Electronic Supplementary Information:

Figure S1 Milk fatty acid gas chromatogram.

Table S1 Primer for RT-qPCR and siRNA sequence.

Table S2 Summary of the reads generated from RNA-seq.

Table S3 DEGs in mammary tissues between 90 d (peak) and 315 d (late) of lactations.

Table S4 Enriched pathways of the DEGs

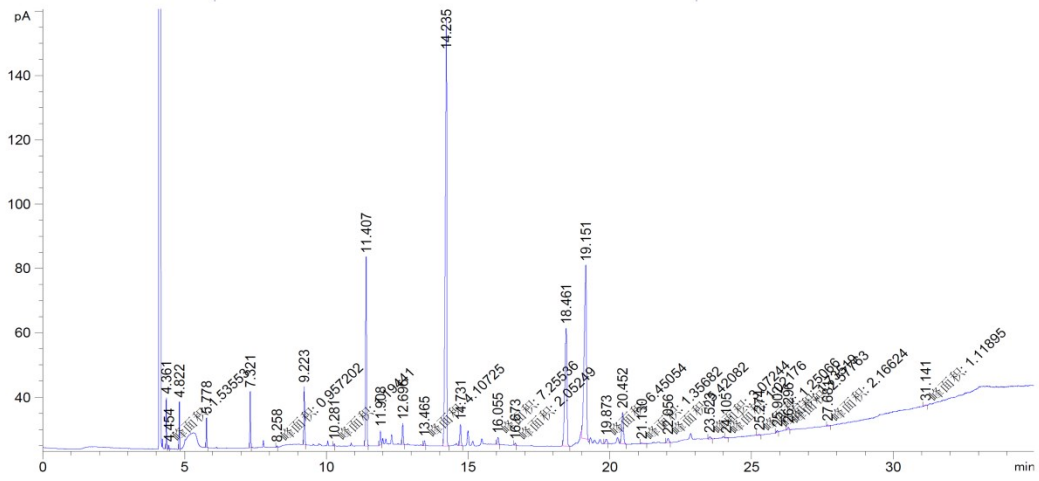

Figure S1 Milk fatty acid gas chromatogram.

Table S1 Primer for RT-qPCR and siRNA sequence.

Primer	Prismer sequences（5′-3′）	Production	Genbank no.
SLC27A6-F	GTTGGTGCTATCATTGGG	176 bp	NM_001101169
SLC27A6-R	CGAGCGTAAGCTGGTAAA		
β-actin-F	CATCCTGACCCTCAAGTA	128 bp	NM_001034034.1
β-actin-R	CTCGTTGTAGAAGGTGTG		
ACSL1-F	CTTCGCAGTGGCATCATTAG	120 bp	NM_001076085
ACSL1-R	GTCCGTAGCCTTCGTAGAAC		
ACSL4-F	GGCACAACAGAAAGGGGTAG	218 bp	XM_015470363.1
ACSL4-R	GGTTCTTCAGTTCCTTCCTT		
CPT1A-F	CTGGACCGGGAGGAAATC	93 bp	NM_001304989.2
CPT1A-R	CCGAGAAGTATTAAACATGCGC		
ELOVL6-F	GGAAGCCTTTAGTGCTCTGGTC	205 bp	NM_001102155.1
ELOVL6-R	ATTGTATCTCCTAGTTCGGGTGC		
FABP3-F	GATGAGACCACAGCAGATG	120 bp	NM_174313
FABP3-R	GTCAACCATCTCCCGCACAAG		
FADS2-F	CGGCAAGAAGAAGCTGAAATACCTG	92 bp	NM_001083444
FADS2-R	TGGAAATACAAAGGGATGAGCAG		
FASN-F	GGGCTCCACCACCGTGTTCCA	226 bp	NM_001012669
FASN-R	GTTCTGCTGGGCCTGCAGCTG		
PPARD-F	CGCATGAAGCTGGAATATGAG	159 bp	NM_001083636
PPARD-R	CTTCCTCTTCTCTGCCTCTG		
CD36-F	GTACAGATGCAGCCTCATTTCC	81 bp	NM_001278621
CD36-R	TGGACCTGCAAATATCAGAGGA		
PPARA-F	CGGTGTCCACGCATGTGA	56 bp	NM_001034036
PPARA-R	TCAGCCGAATCGTTCTCCTAAA		
PPARG-F	CGCATGAAGCTGGAATATGAG	159 bp	NM_001083636
PPARG-R	CTTCCTCTTCTCTGCCTCTG		
DGAT1-F	CCACTGGGACCTGAGGTGTC	100 bp	XM_005688895.1
DGAT1-R	GCATCACCACACACCAATTCA		
SLC27A6-915-F	GCAGCUAUGAAGAGUUCUATT		
SLC27A6-915-R	UAGAACUCUUCAUAGCUGCTT		
Negative control RNA-F	UUCUCCGAACGUGUCACGUTT		
Negative control RNA-R	ACGUGACACGUUCGGAGAATT		

Table S2 Summary of the reads generated from RNA-seq.

Sample	Raw reads	Clean reads	Total Mapped	Multiple mapped	Uniquely mapped	Q30	GC	CDS Exons	Introns
90 d-1	59050772	58314034	54192238 (92.93%)	2025697 (3.47%)	52166541 (89.46%)	97.11%	49.00%	55322625	8731589
90 d-2	61255240	60490684	54988154 (90.9%)	5366330 (8.87%)	49621824 (82.03%)	97.14%	48.50%	90104808	4048531
90 d-3	61664866	60994408	56242133 (92.21%)	7919400 (12.98%)	48322733 (79.22%)	97.33%	47.50%	1.11E+08	2875674
315 d-1	71028854	69794682	64782101 (92.82%)	2642781 (3.79%)	62139320 (89.03%)	96.09%	50.00%	66369045	10272014
315 d-2	64237588	63029200	58052074 (92.10%)	2547563 (4.04%)	55504511 (88.06%)	95.93%	51.00%	64371095	7059208
315 d-3	66336970	65276846	60355909 (92.46%)	2606294 (3.99%)	57749615 (88.47%)	96.21%	50.00%	64312240	8396972
Average	63929048	62983309	58102102 (92.24%)	3851344 (6.19%)	54250757 (86.00%)	96.64%	49.33%	75188196	6897331

Table S3 DEGs in mammary tissues between 90 d (peak) and 315 d (late) of lactations.

