491.1	4.051751299	0.15041443	3.804560366	0.632926649
ENSG00000237372	AL606807.1	-1.606194136	5.095803078	1.972946697	3.112747192
ENSG00000235121	AL645504.1	-1.830809725	1.383992053	1.068097159	1.205164125
ENSG00000225173	AL662890.1	4.497132974	0	1.342800192	0.083168224
ENSG00000227766	AL671277.1	1.500289837	4.967754368	8.687088482	5.237763101
ENSG00000225936	AL731557.1	4.109425167	0	1.043896516	0.077068426
ENSG00000276742	AL731566.3	1.469601132	4.730634736	12.83553023	5.76051931
ENSG00000136010	ALDH1L2	2.035628924	0.286557809	1.017394539	0.23825859
ENSG00000108602	ALDH3A1	4.100538865	0	5.657894179	0.012089553
ENSG00000112294	ALDH5A1	1.172591497	13.08625724	19.92988217	14.98641665
ENSG00000119711	ALDH6A1	-1.375221593	12.82328844	3.266989926	12.52328658
ENSG00000171094	ALK	2.87337802	0.263213429	10.76498068	0.318268277
ENSG00000073331	ALPK1	1.537236826	0.027991583	1.66553712	0.040373622
ENSG00000162551	ALPL	1.24100511	0.522546887	1.474202059	0.371958784

ENSG00000139211	AMIGO2	1.349684293	27.20982328	44.68747837	35.93228153
ENSG00000166025	AMOTL1	1.991146616	2.732958468	7.583593642	5.241805127
ENSG00000114019	AMOTL2	-4.234734182	0.125913804	23.71525205	0.033545237
ENSG00000078053	AMPH	2.282446746	3.051899934	13.11520371	4.512744624
ENSG00000091879	ANGPT2	3.360519721	0.010533744	0.070997374	0.015174937
ENSG00000029534	ANK1	1.133729563	2.303442416	8.307356753	4.190795886
ENSG00000180071	ANKRD18A	1.387575524	1.802338011	3.207461064	3.087395989
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ENSG00000172014	ANKRD20A4P	1.695064282	0.125005635	1.753764276	0.219815468
ENSG00000180777	ANKRD30B	4.600757854	0	1.162954493	0.022735838
ENSG00000167612	ANKRD33	1.478785083	0.557011015	1.164215136	1.160055927
ENSG00000065413	ANKRD44	1.12975275	1.962210727	2.886861622	1.797328742
ENSG000000241859	ANOS2P	1.359320036	4.825582954	8.909288203	7.123225057
ENSG00000166825	ANPEP	1.021708076	1.505200068	3.273148818	2.17402722
ENSG00000169604	ANTXR1	3.691837863	0.168820402	5.281727095	0.892249262
ENSG00000163297	ANTXR2	5.49642528	0.043250567	2.455547728	0.038550423
ENSG00000104537	ANXA13	4.407664921	0	0.769611411	0.188797427
ENSG00000260583	AP000223.1	-1.649599155	5.559497869	1.67673689	5.143077974
ENSG00000227757	AP000282.1	2.353785023	1.727602275	5.689683944	2.24445265
ENSG00000227755	AP000344.1	3.368251697	0.09458393	1.346135638	0.513370778
ENSG00000254528	AP000757.1	-1.932570944	11.7933653	5.030759125	14.47580931
ENSG00000261098	AP000766.1	-1.200397652	4.412838966	1.602276367	3.099258167
ENSG00000245552	AP000787.1	1.004946887	0.888598946	2.122612601	0.84937214
ENSG00000266456	AP001178.3	-1.84367417	1.201700407	0.862036087	1.10928047
ENSG00000248027	AP001351.1	4.176159557	0.072246463	1.595416293	0.0665857
ENSG00000235023	AP001626.1	2.312594666	2.090414879	6.950444418	1.987676568
ENSG00000279117	AP001972.5	-2.15630178	22.74234203	3.864537718	22.34147506
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ENSG00000270179	AP002840.2	-1.570808455	3.997560019	2.541942823	4.265062317
ENSG00000255301	AP002893.1	1.633806431	1.733765794	3.969579967	2.728510998
ENSG00000279878	AP003108.5	-1.113662231	15.42150043	5.813568432	16.10115731
ENSG00000261578	AP003119.3	1.620644627	2.302940959	6.281521319	2.514549422
ENSG00000256196	AP003721.1	-1.039305698	176.2877584	58.16445004	137.3233695
ENSG00000279711	AP004782.1	1.434890345	0.362574219	3.225609523	0.447935542
ENSG00000279042	AP005242.4	1.439862486	0.917257764	29.66927897	1.580356667
ENSG00000081014	AP4E1	-1.146055796	11.31956288	3.650283754	9.570572431
ENSG00000034053	APBA2	1.028820009	0.233400743	1.239356212	0.348797793
ENSG00000115266	APC2	1.292058974	0.110813329	1.853697926	0.173534868
ENSG00000171388	APLN	-1.460743997	2.898689328	0.942028787	4.271096965
ENSG00000118137	APOA1	1.481863488	0.631943356	1.278960882	1.073142933
ENSG00000124701	APOBEC2	-1.873504096	3.619485838	1.099953316	3.848933357
ENSG00000130208	APOC1	1.896757524	0.284501427	1.135629809	0.636664295
ENSG00000143595	AQP10	1.879016067	0.834247352	2.167383959	0.81576637
ENSG00000165272	AQP3	1.67429341	12.38012935	26.35054063	11.79645311
ENSG00000047365	ARAP2	1.991499157	0.626417429	2.604164495	0.795871908
ENSG00000198576	ARC	2.906240812	0.181436408	13.98869523	0.143768324
ENSG00000137727	ARHGAP20	2.602769409	0.830957091	4.182594969	0.732842674
ENSG00000275832	ARHGAP23	1.937893468	0.099052476	0.636349667	0.110567081
ENSG00000165895	ARHGAP42	3.185445861	0.165923612	2.640977618	0.240274712

ENSG00000180448	ARHGAP45	4.019459457	0.001894459	0.16392241	0.008536242
ENSG00000258655	ARHGAP5-AS1	-1.04250321	45.79925603	15.15467309	36.03653278
ENSG00000047648	ARHGAP6	2.340291948	0.292429736	0.983666928	0.41431349
ENSG00000123329	ARHGAP9	3.579392319	0.027028431	7.548091804	0.012346622
ENSG00000111348	ARHGDIB	2.318932394	0.120819629	0.86104757	0.182584044
ENSG00000214694	ARHGEF33	-1.018566178	2.42655644	0.865192604	2.414341214
ENSG00000129675	ARHGEF6	3.622821308	0.021774932	0.411515615	0.015558082
ENSG00000196843	ARID5A	1.035275972	4.140021793	5.880226509	6.253398807
ENSG00000170540	ARL6IP1	-1.321800611	182.6695575	47.36753621	195.1433045
ENSG00000172995	ARPP21	2.278384816	0.01562538	2.94850235	0.018366816
ENSG00000137486	ARRB1	-1.875244612	16.91179951	27.85959156	15.85437903
ENSG00000105643	ARRDC2	1.731947393	0.324007526	0.722821824	0.212030617
ENSG00000113369	ARRDC3	1.069028176	9.104017663	13.69272366	5.276157475
ENSG00000141337	ARSG	1.470156365	0.21976967	0.803103746	0.278640742
ENSG00000180801	ARSJ	4.090183072	0.16147323	8.582655179	0.123035271
ENSG00000157399	ARSL	1.289428987	9.3947268	15.10679863	14.54066066
ENSG00000224060	ARSLP1	7.328460296	0.060849931	7.339983698	0
ENSG00000167311	ART5	4.681908278	0.013275072	7.914577151	0.103561741
ENSG00000102048	ASB9	-1.052522781	12.60058405	7.902799213	11.67499749
ENSG00000139352	ASCL1	4.086504685	3.929105984	42.70080571	4.931854648
ENSG00000183734	ASCL2	-1.314087264	281.263017	77.10533849	318.9720522
ENSG00000141505	ASGR1	1.225363283	0.442324109	24.14674673	0.553828067
ENSG00000161944	ASGR2	2.75312857	0.071157637	36.75276998	0.235757926
ENSG00000248498	ASNSP1	2.018551439	0.892072022	2.624112509	0.600770322
ENSG00000148219	ASTN2	1.410364327	1.967378482	3.581884338	1.881549054
ENSG00000226864	ATE1-AS1	1.435368958	6.46310803	12.931751	6.714576494
ENSG00000162772	ATF3	1.211368976	0.980800509	3.175326197	0.666554278
ENSG00000169136	ATF5	1.137048789	43.35227883	68.15936994	43.03074045
ENSG00000152348	ATG10	-1.093621013	8.508771136	3.535329068	7.943427781
ENSG00000172238	ATOH1	4.327929547	0	31.88984108	0
ENSG00000179774	ATOH7	1.629513982	5.378377994	11.75624496	7.452421414
ENSG00000129244	ATP1B2	2.852398273	4.382804997	21.07326641	4.286684414
ENSG00000069849	ATP1B3	-1.424602694	97.31391331	29.47159042	126.8379382
ENSG00000157087	ATP2B2	1.270436471	0.019704624	10.17791305	0.040400298
ENSG00000081923	ATP8B1	1.324193015	0.752875635	13.39922018	1.275022999
ENSG00000143515	ATP8B2	-1.37913469	199.4216876	50.31023728	199.407481
ENSG00000104043	ATP8B4	1.16478194	0.135855592	0.861352052	0.192948755
ENSG00000183778	B3GALT5	1.982390376	0.261861735	26.12090905	0.369487004
ENSG00000184809	B3GALT5-AS1	4.024510747	0.015580903	0.248823051	0.056229625
ENSG00000187676	B3GLCT	1.048527544	6.541303295	8.488210874	8.271535569
ENSG00000176383	B3GNT4	1.2878069	0.860767355	1.477180133	0.827757853
ENSG00000139044	B4GALNT3	1.408467555	11.77604153	25.99297758	16.44404091
ENSG00000233554	B4GALT1-AS1	-1.909614511	1.518609763	1.062625512	1.241423233
ENSG00000164929	BAALC	2.835253445	15.36113358	80.67288014	13.88902575
ENSG00000247081	BAALC-AS1	2.509272403	0.391579595	1.608042502	0.621949721
ENSG00000236939	BAALC-AS2	5.231681377	0.508927808	50.08418891	0.974350339
ENSG00000007516	BAIAP3	2.654620917	0.756721314	3.922236918	0.756658035
ENSG00000095739	BAMBI	3.025593717	2.260061982	18.80385819	1.739541897
ENSG00000153064	BANK1	1.422490297	0.187224741	1.841632673	0.309389365

ENSG00000179941	BBS10	-1.16433599	87.03418633	31.33853342	74.09997445
ENSG00000187244	BCAM	-1.148492483	384.1389165	116.7997511	430.2322841
ENSG00000060982	BCAT1	3.920971334	0.013451229	13.6496505	0.033604792
ENSG00000119866	BCL11A	1.45282394	0.676266661	55.60239403	0.773628728
ENSG00000171791	BCL2	3.093944736	0.234530524	1.318194196	0.243816828
ENSG00000126453	BCL2L12	1.612095381	1.383654508	3.378031157	1.733642353
ENSG00000176697	BDNF	2.972001064	0.046455833	0.957753344	0.089943609
ENSG00000245573	BDNF-AS	-1.189535583	1.443250873	1.781280782	1.14085982
ENSG00000188848	BEND4	1.298540004	0.196293113	0.438783431	0.187044634
ENSG00000151917	BEND6	2.013865755	0.114726065	0.50430266	0.057300214
ENSG00000184515	BEX5	1.245124795	4.22494377	6.851778316	6.144488151
ENSG00000182492	BGN	5.097592435	0.016936238	0.491786186	0.030961582
ENSG00000180535	BHLHA15	1.328046637	6.241030675	13.44566761	6.612026344
ENSG00000180828	BHLHE22	3.814072799	1.10597878	10.49383432	2.081110634
ENSG00000134107	BHLHE40	3.021034265	3.030430906	21.5995741	5.40539948
ENSG00000123095	BHLHE41	2.989828294	0.059054195	5.420293895	0.063043596
ENSG00000132840	BHMT2	1.141836091	0.894435369	9.228433965	0.834977944
ENSG00000023445	BIRC3	-6.165082507	10.42018447	0.168160085	0.144706032
ENSG00000125845	BMP2	3.329680761	5.688195534	37.02159049	5.184149415
ENSG00000152785	BMP3	3.222837975	0.092853615	0.6707181	0.083597429
ENSG00000125378	BMP4	1.485262484	4.333331281	28.15389228	4.625646431
ENSG00000153162	BMP6	2.569607213	0.74862983	3.1341707	0.881970634
ENSG00000164619	BMPER	4.450753566	0.023898343	4.247993207	0.020197217
ENSG00000152430	BOLL	2.922475237	0.044874297	1.734120109	0.099081664
ENSG00000185515	BRCC3	-1.115700994	21.36982799	6.569908614	20.85718319
ENSG00000162670	BRINP3	1.21832453	105.5275936	161.0174272	121.7938588
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ENSG00000124557	BTN1A1	7.344540845	0	82.02153908	0.012636323
ENSG00000124508	BTN2A2	3.092400598	0.886896168	32.73570673	1.187720565
ENSG00000124549	BTN2A3P	2.245841416	0.632953519	2.386096213	0.962952471
ENSG00000186470	BTN3A2	1.138538881	0.395430137	3.127825735	0.444723217
ENSG00000111801	BTN3A3	1.186751577	0.139934032	1.213712014	0.191832248
ENSG00000240240	BX664727.3	1.044167001	0.799483291	1.478376685	1.015577177
ENSG00000154493	C10orf90	1.394026315	0.109834298	0.300888117	0.17136714
ENSG00000137720	C11orf1	-1.013911711	11.70403388	4.19655137	10.21244111
ENSG00000150750	C11orf53	5.646984417	0.025927969	0.837146976	0
ENSG00000187479	C11orf96	6.326005458	0	2.639924269	0
ENSG00000186073	C15orf41	-1.449544289	1.622465274	0.940156137	1.466130057
ENSG00000166920	C15orf48	1.398881613	1.420106394	2.923615829	1.759440065
ENSG00000173372	C1QA	-1.942406831	0.962425301	1.980128829	1.425817142
ENSG00000165985	C1QL3	-1.60254728	48.24229814	86.06002979	55.62528669
ENSG00000182795	C1orf116	2.200493939	104.4490393	18.68900863	80.77757989
ENSG00000175262	C1orf127	1.455095469	0.243654611	45.3217184	0.355046157
ENSG00000221953	C1orf229	1.450991605	0.246427652	9.919992167	0.134666169
ENSG00000166278	C2	1.843684143	0.042082768	0.110691664	0.036707541
ENSG00000149609	C20orf144	1.414355452	0.916539537	1.659978883	1.409578234
ENSG00000157617	C2CD2	-1.082260159	0.452476701	0.205873451	0.543924083
ENSG00000225556	C2CD4D	2.222023221	0.859517301	3.300490596	1.957540725
ENSG00000234614	C2CD4D-AS1	1.404251798	22.24923069	39.76946086	17.55614408

ENSG00000187699	C2orf88	1.852946383	0.725097658	3.406872558	1.051276293
ENSG00000187068	C3orf70	1.194787951	33.81125617	69.40498208	31.97524195
ENSG00000106804	C5	2.144484974	21.12557796	61.68051646	24.61624298
ENSG00000197261	C6orf141	1.451743295	0.172632623	25.82655737	0.437314342
ENSG00000112936	C7	4.666756125	0.974141153	47.17558104	0.995773139
ENSG00000196366	C9orf163	1.429020985	1.62977652	2.780844925	1.545823527
ENSG00000135045	C9orf40	1.65545516	12.35874563	35.28132279	17.16300356
ENSG00000063180	CA11	1.025215957	10.57864674	16.17349123	11.22412206
ENSG00000074410	CA12	2.114514452	0.055787422	11.79924816	0.169816557
ENSG00000169239	CA5B	-1.519820498	3.235065111	7.569708466	2.552520277
ENSG00000134508	CABLES1	-1.045478179	5.540483361	1.770072998	4.786181815
ENSG00000175544	CABP4	2.098376055	0.150000864	0.749636338	0.190170053
ENSG00000158966	CACHD1	-1.322650194	5.239142597	2.36616597	5.038349738
ENSG00000141837	CACNA1A	1.083546971	0.737210085	1.281825001	1.161056531
ENSG00000198216	CACNA1E	-1.096929958	1.848819454	1.220939319	1.595704591
ENSG00000157445	CACNA2D3	-1.686618391	0.165174443	0.513254189	0.103674109
ENSG00000175161	CADM2	2.341818394	0.1622738	0.793562203	0.217039652
ENSG00000162706	CADM3	2.96150332	0.507987817	2.712480389	1.404142173
ENSG00000270419	CAHM	1.708516439	3.240043714	6.745606872	4.509453726
ENSG00000110680	CALCA	4.776740443	0	1.294219596	0
ENSG00000175868	CALCB	2.588471584	0.354366869	5.342387555	0.299989193
ENSG00000004948	CALCR	4.68277657	0.058801011	1.045595897	0.068603069
ENSG00000064989	CALCRL	3.961850068	0.042825897	1.211331029	0.042146705
ENSG00000183128	CALHM3	2.835542422	0.171493937	1.189317039	0.438533656
ENSG00000183049	CAMK1D	1.415629807	0.299564879	0.746715763	0.774141233
ENSG00000145349	CAMK2D	-1.31907631	22.90462024	6.351019054	23.11589105
ENSG00000163888	CAMK2N2	1.3355216	20.03815467	32.8387734	41.48105803
ENSG00000112186	CAP2	1.238035994	0.700190537	4.282930554	0.892366063
ENSG00000042493	CAPG	1.733314666	0.73844479	18.97276539	1.076110658
ENSG00000164305	CASP3	-1.393837007	17.89823606	4.974469578	19.08217959
ENSG00000196954	CASP4	1.062680446	0.301564423	1.361378875	0.214923355
ENSG00000165806	CASP7	1.559338874	0.432675819	3.2064958	0.519212816
ENSG00000036828	CASR	-1.193575497	77.24792621	22.18084902	79.86959777
ENSG00000160200	CBS	2.268986136	0.363409545	1.499155631	0.483616806
ENSG00000274276	CBSL	2.076240268	0.690576007	13.17920319	0.794817834
ENSG00000183287	CCBE1	5.025898718	0.099978073	2.745732186	0.406446204
ENSG00000105479	CCDC114	4.366067372	0.007576407	1.128061834	0.079066123
ENSG00000128596	CCDC136	1.271758567	0.487295195	1.858477992	0.662089155
ENSG00000144395	CCDC150	2.227740812	1.521563588	4.763491597	3.092579189
ENSG00000120262	CCDC170	2.636660514	0.088275623	0.773031321	0.128952701
ENSG00000228544	CCDC183-AS1	1.043322134	8.952286789	14.63903284	12.94755765
ENSG00000260220	CCDC187	-1.210239694	0.234239888	0.223679837	0.456787516
ENSG00000140481	CCDC33	-1.211570354	5.544778639	7.484138918	4.425173318
ENSG00000165972	CCDC38	1.503033143	0.167225193	0.316599542	0.144551188
ENSG00000253276	CCDC71L	1.901394659	5.862488976	15.01168065	7.280610452
ENSG00000205476	CCDC85C	-1.965263517	28.24964187	4.884120215	32.98705461
ENSG00000115009	CCL20	-22.46188546	2.967713822	7.343181951	0
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ENSG00000170458	CD14	3.233384988	0.126727441	3.894589721	0.333533899
ENSG00000120217	CD274	1.410785839	0.425872051	2.393159952	0.472976911
ENSG00000135218	CD36	2.147806558	0.101491029	0.703961965	0.071419034
ENSG00000254126	CD8B2	-3.02296494	0.223603395	0.390578779	0.423744297
ENSG00000010278	CD9	-1.267359139	0.283268436	0.221960227	0.457599881
ENSG00000040731	CDH10	1.929471636	2.739272431	6.647382927	3.537074817
ENSG00000166589	CDH16	-1.30057843	4.21670042	1.07229992	9.484052678
ENSG00000107736	CDH23	1.281327952	1.980872269	6.788481623	3.938360004
ENSG00000081138	CDH7	1.868432549	1.931786299	5.210048397	2.313704027
ENSG00000138395	CDK15	4.323481085	0.010227377	1.742445017	0.020637995
ENSG00000124762	CDKN1A	2.387539678	133.6668482	465.7650914	64.92046721
ENSG00000172216	CEBPB	1.390280702	99.68336012	168.5043716	74.83799051
ENSG00000277449	CEBPB-AS1	1.531189687	1.948632122	231.4856529	0.748718543
ENSG00000099954	CECR2	1.450821983	8.623698615	105.4478495	7.736720693
ENSG00000241832	CECR3	4.94593679	0	2.39222146	0.034055384
ENSG00000219073	CELA3B	4.366038018	0.026418244	8.13597148	0.023714931
ENSG00000161082	CELF5	1.174376162	0.450781264	0.78528962	0.305754595
ENSG00000205923	CEMP1	-2.015140561	1.389904164	0.452807903	0.602333102
ENSG00000111860	CEP85L	1.281256762	6.792415115	11.09500298	5.546027653
ENSG00000143418	CERS2	-1.578934107	228.2029019	49.514523	228.7495559
ENSG00000227617	CERS6-AS1	-1.000803939	0.879722618	5.810782508	0.742288621
ENSG00000171811	CFAP46	-1.080540144	0.552655097	26.14697614	0.740785018
ENSG00000231233	CFAP58-DT	1.386133382	2.373901163	4.185022654	1.808532484
ENSG00000089101	CFAP61	-1.115067223	0.226966556	0.139145629	0.196911476
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ENSG00000143375	CGN	1.057143553	15.43210149	20.84464903	20.26426912
ENSG00000128965	CHAC1	1.460288776	37.44371846	67.29264433	17.8719427
ENSG00000170004	CHD3	-1.482326995	17.33030008	14.96538819	13.56497399
ENSG00000016391	CHDH	-1.174041945	16.81426459	39.53938359	15.27637554
ENSG00000106069	CHN2	1.848094927	0.138758623	2.375911849	0.084554487
ENSG00000080644	CHRNA3	1.174081103	27.2776433	42.98958177	28.95545051
ENSG00000175344	CHRNA7	1.912154869	0.010001891	0.185147832	0.018120855
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ENSG00000108556	CHRNE	1.377623609	0.25826294	22.64847806	0.346399037
ENSG00000183196	CHST6	-2.156058554	1.911562007	0.516368524	1.738531951
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ENSG00000016490	CLCA1	4.128009008	0	7.198559382	0.008920179
ENSG00000112782	CLIC5	1.987119544	0.599073458	8.901133913	0.638442096
ENSG00000106665	CLIP2	-1.167079981	67.69741046	19.21191104	65.90970632
ENSG00000165959	CLMN	1.153879928	0.483526878	1.603027111	0.477267984
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ENSG00000140931	CMTM3	2.49670379	1.441510034	5.662564112	2.171971025
ENSG00000153551	CMTM7	2.30102765	0.584751719	7.12719572	0.964187201

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ENSG00000149972	CNTN5	1.048851311	0.06513378	15.04918896	0.05581731
ENSG00000106714	CNTNAP3	1.368799929	0.494554327	0.887467675	0.652138163
ENSG00000154529	CNTNAP3B	1.59576215	0.568642984	1.12438297	0.755465304
ENSG00000276386	CNTNAP3P2	1.00155479	2.477713494	3.559560396	2.449026145
ENSG00000155052	CNTNAP5	2.881187989	0.186961999	1.517995032	0.367862713
ENSG00000181924	COA4	-1.39459314	61.29068609	17.24385923	68.59527736
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ENSG00000187955	COL14A1	3.064457751	0.027100959	7.683357982	0.042763991
ENSG00000164692	COL1A2	5.179577707	0.082140663	11.13559345	0.174835164
ENSG00000124749	COL21A1	2.13199591	0.085163045	0.317698378	0.319802945
ENSG00000196739	COL27A1	1.384842732	10.18630527	18.79897132	18.91211322
ENSG00000139219	COL2A1	5.274356494	0	0.189954767	0.010128563
ENSG00000130635	COL5A1	1.019388136	5.067719256	15.39872139	7.622672837
ENSG00000196167	COLCA1	1.702645084	0.444928205	0.977536807	0.727929591
ENSG00000198756	COLGALT2	2.520035474	0.553845492	5.374101369	0.942263454
ENSG00000188243	COMMD6	-1.086632498	44.59831442	14.27192895	46.52653636
ENSG00000110880	CORO1C	-1.401430977	31.95537283	8.937209095	36.35270036
ENSG00000103647	CORO2B	4.443638469	0.029462967	7.341448647	0.025112798
ENSG00000124772	CPNE5	1.529733373	0.317260412	4.636079795	0.628722545
ENSG00000103381	CPPED1	-1.114460885	23.52955201	7.451766293	21.15196444
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ENSG00000270533	CR32285.1	1.274541566	0.726622284	4.598510728	0.858816072
ENSG00000284471	CR769775.2	4.410399148	0.016671617	0.555531368	0.04195315
ENSG00000177685	CRACR2B	1.185986029	0.106602466	0.778943281	0.199767427
ENSG00000157613	CREB3L1	1.47081722	0.884698461	1.762222924	0.526682709
ENSG00000147571	CRH	4.568853328	0.831209968	12.72255523	1.181522719
ENSG00000146215	CRIP3	2.645146826	0.071264597	1.126910316	0.25667557
ENSG00000214960	CRPPA	1.777125657	0.103331043	6.770348337	0.157878196
ENSG00000095713	CRTAC1	1.636159879	0.399051706	0.886165618	1.323316609
ENSG00000170275	CRTAP	1.674801416	11.47920123	23.9631502	16.38022862
ENSG00000172346	CSDC2	1.697517877	0.194680092	0.841879632	0.238103381
ENSG00000164796	CSMD3	4.910088091	0.003407489	12.34986649	0.006698774
ENSG00000175183	CSRP2	1.016586862	13.45145706	17.66407613	18.21697057
ENSG00000175315	CST6	1.099607783	3.384217052	4.96265723	4.464518565
ENSG00000234215	CT66	1.449021568	2.951816054	14.08244992	2.716980315
ENSG00000175215	CTDSP2	-1.154156611	120.7099504	37.49237027	102.6351732
ENSG00000164932	CTHRC1	3.109138738	3.178020111	21.60431013	4.722365539
ENSG00000064601	CTSA	1.03712268	127.5419545	190.0137959	147.5607324
ENSG00000164733	CTSB	-1.186744715	12.88629591	12.69879497	14.69912024
ENSG00000109861	CTSC	1.537428439	2.159879351	90.67840756	2.965148429
ENSG00000135047	CTSL	1.029261125	57.17879337	78.34785483	51.27729384
ENSG00000280913	CTSLP3	-1.958295062	2.785673068	2.536609647	2.115985914
ENSG00000233932	CTXN2	1.058870843	0.976214864	39.86491114	1.39728557
ENSG00000259417	CTXND1	6.706435201	0.010544292	1.097934728	0.025438527
ENSG00000154639	CXADR	-1.33423616	41.01249655	11.45724726	34.16833744
ENSG00000163739	CXCL1	-6.27036975	232.8164847	2.264359039	1.46196609

