

**Supplementary Table 2: Differential expression in CD4+ T cells of predicted miR-21 target genes between RR-MS and HC. Genes identified as miR-21 targets**

**in Jurkat T cells by RIP-Chip and genes predicted and experimentally validated to be miR-21 targets by TarBase7.0 were selected for investigation.**

Jurkat target ID	Gene Name	Description	logF C	AveExp r	P.Value
ENSG00000180667	<b>YOD1</b>	YOD1 deubiquitinase [Source:HGNC Symbol;Acc:HGNC:25035]	0.30	5.09	3.28E-04
ENSG00000100354	TNRC6B	trinucleotide repeat containing 6B [Source:HGNC Symbol;Acc:HGNC:29190]	0.13	6.71	4.99E-03
ENSG00000146676	<b>PURB</b>	purine rich element binding protein B [Source:HGNC Symbol;Acc:HGNC:9702]	0.17	5.75	9.29E-03
ENSG00000145715	RASA1	RAS p21 protein	0.17	6.59	1.23E-02

TarBase7.0 target ID	Gene Name	Description	logF C	AveExp r	P.Value
ENSG00000164284	GRPEL2	GrpE like 2, mitochondrial [Source:HGNC Symbol;Acc:HGNC:21060]	0.44	5.87	6.63E-05
ENSG00000180667	<b>YOD1</b>	YOD1 deubiquitinase [Source:HGNC Symbol;Acc:HGNC:25035]	0.30	5.09	3.28E-04
ENSG00000113369	ARRDC3	arrestin domain containing 3 [Source:HGNC Symbol;Acc:HGNC:29263]	0.44	8.17	7.68E-04
ENSG00000143753	DEGS1	delta 4-desaturase,	0.21	6.40	2.74E-03

ENSG00000110987	<b>BCL7A</b>	activator 1 [Source:HGNC Symbol;Acc: HGNC:9871]  BCL tumor suppressor 7A [Source:HGNC Symbol;Acc: HGNC:1004]	0.63	2.13	2.20E-02				
ENSG00000197579	<b>TOPORS</b>	TOP1 binding arginine/seri ne rich protein [Source:HGNC Symbol;Acc: HGNC:21653 ]	0.12	5.20	3.33E-02				
ENSG00000152518	ZFP36L2	ZFP36 ring finger protein like 2 [Source:HGNC Symbol;Acc: HGNC:1108]	0.18	11.05	3.64E-02				
ENSG00000180979	LRRCS7	sphingolipid 1 [Source:HGNC Symbol;Acc: HGNC:1370 9] leucine rich repeat containing 57 [Source:HGNC Symbol;Acc: HGNC:2671 9]	0.33	5.02	4.09E-03				
ENSG00000150753	CCT5	chaperonin containing TCP1 subunit 5 [Source:HGNC Symbol;Acc: HGNC:1618]	- 0.17	6.06	4.97E-03				
ENSG00000253719	ATXN7L3B	ataxin 7 like 3B [Source:HGNC Symbol;Acc: HGNC:3793 1]	0.17	8.07	5.66E-03				

ENSG00000131023	<b>LATS1</b>	large tumor suppressor kinase 1 [Source:HGNC Symbol;Acc: HGNC:6514]	- 0.07	5.87	3.88E-02
ENSG00000124209	<b>RAB22A</b>	RAB22A, member RAS oncogene family [Source:HGNC Symbol;Acc: HGNC:9764]	0.11	4.57	4.50E-02
ENSG00000138336	<b>TET1</b>	tet methylcytosine dioxygenase 1 [Source:HGNC Symbol;Acc: HGNC:29484]	- 0.26	1.57	4.81E-02
ENSG00000076641	<b>PAG1</b>	phosphoprotein membrane anchor with glycosphingolipid microdomain	0.18	8.28	7.03E-02

ENSG00000131381	<b>RBSN</b>	rabenosyn, RAB effector [Source:HGNC Symbol;Acc: HGNC:20759]	0.13	5.61	7.10E-03
ENSG00000141582	<b>CBX4</b>	chromobox 4 [Source:HGNC Symbol;Acc: HGNC:1554]	0.22	6.52	9.03E-03
ENSG00000146676	<b>PURB</b>	purine rich element binding protein B [Source:HGNC Symbol;Acc: HGNC:9702]	0.17	5.75	9.29E-03
ENSG00000119844	<b>AFTPH</b>	aftiphilin [Source:HGNC Symbol;Acc: HGNC:25951]	- 0.14	6.05	1.24E-02

ENSG0000016524 4	<b>ZNF367</b>	ns 1 [Source:HGN C Symbol;Acc: HGNC:30043 ] zinc finger protein 367 [Source:HGN C Symbol;Acc: HGNC:18320 ]	0.16	3.85	7.29E- 02	ENSG00000118402	ELOVL4	ELOVL fatty acid elongase 4 [Source:HG NC Symbol;Acc: HGNC:1441 5]	0.61	2.44	1.48E- 02
ENSG0000015252 0	PAN3	PAN3 poly(A) specific ribonuclease subunit [Source:HGN C Symbol;Acc: HGNC:29991 ]	0.09	7.10	7.60E- 02	ENSG00000164466	SFXN1	sideroflexin 1 [Source:HG NC Symbol;Acc: HGNC:1608 5]	0.14	6.23	1.49E- 02
ENSG0000016622 5	<b>FRS2</b>	fibroblast growth factor receptor substrate 2 [Source:HGN C Symbol;Acc: HGNC:16971	0.08	4.97	9.50E- 02	ENSG00000163629	PTPN13	protein tyrosine phosphatas e, non- receptor type 13 [Source:HG NC Symbol;Acc:	0.67	3.10	1.55E- 02

ENSG00000171316	CHD7	] chromodomain helicase DNA binding protein 7 [Source:HGNC Symbol;Acc:HGNC:20626]	0.14	5.57	1.10E-01	ENSG00000104643	MTMR9	HGNC:9646] myotubularin related protein 9 [Source:HGNC Symbol;Acc:HGNC:14596]	0.09	4.85	1.65E-02
ENSG00000107679	PLEKHA1	] pleckstrin homology domain containing A1 [Source:HGNC Symbol;Acc:HGNC:14335]	-0.12	5.70	1.25E-01	ENSG00000145907	G3BP1	G3BP stress granule assembly factor 1 [Source:HGNC Symbol;Acc:HGNC:30292]	0.09	6.92	1.88E-02
ENSG00000171132	PRKCE	] protein kinase C epsilon [Source:HGNC Symbol;Acc:HGNC:9401]	0.12	2.63	1.31E-01	ENSG00000196776	CD47	CD47 molecule [Source:HGNC Symbol;Acc:HGNC:1682]	0.09	8.47	1.95E-02
ENSG00000110848	CD69	] CD69 molecule [Source:HGNC Symbol;Acc:HGNC:1694]	-0.19	10.25	1.42E-01	ENSG00000110987	<b>BCL7A</b>	BCL tumor suppressor 7A [Source:HGNC Symbol;Acc:	0.63	2.13	2.20E-02

ENSG00000155640	-	-	0.16	4.26	1.46E-01	ENSG00000070214	SLC44A1	HGNC:1004] solute carrier family 44 member 1 [Source:HGNC Symbol;Acc:HGNC:18798]	-0.13	3.78	2.27E-02
ENSG00000174010	<b>KLHL15</b>	kelch like family member 15 [Source:HGNC Symbol;Acc:HGNC:29347]	0.12	4.55	1.48E-01	ENSG00000173698	ADGRG2	adhesion G protein-coupled receptor G2 [Source:HGNC Symbol;Acc:HGNC:4516]	-1.00	-1.29	2.30E-02
ENSG00000134698	<b>AGO4</b>	argonaute 4, RISC catalytic component [Source:HGNC Symbol;Acc:HGNC:18424]	0.17	5.75	1.65E-01	ENSG00000109787	KLF3	Kruppel like factor 3 [Source:HGNC Symbol;Acc:HGNC:16516]	0.17	7.88	2.33E-02
ENSG00000152601	<b>MBNL1</b>	muscleblind like splicing regulator 1 [Source:HGNC Symbol;Acc:	-0.06	9.23	1.86E-01	ENSG00000119778	ATAD2B	ATPase family, AAA domain containing 2B [Source:HG	-0.12	4.38	2.36E-02

		HGNC:6923]						NC Symbol;Acc: HGNC:2923 0]			
ENSG0000019732 3	<b>TRIM33</b>	tripartite motif containing 33 [Source:HGNC Symbol;Acc: HGNC:16290 ]	0.04	6.56	1.95E-01	ENSG00000185658	BRWD1	bromodomain and WD repeat domain containing 1 [Source:HGNC Symbol;Acc: HGNC:1276 0]	0.10	6.29	2.41E-02
ENSG0000013859 3	SECISBP2L	SECIS binding protein 2 like [Source:HGNC Symbol;Acc: HGNC:28997 ]	0.05	6.04	1.96E-01	ENSG00000158079	PTPDC1	protein tyrosine phosphatase domain containing 1 [Source:HGNC Symbol;Acc: HGNC:3018 4]	- 0.19	3.27	2.52E-02
ENSG0000016259 9	NFIA	nuclear factor I A [Source:HGNC Symbol;Acc: HGNC:7784]	0.13	1.27	2.43E-01	ENSG00000096060	FKBP5	FK506 binding protein 5 [Source:HGNC Symbol;Acc: HGNC:3721]	0.31	6.88	2.56E-02
ENSG0000017718 9	<b>RPS6KA3</b>	ribosomal protein S6	0.06	7.43	2.83E-01	ENSG00000119899	SLC17A5	solute carrier	0.14	4.31	2.74E-02

ENSG00000188895	MSL1	kinase A3 [Source:HGN C Symbol;Acc: HGNC:10432 ]	0.07	7.40	2.87E-01	ENSG00000196459	TRAPPC2	family 17 member 5 [Source:HG NC Symbol;Acc: HGNC:1093 3]	0.11	5.06	3.06E-02
ENSG00000118922	KLF12	male specific lethal 1 homolog [Source:HGN C Symbol;Acc: HGNC:27905 ]	0.05	7.01	2.98E-01	ENSG00000100664	EIF5	trafficking protein particle complex 2 [Source:HG NC Symbol;Acc: HGNC:2306 8]	0.13	7.55	3.10E-02
ENSG00000181690	<b>PLAG1</b>	Kruppel like factor 12 [Source:HGN C Symbol;Acc: HGNC:6346]	0.14	4.53	2.99E-01	ENSG00000143013	LMO4	eukaryotic translation initiation factor 5 [Source:HG NC Symbol;Acc: HGNC:3299]	0.33	4.30	3.20E-02
ENSG00000162378	<b>ZYG11B</b>	PLAG1 zinc finger [Source:HGN C Symbol;Acc: HGNC:9045]	0.05	5.21	3.05E-01	ENSG00000164190	NIPBL	LIM domain only 4 [Source:HG NC Symbol;Acc: HGNC:6644]	- 0.07	6.49	3.25E-02