id	log2FoldChange	pval	up_down	description	Dbxref
ABAT	1.827706	0.000745	Up	4-aminobutyrate aminotransferase	BGD:BT21049,GeneID:280969
ABCA10	-1.23828	0.002174	Down		GeneID:504909
ABCA2	1.388004	0.001015	Up		GeneID:100299651
ABCA9	-1.52961	0.000855	Down	ATP-binding cassette, sub-family A (ABC1), member 9	GeneID:504278
ABCG2	-4.7317	0.028699	Down	ATP-binding cassette, sub-family G (WHITE), member 2	BGD:BT11761,GeneID:536203
ABLIM1	-1.13617	0.008858	Down		BGD:BT24295,GeneID:504968
ACAN	2.824221	0.020587	Up	aggrecan	GeneID:280985
ACHE	3.44981	7.95E-06	Up	acetylcholinesterase	BGD:BT11506,GeneID:540446
ACP5	3.025963	0.001511	Up	acid phosphatase 5, tartrate resistant	BGD:BT10988,GeneID:517002
ACRBP	1.149615	0.039952	Up		BGD:BT22256,GeneID:515434
ACSM1	-2.66865	0.001394	Down	acyl-CoA synthetase medium-chain family member 1	BGD:BT10990,GeneID:282576
ACY1	1.248733	0.008359	Up	aminoacylase 1	BGD:BT29662,GeneID:768058
ADAMTS18	2.483307	0.018988	Up	ADAM metallopeptidase with thrombospondin type 1 motif, 18	BGD:BT18005,GeneID:518395
ADAMTS7	1.185091	0.014754	Up		GeneID:504694
ADAMTSL3	-1.57844	0.000641	Down		GeneID:537483
ADAMTSL4	1.482791	0.000623	Up	ADAMTS-like 4	BGD:BT19595,GeneID:507654
ADCK3	-1.0593	0.026198	Down	aarF domain containing kinase 3	GeneID:536925
ADORA3	1.608556	0.004233	Up	adenosine A3 receptor	GeneID:780806
AFF2	1.628932	0.01432	Up	AF4/FMR2 family, member 2	GeneID:522215

AGPAT4	1.459827	0.017601	Up	1-acylglycerol-3-phosphate O-acyltransferase 4 (lysophosphatidic acid acyltransferase, delta)	GeneID:507456
AIF1	1.207079	0.004097	Up	allograft inflammatory factor 1	BGD:BT11903,GeneID:280989
ALOX15B	2.438899	0.002062	Up	arachidonate 15-lipoxygenase, type B	BGD:BT13981,GeneID:286820
ALOX5AP	1.468358	0.028612	Up	arachidonate 5-lipoxygenase-activating protein	BGD:BT18509,GeneID:613869
AMIGO2	-1.156	0.007823	Down	adhesion molecule with Ig-like domain 2	BGD:BT14479,GeneID:514273
AMPD2	1.228946	0.012592	Up	adenosine monophosphate deaminase 2	BGD:BT11874,GeneID:514185
ANTXRL	-6.25763	0.045319	Down		BGD:BT18503,GeneID:782834
ANXA8L1	1.228608	0.003908	Up	annexin A8-like 1	GeneID:281627
AOX1	-1.20385	0.005336	Down	aldehyde oxidase 1	BGD:BT20930,GeneID:338074
AOX3L1	-1.78658	0.005279	Down	aldehyde oxidase 1-like	BGD:BT25651,GeneID:531699
AOX4	-2.8395	8.49E-08	Down	aldehyde oxidase 1-like	BGD:BT25930,GeneID:518393
AQP5	1.615491	0.046017	Up	aquaporin 5	BGD:BT13190,GeneID:782368
AQP7	-2.54842	0.036181	Down	aquaporin 7	BGD:BT21034,GeneID:615498
ARHGAP11A	1.637234	0.000774	Up		BGD:BT18591,GeneID:617811
ARHGAP33	1.416625	0.020167	Up		GeneID:100138767
ARHGEF37	-1.04094	0.021126	Down	Rho guanine nucleotide exchange factor (GEF) 37	BGD:BT19210,GeneID:526631
ARHGEF38	-1.51	0.020488	Down		BGD:BT25386,GeneID:618404
ARRDC5	-1.57438	0.025653	Down	arrestin domain containing 5	BGD:BT23132,GeneID:617727
ARSI	1.272256	0.007762	Up		BGD:BT29949,GeneID:540390
ASF1B	1.608434	0.017951	Up	ASF1 anti-silencing function 1 homolog B (S. cerevisiae)	BGD:BT16439,GeneID:510538
ASIC3	2.705298	3.70E-06	Up	amiloride-sensitive cation channel 3	BGD:BT23148,GeneID:789132
ASPM	2.657352	2.66E-05	Up	asp (abnormal spindle) homolog, microcephaly associated (Drosophila)	BGD:BT24241,GeneID:534849
ATG9B	2.408585	1.07E-05	Up		BGD:BT19074,GeneID:506862

ATP13A4		-6.33096	0.034464	Down		BGD:BT10458,GeneID:521728
ATP2A3		1.325209	0.003735	Up	ATPase, Ca++ transporting, ubiquitous	BGD:BT21449,GeneID:512313
ATP4A	Inf		0.000106	Up	ATPase, H+/K+ exchanging, alpha polypeptide	BGD:BT18606,GeneID:521163
ATP4B	Inf		0.04236	Up	ATPase, H+/K+ exchanging, beta polypeptide	BGD:BT18703,GeneID:614308
ATP5S		-1.00807	0.049628	Down	ATP synthase, H+ transporting, mitochondrial Fo complex, subunit s (factor B)	BGD:BT25316,GeneID:493709
ATP6V0A4		3.229475	5.08E-06	Up	ATPase, H+ transporting, lysosomal V0 subunit a4	BGD:BT27519,GeneID:518974
ATP6V0D2		5.416615	0.000627	Up	ATPase, H+ transporting, lysosomal 38kDa, V0 subunit d2	BGD:BT23596,GeneID:511839
ATP6V1C2		2.065269	8.61E-05	Up	ATPase, H+ transporting, lysosomal 42kDa, V1 subunit C2	BGD:BT15816,GeneID:508327
ATP7A		-1.16562	0.007348	Down	ATPase, Cu++ transporting, alpha polypeptide	BGD:BT17418,GeneID:541275
AURKA		1.580766	0.032211	Up	aurora kinase A	BGD:BT20859,GeneID:504437
AURKB		2.623727	2.04E-05	Up	aurora kinase B	BGD:BT17075,GeneID:360192
AVIL		1.348033	0.039778	Up	advillin	BGD:BT22207,GeneID:520771
B3GALNT1		1.818112	0.014759	Up	beta-1,3-N-acetylgalactosaminyltransferase 1 (globoside blood group)	BGD:BT18246,GeneID:767844
BANK1		1.125613	0.049949	Up		BGD:BT16470,GeneID:100299906
BASP1		1.144731	0.016111	Up	brain abundant, membrane attached signal protein 1	GeneID:286842
BATF3		1.48889	0.004862	Up	basic leucine zipper transcription factor, ATF-like 3	GeneID:535008
BEST3		1.443105	0.02972	Up		BGD:BT27878,GeneID:531070
BFSP1		2.574815	0.025196	Up	beaded filament structural protein 1, filensin	BGD:BT10670,GeneID:281644
BIRC5		2.326019	2.45E-05	Up	baculoviral IAP repeat containing 5	BGD:BT20054,GeneID:414925
BLA-DQB		1.083018	0.018253	Up	MHC class II antigen	BGD:BT28314,GeneID:539241