ENSG00000163734	CXCL3	-4.77786535	10.32456113	5.592935727	0.424059091
ENSG00000051523	CYBA	2.077889379	0.238005314	1.778816891	0.23369989
ENSG00000140465	CYP1A1	-1.536482089	11.66429648	2.671475844	9.598428429
ENSG00000232973	CYP1B1-AS1	-3.845013223	0.036869842	0.320077959	0.015934885
ENSG00000135929	CYP27A1	3.212977833	1.41839305	10.12414629	2.468159685
ENSG00000146233	CYP39A1	2.112826286	10.14423453	28.0480129	5.583730927
ENSG00000226562	CYP4F26P	1.813273264	0.41419907	4.970479572	0.306623442
ENSG00000186529	CYP4F3	2.016974563	0.059648728	15.4856393	0.219427634
ENSG00000197872	CYRIA	-1.138974127	1.040703379	1.021849833	1.425326909
ENSG00000152207	CYSLTR2	2.728887087	0.049703972	0.294326837	0.10169442
ENSG00000173406	DAB1	1.464159574	1.519541281	2.860244447	2.039831265
ENSG00000153071	DAB2	3.614026588	0.021836603	0.27718036	0.066669958
ENSG00000165617	DACT1	1.1770378	0.795481593	2.650307545	1.561704425
ENSG00000187323	DCC	1.573696734	1.388463351	2.879310117	3.533571063
ENSG00000133083	DCLK1	4.444567441	0.01617286	0.789609741	0.025986832
ENSG00000163673	DCLK3	2.028250612	0.52282636	2.668521389	0.681972103
ENSG00000232093	DCST1-AS1	1.033126361	3.350986419	5.054479766	5.438748207
ENSG00000077279	DCX	-1.038532715	51.28220301	17.07237702	35.05781756
ENSG00000132437	DDC	-1.026929386	34.66375192	13.07561877	39.14214817
ENSG00000168209	DDIT4	3.334456178	12.61119974	90.860591	11.10956415
ENSG00000145358	DDIT4L	4.015023141	0.121678267	6.654708848	0.11916196
ENSG00000229816	DDX50P1	-1.394075838	2.052112602	43.99887587	1.585598584
ENSG00000166153	DEPDC4	-1.33008632	1.303256251	1.198392751	1.033681471
ENSG00000165507	DEPP1	2.238317243	121.0339613	354.6940987	58.61968406
ENSG00000062282	DGAT2	-1.098895275	6.293265507	2.077158636	5.674502474
ENSG00000058866	DGKG	-1.228367858	10.60510299	212.8757942	9.813039625
ENSG00000157680	DGKI	3.777910539	0.005632941	1.014161599	0.015138479
ENSG00000162496	DHRS3	2.678136001	1.433816549	7.054577322	2.372156814
ENSG00000162946	DISC1	1.816025928	0.020967276	0.073618944	0.035555062
ENSG00000104371	DKK4	4.491721027	0.150715496	5.780046188	0.737406643
ENSG00000176124	DLEU1	-1.462209642	1.127840726	0.284982949	1.21842176
ENSG00000198719	DLL1	-1.112849043	5.135121439	2.263690077	6.785660085
ENSG00000176399	DMRTA1	1.34603425	16.69531317	27.31599467	14.98857905
ENSG00000167646	DNAAF3	2.625226544	0.05335133	1.302931546	0.086189096
ENSG00000007174	DNAH9	4.070985716	0.00485465	14.79660566	0.011478741
ENSG00000128590	DNAJB9	1.047636243	163.8188184	219.150908	133.9976193
ENSG00000178401	DNAJC22	5.469048076	0.318217086	9.102236651	0.306903726
ENSG00000150760	DOCK1	-1.074177161	75.22812648	138.532352	75.09303315
ENSG00000135905	DOCK10	-1.023416694	8.02935728	7.40763636	5.374061631
ENSG00000183784	DOCK8-AS1	1.285327783	6.008952924	21.38672967	9.30355969
ENSG00000167130	DOLPP1	-1.078407169	40.74493395	13.40335708	37.86191918
ENSG00000227855	DPY19L2P3	1.128179173	0.970617335	6.532768429	1.161275963
ENSG00000178904	DPY19L3	-1.161723181	7.577563687	9.225337012	6.891981423
ENSG00000113657	DPYSL3	1.177101418	0.382296532	1.248395336	0.422221674
ENSG00000151640	DPYSL4	2.111635521	1.378585614	5.018585553	3.597443565
ENSG00000136048	DRAM1	-1.431686812	10.43225311	2.73773843	6.428134582
ENSG00000149295	DRD2	1.092326642	0.327291031	2.374434717	0.439126654
ENSG00000102385	DRP2	2.573132542	0.009133664	1.421794562	0.014060729
ENSG00000134762	DSC3	3.981436288	0.037095093	0.567411539	0.063828639

ENSG00000046604	DSG2	-1.124581542	276.7168628	83.41258683	239.5006012
ENSG000000135144	DTX1	-1.162288903	26.92127803	8.195129993	30.61640062
ENSG000000178498	DTX3	-1.035012286	31.91259715	52.29886166	35.18202077
ENSG000000163840	DTX3L	1.138854045	3.4813539	8.996465909	4.467121541
ENSG000000110042	DTX4	4.036598304	0.015861054	5.138065957	0.02044074
ENSG000000111266	DUSP16	1.224813436	35.44024465	55.75716225	25.9533203
ENSG000000108861	DUSP3	-1.103643811	70.78118924	21.46692238	61.56498608
ENSG000000120875	DUSP4	1.229399833	41.78614575	92.55951156	29.67357451
ENSG000000139318	DUSP6	2.482024091	7.562477997	38.57646075	5.628910761
ENSG000000130829	DUSP9	-1.449662087	136.6885782	65.95816204	109.7451083
ENSG000000221818	EBF2	2.287043847	0.06675733	14.6391605	0.101693334
ENSG000000108001	EBF3	1.15969114	22.01580538	48.80781053	26.01050783
ENSG000000171551	ECEL1	3.193570933	4.568611641	27.80866137	6.24195361
ENSG000000244280	ECEL1P2	-1.711949758	1.643963116	16.79985126	1.300552836
ENSG000000106823	ECM2	3.161777765	0.025543764	13.68348821	0.007062312
ENSG000000158813	EDA	1.25607622	1.946571806	3.205513205	2.387017058
ENSG000000131080	EDA2R	2.187525163	0.177928151	0.687875288	0.112355898
ENSG000000124205	EDN3	4.13693942	0.015134629	1.745947457	0.090290671
ENSG000000224023	EDRF1-DT	-1.027538808	2.155830408	0.86391929	1.293520092
ENSG000000101210	EEF1A2	-1.592799799	239.361135	51.2252758	257.0358485
ENSG00000034239	EFCAB1	2.18210266	0.352791079	1.416509366	0.674264702
ENSG000000169242	EFNA1	1.663356913	0.614815842	28.40369123	1.016751153
ENSG000000243364	EFNA4	1.424073286	4.22068455	8.087751769	5.287556078
ENSG000000146648	EGFR	1.666542947	0.390704239	1.601639611	0.808641641
ENSG000000129521	EGLN3	1.367932271	0.327954594	4.25419879	0.428432988
ENSG000000120738	EGR1	1.389124881	55.67643445	101.7970034	22.15764333
ENSG000000135625	EGR4	2.492753623	1.196008938	4.449513481	1.671398782
ENSG000000243056	EIF4EBP3	-4.76099767	1.170501123	42.85033891	0.368472434
ENSG000000111145	ELK3	1.859624862	1.313986892	5.407838148	0.705733729
ENSG000000155849	ELMO1	4.145629208	0.019118004	0.232983872	0.007077679
ENSG000000062598	ELMO2	-1.114763859	54.47801566	18.11678646	56.18612813
ENSG000000110675	ELMOD1	1.695228863	0.529443141	1.194338895	0.422139209
ENSG000000180385	EMC3-AS1	1.556486919	12.53982577	32.64727413	16.90406477
ENSG000000066629	EML1	-1.83144294	11.53714689	2.678667898	11.57815783
ENSG000000171617	ENC1	1.389772328	1.767094681	15.34756445	1.581216727
ENSG000000138792	ENPEP	2.612865634	0.099881281	1.562692629	0.191326815
ENSG000000163378	EOGT	1.070088966	2.401555098	4.666229686	2.656780126
ENSG000000145242	EPHA5	4.408699388	0.025955549	0.531434927	0.019549674
ENSG000000250846	EPHA5-AS1	3.347148382	0.235606475	3.142857862	0.104956219
ENSG000000080224	EPHA6	2.930064089	0.023436164	0.309901743	0.106063697
ENSG000000070886	EPHA8	-1.257956989	18.23021782	5.898576225	11.39160239
ENSG000000182580	EPHB3	1.361513248	2.233113526	3.803157014	3.856938133
ENSG000000106123	EPHB6	4.235649023	0	2.572286973	0.002428904
ENSG000000172031	EPHX4	2.923002506	0.087865585	2.313290537	0.125339718
ENSG000000273604	EPOP	1.762533924	1.010327018	2.211481178	2.334804596
ENSG000000227070	EPS15-AS1	2.172371545	3.400790268	10.13925281	2.925666779
ENSG000000133106	EPSTI1	2.41443765	0.578978213	3.172126002	0.633896606
ENSG000000164308	ERAP2	1.447274751	0.105828176	5.239007158	0.146998438
ENSG000000204334	ERICH2	1.188461594	5.333403664	9.836382464	3.823319114

ENSG00000178965	ERICH3	1.863145956	0.058570514	0.258620066	0.122156652
ENSG00000177459	ERICH5	-1.057712877	2.771599505	4.083908873	1.963037133
ENSG00000178607	ERN1	3.662782791	12.24746821	99.96365944	8.186045874
ENSG00000213462	ERV3-1	1.463461459	2.999709059	5.840283694	2.83217016
ENSG00000158220	ESYT3	-1.119352518	0.919090886	53.73562407	0.971886546
ENSG00000157557	ETS2	-1.449428874	96.49346751	25.50298459	60.09125478
ENSG00000115363	EVA1A	4.75038938	0.130785142	2.352797975	0.485694531
ENSG00000110723	EXPH5	1.595873381	0.46327777	13.05387584	0.499288959
ENSG00000104313	EYA1	4.409246437	0.003003243	1.274314365	0.005556599
ENSG00000131187	F12	1.867822707	0.077099418	0.612044024	0.291078179
ENSG00000181104	F2R	1.547647146	0.428995611	0.843470544	0.694037928
ENSG00000117525	F3	1.042088217	6.200014367	8.670377698	8.522642743
ENSG00000198734	F5	2.104570179	0.127628861	0.825346173	0.13061295
ENSG00000185010	F8	1.139718255	0.221029815	4.39938399	0.347080632
ENSG00000103089	FA2H	-1.278744883	10.57241702	2.831800672	11.42151682
ENSG00000163586	FABP1	-1.28727969	0.919638243	0.434591668	2.745032646
ENSG00000164687	FABP5	2.255242869	5.036906727	16.88156461	9.110468846
ENSG00000149485	FADS1	-1.299823971	91.00229559	24.30362292	94.76328749
ENSG00000135472	FAIM2	1.037844902	3.806349112	13.39500705	4.693747858
ENSG00000248019	FAM13A-AS1	-1.483387937	0.587146732	12.44296402	0.346882199
ENSG00000148541	FAM13C	-1.071503576	1.599039142	3.176942799	1.132174134
ENSG00000170074	FAM153A	1.476493239	0.05482995	0.145665901	0.085731788
ENSG00000164142	FAM160A1	1.693844169	0.417103394	1.128854205	0.521249449
ENSG00000154319	FAM167A	-1.628632806	52.15537313	10.90012222	49.25708327
ENSG00000283597	FAM169B	1.355932766	0.283823682	0.909804698	0.381139615
ENSG00000148468	FAM171A1	1.186148452	20.10194089	35.17307173	24.18252159
ENSG00000104059	FAM189A1	3.527652927	0.345043682	2.90552925	0.259747471
ENSG00000204860	FAM201A	1.256387656	2.123104739	19.22063348	3.127997169
ENSG00000108950	FAM20A	2.508814731	0.056821234	1.505497738	0.159802821
ENSG00000005238	FAM214B	-1.010185383	2.937489728	2.620644492	2.552191816
ENSG00000235118	FAM237A	3.868437421	0.056766693	0.75467321	0.318905242
ENSG00000228055	FAM245A	-1.228334341	9.956058013	3.238077784	7.230841696
ENSG00000231527	FAM27C	3.026294968	0.113100789	0.876659382	0.065635238
ENSG00000185112	FAM43A	1.521043666	5.816802441	12.26214946	5.214586735
ENSG00000183114	FAM43B	-2.24120489	5.602041506	1.055086379	9.552996347
ENSG00000158483	FAM86C1	-1.282295538	3.241385543	6.522675295	3.260073399
ENSG00000171084	FAM86JP	-1.007067681	2.26610217	1.180314391	2.08662479
ENSG00000182118	FAM89A	1.301918103	5.454283297	8.992244802	8.737719433
ENSG00000283486	FAM95C	2.161412867	0.154119026	0.845919576	0.245618526
ENSG00000083857	FAT1	3.201075957	0.419856434	7.411504545	0.733738541
ENSG00000165323	FAT3	2.192077587	0.085124794	0.442965499	0.102226792
ENSG00000196159	FAT4	1.701629185	5.501325683	13.04491068	4.752271171
ENSG00000166147	FBN1	1.626564342	0.436831335	1.03435689	0.610697853
ENSG00000183580	FBXL7	1.084917133	4.986313433	12.7580952	7.282990438
ENSG00000116661	FBXO2	-1.456688985	22.06715013	5.611588996	18.76102365
ENSG00000163497	FEV	5.917420466	1.859943975	75.65375937	1.743479276
ENSG00000186188	FFAR4	-1.319436346	0.791837867	2.947627348	0.331552333
ENSG00000171564	FGB	-1.80689622	0.831385123	38.48202747	0.484306339
ENSG00000127084	FGD3	1.490286758	0.312540519	0.724062846	0.309972497

ENSG00000156427	FGF18	-1.788799553	237.9293097	45.72513173	156.6987423
ENSG00000138685	FGF2	1.037349182	6.598826677	8.946662009	6.338709159
ENSG00000219693	FGF7P8	1.645206231	2.863339983	28.61339305	3.527949217
ENSG00000107831	FGF8	4.912941679	0	4.798576463	0
ENSG00000174721	FGFBP3	1.024949544	14.53355749	22.76306639	11.41505326
ENSG00000127418	FGFRL1	3.170433481	0.372115766	2.116152715	0.581404045
ENSG00000134775	FHOD3	1.317014713	1.757577545	11.86770061	1.855444805
ENSG00000261308	FIGNL2	1.031908497	3.455367604	6.022210523	3.893646282
ENSG00000168386	FILIP1L	2.032512558	0.033471851	1.571948394	0.066510001
ENSG00000179431	FJX1	2.017633098	0.358148881	3.154616306	0.907910806
ENSG00000141756	FKBP10	1.348434466	0.315770963	0.570148617	0.527768139
ENSG00000198225	FKBP1C	-1.271849546	3.519822927	1.349095968	2.347380041
ENSG00000128591	FLNC	1.35572199	0.069490874	0.390769548	0.137054903
ENSG00000185070	FLRT2	8.190618487	0.001715489	0.964416275	0.00142549
ENSG00000161791	FMNL3	1.547550372	0.621993057	1.275663071	0.965514918
ENSG00000131781	FMO5	1.171983095	0.782839862	1.384389789	0.644495874
ENSG00000115414	FN1	1.286186321	2.247305373	4.119248702	2.891349122
ENSG00000115226	FNDC4	1.666053647	2.465232785	5.486130975	2.789887999
ENSG00000170345	FOS	1.447013012	2.938351213	7.128814733	2.573736359
ENSG00000075426	FOSL2	2.502472808	0.634228982	4.965781113	0.78279197
ENSG00000054598	FOXC1	4.212548295	0.016948777	2.876494331	0.038990441
ENSG00000251493	FOXDI	1.970952767	18.75578341	48.36133711	32.74370439
ENSG00000237424	FOXDI-AS1	1.714259615	3.178240919	6.920883794	5.016496756
ENSG00000128573	FOXP2	1.979813717	0.664772501	27.57599833	0.910766818
ENSG00000138759	FRAS1	1.682804537	3.854358924	11.77931893	4.721264065
ENSG00000172159	FRMD3	2.950321206	1.318667731	7.522752085	2.297470352
ENSG00000139926	FRMD6	1.09903002	0.682941923	4.861672782	0.7429843
ENSG00000070601	FRMPDI	1.767226804	2.431172791	8.809895265	3.098423822
ENSG00000147234	FRMPDI3	-3.869157489	1.071325058	0.560861603	0.492192947
ENSG00000075618	FSCN1	1.360722038	0.338380475	3.2066313	0.487140208
ENSG00000134363	FST	4.106329175	0.010212281	0.153439303	0.00806001
ENSG00000163430	FSTL1	1.669358042	0.192639864	0.731774029	0.376216056
ENSG00000160282	FTCD	-1.168957145	9.557916258	2.981562569	12.55337373
ENSG00000237338	FTCD-AS1	2.319473443	0.67772297	1.904716724	0.248364662
ENSG00000260459	FTLP14	1.033884044	10.34406309	15.02658819	14.02038166
ENSG00000179163	FUCA1	-1.072842727	304.7366482	96.76276333	296.6225656
ENSG00000137731	FXDI2	-3.337433129	4.001243027	7.246137555	7.149740806
ENSG00000137726	FXDI6	-1.618698785	26.19440471	53.63375751	34.2804617
ENSG00000111432	FZDI10	4.072680971	0	0.262959693	0.008736692
ENSG00000250208	FZDI10-AS1	4.181606773	0.004818929	2.727273436	0.007714591
ENSG00000164930	FZDI6	1.332761568	5.373596377	8.981543396	5.492854339
ENSG00000155760	FZDI7	2.083579107	4.935845376	13.44970341	5.258881357
ENSG00000177283	FZDI8	1.936230077	0.274336124	5.026505436	0.289199845
ENSG00000152254	G6PC2	1.65298237	19.49439322	47.85964383	42.79910265
ENSG00000109458	GAB1	1.190065652	3.354457922	5.488071317	3.647121501
ENSG00000136928	GABBR2	1.306200369	0.560053752	20.64388528	1.705566603
ENSG00000163288	GABRB1	1.145570943	1.008529181	3.910001302	1.059074845
ENSG00000187730	GABRD	6.787604122	0.005050785	0.799696615	0.012769563
ENSG00000113327	GABRG2	2.873647787	0.00516336	0.795598995	0.009642262

ENSG00000182256	GABRG3	2.87677246	0.012521275	0.284649687	0.014468475
ENSG00000099860	GADD45B	1.257271685	0.780086049	1.202015882	0.601623291
ENSG00000069482	GAL	4.247666174	0.139427481	1.676481	0.129370486
ENSG00000054983	GALC	-1.536097685	17.79858587	4.632975348	15.45404709
ENSG00000108479	GALK1	3.821472615	0.230447423	3.192697226	0.564079948
ENSG00000115339	GALNT3	-1.535640727	33.15384826	9.711103779	30.67313959
ENSG00000257594	GALNT4	1.621113668	0.349740124	1.886036459	0.287594147
ENSG00000174473	GALNTL6	7.305971266	0	3.897543777	0.007878978
ENSG00000182687	GALR2	1.339786845	0.963416036	1.891953473	1.11067625
ENSG00000148935	GAS2	1.962145258	0.865673951	2.297190266	1.230291837
ENSG00000184502	GAST	-1.90991237	5.628288545	2.085602231	4.201552237
ENSG00000249948	GBA3	4.731349212	0.171633564	4.035079693	0.226581726
ENSG00000148288	GBGT1	1.185516271	0.371123929	0.707310375	0.497233142
ENSG00000145321	GC	-3.166497112	137.14585	11.26859508	136.7926808
ENSG00000115263	GCG	5.649286545	0.080129434	2.871525145	0.195568102
ENSG00000023909	GCLM	1.076737044	72.95932909	107.0151986	75.73048085
ENSG00000147174	GCNA	-1.108084214	1.365759867	1.711757821	0.744919756
ENSG00000111846	GCNT2	1.542831538	3.72381361	57.40402422	3.195367983
ENSG00000205318	GCNT2P1	4.343670231	0	0.672684856	0.265915056
ENSG00000176928	GCNT4	1.069688881	6.689173566	12.40823945	6.612755361
ENSG00000266524	GDF10	1.939823853	0.361424241	1.19342728	0.687969924
ENSG00000130513	GDF15	1.186449335	22.05402392	38.30391818	9.935306238
ENSG00000156466	GDF6	2.922607858	0.046664216	0.80389569	0.115046725
ENSG00000143869	GDF7	7.040976269	0	16.75244351	0.012737956
ENSG00000158555	GDPD5	1.29356667	1.263711189	2.016738953	1.446133539
ENSG00000146013	GFRA3	1.286127106	0.749929183	1.357866017	0.711245025
ENSG00000251000	GGCTP1	2.476671713	0.975754324	4.57918466	1.355425391
ENSG00000112964	GHR	-1.051914638	4.696726348	2.13674163	6.372040602
ENSG00000169562	GJB1	-2.415892575	0.482415066	2.070220409	0.471581732
ENSG00000159248	GJD2	-1.224314156	71.5625691	20.18387313	34.31542968
ENSG00000178445	GLDC	1.255009587	0.177975478	0.316167607	0.231237597
ENSG00000111087	GLI1	3.657780457	0.004560016	10.81585041	0.007794522
ENSG00000074047	GLI2	7.112351844	0	0.222884159	0
ENSG00000106571	GLI3	3.54089191	0.223314139	1.732957809	0.271487722
ENSG00000122694	GLIPR2	1.61003652	13.16321553	26.84126052	11.35827378
ENSG00000107249	GLIS3	-1.187929675	9.04750525	3.401999855	8.707122373
ENSG00000112164	GLP1R	-2.243772453	1.402514631	13.02131547	1.696332057
ENSG00000145451	GLRA3	3.118649724	1.179471497	7.973991662	0.966771378
ENSG00000151948	GLT1D1	2.653303173	0.035435661	0.27183732	0.036418142
ENSG00000120820	GLT8D2	1.868570483	1.064125349	6.071115229	1.05992286
ENSG00000182890	GLUD2	1.135863597	2.898654073	4.509884507	4.885435968
ENSG00000089639	GMIP	1.220821573	1.968335718	4.224474628	3.149844727
ENSG00000205835	GMNC	1.80889747	0.124339857	2.05337861	0.078036829
ENSG00000232284	GNG12-AS1	3.342583424	0.0249614	1.774267647	0.067738467
ENSG00000188626	GOLGA8M	4.97648228	0	0.538333124	0.071161775
ENSG00000179399	GPC5	1.134997471	3.36116051	4.833743051	4.897097997
ENSG00000167588	GPD1	-1.001531306	2.063761808	0.867029215	2.54334716
ENSG00000112293	GPLD1	1.02601947	1.602727185	4.605798655	1.571557097
ENSG00000150625	GPM6A	2.685855275	0.012270719	0.335718132	0.013332302