ENSG00000204217	<b>BMPR2</b>	regulator [Source:HGN C Symbol;Acc: HGNC:25820 ] bone morphogene tic protein receptor type 2 [Source:HGN C Symbol;Acc: HGNC:1078]	0.06	4.33	3.20E-01				
ENSG00000081014	<b>AP4E1</b>	adaptor related protein complex 4 epsilon 1 subunit [Source:HGN C Symbol;Acc: HGNC:573]	- 0.04	4.62	3.29E-01		0.12	4.84	3.29E-02
ENSG00000185009	<b>AP3M1</b>	adaptor related protein complex 3 mu 1 subunit [Source:HGN C Symbol;Acc:	- 0.04	5.67	3.68E-01				
ENSG00000048471	<b>SNX29</b>	factor [Source:HG NC Symbol;Acc: HGNC:2886 2] sorting nexin 29 [Source:HG NC Symbol;Acc: HGNC:3054 2]					0.12	4.84	3.29E-02
ENSG00000197579	<b>TOPORS</b>	TOP1 binding arginine/ser ine rich protein [Source:HG NC Symbol;Acc: HGNC:2165 3]					0.12	5.20	3.33E-02
ENSG00000127337	<b>YEATS4</b>	YEATS domain containing 4 [Source:HG NC Symbol;Acc: HGNC:2485 9]					- 0.25	5.66	3.42E-02

ENSG00000107864	<b>CPEB3</b>	HGNC:569] cytoplasmic polyadenylation element binding protein 3 [Source:HGNC Symbol;Acc:HGNC:21746]	0.07	2.84	3.74E-01	ENSG00000196262	PPIA	peptidylprolyl isomerase A [Source:HGNC Symbol;Acc:HGNC:9253]	0.11	8.48	3.71E-02
ENSG00000150593	<b>PDCD4</b>	programmed cell death 4 (neoplastic transformation inhibitor) [Source:HGNC Symbol;Acc:HGNC:8763]	0.05	8.46	3.90E-01	ENSG00000092871	RFFL	ring finger and FYVE-like domain containing E3 ubiquitin protein ligase [Source:HGNC Symbol;Acc:HGNC:24821]	0.11	5.60	3.76E-02
ENSG00000143756	<b>FBXO28</b>	F-box protein 28 [Source:HGNC Symbol;Acc:HGNC:29046]	0.04	5.30	3.91E-01	ENSG00000131023	<b>LATS1</b>	large tumor suppressor kinase 1 [Source:HGNC Symbol;Acc:HGNC:6514]	-0.07	5.87	3.88E-02
ENSG00000182568	<b>SATB1</b>	SATB homeobox 1 [Source:HGNC	0.09	7.64	4.06E-01	ENSG00000144909	OSBPL11	oxysterol binding protein like	-0.17	4.79	4.23E-02

ENSG00000119866	<b>BCL11A</b>	C Symbol;Acc: HGNC:10541 ]	-	-0.92	4.47E-01	ENSG00000066933	MYO9A	11 [Source:HG NC Symbol;Acc: HGNC:1639 7] myosin IXA [Source:HG NC Symbol;Acc: HGNC:7608]	-	4.35	4.30E-02
ENSG00000173281	<b>PPP1R3B</b>	B-cell CLL/lymphoma 11A [Source:HGNC C Symbol;Acc: HGNC:13221 ]	0.35			ENSG00000118971	CCND2	cyclin D2 [Source:HG NC Symbol;Acc: HGNC:1583]	0.13	7.23	4.31E-02
ENSG00000171940	<b>ZNF217</b>	protein phosphatase 1 regulatory subunit 3B [Source:HGNC C Symbol;Acc: HGNC:14942 ]	0.09	3.82	4.58E-01	ENSG00000169564	PCBP1	poly(rC) binding protein 1 [Source:HG NC Symbol;Acc: HGNC:8647]	-	9.08	4.32E-02
ENSG00000157933	<b>SKI</b>	zinc finger protein 217 [Source:HGNC C Symbol;Acc: HGNC:13009 ]	0.03	6.68	5.29E-01	ENSG00000167548	KMT2D	lysine methyltransferase 2D	-	6.96	4.38E-02
		SKI proto-oncogene [Source:HGNC	0.05	7.14	5.44E-01				0.08		

ENSG00000143878	<b>RHOB</b>	C Symbol;Acc: HGNC:10896 ] ras homolog family member B [Source:HGNC Symbol;Acc: HGNC:668]	- 0.19	5.49	5.62E-01				
ENSG00000102908	<b>NFAT5</b>	nuclear factor of activated T- cells 5 [Source:HGNC Symbol;Acc: HGNC:7774]	- 0.03	5.84	5.65E-01				
ENSG00000163939	<b>PBRM1</b>	polybromo 1 [Source:HGNC Symbol;Acc: HGNC:30064 ]	- 0.02	5.89	5.65E-01				
ENSG00000165572	<b>KBTBD6</b>	kelch repeat and BTB domain containing 6	- 0.05	2.93	5.77E-01				
ENSG00000125538	<b>IL1B</b>	[Source:HGNC Symbol;Acc: HGNC:7133] interleukin 1 beta [Source:HGNC Symbol;Acc: HGNC:5992]	- 1.38	0.88	4.39E-02				
ENSG00000129128	<b>SPCS3</b>	signal peptidase complex subunit 3 [Source:HGNC Symbol;Acc: HGNC:2621 2]	0.10	7.47	4.41E-02				
ENSG00000124209	<b>RAB22A</b>	RAB22A, member RAS oncogene family [Source:HGNC Symbol;Acc: HGNC:9764]	0.11	4.57	4.50E-02				
ENSG00000138336	<b>TET1</b>	tet methylcytosine dioxygenase	- 0.26	1.57	4.81E-02				

ENSG0000015574 4	<b>FAM126B</b>	[Source:HGN C Symbol;Acc: HGNC:25340 ] family with sequence similarity 126 member B [Source:HGN C Symbol;Acc: HGNC:28593 ]	0.03	4.63	6.01E- 01	ENSG00000153187	HNRNPU	1 [Source:HG NC Symbol;Acc: HGNC:2948 4] heterogene ous nuclear ribonucleop rotein U [Source:HG NC Symbol;Acc: HGNC:5048]	- 0.10	8.12	4.94E- 02
ENSG0000019693 7	<b>FAM3C</b>	family with sequence similarity 3 member C [Source:HGN C Symbol;Acc: HGNC:18664 ]	0.04	4.85	6.18E- 01	ENSG00000185246	PRPF39	pre-mRNA processing factor 39 [Source:HG NC Symbol;Acc: HGNC:2031 4]	- 0.08	6.85	5.31E- 02
ENSG0000012312 4	<b>WWP1</b>	WW domain containing E3 ubiquitin protein ligase 1 [Source:HGN C Symbol;Acc:	0.03	6.97	6.71E- 01	ENSG00000109458	GAB1	GRB2 associated binding protein 1 [Source:HG NC Symbol;Acc: HGNC:4066]	- 0.83	-1.43	5.55E- 02

ENSG00000101972	<b>STAG2</b>	<p>HGNC:17004]</p> <p>stromal antigen 2</p> <p>[Source:HGNC Symbol;Acc:HGNC:11355]</p>	0.01	6.93	6.78E-01	ENSG00000112159	MDN1	<p>midasin</p> <p>AAA ATPase 1</p> <p>[Source:HGNC Symbol;Acc:HGNC:18302]</p>	-	6.59	5.75E-02
ENSG00000204116	CHIC1	<p>cysteine rich hydrophobic domain 1</p> <p>[Source:HGNC Symbol;Acc:HGNC:1934]</p>	0.02	5.46	6.97E-01	ENSG00000135046	ANXA1	<p>annexin A1</p> <p>[Source:HGNC Symbol;Acc:HGNC:533]</p>	-	8.85	5.78E-02
ENSG00000095015	<b>MAP3K1</b>	<p>mitogen-activated protein kinase kinase kinase 1</p> <p>[Source:HGNC Symbol;Acc:HGNC:6848]</p>	0.03	8.20	7.24E-01	ENSG00000031691	CENPQ	<p>centromere protein Q</p> <p>[Source:HGNC Symbol;Acc:HGNC:21347]</p>	-	3.52	6.30E-02
ENSG00000112739	PRPF4B	<p>pre-mRNA processing factor 4B</p> <p>[Source:HGNC Symbol;Acc:</p>	-	7.52	7.66E-01	ENSG00000196227	FAM217B	<p>family with sequence similarity 217 member B</p> <p>[Source:HG</p>	0.12	5.04	6.53E-02

ENSG0000015774 1	UBN2	ubineuclein 2 [Source:HGNC Symbol;Acc: HGNC:21931 ]	- 0.02	5.00	7.75E- 01					
ENSG0000011330 0	<b>CNOT6</b>	CCR4-NOT transcription complex subunit 6 [Source:HGNC Symbol;Acc: HGNC:14099 ]	0.02	5.64	7.85E- 01					
ENSG0000012892 3	<b>FAM63B</b>	family with sequence similarity 63 member B [Source:HGNC	0.02	4.99	8.39E- 01					
ENSG00000154518	ATP5G3	ATP synthase, H+ transporting , mitochondri al Fo complex subunit C3 (subunit 9) [Source:HGNC Symbol;Acc: HGNC:1617 0]	0.10	4.69	6.92E- 02					
ENSG00000048649	RSF1	remodeling and spacing factor 1 [Source:HGNC Symbol;Acc: HGNC:843]	0.07	5.37	6.93E- 02					
ENSG00000076641	<b>PAG1</b>	phosphopro tein membrane anchor with glycosphing olipid	0.18	8.28	7.03E- 02					

		Symbol;Acc: HGNC:26954 ]										
ENSG00000105810	CDK6	cyclin dependent kinase 6 [Source:HGNC Symbol;Acc: HGNC:1777]	0.02	5.82	8.84E-01	ENSG00000169967	MAP3K2	microdomains 1 [Source:HGNC Symbol;Acc: HGNC:30043] mitogen-activated protein kinase kinase 2 [Source:HGNC Symbol;Acc: HGNC:6854]	0.06	6.44	7.07E-02	
ENSG00000138081	<b>FBXO11</b>	F-box protein 11 [Source:HGNC Symbol;Acc: HGNC:13590 ]	0.00	6.64	8.93E-01	ENSG00000165244	<b>ZNF367</b>	zinc finger protein 367 [Source:HGNC Symbol;Acc: HGNC:18320]	0.16	3.85	7.29E-02	
ENSG00000178177	LCORL	ligand dependent nuclear receptor corepressor like [Source:HGNC Symbol;Acc:	0.01	2.93	9.10E-01	ENSG00000140299	BNIP2	BCL2 interacting protein 2 [Source:HGNC Symbol;Acc: HGNC:1083]	0.07	6.14	7.31E-02	