BLK		1.172377	0.025535	Up	B lymphoid tyrosine kinase	BGD:BT22215,GeneID:532587
BLNK		1.250779	0.015438	Up	B-cell linker	BGD:BT15254,GeneID:510393
BMP3		-1.63493	0.034002	Down	bone morphogenetic protein 3	BGD:BT12320,GeneID:539527
BMP5		-2.39134	0.017429	Down		BGD:BT12004,GeneID:507682
BMP7		2.853771	9.99E-05	Up	bone morphogenetic protein 7	BGD:BT11710,GeneID:540595
BNIPL		2.058391	0.000293	Up	BCL2/adenovirus E1B 19kD interacting protein like	BGD:BT19601,GeneID:614493
BOLA-DOA		1.631436	0.001174	Up	major histocompatibility complex, class II, DO alpha	BGD:BT11134,GeneID:525727
BOLA-DOB		1.217069	0.006979	Up	major histocompatibility complex, class II, DO beta	GeneID:282493
BOLA-DRA		1.041535	0.006121	Up	major histocompatibility complex, class II, DR alpha	BGD:BT10358,GeneID:506214
BOLA-DRB2		1.15373	0.005042	Up		BGD:BT21282,GeneID:538700
BOLA-DRB3		1.022919	0.034611	Up	major histocompatibility complex, class II, DRB3	GeneID:282530
BOLA-DYA		2.269049	0.004941	Up	major histocompatibility complex, class II, DY alpha	BGD:BT11780,GeneID:282497
BPI		2.699039	2.21E-05	Up	bactericidal/permeability-increasing protein	BGD:BT10829,GeneID:280734
BPIFA1	Inf		0.000272	Up	BPI fold containing family A, member 1	GeneID:281989
BPIFB1		4.032073	0.007	Up	BPI fold containing family B, member 1	GeneID:282643
BRB		1.462812	0.003377	Up	brain ribonuclease	BGD:BT10784,GeneID:280720
BSP5		3.474841	0.001692	Up	binder of sperm 5	BGD:BT17629,GeneID:317699
BTK		1.376191	0.003208	Up	Bruton agammaglobulinemia tyrosine kinase	BGD:BT12261,GeneID:533459
BTN1A1		-5.83935	0.024231	Down	butyrophilin, subfamily 1, member A1	GeneID:282157
BTNL9		-3.80496	0.010371	Down	butyrophilin-like 9	GeneID:100125313
BUB1		2.032531	0.000652	Up	budding uninhibited by benzimidazoles 1 homolog	BGD:BT30260,GeneID:514777

				(yeast)	
BUB1B	2.444975	2.31E-05	Up	budding uninhibited by benzimidazoles 1 homolog beta (yeast)	BGD:BT20884,GeneID:537027
C10H15orf48	2.28278	5.70E-06	Up	chromosome 10 open reading frame, human C15orf48	GeneID:614805
C11H2orf50	1.947165	0.016199	Up	chromosome 11 open reading frame, human C2orf50	GeneID:510955
C15H11orf34	1.462517	0.002612	Up	chromosome 15 open reading frame, human C11orf34	GeneID:505518
C16H1orf167	-1.82119	0.005501	Down		GeneID:100848408
C16H1orf95	2.004452	0.004388	Up	chromosome 16 open reading frame, human C1orf95	GeneID:614962
C18H19orf33	1.826806	0.00271	Up	chromosome 18 open reading frame, human C19orf33	BGD:BT18103,GeneID:787634
C1QA	1.451528	0.00609	Up	complement component 1, q subcomponent, A chain	BGD:BT15276,GeneID:534961
C1QB	1.562511	0.000544	Up	complement component 1, q subcomponent, B chain	BGD:BT19049,GeneID:617435
C1QC	1.636748	0.004206	Up	complement component 1, q subcomponent, C chain	BGD:BT25679,GeneID:509968
C1QTNF6	1.933347	8.33E-05	Up	C1q and tumor necrosis factor related protein 6	BGD:BT28572,GeneID:506413
C1QTNF9	-2.6382	5.13E-06	Down	C1q and tumor necrosis factor related protein 9	BGD:BT15942,GeneID:523616
C2	1.593829	0.000221	Up	complement component 2	BGD:BT10281,GeneID:515440
C20H5orf49	4.260982	0.005422	Up		BGD:BT19765,GeneID:100140616
C2CD4B	-1.51835	0.045219	Down	C2 calcium-dependent domain-containing protein 4A-like	BGD:BT24612,GeneID:529849

C2H2orf80	-4.97815	0.038921	Down	chromosome 2 open reading frame, human C2orf80	GeneID:539078
C3H1orf162	1.483064	0.032117	Up		GeneID:100296588
C3H2orf54	2.220546	0.000921	Up		BGD:BT30357,GeneID:789553
C4A	1.830455	0.001332	Up	complement component 4A	GeneID:280678
C4BPA	4.994749	4.05E-14	Up	complement component 4 binding protein, alpha	GeneID:281651
C6H4orf19	1.090009	0.028604	Up	chromosome 6 open reading frame, human C4orf19	GeneID:511424
C6H4orf36	-1.83726	0.007359	Down		GeneID:616618
C8B	3.335966	0.000501	Up	complement component 8, beta polypeptide	BGD:BT10365,GeneID:513217
CAB39L	-1.34838	0.001523	Down		BGD:BT16138,GeneID:519724
CABYR	1.208041	0.035414	Up	calcium binding tyrosine-(Y)-phosphorylation regulated	BGD:BT24690,GeneID:510319
CACNA1G	2.640539	7.19E-06	Up	calcium channel, voltage-dependent, T type, alpha 1G subunit	BGD:BT11773,GeneID:282411
CALML5	2.078077	0.044324	Up	calmodulin-like 5	BGD:BT10430,GeneID:520404
CAPN11	-1.57064	0.025534	Down		BGD:BT26310,GeneID:527966
CAPN14	-9.79001	0.009118	Down	calpain 14	BGD:BT15030,GeneID:515741
CAPN3	1.419972	0.009329	Up	calpain 3, (p94)	BGD:BT24806,GeneID:281663
CARD9	1.183733	0.005774	Up	caspase recruitment domain family, member 9	BGD:BT29405,GeneID:768054
CASP1	1.357795	0.017067	Up		BGD:BT18347,GeneID:514214
CASQ2	5.754924	0.011891	Up	calsequestrin 2 (cardiac muscle)	BGD:BT30366,GeneID:528555
CAV2	-1.42051	0.004699	Down	caveolin 2	BGD:BT10589,GeneID:493642
CBX7	-1.19301	0.007967	Down	chromobox homolog 7	BGD:BT14078,GeneID:525770
CCDC13	1.311347	0.025252	Up	coiled-coil domain containing 13	BGD:BT13186,GeneID:538960
CCDC149	-1.00399	0.017712	Down	coiled-coil domain containing 149	BGD:BT15207,GeneID:613278

CCDC170	-1.08422	0.012011	Down		GeneID:787062
CCDC178	4.127364	0.009153	Up		GeneID:532148
CCDC85A	-2.50464	0.049486	Down	coiled-coil domain containing 85A	BGD:BT17572,GeneID:525800
CCL19	3.420777	0.024654	Up	chemokine (C-C motif) ligand 19	BGD:BT10301,GeneID:509167
CCL21	2.835963	4.42E-05	Up	chemokine (C-C motif) ligand 21	BGD:BT10830,GeneID:511112
CCNA2	1.558657	0.007501	Up	cyclin A2	BGD:BT18836,GeneID:281667
CCNB1	2.85073	0.000166	Up	cyclin B1	BGD:BT17959,GeneID:327679
CCNB2	2.309428	0.001419	Up	cyclin B2	BGD:BT17269,GeneID:281668
CCNF	1.191564	0.005855	Up	cyclin F	BGD:BT20830,GeneID:505200
CCR1	1.690891	0.000557	Up	chemokine (C-C motif) receptor 1	BGD:BT11340,GeneID:407771
CD180	2.467716	0.003561	Up	CD180 molecule	BGD:BT28569,GeneID:539518
CD19	1.267192	0.043412	Up	CD19 molecule	GeneID:517359
CD207	3.191628	0.000967	Up		BGD:BT16793,GeneID:511000
CD24	-2.55001	1.11E-06	Down		GeneID:767920
CD300LF	2.287381	0.015324	Up		GeneID:101905619
CD300LG	-2.33398	0.047295	Down		BGD:BT23518,GeneID:615388
CD36	-4.03695	0.041593	Down	CD36 molecule (thrombospondin receptor)	GeneID:518526
CD40	1.105543	0.01035	Up	CD40 molecule, TNF receptor superfamily member 5	BGD:BT10477,GeneID:286849
CD44	1.029311	0.010607	Up	CD44 molecule (Indian blood group)	GeneID:281057
CD48	1.153246	0.009721	Up	CD48 molecule	BGD:BT23880,GeneID:508386
CD53	1.047031	0.02608	Up	CD53 molecule	BGD:BT16064,GeneID:505040
CD68	1.399877	0.002617	Up	CD68 molecule	BGD:BT27502,GeneID:504960
CD74	1.141583	0.008182	Up	CD74 molecule, major histocompatibility complex, class II invariant chain	BGD:BT17580,GeneID:613384
CD86	1.075472	0.039592	Up	CD86 molecule	BGD:BT20202,GeneID:414345