ENSG00000046653	GPM6B	-1.670959759	0.234448019	1.200777827	0.348439848
ENSG000000136235	GPNMB	1.235220739	0.310324506	0.510832317	0.246447247
ENSG000000132975	GPR12	4.110698072	0.061677006	0.775307632	0.17785641
ENSG000000101850	GPR143	1.044521507	6.848605242	9.262358239	6.405972614
ENSG000000164849	GPR146	-1.008071534	8.670247658	2.909900208	7.549151539
ENSG000000173302	GPR148	1.344148345	1.279730438	7.199132195	1.479225473
ENSG000000178015	GPR150	4.042561356	0.102196693	2.592018941	0.633225598
ENSG000000166073	GPR176	-1.19432034	46.42980873	13.90373525	53.34836592
ENSG000000277399	GPR179	-1.002710578	1.78507901	1.242204187	2.029918032
ENSG000000181773	GPR3	1.318683444	4.955479574	15.02718255	4.273781402
ENSG000000170075	GPR37L1	-6.578906305	5.421761877	0.35616939	0.035308191
ENSG000000146360	GPR6	1.019563389	2.362603908	7.204688209	2.599073
ENSG000000138271	GPR87	5.864054323	0	0.616937832	0.061281342
ENSG000000167191	GPRC5B	1.120279605	2.283369155	4.886895138	3.518423506
ENSG000000204175	GPRIN2	-1.393285143	5.203390736	1.448196704	6.668264861
ENSG000000160360	GPSM1	-1.280890479	43.88517383	13.72580923	55.89917837
ENSG000000167701	GPT	-1.063886612	1.970470414	1.313706664	1.822840895
ENSG000000176153	GPX2	-3.298261133	10.99377314	6.487669301	4.034104036
ENSG000000161835	GRASP	-2.272672278	21.93570611	3.289362179	26.75040365
ENSG000000141449	GREB1L	1.472763022	0.155205079	0.727522536	0.289874176
ENSG000000180875	GREM2	1.118449874	1.380188549	3.433877146	1.231564279
ENSG000000171189	GRIK1	2.87233249	0.014077101	0.206523204	0.010365772
ENSG000000163873	GRIK3	-2.576411384	4.527897398	1.546724884	7.651486889
ENSG000000183454	GRIN2A	-1.803462	0.2207197	0.081716818	0.300004537
ENSG000000164082	GRM2	1.335722169	0.537650387	1.049854249	1.233449899
ENSG000000196277	GRM7	4.90929282	0.006361219	0.150955494	0.003580437
ENSG000000179603	GRM8	1.052854758	0.536938514	1.198421408	1.130527959
ENSG000000126010	GRPR	3.939428638	0.544922835	5.051552931	1.141896051
ENSG000000139835	GRTP1	3.435867098	0.195889611	1.711379559	0.528000834
ENSG000000084207	GSTP1	1.8789078	0.144869666	3.576821756	0.113851847
ENSG000000152402	GUCY1A2	1.769547325	2.498549124	6.464861548	3.552988516
ENSG000000144366	GULP1	2.10298869	1.769487688	5.181439658	2.439923536
ENSG000000124575	H1-3	3.604576556	0.311396131	5.036572338	0.621819219
ENSG000000130600	H19	1.290749974	19.00089479	32.66951633	13.00224351
ENSG000000275221	H2AC15	1.192876122	25.83728225	39.31192487	29.08706288
ENSG000000124635	H2BC11	1.128597643	9.640815318	30.26189227	8.588577483
ENSG000000274641	H2BC17	2.537994977	0.753160976	22.91462551	1.542718344
ENSG000000220323	H2BC19P	-1.01218912	55.97472634	23.98585012	45.86368024
ENSG000000197153	H3C12	1.626204772	1.518925046	4.369325922	1.841282154
ENSG000000270882	H4C14	-1.05770038	3.309263867	10.74095587	2.238475921
ENSG000000138796	HADH	-1.131948751	90.0254787	29.03803378	85.94359069
ENSG000000224189	HAGLR	2.715925512	0.023405438	0.6904486	0.073321914
ENSG000000226363	HAGLROS	4.320188496	0	14.06148631	0.157804471
ENSG000000116478	HDAC1	-1.348561115	197.5077273	51.75189014	230.3476305
ENSG000000228624	HDAC2-AS2	1.02019092	0.358254953	0.672251308	0.501324551
ENSG000000061273	HDAC7	3.036348168	0.030277231	25.05602388	0.07580208
ENSG000000138411	HECW2	1.199948787	3.850715678	6.055123919	4.325371618
ENSG000000259845	HERC2P10	4.184014131	0	0.336294132	0.195089044
ENSG000000138642	HERC6	1.135228637	1.464261219	5.09992779	2.299426714

ENSG00000114315	HES1	1.698194005	2.995385576	6.372130525	3.722729702
ENSG00000188290	HES4	2.488282412	0.116723472	1.446406316	0.292022032
ENSG00000144485	HES6	1.093698248	68.73722448	98.25340256	92.4567607
ENSG00000164683	HEY1	1.122243015	2.639936187	3.875262194	2.62730671
ENSG00000135547	HEY2	1.175838122	0.614658454	50.83327268	1.220992291
ENSG00000113924	HGD	1.638562745	3.759489828	9.551667003	5.999920934
ENSG00000152804	HHEX	4.52105317	3.566666589	53.81832931	5.483056376
ENSG00000177374	HIC1	1.101886127	5.80490137	11.99816681	4.609387172
ENSG00000159399	HK2	4.168064479	0.030497494	27.91481833	0.075929809
ENSG00000206503	HLA-A	1.503950055	282.549366	522.8491327	261.507936
ENSG00000234745	HLA-B	2.031979835	0.099065823	0.476606447	0.11265723
ENSG00000204525	HLA-C	1.322631521	1.368831957	275.1331127	2.184790037
ENSG00000204592	HLA-E	1.19710588	198.0078681	294.2993699	214.9537063
ENSG00000206341	HLA-H	2.004657279	4.015452384	11.85656724	3.664746516
ENSG00000149948	HMGA2	3.037995371	0.008268552	154.2642897	0.011830926
ENSG00000100292	HMOX1	2.594461765	0.563831154	7.457633325	0.308466222
ENSG00000221887	HMSD	1.213147568	0.718398666	1.135767852	1.468229435
ENSG00000258900	HNRNPCP1	1.224553451	4.188335818	7.902406878	4.852282954
ENSG00000051128	HOMER3	2.258412073	0.17845534	1.062962394	0.180770843
ENSG00000171476	HOPX	1.873350389	0.793556716	4.879978621	1.242722159
ENSG00000159184	HOXB13	1.775445898	0.322040272	1.028002604	0.135988033
ENSG00000128645	HOXD1	3.545437983	0.21166969	2.635966575	0.520776612
ENSG00000113749	HRH2	1.9497527	0.144882186	0.742630243	0.208567882
ENSG00000135116	HRK	2.518103882	3.436570919	13.84422754	5.826759018
ENSG00000171004	HS6ST2	3.48483383	0.10948531	0.94004071	0.152348877
ENSG00000099377	HSD3B7	1.064089334	2.210837773	9.494434654	3.659907466
ENSG00000173110	HSPA6	2.620616701	1.436403003	6.171416853	1.251185508
ENSG00000142798	HSPG2	1.366451471	5.245487878	10.82637991	5.349635151
ENSG00000178394	HTR1A	6.179318924	0	3.896459212	0.280133741
ENSG00000135312	HTR1B	2.083548803	3.867055215	14.4987648	3.509197234
ENSG00000179546	HTR1D	1.179187729	4.138486119	7.075998397	4.795529598
ENSG00000148680	HTR7	1.730107467	0.973636688	7.785653403	1.021850275
ENSG00000242028	HYPK	-1.002593135	2.717370513	3.377813464	2.099507898
ENSG00000121351	IAPP	-1.975311015	2403.321407	390.6421582	1331.948482
ENSG00000125968	ID1	3.925287005	2.344951463	22.10334405	2.006512955
ENSG00000235092	ID2-AS1	2.524805072	0.555855493	216.6147661	0.818027407
ENSG00000117318	ID3	3.008332244	0.544932127	16.21638606	0.609691845
ENSG00000137331	IER3	-2.536549287	6.262852819	1.819791394	1.49561319
ENSG00000165948	IFI27L1	1.039445493	4.488374476	7.308147329	6.368559537
ENSG00000073792	IGF2BP2	2.181204066	0.031021535	0.411680809	0.020822299
ENSG00000146678	IGFBP1	1.991393206	0.101655806	3.465117675	0.172166007
ENSG00000146674	IGFBP3	3.388816481	0.179589772	1.293306026	0.191937763
ENSG00000141753	IGFBP4	1.466818968	0.721122007	1.523536324	1.6137503
ENSG00000167779	IGFBP6	1.032467131	1.628099032	2.705725461	2.039863633
ENSG00000152580	IGSF10	1.015441012	7.131355761	10.00557167	6.112156836
ENSG00000095574	IKZF5	-1.065667747	32.01448419	11.34958025	26.18654049
ENSG00000110324	IL10RA	-1.002453288	3.477451909	5.891324391	3.98470416
ENSG00000168811	IL12A	4.504089461	0	5.060397341	0
ENSG00000081985	IL12RB2	2.896016775	0.050681012	0.914875478	0.083851374

ENSG00000163701	IL17RE	1.37347347	0.262870456	0.506029794	0.362896108
ENSG00000115590	IL1R2	2.737776325	0.154768013	0.767660026	0.451509954
ENSG00000162594	IL23R	1.409310482	0.831894131	1.634126346	0.897858502
ENSG00000077238	IL4R	5.266269695	0	0.382896732	0.002728909
ENSG00000091181	IL5RA	4.209158496	0.019892283	1.006255622	0.019638152
ENSG00000143195	ILDR2	1.249673102	1.071023075	1.645088149	0.95010809
ENSG00000154059	IMPACT	-1.143064653	32.97941299	10.02205184	30.55408921
ENSG00000163362	INAVA	2.228416701	0.0970475	1.205031425	0.076243748
ENSG00000123999	INHA	1.892328778	0.816484984	6.953217902	1.162311515
ENSG00000163083	INHBB	4.613548848	0	0.30492877	0
ENSG00000139269	INHBE	2.506533822	0.214734464	1.643052668	0.193541087
ENSG00000068383	INPP5A	-1.080568608	20.2886569	6.42952897	21.41542787
ENSG00000129965	INS-IGF2	1.165069685	1.348567506	2.099742282	0.881699325
ENSG00000205363	INSYN1	1.347402763	9.377553602	18.18019981	10.58671303
ENSG00000260469	INSYN1-AS1	1.20819862	20.21560875	32.75573403	18.35712777
ENSG00000188916	INSYN2A	1.534073501	1.796065621	11.87433247	1.71926058
ENSG00000074706	IPCEF1	4.476963967	0.010148088	14.80030463	0.017497384
ENSG00000185507	IRF7	-1.189305041	0.500631808	1.912167318	0.607894402
ENSG00000159556	ISL2	4.874830434	0	0.334358748	0
ENSG00000164171	ITGA2	1.66407478	1.63795539	3.457258654	2.552801738
ENSG00000115232	ITGA4	4.637215846	0.017679464	0.283733968	0.019128316
ENSG00000135424	ITGA7	2.369606433	2.0235323	8.672264918	3.274131985
ENSG00000077943	ITGA8	2.744092027	0.026942942	0.287928318	0.031020531
ENSG00000144668	ITGA9	4.267719311	0.159109346	5.432596536	0.245066891
ENSG00000115221	ITGB6	3.044473849	0.006650734	0.086497742	0.008815955
ENSG00000105855	ITGB8	2.839297848	0.75505874	4.499910451	0.711599033
ENSG00000055957	ITIH1	-3.533433115	1.23129152	0.086173845	0.98707862
ENSG00000231249	ITPR1-DT	1.342234672	21.83355667	40.0678649	16.62921183
ENSG00000123104	ITPR2	1.616023119	4.529823492	8.961028682	7.137006463
ENSG00000148841	ITPRIP	3.38353127	0.140908097	17.43118779	0.198434665
ENSG00000154721	JAM2	2.650582951	0.188320985	5.536521419	0.082515906
ENSG00000140044	JDP2	1.590820269	0.075865302	0.631747772	0.052893439
ENSG00000177272	KCNA3	1.616930597	54.66289354	110.2823953	49.04028871
ENSG00000169282	KCNAB1	3.113525467	0.005662996	0.127989445	0.010370164
ENSG00000116396	KCNC4	-2.190995578	1.027466187	55.95552122	0.902265561
ENSG00000171385	KCND3	-1.676266535	3.514014421	0.730240778	9.049667317
ENSG00000152049	KCNE4	2.659181047	0.24608306	0.964908793	0.823300875
ENSG00000162975	KCNF1	1.78532374	1.207817023	2.98721815	1.562403067
ENSG00000026559	KCNG1	2.406220731	0.089317455	0.963349467	0.214795354
ENSG00000178342	KCNG2	1.735701879	12.81916478	29.54772321	14.29618839
ENSG00000171126	KCNG3	-1.543462334	26.75657567	6.30407323	23.4168137
ENSG00000143473	KCNH1	-1.90569615	0.792383913	14.33584527	0.766886854
ENSG00000135519	KCNH3	-1.031645529	26.70511368	11.28093655	33.45453066
ENSG00000140015	KCNH5	3.627115384	0.097434237	0.832670789	0.230844882
ENSG00000115041	KCNIP3	2.044800663	0.03746237	4.628811689	0.064725728
ENSG00000267365	KCNJ2-AS1	1.511789695	8.723973357	16.78002795	7.065883873
ENSG00000168135	KCNJ4	1.181670328	1.544077518	2.274797169	1.843228932
ENSG00000121361	KCNJ8	2.159599753	10.26012997	38.6793866	19.24690469
ENSG00000135750	KCNK1	2.752894967	1.497611947	7.902877816	2.1514737

ENSG00000100433	KCNK10	1.022609574	0.697207403	15.62150866	0.728103047
ENSG00000184261	KCNK12	1.699130292	0.266853178	3.829567811	0.375702663
ENSG00000082482	KCNK2	1.448777503	0.323535355	0.946782011	0.505431425
ENSG00000171303	KCNK3	2.292992066	0.871319686	2.966025294	1.412354602
ENSG00000099337	KCNK6	1.670319034	1.052060169	2.586595797	1.498395758
ENSG00000169427	KCNK9	1.748899525	1.007708527	3.720263678	1.771986295
ENSG00000156113	KCNMA1	-1.126800863	5.244062389	2.648675115	4.954141513
ENSG00000053918	KCNQ1	1.272809214	0.986852055	2.697442601	1.993418836
ENSG00000075043	KCNQ2	-1.025889757	2.056085028	1.46015105	2.642643346
ENSG00000170745	KCNS3	1.149588761	1.399863473	2.833949467	1.900223955
ENSG00000164794	KCNV1	1.697817235	2.122837061	4.822043667	2.42297843
ENSG00000135253	KCP	1.487131879	0.051815264	1.18313168	0.186286915
ENSG00000178695	KCTD12	1.216376608	225.8542441	344.8926526	316.2453724
ENSG00000153885	KCTD15	3.834871728	0.09648956	0.921737637	0.248813421
ENSG00000183775	KCTD16	1.883447275	5.185573027	187.9200939	5.10064226
ENSG00000100196	KDELR3	2.682575385	1.237273493	5.875264846	1.267793742
ENSG00000162522	KIAA1522	1.138651453	8.697844074	18.79495695	10.71210785
ENSG00000117245	KIF17	1.430594996	0.240586828	2.82351868	0.378690021
ENSG00000162849	KIF26B	1.861946881	0.291727479	7.038419534	0.464800898
ENSG00000101350	KIF3B	-1.290212679	395.1538338	105.4649732	315.2734464
ENSG00000155980	KIF5A	-1.315387457	28.08365251	7.847558063	21.23926416
ENSG00000166813	KIF7	2.928821971	0.118367188	54.92599402	0.275658099
ENSG00000227398	KIF9-AS1	1.278773648	5.80074011	12.67808734	6.021236521
ENSG00000149571	KIRREL3	-1.731542689	1.171125235	0.457725814	0.833579023
ENSG00000170498	KISS1	1.990977034	5.60840258	18.88548447	6.71201728
ENSG00000116014	KISS1R	1.06998559	2.336278868	3.185176136	1.862684223
ENSG00000157404	KIT	2.002956764	3.505522685	17.35767612	9.140034595
ENSG00000133116	KL	1.211580536	3.611287155	7.612040053	5.133421002
ENSG00000104892	KLC3	1.289109976	0.5603239	5.466249906	0.946047995
ENSG00000163884	KLF15	1.363222531	1.424884988	5.002431945	2.007614099
ENSG00000231160	KLF3-AS1	1.317904033	0.354494467	0.979553318	0.345233226
ENSG00000119138	KLF9	1.232086769	0.814547731	2.343888237	1.2327716
ENSG00000128607	KLHDC10	-1.104888922	93.87311375	28.80963884	77.25599035
ENSG00000130487	KLHDC7B	4.029413447	0.024297716	0.780169545	0.106422459
ENSG00000197705	KLHL14	1.031876946	0.451700039	15.14532987	0.787111767
ENSG00000129437	KLK14	2.174434106	0.215960391	0.874749386	0.212762619
ENSG00000171346	KRT15	3.06164011	0.026322873	0.483019029	0.099576531
ENSG00000236670	KRT18P5	-1.860088247	1.692305533	0.719047008	1.036012474
ENSG00000204889	KRT40	1.431042272	30.26224635	53.24845971	29.9332811
ENSG00000224928	KRT8P30	2.448718829	6.42800598	23.41357022	5.234518269
ENSG00000233560	KRT8P39	2.097925205	0.286903907	28.18072549	0.75794304
ENSG00000174611	KY	-1.026868829	2.893280432	12.45573464	2.784582726
ENSG00000154655	L3MBTL4	2.467323467	0.718621924	2.726633513	0.803600738
ENSG00000246366	LACTB2-AS1	3.735290527	0.01052901	0.47122816	0.053284769
ENSG00000101680	LAMA1	-1.569434778	6.040923452	2.862732165	4.598863272
ENSG00000172037	LAMB2	1.371949294	17.38313182	29.24972908	19.51272463
ENSG00000150457	LATS2	2.240775388	0.410304448	1.939180734	0.154509313
ENSG00000204381	LAYN	1.497028621	0.683149769	16.42307463	1.222927438
ENSG00000179528	LBX2	1.69718247	0.482777053	1.53448624	0.774806208

ENSG00000136167	LCP1	1.191162913	0.279668919	1.101107726	0.420780818
ENSG00000179241	LDLRAD3	-1.147821867	22.25731714	7.116803152	24.96791862
ENSG00000138795	LEF1	1.986706066	0.0201139	0.293098095	0.007033083
ENSG00000116678	LEPR	2.966403369	0.322312761	5.058048401	0.663032205
ENSG00000104660	LEPROTL1	-1.124237366	65.96822811	19.86936995	61.08814103
ENSG00000153012	LGI2	2.093181297	2.612829488	8.312318292	2.114835393
ENSG00000145685	LHFPL2	1.739308147	1.163229047	12.55276518	1.617807382
ENSG00000225329	LHFPL3-AS2	-2.06952093	2.827785306	3.872255043	2.889215514
ENSG00000273706	LHX1	4.227102812	0	1.375156645	0.007436953
ENSG00000064042	LIMCH1	1.323207742	0.570638615	1.239408382	0.692141878
ENSG00000231721	LINC-PINT	1.111765389	0.683863914	0.214645008	0.605392555
ENSG00000225880	LINC00115	1.523094148	5.921305342	8.548111821	6.530166087
ENSG00000196668	LINC00173	1.917917463	0.386601585	0.978750863	0.731408385
ENSG00000231535	LINC00278	-1.003749284	0.495773355	5.933516999	0.788656789
ENSG00000203441	LINC00449	1.780384816	10.8264016	3.577674383	7.33850177
ENSG00000215117	LINC00588	3.530391632	9.497732341	21.60666642	9.804776226
ENSG00000248307	LINC00616	1.038375348	0.124597457	2.994950734	0.183731852
ENSG00000260941	LINC00622	1.148281977	3.928989112	16.21799281	2.049630935
ENSG00000261824	LINC00662	1.030369979	14.23467371	21.04401757	11.60423981
ENSG00000266256	LINC00683	1.492501256	3.34693922	7.377176184	4.168082063
ENSG00000254275	LINC00824	3.930495858	0.819002672	12.0440346	2.744081162
ENSG00000224805	LINC00853	1.534585661	0.104393075	3.500629181	0
ENSG00000232229	LINC00865	1.367464017	10.1625246	19.54921079	8.866100884
ENSG00000240875	LINC00886	-1.64208912	2.393467679	4.582492741	1.883711291
ENSG00000235703	LINC00894	1.897112411	0.591041018	10.34693178	0.437927876
ENSG00000263812	LINC00908	1.981572787	1.476833608	5.557621982	2.15459228
ENSG00000204054	LINC00963	4.824636561	0.160891116	0.478292357	0.124659807
ENSG00000253138	LINC00967	-1.033956519	0	1.986103568	0.023093506
ENSG00000223941	LINC01014	-5.105392495	26.5140194	7.644394726	20.27980955
ENSG00000249346	LINC01016	1.607350268	0.181698666	0.118740298	0.277393322
ENSG00000232715	LINC01022	2.819396371	3.720649228	12.33856652	2.692572487
ENSG00000222033	LINC01124	1.987973128	3.620037544	15.89230243	6.430196184
ENSG00000279873	LINC01126	2.704313288	1.6048902	8.209691071	2.78804382
ENSG00000267272	LINC01140	1.131613889	0.011196414	9.396544335	0.030555828
ENSG00000256124	LINC01152	7.554915129	0.571421037	3.137446157	0.777745132
ENSG00000280776	LINC01202	1.150463176	0	4.985535657	0.126436404
ENSG00000224957	LINC01266	1.399500016	0.631088298	1.330427487	0.77793086
ENSG00000260924	LINC01311	4.02933589	2.540172302	6.896029491	2.411213464
ENSG00000281327	LINC01338	1.009222396	0.1149528	1.463636661	0.392982061
ENSG00000228065	LINC01515	1.488727182	1.292520876	4.21988526	1.748945746
ENSG00000272138	LINC01607	3.115003591	1.075787157	2.725522007	1.225792041
ENSG00000283503	LINC01902	-1.910118239	0.055973063	1.220515536	0.125251495
ENSG00000260804	LINC01963	1.901349883	15.42231376	3.559725935	12.69798117
ENSG00000262585	LINC01979	2.175199794	0.31552709	0.937303851	0.356749851
ENSG00000238755	LINC02006	-2.572705685	0.126911851	2.002891506	0.200628082
ENSG00000231574	LINC02015	2.586131791	0.632467241	0.46614527	0.297389843
ENSG00000232233	LINC02043	-1.041186371	0.154850623	0.868732111	0.366670916
ENSG00000258884	LINC02321	2.371971144	28.02706437	9.988758852	29.79367813
ENSG00000248505	LINC02380	-1.653247141	0.402378884	1.312683476	0.761014756

ENSG00000248703	LINC02415	2.393862347	27.67626284	9.329613714	24.21246949
ENSG00000214039	LINC02418	4.753730308	0.460410021	2.428648662	0.68888182
ENSG00000250436	LINC02499	2.600460163	0	3.344494651	0.073240038
ENSG00000226453	LINC02542	3.572550066	0.513470002	3.141908208	0.369922396
ENSG00000223764	LINC02593	3.741481009	0.079516741	0.745151037	0.029151495
ENSG00000224222	LINC02636	-1.278892459	0.138645362	2.200443197	0.485905443
ENSG00000264404	LINC02675	1.654845272	22.44517827	6.724519396	19.35479174
ENSG00000231483	LINC02678	1.507621771	1.455800144	3.427888133	1.860059643
ENSG00000212719	LINC02693	-2.909750651	6.776717351	14.93744355	7.65829469
ENSG00000255406	LINC02730	-1.086656825	11.0303174	2.444244864	8.624059377
ENSG00000204241	LINC02731	2.124733461	0.703737273	6.976677868	0.711360103
ENSG00000187013	LINC02875	-1.146016593	1.67924045	4.694389912	1.718698248
ENSG00000166035	LIPC	1.312535036	2.218312748	3.677998449	8.013277069
ENSG00000163898	LIPH	2.163056796	0.206313527	3.767921201	0.089456307
ENSG00000189067	LITAF	1.367589505	1.308650088	4.101546223	2.006437433
ENSG00000185621	LMLN	-1.405544466	3.042339215	1.087673276	3.475742336
ENSG00000135363	LMO2	1.811919029	30.12588295	69.93075301	24.5146777
ENSG00000134013	LOXL2	2.068040654	0.713247877	2.245421648	0.52917942
ENSG00000213071	LPAL2	4.100357946	0	35.76792719	0.040648727
ENSG00000198121	LPAR1	1.489296003	10.14552011	19.46589755	12.12846191
ENSG00000064547	LPAR2	1.46261536	0.109827668	0.205180501	0.179501513
ENSG00000139679	LPAR6	4.607367492	0	9.722776295	0
ENSG00000121207	LRAT	-1.101920514	0.602145595	0.315488099	0.656584743
ENSG00000173621	LRFN4	-1.2113962	21.13155054	5.877459715	19.04086011
ENSG00000168702	LRP1B	3.696146573	0.030555551	0.342972432	0.052316133
ENSG00000010626	LRRC23	-1.171561471	3.956620189	4.368853324	3.549480519
ENSG00000114248	LRRC31	1.921655845	0.687531173	1.834871641	0.60867008
ENSG00000176809	LRRC37A3	1.573798665	1.593795978	3.697844077	1.620699323
ENSG00000148948	LRRC4C	3.52248477	0.172718768	2.187943144	0.102118402
ENSG00000188906	LRRK2	4.407514442	0	1.550972588	0.003322625
ENSG00000162951	LRRTM1	3.070869383	0.575270617	3.791990478	0.570707644
ENSG00000198739	LRRTM3	2.169940612	0.544552391	1.552985354	0.880006748
ENSG00000185565	LSAMP	2.004283986	3.274182667	10.1537287	6.783650895
ENSG00000168056	LTBP3	1.511952269	6.206595223	12.49101894	6.562971303
ENSG00000171357	LURAP1	1.491132524	2.1784371	8.581070662	2.259501332
ENSG00000187398	LUZP2	1.73120951	0.268420033	6.471331743	0.331347568
ENSG00000254087	LYN	1.40761839	0.369065588	2.517212487	0.682824375
ENSG00000180155	LYNX1	1.536020536	0.108663601	0.476467497	0.256956331
ENSG00000150551	LYPD1	-3.776703032	6.802069653	0.584391667	1.829540461
ENSG00000159871	LYPD5	1.154514874	0.341146689	0.616074768	0.28464898
ENSG00000183833	MAATS1	-1.493664697	1.080202788	0.469147316	1.396953468
ENSG00000180660	MAB21L1	2.301609651	2.86423753	9.033158375	2.480914578
ENSG00000099866	MADCAM1	1.055110558	0.313871951	0.527225666	0.362037335
ENSG00000234456	MAGI2-AS3	1.46624206	0.070616793	5.340077168	0.218412592
ENSG00000111837	MAK	-1.127894889	0.359450118	0.324881101	0.260829992
ENSG00000204706	MAMDC2-AS1	1.163487178	0.134437731	0.274279534	0.183463191
ENSG00000184384	MAML2	1.197792162	6.51561916	10.22282105	5.264730341
ENSG00000013619	MAMLD1	-1.4290033	5.40824819	1.372485813	8.210058503
ENSG00000267799	MAN1A2P1	-1.597770304	22.13864177	9.147055405	17.92602342