ENSG00000148730	EIF4EBP2	HGNC:30776 ] eukaryotic translation initiation factor 4E binding protein 2 [Source:HGN C Symbol;Acc: HGNC:3289]	0.00	7.12	9.40E-01	ENSG00000143614	GATAD2B	GATA zinc finger domain containing 2B [Source:HGN C Symbol;Acc: HGNC:30778]	0.06	6.47	7.94E-02
ENSG00000103064	SLC7A6	solute carrier family 7 member 6 [Source:HGN C Symbol;Acc: HGNC:11064]	0.01	8.52	9.45E-01	ENSG00000163624	CDS1	CDP-diacylglycerol synthase 1 [Source:HGN C Symbol;Acc: HGNC:1800]	-0.27	0.83	8.08E-02
ENSG00000115020	PIKFYVE	phosphoinositide kinase, FYVE-type zinc finger containing [Source:HGN C Symbol;Acc: HGNC:23785]	0.00	6.42	9.73E-01	ENSG00000183508	FAM46C	family with sequence similarity 46 member C [Source:HGN C Symbol;Acc: HGNC:24712]	-0.44	6.75	8.49E-02
ENSG00000145675	PIK3R1	phosphoinositide-3-	0.00	7.40	9.80E-01	ENSG00000008277	ADAM22	ADAM metallopt	-0.23	1.73	8.58E-02

ENSG0000012347	ATPAF1	kinase regulatory subunit 1 [Source:HGNC Symbol;Acc:HGNC:8979]	0.00	5.17	9.89E-01
ENSG0000017257	<b>RASGRP1</b>	ATP synthase mitochondrial F1 complex assembly factor 1 [Source:HGNC Symbol;Acc:HGNC:18803]	0.00	8.41	9.99E-01
		RAS guanyl releasing protein 1 [Source:HGNC Symbol;Acc:HGNC:9878]			

ENSG00000196591	HDAC2	histone deacetylase 2 [Source:HGNC Symbol;Acc:HGNC:4853]	-0.13	4.32	8.59E-02
ENSG00000080546	SESN1	sestrin 1 [Source:HGNC Symbol;Acc:HGNC:21595]	0.25	6.65	8.70E-02
ENSG00000198855	FICD	FIC domain containing [Source:HGNC Symbol;Acc:HGNC:18416]	0.21	2.08	9.01E-02

ENSG00000140575	IQGAP1	IQ motif containing GTPase activating protein 1 [Source:HG NC Symbol;Acc:HGNC:6110]	- 0.13	6.82	9.03E-02
ENSG00000104343	UBE2W	ubiquitin conjugating enzyme E2 W (putative) [Source:HG NC Symbol;Acc:HGNC:25616]	0.08	4.35	9.23E-02
ENSG00000166225	<b>FRS2</b>	fibroblast growth factor receptor substrate 2 [Source:HG NC Symbol;Acc:HGNC:16971]	0.08	4.97	9.50E-02
ENSG00000118263	KLF7	Kruppel like factor 7 [Source:HG NC	0.16	6.27	9.58E-02

ENSG00000102218	RP2	Symbol;Acc: HGNC:6350] retinitis pigmentosa 2 (X-linked recessive) [Source:HG NC	- 0.15	3.81	9.83E- 02
ENSG00000168807	SNTB2	Symbol;Acc: HGNC:1027 4] syntrophin beta 2 [Source:HG NC	0.19	4.62	1.03E- 01
ENSG00000025796	SEC63	Symbol;Acc: HGNC:1116 9] SEC63 homolog, protein translocatio n regulator [Source:HG NC	0.06	5.69	1.03E- 01
ENSG00000107036	RIC1	Symbol;Acc: HGNC:2108 2] RIC1 homolog, RAB6A GEF complex partner 1	0.07	5.43	1.04E- 01

ENSG00000120696	KBTBD7	[Source:HGNC Symbol;Acc: HGNC:17686] kelch repeat and BTB domain containing 7	0.29	2.02	1.08E-01
ENSG00000164916	FOXK1	[Source:HGNC Symbol;Acc: HGNC:25266] forkhead box K1	0.12	5.91	1.13E-01
ENSG00000136045	PWP1	[Source:HGNC Symbol;Acc: HGNC:23480] PWP1 homolog, endonuclein	- 0.07	6.17	1.14E-01
ENSG00000164039	BDH2	[Source:HGNC Symbol;Acc: HGNC:17015] 3- hydroxybut yrate dehydrogen	0.17	4.17	1.16E-01

ENSG00000186687	LYRM7	ase, type 2 [Source:HG NC Symbol;Acc: HGNC:3238 9] LYR motif containing 7 [Source:HG NC Symbol;Acc: HGNC:2807 2]	- 0.10	5.42	1.17E- 01
ENSG00000065613	SLK	STE20 like kinase [Source:HG NC Symbol;Acc: HGNC:1108 8]	- 0.08	6.04	1.24E- 01
ENSG00000019995	ZRANB1	zinc finger RANBP2- type containing 1 [Source:HG NC Symbol;Acc: HGNC:1822 4]	0.06	5.57	1.25E- 01
ENSG00000156735	BAG4	BCL2 associated athanogene 4	0.11	4.01	1.27E- 01

ENSG00000157106	SMG1	[Source:HG NC Symbol;Acc: HGNC:940] SMG1, nonsense mediated mRNA decay associated PI3K related kinase	- 0.08	7.37	1.36E- 01
ENSG00000197147	LRRC8B	[Source:HG NC Symbol;Acc: HGNC:3004 5] leucine rich repeat containing 8 family member B	0.14	4.83	1.36E- 01
ENSG00000090104	RGS1	[Source:HG NC Symbol;Acc: HGNC:3069 2] regulator of G-protein signaling 1 [Source:HG NC Symbol;Acc:	- 0.45	8.05	1.37E- 01

ENSG00000165219	GAPVD1	HGNC:9991] GTPase activating protein and VPS9 domains 1 [Source:HG NC Symbol;Acc: HGNC:2337 5]	0.07	5.09	1.37E- 01
ENSG00000164237	CMBL	carboxymet hylenebut nolidase homolog [Source:HG NC Symbol;Acc: HGNC:2509 0]	- 0.37	0.54	1.40E- 01
ENSG00000198743	SLC5A3	solute carrier family 5 member 3 [Source:HG NC Symbol;Acc: HGNC:1103 8]	- 0.16	5.06	1.40E- 01
ENSG00000174718	KIAA1551	KIAA1551 [Source:HG NC Symbol;Acc:	- 0.13	8.85	1.40E- 01



ENSG00000120868	APAF1	HGNC:25559] apoptotic peptidase activating factor 1 [Source:HG NC Symbol;Acc: HGNC:576]	- 0.08	5.15	1.43E- 01
ENSG00000101856	PGRMC1	progesteron e receptor membrane component 1 [Source:HG NC Symbol;Acc: HGNC:1609 0]	0.08	5.17	1.45E- 01
ENSG00000155640	-	-	0.16	4.26	1.46E- 01
ENSG00000151553	FAM160B1	family with sequence similarity 160 member B1 [Source:HG NC Symbol;Acc: HGNC:2932 0]	0.18	5.76	1.46E- 01
ENSG00000174010	KLHL15	kelch like	0.12	4.55	1.48E-

		family member 15 [Source:HGNC Symbol;Acc: HGNC:29347]			01
ENSG00000153250	RBMS1	RNA binding motif single stranded interacting protein 1 [Source:HGNC Symbol;Acc: HGNC:9907]	0.10	6.79	1.48E-01
ENSG00000145604	SKP2	S-phase kinase-associated protein 2, E3 ubiquitin protein ligase [Source:HGNC Symbol;Acc: HGNC:10901]	- 0.12	4.79	1.55E-01
ENSG00000111300	NAA25	N(alpha)-acetyltransferase 25, NatB auxiliary	0.08	5.08	1.58E-01

ENSG00000100422	CERK	subunit [Source:HG NC Symbol;Acc: HGNC:2578 3] ceramide kinase	0.09	7.87	1.59E- 01
ENSG00000134698	<b>AGO4</b>	[Source:HG NC Symbol;Acc: HGNC:1925 6] argonaute 4, RISC catalytic component	0.17	5.75	1.65E- 01
ENSG00000164252	AGGF1	[Source:HG NC Symbol;Acc: HGNC:1842 4] angiogenic factor with G-patch and FHA domains 1	- 0.06	5.64	1.65E- 01
ENSG00000079785	DDX1	[Source:HG NC Symbol;Acc: HGNC:2468 4] DEAD/H-	-	6.10	1.66E-

		box helicase 1 [Source:HG NC Symbol;Acc: HGNC:2734]	0.06		01
ENSG00000135318	NT5E	5'- nucleotidas e ecto [Source:HG NC Symbol;Acc: HGNC:8021]	- 0.43	2.73	1.71E- 01
ENSG00000116106	EPHA4	EPH receptor A4 [Source:HG NC Symbol;Acc: HGNC:3388]	0.24	5.25	1.74E- 01
ENSG00000125430	HS3ST3B1	heparan sulfate- glucosamin e 3- sulfotransfe rase 3B1 [Source:HG NC Symbol;Acc: HGNC:5198]	0.11	5.43	1.76E- 01
ENSG00000119138	KLF9	Kruppel like factor 9 [Source:HG NC	0.18	7.60	1.81E- 01

ENSG00000165929	TC2N	Symbol;Acc: HGNC:1123] tandem C2 domains, nuclear [Source:HG NC Symbol;Acc: HGNC:1985 9]	- 0.11	8.46	1.82E- 01
ENSG00000110422	HIPK3	homeodom ain interacting protein kinase 3 [Source:HG NC Symbol;Acc: HGNC:4915]	- 0.08	6.58	1.84E- 01
ENSG00000118762	PKD2	polycystin 2, transient receptor potential cation channel [Source:HG NC Symbol;Acc: HGNC:9009]	0.18	4.94	1.86E- 01
ENSG00000182504	CEP97	centrosomal protein 97 [Source:HG NC	0.07	4.48	1.90E- 01

ENSG00000084093	REST	Symbol;Acc: HGNC:2624 4] RE1 silencing transcriptio n factor [Source:HG NC Symbol;Acc: HGNC:9966]	0.05	6.04	1.92E- 01
ENSG00000156531	PHF6	PHD finger protein 6 [Source:HG NC Symbol;Acc: HGNC:1814 5]	- 0.07	4.94	1.93E- 01
ENSG00000132912	DCTN4	dynactin subunit 4 [Source:HG NC Symbol;Acc: HGNC:1551 8]	0.06	5.33	1.95E- 01
ENSG00000197323	<b>TRIM33</b>	tripartite motif containing 33 [Source:HG NC Symbol;Acc: HGNC:1629	0.04	6.56	1.95E- 01

ENSG00000052795	FNIP2	0] folliculin interacting protein 2 [Source:HG NC Symbol;Acc: HGNC:2928 0]	- 0.07	3.32	1.97E- 01
ENSG00000211455	STK38L	serine/thre onine kinase 38 like [Source:HG NC Symbol;Acc: HGNC:1784 8]	- 0.06	4.69	1.99E- 01
ENSG00000101665	SMAD7	SMAD family member 7 [Source:HG NC Symbol;Acc: HGNC:6773]	- 0.28	4.63	2.08E- 01
ENSG00000103769	RAB11A	RAB11A, member RAS oncogene family [Source:HG NC Symbol;Acc:	- 0.05	5.76	2.12E- 01