CDC20	2.551711	1.02E-05	Up	cell division cycle 20 homolog (S. cerevisiae)	BGD:BT12221,GeneID:515376
CDC25C	2.293338	0.027585	Up	cell division cycle 25 homolog C (S. pombe)	BGD:BT14378,GeneID:507731
CDCA2	2.702879	0.000877	Up	cell division cycle associated 2	BGD:BT16957,GeneID:515287
CDCA3	2.48543	2.90E-05	Up	cell division cycle associated 3	BGD:BT30191,GeneID:614434
CDCA7	1.868955	0.001278	Up	cell division cycle associated 7	BGD:BT29370,GeneID:614893
CDCA8	3.06729	9.20E-06	Up	cell division cycle associated 8	BGD:BT26906,GeneID:508022
CDH19	-1.31618	0.012256	Down	cadherin 19, type 2	BGD:BT20490,GeneID:781265
CDH2	-2.14518	0.001615	Down	cadherin 2, type 1, N-cadherin (neuronal)	BGD:BT12211,GeneID:281062
CDO1	-1.69512	0.03316	Down	cysteine dioxygenase, type I	BGD:BT18379,GeneID:514462
CDON	-1.37885	0.041054	Down	Cdon homolog (mouse)	BGD:BT26989,GeneID:536011
CDT1	1.983491	0.004446	Up		BGD:BT28800,GeneID:519016
CEACAM1	-2.11913	0.001048	Down	carcinoembryonic antigen-related cell adhesion molecule 1 (biliary glycoprotein)	GeneID:404118
CECR1	1.474955	0.00165	Up		GeneID:617805
CELSR3	3.31202	0.005141	Up	cadherin, EGF LAG seven-pass G-type receptor 3 (flamingo homolog, Drosophila)	GeneID:523793
CENPA	2.167013	0.000274	Up	centromere protein A	BGD:BT15430,GeneID:613898
CENPE	2.02907	0.000959	Up		GeneID:281681
CENPF	2.858249	4.33E-09	Up	centromere protein F, 350/400kDa (mitosin)	BGD:BT14954,GeneID:533089
CENPT	1.082211	0.016093	Up	centromere protein T	BGD:BT18358,GeneID:513195
CEP55	2.334145	0.000494	Up	centrosomal protein 55kDa	BGD:BT28286,GeneID:513594
CFB	2.506299	1.21E-06	Up	complement factor B	BGD:BT11852,GeneID:514076
CFI	2.486627	1.37E-05	Up	complement factor I	BGD:BT13407,GeneID:513197
CFTR	3.285578	0.000242	Up	cystic fibrosis transmembrane conductance regulator (ATP-binding cassette sub-family C, member 7)	BGD:BT10672,GeneID:281067

CGREF1	1.468811	0.041462	Up	cell growth regulator with EF-hand domain 1	BGD:BT14453,GeneID:507586
CHAD	1.476387	0.012056	Up	chondroadherin	BGD:BT10713,GeneID:281069
CHEK1	2.70056	8.98E-05	Up	CHK1 checkpoint homolog (S. pombe)	BGD:BT24442,GeneID:513678
CHEK2	1.375277	0.018744	Up	CHK2 checkpoint homolog (S. pombe)	BGD:BT23432,GeneID:518897
CHI3L1	2.122427	0.014437	Up	chitinase 3-like 1 (cartilage glycoprotein-39)	BGD:BT21461,GeneID:286869
CHRDL2	3.908284	0.004752	Up	chordin-like 2	BGD:BT17548,GeneID:533631
CHST1	-1.59888	0.009937	Down	carbohydrate (keratan sulfate Gal-6) sulfotransferase 1	BGD:BT12756,GeneID:506932
CHST8	3.850415	3.31E-07	Up	carbohydrate (N-acetylgalactosamine 4-0) sulfotransferase 8	GeneID:100271926
CHTF18	1.617718	0.004377	Up	CTF18, chromosome transmission fidelity factor 18 homolog (S. cerevisiae)	BGD:BT29120,GeneID:517007
CIDEA	-7.47858	0.001299	Down	cell death-inducing DFFA-like effector a	BGD:BT10567,GeneID:527051
CIDEC	-4.5218	0.033497	Down	cell death-inducing DFFA-like effector c	BGD:BT19494,GeneID:534607
CIT	1.383648	0.031441	Up		BGD:BT21573,GeneID:786852
CITED2	-2.34129	0.027476	Down	Cbp/p300-interacting transactivator, with Glu/Asp-rich carboxy-terminal domain, 2	BGD:BT13753,GeneID:521378
CKAP2	1.459598	0.001077	Up	cytoskeleton associated protein 2	GeneID:515249
CKB	1.549101	0.02898	Up	creatine kinase, brain	BGD:BT18406,GeneID:516210
CKMT1B	1.600509	0.004265	Up	creatine kinase, mitochondrial 1B	BGD:BT25994,GeneID:281692
CKS2	1.810968	0.000396	Up	CDC28 protein kinase regulatory subunit 2	GeneID:767985
CLCA2	1.447662	0.025392	Up		GeneID:534256
CLEC1A	-1.85132	0.047245	Down	C-type lectin domain family 1, member A	BGD:BT11635,GeneID:536944
CLEC4A	2.029212	0.000813	Up	C-type lectin domain family 4, member A	GeneID:616674
CLEC6A	2.169344	0.001549	Up	C-type lectin domain family 6, member A	GeneID:514979
CLECL1	1.101243	0.035343	Up	killer cell lectin-like receptor-like	BGD:BT30340,GeneID:618591