ENSG00000069535	MAOB	1.894245647	10.49978956	25.84968424	7.723518502
ENSG00000197442	MAP3K5	1.099170727	0.438834129	3.39505499	0.598587498
ENSG00000142733	MAP3K6	1.211158668	1.257439808	15.4745074	2.011891736
ENSG00000156265	MAP3K7CL	1.102916543	2.301607672	3.408349575	1.968751895
ENSG00000012983	MAP4K5	-1.084697411	22.87809004	7.986532092	20.41209518
ENSG00000259438	MAPK6-DT	1.849405746	1.661437424	5.594621287	1.884897618
ENSG00000173838	MARCHF10	1.588422506	0.089271807	3.702299449	0.086627884
ENSG00000127241	MASP1	4.062977407	0	2.085335387	0
ENSG00000076770	MBNL3	1.04982055	0.356611128	0.583436941	0.579227306
ENSG00000172197	MBOAT1	2.835346959	0.157919724	0.787461677	1.326729574
ENSG00000177669	MBOAT4	1.867114835	1.768234205	4.114368579	2.873194342
ENSG00000076706	MCAM	1.790090194	0.188704182	0.725463452	0.278025154
ENSG00000171444	MCC	1.335300538	5.10488527	11.0715962	5.515734317
ENSG00000178460	MCMD2C2	-1.040200015	0.367189389	0.349175619	0.341943701
ENSG00000175471	MCTP1	1.092623639	0.528802614	4.898559637	0.694083577
ENSG00000135272	MDFIC	2.371485364	0.855749673	2.871363576	1.186649366
ENSG00000110492	MDK	1.069109609	2.778864962	4.150043516	6.745136775
ENSG00000103313	MEFV	2.234254564	0.010902788	1.578238099	0.011716536
ENSG00000225746	MEG8	-1.430291455	7.505727924	3.940812322	5.763436046
ENSG00000223403	MEG9	-1.089924942	14.65687435	4.901410194	11.6802813
ENSG00000145794	MEGF10	2.905837563	0.008836896	0.874607509	0.023147619
ENSG00000134138	MEIS2	-2.039140839	31.4052422	6.946924176	29.93344873
ENSG00000105419	MEIS3	2.779945612	0.02799813	0.165841116	0.053137026
ENSG00000141434	MEP1B	2.348338807	0.280441174	3.437038297	0.304447085
ENSG00000103260	METRNL	1.420678494	12.11415068	20.69205504	15.66181432
ENSG00000176845	METRNL	4.229360351	0.09262128	1.668241594	0.022628318
ENSG00000053328	METTL24	1.440031142	1.820392088	14.53522996	1.78580504
ENSG00000170439	METTL7B	2.033041191	0.774569558	2.496087391	1.200036036
ENSG00000166482	MFAP4	2.588947347	14.9689512	60.58432252	12.89438056
ENSG00000140545	MFGE8	2.299314003	3.993332302	13.91333269	6.868329288
ENSG00000071073	MGAT4A	-1.399023111	131.5082673	62.53865037	100.2411842
ENSG00000182050	MGAT4C	1.64762717	0.955692663	8.636823114	0.529299873
ENSG00000167889	MGAT5B	3.158534734	0.031089119	16.95275879	0.095557321
ENSG00000074416	MGLL	1.39089912	0.27842224	1.429208991	0.242464315
ENSG00000169330	MINAR1	1.012378281	0.506677547	0.745591714	0.582957227
ENSG00000100253	MIOX	3.571500468	0.043102068	0.638223255	0.113536401
ENSG00000174403	MIR1-1HG-AS1	-1.020468226	22.61582637	7.74895202	34.30386464
ENSG00000225206	MIR137HG	1.066050276	2.285458189	3.262600016	1.843280459
ENSG00000207607	MIR200A	-1.185259903	75.88773244	25.09991614	69.12426588
ENSG00000224592	MIR3659HG	2.889211984	0.177864342	2.318441339	0.302032816
ENSG00000266325	MIR3665	2.151360028	7.111683739	31.59929988	17.63184226
ENSG00000223749	MIR503HG	1.069969611	7.386300353	10.34182191	6.262678616
ENSG00000207561	MIR635	1.296639453	77.41780212	133.07446	70.52128248
ENSG00000207959	MIR656	-1.28123299	44.05459629	17.11900676	32.41715549
ENSG00000207703	MIR7-2	-1.275364167	62.06152267	82.84294553	32.28020135
ENSG00000267374	MIR924HG	1.131574901	6.471333873	15.45529605	10.68749424
ENSG00000099812	MISP	-1.118911686	86.19540368	35.08315777	77.36302711
ENSG00000185155	MIXL1	1.949729844	0.745242214	6.960778103	0.812068387
ENSG00000110917	MLEC	-1.176348495	197.4348337	70.61563738	198.6952843

ENSG00000146147	MLIP	2.02032104	0.021570026	0.960509757	0.023884012
ENSG00000231969	MMADHC-DT	1.086135048	3.424387675	32.28695223	3.864441392
ENSG00000136297	MMD2	2.571065894	0.105930631	0.524758296	0.062053149
ENSG00000157227	MMP14	2.894461196	0.174604847	4.577729422	0.252040953
ENSG00000198598	MMP17	-1.576784815	9.55871251	2.058062893	10.24527286
ENSG00000087245	MMP2	3.157181934	1.132056781	7.134456106	2.832074079
ENSG00000137674	MMP20	-1.027865304	164.363536	53.93616318	141.2471062
ENSG00000173542	MOB1B	-1.100068509	196.6294665	63.22459007	167.0174587
ENSG00000120162	MOB3B	3.049341402	1.478011745	34.77697046	2.859542537
ENSG00000079931	MOXD1	1.858343034	0.292824552	31.38177576	0.548966015
ENSG00000150054	MPP7	-1.038865846	12.31170008	7.948596959	10.47691401
ENSG00000186732	MPPED1	1.558923698	0.146666913	0.589461766	0.23609566
ENSG00000135324	MRAP2	2.251242677	1.985714547	8.274618904	3.076843155
ENSG00000011028	MRC2	3.547875987	0.012891362	0.293734142	0.023717447
ENSG00000227877	MRLN	1.445225239	5.041993064	12.32329774	7.368852558
ENSG00000227502	MROCKI	1.165085772	2.333880664	3.575882466	4.394973048
ENSG00000166959	MS4A8	1.968195495	0.186101751	4.836891219	0.373833233
ENSG00000204410	MSH5	-1.10199961	0.48395005	1.776440029	0.485166849
ENSG00000102854	MSLN	-1.215340185	0.359260968	0.34362634	0.347984449
ENSG00000163132	MSX1	5.037445411	0	0.391042638	0.09757359
ENSG00000065911	MTHFD2	1.166655189	36.42047763	54.1583683	33.33491876
ENSG00000173702	MUC13	1.347070176	0.53933355	1.01960137	0.52879916
ENSG00000169550	MUC15	5.97157169	0	26.76143044	0.009277261
ENSG00000101057	MYBL2	1.0109275	10.32494302	14.18719594	25.99007362
ENSG00000086967	MYBPC2	1.265880334	0.463398523	0.770502498	0.990772861
ENSG00000136997	MYC	2.893525102	0.224721484	7.987648235	0.520947443
ENSG00000116990	MYCL	1.182272256	0.959641129	1.808792172	1.105051095
ENSG00000074842	MYDGF	1.003725955	147.6114265	194.4038747	171.2822766
ENSG00000109063	MYH3	-1.742880691	0.570447612	0.846173736	0.614701464
ENSG00000101335	MYL9	-1.08568516	5.52290211	99.87541	8.490129632
ENSG00000145949	MYLK4	1.080668882	0.336388744	0.537328672	0.275517066
ENSG00000041515	MYO16	1.546235083	2.929472472	6.567033152	2.921061585
ENSG00000164591	MYOZ3	1.232946015	0.271493648	0.612816068	0.444736241
ENSG00000139597	N4BP2L1	2.020655125	0.456263194	4.224135406	0.693453834
ENSG00000281026	N4BP2L2-IT2	-1.008825121	1.206064906	0.563952164	0.814769413
ENSG00000166886	NAB2	1.174308965	12.9092349	19.78906718	9.004790761
ENSG00000237886	NALT1	-2.244563829	4.350922722	0.835365208	3.147775263
ENSG00000231697	NANOGP5	-3.389609855	1.285147447	9.602152728	0.395995642
ENSG00000186310	NAP1L3	1.731058811	1.002768238	2.410162602	1.136709969
ENSG00000125814	NAPB	-1.115020198	40.48360381	12.25233545	42.25927574
ENSG00000134440	NARS1	-1.275228975	151.218914	42.11995207	139.2507429
ENSG00000067798	NAV3	1.777613265	1.11287337	8.68646436	0.988034608
ENSG00000271425	NBPF10	1.638397395	0.111263182	20.98776106	0.075071927
ENSG00000270629	NBPF14	2.501786174	0.122124513	1.739655173	0.104231553
ENSG00000149294	NCAM1	-1.460611235	26.3516816	6.408143885	25.6795219
ENSG00000173376	NDNF	5.358146455	0.040697419	1.346101908	0.023280109
ENSG00000104419	NDRG1	-1.188241381	27.19989834	11.02320856	21.19333519
ENSG00000164100	NDST3	1.715101514	0.295824644	1.192009743	0.291189582
ENSG00000138653	NDST4	3.701983557	0.020658414	4.070008881	0.006496271

ENSG00000185633	NDUFA4L2	2.07832575	0.943075167	2.830004179	0.599298641
ENSG00000183091	NEB	-1.574339012	0.143724299	0.151801558	0.157405695
ENSG00000123119	NECAB1	-2.452424582	4.278622746	1.970198002	5.51234397
ENSG00000103154	NECAB2	1.509735326	10.96220622	20.55027509	13.96098453
ENSG00000130202	NECTIN2	1.50415396	3.720052013	7.241026464	6.079286884
ENSG00000069869	NEDD4	1.405108725	1.770015401	13.31547492	1.984356323
ENSG00000111859	NEDD9	-1.192122809	2.868718652	4.334515779	1.594753626
ENSG00000100285	NEFH	-2.714313145	2.164217814	1.830145307	2.491554069
ENSG00000172260	NEGR1	3.215815794	0.289692402	2.123086845	0.327371841
ENSG00000165973	NELL1	2.617465373	0.02727027	0.204578203	0.08437855
ENSG00000235470	NEURL1-AS1	3.870435322	0.131282662	2.142314102	0.453060402
ENSG00000050030	NEXMIF	-2.13366519	15.52100032	2.386939334	11.84276707
ENSG00000141905	NFIC	1.085333582	2.133234635	3.653907193	2.292373112
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ENSG00000272145	NFYC-AS1	1.157873356	6.11518042	9.667184883	7.654913081
ENSG00000177551	NHLH2	1.575432912	0.50354674	2.656820251	0.480396915
ENSG00000188158	NHS	1.637940458	0.874673728	7.065684404	1.207177157
ENSG00000135540	NHSL1	1.074893516	16.37213192	23.17637076	13.616742
ENSG00000135842	NIBAN1	1.226060665	0.408823835	1.591214289	0.782600191
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ENSG00000087303	NID2	3.838476601	0.028430038	0.486298005	0.043655508
ENSG00000170113	NIPA1	-1.292150267	23.45000459	7.792745408	19.21600642
ENSG00000185942	NKAIN3	2.186434224	0.342469809	1.083548645	0.935579016
ENSG00000101198	NKAIN4	5.975998043	0.05540865	5.363827896	0.145842332
ENSG00000229544	NKX1-2	4.667064682	0	0.819117666	0.034573478
ENSG00000163623	NKX6-1	-1.330111761	477.8581814	122.3264807	486.7205991
ENSG00000165066	NKX6-3	2.895210855	29.03959937	141.0514913	26.11492755
ENSG00000169760	NLGN1	1.880315201	0.032654125	66.5452768	0.061817461
ENSG00000146938	NLGN4X	3.679661025	0.036532766	72.16346273	0.050482308
ENSG00000165246	NLGN4Y	1.58025762	0.723413588	1.419545327	0.97484185
ENSG00000197696	NMB	1.520174175	5.539704152	10.78917808	9.15022164
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ENSG00000106100	NOD1	1.065661814	1.817395118	3.774206035	2.675831978
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ENSG00000104967	NOVA2	1.095421883	0.973778681	2.786065074	0.683290201
ENSG00000170485	NPAS2	3.308110988	0.016291427	1.653971126	0.034181319
ENSG00000056291	NPFFR2	1.83617382	0.803093374	2.416017721	0.820122412
ENSG00000168743	NPNT	1.007406887	9.775223563	12.96018795	14.7155008
ENSG00000163273	NPPC	-1.512124572	20.540234	5.710872366	14.99224146
ENSG00000113389	NPR3	2.900240673	0.218318444	7.56037686	0.608485625
ENSG00000171246	NPTX1	2.677677965	0.217916321	3.3460067	0.239017248
ENSG00000183971	NPW	2.037978993	15.22289521	42.48062076	14.90081563
ENSG00000122585	NPY	1.691464546	2.081520478	5.074063479	4.762254486
ENSG00000237187	NR2F1-AS1	1.193728743	1.025354551	21.27212121	1.004183049
ENSG00000151623	NR3C2	2.35939567	0.096500723	2.375625081	0.164450408
ENSG00000123358	NR4A1	1.547099327	0.599575561	2.025433679	0.807577066
ENSG00000116833	NR5A2	3.623957605	0.016141318	0.286192514	0.010400964

ENSG00000185737	NRG3	1.691470375	0.998902363	2.768976378	1.134753468
ENSG00000099250	NRP1	3.499393407	0.530464622	4.020372913	0.75701776
ENSG00000171119	NRTN	2.37064144	2.256543332	8.399131911	1.730403971
ENSG00000168824	NSG1	1.981014039	0.112991288	2.242049038	0.068186904
ENSG00000170091	NSG2	2.631171388	0.243341447	5.027226845	0.18901996
ENSG00000205309	NT5M	1.657646627	0.328581989	0.930324562	0.379981904
ENSG00000065320	NTN1	-1.503472866	147.5019218	33.53104909	173.3736393
ENSG00000074527	NTN4	4.138613913	0.010944116	0.39357881	0.043093111
ENSG00000148053	NTRK2	2.538995856	0.008702537	18.40438688	0.007539167
ENSG00000140538	NTRK3	2.6437707	0.036276443	0.197258086	0.018125249
ENSG00000122824	NUDT10	1.072387834	1.201601952	1.733586695	1.505729748
ENSG00000213965	NUDT19	-1.192598422	13.64162227	4.215683594	19.34326231
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ENSG00000122584	NXPH1	5.228196037	0.008847353	1.97169722	0.047582499
ENSG00000182575	NXPH3	1.976875756	0.41310139	15.16615722	0.730180562
ENSG00000182379	NXPH4	2.626400667	2.851808105	11.77180743	3.388482244
ENSG00000184232	OAF	2.084291095	0.289298948	1.374537944	0.43201354
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ENSG00000118733	OLFM3	4.42243846	0	0.335972648	0.00394608
ENSG00000183801	OLFML1	1.564265466	0.551250043	3.401042493	1.274148996
ENSG00000162745	OLFML2B	2.656391873	1.319589912	5.466867302	1.653004368
ENSG00000116774	OLFML3	5.266410524	0.033128543	1.384189301	0.029012529
ENSG00000184221	OLIG1	1.666754624	25.83481518	55.97912866	38.63699335
ENSG00000126861	OMG	1.597253828	0.157846443	0.699711228	0.284629776
ENSG00000082556	OPRK1	1.970007568	1.027586866	30.12432234	1.682686021
ENSG00000221882	OR3A2	-2.515691111	0.445419571	0.197066342	0.246487612
ENSG00000197984	OR51A8P	1.69181455	0.429879833	2.34635072	0.416400795
ENSG00000091651	ORC6	1.097689382	4.342965045	6.391923842	8.218253795
ENSG00000070882	OSBPL3	1.328243952	0.348073779	0.949229288	0.501400698
ENSG00000165899	OTOGL	2.79802454	0.008119554	2.857690211	0.032861916
ENSG00000089723	OTUB2	-1.219575634	21.08159424	6.075304029	14.7573433
ENSG00000253738	OTUD6B-AS1	-1.469786465	72.62713861	17.43964601	59.64385011
ENSG00000115507	OTX1	2.092320137	0.162167862	3.532732524	0.29833949
ENSG00000187950	OVCH1	3.542318566	0.03180377	8.768787248	0.099688559
ENSG00000083454	P2RX5	-2.220388888	0.242648142	0.346626135	0.375455766
ENSG00000099957	P2RX6	1.08000062	0.211816597	0.354548066	0.218993607
ENSG00000169860	P2RY1	1.141853269	1.269856688	1.905785914	1.59696821
ENSG00000090530	P3H2	-1.075980203	4.997572812	1.811455868	2.345278585
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ENSG00000158006	PAFAH2	-1.368786194	27.68476087	7.688875368	23.22162996
ENSG00000099260	PALMD	1.316451713	0.109218491	0.380984414	0.082303687
ENSG00000073150	PANX2	2.371490969	1.715785588	9.162182114	2.09941725
ENSG00000116183	PAPPA2	1.075591646	0.700476707	1.108244317	0.635493699
ENSG00000116117	PARD3B	1.06392839	0.665234386	4.100799616	1.30291015
ENSG00000173193	PARP14	2.268830532	0.184733939	1.036317825	0.22217669
ENSG00000138496	PARP9	1.732083691	0.758244569	2.090225901	0.930999874
ENSG00000152931	PART1	3.350791684	0.033724356	0.555237756	0.052953902
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ENSG00000163346	PBXIP1	1.019105866	258.7214832	341.2702125	214.2110337

ENSG00000138650	PCDH10	2.141681622	0.987233975	6.803957839	1.641139666
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ENSG00000118946	PCDH17	2.080416464	4.637909076	14.03231043	5.119375552
ENSG00000184226	PCDH9	1.967110013	1.674882941	13.37105832	2.150072662
ENSG00000255408	PCDHA3	1.258219925	0.567446254	7.682766073	0.587353729
ENSG00000171815	PCDHB1	1.281987562	0.20496361	2.529915013	0.196307804
ENSG00000113209	PCDHB5	2.42324472	0.063095081	0.688559126	0.083421251
ENSG00000081853	PCDHGA2	1.239510727	0.666582213	1.150176847	0.410130272
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ENSG00000163710	PCOLCE2	2.02318619	0.061330279	0.465795631	0.25894316
ENSG00000248485	PCP4L1	1.186070183	2.451849477	7.827879847	4.344761176
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ENSG00000203497	PDCD4-AS1	1.20308315	10.61261976	37.24544995	17.56307725
ENSG00000112541	PDE10A	2.064238344	0.035274147	0.560760798	0.049884247
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ENSG00000158571	PFKFB1	-1.28299365	0.677738487	54.05044958	0.472444624
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ENSG00000119630	PGF	-1.372304377	44.14805103	11.20966342	37.30055597
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ENSG00000225398	PGM5P4	1.343154496	6.796333706	18.06891499	8.268824511
ENSG00000102174	PHEX	2.566469632	0.071764417	0.5436364	0.052726444
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ENSG00000100100	PIK3IP1	1.926397387	0.383557406	1.039717821	0.243740218
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ENSG00000090975	PITPNM2	-2.651801754	3.268741582	0.400038896	2.849658279
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ENSG00000170927	PKHD1	1.343543598	0.057431576	0.1294818	0.086110761
ENSG00000205038	PKHD1L1	1.649203932	0.437558856	0.910664266	0.701200602
ENSG00000135549	PKIB	1.685683789	10.43118349	22.10375938	10.79783813
ENSG00000160447	PKN3	2.68293453	0.294165808	1.698428375	0.793936536
ENSG00000144837	PLA1A	2.394511387	0.267403094	12.03845461	0.495337141
ENSG00000168907	PLA2G4F	3.174297761	0.035096608	0.869092226	0.065932998
ENSG00000153246	PLA2R1	1.227514677	0.085878429	0.549267559	0.091345792
ENSG00000181690	PLAG1	1.178475284	0.153858	0.300216141	0.219715656
ENSG00000161714	PLCD3	1.60969817	2.171241949	4.268987321	3.995253436
ENSG00000075651	PLD1	-1.441990431	3.177100875	0.912927376	2.90762396

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ENSG00000153404	PLEKHG4B	1.236336678	0.18328143	0.667096009	0.15177899
ENSG00000152527	PLEKHH2	1.519012998	1.158853628	2.682161775	1.55417257
ENSG00000147872	PLIN2	-3.232663835	157.3675042	11.25448569	207.9029752
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ENSG00000100979	PLTP	1.886695141	0.447325943	1.258457356	0.752939815
ENSG00000162877	PM20D1	-2.249830932	11.00581705	6.712892403	13.51405405
ENSG00000141682	PMAIP1	2.400877783	41.47796606	141.4993438	38.35425771
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ENSG00000105852	PON3	2.303401506	0.151196315	1.373409509	0.311140319
ENSG00000185668	POU3F1	1.816824048	0.346396871	1.540123904	0.500920113
ENSG00000184486	POU3F2	-1.54647589	85.91057181	19.48888901	80.95846116
ENSG00000152192	POU4F1	2.308843561	1.117424955	3.976301591	2.174030392
ENSG00000242551	POU5F1P6	1.507878975	1.665974355	12.60568138	1.281839718
ENSG00000106536	POU6F2	3.360056471	0.023465696	2.027011748	0.027656267
ENSG00000109819	PPARGC1A	1.991104468	0.5703706	3.263264661	0.670040394
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ENSG00000139220	PPFIA2	2.756105149	0.077797857	1.120143319	0.072737556
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ENSG00000137168	PPIL1	-1.168343511	86.94662475	25.00826507	88.60854499
ENSG00000106341	PPP1R17	7.795026691	0.060907437	21.97925155	0.019153028
ENSG00000184203	PPP1R2	-1.350823558	39.79252629	23.51035896	36.818488
ENSG00000074211	PPP2R2C	2.446917626	0.178018799	5.767531804	0.065316358
ENSG00000177133	PRDM16-DT	-1.164604029	3.538395281	6.289169635	2.820872006
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ENSG00000152784	PRDM8	4.399245933	0.004233446	0.600074939	0.034061008
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ENSG00000141391	PRELID3A	1.49991724	0.227629934	0.51440159	0.621003361
ENSG00000124126	PREX1	1.67587228	1.080447122	2.202919202	1.460159684
ENSG00000116690	PRG4	2.679523018	0.030178516	0.280799184	0.01607836
ENSG00000163637	PRICKLE2	1.457441557	0.619447595	2.431941696	0.81101821
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ENSG00000113494	PRLR	2.593482921	0.03048041	0.189011583	0.029003263
ENSG00000115718	PROC	-1.211175819	35.7800016	10.92553955	56.8245678
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ENSG00000007062	PROM1	2.672604875	0.055694422	1.019854123	0.283050453
ENSG00000184500	PROS1	2.941781731	0.995971113	5.309114924	1.172238481
ENSG00000148426	PROSER2	3.476004645	0.199563651	1.653835071	0.152489824
ENSG00000141127	PRPSAP2	-1.255888774	12.72806159	5.895688646	12.65083318

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ENSG00000010438	PRSS3	2.79740031	0.198178818	24.97309401	0.506714771
ENSG00000166450	PRTG	1.175551652	4.25764978	6.644594838	3.833180794
ENSG00000105227	PRX	1.361891445	0.775171451	1.749455393	1.090167741
ENSG00000135069	PSAT1	1.574451668	98.53859722	194.3313616	82.34205391
ENSG00000146005	PSD2	1.621189926	0.203785617	1.005463542	0.148182152
ENSG00000156011	PSD3	-1.213156583	13.91014017	102.3020023	11.11946173
ENSG00000159792	PSKH1	-1.542749314	105.7222426	23.7291117	114.1589018
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ENSG00000152229	PSTPIP2	1.42876671	0.249113229	12.85501273	0.452082756
ENSG00000244694	PTCHD4	1.112165633	5.050773086	7.914853472	4.246570504
ENSG00000171522	PTGER4	2.62676466	2.27497002	9.184424626	1.712738862
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ENSG00000124212	PTGIS	3.701583734	0.020464316	5.050683696	0.043261165
ENSG00000087494	PTHLH	1.37509591	0.243479538	8.821172532	0.262919853
ENSG00000184489	PTP4A3	1.746799387	3.35086002	7.538959142	3.690099218
ENSG00000152104	PTPN14	1.268565449	0.569599237	1.142831956	0.286042723
ENSG00000127329	PTPRB	1.627094604	0.019704477	3.751871943	0.025080632
ENSG00000225706	PTPRD-AS1	3.161249355	0.156221662	1.416698814	0.13478141
ENSG00000144724	PTPRG	3.417039678	0.081635858	0.603283751	0.092882874
ENSG00000139304	PTPRQ	4.771053716	0	0.426446102	0.003723162
ENSG00000105426	PTPRS	1.64269172	0.138350522	0.560319752	0.123805907
ENSG00000106278	PTPRZ1	1.003442657	10.48060713	13.8549636	12.21201814
ENSG00000225180	PVALEF	1.100972982	1.161552358	1.674694712	1.492421213
ENSG00000100504	PYGL	1.100965625	0.251189176	7.21729978	0.37879836
ENSG00000171016	PYGO1	1.041326627	0.75181069	1.948708611	0.900076736
ENSG00000131096	PYY	1.768789379	0.882759603	2.315285897	0.748814627
ENSG00000041353	RAB27B	-1.106790454	3.899352	1.793474233	4.545313213
ENSG00000137502	RAB30	-1.149319774	3.41806234	1.884597778	2.428553498
ENSG00000168461	RAB31	1.061999104	1.35114306	2.277402947	2.306774267
ENSG00000172780	RAB43	1.705228831	0.152502995	0.830645139	0.252755502
ENSG00000166128	RAB8B	-1.061462851	48.87347093	16.10242241	37.45488096
ENSG00000123570	RAB9B	-1.004168804	52.2558967	17.18665687	51.0707267
ENSG00000151164	RAD9B	-2.152438893	0.153098167	8.058635761	0.12758438
ENSG00000203722	RAET1G	3.048665947	0.336871306	10.43869931	0.653967446
ENSG00000175097	RAG2	4.422295047	0	0.067380322	0.007136017
ENSG00000039560	RAI14	2.059444342	2.383548864	7.523801318	3.922860998
ENSG00000204764	RANBP17	1.623185402	0.072116621	0.175029175	0.14855773
ENSG00000136237	RAPGEF5	1.216017079	7.457897514	14.48557006	10.08802594
ENSG00000108551	RASD1	3.531018564	4.896912381	36.28952965	6.412857473
ENSG00000172575	RASGRP1	1.305978473	1.290743699	7.965323389	1.094469318
ENSG00000281358	RASSF1-AS1	1.299451341	2.292826916	22.72997088	3.481362368
ENSG00000101265	RASSF2	1.263057439	0.109258626	1.246548589	0.125108979
ENSG00000167281	RBFOX3	1.555253669	0.496276136	3.659149786	0.306311888
ENSG00000213411	RBM22P2	2.229361593	0.299120706	1.006748776	0.269488519
ENSG00000151962	RBM46	4.642113768	0.007624732	0.527990134	0.067048035
ENSG00000138207	RBP4	-1.159342117	16.0443524	5.233590803	8.929603639
ENSG00000157110	RBPMS	1.445954669	0.382868813	0.740341441	0.47218357