ENSG00000141034	GID4	HGNC:9760] GID complex subunit 4 homolog [Source:HG NC Symbol;Acc: HGNC:2845 3]	- 0.14	4.12	2.13E- 01
ENSG00000172915	NBEA	neurobeach in [Source:HG NC Symbol;Acc: HGNC:7648]	0.23	2.11	2.16E- 01
ENSG00000106780	MEGF9	multiple EGF like domains 9 [Source:HG NC Symbol;Acc: HGNC:3234]	0.11	5.54	2.18E- 01
ENSG00000156052	GNAQ	G protein subunit alpha q [Source:HG NC Symbol;Acc: HGNC:4390]	0.05	6.60	2.18E- 01
ENSG00000095139	ARCN1	archain 1 [Source:HG NC	- 0.08	7.02	2.20E- 01



ENSG00000145916	RMND5B	Symbol;Acc: HGNC:649] required for meiotic nuclear division 5 homolog B [Source:HG NC Symbol;Acc: HGNC:2618 1]	- 0.06	4.33	2.22E- 01
ENSG00000106692	FKTN	fukutin [Source:HG NC Symbol;Acc: HGNC:3622]	0.08	5.14	2.26E- 01
ENSG00000188647	PTAR1	protein prenyltransf erase alpha subunit repeat containing 1 [Source:HG NC Symbol;Acc: HGNC:3044 9]	0.05	6.78	2.32E- 01
ENSG00000101126	ADNP	activity dependent neuroprotec tor homeobox	0.05	6.66	2.35E- 01

ENSG00000165102	HGSNAT	[Source:HGNC Symbol;Acc: HGNC:15766] heparan- alpha- glucosami- de N- acetyltransf- erase	0.07	5.52	2.38E-01
ENSG00000197111	PCBP2	[Source:HGNC Symbol;Acc: HGNC:26527] poly(rC) binding protein 2	0.05	6.83	2.43E-01
ENSG00000136986	DERL1	[Source:HGNC Symbol;Acc: HGNC:8648] derlin 1	- 0.07	5.60	2.47E-01
ENSG00000101367	MAPRE1	[Source:HGNC Symbol;Acc: HGNC:28454] microtubule associated protein RP/EB	- 0.05	7.41	2.50E-01

ENSG00000183808	RBM12B	family member 1 [Source:HGNC Symbol;Acc: HGNC:6890] RNA binding motif protein 12B [Source:HGNC Symbol;Acc: HGNC:32310]	-0.08	4.97	2.53E-01
ENSG00000138430	OLA1	Obg-like ATPase 1 [Source:HGNC Symbol;Acc: HGNC:28833]	0.06	5.00	2.54E-01
ENSG00000136381	IREB2	iron responsive element binding protein 2 [Source:HGNC Symbol;Acc: HGNC:6115]	0.05	5.96	2.57E-01
ENSG00000115183	TANC1	tetratricopeptide repeat,	0.29	-0.39	2.57E-01

ENSG00000013503	POLR3B	ankyrin repeat and coiled-coil containing 1 [Source:HGNC Symbol;Acc:HGNC:29364] RNA polymerase III subunit B [Source:HGNC Symbol;Acc:HGNC:30348]	- 0.10	3.60	2.61E-01
ENSG00000100030	MAPK1	mitogen-activated protein kinase 1 [Source:HGNC Symbol;Acc:HGNC:6871]	- 0.06	6.48	2.62E-01
ENSG00000066117	SMARCD1	SWI/SNF related, matrix associated, actin dependent regulator of chromatin,	0.04	6.43	2.66E-01

ENSG00000155850	SLC26A2	subfamily d, member 1 [Source:HG NC Symbol;Acc: HGNC:1110 6] solute carrier family 26 member 2 [Source:HG NC Symbol;Acc: HGNC:1099 4]	0.05	4.32	2.67E- 01
ENSG00000129636	ITFG1	integrin alpha FG- GAP repeat containing 1 [Source:HG NC Symbol;Acc: HGNC:3069 7]	0.06	3.57	2.67E- 01
ENSG00000165943	MOAP1	modulator of apoptosis 1 [Source:HG NC Symbol;Acc: HGNC:1665 8]	0.09	7.87	2.68E- 01

ENSG00000135452	TSPAN31	tetraspanin 31 [Source:HG NC Symbol;Acc: HGNC:1053 9]	- 0.10	4.22	2.70E- 01
ENSG00000256223	ZNF10	zinc finger protein 10 [Source:HG NC Symbol;Acc: HGNC:1287 9]	- 0.07	4.06	2.71E- 01
ENSG00000120708	TGFBI	transformin g growth factor beta induced [Source:HG NC Symbol;Acc: HGNC:1177 1]	- 0.33	1.53	2.73E- 01
ENSG00000177189	<b>RPS6KA3</b>	ribosomal protein S6 kinase A3 [Source:HG NC Symbol;Acc: HGNC:1043 2]	0.06	7.43	2.83E- 01
ENSG00000156875	MFSD14A	major facilitator	0.05	6.70	2.84E- 01

ENSG00000112394	SLC16A10	superfamily domain containing 14A [Source:HGNC Symbol;Acc:HGNC:23363] solute carrier family 16 member 10 [Source:HGNC Symbol;Acc:HGNC:17027]	0.16	4.08	2.86E-01
ENSG00000144959	NCEH1	neutral cholesterol ester hydrolase 1 [Source:HGNC Symbol;Acc:HGNC:29260]	- 0.14	2.41	2.91E-01
ENSG00000177200	CHD9	chromodomain helicase DNA binding protein 9 [Source:HG	0.08	4.59	2.92E-01

ENSG00000177932	ZNF354C	NC Symbol;Acc: HGNC:2570 1] zinc finger protein 354C [Source:HG NC Symbol;Acc: HGNC:1673 6]	0.06	4.99	2.95E-01
ENSG00000134318	ROCK2	Rho associated coiled-coil containing protein kinase 2 [Source:HG NC Symbol;Acc: HGNC:1025 2]	- 0.05	4.86	2.95E-01
ENSG00000180530	NRIP1	nuclear receptor interacting protein 1 [Source:HG NC Symbol;Acc: HGNC:8001]	0.08	5.14	2.97E-01
ENSG00000100916	BRMS1L	breast cancer	- 0.07	3.53	2.98E-01



ENSG00000130396	AFDN	metastasis-suppressor 1-like [Source:HGNC Symbol;Acc:HGNC:20512] afadin, adherens junction formation factor [Source:HGNC Symbol;Acc:HGNC:7137]	0.24	3.44	2.99E-01
ENSG00000181690	<b>PLAG1</b>	PLAG1 zinc finger [Source:HGNC Symbol;Acc:HGNC:9045]	0.14	4.53	2.99E-01
ENSG00000170860	LSM3	LSM3 homolog, U6 small nuclear RNA and mRNA degradation associated [Source:HGNC Symbol;Acc:	0.07	5.10	3.00E-01

ENSG00000197329	PEL1	HGNC:17874] pellino E3 ubiquitin protein ligase 1 [Source:HGNC Symbol;Acc:HGNC:8827]	0.11	7.00	3.02E-01
ENSG00000101752	MIB1	mindbomb E3 ubiquitin protein ligase 1 [Source:HGNC Symbol;Acc:HGNC:21086]	0.07	5.54	3.04E-01
ENSG00000162378	<b>ZYG11B</b>	zyg-11 family member B, cell cycle regulator [Source:HGNC Symbol;Acc:HGNC:25820]	0.05	5.21	3.05E-01
ENSG00000099942	CRKL	CRK like proto-oncogene, adaptor	- 0.07	6.49	3.07E-01

ENSG00000087448	KLHL42	protein [Source:HG NC Symbol;Acc: HGNC:2363] kelch like family member 42 [Source:HG NC Symbol;Acc: HGNC:2925 2]	- 0.08	5.27	3.10E- 01
ENSG00000153944	MSI2	musashi RNA binding protein 2 [Source:HG NC Symbol;Acc: HGNC:1858 5]	0.05	5.89	3.17E- 01
ENSG00000110047	EHD1	EH domain containing 1 [Source:HG NC Symbol;Acc: HGNC:3242]	- 0.07	6.61	3.19E- 01
ENSG00000204217	<b>BMPR2</b>	bone morphogen etic protein receptor type 2 [Source:HG	0.06	4.33	3.20E- 01

ENSG00000154114	TBCEL	NC Symbol;Acc: HGNC:1078] tubulin folding cofactor E like [Source:HG NC Symbol;Acc: HGNC:2811 5]	0.07	4.51	3.23E-01
ENSG00000086200	IPO11	importin 11 [Source:HG NC Symbol;Acc: HGNC:2062 8]	0.05	3.32	3.26E-01
ENSG00000074603	DPP8	dipeptidyl peptidase 8 [Source:HG NC Symbol;Acc: HGNC:1649 0]	0.03	5.74	3.29E-01
ENSG00000106415	GLCCI1	glucocortico id induced 1 [Source:HG NC Symbol;Acc: HGNC:1871 3]	0.08	5.73	3.32E-01
ENSG00000160199	PKNOX1	PBX/knotte	-	3.79	3.37E-

		d 1	0.05		01
		homeobox 1			
		[Source:HG NC Symbol;Acc: HGNC:9022]			
ENSG00000072501	SMC1A	structural maintenanc e of chromosom es 1A	- 0.10	6.25	3.37E- 01
		[Source:HG NC Symbol;Acc: HGNC:1111 1]			
ENSG00000060339	CCAR1	cell division cycle and apoptosis regulator 1	0.04	7.30	3.45E- 01
		[Source:HG NC Symbol;Acc: HGNC:2423 6]			
ENSG00000157500	APPL1	adaptor protein, phosphoty rosine interacting with PH domain and	- 0.04	5.21	3.54E- 01

ENSG00000171365	CLCN5	leucine zipper 1 [Source:HGNC NC Symbol;Acc: HGNC:2403 5] chloride voltage-gated channel 5 [Source:HGNC NC Symbol;Acc: HGNC:2023]	- 0.10	1.88	3.60E-01
ENSG00000143575	HAX1	HCLS1 associated protein X-1 [Source:HGNC NC Symbol;Acc: HGNC:1691 5]	- 0.06	6.87	3.63E-01
ENSG00000116954	RRAGC	Ras related GTP binding C [Source:HGNC NC Symbol;Acc: HGNC:1990 2]	- 0.07	4.65	3.65E-01
ENSG00000185009	<b>AP3M1</b>	adaptor related	- 0.04	5.67	3.68E-01

ENSG00000041353	RAB27B	protein complex 3 mu 1 subunit [Source:HGNC Symbol;Acc:HGNC:569] RAB27B, member RAS oncogene family [Source:HGNC Symbol;Acc:HGNC:9767]	0.17	2.88	3.69E-01
ENSG00000107864	<b>CPEB3</b>	cytoplasmic polyadenylation element binding protein 3 [Source:HGNC Symbol;Acc:HGNC:21746]	0.07	2.84	3.74E-01
ENSG00000075239	ACAT1	acetyl-CoA acetyltransferase 1 [Source:HGNC	- 0.08	3.93	3.75E-01