CLIC6	1.719792	0.006436	Up		BGD:BT17749,GeneID:507243
CLSTN2	1.812193	0.014557	Up	calsyntenin 2	BGD:BT25398,GeneID:530999
CMTM3	1.082707	0.018745	Up	CKLF-like MARVEL transmembrane domain containing 3	BGD:BT11499,GeneID:787512
CNIH2	2.911862	0.045955	Up		BGD:BT14637,GeneID:618106
CNTNAP4	5.715875	0.009905	Up	contactin associated protein-like 4	BGD:BT13062,GeneID:536775
COCH	5.194177	0.000369	Up	coagulation factor C homolog, cochlin (Limulus polyphemus)	BGD:BT21485,GeneID:504316
COL1A1	2.091522	0.031174	Up	collagen, type I, alpha 1	BGD:BT10494,GeneID:282187
COL1A2	1.793084	0.035464	Up	collagen, type I, alpha 2	BGD:BT12259,GeneID:282188
COL25A1	3.097965	0.004551	Up		BGD:BT28331,GeneID:615661
COL26A1	3.238036	6.87E-09	Up	EMI domain containing 2	BGD:BT25940,GeneID:617340
COL3A1	1.835772	0.030891	Up	collagen, type III, alpha 1	BGD:BT10832,GeneID:510833
COLGALT2	-1.60461	0.023624	Down	glycosyltransferase 25 domain containing 2	BGD:BT22480,GeneID:789150
CORO2A	1.42513	0.03817	Up	coronin, actin binding protein, 2A	BGD:BT15122,GeneID:617620
CPEB3	-1.15517	0.010594	Down	cytoplasmic polyadenylation element binding protein 3	GeneID:537016
CPEB4	-1.50881	0.001633	Down		BGD:BT12754,GeneID:538794
CPNE2	1.564861	0.001573	Up	copine II	GeneID:782388
CPNE8	-1.06361	0.02829	Down	copine VIII	BGD:BT14333,GeneID:535744
CPT1B	1.273483	0.005665	Up	carnitine palmitoyltransferase 1B (muscle)	BGD:BT10800,GeneID:509459
CPZ	1.594751	0.008267	Up	carboxypeptidase Z	BGD:BT29139,GeneID:537837
CRABP1	2.829824	2.82E-07	Up	cellular retinoic acid binding protein 1	BGD:BT30352,GeneID:282201
CREB5	-1.23671	0.034258	Down		BGD:BT24133,GeneID:534129
CRISP3	-7.94689	0.001191	Down	cysteine-rich secretory protein 3	BGD:BT15791,GeneID:618612
CRYGA	#NAME?	0.010547	Down	crystallin, gamma A	GeneID:100335856

CRYM	2.289938	0.000151	Up	crystallin, mu	BGD:BT11804,GeneID:505167
CSF1R	1.240789	0.002627	Up	colony stimulating factor 1 receptor	BGD:BT28752,GeneID:509418
CSN1S1	-9.4631	0.001968	Down	casein alpha s1	BGD:BT11562,GeneID:282208
CSN1S2	-10.5679	0.002118	Down	casein alpha-S2	BGD:BT25511,GeneID:282209
CSN2	-9.27694	0.003276	Down		BGD:BT11954,GeneID:281099
CSN3	-6.49196	0.021248	Down	casein kappa	BGD:BT10110,GeneID:281728
CTXN1	2.509765	0.00039	Up	cortexin 1	BGD:BT20167,GeneID:100125924
CX3CR1	1.823981	0.000603	Up	chemokine (C-X3-C motif) receptor 1	BGD:BT11791,GeneID:100124525
CXCL5	2.411078	0.000546	Up	chemokine (C-X-C motif) ligand 6 (granulocyte chemotactic protein 2)	BGD:BT17898,GeneID:281735
CYB5R2	1.509262	0.049451	Up		GeneID:536960
CYBA	1.046475	0.032149	Up	cytochrome b-245, alpha polypeptide	BGD:BT19863,GeneID:281111
CYP24A1	3.286953	0.000111	Up	cytochrome P450, family 24, subfamily A, polypeptide 1	BGD:BT28812,GeneID:540080
CYP27B1	1.923539	0.022349	Up	cytochrome P450, family 27, subfamily B, polypeptide 1	BGD:BT27845,GeneID:539630
CYP27C1	2.753426	0.039648	Up		BGD:BT12883,GeneID:617338
CYP2S1	1.634864	0.015878	Up	cytochrome P450, family 2, subfamily S, polypeptide 1	BGD:BT23364,GeneID:514971
CYP4B1	-3.4123	1.53E-05	Down	cytochrome P450, family 4, subfamily B, polypeptide 1	BGD:BT22188,GeneID:540149
DAW1	5.258433	0.040417	Up	WD repeat domain 69	BGD:BT14566,GeneID:530118
DCLK3	-2.4565	0.031653	Down		GeneID:507205
DCSTAMP	3.251016	0.032921	Up		BGD:BT17892,GeneID:512133
DDC	3.328234	0.035098	Up	dopa decarboxylase (aromatic L-amino acid decarboxylase)	BGD:BT28956,GeneID:280762

DEPDC1		2.200971	0.002134	Up		GeneID:527397
DEPDC1B		2.812674	0.029331	Up	DEP domain containing 1B	BGD:BT18940,GeneID:540874
DHRS12		-1.34961	0.003553	Down	dehydrogenase/reductase (SDR family) member 12	BGD:BT22434,GeneID:507276
DHRS9		2.96226	0.00335	Up	dehydrogenase/reductase (SDR family) member 9	BGD:BT11483,GeneID:282851
DIAPH3		2.101881	0.000485	Up	diaphanous-related formin 3	BGD:BT22948,GeneID:525628
DIO3		2.252331	0.0014	Up	deiodinase, iodothyronine, type III	GeneID:494549
DKK1		1.980101	0.005965	Up	dickkopf homolog 1 (Xenopus laevis)	BGD:BT15574,GeneID:504445
DLC1		-1.12058	0.04184	Down	deleted in liver cancer 1	GeneID:511433
DLGAP5		3.398312	7.05E-06	Up	discs, large (Drosophila) homolog-associated protein 5	BGD:BT21255,GeneID:509161
DNA2		2.331485	0.008107	Up	DNA replication helicase 2 homolog (yeast)	BGD:BT23019,GeneID:540969
DOCK9		-1.08967	0.022493	Down	dedicator of cytokinesis 9	BGD:BT14329,GeneID:616045
DOK6		-1.34789	0.019365	Down		BGD:BT16435,GeneID:100336967
DPYD		-1.35577	0.008481	Down	dihydropyrimidine dehydrogenase	BGD:BT14767,GeneID:281124
DRC1		1.951892	0.022424	Up	coiled-coil domain containing 164	GeneID:509524
DTYMK		1.209951	0.049623	Up	deoxythymidylate kinase (thymidylate kinase)	BGD:BT21679,GeneID:506946
DUSP1		-1.08883	0.03186	Down	dual specificity phosphatase 1	BGD:BT17682,GeneID:539175
DUSP9	Inf		0.006454	Up	dual specificity phosphatase 9	BGD:BT29372,GeneID:614306
DYNLL1		1.036374	0.039795	Up	dynein, light chain, LC8-type 1	GeneID:404151
E2F1		1.807371	0.000893	Up	E2F transcription factor 1	BGD:BT18090,GeneID:535369
E2F2		2.341321	5.84E-05	Up		BGD:BT17717,GeneID:617024
E2F3		1.397909	0.009155	Up	E2F transcription factor 3	BGD:BT25662,GeneID:541184
E2F8		3.00161	0.001838	Up	E2F transcription factor 8	GeneID:786629
EDNRB		-1.58385	0.000248	Down	endothelin receptor type B	BGD:BT10076,GeneID:281750
EFNA3		1.315994	0.048462	Up	ephrin-A3	BGD:BT23787,GeneID:540776
EFNB3		1.820537	0.018659	Up	ephrin-B3	BGD:BT27143,GeneID:617714