ENSG00000159200	RCAN1	-1.915206705	9.279660217	3.962329818	8.887046756
ENSG00000136144	RCBTB1	-1.05573165	76.78681667	24.42354978	80.48953481
ENSG00000189056	RELN	2.666693733	0.016389758	0.862179505	0.027196151
ENSG00000165731	RET	-1.594597677	18.44197528	16.43050352	28.98647659
ENSG00000183688	RFLNB	1.295969882	18.06094787	28.37534685	30.21453822
ENSG00000090104	RGS1	4.835686013	0	2.0921254	0.037028281
ENSG00000076344	RGS11	-1.614719442	1.084058923	15.64901189	1.821954554
ENSG00000147509	RGS20	3.653480154	0.448413317	3.770663651	0.90470148
ENSG00000182732	RGS6	-2.354922999	7.053330054	1.014822186	7.577488569
ENSG00000186479	RGS7BP	1.11269062	0.62432077	2.740705709	0.620412283
ENSG00000108370	RGS9	1.500730069	10.15374429	18.94554129	9.547235471
ENSG00000007384	RHBDF1	1.879701213	0.074653054	0.660748268	0.186284795
ENSG00000141314	RHBDL3	1.741803233	0.53479432	11.02057731	1.158714221
ENSG00000168421	RHOH	3.402509425	0.024847463	0.260006386	0.0430452
ENSG00000254389	RHPN1-AS1	1.699486576	2.355164201	5.871142606	3.813400758
ENSG00000188026	RILPL1	1.582932244	0.670748802	1.378886683	0.764779213
ENSG00000101098	RIMS4	1.935759254	2.470923525	8.854642937	5.937902183
ENSG00000042062	RIPOR3	3.465727533	0.009972824	0.751318878	0.012779586
ENSG00000183145	RIPPLY3	1.378529682	8.492781266	16.92335544	24.34639437
ENSG00000139405	RITA1	-1.023985908	29.46110909	9.428683741	32.45726053
ENSG00000107018	RLN1	1.510176241	0.592945366	8.732374664	1.010974202
ENSG00000107014	RLN2	1.008840178	1.688003807	7.175450193	2.704008322
ENSG00000255794	RMST	2.873684731	0.012238271	0.587301346	0.014924135
ENSG00000201078	RN7SKP214	1.058520236	7.877413277	12.58962915	11.79951982
ENSG00000240250	RN7SL541P	-1.549622412	11.10251408	2.947831457	7.614427869
ENSG00000101695	RNF125	1.736004611	0.36516793	5.463949973	0.449968139
ENSG00000170153	RNF150	1.421500192	14.05885549	25.57396672	9.199166548
ENSG00000141576	RNF157	1.735361663	1.184782869	2.862809289	1.649245994
ENSG00000141622	RNF165	2.774165337	0.355958584	14.02295421	0.392723505
ENSG00000165188	RNF183	3.193509962	0.016827732	1.512878368	0.119358094
ENSG00000158286	RNF207	-1.481596937	0.856230298	1.06315369	1.177518601
ENSG00000215277	RNF212B	1.179098885	0.663217062	0.780171144	0.563014613
ENSG00000105982	RNF32	-1.040196758	1.566403402	0.521790787	1.319176934
ENSG00000238365	RNU7-57P	-1.524589547	57.73823703	9.535631331	40.33949595
ENSG00000270722	RNVU1-31	4.009812156	0.44298884	5.102232801	2.107687904
ENSG00000147403	RPL10	-1.146705953	115.7960868	45.83402089	129.8893919
ENSG00000178464	RPL10P16	-1.574485119	5.037571082	3.453866293	4.262705621
ENSG00000237169	RPL12P27	-2.755286842	2.926872504	17.25646031	0.825623331
ENSG00000240270	RPL12P37	4.222751293	0.132799659	2.897795348	0.250873396
ENSG00000227939	RPL3P2	-1.153410057	3.792979605	1.503490064	2.925663508
ENSG00000225093	RPL3P7	-1.829581591	2.398288379	0.841430493	1.041890702
ENSG00000141425	RPRD1A	-1.168103166	83.91880418	25.01429186	79.97751504
ENSG00000177519	RPRM	1.963749551	4.779666435	12.92303394	6.82946898
ENSG00000220848	RPS18P9	-1.523143104	27.54760996	19.87578427	27.48866336
ENSG00000198208	RPS6KL1	-1.289136633	10.20359857	8.503051488	10.07115028
ENSG00000243499	RPS6P21	-2.098115839	2.485683097	1.980647694	2.245897351
ENSG00000216471	RPSAP43	2.063405503	0.652584492	3.572375143	0.466522609
ENSG00000048392	RRM2B	-1.026746694	72.13417494	23.67986487	42.8760537
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ENSG00000132026	RTBDN	1.638600008	1.47676969	14.63188565	2.156380884
ENSG00000254656	RTL1	-1.901208105	0.967815317	5.702988475	1.526610496
ENSG00000186907	RTN4RL2	1.241419347	121.5195738	187.0100216	177.2067334
ENSG00000188011	RTP5	-3.230794005	33.24382018	2.279582195	17.93015447
ENSG00000182631	RXFP3	-1.031376751	86.39429569	125.6789088	69.45582242
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ENSG00000171643	S100Z	2.073954171	0.1981741	14.50385437	0.509642696
ENSG00000170989	S1PR1	5.400114394	0	137.2811662	0
ENSG00000213694	S1PR3	1.90626387	0.146327781	0.675605584	0.190031286
ENSG00000256463	SALL3	5.040691072	0.003731146	0.211480549	0.006288806
ENSG00000187634	SAMD11	2.017013874	1.062655569	3.008256786	0.82527186
ENSG00000167100	SAMD14	2.189994223	0.024145998	0.114983086	0.017547245
ENSG00000203727	SAMD5	-1.465646632	124.2692475	31.16189515	136.0719088
ENSG00000155307	SAMSN1	2.126503977	0.065910873	0.249039173	0.085124524
ENSG00000228956	SATB1-AS1	2.056989254	0.05007716	14.80093615	0.047929464
ENSG00000119042	SATB2	1.532366797	0.083821685	0.22812693	0.138895711
ENSG00000188659	SAXO2	-1.407116594	7.899558325	2.147334684	6.700306586
ENSG00000145284	SCD5	-1.194899004	104.9195802	29.84777245	135.3573931
ENSG00000105711	SCN1B	2.809068525	0.017327896	0.953130152	0.025025708
ENSG00000136546	SCN7A	1.378393008	0.206588498	15.83256825	0.292276124
ENSG00000169432	SCN9A	-1.205440767	1.923573062	0.584156389	2.002570961
ENSG00000196951	SCOC-AS1	-1.026767363	2.065083359	0.848620998	1.797868007
ENSG00000261678	SCRT1	1.338293236	28.52664059	47.11534884	32.4268415
ENSG00000146197	SCUBE3	4.9308822	0.258761802	5.696539745	0.243332462
ENSG00000162512	SDC3	-1.237678186	8.541255075	26.82311797	8.936805044
ENSG00000069188	SDK2	1.261480782	3.829247863	8.534700184	2.812190288
ENSG00000166562	SEC11C	1.065611642	162.9941693	224.2082645	176.7007897
ENSG00000214491	SEC14L6	3.485782045	0.146408407	4.091385039	0.30131981
ENSG00000141574	SECTM1	1.089204926	6.884728458	123.1417533	10.45030934
ENSG00000091490	SEL1L3	2.435002268	2.714701538	10.09093281	2.327177076
ENSG00000188404	SELL	4.00498116	0.011256135	5.23415416	0.030012235
ENSG00000110876	SELPLG	1.680245678	0.163130056	5.311276329	0.201477642
ENSG00000153993	SEMA3D	2.034169775	0.527759728	1.526496819	0.532408109
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ENSG00000138758	SEPTIN11	-1.135256831	68.05637685	20.59449362	70.57816972
ENSG00000168528	SERINC2	1.039239019	5.090389355	15.37441647	6.802165813
ENSG00000099937	SERPIND1	1.208940632	1.074677381	11.71243765	2.681319266
ENSG00000106366	SERPINE1	4.679257835	0	3.645760413	0.108357623
ENSG00000135919	SERPINE2	1.084932018	11.92387407	17.4447857	14.97003105
ENSG00000167711	SERPINF2	1.561439793	3.73003047	7.448018351	5.802835477
ENSG00000149257	SERPINH1	1.194930603	4.542269146	15.30315068	5.003379463
ENSG00000180440	SERTM1	-1.495731679	1.821126184	3.932697517	1.636025664
ENSG00000260802	SERTM2	3.17221111	8.051981747	50.1024952	10.127639
ENSG00000149212	SESN3	1.327266852	115.1982519	189.7260317	92.18191743
ENSG00000104332	SFRP1	1.141426569	23.33630338	57.82238313	38.25404427
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ENSG00000231304	SGO1-AS1	1.233993026	2.602451664	21.86109455	2.488165156
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ENSG00000189410	SH2D5	1.929321857	0.057369246	2.01398911	0.199274585
ENSG00000100092	SH3BP1	1.027078719	1.83937597	2.64009074	2.59267839
ENSG00000130147	SH3BP4	1.106187464	0.417566046	0.656455377	0.838126938
ENSG00000131370	SH3BP5	2.804046666	0.770224456	4.994869395	1.256932632
ENSG00000147010	SH3KBP1	-1.139303228	30.76727458	9.470332713	38.94507336
ENSG00000174705	SH3PXD2B	-1.098676454	32.11071584	11.58435706	31.33060659
ENSG00000172985	SH3RF3	1.07065302	1.369753926	6.405197828	1.519583089
ENSG00000125089	SH3TC1	1.320903818	3.356616532	10.43298968	2.37811969
ENSG00000129214	SHBG	1.976688155	0.091169292	1.320337558	0.152054222
ENSG00000148082	SHC3	2.013964367	1.204949475	5.859764824	0.734268401
ENSG00000185634	SHC4	1.262541946	0.47199778	0.838485313	0.35526026
ENSG00000171241	SHCBP1	1.121438819	3.277836732	6.611337629	5.499572312
ENSG00000180730	SHISA2	-1.761147293	25.52230581	5.411882425	24.90491319
ENSG00000234965	SHISA8	4.034377135	0.036490652	2.494495189	0.128035364
ENSG00000138944	SHISAL1	1.835941536	0.513096707	3.648082847	1.137347939
ENSG00000182199	SHMT2	1.034976666	15.17811136	20.54824715	15.8090927
ENSG00000215475	SIAH3	4.54485747	0.019556135	0.888225658	0.034963483
ENSG00000126778	SIX1	3.142083836	0.030359866	10.59834302	0.112391701
ENSG00000170577	SIX2	1.928360463	10.82514284	26.14720591	26.01952683
ENSG00000177045	SIX5	1.516660392	3.76895465	7.252746985	3.844472406
ENSG00000113558	SKP1	-1.430345173	45.61480475	25.60283784	45.20273971
ENSG00000140199	SLC12A6	-1.064730428	11.22802632	7.15550115	9.312583901
ENSG00000088386	SLC15A1	-2.376159145	1.367150654	5.866080323	1.448482689
ENSG00000147100	SLC16A2	2.352011348	8.683863939	30.47412706	12.82408455
ENSG00000118596	SLC16A7	1.300580423	3.112314459	4.857899031	3.497218737
ENSG00000124568	SLC17A1	1.317764381	1.184558152	17.14945441	3.978574059
ENSG00000091664	SLC17A6	3.29058233	0.045056054	3.044304948	0.080643486
ENSG00000165646	SLC18A2	4.93877487	0.328371975	7.417590738	0.635366019
ENSG00000106688	SLC1A1	-1.136082117	1.076194135	0.442363833	1.111030884
ENSG00000110436	SLC1A2	3.270737721	0.002768228	3.38087295	0.002242232
ENSG00000105281	SLC1A5	1.513966318	0.543126442	1.137830253	1.301032552
ENSG00000168065	SLC22A11	1.571455132	1.150581163	2.270483467	0.859702541
ENSG00000197208	SLC22A4	1.8552556	1.000386321	2.818234284	1.200760242
ENSG00000155886	SLC24A2	-1.540700845	1.373266919	1.446957209	0.832796897
ENSG00000147454	SLC25A37	-1.002919761	16.06564892	6.680240415	17.23498879
ENSG00000077713	SLC25A43	-1.698454107	9.268163965	2.044917523	9.944314827
ENSG00000169100	SLC25A6	-1.428108162	690.2138309	172.7518554	777.2858947
ENSG00000091137	SLC26A4	3.485617032	0.279790138	2.942308406	0.246967701
ENSG00000167114	SLC27A4	-1.418745396	113.5511842	111.0900652	113.6613347
ENSG00000146411	SLC2A12	2.363971765	3.419784614	12.78064115	4.615981775
ENSG00000151229	SLC2A13	-1.096266733	75.19726774	36.58382511	76.3803175
ENSG00000163581	SLC2A2	-1.798959327	0.256761396	5.687517077	0.183911191
ENSG00000115194	SLC30A3	2.87905998	0.086466728	12.32992267	0.062299677
ENSG00000101438	SLC32A1	-2.238104318	57.4396998	8.333184366	37.74698121
ENSG00000196376	SLC35F1	2.057635387	2.04959619	5.843393795	5.270607157
ENSG00000110660	SLC35F2	1.334079935	0.481686739	4.505043781	0.637949362
ENSG00000111371	SLC38A1	7.177613931	0	2.922057532	0.02241958
ENSG00000139540	SLC39A5	1.347663623	1.132741696	2.373047807	3.053113498
ENSG00000133065	SLC41A1	-1.697912746	90.538418	18.46758908	82.96187964

ENSG00000134802	SLC43A3	1.01780242	1.513951069	2.876594158	3.346110883
ENSG00000143036	SLC44A3	1.04199563	10.08249981	22.75253021	12.7480572
ENSG00000224081	SLC44A3-AS1	1.667855027	0.363225696	1.767561951	0.410992333
ENSG00000137968	SLC44A5	1.714593341	1.135702661	9.292859197	1.160140767
ENSG00000080493	SLC4A4	2.394877886	0.242181755	1.25174555	0.392663548
ENSG00000188687	SLC4A5	-1.676492739	0.061207048	1.288383302	0.033814446
ENSG00000256870	SLC5A8	1.649778244	0.529417395	1.326720957	0.861848545
ENSG00000197106	SLC6A17	2.107296726	0.42471145	1.160765262	0.295720723
ENSG00000103546	SLC6A2	1.625378156	0.887531775	2.542443182	2.578413464
ENSG00000108576	SLC6A4	-1.915180925	4.566734341	1.417509326	2.612987293
ENSG00000151012	SLC7A11	3.982625545	3.276649668	35.18566465	1.591366075
ENSG00000250033	SLC7A11-AS1	4.710142227	0	0.540435605	0.007853569
ENSG00000013293	SLC7A14	1.188591416	2.978347515	21.4605251	3.657956467
ENSG000000103257	SLC7A5	3.755733203	2.785033506	24.6154064	1.845654419
ENSG00000021488	SLC7A9	-1.710509831	0.809786401	2.318585107	0.793105508
ENSG00000183023	SLC8A1	1.156009068	3.473082336	17.90897353	3.555850136
ENSG00000118160	SLC8A2	2.748400816	0.302857529	1.44272409	0.449741491
ENSG00000100678	SLC8A3	2.586432613	0.541274475	4.587882921	0.565277221
ENSG00000227825	SLC9A7P1	2.113316378	0.423023531	1.834216236	0.591705905
ENSG00000172139	SLC9C1	1.303660935	0.494804654	1.978008306	0.512495083
ENSG00000174640	SLCO2A1	3.828680194	0.035886648	0.966243205	0.04665383
ENSG00000173930	SLCO4C1	1.236148204	33.11318172	51.42096312	36.19910087
ENSG00000137571	SLCO5A1	1.523570449	0.920716965	1.865965798	0.695880156
ENSG00000205045	SLFN12L	3.032965162	0.023605761	26.02621968	0.074937926
ENSG00000145147	SLIT2	1.357922991	0.178938057	1.186180072	0.17917584
ENSG00000165300	SLITRK5	3.651967225	0.051716227	0.485337287	0.036531502
ENSG00000184564	SLITRK6	1.837193167	42.77879507	99.79324222	78.83230899
ENSG00000137834	SMAD6	4.86371862	0.017818526	0.498237295	0.085613344
ENSG00000226746	SMCR5	1.349221603	0.493616847	51.77767636	0.409710169
ENSG00000253457	SMIM18	1.127693566	3.300891404	4.52800714	2.543794727
ENSG00000256235	SMIM3	4.607592399	0.059179951	1.60668387	0.909483694
ENSG00000256162	SMLR1	1.349916319	2.691041638	7.104090333	4.616757357
ENSG00000128602	SMO	3.154274049	1.344518692	8.27406228	2.493858405
ENSG00000088826	SMOX	1.597715948	1.057498423	4.665169708	1.222832655
ENSG00000237194	SNAI1P1	1.500180249	2.565736178	9.093771022	1.981197009
ENSG00000064692	SNCAIP	5.569922459	0	1.063396817	0
ENSG00000260260	SNHG19	1.130942728	95.20667299	140.6890862	108.877615
ENSG00000201700	SNORD113-3	-2.421970515	68.96415081	6.645512362	63.60937878
ENSG00000207063	SNORD116-1	-2.04104867	18.95550081	69.97039271	17.41124099
ENSG00000207197	SNORD116-12	-2.325915836	23.9276651	10.37613295	15.09327417
ENSG00000101298	SNPH	-1.190170443	63.20009165	19.70458005	37.43911872
ENSG00000172164	SNTB1	3.579014572	0.039953846	0.932212022	0.06403043
ENSG00000235688	SNTG2-AS1	-1.074104264	38.05141383	20.91634075	53.55170807
ENSG00000225345	SNX18P3	1.017273378	1.125137362	1.710827264	0.998122461
ENSG00000234373	SNX18P7	1.85866854	1.20346743	9.49973948	1.632143246
ENSG00000109762	SNX25	-1.482983183	24.12150419	6.13788691	23.63603435
ENSG00000236809	SNX25P1	1.694370699	1.583042086	4.419046933	2.754177029
ENSG00000173548	SNX33	1.194971661	3.217282311	8.005895867	3.533026232
ENSG00000185338	SOCS1	1.621562287	0.716051116	3.493417041	1.164624612

ENSG00000120833	SOC52	1.649137469	0.234080249	2.809957431	0.410208843
ENSG00000140263	SORD	-1.020813616	87.24773411	27.93724941	102.0476914
ENSG00000181449	SOX2	1.283630598	0.991170235	1.79427668	2.323673728
ENSG00000227640	SOX21-AS1	4.902622899	0	15.31987474	0.017939237
ENSG00000124766	SOX4	-1.120446398	54.68497225	17.11953888	84.88194279
ENSG00000125398	SOX9	3.447728781	0.229368262	1.710627403	0.25434148
ENSG00000234494	SP2-AS1	-1.501902809	1.041589974	8.7247751	0.99933803
ENSG00000204335	SP5	2.346381935	7.151042002	25.25259577	13.05557521
ENSG00000196096	SPAG16-DT	1.128176756	3.310981174	4.791183372	2.25195433
ENSG00000189419	SPATA41	1.829495823	0.211225131	12.03518947	0.284655759
ENSG00000161888	SPC24	1.322479621	2.497899758	6.53245292	8.493319945
ENSG00000176170	SPHK1	2.172711191	0.027857545	0.223761891	0.024576393
ENSG00000122711	SPINK4	6.340056411	0	4.032231268	0.069749797
ENSG00000107742	SPOCK2	1.577765973	2.144868296	4.177076136	2.580872509
ENSG00000159674	SPON2	1.174072132	0.18676236	1.621062457	0.195216856
ENSG00000136158	SPRY2	3.543824576	0.707875493	7.389814131	0.81059289
ENSG00000171621	SPSB1	1.244472303	2.164189056	3.720198085	2.838448178
ENSG00000196542	SPTSSB	1.623832389	4.515763704	11.76792246	6.840286782
ENSG00000137767	SQOR	1.009133637	0.407238689	1.985826365	0.529427081
ENSG00000146700	SSC4D	-1.45008229	0.772163407	5.024174714	0.57554389
ENSG00000157005	SST	5.053400132	1355.657948	29963.74035	938.2751366
ENSG00000217330	SSXP10	4.503630229	0	1.503823173	0
ENSG00000215875	ST13P20	4.607123887	0	14457.23436	0.061235738
ENSG00000232504	ST3GAL5-AS1	1.653075421	2.833259078	5.251855865	3.615896084
ENSG00000214188	ST7-OT4	3.562396147	0.013974454	0.32331589	0.062967487
ENSG00000101638	ST8SIA5	1.60698223	0.560913661	4.766687912	0.844572783
ENSG00000010327	STAB1	1.220903738	0.172089404	0.346658638	0.187121923
ENSG00000141750	STAC2	4.244277406	0	0.635326057	0.071507637
ENSG00000138378	STAT4	2.429426722	0.104259256	0.485367867	0.135007497
ENSG00000159167	STC1	2.568989041	1.737730665	6.322427168	2.265987354
ENSG00000113739	STC2	1.524337587	32.06081127	61.84272214	43.24854416
ENSG00000105889	STEAP1B	1.554365029	0.319908539	4.423118785	0.804225373
ENSG00000115107	STEAP3	-1.418171497	0.835686798	29.72459222	0.975403972
ENSG00000224418	STK24-AS1	1.242017878	3.9017238	6.15868968	4.614653525
ENSG00000165730	STOX1	1.045827048	4.489343675	6.213947469	4.825090867
ENSG00000173320	STOX2	1.088922684	5.361333534	10.82152787	6.174050598
ENSG00000135604	STX11	-3.915687347	8.810577956	3.414301627	1.314669008
ENSG00000111450	STX2	-1.292035958	56.62705357	19.21176224	53.17597186
ENSG00000168952	STXBP6	1.64982045	0.773214618	1.75510295	1.083471874
ENSG00000137573	SULF1	1.47664841	5.284533689	16.97643575	6.678905815
ENSG00000196562	SULF2	4.075756132	1.180733618	14.0424006	0.431784668
ENSG00000130540	SULT4A1	-1.062055327	16.80609421	10.24199759	16.89199588
ENSG00000143502	SUSD4	-1.318542516	15.19284479	10.48649828	14.9161377
ENSG00000165124	SVEP1	3.267355912	0.010208859	2.655430621	0.019152564
ENSG00000147642	SYBU	1.167241902	0.124454392	2.146588039	0.136624756
ENSG00000183379	SYNDIG1L	2.829642902	11.10835791	50.89516829	16.40341885
ENSG00000176438	SYNE3	-2.202422402	6.896479291	1.069132159	4.561519698
ENSG00000127561	SYNGR3	-1.681822923	11.02792853	29.39112056	9.214876528
ENSG00000171992	SYNPO	1.032521199	1.595025676	2.588822573	3.075978889

ENSG00000172403	SYNPO2	1.609600978	0.632440017	2.207558782	0.375535179
ENSG00000143028	SYPL2	3.061791698	1.896249586	10.96813211	2.870574822
ENSG00000067715	SYT1	1.922912332	2.190654995	6.012697913	2.307802278
ENSG00000143858	SYT2	-1.910115536	74.91399552	18.60344539	60.35453406
ENSG00000137501	SYTL2	1.762122798	0.205783249	3.247488586	0.187401642
ENSG00000164674	SYTL3	1.06670066	0.736780173	7.910515703	0.959877807
ENSG00000147526	TACC1	-1.354194359	10.33707363	2.897745356	9.886691817
ENSG00000197780	TAF13	-1.551270948	143.7504145	32.34725048	124.6461131
ENSG00000187325	TAF9B	-1.140975942	81.8934053	25.357413	71.75030173
ENSG00000219438	TAF45	-1.275348964	42.61620533	28.260007	49.64355475
ENSG00000127364	TAS2R4	-1.238397141	1.568439371	13.13943364	0.875087776
ENSG00000184058	TBX1	2.397029335	0.045976628	5.878975772	0.030736513
ENSG00000267280	TBX2-AS1	1.525482178	12.53394447	24.16332478	18.82600259
ENSG00000159450	TCHH	1.836769735	0.278355989	0.699794267	0.343002443
ENSG00000176907	TCIM	5.682410165	0	12.24525256	0.239489128
ENSG00000203690	TCP10	4.128063137	0	0.370282028	0
ENSG00000166984	TCP10L2	3.527495641	0.020747526	0.597117255	0.027458561
ENSG00000173809	TDRD12	-2.08470261	0.829534575	0.15826887	1.298789647
ENSG00000162782	TDRD5	-1.021938302	2.183055033	0.795787023	2.899610611
ENSG00000007866	TEAD3	1.168857575	10.25000839	14.82770902	12.3139578
ENSG00000163060	TEKT4	1.478246125	0.657332985	1.564673669	0.92553007
ENSG00000145934	TENM2	1.753208693	7.389757905	24.50657243	12.49654593
ENSG00000158246	TENT5B	-1.547993614	51.59171447	11.69800684	62.44291872
ENSG00000226174	TEX22	1.214916122	1.935287876	11.05695022	2.284661188
ENSG00000163424	TEX55	-1.1615663	1.534032388	6.817838657	1.325782367
ENSG00000008196	TFAP2B	2.933933362	0.584527375	4.352647822	0.847988384
ENSG00000008197	TFAP2D	3.607626831	0.057312145	0.72600436	0.171981561
ENSG00000115112	TFCP2L1	1.203484194	0.548415112	2.246982916	0.985727744
ENSG00000003436	TFPI	2.951700188	0.383784843	2.090174785	0.425672446
ENSG00000105825	TFPI2	3.487518809	1.073511955	8.211070863	2.245459214
ENSG00000072274	TFRC	-1.328487716	64.91731961	18.03853663	55.24781275
ENSG00000163235	TGFA	-2.263496567	1.444216832	4.316118375	0.667830034
ENSG00000105329	TGFB1	4.074018413	1.241710776	21.65123774	1.191387055
ENSG00000140682	TGFB1I1	1.312332081	0.283672208	0.623355212	0.326728135
ENSG00000092969	TGFB2	3.257026007	1.216593019	15.00912988	1.038049
ENSG00000232480	TGFB2-AS1	2.38859641	0.899925482	3.230114561	0.428833302
ENSG00000163513	TGFB2R2	3.477776394	1.658203567	15.77372118	3.640315441
ENSG00000260001	TGFB3L	2.316158542	0.136377192	2.02309419	0.355102877
ENSG00000092295	TGM1	-1.294406254	0.826782492	6.591430828	0.888634287
ENSG00000180176	TH	-1.47636277	0.868669559	0.379133016	1.830088333
ENSG00000174796	THAP6	-1.14941262	23.65232434	7.018585697	19.99712193
ENSG00000249693	THEGL	1.402557861	0.56960016	0.978980168	1.269508419
ENSG00000226856	THORLNC	4.60713159	0	3.993624963	0.064044703
ENSG00000136114	THSD1	1.251603022	2.101737929	3.905773283	2.43243713
ENSG00000187720	THSD4	2.789196896	0.113202428	0.633024595	0.150419146
ENSG00000005108	THSD7A	3.143300488	0.158429356	2.548885711	0.197169465
ENSG00000140534	TICRR	1.175469823	1.309258764	2.166046423	2.840691499
ENSG00000035862	TIMP2	1.711703493	0.64521639	1.828409316	0.712037961
ENSG00000100234	TIMP3	-1.681129756	135.2219343	28.46659147	136.3783216