ENSG00000068305	MEF2A	Symbol;Acc: HGNC:93] myocyte enhancer factor 2A [Source:HG NC	0.06	5.71	3.79E- 01
ENSG00000186432	KPNA4	Symbol;Acc: HGNC:6993] karyopherin subunit alpha 4 [Source:HG NC	- 0.04	5.45	3.82E- 01
ENSG00000163069	SGCB	Symbol;Acc: HGNC:6397] sarcoglycan beta [Source:HG NC	- 0.08	3.39	3.83E- 01
ENSG00000154305	MIA3	Symbol;Acc: HGNC:1080 6] MIA family member 3, ER export factor [Source:HG NC	- 0.04	5.87	3.85E- 01
ENSG00000087470	DNM1L	Symbol;Acc: HGNC:2400 8] dynamin 1	0.03	5.96	3.90E-



ENSG00000150593	<b>PDCD4</b>	like [Source:HG NC Symbol;Acc: HGNC:2973] programmed cell death 4 (neoplastic transformation inhibitor) [Source:HG NC Symbol;Acc: HGNC:8763]	0.05	8.46	3.90E-01
ENSG00000152642	GPD1L	glycerol-3-phosphate dehydrogenase 1-like [Source:HG NC Symbol;Acc: HGNC:28956]	-0.07	5.84	3.95E-01
ENSG00000170500	LONRF2	LON peptidase N-terminal domain and ring finger 2 [Source:HG NC Symbol;Acc:	-0.28	-0.67	3.97E-01

ENSG00000141367	CLTC	HGNC:2478 8] clathrin heavy chain [Source:HG NC Symbol;Acc: HGNC:2092]	- 0.03	5.84	3.98E- 01
ENSG00000152944	MED21	mediator complex subunit 21 [Source:HG NC Symbol;Acc: HGNC:1147 3]	0.06	5.65	3.99E- 01
ENSG00000020577	SAMD4A	sterile alpha motif domain containing 4A [Source:HG NC Symbol;Acc: HGNC:2302 3]	- 0.20	-0.19	4.00E- 01
ENSG00000138600	SPPL2A	signal peptide peptidase like 2A [Source:HG NC Symbol;Acc:	0.06	5.57	4.02E- 01

ENSG00000182568	<b>SATB1</b>	HGNC:30227] SATB homeobox 1 [Source:HG NC Symbol;Acc: HGNC:1054 1]	0.09	7.64	4.06E-01
ENSG00000141759	TXNL4A	thioredoxin like 4A [Source:HG NC Symbol;Acc: HGNC:3055 1]	0.05	5.67	4.08E-01
ENSG00000058063	ATP11B	ATPase phospholipi d transporting 11B (putative) [Source:HG NC Symbol;Acc: HGNC:1355 3]	- 0.03	7.06	4.10E-01
ENSG00000127870	RNF6	ring finger protein 6 [Source:HG NC Symbol;Acc:	0.04	5.79	4.12E-01

ENSG00000140525	FANCI	HGNC:10069] Fanconi anemia complementation group I [Source:HGNC Symbol;Acc:HGNC:25568]	- 0.07	3.36	4.16E-01
ENSG00000178691	SUZ12	SUZ12 polycomb repressive complex 2 subunit [Source:HGNC Symbol;Acc:HGNC:17101]	- 0.04	6.13	4.19E-01
ENSG00000007168	PAFAH1B1	platelet activating factor acetylhydrolase 1b regulatory subunit 1 [Source:HGNC Symbol;Acc:HGNC:8574]	0.03	7.22	4.20E-01

ENSG00000165650	PDZD8	PDZ domain containing 8 [Source:HGNC Symbol;Acc: HGNC:26974]	- 0.08	5.11	4.24E-01
ENSG00000197969	VPS13A	vacuolar protein sorting 13 homolog A [Source:HGNC Symbol;Acc: HGNC:1908]	- 0.05	6.20	4.26E-01
ENSG00000142599	RERE	arginine-glutamic acid dipeptide repeats [Source:HGNC Symbol;Acc: HGNC:9965]	0.05	6.56	4.32E-01
ENSG00000146281	PM20D2	peptidase M20 domain containing 2 [Source:HGNC Symbol;Acc: HGNC:21408]	- 0.04	5.20	4.33E-01

ENSG00000058056	USP13	ubiquitin specific peptidase 13 (isopeptidase T-3) [Source:HGNC Symbol;Acc:HGNC:12611]	- 0.06	3.82	4.35E-01
ENSG00000163513	TGFBR2	transforming growth factor beta receptor 2 [Source:HGNC Symbol;Acc:HGNC:11773]	0.06	8.68	4.35E-01
ENSG00000132463	GRSF1	G-rich RNA sequence binding factor 1 [Source:HGNC Symbol;Acc:HGNC:4610]	0.04	5.80	4.36E-01
ENSG00000118816	CCNI	cyclin I [Source:HGNC Symbol;Acc:HGNC:1595]	0.04	9.14	4.37E-01

ENSG00000158604	TMED4	transmembrane p24 trafficking protein 4 [Source:HGNC Symbol;Acc:HGNC:22301]	0.03	7.80	4.37E-01
ENSG00000180011	ZADH2	zinc binding alcohol dehydrogenase domain containing 2 [Source:HGNC Symbol;Acc:HGNC:28697]	0.06	5.30	4.37E-01
ENSG00000119866	<b>BCL11A</b>	B-cell CLL/lymphoma 11A [Source:HGNC Symbol;Acc:HGNC:13221]	-0.35	-0.92	4.47E-01
ENSG00000196914	ARHGEF12	Rho guanine nucleotide exchange factor 12 [Source:HGNC	0.17	2.66	4.49E-01

ENSG00000148158	SNX30	Symbol;Acc: HGNC:1419 3] sorting nexin family member 30 [Source:HG NC	- 0.06	4.81	4.50E- 01
ENSG00000060749	QSER1	Symbol;Acc: HGNC:2368 5] glutamine and serine rich 1 [Source:HG NC	0.05	4.39	4.53E- 01
ENSG00000173281	<b>PPP1R3B</b>	Symbol;Acc: HGNC:2615 4] protein phosphatas e 1 regulatory subunit 3B [Source:HG NC	0.09	3.82	4.58E- 01
ENSG00000108021	FAM208B	Symbol;Acc: HGNC:1494 2] family with sequence similarity 208	- 0.03	6.22	4.69E- 01



ENSG00000132842	AP3B1	member B [Source:HGNC Symbol;Acc: HGNC:23484] adaptor related protein complex 3 beta 1 subunit [Source:HGNC Symbol;Acc: HGNC:566]	- 0.04	4.91	4.71E-01
ENSG00000168610	STAT3	signal transducer and activator of transcription 3 [Source:HGNC Symbol;Acc: HGNC:11364]	- 0.03	6.67	4.79E-01
ENSG00000165105	RASEF	RAS and EF-hand domain containing [Source:HGNC	- 0.21	0.50	4.80E-01

ENSG00000117560	FASLG	Symbol;Acc: HGNC:2646 4] Fas ligand [Source:HG NC	- 0.26	1.02	4.81E- 01
ENSG00000115310	RTN4	Symbol;Acc: HGNC:1193 6] reticulon 4 [Source:HG NC	0.04	6.20	4.90E- 01
ENSG00000033178	UBA6	Symbol;Acc: HGNC:1408 5] ubiquitin like modifier activating enzyme 6 [Source:HG NC	- 0.03	5.57	4.93E- 01
ENSG00000113328	CCNG1	Symbol;Acc: HGNC:2558 1] cyclin G1 [Source:HG NC	- 0.03	7.42	4.98E- 01
ENSG00000101384	JAG1	Symbol;Acc: HGNC:1592] jagged 1 [Source:HG NC	- 0.33	-0.72	4.99E- 01

ENSG00000071967	CYBRD1	Symbol;Acc: HGNC:6188] cytochrome b reductase 1 [Source:HG NC Symbol;Acc: HGNC:2079 7]	- 0.25	-0.14	5.01E- 01
ENSG00000083168	KAT6A	lysine acetyltransf erase 6A [Source:HG NC Symbol;Acc: HGNC:1301 3]	- 0.02	7.15	5.07E- 01
ENSG00000090863	GLG1	golgi glycoprotei n 1 [Source:HG NC Symbol;Acc: HGNC:4316]	0.02	7.47	5.11E- 01
ENSG00000111328	CDK2AP1	cyclin dependent kinase 2 associated protein 1 [Source:HG NC Symbol;Acc:	0.15	1.66	5.14E- 01

ENSG00000198142	SOWAHC	HGNC:1400 2] sosondowa h ankyrin repeat domain family member C [Source:HG NC Symbol;Acc: HGNC:2614 9]	0.18	1.61	5.16E- 01
ENSG00000109654	TRIM2	tripartite motif containing 2 [Source:HG NC Symbol;Acc: HGNC:1597 4]	0.11	2.37	5.19E- 01
ENSG00000112242	E2F3	E2F transcriptio n factor 3 [Source:HG NC Symbol;Acc: HGNC:3115]	0.05	5.22	5.21E- 01
ENSG00000159388	BTG2	BTG anti- proliferatio n factor 2 [Source:HG NC	- 0.07	10.18	5.21E- 01

ENSG00000138443	ABI2	Symbol;Acc: HGNC:1131] abl interactor 2 [Source:HG NC Symbol;Acc: HGNC:2401 1]	- 0.04	5.52	5.24E- 01
ENSG00000169905	TOR1AIP2	torsin 1A interacting protein 2 [Source:HG NC Symbol;Acc: HGNC:2405 5]	0.03	3.96	5.28E- 01
ENSG00000171940	<b>ZNF217</b>	zinc finger protein 217 [Source:HG NC Symbol;Acc: HGNC:1300 9]	0.03	6.68	5.29E- 01
ENSG00000099940	SNAP29	synaptosom e associated protein 29 [Source:HG NC Symbol;Acc: HGNC:1113 3]	- 0.04	5.41	5.35E- 01
ENSG00000116918	TSNAX	translin	0.02	5.44	5.36E-

		associated factor X [Source:HGNC Symbol;Acc: HGNC:12380]			01
ENSG00000198961	PJA2	praja ring finger ubiquitin ligase 2 [Source:HGNC Symbol;Acc: HGNC:17481]	0.03	6.98	5.41E-01
ENSG00000157933	<b>SKI</b>	SKI proto-oncogene [Source:HGNC Symbol;Acc: HGNC:10896]	0.05	7.14	5.44E-01
ENSG00000104866	PPP1R37	protein phosphatase 1 regulatory subunit 37 [Source:HGNC Symbol;Acc: HGNC:27607]	- 0.04	3.62	5.53E-01