EHD4	-1.28589	0.016332	Down	EH-domain containing 4	BGD:BT10723,GeneID:505206
EIF4EBP2	-1.41426	0.001084	Down	eukaryotic translation initiation factor 4E binding protein 2	BGD:BT19479,GeneID:782397
ELP	2.075998	0.000117	Up	early lactation protein precursor	GeneID:100296926
EMID1	2.374571	3.56E-07	Up	EMI domain containing 1	BGD:BT12837,GeneID:506282
EMP1	-1.31058	0.039416	Down		BGD:BT21629,GeneID:786490
ENTPD2	2.537304	6.78E-06	Up	ectonucleoside triphosphate diphosphohydrolase 2	GeneID:100126045
EPHB2	1.629239	0.004753	Up	EPH receptor B2	BGD:BT27036,GeneID:535137
EPN3	1.249233	0.007923	Up	epsin 3	BGD:BT20366,GeneID:538660
ERICH2	3.586629	0.047163	Up	glutamate-rich 2	BGD:BT20040,GeneID:615113
ESPL1	1.898732	0.000498	Up	extra spindle pole bodies homolog 1 (S. cerevisiae)	BGD:BT24732,GeneID:506740
ETNK2	1.056578	0.004418	Up		BGD:BT23640,GeneID:533229
ETNPPL	2.053824	0.04176	Up	alanine-glyoxylate aminotransferase 2-like 1	BGD:BT11830,GeneID:515186
EXD1	-3.03745	0.049781	Down		BGD:BT27028,GeneID:617602
EXO1	2.999373	0.007112	Up		BGD:BT14545,GeneID:506390
EXPH5	-1.98886	0.001539	Down		BGD:BT13898,GeneID:527048
EYA1	-1.41779	0.016864	Down		BGD:BT22404,GeneID:511188
F2RL1	-2.60342	0.041163	Down	coagulation factor II (thrombin) receptor-like 1	BGD:BT16213,GeneID:526525
F5	1.842815	0.003444	Up	coagulation factor V (proaccelerin, labile factor)	GeneID:280687
FABP3	-8.32571	0.021269	Down	fatty acid binding protein 3, muscle and heart (mammary-derived growth inhibitor)	BGD:BT11568,GeneID:281758
FABP4	-5.08277	0.009339	Down	fatty acid binding protein 4, adipocyte	BGD:BT10868,GeneID:281759
FAM132A	3.063009	0.003856	Up		BGD:BT28260,GeneID:506102
FAM155B	1.244519	0.043957	Up		BGD:BT18351,GeneID:613918
FAM159B	#NAME?	0.034024	Down	family with sequence similarity 159, member B	GeneID:515994
FAM167A	1.731099	0.000831	Up	family with sequence similarity 167, member A	GeneID:618107

FAM184A	1.756922	0.00282	Up		GeneID:541122
FAM221A	-1.1625	0.012085	Down	family with sequence similarity 221, member A	GeneID:505226
FAM227A	1.754698	0.043009	Up		GeneID:100297485
FAM64A	2.546788	0.001307	Up	family with sequence similarity 64, member A	GeneID:540455
FAM83D	1.559088	0.020515	Up	family with sequence similarity 83, member D	BGD:BT17424,GeneID:508561
FAM84A	-1.03033	0.010687	Down	family with sequence similarity 84, member A	BGD:BT19825,GeneID:539071
FANCD2	2.335168	0.000366	Up	Fanconi anemia, complementation group D2	BGD:BT19730,GeneID:515845
FBXO40	-4.58081	0.024333	Down	F-box protein 40	GeneID:613597
FCGR1A	1.411765	0.008735	Up	Fc fragment of IgG, high affinity Ia, receptor (CD64)	BGD:BT10956,GeneID:282227
FCGR2B	1.321547	0.003447	Up	Fc fragment of IgG, low affinity IIb, receptor (CD32)	GeneID:282229
FCN1	1.303495	0.030951	Up	ficolin (collagen/fibrinogen domain containing) 1	GeneID:497016
FEN1	1.085575	0.03392	Up	flap structure-specific endonuclease 1	BGD:BT21026,GeneID:616242
FGD2	1.048436	0.007191	Up	FYVE, RhoGEF and PH domain containing 2	BGD:BT12918,GeneID:512593
FGFBP1	-4.48498	0.031266	Down	fibroblast growth factor binding protein 1	BGD:BT24586,GeneID:281812
FKBP10	1.366425	0.002316	Up	FK506 binding protein 10, 65 kDa	BGD:BT28995,GeneID:535310
FLT3	1.039294	0.049237	Up		BGD:BT25776,GeneID:512700
FMO1	2.924366	3.59E-05	Up	flavin containing monooxygenase 1	BGD:BT18825,GeneID:508781
FN1	1.239441	0.035825	Up	fibronectin 1	BGD:BT12468,GeneID:280794
FNDC1	2.254941	0.015254	Up		GeneID:783891
FOLH1B	2.088478	0.00244	Up	folate hydrolase (prostate-specific membrane antigen) 1	BGD:BT24322,GeneID:505865
FOLR2	1.44289	0.002664	Up	folate receptor 2 (fetal)	BGD:BT15735,GeneID:507672
FOXI1	1.926063	0.00022	Up	forkhead box I1	BGD:BT29093,GeneID:539442
FOXJ1	4.282306	4.24E-11	Up	forkhead box J1	BGD:BT22182,GeneID:505891

FOXM1	2.918491	3.01E-05	Up		BGD:BT21637,GeneID:513643
FRY	-1.14432	0.010053	Down	furry homolog (Drosophila)	BGD:BT26539,GeneID:507622
FXYD4	2.419336	2.89E-06	Up		GeneID:100295639
FZD2	1.073793	0.039456	Up		GeneID:538507
FZD8	-1.40681	0.006795	Down		BGD:BT20356,GeneID:616913
GALNT15	-2.21144	0.005935	Down	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyltransferase-like 2	BGD:BT23598,GeneID:618078
GAT	#NAME?	0.042121	Down	glycine-N-acyltransferase-like	GeneID:280801
GCKR	-1.48827	0.025764	Down		GeneID:100140421
GCNT7	Inf	0.000447	Up		BGD:BT27823,GeneID:100138125
GDF11	1.207996	0.02499	Up		GeneID:540517
GGT5	-1.10283	0.024436	Down	gamma-glutamyltransferase 5	BGD:BT21196,GeneID:787326
GHRHR	-3.7222	0.032488	Down	growth hormone releasing hormone receptor	BGD:BT10946,GeneID:281782
GJB4	Inf	0.001194	Up	gap junction protein, beta 4, 30.3kDa	BGD:BT19680,GeneID:100140553
GLRX5	1.148624	0.028718	Up	glutaredoxin 5	BGD:BT12889,GeneID:505935
GLYCAM1	-10.7564	0.001329	Down	glycosylation-dependent cell adhesion molecule 1	BGD:BT10279,GeneID:282430
GNG13	4.657359	0.000422	Up	guanine nucleotide binding protein (G protein), gamma 13	BGD:BT28555,GeneID:517006
GOLGA7B	5.021283	3.74E-16	Up	golgin A7 family, member B	BGD:BT26746,GeneID:767832
GP2	-7.59375	0.005339	Down	glycoprotein 2 (zymogen granule membrane)	BGD:BT29851,GeneID:531420
GPC2	2.102959	0.04544	Up	glypican 2	BGD:BT26255,GeneID:618005
GPR126	1.373593	0.010124	Up		BGD:BT12092,GeneID:534326
GPR157	1.328249	0.039441	Up		BGD:BT20308,GeneID:538468
GPR31	2.032287	0.018918	Up		BGD:BT11979,GeneID:617303
GPR37	3.44708	2.01E-09	Up	G protein-coupled receptor 37 (endothelin receptor type B-like)	BGD:BT15357,GeneID:532626