ENSG00000137251	TINAG	2.476238429	0.141377009	1.19139155	0.142311382
ENSG00000174125	TLR1	3.562376159	0.006950174	14.29144477	0.067954717
ENSG00000187554	TLR5	-1.787420034	4.905631214	1.24531755	3.544742372
ENSG00000168955	TM4SF20	-4.802768416	0.297176875	0.021386052	0.232290888
ENSG00000101337	TM9SF4	-1.315163172	166.4265215	43.43614131	156.0470707
ENSG00000284730	TMDD1	1.083508623	7.014760119	9.652138591	7.004095361
ENSG00000144339	TMEFF2	2.718152175	0.388026376	24.64559764	0.787382095
ENSG00000106460	TMEM106B	-1.411570083	21.92642618	10.15678353	18.64386966
ENSG00000232258	TMEM114	3.116614415	0.122467186	1.613072492	0.300175723
ENSG00000139173	TMEM117	2.497299962	0.285609189	4.053878057	0.324530955
ENSG00000151952	TMEM132D	-1.446397942	16.50412369	4.384778111	10.25822475
ENSG00000146859	TMEM140	2.402883151	1.029988349	3.973945144	0.696346759
ENSG00000249242	TMEM150C	-1.05621696	9.899349284	5.208637503	11.03898138
ENSG00000249992	TMEM158	1.504047313	18.48049201	35.7457426	28.34691063
ENSG00000152128	TMEM163	1.448324218	0.388429599	2.138724061	0.633568875
ENSG00000127419	TMEM175	-1.19604215	11.40547006	21.30350623	10.96169726
ENSG00000206432	TMEM200C	2.198160534	3.59127422	10.804129	3.368556027
ENSG00000125355	TMEM255A	2.190211853	0.10826765	1.891348944	0.235199919
ENSG00000273238	TMEM271	5.481373609	0	6.214354319	0
ENSG00000171227	TMEM37	-1.207419947	425.2785593	117.8305072	384.540644
ENSG00000151715	TMEM45B	2.092346275	1.235401258	3.918151692	1.764755977
ENSG00000175147	TMEM51-AS1	2.037717571	0.139837031	64.59727463	0.187605495
ENSG00000006042	TMEM98	1.385132429	16.01469402	29.19122097	15.57369059
ENSG00000137747	TMPRSS13	-2.876820419	0.26398943	0.233787707	0.140292463
ENSG00000158164	TMSB15A	1.03008765	68.43761231	105.5349404	157.4038099
ENSG00000154620	TMSB4Y	2.399782214	0.524224364	1.934331108	1.259381036
ENSG00000133687	TMTC1	1.487235866	19.44227365	81.60333901	20.21576463
ENSG00000139921	TMX1	-1.016514889	148.3783998	48.26242544	148.9413332
ENSG00000183578	TNFAIP8L3	1.43287071	0.718153889	19.57370766	0.340565179
ENSG00000120889	TNFRSF10B	3.275910415	0.133930142	25.92783771	0.096607477
ENSG00000164761	TNFRSF11B	3.961613919	0.187921034	2.573313523	0.108326038
ENSG00000146072	TNFRSF21	2.067380164	13.97955079	37.97099357	6.428825378
ENSG00000145901	TNIP1	-1.694120088	20.27635236	5.168841825	16.94024981
ENSG00000149115	TNKS1BP1	1.189421912	10.62653031	35.84724265	11.88756948
ENSG00000120332	TNN	3.421619897	0.079753192	2.584520791	0.171165171
ENSG00000111077	TNS2	1.411125523	0.456606618	9.003615954	0.518111809
ENSG00000173726	TOMM20	-1.229370083	142.8290489	40.39115755	129.3167841
ENSG00000143337	TOR1AIP1	-1.493083177	31.15709371	7.531074251	27.70117607
ENSG00000175274	TP53I11	1.165174834	18.61531487	47.11778632	18.43414665
ENSG00000124251	TP53TG5	3.919541414	0.018276772	4.041703199	0.109719671
ENSG00000078900	TP73	1.715409887	0.023841598	14.2147287	0.127384448
ENSG00000146242	TPBG	1.273825954	4.758484517	7.339061283	6.133627228
ENSG00000111907	TPD52L1	1.256375042	0.926627813	1.425701602	1.115009849
ENSG00000139287	TPH2	3.098927961	0.25588111	5.492713297	0.485928409
ENSG00000230359	TPI1P2	-1.116417922	11.3232012	4.355400712	8.675229032
ENSG00000159713	TPPP3	-2.15528933	9.100100878	2.108580692	8.836466087
ENSG00000269113	TRABD2B	4.559166345	0.008589551	1.727502042	0.015409975
ENSG00000277734	TRAC	4.100357946	0	1.116709217	0.117497765
ENSG00000082512	TRAF5	1.088004847	0.329024497	0.535908186	0.455030666

ENSG00000168016	TRANK1	2.273442108	0.165030037	0.700048007	0.221000357
ENSG00000231165	TRBV26OR9-2	1.142202453	8.540978004	11.34226532	7.211736599
ENSG00000072657	TRHDE	2.771685446	0.031899	0.404962111	0.020229413
ENSG00000236333	TRHDE-AS1	1.992467022	0.040151263	7.536989837	0.060683247
ENSG00000173334	TRIB1	1.703486879	13.04204862	27.12655429	12.93312031
ENSG00000255690	TRIL	2.715379439	0.056745693	0.299387419	0.099994853
ENSG00000137699	TRIM29	-1.246587687	1.433821785	15.2557328	1.747356981
ENSG00000132256	TRIM5	4.100321974	0	0.156755329	0
ENSG00000166436	TRIM66	-1.000742293	1.977433571	0.91638949	2.01714288
ENSG00000146054	TRIM7	1.088903011	1.088783441	1.614985232	1.167135308
ENSG00000206557	TRIM71	5.960686554	0	0.432739534	0.006602062
ENSG00000100505	TRIM9	1.378162045	1.914831331	3.945423622	2.240116139
ENSG00000121486	TRMT1L	-1.025717688	80.45534389	25.87350087	72.05160754
ENSG00000250305	TRMT9B	1.113265336	0.676763749	2.597602929	0.854432974
ENSG00000133107	TRPC4	1.040242078	3.923647312	18.58814279	4.258294921
ENSG00000137672	TRPC6	3.205173781	0.01028864	0.559316021	0.026250372
ENSG00000119121	TRPM6	2.334227001	0.05622581	2.799807403	0.104795849
ENSG00000157514	TSC22D3	-1.947692602	40.84335807	6.830063348	32.20742274
ENSG00000121297	TSHZ3	1.009308236	4.678790249	6.235367544	3.437424078
ENSG00000182704	TSKU	1.183576501	6.079618619	12.48656874	7.957029686
ENSG00000117472	TSPAN1	2.078201318	1.821319751	8.096650556	2.54373421
ENSG00000110900	TSPAN11	3.392209564	0.015397173	4.913418396	0.039107365
ENSG00000157570	TSPAN18	3.540365516	0.067167501	3.114625104	0.117346793
ENSG00000175894	TSPEAR	-1.46921582	9.435775567	2.305098902	7.936811609
ENSG00000118271	TTR	-1.346419662	11711.30033	3004.935657	11804.68237
ENSG00000234711	TUBB8P11	1.617444573	1.097474558	3.490986997	0.635161414
ENSG00000261812	TUBB8P7	1.799439344	0.308656025	1542.99328	0.450154573
ENSG00000104723	TUSC3	-1.052257053	140.5553781	44.98712308	136.8500459
ENSG00000171928	TVP23B	-1.118607381	25.4147395	7.958071068	20.16906659
ENSG00000265972	TXNIP	1.043795423	28.961275	62.34857081	28.11539137
ENSG00000077721	UBE2A	-1.568043033	43.57881469	13.8751085	42.36563757
ENSG00000175063	UBE2C	1.07786297	17.44426341	44.06178763	38.46801166
ENSG00000177889	UBE2N	-1.153676733	67.08653655	24.52414349	70.38545775
ENSG00000140367	UBE2Q2	-1.186807489	37.16453965	22.61097486	37.86453771
ENSG00000164332	UBLCP1	-1.11474603	42.77744293	23.40478057	41.26354791
ENSG00000280213	UCKL1-AS1	1.359720707	0.475928298	6.081908913	0.539704931
ENSG00000233797	UFL1-AS1	2.076568664	1.394528864	10.07795661	1.353721285
ENSG00000171234	UGT2B7	2.298113533	4.064102672	13.65164355	3.744022972
ENSG00000145626	UGT3A1	1.728192919	10.32524997	24.16208082	14.37637298
ENSG00000168671	UGT3A2	1.635571851	0.352629358	7.217779635	0.968528093
ENSG00000111981	ULBP1	2.424839426	4.031261263	25.46140154	2.937741963
ENSG00000219545	UMAD1	-1.128992297	4.754428306	1.749437834	4.857422782
ENSG00000130477	UNC13A	-1.486355873	62.73356882	21.9896934	60.55836416
ENSG00000182168	UNC5C	1.764099845	0.366030878	1.529578518	0.481291652
ENSG00000156687	UNC5D	-2.138648418	12.99510371	9.234653424	10.72564452
ENSG00000112494	UNC93A	2.701742634	0.056628861	0.669674649	0.099375158
ENSG00000110375	UPK2	2.105823187	0.256411674	1.563932405	0.163128907
ENSG00000007001	UPP2	3.25364361	0.020530192	0.215926037	0.090759232
ENSG00000124422	USP22	-1.138757084	194.46482	58.23780217	178.8966996

ENSG00000162738	VANGL2	2.934155008	0.073483501	0.511631736	0.021542445
ENSG00000038427	VCAN	5.62843837	0.019154874	30.17496003	0.021980936
ENSG00000128564	VGF	2.560402062	49.33079503	190.5526155	56.04748802
ENSG00000026025	VIM	5.215552317	0.069407789	1.932263734	0.164345836
ENSG00000106018	VIPR2	-1.155599818	0.546563858	96.96796418	1.115681272
ENSG00000176834	VSIG10	1.347552935	4.376500179	8.144260544	5.310366396
ENSG00000187135	VSTM2B	1.706967913	1.47965292	3.256731957	2.389586178
ENSG00000132821	VSTM2L	1.742717094	2.775554271	9.883053566	3.671248414
ENSG00000109072	VTN	-1.179749414	18.48988129	6.595248439	25.05265724
ENSG00000237499	WAKMAR2	1.14984825	0.391278463	3.674367121	0.528268416
ENSG00000071127	WDR1	-1.002471383	66.07322901	24.53029145	62.19294796
ENSG00000227165	WDR11-AS1	1.261445445	0.22215289	0.640457905	0.171529062
ENSG00000174776	WDR49	4.147438917	0.005701382	11.14736586	0.019870074
ENSG00000168634	WFDC13	-3.179955122	1.076613432	0.265353035	0.480496749
ENSG00000115935	WIPF1	1.703330912	2.427091873	5.10956029	3.01808888
ENSG00000070540	WIP1	1.392805163	16.69839023	28.6190812	15.15430148
ENSG00000075290	WNT8B	1.936096237	0.296135161	3.413335522	0.515685342
ENSG00000158955	WNT9B	1.854026081	0.492812311	15.89880142	0.709383453
ENSG00000075035	WSCD2	-1.162661023	2.857817276	1.256981524	3.354684669
ENSG00000103489	XYLT1	1.03902153	7.481217684	10.90957877	10.67893007
ENSG00000182362	YBEY	-1.001808864	11.68201867	4.218133524	10.37074306
ENSG00000181704	YIPF6	-1.31529321	60.56475977	20.94268344	52.59380955
ENSG00000164924	YWHAZ	-1.238640082	96.2975292	28.55111651	81.90410836
ENSG00000274775	Z82195.2	1.477927742	0.130278831	8.184895966	0.171845976
ENSG00000261659	Z92544.1	1.264127195	9.246698028	28.26004617	10.50105051
ENSG00000279255	Z97653.2	2.313596517	7.403071411	23.7575582	10.21486945
ENSG00000109906	ZBTB16	2.369372951	0.280874973	8.196975009	0.612102829
ENSG00000184828	ZBTB7C	-2.515109221	1.416595342	13.00748071	1.5431191
ENSG00000165424	ZCCHC24	2.187979556	0.942927502	3.33415332	2.510290276
ENSG00000104219	ZDHHC2	-1.603897021	78.04912101	16.4401186	66.15376822
ENSG00000177108	ZDHHC22	3.370668924	0.63829781	5.706250671	0.751989694
ENSG00000185650	ZFP36L1	2.773125781	0.285756641	10.15971585	0.399935428
ENSG00000236869	ZKSCAN7-AS1	1.476153589	2.43084258	6.008918803	2.81449105
ENSG00000165061	ZMAT4	2.98155963	0.118891054	1.389439809	0.251590806
ENSG00000015171	ZMYND11	-1.235296881	25.76812845	10.03642196	23.23037778
ENSG00000152926	ZNF117	2.149305649	0.946056243	3.127719241	0.663051461
ENSG00000179909	ZNF154	2.34158862	0.041054214	3.855831136	0.078552135
ENSG00000264278	ZNF236-DT	1.201019978	5.257956509	8.854214858	7.910835877
ENSG00000063587	ZNF275	1.048679121	4.08529926	5.799985522	4.153701446
ENSG00000213801	ZNF321P	1.420169585	0.542519734	5.393498445	0.817043598
ENSG00000170954	ZNF415	1.110549233	0.332673028	3.04577397	0.360633822
ENSG00000102935	ZNF423	1.524614982	0.82773129	2.024785376	0.772035963
ENSG00000198342	ZNF442	1.025563392	0.714011577	1.160642076	0.830549831
ENSG00000256229	ZNF486	3.814627217	0.014381061	0.883132996	0.012900081
ENSG00000237149	ZNF503-AS2	-1.071547563	15.2756024	5.462184185	14.01465485
ENSG00000269834	ZNF528-AS1	1.062649987	1.799632757	2.486181155	1.739820755
ENSG00000240225	ZNF542P	1.973330991	0.293124796	3.004318572	0.340098615
ENSG00000171970	ZNF57	2.872916106	0.050029256	1.511234668	0.109459092
ENSG00000188171	ZNF626	1.488550033	0.191150657	0.739566732	0.187617441

ENSG00000197497	ZNF665	1.834657746	0.113874923	0.395333876	<i>0.141077779</i>
ENSG00000196172	ZNF681	1.087270405	3.25516294	4.806925577	<i>2.903804078</i>
ENSG00000198429	ZNF69	1.835316719	1.622905081	3.952821569	<i>1.645244876</i>
ENSG00000160352	ZNF714	1.044728053	4.204878329	7.831508889	<i>4.372576853</i>
ENSG00000213967	ZNF726	1.817616841	0.468872492	3.04887063	<i>1.016080479</i>
ENSG00000214189	ZNF788P	3.016481482	0.052533216	3.170474078	<i>0.098747742</i>
ENSG00000170396	ZNF804A	1.840445564	1.41351509	3.812921772	<i>1.286187176</i>
ENSG00000223547	ZNF844	1.781172667	2.09508774	4.748295913	<i>2.532512037</i>
ENSG00000105750	ZNF85	2.753457756	0.035512557	1.804510802	<i>0.075441317</i>
ENSG00000198155	ZNF876P	1.557275058	0.38606076	3.3477092	<i>0.491363742</i>
ENSG00000257446	ZNF878	2.046345511	0.364678085	0.939542245	<i>0.588763734</i>
ENSG00000213793	ZNF888	2.07603148	0.850082529	2.655810191	<i>1.415695559</i>
ENSG00000184635	ZNF93	1.004902441	5.159564577	7.163764065	<i>6.393739058</i>
ENSG00000260233	ZNRD2-AS1	1.06823553	10.66978979	16.30615525	<i>12.03644011</i>
ENSG00000130182	ZSCAN10	4.407664921	0	3.712125157	<i>0.012427033</i>

Supplemental Table 3

Gene ID	Gene name	Log2(fold-change)	Average TPM in Sham	Average TPM in PLIN2OE	Average TPM in PLIN2KD
ENSG00000281530	AC004461.3	-1.357250162	4.23999504	1.655809406	1.593035118
ENSG00000250770	AC005865.1	1.98889788	0.220241934	0.87077642	0.405218114
ENSG00000267727	AC008738.5	1.36475845	3.454929899	8.864199873	2.637621568
ENSG00000280239	AC011498.7	1.295919257	1.709380227	4.191496536	3.467004901
ENSG00000230732	AC016949.1	-1.35185068	2.50438709	0.977143717	2.372850091
ENSG00000284946	AC068831.8	1.306897573	0.303233524	0.747271136	0.443686245
ENSG00000224593	AC092427.1	-2.266554108	4.364996913	0.914876362	1.772556222
ENSG00000241462	AC100832.1	-1.47244482	9.142600484	3.313371595	8.721904477
ENSG00000251023	AC114980.1	-1.22074321	1.377582724	0.594173594	1.169332104
ENSG00000284727	AC116562.3	1.398917443	1.49801364	3.908182405	3.378291936
ENSG00000261758	AC117382.2	-1.159190926	1.447977185	0.647396259	2.044651562
ENSG00000279283	AC131009.4	-1.379835242	4.41766334	1.712103689	2.768106538
ENSG00000278928	AC136621.1	1.786083673	1.011745784	3.522230912	2.268771951
ENSG00000154734	ADAMTS1	1.321927149	0.187484702	0.465900344	5.472211502
ENSG00000173175	ADCY5	1.329029505	0.123341184	0.312316344	0.151610635
ENSG00000121753	ADGRB2	1.126263944	0.141678306	0.311224196	0.398552109
ENSG00000270083	AL021878.2	-1.370081018	13.99923947	5.407565154	13.08453483
ENSG00000275620	AL121827.2	-1.612635764	0.430816944	0.140956777	1.738362763
ENSG00000227678	AL355581.1	1.154844384	0.720988146	1.60234935	0.563589754
ENSG00000167612	ANKRD33	1.057131119	0.557011015	1.160055927	1.533600541
ENSG00000189127	ANKRD34B	1.517716703	0.403585998	1.159367333	0.42268324
ENSG00000169604	ANTXR1	2.400602755	0.168820402	0.892249262	2.146278598
ENSG00000266767	AP000897.2	1.181489989	1.165013242	2.663410023	1.636162352
ENSG00000130203	APOE	1.173559508	1.957487283	4.424768129	1.673799935
ENSG00000105011	ASF1B	1.23281404	12.74164254	29.97103719	21.79183816
ENSG00000066279	ASPM	1.103150313	5.172207327	11.11603092	8.41461578
ENSG00000124788	ATXN1	-1.378440304	0.568125769	0.220102097	1.043023175
ENSG00000178999	AURKB	1.412844187	4.177215703	11.12521578	7.141131162
ENSG00000105327	BBC3	-1.205826113	5.462620607	2.377127986	7.535782271
ENSG00000023445	BIRC3	-6.199403822	10.42018447	0.144706032	0.14559059
ENSG00000089685	BIRC5	1.245241233	6.212223004	14.73117079	11.74608317
ENSG00000136492	BRIP1	1.071314812	1.886978522	3.974506191	3.107412986
ENSG00000174808	BTC	1.396912076	0.604557413	1.58075937	0.853466254
ENSG00000165810	BTNL9	1.298039374	1.270501933	3.134256378	1.500570433
ENSG00000169679	BUB1	1.106482061	3.864257679	8.322845532	6.869850531
ENSG00000156970	BUB1B	1.091166666	8.988577225	19.15847854	11.98945791
ENSG00000154102	C16orf74	1.137807899	0.457072784	0.999762628	0.335358703
ENSG00000162706	CADM3	1.475660331	0.507987817	1.404142173	3.87155361
ENSG00000081803	CADPS2	1.235950354	0.276216505	0.652921495	0.493442522
ENSG00000183049	CAMK1D	1.362395995	0.299564879	0.774141233	0.792036664
ENSG00000163888	CAMK2N2	1.043383083	20.03815467	41.48105803	50.0612059
ENSG00000183287	CCBE1	2.022502376	0.099978073	0.406446204	3.218687376
ENSG00000144395	CCDC150	1.021820678	1.521563588	3.092579189	7.027418028
ENSG00000115009	CCL20	-22.32200339	2.967713822	0	0

ENSG00000145386	CCNA2	1.094685981	15.39963331	32.90524203	11.32138988
ENSG00000157456	CCNB2	1.138378573	8.390473114	18.47036871	10.50228489
ENSG00000156535	CD109	1.330028218	1.421182092	3.595117568	1.45082192
ENSG00000026508	CD44	1.2452786	0.071676466	0.170538492	0.038949698
ENSG00000117399	CDC20	1.09774526	18.20414817	38.98446123	28.7211191
ENSG00000158402	CDC25C	1.065826122	1.797955345	3.758263869	3.207638932
ENSG00000093009	CDC45	1.274771023	1.966306914	4.761139114	2.321975273
ENSG00000166589	CDH16	1.164441369	4.21670042	9.484052678	1.695437551
ENSG00000170312	CDK1	1.109178235	12.35050404	26.67047323	19.37115405
ENSG00000117266	CDK18	1.428204622	0.113583099	0.305895595	0.179978285
ENSG00000124762	CDKN1A	-1.046470119	133.6668482	64.92046721	691.1395526
ENSG00000277449	CEBPB-AS1	-1.380890827	1.948632122	0.748718543	5.566439033
ENSG00000115163	CENPA	1.050592267	4.838032125	10.03240553	7.749794589
ENSG00000138778	CENPE	1.036257259	2.118400186	4.357053799	2.634029976
ENSG00000102384	CENPI	1.186373574	2.139869835	4.87895831	3.817985319
ENSG00000123219	CENPK	1.250562727	2.595554265	6.176874404	3.722418982
ENSG00000100162	CENPM	1.193385966	5.175725437	11.85011015	8.260961659
ENSG00000128965	CHAC1	-1.072520941	37.44371846	17.8719427	101.8716087
ENSG00000101204	CHRNA4	1.099748447	0.099077435	0.212861072	0.04712137
ENSG00000127586	CHTF18	1.008066277	2.362063281	4.75972464	2.736180378
ENSG00000122966	CIT	1.13349948	1.496464734	3.289851264	1.646383753
ENSG00000118432	CNR1	-2.515773655	0.183692425	0.032773825	0.099516324
ENSG00000124749	COL21A1	1.909783451	0.085163045	0.319802945	0.367459006
ENSG00000187498	COL4A1	1.046332722	1.552675292	3.204093445	1.069465529
ENSG00000134871	COL4A2	1.083988535	10.61145058	22.541473	7.976746476
ENSG00000081052	COL4A4	1.302663413	0.253959723	0.632425352	0.193353549
ENSG00000049089	COL9A2	1.177777309	0.959107735	2.175672698	1.087440319
ENSG00000095713	CRTAC1	1.718047501	0.399051706	1.323316609	1.232263846
ENSG00000169862	CTNND2	1.065946034	5.931017961	12.43618188	10.81739551
ENSG00000103811	CTSH	1.021410284	0.286981784	0.581606534	0.558178025
ENSG00000163739	CXCL1	-7.342159085	232.8164847	1.46196609	3.019266601
ENSG00000163734	CXCL3	-4.632218082	10.32456113	0.424059091	0.376150603
ENSG00000169429	CXCL8	-21.87106723	2.385221565	0	0.180220548
ENSG00000166394	CYBR2	1.105418994	0.142407605	0.305069209	0.254107517
ENSG00000186529	CYP4F3	1.890323557	0.059648728	0.219427634	0.236856472
ENSG00000187323	DCC	1.344122301	1.388463351	3.533571063	4.079219374
ENSG00000214826	DDX12P	1.174446505	3.869288742	8.743872125	3.827194045
ENSG00000035499	DEPDC1B	1.100195133	4.380893289	9.396361571	7.371461575
ENSG00000165507	DEPP1	-1.051304609	121.0339613	58.61968406	564.2512541
ENSG00000165023	DIRAS2	-1.232395951	3.685715586	1.570203703	2.067712524
ENSG00000126787	DLGAP5	1.139499472	6.529822861	14.39467954	10.11252904
ENSG00000187957	DNER	1.033971336	7.073740386	14.49130076	10.81214874
ENSG00000151640	DPYSL4	1.378393276	1.378585614	3.597443565	5.87823905
ENSG00000245750	DRAIC	1.858954345	0.084094812	0.30435336	0.076911499
ENSG00000101412	E2F1	1.103186294	145.8455947	313.7864139	257.7912616
ENSG00000007968	E2F2	1.054893949	5.95576412	12.38445293	5.718146114
ENSG00000129173	E2F8	1.195912146	1.28319032	2.938721966	1.677154218