ENSG00000077684	JADE1	jade family PHD finger 1 [Source:HG NC Symbol;Acc: HGNC:3002 7]	- 0.03	5.90	5.60E- 01
ENSG00000143878	<b>RHOB</b>	ras homolog family member B [Source:HG NC Symbol;Acc: HGNC:668]	- 0.19	5.49	5.62E- 01
ENSG00000111266	DUSP16	dual specificity phosphatas e 16 [Source:HG NC Symbol;Acc: HGNC:1790 9]	0.06	6.63	5.64E- 01
ENSG00000135521	LTV1	LTV1 ribosome biogenesis factor [Source:HG NC Symbol;Acc: HGNC:2117 3]	0.03	6.53	5.65E- 01
ENSG00000184743	ATL3	atlastin	0.03	5.11	5.65E-

		GTPase 3 [Source:HG NC Symbol;Acc: HGNC:2452 6]				01
ENSG00000163939	<b>PBRM1</b>	polybromo 1 [Source:HG NC Symbol;Acc: HGNC:3006 4]	- 0.02	5.89	5.65E-	01
ENSG00000151413	NUBPL	nucleotide binding protein like [Source:HG NC Symbol;Acc: HGNC:2027 8]	0.04	2.87	5.70E-	01
ENSG00000163125	RPRD2	regulation of nuclear pre-mRNA domain containing 2 [Source:HG NC Symbol;Acc: HGNC:2903 9]	- 0.02	6.12	5.70E-	01
ENSG00000140396	NCOA2	nuclear receptor	0.03	5.86	5.75E-	01



ENSG00000165572	<b>KBTBD6</b>	coactivator 2 [Source:HG NC Symbol;Acc: HGNC:7669] kelch repeat and BTB domain containing 6 [Source:HG NC Symbol;Acc: HGNC:2534 0]	- 0.05	2.93	5.77E- 01
ENSG00000184007	PTP4A2	protein tyrosine phosphatas e type IVA, member 2 [Source:HG NC Symbol;Acc: HGNC:9635]	0.03	8.12	5.77E- 01
ENSG00000172175	MALT1	MALT1 paracaspase [Source:HG NC Symbol;Acc: HGNC:6819]	- 0.02	7.30	5.77E- 01
ENSG00000115159	GPD2	glycerol-3- phosphate dehydrogen	0.04	4.12	5.83E- 01

ENSG00000112697	TMEM30A	ase 2 [Source:HGNC Symbol;Acc: HGNC:4456] transmembrane protein 30A [Source:HGNC Symbol;Acc: HGNC:16667]	0.02	7.15	5.85E-01
ENSG00000083312	TNPO1	transportin 1 [Source:HGNC Symbol;Acc: HGNC:6401]	- 0.02	6.04	5.86E-01
ENSG00000166483	WEE1	WEE1 G2 checkpoint kinase [Source:HGNC Symbol;Acc: HGNC:12761]	- 0.09	2.26	5.90E-01
ENSG00000070759	TESK2	testis-specific kinase 2 [Source:HGNC Symbol;Acc:	0.05	3.95	5.91E-01

ENSG00000153914	SREK1	HGNC:1173 2] splicing regulatory glutamic acid and lysine rich protein 1 [Source:HG NC Symbol;Acc: HGNC:1788 2]	0.02	6.57	5.92E- 01
ENSG00000120137	PANK3	pantothenat e kinase 3 [Source:HG NC Symbol;Acc: HGNC:1936 5]	0.02	6.15	5.95E- 01
ENSG00000102401	ARMCX3	armadillo repeat containing, X-linked 3 [Source:HG NC Symbol;Acc: HGNC:2406 5]	- 0.03	5.47	5.96E- 01
ENSG00000173674	EIF1AX	eukaryotic translation initiation factor 1A, X-	- 0.08	6.96	5.99E- 01

ENSG00000257923	CUX1	linked [Source:HG NC Symbol;Acc: HGNC:3250] cut like homeobox 1 [Source:HG NC Symbol;Acc: HGNC:2557]	0.03	4.27	5.99E-01
ENSG00000155744	<b>FAM126B</b>	family with sequence similarity 126 member B [Source:HG NC Symbol;Acc: HGNC:2859 3]	0.03	4.63	6.01E-01
ENSG00000123836	PFKFB2	6- phosphofru cto-2- kinase/fruct ose-2,6- biphosphata se 2 [Source:HG NC Symbol;Acc: HGNC:8873]	- 0.07	1.95	6.02E-01

ENSG00000112941	PAPD7	poly(A) RNA polymerase D7, non-canonical [Source:HGNC Symbol;Acc:HGNC:16705]	0.03	6.88	6.06E-01
ENSG00000148154	UGCG	UDP-glucose ceramide glucosyltransferase [Source:HGNC Symbol;Acc:HGNC:12524]	0.05	6.21	6.09E-01
ENSG00000155189	AGPAT5	1-acylglycerol-3-phosphate O-acyltransferase 5 [Source:HGNC Symbol;Acc:HGNC:20886]	0.03	4.39	6.14E-01
ENSG00000215301	DDX3X	DEAD-box helicase 3,	- 0.07	9.08	6.16E-01

ENSG00000196937	<b>FAM3C</b>	X-linked [Source:HG NC Symbol;Acc: HGNC:2745] family with sequence similarity 3 member C [Source:HG NC Symbol;Acc: HGNC:1866 4]	0.04	4.85	6.18E- 01
ENSG00000162909	CAPN2	calpain 2 [Source:HG NC Symbol;Acc: HGNC:1479]	- 0.04	7.66	6.19E- 01
ENSG00000170348	TMED10	transmembr ane p24 trafficking protein 10 [Source:HG NC Symbol;Acc: HGNC:1699 8]	- 0.03	7.44	6.22E- 01
ENSG00000177311	ZBTB38	zinc finger and BTB domain containing 38	- 0.05	5.16	6.25E- 01

ENSG00000039319	ZFYVE16	[Source:HGNC Symbol;Acc: HGNC:26636] zinc finger FYVE-type containing 16	- 0.02	4.16	6.28E- 01
ENSG00000188215	DCUN1D3	[Source:HGNC Symbol;Acc: HGNC:20756] defective in cullin neddylation 1 domain containing 3	- 0.04	3.16	6.29E- 01
ENSG00000144674	GOLGA4	[Source:HGNC Symbol;Acc: HGNC:28734] golgin A4	0.03	5.91	6.32E- 01
ENSG00000177051	FBXO46	[Source:HGNC Symbol;Acc: HGNC:4427] F-box protein 46	- 0.05	5.26	6.35E- 01

ENSG00000105856	HBP1	Symbol;Acc: HGNC:2506 9] HMG-box transcriptio n factor 1 [Source:HG NC	0.03	6.72	6.41E- 01
ENSG00000117868	ESYT2	Symbol;Acc: HGNC:2320 0] extended synaptotag min 2 [Source:HG NC	0.03	8.09	6.42E- 01
ENSG00000145332	KLHL8	Symbol;Acc: HGNC:2221 1] kelch like family member 8 [Source:HG NC	- 0.03	4.04	6.50E- 01
ENSG00000107771	CCSER2	Symbol;Acc: HGNC:1864 4] coiled-coil serine rich protein 2 [Source:HG NC	0.04	6.74	6.53E- 01
		Symbol;Acc:			



ENSG00000112425	EPM2A	HGNC:2919 7] epilepsy, progressive myoclonus type 2A, Lafora disease (laforin) [Source:HG NC Symbol;Acc: HGNC:3413]	0.05	3.67	6.56E- 01
ENSG00000120805	ARL1	ADP ribosylation factor like GTPase 1 [Source:HG NC Symbol;Acc: HGNC:692]	0.02	5.09	6.59E- 01
ENSG00000184602	SNN	stannin [Source:HG NC Symbol;Acc: HGNC:1114 9]	0.06	6.03	6.63E- 01
ENSG00000130449	ZSWIM6	zinc finger SWIM-type containing 6 [Source:HG NC Symbol;Acc:	0.03	5.09	6.64E- 01

ENSG00000175582	RAB6A	HGNC:29316] RAB6A, member RAS oncogene family [Source:HG NC Symbol;Acc: HGNC:9786]	- 0.02	6.18	6.65E- 01
ENSG00000076706	MCAM	melanoma cell adhesion molecule [Source:HG NC Symbol;Acc: HGNC:6934]	- 0.13	0.02	6.66E- 01
ENSG00000118579	MED28	mediator complex subunit 28 [Source:HG NC Symbol;Acc: HGNC:2462 8]	- 0.02	6.64	6.66E- 01
ENSG00000091009	RBM27	RNA binding motif protein 27 [Source:HG NC Symbol;Acc:	- 0.02	5.91	6.67E- 01

ENSG00000153561	RMND5A	HGNC:29243] required for meiotic nuclear division 5 homolog A [Source:HGNC Symbol;Acc:HGNC:25850]	0.02	5.69	6.75E-01
ENSG00000155096	AZIN1	antizyme inhibitor 1 [Source:HGNC Symbol;Acc:HGNC:16432]	0.02	6.37	6.76E-01
ENSG00000120889	TNFRSF10B	TNF receptor superfamily member 10b [Source:HGNC Symbol;Acc:HGNC:11905]	- 0.03	6.27	6.77E-01
ENSG00000101972	<b>STAG2</b>	stromal antigen 2 [Source:HGNC	0.01	6.93	6.78E-01

ENSG00000100485	SOS2	Symbol;Acc: HGNC:1135 5] SOS Ras/Rho guanine nucleotide exchange factor 2 [Source:HG NC	0.02	5.66	6.79E- 01
ENSG00000135655	USP15	Symbol;Acc: HGNC:1118 8] ubiquitin specific peptidase 15 [Source:HG NC	0.02	7.12	6.87E- 01
ENSG00000185129	PURA	Symbol;Acc: HGNC:1261 3] purine rich element binding protein A [Source:HG NC	- 0.03	5.03	6.99E- 01
ENSG00000148143	ZNF462	Symbol;Acc: HGNC:9701] zinc finger protein 462	0.16	-0.06	7.08E- 01

ENSG00000183735	TBK1	[Source:HGNC Symbol;Acc: HGNC:21684] TANK binding kinase 1	- 0.05	4.73	7.11E-01
ENSG00000122707	RECK	[Source:HGNC Symbol;Acc: HGNC:11584] reversion inducing cysteine rich protein with kazal motifs	- 0.02	4.99	7.16E-01
ENSG00000122566	HNRNPA2B1	[Source:HGNC Symbol;Acc: HGNC:11345] heterogeneous nuclear ribonucleoprotein A2/B1	0.01	9.69	7.17E-01
		[Source:HGNC Symbol;Acc: HGNC:5033]			