GPR82		1.644144	0.034673	Up		GeneID:101904496
GPRC5A		-1.27696	0.042087	Down	G protein-coupled receptor, family C, group 5, member A	BGD:BT26869,GeneID:516026
GRAMD1B		-1.70793	0.008843	Down	GRAM domain containing 1B	BGD:BT16811,GeneID:517332
GRB14		2.160858	0.000214	Up	growth factor receptor-bound protein 14	BGD:BT14600,GeneID:497029
GREB1		5.717876	1.70E-08	Up	growth regulation by estrogen in breast cancer 1	BGD:BT30092,GeneID:508204
GRIK3		-1.35756	0.002463	Down	glutamate receptor, ionotropic, kainate 3	BGD:BT13277,GeneID:532553
GSTT1		1.562183	0.003878	Up	glutathione S-transferase theta 1	BGD:BT27381,GeneID:517724
HABP4		-1.01605	0.013706	Down	hyaluronan binding protein 4	BGD:BT29959,GeneID:514807
HCFC2		-1.10176	0.030028	Down	host cell factor C2	BGD:BT15399,GeneID:505341
HCK		1.695263	0.000608	Up	hemopoietic cell kinase	BGD:BT22241,GeneID:280814
HELLS		1.385296	0.018907	Up		BGD:BT13722,GeneID:540933
HJURP		2.649533	1.71E-05	Up		BGD:BT25604,GeneID:617456
HK3		1.479699	0.004349	Up	hexokinase 3 (white cell)	GeneID:510616
HLF		-1.97346	0.005732	Down	hepatic leukemia factor	BGD:BT15944,GeneID:516069
HMGB3		1.54123	0.001409	Up	high mobility group box 3	BGD:BT17434,GeneID:613729
HP		3.888524	3.45E-12	Up	haptoglobin	BGD:BT10702,GeneID:280692
HPDL		2.202446	0.004667	Up	4-hydroxyphenylpyruvate dioxygenase-like	BGD:BT20874,GeneID:513050
HPX		2.828672	0.048945	Up	hemopexin	BGD:BT23530,GeneID:534509
HS3ST1		3.577059	6.56E-11	Up	heparan sulfate (glucosamine) 3-O-sulfotransferase 1	BGD:BT29200,GeneID:538691
HSTN		-10.3759	3.77E-05	Down	histatherin	GeneID:100302500
HTRA3		1.988514	2.00E-05	Up		GeneID:100336523
HYDIN	Inf		0.000317	Up		GeneID:504406
IGFBP4		1.031143	0.010477	Up	insulin-like growth factor binding protein 4	BGD:BT18595,GeneID:282262
IGSF6		1.66638	0.011197	Up		GeneID:100140740

IGSF9		1.543365	0.014111	Up	immunoglobulin superfamily, member 9	BGD:BT16262,GeneID:504209
IGSF9B		-1.55596	0.016059	Down		BGD:BT18277,GeneID:517432
IKZF2		-1.21388	0.031365	Down		GeneID:786795
IL17B		1.245999	0.029503	Up	interleukin 17B	BGD:BT12377,GeneID:504992
IL1RN		2.132157	1.23E-05	Up	interleukin 1 receptor antagonist	BGD:BT18240,GeneID:281860
IL21R		1.291966	0.035527	Up	interleukin 21 receptor	BGD:BT10857,GeneID:617967
INO80D		-1.0285	0.036477	Down	INO80 complex subunit D	BGD:BT27908,GeneID:527199
INPP4B		-1.85948	0.043154	Down		BGD:BT24316,GeneID:534793
INPP5J		1.20071	0.027989	Up	inositol polyphosphate-5-phosphatase J	BGD:BT19061,GeneID:514307
IQGAP3		2.477106	0.000205	Up	IQ motif containing GTPase activating protein 3	GeneID:505886
IRS2		-1.26542	0.003863	Down		GeneID:100300012
ITGA7		2.006305	1.88E-05	Up	integrin, alpha 7	BGD:BT30331,GeneID:506953
ITIH4		2.112114	5.60E-05	Up	inter-alpha-trypsin inhibitor heavy chain family, member 4	BGD:BT23730,GeneID:513700
JAM2		-1.84102	0.029826	Down	junctional adhesion molecule 2	BGD:BT23127,GeneID:538846
KALRN		-1.51306	0.003571	Down	kalirin, RhoGEF kinase	BGD:BT14290,GeneID:540675
KANK4		1.241277	0.04578	Up	KN motif and ankyrin repeat domains 4	BGD:BT15081,GeneID:519027
KCNA2		-3.76898	0.002457	Down	potassium voltage-gated channel, shaker-related subfamily, member 2	BGD:BT16179,GeneID:539608
KCNA6		-1.25029	0.027928	Down	potassium voltage-gated channel, shaker-related subfamily, member 6	GeneID:539714
KCND3		-2.30712	2.51E-06	Down	potassium voltage-gated channel, Shal-related subfamily, member 3	BGD:BT12639,GeneID:539739
KCNE2	Inf		1.52E-05	Up	potassium voltage-gated channel, Isk-related family, member 2	BGD:BT25575,GeneID:768025
KCNE3		2.115042	0.006515	Up		BGD:BT27500,GeneID:527762

KCNE4	1.123546	0.027315	Up	potassium voltage-gated channel, Isk-related family, member 4	BGD:BT17890,GeneID:615761
KCNG2	2.309518	0.015256	Up		BGD:BT29826,GeneID:506324
KCNJ2	-1.63831	0.01236	Down	potassium inwardly-rectifying channel, subfamily J, member 2	BGD:BT29440,GeneID:281883
KCTD17	1.512309	0.00705	Up	potassium channel tetramerisation domain containing 17	BGD:BT28608,GeneID:614912
KERA	1.351016	0.002859	Up	keratocan	BGD:BT17212,GeneID:280785
KIAA0101	2.86004	1.91E-06	Up	KIAA0101 ortholog	GeneID:540737
KIAA1755	1.843311	0.001418	Up		GeneID:514211
KIF11	2.446337	2.12E-05	Up	kinesin family member 11	BGD:BT11323,GeneID:508467
KIF14	1.549125	0.029711	Up		BGD:BT13847,GeneID:531074
KIF15	2.555191	0.000226	Up	kinesin family member 15	BGD:BT24299,GeneID:541135
KIF18B	3.02448	0.000111	Up	kinesin family member 18B	BGD:BT14480,GeneID:511170
KIF20A	3.36354	1.35E-09	Up	kinesin family member 20A	BGD:BT19282,GeneID:527854
KIF22	1.492755	0.0024	Up	kinesin family member 22	BGD:BT21839,GeneID:506294
KIF23	1.341463	0.006095	Up	kinesin family member 23	BGD:BT13237,GeneID:515748
KIF2C	2.406737	0.001591	Up	kinesin family member 2C	BGD:BT10337,GeneID:533161
KIF4A	2.293451	0.000216	Up	kinesin family member 4A	BGD:BT16699,GeneID:537127
KIFC1	1.805599	0.000483	Up	kinesin family member C1	BGD:BT11313,GeneID:510995
KIRREL3	1.740624	0.047736	Up	kin of IRRE like 3 (Drosophila)	GeneID:618028
KITLG	-1.55983	0.002785	Down	KIT ligand	BGD:BT10206,GeneID:281885
KL	-3.57056	0.027944	Down	klotho	BGD:BT22543,GeneID:784635
KLF6	-1.37741	0.002053	Down	Kruppel-like factor 6	BGD:BT16079,GeneID:505884
KLF9	-1.28464	0.00451	Down	Kruppel-like factor 9	BGD:BT19203,GeneID:539139
KLHDC7A	-1.78489	0.008223	Down		GeneID:530171