ENSG00000233167	EEF1A1P26	-1.652271803	7.092721072	2.265215295	4.80784785
ENSG00000146648	EGFR	1.039748364	0.390704239	0.808641641	1.231436087
ENSG00000120738	EGR1	-1.338087071	55.67643445	22.15764333	144.2821892
ENSG00000122877	EGR2	-1.403106987	0.418093645	0.158572685	0.596170172
ENSG00000186998	EMID1	1.271427242	4.218315704	10.19244872	6.542057739
ENSG00000183798	EMILIN3	1.092769557	8.113520727	17.26693987	11.1468712
ENSG00000135638	EMX1	1.373481577	1.042835712	2.706163201	0.85561214
ENSG00000105131	EPHX3	1.453451549	0.40088857	1.089786175	0.717311076
ENSG00000273604	EPOP	1.212370125	1.010327018	2.334804596	3.369052374
ENSG00000186871	ERCC6L	1.073525606	2.321570491	4.890664748	3.803010304
ENSG00000135476	ESPL1	1.255843516	1.37540943	3.284313421	1.687518263
ENSG00000187017	ESPN	1.111450432	0.713263588	1.543404914	0.586915554
ENSG00000115363	EVA1A	1.88959972	0.130785142	0.485694531	3.479163978
ENSG00000174371	EXO1	1.106892111	1.285210584	2.771495204	2.261959149
ENSG00000163586	FABP1	1.57657169	0.919638243	2.745032646	0.368929787
ENSG00000189057	FAM111B	1.001235861	5.130006744	10.28862583	4.046141286
ENSG00000196550	FAM72A	1.025015801	1.023994464	2.081687384	0.94042145
ENSG00000188610	FAM72B	1.154397838	0.867003658	1.933938131	0.738457173
ENSG00000263513	FAM72C	1.663509898	0.367983593	1.161712693	0.775879253
ENSG00000215784	FAM72D	1.305722596	1.768900534	4.361868329	1.99737389
ENSG00000101447	FAM83D	1.067116656	5.430564727	11.38954288	9.37627262
ENSG00000170271	FAXDC2	-1.497403076	1.405772308	0.498663949	1.526725643
ENSG00000077942	FBLN1	1.038256495	0.955913658	1.964926941	1.232004278
ENSG00000156509	FBXO43	1.026486144	0.796314249	1.616942498	1.160397604
ENSG00000186188	FFAR4	-1.261674704	0.791837867	0.331552333	0.312983332
ENSG00000111206	FOXM1	1.137649226	10.58437114	23.32242565	14.82475061
ENSG00000147234	FRMPD3	-1.139272073	1.071325058	0.492192947	0.072023014
ENSG00000152254	G6PC2	1.134264334	19.49439322	42.79910265	60.41383229
ENSG00000160219	GAB3	1.047204806	0.283924213	0.587356742	0.326247751
ENSG00000136928	GABBR2	1.609248945	0.560053752	1.705566603	1.361594952
ENSG00000108479	GALK1	1.289699642	0.230447423	0.564079948	3.228644643
ENSG00000172020	GAP43	-1.158393559	17.21722837	7.7598421	16.59945603
ENSG00000130513	GDF15	-1.156283422	22.05402392	9.935306238	49.66504118
ENSG00000181938	GINS3	1.089666447	2.645775926	5.648666725	3.752581178
ENSG00000159248	GJD2	-1.062831757	71.5625691	34.31542968	30.22789832
ENSG00000149328	GLB1L2	1.056118248	8.147169123	16.96232323	5.887545343
ENSG00000170075	GPR37L1	-7.281491269	5.421761877	0.035308191	0.056623019
ENSG00000176153	GPX2	-1.461006583	10.99377314	4.034104036	1.109881047
ENSG00000198785	GRIN3A	1.155318517	23.19850343	51.71113558	30.67778668
ENSG00000164082	GRM2	1.194217585	0.537650387	1.233449899	1.343042276
ENSG00000179603	GRM8	1.069760042	0.536938514	1.130527959	1.100818128
ENSG00000075218	GTSE1	1.195298284	9.745038575	22.36371452	14.42941626
ENSG00000148702	HABP2	1.307299129	0.39969948	0.992276192	0.732815265
ENSG00000123485	HJURP	1.100000124	7.769658868	16.66864764	12.30012435
ENSG00000186603	HPDL	1.410234879	1.013547684	2.694198599	1.740193694
ENSG00000107521	HPS1	1.54670553	0.056506899	0.164373356	0.058315736
ENSG00000101180	HRH3	1.046122645	0.835346956	1.719693752	1.41049907

ENSG00000115457	IGFBP2	1.367394974	2.63850693	6.837761518	4.24880195
ENSG00000163453	IGFBP7	1.205715704	0.758986882	1.758286306	0.809341711
ENSG00000115590	IL1R2	1.554347464	0.154768013	0.451509954	1.014679439
ENSG00000183856	IQGAP3	1.160243231	7.677160639	17.17950795	7.109155428
ENSG00000096433	ITPR3	1.18809231	3.621521981	8.279189398	3.078090151
ENSG00000171385	KCND3	1.357002691	3.514014421	9.049667317	1.085766576
ENSG00000152049	KCNE4	1.734769674	0.24608306	0.823300875	1.537691542
ENSG00000140015	KCNH5	1.237085845	0.097434237	0.230844882	1.193432988
ENSG00000053918	KCNQ1	1.009443773	0.986852055	1.993418836	2.362764199
ENSG00000135253	KCP	1.843003921	0.051815264	0.186286915	0.143470439
ENSG00000153885	KCTD15	1.353782059	0.09648956	0.248813421	1.367311727
ENSG00000138160	KIF11	1.023535849	24.10128662	49.01962697	40.87839108
ENSG00000118193	KIF14	1.197660476	4.390719776	10.11206336	7.017759915
ENSG00000163808	KIF15	1.061391339	2.753367822	5.754861907	4.377099119
ENSG00000121621	KIF18A	1.077835255	4.521387848	9.551011197	6.605681556
ENSG00000186185	KIF18B	1.337817401	6.288653655	15.90245522	10.17179692
ENSG00000112984	KIF20A	1.092263693	7.60353196	16.21023697	10.1862948
ENSG00000137807	KIF23	1.040903846	1.963324892	4.040197927	2.911612016
ENSG00000142945	KIF2C	1.395663139	4.221433369	11.10280042	5.26525026
ENSG00000090889	KIF4A	1.086801819	15.14274517	32.19998935	22.46663746
ENSG00000237649	KIFC1	1.146557989	22.90346287	50.79638593	40.44758759
ENSG00000157404	KIT	1.37959028	3.505522685	9.140034595	13.8607121
ENSG00000136826	KLF4	1.195602602	1.880995691	4.306159654	3.599142449
ENSG00000116678	LEPR	1.040530304	0.322312761	0.663032205	2.481576004
ENSG00000254275	LINC00824	1.741079565	0.819002672	2.744081162	2.272411751
ENSG00000281769	LINC01230	1.104987656	0.815592365	1.760409065	1.014830193
ENSG00000231437	LINC01750	1.657092766	0.200782116	0.637147719	0.275037269
ENSG00000235142	LINC02532	1.081001809	0.43842759	0.924787616	0.412819572
ENSG00000254119	LINC02842	1.488535548	1.217475583	3.435974713	1.160826426
ENSG00000166035	LIPC	1.852461303	2.218312748	8.013277069	5.43435684
ENSG00000254815	LMNTD2-AS1	1.130732068	0.808810533	1.787636776	1.151316115
ENSG00000138131	LOXL4	1.595545953	43.19454411	131.1330978	23.41185318
ENSG00000185565	LSAMP	1.051185333	3.274182667	6.783650895	12.95072195
ENSG00000119681	LTBP2	1.060934302	4.153678091	8.699646861	6.367306061
ENSG00000150551	LYPD1	-1.911351478	6.802069653	1.829540461	0.494710989
ENSG00000182759	MAFA	1.51849927	3.028655848	8.699387193	1.813619939
ENSG00000234456	MAGI2-AS3	1.614270355	0.070616793	0.218412592	0.19276967
ENSG00000091436	MAP3K20	1.154823697	0.865267145	1.931044132	1.617043732
ENSG00000065328	MCM10	1.022308189	2.670193691	5.432615326	4.470231415
ENSG00000110492	MDK	1.276075743	2.778864962	6.745136775	5.764231025
ENSG00000065833	ME1	-1.050752918	7.125185135	3.455858538	9.577815626
ENSG00000164877	MICALL2	1.825904801	0.045594974	0.161674105	0.081728296
ENSG00000148773	MKI67	1.059774829	16.46809276	34.37884802	23.79872925
ENSG00000087245	MMP2	1.323280592	1.132056781	2.832074079	9.962732913
ENSG00000121211	MND1	1.258304952	0.521262959	1.249677909	0.725524432
ENSG00000138823	MTTP	-1.179885889	0.590014805	0.260358119	0.384450496
ENSG00000213347	MXD3	1.230878369	3.011392913	7.088317085	3.490503512

ENSG00000101057	MYBL2	1.32933743	10.32494302	25.99007362	20.55470376
ENSG00000136997	MYC	1.197489891	0.224721484	0.520947443	1.660163909
ENSG00000166866	MYO1A	1.082854726	2.390492876	5.087539968	2.336650401
ENSG00000168060	NAALADL1	2.175714298	0.199933991	0.901736709	0.112250659
ENSG00000080986	NDC80	1.107800031	9.580690717	20.62177257	14.99574918
ENSG00000109674	NEIL3	1.028391218	2.831173005	5.778032257	3.425649252
ENSG00000117650	NEK2	1.138512028	8.502456265	18.75026547	13.70465668
ENSG00000116962	NID1	1.379898796	1.630357101	4.263490353	4.088059097
ENSG00000185942	NKAIN3	1.435712451	0.342469809	0.935579016	1.552121009
ENSG00000109255	NMU	1.654289685	0.272165648	0.856523317	1.003372242
ENSG00000185269	NOTUM	1.132310709	1.200750096	2.653628917	1.181495084
ENSG00000151322	NPAS3	1.193929341	0.143285279	0.330173662	0.203886918
ENSG00000113389	NPR3	1.480030198	0.218318444	0.608485625	1.602503813
ENSG00000122585	NPY	1.194308472	2.081520478	4.762254486	6.636155164
ENSG00000143228	NUF2	1.122685375	6.544171202	14.26983658	11.97958942
ENSG00000137804	NUSAP1	1.034711058	12.71167358	26.10234932	12.11811144
ENSG00000183801	OLFML1	1.202421941	0.551250043	1.274148996	1.609315438
ENSG00000090530	P3H2	-1.094778722	4.997572812	2.345278585	2.336387963
ENSG00000185480	PARPBP	1.064767625	1.559236363	3.258714278	2.626104586
ENSG00000168078	PBK	1.120420609	7.694953756	16.70400513	13.43075897
ENSG00000242419	PCDHGC4	1.127904526	1.666597893	3.640166317	1.259932488
ENSG00000099139	PCSK5	1.102962972	0.435644822	0.939953831	1.177357042
ENSG00000184588	PDE4B	1.325939975	0.077720738	0.195864877	0.223834288
ENSG00000140451	PIF1	2.358032745	0.204154668	1.05014041	0.377622728
ENSG00000129195	PIMREG	1.008048599	1.230617518	2.473987356	2.311147437
ENSG00000087842	PIR	-1.009698326	3.423931406	1.692346475	2.687735043
ENSG00000127564	PKMYT1	1.025625606	1.705149647	3.477113363	2.686653616
ENSG00000160447	PKN3	1.441112123	0.294165808	0.793936536	1.85329361
ENSG00000166851	PLK1	1.172960503	6.815553723	15.4007481	10.4899421
ENSG00000100341	PNPLA5	1.225354449	0.604275414	1.414962348	0.436395866
ENSG00000051341	POLQ	1.022353651	2.387035125	4.860142267	2.657747837
ENSG00000155846	PPARGC1B	1.517703421	0.097871114	0.281996258	0.597044857
ENSG00000198901	PRC1	1.116286254	0.252967132	0.547595626	0.404097288
ENSG00000057657	PRDM1	-1.602130517	0.567182341	0.18851187	0.418241191
ENSG00000141391	PRELID3A	1.447705902	0.227629934	0.621003361	0.63517655
ENSG00000007062	PROM1	2.338122207	0.055694422	0.283050453	0.351316595
ENSG00000182077	PTCHD3	1.316316228	0.237519069	0.592400788	0.433788857
ENSG00000125384	PTGER2	1.235029625	0.799502875	1.877750754	1.419601369
ENSG00000111247	RAD51AP1	1.016972327	2.767977291	5.601238845	4.405551132
ENSG00000085999	RAD54L	1.281959619	2.21160979	5.385621267	3.861909012
ENSG00000204764	RANBP17	1.039318683	0.072116621	0.14855773	0.219450193
ENSG00000111344	RASAL1	1.750602545	0.041648822	0.143774308	0.081515038
ENSG00000147509	RGS20	1.01447113	0.448413317	0.90470148	5.568876204
ENSG00000138835	RGS3	1.058268367	0.616603042	1.284315636	0.464099202
ENSG00000141314	RHBDL3	1.107732957	0.53479432	1.158714221	1.771202468
ENSG00000101098	RIMS4	1.261957897	2.470923525	5.937902183	9.302738182
ENSG00000183145	RIPPLY3	1.520719986	8.492781266	24.34639437	21.74661342

ENSG00000222898	RN7SKP97	1.125990444	6.580068647	14.43724789	9.764839942
ENSG00000171848	RRM2	1.15928687	5.265328232	11.76541273	9.688418639
ENSG00000115884	SDC1	1.222031841	2.4877889	5.813467253	3.032260296
ENSG00000099937	SERPIND1	1.315310849	1.074677381	2.681319266	2.455159433
ENSG00000138944	SHISAL1	1.146183624	0.513096707	1.137347939	1.801505592
ENSG00000170577	SIX2	1.268815872	10.82514284	26.01952683	40.53720624
ENSG00000132874	SLC14A2	1.239781639	0.423682776	1.006287499	0.628378734
ENSG00000124568	SLC17A1	1.743783308	1.184558152	3.978574059	2.916434853
ENSG00000105281	SLC1A5	1.264711882	0.543126442	1.301032552	1.528262603
ENSG00000170482	SLC23A1	1.231823837	1.078549139	2.519399633	0.701586399
ENSG00000196376	SLC35F1	1.357680184	2.04959619	5.270607157	8.4263338
ENSG00000139540	SLC39A5	1.425909421	1.132741696	3.053113498	2.853724159
ENSG00000134802	SLC43A3	1.140329575	1.513951069	3.346110883	3.030597367
ENSG00000103546	SLC6A2	1.53320571	0.887531775	2.578413464	2.708367174
ENSG00000151012	SLC7A11	-1.051185448	3.276649668	1.591366075	51.24497257
ENSG00000101665	SMAD7	-1.355818814	4.026418474	1.587400816	4.613376296
ENSG00000285441	SOD2	-1.059709499	2.210446447	1.06379642	1.877956694
ENSG00000181449	SOX2	1.232740041	0.991170235	2.323673728	2.375330289
ENSG00000076382	SPAG5	1.099721595	7.920611377	16.9866191	11.74188827
ENSG00000161888	SPC24	1.768888081	2.497899758	8.493319945	6.144192708
ENSG00000066923	STAG3	1.17026422	0.250446287	0.564208277	0.266395858
ENSG00000105889	STEAP1B	1.325288554	0.319908539	0.804225373	0.934286114
ENSG00000135604	STX11	-2.768498637	8.810577956	1.314669008	0.581047425
ENSG00000196562	SULF2	-1.450490263	1.180733618	0.431784668	19.66125234
ENSG00000105825	TFPI2	1.056406827	1.073511955	2.245459214	11.90848598
ENSG00000163235	TGFA	-1.120849545	1.444216832	0.667830034	0.29917582
ENSG00000163513	TGFBR2	1.134705775	1.658203567	3.640315441	18.20157927
ENSG00000180176	TH	1.070388478	0.868669559	1.830088333	0.307924141
ENSG00000140534	TICRR	1.116241187	1.309258764	2.840691499	2.914969119
ENSG00000167900	TK1	1.523759782	3.600645071	10.3603826	5.3232948
ENSG00000144339	TMEFF2	1.020165123	0.388026376	0.787382095	2.519960653
ENSG00000148483	TMEM236	1.12843506	1.960286143	4.282656209	2.502366238
ENSG00000158164	TMSB15A	1.199472517	68.43761231	157.4038099	137.9866718
ENSG00000232810	TNF	-22.14052732	5.216506876	0	0.033140042
ENSG00000146072	TNFRSF21	-1.121464689	13.97955079	6.428825378	57.70629914
ENSG00000160949	TONSL	1.100783305	5.368149128	11.52384777	8.479424081
ENSG00000131747	TOP2A	1.11274897	73.52818305	159.2127799	53.21342025
ENSG00000078900	TP73	2.402028951	0.023841598	0.127384448	0.07780276
ENSG00000071539	TRIP13	1.028943909	8.286996892	16.91831219	12.43275806
ENSG00000135451	TROAP	1.569927921	2.79201428	8.288625048	4.271276082
ENSG00000112742	TTK	1.003660956	4.596554934	9.208176938	6.237457231
ENSG00000176014	TUBB6	1.103451116	6.345004554	13.67294362	5.54918573
ENSG00000175063	UBE2C	1.1403962	17.44426341	38.46801166	36.3051832
ENSG00000168671	UGT3A2	1.460396665	0.352629358	0.968528093	1.082679916
ENSG00000276043	UHRF1	1.101189811	3.416468673	7.340149527	4.750279551
ENSG00000106018	VIPR2	1.022484342	0.546563858	1.115681272	0.239764641
ENSG00000168658	VWA3B	-1.259359616	0.143232064	0.060304101	0.093408779

ENSG00000109906	ZBTB16	1.125528581	0.280874973	0.612102829	<i>1.432312526</i>
ENSG00000165424	ZCCHC24	1.407399065	0.942927502	2.510290276	<i>4.257191667</i>
ENSG00000144331	ZNF385B	1.267068723	0.235571887	0.564381003	<i>0.302790577</i>
ENSG00000213967	ZNF726	1.12153791	0.468872492	1.016080479	<i>1.623046389</i>
ENSG00000170044	ZPLD1	1.16482452	1.67038048	3.761410312	<i>3.234239273</i>
ENSG00000122952	ZWINT	1.086079814	12.59456838	26.74124584	<i>16.97001939</i>

Supplemental Table 4

Based on 1479 upregulated DEGs in *PLIN2KD*

Rank	KEGG pathway term	p-value	DEGs included
1	Neuroactive ligand-receptor interaction	1.78E-10	NPFFR2;GABRB1;ADM;GRIK1;GRPR;GRM2;HTR7;CYSLTR2;GRM7;GRM8;LEPR;PRSS3;EDN3;F2R;GABRG3;PRLR;GABRG2;GAL;CRH;PTGER4;CHRNA3;CALCA;CALCRL;CALCB;CHRNA7;LPAR1;LPAR2;ADRB2;CHRNA2;C5;GLRA3;CALCR;NPW;GALR2;HRH2;CHRNA2;NPY;P2RY1;KISS1R;S1PR1;S1PR3;DRD2;GABRD;GABBR2;NMB;HTR1D;HTR1A;HTR1B;OPRK1;GCG;AGT;KISS1;POMC;PYY;P2RX6;LPAR6;SST;NMU;RLN2;RLN1
2	Basal cell carcinoma	2.07E-06	APC2;CDKN1A;GADD45B;FZD7;LEF1;FZD6;WNT9B;WNT8B;FZD8;FZD10;GLI1;KIF7;GLI3;GLI2;BMP4;BMP2;SMO
3	Hippo signaling pathway	5.79E-06	SERPINE1;LEF1;WNT8B;FZD10;GLI2;SOX2;RASSF2;MYC;TEAD3;APC2;TGFB2;TGFB1;FZD7;FZD6;WNT9B;FZD8;GDF6;BMP6;GDF7;TGFB2;BMP4;BMP2;FRMD6;LATS2;PPP2R2C;ID1;FAT4;AJUBA;TP73
4	ECM-receptor interaction	2.90E-04	ITGA4;LAMB2;ITGA2;FN1;HSPG2;COL2A1;RELN;COL1A2;TNN;ITGA8;ITGB8;ITGA7;CD36;ITGB6;AGRN;ITGA9
5	Complement and coagulation cascades	6.01E-04	C1QA;SERPIND1;PROS1;F12;SERPINE1;F2R;SERPINF2;TFPI;F3;F5;C2;F8;C5;C7;MASP1
6	TGF-beta signaling pathway	8.53E-04	TGFB2;TGFB1;FST;INHBB;GDF6;SMAD6;BMP6;TGFB2;INHBE;GDF7;BMP4;BMP2;BAMBI;MYC;ID1;ID3
7	Pathways in cancer	0.0010704	ALK;CDKN1A;IL23R;IL5RA;FZD10;GLI1;FGF2;GLI3;GLI2;CASP7;FGF8;HEY1;MYC;HEY2;IL12A;APC2;PDGFRA;IL4R;DCC;ITGA2;MMP2;F2R;WNT9B;FOS;KIF7;TGFB2;SMO;TRAF5;KIT;NOTCH2;PTGER4;GSTP1;LEF1;LPAR1;ADCY3;WNT8B;LPAR2;RASGRP1;EGFR;STAT4;HMOX1;PMAIP1;HES1;IL12RB2;EGLN3;TGFB2;TGFB1;GADD45B;LAMB2;FZD7;ZBTB16;FZD6;FN1;FZD8;AGT;BMP4;BMP2;LPAR6;BCL2
8	Cell adhesion molecules (CAMs)	0.00229467	NLGN4Y;CD274;CADM3;NLGN1;SELPLG;NLGN4X;ITGA4;NEGR1;HLA-B;HLA-C;HLA-A;HLA-E;VCAN;SELL;ITGA8;ITGB8;MADCAM1;LRRC4C;JAM2;NECTIN2;ITGA9
9	Protein digestion and absorption	0.00237827	CELA3B;COL27A1;COL14A1;ATP1B2;SLC1A5;SLC8A1;SLC8A2;SLC8A3;COL2A1;COL1A2;MEP1B;COL5A1;KCNQ1;COL21A1;PRSS3
10	Cushing syndrome	0.00510923	APC2;CDKN1A;FZD7;FZD6;LEF1;WNT9B;ITPR2;FZD8;ADCY3;WNT8B;FZD10;EGFR;AGT;POMC;NR4A1;PDE11A;RASD1;CREB3L1;CRH;KCNK2;KCNK3
11	PI3K-Akt signaling pathway	0.00818114	CDKN1A;PKN3;LPAR1;LPAR2;FGF2;EFNA4;EGFR;RELN;FGF8;TNN;CREB3L1;MYC;ITGB8;ITGB6;PCK2;PDGFRA;NTRK2;IL4R;ANGPT2;ITGA4;BDNF;LAMB2;ITGA2;F2R;FN1;PRLR;EFNA1;NR4A1;G6PC2;COL1A2;COL2A1;PPP2R2C;LPAR6;DIT4;KIT;BCL2;ITGA8;ITGA7;ITGA9
12	Human papillomavirus infection	0.01239812	PTGER4;NOTCH2;CDKN1A;MAML2;WNT8B;FZD10;EGFR;RELN;HEY1;TNN;CREB3L1;HEY2;ITGB8;HES1;ITGB6;HES4;APC2;HES6;ITGA4;LAMB2;FZD7;ITGA2;FZD6;HLA-B;FN1;WNT9B;HLA-C;FZD8;HLA-A;HLA-E;COL1A2;COL2A1;PPP2R2C;ITGA8;ITGA7;ITGA9
13	Hepatocellular carcinoma	0.02355795	SHC4;APC2;TGFB2;CDKN1A;SHC3;TGFB1;GADD45B;FZD7;GSTP1;FZD6;LEF1;GAB1;WNT9B;FZD8;WNT8B;FZD10;EGFR;TGFB2;MYC;HMOX1
14	Proteoglycans in cancer	0.02443333	CDKN1A;TGFB2;TGFB1;FZD7;MMP2;ITGA2;FZD6;FN1;GAB1;WNT9B;FZD8;WNT8B;ITPR2;FZD10;ANK1;HSPG2;FGF2;EGFR;SMO;CTSL;MYC;COL21A1;FLNC

15	Phospholipase D signaling pathway	0.02528863	SHC4;PDGFRA;PLA2G4F;SHC3;SPHK1;F2R;LPAR1;GAB1;LPAR2;ADCY3;EGFR;AGT;GRM2;GRM7;LPAR6;GRM8;KIT;DGKI
16	Glycine, serine and threonine metabolism	0.02581502	MAOB;GLDC;SHMT2;CBS;PSAT1;CBSL;PHGDH
17	Nicotine addiction	0.02581502	GABRB1;CHRNA7;CACNA1A;SLC17A6;GABRD;GABRG3;GABRG2
18	Cholesterol metabolism	0.02920972	CYP27A1;ABCA1;ABCG8;LIPC;APOC1;APOA1;CD36;PLTP
19	AGE-RAGE signaling pathway in diabetic complications	0.03269009	EGR1;TGFB2;TGFB1;PRKCE;MMP2;SERPINE1;FN1;F3;AGT;TGFB2;COL1A2;BCL2;PLCD3
20	Calcium signaling pathway	0.03820708	PDGFRA;CAMK1D;CHRNA7;SPHK1;F2R;CACNA1A;ITPR2;ADCY3;ATP2B2;ADRB2;GRPR;SLC8A1;EGFR;SLC8A2;MYLK4;SLC8A3;P2RX6;CYSLTR2;HTR7;HRH2;PLCD3