ENSG00000113368	LMNB1	lamin B1 [Source:HG NC Symbol;Acc: HGNC:6637]	0.03	5.03	7.17E- 01
ENSG00000107560	RAB11FIP2	RAB11 family interacting protein 2 [Source:HG NC Symbol;Acc: HGNC:2915 2]	0.02	5.72	7.17E- 01
ENSG00000130638	ATXN10	ataxin 10 [Source:HG NC Symbol;Acc: HGNC:1054 9]	0.02	5.80	7.22E- 01
ENSG00000095015	<b>MAP3K1</b>	mitogen- activated protein kinase kinase kinase 1 [Source:HG NC Symbol;Acc: HGNC:6848]	0.03	8.20	7.24E- 01
ENSG00000171150	SOCS5	suppressor of cytokine signaling 5	- 0.02	4.54	7.31E- 01

ENSG00000125633	CCDC93	[Source:HGNC Symbol;Acc: HGNC:16852] coiled-coil domain containing 93	0.01	6.25	7.34E-01
ENSG00000029993	HMGB3	[Source:HGNC Symbol;Acc: HGNC:25611] high mobility group box 3	0.11	0.70	7.37E-01
ENSG00000115808	STRN	[Source:HGNC Symbol;Acc: HGNC:5004] striatin	0.01	5.74	7.54E-01
ENSG00000149792	MRPL49	[Source:HGNC Symbol;Acc: HGNC:11424] mitochondrial ribosomal protein L49	0.02	5.86	7.57E-01

ENSG00000160213	CSTB	HGNC:1176] cystatin B [Source:HG NC Symbol;Acc: HGNC:2482]	0.03	5.96	7.57E- 01
ENSG00000100811	YY1	YY1 transcriptio n factor [Source:HG NC Symbol;Acc: HGNC:1285 6]	0.01	7.09	7.59E- 01
ENSG00000100345	MYH9	myosin heavy chain 9 [Source:HG NC Symbol;Acc: HGNC:7579]	- 0.02	9.63	7.59E- 01
ENSG00000099194	SCD	stearoyl- CoA desaturase [Source:HG NC Symbol;Acc: HGNC:1057 1]	0.11	1.11	7.69E- 01
ENSG00000102144	PGK1	phosphogly cerate kinase 1 [Source:HG	0.01	7.52	7.74E- 01



ENSG00000163602	RYBP	NC Symbol;Acc: HGNC:8896] RING1 and YY1 binding protein [Source:HG NC Symbol;Acc: HGNC:1048 0]	- 0.02	5.95	7.81E- 01
ENSG00000113300	<b>CNOT6</b>	CCR4-NOT transcriptio n complex subunit 6 [Source:HG NC Symbol;Acc: HGNC:1409 9]	0.02	5.64	7.85E- 01
ENSG00000107099	DOCK8	dedicator of cytokinesis 8 [Source:HG NC Symbol;Acc: HGNC:1919 1]	- 0.03	7.03	7.87E- 01
ENSG00000136100	VPS36	vacuolar protein sorting 36 homolog [Source:HG	0.01	6.53	7.87E- 01

ENSG00000026508	CD44	NC Symbol;Acc: HGNC:2031 2] CD44 molecule (Indian blood group) [Source:HG NC Symbol;Acc: HGNC:1681]	0.01	8.30	7.91E-01
ENSG00000170677	SOCS6	suppressor of cytokine signaling 6 [Source:HG NC Symbol;Acc: HGNC:1683 3]	0.07	1.04	7.91E-01
ENSG00000120709	FAM53C	family with sequence similarity 53 member C [Source:HG NC Symbol;Acc: HGNC:1336]	- 0.02	4.73	7.97E-01
ENSG00000138663	COPS4	COP9 signalosome subunit 4 [Source:HG	- 0.01	4.95	7.98E-01

ENSG00000101266	CSNK2A1	NC Symbol;Acc: HGNC:1670 2] casein kinase 2 alpha 1 [Source:HG NC Symbol;Acc: HGNC:2457]	- 0.01	6.15	7.99E- 01
ENSG00000145495	MARCH6	membrane associated ring-CH- type finger 6 [Source:HG NC Symbol;Acc: HGNC:3055 0]	0.01	7.97	8.01E- 01
ENSG00000156642	NPTN	neuroplasti n [Source:HG NC Symbol;Acc: HGNC:1786 7]	0.02	5.93	8.03E- 01
ENSG00000198642	KLHL9	kelch like family member 9 [Source:HG NC	0.02	5.32	8.03E- 01

ENSG00000140443	IGF1R	Symbol;Acc: HGNC:1873 2] insulin like growth factor 1 receptor [Source:HG NC Symbol;Acc: HGNC:5465]	0.04	5.68	8.13E- 01
ENSG00000075420	FNDC3B	fibronectin type III domain containing 3B [Source:HG NC Symbol;Acc: HGNC:2467 0]	0.02	3.71	8.15E- 01
ENSG00000067955	CBFB	core- binding factor beta subunit [Source:HG NC Symbol;Acc: HGNC:1539]	- 0.01	6.92	8.16E- 01
ENSG00000136868	SLC31A1	solute carrier family 31 member 1	0.03	2.77	8.16E- 01

ENSG00000196268	ZNF493	[Source:HGNC Symbol;Acc: HGNC:11016] zinc finger protein 493	0.02	4.63	8.19E-01
ENSG00000197312	DDI2	[Source:HGNC Symbol;Acc: HGNC:23708] DNA damage inducible 1 homolog 2	0.01	5.28	8.21E-01
ENSG00000001631	KRIT1	[Source:HGNC Symbol;Acc: HGNC:24578] KRIT1, ankyrin repeat containing	- 0.01	5.68	8.22E-01
ENSG00000170802	FOXN2	[Source:HGNC Symbol;Acc: HGNC:1573] forkhead box N2	0.02	6.48	8.26E-01

ENSG00000116199	FAM20B	Symbol;Acc: HGNC:5281] family with sequence similarity 20 member B [Source:HG NC	0.01	5.32	8.27E- 01
ENSG00000108510	MED13	Symbol;Acc: HGNC:2301 7] mediator complex subunit 13 [Source:HG NC	0.01	6.02	8.31E- 01
ENSG00000163848	ZNF148	Symbol;Acc: HGNC:2247 4] zinc finger protein 148 [Source:HG NC	0.01	5.56	8.32E- 01
ENSG00000106723	SPIN1	Symbol;Acc: HGNC:1293 3] spindlin 1 [Source:HG NC	- 0.01	5.84	8.34E- 01
ENSG00000144445	KANSL1L	Symbol;Acc: HGNC:1124 3] KAT8	-	3.22	8.38E-

		regulatory NSL complex subunit 1 like [Source:HG NC Symbol;Acc: HGNC:2631 0]	0.03		01
ENSG00000128923	<b>FAM63B</b>	family with sequence similarity 63 member B [Source:HG NC Symbol;Acc: HGNC:2695 4]	0.02	4.99	8.39E- 01
ENSG00000175130	MARCKSL1	MARCKS like 1 [Source:HG NC Symbol;Acc: HGNC:7142]	- 0.02	6.60	8.45E- 01
ENSG00000094916	CBX5	chromobox 5 [Source:HG NC Symbol;Acc: HGNC:1555]	0.01	6.29	8.47E- 01
ENSG00000183044	ABAT	4- aminobutyr	0.01	3.40	8.48E- 01

ENSG00000013375	PGM3	ate aminotransf er er [Source:HG NC Symbol;Acc: HGNC:23] phosphoglu comutase 3 [Source:HG NC Symbol;Acc: HGNC:8907]	0.01	4.44	8.49E- 01
ENSG00000074201	CLNS1A	chloride nucleotide- sensitive channel 1A [Source:HG NC Symbol;Acc: HGNC:2080]	0.01	6.16	8.49E- 01
ENSG000000169398	PTK2	protein tyrosine kinase 2 [Source:HG NC Symbol;Acc: HGNC:9611]	0.03	2.26	8.49E- 01
ENSG000000108256	NUFIP2	NUFIP2, FMR1 interacting protein 2 [Source:HG	- 0.01	7.11	8.64E- 01



ENSG00000163283	ALPP	NC Symbol;Acc: HGNC:1763 4] alkaline phosphatas e, placental [Source:HG NC Symbol;Acc: HGNC:439]	- 0.05	0.81	8.68E- 01
ENSG00000132294	EFR3A	EFR3 homolog A [Source:HG NC Symbol;Acc: HGNC:2897 0]	0.01	6.14	8.70E- 01
ENSG00000138069	RAB1A	RAB1A, member RAS oncogene family [Source:HG NC Symbol;Acc: HGNC:9758]	- 0.01	6.55	8.73E- 01
ENSG00000065183	WDR3	WD repeat domain 3 [Source:HG NC Symbol;Acc: HGNC:1275]	- 0.01	5.29	8.73E- 01

ENSG00000148835	TAF5	5] TATA-box binding protein associated factor 5 [Source:HG NC Symbol;Acc: HGNC:1153 9]	- 0.02	4.19	8.75E- 01
ENSG00000119669	IRF2BPL	interferon regulatory factor 2 binding protein like [Source:HG NC Symbol;Acc: HGNC:1428 2]	- 0.02	5.08	8.79E- 01
ENSG00000135535	CD164	CD164 molecule [Source:HG NC Symbol;Acc: HGNC:1632]	- 0.01	7.54	8.80E- 01
ENSG00000105887	MTPN	myotrophin [Source:HG NC Symbol;Acc: HGNC:1566 7]	- 0.01	7.32	8.82E- 01

ENSG00000131791	PRKAB2	protein kinase AMP-activated non-catalytic subunit beta 2 [Source:HGNC Symbol;Acc:HGNC:9379]	0.01	5.80	8.84E-01
ENSG00000056586	RC3H2	ring finger and CCCH-type domains 2 [Source:HGNC Symbol;Acc:HGNC:21461]	0.01	6.01	8.86E-01
ENSG00000057757	PITHD1	PITH domain containing 1 [Source:HGNC Symbol;Acc:HGNC:25022]	- 0.01	6.57	8.87E-01
ENSG00000113387	SUB1	SUB1 homolog, transcriptional regulator	- 0.01	6.56	8.89E-01

ENSG00000048544	MRPS10	[Source:HGNC Symbol;Acc: HGNC:19985] mitochondrial ribosomal protein S10	- 0.01	5.78	8.91E-01
ENSG00000138081	<b>FBXO11</b>	[Source:HGNC Symbol;Acc: HGNC:14502] F-box protein 11	0.00	6.64	8.93E-01
ENSG00000112902	SEMA5A	[Source:HGNC Symbol;Acc: HGNC:13590] semaphorin 5A	- 0.04	1.13	8.98E-01
ENSG00000083099	LYRM2	[Source:HGNC Symbol;Acc: HGNC:25226] LYR motif containing 2	- 0.01	3.78	9.01E-01

ENSG00000122335	SERAC1	9] serine active site containing 1 [Source:HG NC Symbol;Acc: HGNC:2106 1]	- 0.01	2.92	9.08E- 01
ENSG00000155962	CLIC2	chloride intracellular channel 2 [Source:HG NC Symbol;Acc: HGNC:2063]	- 0.03	0.90	9.22E- 01
ENSG00000162607	USP1	ubiquitin specific peptidase 1 [Source:HG NC Symbol;Acc: HGNC:1260 7]	0.01	6.53	9.27E- 01
ENSG00000170242	USP47	ubiquitin specific peptidase 47 [Source:HG NC Symbol;Acc: HGNC:2007 6]	0.00	6.01	9.27E- 01

ENSG00000102554	KLF5	Kruppel like factor 5 [Source:HGNC Symbol;Acc: HGNC:6349]	- 0.02	2.89	9.34E-01
ENSG00000142634	EFHD2	EF-hand domain family member D2 [Source:HGNC Symbol;Acc: HGNC:28670]	- 0.02	6.91	9.37E-01
ENSG00000148730	<b>EIF4EBP2</b>	eukaryotic translation initiation factor 4E binding protein 2 [Source:HGNC Symbol;Acc: HGNC:3289]	0.00	7.12	9.40E-01
ENSG00000166681	BEX3	brain expressed X-linked 3 [Source:HGNC Symbol;Acc: HGNC:13388]	0.01	5.63	9.49E-01

ENSG00000111647	UHRF1BP1L	UHRF1 binding protein 1 like [Source:HGNC Symbol;Acc:HGNC:29102]	0.00	4.33	9.52E-01
ENSG00000085788	DDHD2	DDHD domain containing 2 [Source:HGNC Symbol;Acc:HGNC:29106]	0.00	5.68	9.52E-01
ENSG00000147548	WHSC1L1	Wolf-Hirschhorn syndrome candidate 1-like 1 [Source:HGNC Symbol;Acc:HGNC:12767]	0.00	6.89	9.57E-01
ENSG00000070882	OSBPL3	oxysterol binding protein like 3 [Source:HGNC	0.00	5.73	9.61E-01

ENSG00000059728	MXD1	Symbol;Acc: HGNC:1637 0] MAX dimerization protein 1 [Source:HG NC	0.00	4.36	9.68E- 01
ENSG00000100647	SUSD6	Symbol;Acc: HGNC:6761] sushi domain containing 6 [Source:HG NC	0.00	6.55	9.70E- 01
ENSG00000123684	LPGAT1	Symbol;Acc: HGNC:1995 6] lysophosph atidylglycer ol acyltransfer ase 1 [Source:HG NC	0.00	5.45	9.76E- 01
ENSG00000161813	LARP4	Symbol;Acc: HGNC:2898 5] La ribonucleop rotein domain family	0.00	4.77	9.79E- 01



ENSG00000114098	ARMC8	member 4 [Source:HGNC Symbol;Acc: HGNC:24320] armadillo repeat containing 8 [Source:HGNC Symbol;Acc: HGNC:24999]	0.00	5.17	9.83E-01
ENSG00000177125	ZBTB34	zinc finger and BTB domain containing 34 [Source:HGNC Symbol;Acc: HGNC:31446]	0.00	3.83	9.84E-01
ENSG00000011405	PIK3C2A	phosphatidylinositol-4-phosphate 3-kinase catalytic subunit type 2 alpha [Source:HGNC	0.00	5.43	9.95E-01

ENSG00000123091	RNF11	Symbol;Acc: HGNC:8971] ring finger protein 11 [Source:HG NC	0.00	6.45	9.96E- 01
ENSG00000018189	RUFY3	Symbol;Acc: HGNC:1005 6] RUN and FYVE domain containing 3 [Source:HG NC	0.00	4.73	9.96E- 01
ENSG00000134198	TSPAN2	Symbol;Acc: HGNC:3028 5] tetraspanin 2 [Source:HG NC	0.00	4.10	9.99E- 01
ENSG00000172575	<b>RASGRP1</b>	Symbol;Acc: HGNC:2065 9] RAS guanyl releasing protein 1 [Source:HG NC	0.00	8.41	9.99E- 01
ENSG00000159399	HK2	Symbol;Acc: HGNC:9878] hexokinase	0.00	3.94	1.00E+0

		2	
		[Source:HG NC Symbol;Acc: HGNC:4923]	
ENSG00000013588	GPRC5A	G protein- coupled receptor class C group 5 member A [Source:HG NC Symbol;Acc: HGNC:9836]	-
ENSG00000064042	LIMCH1	LIM and calponin homology domains 1 [Source:HG NC Symbol;Acc: HGNC:2919 1]	-
ENSG00000078399	HOXA9	homeobox A9 [Source:HG NC Symbol;Acc: HGNC:5109]	-
ENSG00000079308	TNS1	tensin 1 [Source:HG NC	-
			0

ENSG00000092969	TGFB2	Symbol;Acc: HGNC:1197 3] transformin g growth factor beta 2 [Source:HG NC	-
ENSG00000102221	JADE3	Symbol;Acc: HGNC:1176 8] jade family PHD finger 3 [Source:HG NC	-
ENSG00000104369	JPH1	Symbol;Acc: HGNC:2298 2] junctophilin 1 [Source:HG NC	-
ENSG00000111799	COL12A1	Symbol;Acc: HGNC:1420 1] collagen type XII alpha 1 chain [Source:HG NC	-
		Symbol;Acc:	

ENSG00000113594	LIFR	HGNC:2188] leukemia inhibitory factor receptor alpha [Source:HG NC Symbol;Acc: HGNC:6597]	-
ENSG00000114757	PEX5L	peroxisomal biogenesis factor 5 like [Source:HG NC Symbol;Acc: HGNC:3002 4]	-
ENSG00000115844	DLX2	distal-less homeobox 2 [Source:HG NC Symbol;Acc: HGNC:2915]	-
ENSG00000116132	PRRX1	paired related homeobox 1 [Source:HG NC Symbol;Acc: HGNC:9142]	-

ENSG00000118946	PCDH17	protocadher in 17 [Source:HG NC Symbol;Acc: HGNC:1426 7]	-
ENSG00000122420	PTGFR	prostaglandi n F receptor [Source:HG NC Symbol;Acc: HGNC:9600]	-
ENSG00000122778	KIAA1549	KIAA1549 [Source:HG NC Symbol;Acc: HGNC:2221 9]	-
ENSG00000122786	CALD1	caldesmon 1 [Source:HG NC Symbol;Acc: HGNC:1441]	-
ENSG00000125398	SOX9	SRY-box 9 [Source:HG NC Symbol;Acc: HGNC:1120 4]	-
ENSG00000135116	HRK	harakiri, BCL2	-

ENSG00000135378	PRRG4	interacting protein [Source:HGNC Symbol;Acc: HGNC:5185] proline rich and Gla domain 4 [Source:HGNC Symbol;Acc: HGNC:3079]	-
ENSG00000135862	LAMC1	laminin subunit gamma 1 [Source:HGNC Symbol;Acc: HGNC:6492]	-
ENSG00000136634	IL10	interleukin 10 [Source:HGNC Symbol;Acc: HGNC:5962]	-
ENSG00000138639	ARHGAP24	Rho GTPase activating protein 24 [Source:HGNC Symbol;Acc:	-

ENSG00000143867	OSR1	HGNC:2536 1] odd-skipped - related transcription factor 1 [Source:HG NC Symbol;Acc: HGNC:8111]
ENSG00000151090	THRB	thyroid - hormone receptor beta [Source:HG NC Symbol;Acc: HGNC:1179 9]
ENSG00000152078	TMEM56	transmembr - ane protein 56 [Source:HG NC Symbol;Acc: HGNC:2647 7]
ENSG00000153904	DDAH1	dimethylarg - inine dimethylam inohydrolas e 1 [Source:HG



ENSG00000154380	ENAH	NC Symbol;Acc: HGNC:2715] enabled homolog (Drosophila) [Source:HG NC Symbol;Acc: HGNC:1827 1]	-
ENSG00000159217	IGF2BP1	insulin like growth factor 2 mRNA binding protein 1 [Source:HG NC Symbol;Acc: HGNC:2886 6]	-
ENSG00000162407	PLPP3	phospholipi d phosphatas e 3 [Source:HG NC Symbol;Acc: HGNC:9229]	-
ENSG00000162409	PRKAA2	protein kinase AMP- activated	-

ENSG00000163293	NIPAL1	catalytic subunit alpha 2 [Source:HGNC Symbol;Acc:HGNC:9377] NIPA like domain containing 1 [Source:HGNC Symbol;Acc:HGNC:27194]	-
ENSG00000163637	PRICKLE2	prickle planar cell polarity protein 2 [Source:HGNC Symbol;Acc:HGNC:20340]	-
ENSG00000164176	EDIL3	EGF like repeats and discoidin domains 3 [Source:HGNC Symbol;Acc:HGNC:3173]	-
ENSG00000164761	TNFRSF11B	TNF	-

		receptor superfamily member 11b [Source:HG NC Symbol;Acc: HGNC:1190 9]	
ENSG00000165092	ALDH1A1	aldehyde dehydrogen ase 1 family member A1 [Source:HG NC Symbol;Acc: HGNC:402]	-
ENSG00000166444	ST5	suppression of tumorigenic ity 5 [Source:HG NC Symbol;Acc: HGNC:1135 0]	-
ENSG00000169245	CXCL10	C-X-C motif chemokine ligand 10 [Source:HG NC Symbol;Acc: HGNC:1063]	-

ENSG00000171714	ANO5	7] anoctamin 5 [Source:HG NC Symbol;Acc: HGNC:2733 7]	-
ENSG00000172380	GNG12	G protein subunit gamma 12 [Source:HG NC Symbol;Acc: HGNC:1966 3]	-
ENSG00000173391	OLR1	oxidized low density lipoprotein receptor 1 [Source:HG NC Symbol;Acc: HGNC:8133]	-
ENSG00000176597	B3GNT5	UDP- GlcNAc:beta Gal beta- 1,3-N- acetylglucos aminyltrans ferase 5 [Source:HG NC Symbol;Acc:	-

ENSG00000180592	SKIDA1	HGNC:15684] SKI/DACH domain containing 1 [Source:HGNC Symbol;Acc:HGNC:32697]	-
ENSG00000181449	SOX2	SRY-box 2 [Source:HGNC Symbol;Acc:HGNC:11195]	-
ENSG00000182752	PAPPA	pappalysin 1 [Source:HGNC Symbol;Acc:HGNC:8602]	-
ENSG00000186205	MARC1	mitochondrial amidoxime reducing component 1 [Source:HGNC Symbol;Acc:HGNC:26189]	-

ENSG00000203727	SAMD5	sterile alpha motif domain containing 5 [Source:HGNC Symbol;Acc:HGNC:21180]	-
ENSG00000206075	SERPINB5	serpin family B member 5 [Source:HGNC Symbol;Acc:HGNC:8949]	-
ENSG00000214736	TOMM6	translocase of outer mitochondrial membrane 6 [Source:HGNC Symbol;Acc:HGNC:34528]	-
ENSG00000222014	RAB6C	RAB6C, member RAS oncogene family [Source:HG	-

ENSG00000263001	GTF2I	NC Symbol;Acc: HGNC:1652 5] general transcriptio n factor Iii [Source:HG NC Symbol;Acc: HGNC:4659]	-
ENSG00000272602	ZNF595	zinc finger protein 595 [Source:HG NC Symbol;Acc: HGNC:2719 6]	-