Rank	GO-molecular function term	p-value	DEGs included
1	transforming growth factor beta receptor binding (GO:0005160)	4.21E-08	GDF10;TGFB2;TGFB1;GDF15;INHBB;GDF6;SMAD6;BMP6;INHBE;GDF7;TGFB2;BMP4;BMP3;BMP2;BAMBI;INHA
2	potassium ion leak channel activity (GO:0022841)	7.52E-05	KCNK6;KCNK10;KCNK9;KCNK12;KCNK1;KCNK2;KCNK3
3	collagen binding (GO:0005518)	7.79E-05	CCBE1;ECM2;PCOLCE2;COL14A1;ITGA2;FN1;NID1;ANTXR1;NID2;MRC2;ADGRG1;CTSL;SERPINH1
4	BMP receptor binding (GO:0070700)	1.01E-04	BMP4;BMP3;TGFB2;BMP2;TGFB1;BMP6
5	hormone activity (GO:0005179)	1.02E-04	CALCB;EDN3;GCG;INHBB;METRNL;PTHLH;AGT;POMC;PYY;GAL;INS-IGF2;VGF;GPNMB;SST;NPY;CRH;INHA
6	leak channel activity (GO:0022840)	2.72E-04	KCNK6;KCNK10;KCNK9;KCNK12;KCNK1;KCNK2;KCNK3
7	G-protein coupled receptor activity (GO:0004930)	3.40E-04	NPFFR2;PTGER4;CALCRL;NPR3;LPAR1;LPAR2;FZD10;GRPR;TSKU;PROKR1;GRM2;ADGRG1;HTR7;CYSLTR2;GALR2;NPY;GRM8;KISS1R;S1PR1;S1PR3;GABBR2;FZD7;FZD6;F2R;HTR1D;HTR1A;FZD8;HTR1B;OPRK1;GPR6;SFRP1;GPR143;ADGRB2;SMO;LPAR6;ADGRL3
8	transmembrane receptor protein serine/threonine kinase binding (GO:0070696)	6.79E-04	BMP4;BMP3;TGFB2;BMP2;TGFB1;BMP6
9	insulin-like growth factor II binding (GO:0031995)	8.69E-04	IGFBP1;IGFBP4;IGFBP3;IGFBP6
10	potassium channel activity (GO:0005267)	0.00100625	KCNG1;KCNG2;KCNF1;KCNK6;KCNH5;KCNK10;KCNK9;KCNK12;KCNA3;GRIK1;ABCC9;KCNV1;KCNQ1;KCNK3;KCNK1;KCNK2;KCNK3
11	kinase inhibitor activity (GO:0019210)	0.00110099	SOCS2;CDKN1A;SOCS1;LRRTM3;FLRT2;LRRTM1;BGN;SH3BP5;RHOH;RTN4RL2;TRIB1;LRRC4C
12	metallopeptidase activity (GO:0008237)	0.00126243	ENPEP;ERAP2;MMP2;ECEL1;ADAM2;ADAMTS5;ADAM29;MMP14;ADAMTS3;ADAMTS1;ANPEP;ADAM12;CLCA1;ADAMTS8;TRABD2B;ADAMTS7;PAPPA2

13	transmembrane receptor protein tyrosine kinase activity (GO:0004714)	0.00149409	ALK;EPHB6;EPHA5;NRP1;PDGFRA;NTRK2;EPHA6;NTRK3;KIT;FGFRL1;EGFR;EPHB3
14	bioactive lipid receptor activity (GO:0045125)	0.0016367	LPAR6;SPHK1;S1PR1;LPAR1
15	protein kinase inhibitor activity (GO:0004860)	0.00341495	SOC2;CDKN1A;SOC1;LRRTM3;FLRT2;LRRTM1;BGN;SH3BP5;SPRY2;RTN4RL2;TRIB1;LRRC4C
16	Wnt-activated receptor activity (GO:0042813)	0.00430694	SFRP1;SMO;FZD7;FZD6;FZD8;FZD10
17	filamin binding (GO:0031005)	0.00435418	DPYSL4;SYNPO2;DPYSL3;RFLNB
18	neurexin family protein binding (GO:0042043)	0.00435418	NLGN4Y;NLGN1;NLGN4X;SYTL2
19	MAP kinase kinase kinase activity (GO:0004709)	0.00450892	ALK;EPHB6;EPHA5;PDGFRA;NTRK2;EPHA6;NTRK3;MAP3K7CL;EGFR;KIT;MAP3K6;MAP3K5;EPHB3
20	transmembrane receptor protein kinase activity (GO:0019199)	0.00534231	ALK;EPHB6;EPHA5;PDGFRA;NTRK2;EPHA6;NTRK3;KIT;EGFR;EPHB3;TGFB2

Based on 493 downregulated DEGs in PLIN2KD

Rank	KEGG pathway term	p-value	DEGs included
1	Insulin secretion	0.00533368	GLP1R;CAMK2D;FXD2;KCNMA1;SLC2A2;ATP1B3;ADCY1
2	Notch signaling pathway	0.00638395	NOTCH1;HDAC1;DTX1;DTX3;DLL1
3	Legionellosis	0.01127826	CASP3;EEF1A2;CXCL1;CXCL3;TLR5
4	cAMP signaling pathway	0.01641492	GLP1R;ABCC4;GRIN2A;CAMK2D;VIPR2;FXD2;ATP1B3;ADCY1;CNCA4;PLD1;MYL9
5	Maturity onset diabetes of the young	0.02541688	SLC2A2;IAPP;NKX6-1
6	Amphetamine addiction	0.02611905	CAMK2D;DDC;GRIN2A;TH;HDAC1
7	Valine, leucine and isoleucine degradation	0.03023805	ALDH6A1;ACAA2;HADH;ACADSB
8	Cocaine addiction	0.03230645	GPSM1;DDC;GRIN2A;TH
9	Bile secretion	0.03240204	ABCC4;FXD2;ATP1B3;ADCY1;SLC4A5
10	Thyroid hormone synthesis	0.03586768	GPX2;TTR;FXD2;ATP1B3;ADCY1
11	Oxytocin signaling pathway	0.03609413	RCAN1;CAMK2D;PRKAA2;CACNA2D3;PRKAG2;ADCY1;MYL9;PIK3R5
12	Circadian rhythm	0.04016936	PRKAA2;PRKAG2;SKP1
13	Synaptic vesicle cycle	0.04346115	UNC13A;SLC32A1;SLC1A1;STX2;SLC6A4
14	cGMP-PKG signaling pathway	0.05373059	NPPC;FXD2;KCNMA1;ATP1B3;ADCY1;MYL9;PIK3R5;SLC25A6
15	Protein digestion and absorption	0.07162324	SLC15A1;SLC7A9;FXD2;SLC1A1;ATP1B3
16	Nicotine addiction	0.0752398	CHRNA2;GRIN2A;SLC32A1

17	Fat digestion and absorption	0.07975995	FABP1;DGAT2;SLC27A4
18	Tryptophan metabolism	0.08439523	DDC;CYP1A1;HADH
19	Carbohydrate digestion and absorption	0.09399968	FXD2;SLC2A2;ATP1B3
20	Fatty acid degradation	0.09399968	ACAA2;HADH;ACADSB

Rank	GO-molecular function term	p-value	DEGs included
1	potassium channel activity (GO:0005267)	1.80E-04	KCNH3;KCNG3;KCND3;KCNQ2;KCNC4;KCNMA1;GRIK3;CNGA4;TMEM175;KCNH1
2	voltage-gated cation channel activity (GO:0022843)	8.16E-04	KCNH3;KCNG3;KCND3;KCNQ2;KCNC4;KCNMA1;CNGA4;CACNA1E;KCNH1
3	voltage-gated potassium channel activity (GO:0005249)	0.00117742	KCNH3;KCNG3;KCND3;KCNC4;KCNMA1;KCNQ2;CNGA4;KCNH1
4	magnesium ion transmembrane transporter activity (GO:0015095)	0.00156985	TUSC3;NIPA1;SLC41A1
5	delayed rectifier potassium channel activity (GO:0005251)	0.00531356	KCNG3;KCNC4;KCNQ2;KCNH1
6	protein binding involved in heterotypic cell-cell adhesion (GO:0086080)	0.01173003	CXADR;DSG2
7	phosphatidylinositol transporter activity (GO:0008526)	0.01538669	PITPNM3;PITPNM2
8	MAP kinase phosphatase activity (GO:0033549)	0.0194631	DUSP3;DUSP9
9	metal ion transmembrane transporter activity (GO:0046873)	0.02289317	TUSC3;NIPA1;SLC41A1
10	inositol trisphosphate phosphatase activity (GO:0046030)	0.02393642	INPP5A;OCRL
11	gap junction channel activity (GO:0005243)	0.0287847	GJD2;GJB1
12	wide pore channel activity (GO:0022829)	0.03398681	GJD2;GJB1
13	hexose transmembrane transporter activity (GO:0015149)	0.03952243	SLC2A13;SLC2A2

14	outward rectifier potassium channel activity (GO:0015271)	0.04537203	KCND3;KCNMA1
15	syntaxin-1 binding (GO:0017075)	0.05151685	UNC13A;SNPH
16	tubulin binding (GO:0015631)	0.05213573	CLIP2;TPPP3;KIF3B;KIF5A;RITA1;DCX;EML1;NEFH;NDRG1;SAXO2;FTCD
17	microtubule binding (GO:0008017)	0.05302282	CLIP2;KIF3B;KIF5A;DCX;EML1;NEFH;NDRG1;SAXO2;FTCD
18	ionotropic glutamate receptor activity (GO:0004970)	0.05793883	GRIN2A;GRIK3
19	CXCR chemokine receptor binding (GO:0045236)	0.06462063	CXCL1;CXCL3
20	Notch binding (GO:0005112)	0.06462063	DTX1;DLL1

Supplemental Table 5

Based on 237 upregulated DEGs in PLIN2OE

Rank	KEGG pathway term	p-value	DEGs included
1	Cell cycle	2.08E-11	PLK1;BUB1B;TTK;CDC25C;PKMYT1;CDC20;CCNA2;CCNB2;CDC45;ESPL1;MYC;CDK1;E2F1;E2F2;BUB1
2	Oocyte meiosis	3.14E-08	CDC20;CCNB2;STAG3;ESPL1;PLK1;CDK1;ITPR3;CDC25C;PKMYT1;FBXO43;BUB1;ADCY5
3	Cellular senescence	2.18E-05	CCNA2;CCNB2;MYC;CDK1;E2F1;E2F2;ITPR3;MYBL2;FOXO1;TGFB2
4	Progesterone-mediated oocyte maturation	2.34E-05	CCNA2;CCNB2;PLK1;CDK1;CDC25C;PKMYT1;BUB1;ADCY5
5	Human T-cell leukemia virus 1 infection	6.38E-05	CDC20;CCNA2;CCNB2;ESPL1;MYC;IL1R2;E2F1;BUB1B;E2F2;ADCY5;TGFB2
6	Protein digestion and absorption	9.73E-05	COL4A2;COL4A1;KCNQ1;COL4A4;COL21A1;SLC1A5;COL9A2
7	Bladder cancer	1.19E-04	MYC;MMP2;E2F1;E2F2;EGFR
8	ECM-receptor interaction	4.29E-04	COL4A2;COL4A1;COL4A4;SDC1;COL9A2;CD44
9	Small cell lung cancer	8.39E-04	COL4A2;COL4A1;MYC;COL4A4;E2F1;E2F2
10	Relaxin signaling pathway	9.23E-04	COL4A2;COL4A1;COL4A4;MMP2;EGFR;TGFB2;ADCY5
11	p53 signaling pathway	0.001643787	CCNB2;RRM2;CDK1;GTSE1;TP73
12	Pathways in cancer	0.001714856	DCC;PTGER2;ZBTB16;MMP2;EGFR;ADCY5;TGFB2;COL4A2;COL4A1;MYC;COL4A4;KIT;E2F1;E2F2;BIRC5
13	Neuroactive ligand-receptor interaction	0.00243146	GABBR2;GRM2;GRIN3A;VIPR2;HRH3;CHRNA4;PTGER2;NPY;NMDAR;GRM8;LEPR
14	Colorectal cancer	0.003580504	DCC;MYC;BIRC5;EGFR;TGFB2
15	Gap junction	0.003951808	TUBB6;CDK1;ITPR3;EGFR;ADCY5
16	AGE-RAGE signaling pathway in diabetic complications	0.006777277	COL4A2;COL4A1;COL4A4;MMP2;TGFB2
17	Central carbon metabolism in cancer	0.007399478	MYC;KIT;SLC1A5;EGFR
18	Proteoglycans in cancer	0.010252616	MYC;MMP2;SDC1;COL21A1;ITPR3;CD44;EGFR
19	Glutamatergic synapse	0.011577383	GRM2;GRIN3A;GRM8;ITPR3;ADCY5
20	Glioma	0.012124558	CAMK1D;E2F1;E2F2;EGFR

Rank	GO-molecular function term	p-value	DEGs included
1	microtubule motor activity (GO:0003777)	1.05E-10	CENPE;KIF18A;KIF18B;KIFC1;KIF4A;KIF14;KIF23;KIF2C;KIF11;KIF20A;KIF15
2	microtubule binding (GO:0008017)	1.54E-09	SPAG5;PLK1;KIF14;KIF23;KIF11;KIF15;CENPE;KIF18A;KIF18B;KIFC1;KIF4A;NUSAP1;BIRC5;KIF2C;KIF20A;FAM83D
3	motor activity (GO:0003774)	5.06E-09	CENPE;KIF18A;KIF18B;KIFC1;KIF4A;KIF14;KIF23;KIF2C;KIF11;KIF20A;KIF15
4	tubulin binding (GO:0015631)	7.01E-08	SPAG5;PLK1;KIF14;KIF23;KIF11;KIF15;CENPE;KIF18A;KIF18B;KIFC1;KIF4A;NUSAP1;BIRC5;KIF2C;KIF20A;FAM83D
5	ATP-dependent microtubule motor activity, plus-end-directed (GO:0008574)	2.96E-05	KIF18A;KIF18B;KIF4A;KIF14;KIF11
6	ATPase activity (GO:0016887)	3.20E-05	CENPE;KIF18A;KIF18B;KIFC1;KIF4A;KIF14;KIF23;KIF2C;KIF20A;KIF11;KIF15

7	protein kinase activity (GO:0004672)	1.41E-04	CDK18;CAMK1D;PKN3;PLK1;BUB1B;PKMYT1;EGFR;AURKB;CIT; BTC;CCNA2;KIT;PBK;MAP3K20;CDK1;NEK2;BUB1
8	ATP-dependent microtubule motor activity (GO:1990939)	2.53E-04	KIF18A;KIF18B;KIF4A;KIF14;KIF11
9	cyclin-dependent protein kinase activity (GO:0097472)	6.74E-04	CCNA2;CCNB2;CDK18;CDK1
10	double-stranded DNA binding (GO:0003690)	0.001163298	RAD51AP1;NEIL3;UHRF1;MCM10;MND1;EGFR
11	transforming growth factor beta binding (GO:0050431)	0.001383633	CD109;LTBP2;TGFB2
12	protein serine/threonine kinase activity (GO:0004674)	0.001540474	CDK18;CCNB2;CAMK1D;PKN3;PLK1;PBK;MAP3K20;CDK1;NEK 2;AURKB;CIT;TGFB2
13	protein kinase binding (GO:0019901)	0.002439369	TOP2A;PLK1;KIF14;KIF11;CDC25C;FOXM1;EGFR;CCNA2;PRC1; KCNQ1;KIT;KIF20A;FAM83D;TP73
14	collagen binding (GO:0005518)	0.003333624	CCBE1;NID1;ANTXR1;CD44
15	voltage-gated potassium channel activity involved in ventricular cardiac muscle cell action potential repolarization (GO:1902282)	0.003735322	KCND3;KCNQ1
16	kinesin binding (GO:0019894)	0.004324922	KIF18B;PRC1;FAM83D
17	histone kinase activity (GO:0035173)	0.004765154	CDK1;AURKB
18	nucleoside-triphosphatase activity (GO:0017111)	0.004854367	CENPE;KIF18A;KIF18B;KIFC1;KIF4A;KIF14;RAD54L;KIF23;KIF2C ;KIF20A;KIF11;KIF15
19	filamin binding (GO:0031005)	0.005910096	DPYSL4;MICALL2
20	cyclin-dependent protein serine/threonine kinase activity (GO:0004693)	0.006897034	CCNB2;CDK18;CDK1

Based on 48 downregulated DEGs in PLIN2OE

Rank	KEGG pathway term	p-value	DEGs included
1	IL-17 signaling pathway	2.85E-06	CXCL8;CCL20;CXCL1;CXCL3;TNF
2	Cytokine-cytokine receptor interaction	6.07E-06	CXCL8;CCL20;GDF15;CXCL1;CXCL3;TNF;TNFRSF21
3	TNF signaling pathway	6.51E-06	CCL20;CXCL1;CXCL3;TNF;BIRC3
4	Legionellosis	9.10E-06	CXCL8;CXCL1;CXCL3;TNF
5	NOD-like receptor signaling pathway	6.63E-05	CXCL8;CXCL1;CXCL3;TNF;BIRC3
6	Rheumatoid arthritis	6.70E-05	CXCL8;CCL20;CXCL1;TNF
7	Hepatitis B	6.26E-04	CDKN1A;EGR2;CXCL8;TNF
8	Kaposi sarcoma-associated herpesvirus infection	0.001023811	CDKN1A;CXCL8;CXCL1;CXCL3
9	Chemokine signaling pathway	0.001107747	CXCL8;CCL20;CXCL1;CXCL3
10	Colorectal cancer	0.001154528	CDKN1A;TGFA;BBC3
11	Salmonella infection	0.001154528	CXCL8;CXCL1;CXCL3
12	NF-kappa B signaling pathway	0.001538097	CXCL8;TNF;BIRC3
13	Amoebiasis	0.001585053	CXCL8;CXCL1;TNF

14	AGE-RAGE signaling pathway in diabetic complications	0.001781842	EGR1;CXCL8;TNF
15	Human T-cell leukemia virus 1 infection	0.001866425	EGR1;CDKN1A;EGR2;TNF
16	Bladder cancer	0.004357042	CDKN1A;CXCL8
17	Apoptosis	0.004893206	TNF;BBC3;BIRC3
18	Malaria	0.006172903	CXCL8;TNF
19	Glutathione metabolism	0.007997872	GPX2;CHAC1
20	Pathways in cancer	0.008595275	CDKN1A;CXCL8;TGFA;BBC3;BIRC3

Rank	GO-molecular function term	p-value	DEGs included
1	cytokine activity (GO:0005125)	1.84E-06	CXCL8;CCL20;GDF15;CXCL1;CXCL3;TNF
2	chemokine activity (GO:0008009)	4.42E-06	CXCL8;CCL20;CXCL1;CXCL3
3	chemokine receptor binding (GO:0042379)	5.71E-06	CXCL8;CCL20;CXCL1;CXCL3
4	CXCR chemokine receptor binding (GO:0045236)	8.62E-06	CXCL8;CXCL1;CXCL3
5	manganese ion binding (GO:0030145)	0.00319059	ME1;SOD2
6	transforming growth factor beta receptor binding (GO:0005160)	0.005003597	GDF15;SMAD7
7	transcription regulatory region DNA binding (GO:0044212)	0.012257822	EGR1;EGR2;TNF;SMAD7
8	malate dehydrogenase activity (GO:0016615)	0.014315529	ME1
9	regulatory region DNA binding (GO:0000975)	0.016560596	EGR2;TNF;SMAD7
10	poly(G) binding (GO:0034046)	0.01668187	ATXN1
11	type I transforming growth factor beta receptor binding (GO:0034713)	0.019042649	SMAD7
12	I-SMAD binding (GO:0070411)	0.023747572	SMAD7
13	cyclin-dependent protein serine/threonine kinase inhibitor activity (GO:0004861)	0.023747572	CDKN1A
14	activin binding (GO:0048185)	0.023747572	SMAD7
15	gap junction channel activity (GO:0005243)	0.026091741	GJD2
16	tumor necrosis factor receptor binding (GO:0005164)	0.026091741	TNF
17	G-protein coupled receptor activity (GO:0004930)	0.026174504	CNR1;FFAR4;GPR37L1
18	arylsulfatase activity (GO:0004065)	0.028430399	SULF2
19	wide pore channel activity (GO:0022829)	0.028430399	GJD2

20	ubiquitin protein ligase binding (GO:0031625)	0.030647744	CDKN1A;EGR2;SMAD7
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Supplemental Table 6

Most upregulated in PLIN2KD

Rank	Gene name	Gene description	Log2(Fold-change)	Fold-change
1	PPP1R17	protein phosphatase 1 regulatory subunit 17	7.80	222.9
2	PCDH12	protocadherin 12	6.50	90.5
3	FEV	FEV transcription factor, ETS family member	5.90	59.7
4	DNAJC22	DnaJ heat shock protein family (Hsp40) member C22	5.50	45.3
5	BAALC-AS2	BAALC antisense RNA 2	5.20	36.8
6	SST	somatostatin	5.10	34.3
7	SLC18A2	solute carrier family 18 member A2	4.90	29.9
8	SCUBE3	signal peptide, CUB domain and EGF like domain containing 3	4.90	29.9
9	CALCA	calcitonin related polypeptide alpha	4.80	27.9
10	C7	complement C7	4.70	26
11	HHEX	hematopoietically expressed homeobox	4.50	22.6
12	ASCL1	achaete-scute family bHLH transcription factor 1	4.10	17.1
13	SLC7A5	solute carrier family 7 member 5	3.80	13.9
14	ERN1 (IRE1)	endoplasmic reticulum to nucleus signaling 1	3.70	13
15	SPRY2	sprouty RTK signaling antagonist 2	3.50	11.3
16	RASD1	ras related dexamethasone induced 1	3.50	11.3
17	TFPI2	tissue factor pathway inhibitor 2	3.50	11.3
18	DDIT4 (CHOP)	DNA damage inducible transcript 4	3.30	9.8
19	BMP2	bone morphogenetic protein 2	3.30	9.8
20	TGFB2	transforming growth factor beta 2	3.26	9.6

Most down regulated in PLIN2KD

Rank	Gene name	Gene description	Log2(Fold-change)	Fold-change
1	GC	GC vitamin D binding protein	-3.2	-9.2
2	NOTCH1	notch receptor 1	-2.6	-6.1
3	SNORD113-3	small nucleolar RNA, C/D box 113-3	-2.4	-5.3
4	GRASP	trafficking regulator and scaffold protein tamalin	-2.3	-4.9
5	PM20D1	peptidase M20 domain containing 1	-2.2	-4.6
6	SLC32A1	solute carrier family 32 member 1	-2.2	-4.6
7	TPPP3	tubulin polymerization promoting protein family member 3	-2.2	-4.6
8	UNC5D	unc-5 netrin receptor D	-2.1	-4.3
9	MEIS2	Meis homeobox 2	-2	-4.0
10	IAPP	islet amyloid polypeptide	-2	-4.0
11	CCDC85C	coiled-coil domain containing 85C	-2	-4.0
12	CNNM1	cyclin and CBS domain divalent metal cation transport mediator 1	-1.9	-3.7
13	TSC22D3	TSC22 domain family member 3	-1.9	-3.7
14	RCAN1	regulator of calcineurin 1	-1.9	-3.7
15	SYT2	synaptotagmin 2	-1.9	-3.7
16	ARRB1	arrestin beta 1	-1.9	-3.7
17	EML1	EMAP like 1	-1.8	-3.5
18	FGF18	fibroblast growth factor 18	-1.8	-3.5
19	SHISA2	shisa family member 2	-1.8	-3.5

Supplemental Table 7

Most upregulated in PLIN2OE

Rank	Gene name	Gene description	Log2(Fold-change)	Fold-change
1	LIPC	lipase C, hepatic type	1.9	3.6
2	SPC24	SPC24 component of NDC80 kinetochore complex	1.8	3.4
3	LOXL4	lysyl oxidase like 4	1.6	3
4	TROAP	trophinin associated protein	1.6	3
5	TK1	thymidine kinase 1	1.5	2.9
6	RIPPLY3	rippy transcriptional repressor 3	1.5	2.9
7	MAFA	MAF bZIP transcription factor A	1.5	2.9
8	AURKB	aurora kinase B	1.4	2.7
9	KIT	KIT proto-oncogene, receptor tyrosine kinase	1.4	2.6
10	SLC35F1	solute carrier family 35 member F1	1.4	2.6
11	KCND3	potassium voltage-gated channel subfamily D member 3	1.4	2.6
12	KCTD15	potassium channel tetramerization domain containing 15	1.4	2.6
13	KIF18B	kinesin family member 18B	1.3	2.5
14	MYBL2	MYB proto-oncogene like 2	1.3	2.5
15	MMP2	matrix metalloproteinase 2	1.3	2.5
16	RAD54L	RAD54 like	1.3	2.4
17	MDK	midkine	1.3	2.4
18	EMID1	EMI domain containing 1	1.3	2.4
19	SIX2	SIX homeobox 2	1.3	2.4
20	RIMS4	regulating synaptic membrane exocytosis 4	1.3	2.4

Most down regulated in PLIN2OE

Rank	Gene name	Gene description	Log2(Fold-change)	Fold-change
1	STX11	syntaxin 11	-2.8	0.1
2	LYPD1	LY6/PLAUR domain containing 1	-1.9	0.3
3	EEF1A1P26	eukaryotic translation elongation factor 1 alpha 1 pseudogene 26	-1.7	0.3
4	SULF2	sulfatase 2	-1.5	0.4
5	FAXDC2	fatty acid hydroxylase domain containing 2	-1.5	0.4
6	GPX2	glutathione peroxidase 2	-1.5	0.4
7	CEBPB-AS1	CEBPB Antisense RNA 1	-1.4	0.4
8	SMAD7	SMAD family member 7	-1.4	0.4
9	EGR1	early growth response 1	-1.3	0.4
10	BBC3	BCL2 binding component 3	-1.2	0.4
11	GAP43	growth associated protein 43	-1.2	0.4
12	GDF15	growth differentiation factor 15	-1.2	0.4
13	TNFRSF21	TNF receptor superfamily member 21	-1.1	0.5
14	P3H2	prolyl 3-hydroxylase 2	-1.1	0.5
15	CHAC1	ChaC glutathione specific gamma-glutamylcyclotransferase 1	-1.1	0.5
16	GJD2	gap junction protein delta 2	-1.1	0.5
17	DEPP1	DEPP1 autophagy regulator	-1.1	0.5
18	SLC7A11	solute carrier family 7 member 11	-1.1	0.5
19	ME1	malic enzyme 1	-1.1	0.5
20	CDKN1A	cyclin dependent kinase inhibitor 1A	-1	0.5