KLHL6		1.358592	0.029352	Up		BGD:BT12780,GeneID:527363
KLK6		3.933869	6.50E-07	Up	kallikrein-related peptidase 6	BGD:BT19530,GeneID:532677
KNTC1		1.561716	0.00757	Up	kinetochore associated 1	BGD:BT21752,GeneID:506353
KRAS		-1.14698	0.012436	Down	v-Ki-ras2 Kirsten rat sarcoma viral oncogene homolog	BGD:BT12323,GeneID:541140
KRT14		2.054952	6.36E-05	Up	keratin 14	BGD:BT10402,GeneID:404111
KRT24		-7.25784	0.008145	Down	keratin 24	BGD:BT22910,GeneID:788424
KRT75		-6.21961	0.008342	Down	keratin 75	BGD:BT22732,GeneID:539683
LALBA		-10.5712	0.001529	Down	lactalbumin, alpha-	BGD:BT10559,GeneID:281894
LAMA1		4.750838	2.55E-10	Up		BGD:BT20177,GeneID:506387
LCN2		1.980425	0.000367	Up		GeneID:526639
LCNL1		2.025537	0.000264	Up		BGD:BT15579,GeneID:514980
LGALS7		1.166836	0.039912	Up		BGD:BT21055,GeneID:787811
LGR6		3.173393	1.34E-07	Up		GeneID:100336662
LIF		1.639863	0.043185	Up	leukemia inhibitory factor (cholinergic differentiation factor)	BGD:BT16756,GeneID:280840
LIFR		-1.13182	0.010328	Down	leukemia inhibitory factor receptor alpha	BGD:BT16256,GeneID:539504
LIN7A		-1.76117	0.040943	Down	lin-7 homolog A (C. elegans)	BGD:BT11465,GeneID:528379
LMNB1		1.60575	0.001942	Up	lamin B1	BGD:BT26250,GeneID:540643
LMTK2		-1.28068	0.038918	Down		GeneID:512290
LNPEP		-1.29557	0.003301	Down		GeneID:521633
LOC100196900		5.763269	6.85E-12	Up	uncharacterized LOC100196900	GeneID:100196900
LOC100299600		1.367869	0.002095	Up		GeneID:100299600
LOC100300716		1.613284	0.044635	Up		GeneID:100300716
LOC100300806		1.455027	0.029726	Up		GeneID:100300806
LOC100301381	Inf		0.002176	Up		GeneID:100301381

LOC100336584	-6.50985	0.003998	Down		GeneID:100336584
LOC100337296	1.677255	0.036939	Up		GeneID:100337296
LOC100337400	-1.30342	0.047239	Down		GeneID:100337400
LOC100847724	4.801894	0.00214	Up		GeneID:100847724
LOC100848610	-9.90246	0.030853	Down		GeneID:100848610
LOC100848815	1.404438	0.016443	Up		GeneID:100848815
LOC100850659	-2.03085	0.00624	Down		GeneID:100850659
LOC101902906	-3.88954	0.012477	Down		GeneID:101902906
LOC101903647	-1.94851	0.005258	Down		GeneID:101903647
LOC101905432	1.089518	0.020212	Up		GeneID:101905432
LOC101905743	#NAME?	0.020528	Down		GeneID:101905743
LOC101906311	-1.70104	0.046259	Down		GeneID:101906311
LOC101907438	1.748324	0.035165	Up		GeneID:101907438
LOC101907857	2.334912	0.046352	Up		GeneID:101907857
LOC104968712	-1.61008	0.000911	Down		GeneID:104968712
LOC104972380	-3.98099	0.044015	Down		GeneID:104972380
LOC404061	-5.34235	0.016834	Down		BGD:BT10130,GeneID:404061
LOC504806	2.30308	0.032705	Up		BGD:BT19844,GeneID:504806
LOC507706	5.679722	0.011373	Up		BGD:BT18332,GeneID:507706
LOC510193	-2.59572	0.010981	Down	apolipoprotein L, 3-like	BGD:BT19947,GeneID:510193
LOC510860	2.095815	0.008306	Up	C4b-binding protein alpha-like	BGD:BT23269,GeneID:510860
LOC511180	1.164642	0.017483	Up		BGD:BT15804,GeneID:511180
LOC513388	-3.18495	0.023551	Down		GeneID:513388
LOC513486	2.451255	0.046129	Up	RAD52 motif-containing protein 1-like	BGD:BT14533,GeneID:513486
LOC514194	1.315605	0.000712	Up	ceruloplasmin-like	BGD:BT27520,GeneID:514194
LOC515917	3.637807	0.04333	Up		BGD:BT26644,GeneID:515917

LOC516849	-9.23485	0.013227	Down		BGD:BT22319,GeneID:516849
LOC520966	-2.15163	0.004165	Down		GeneID:520966
LOC524576	2.240356	0.020759	Up		BGD:BT15917,GeneID:524576
LOC525599	1.902633	7.08E-07	Up	butyrophilin family member	BGD:BT24234,GeneID:525599
LOC525947	1.734409	0.032904	Up	serotransferrin-like	BGD:BT19690,GeneID:525947
LOC527068	-2.41098	0.028126	Down	aldo-keto reductase family 1 member C3 -like	BGD:BT13319,GeneID:527068
LOC534967	2.275715	0.003445	Up	leukotriene-B(4) omega-hydroxylase 2-like	BGD:BT15190,GeneID:534967
LOC613822	1.245262	0.040547	Up		GeneID:613822
LOC617141	-1.25697	0.029161	Down		BGD:BT23876,GeneID:617141
LOC617696	1.942658	0.000857	Up		GeneID:617696
LOC617702	1.250689	0.007874	Up		BGD:BT26018,GeneID:617702
LOC782755	-2.10104	0.034855	Down		GeneID:782755
LOC785756	1.995799	0.047891	Up	androgen binding protein beta-like	BGD:BT27760,GeneID:785756
LOC786760	-5.72755	0.021542	Down		GeneID:786760
LOC788637	-1.43887	0.00493	Down		BGD:BT22862,GeneID:788637
LOC789175	2.970899	0.00594	Up	beta-defensin 103B-like	GeneID:789175
LPAR3	1.796436	0.038412	Up	lysophosphatidic acid receptor 3	BGD:BT17873,GeneID:532829
LPO	-9.81299	0.000576	Down	lactoperoxidase	BGD:BT12484,GeneID:280844
LPPR1	1.486125	0.026324	Up	lipid phosphate phosphatase-related protein type 1	BGD:BT23254,GeneID:515209
LRFN4	1.390773	0.017587	Up	leucine rich repeat and fibronectin type III domain containing 4	BGD:BT19584,GeneID:530084
LRG1	4.51703	0.000229	Up	leucine-rich alpha-2-glycoprotein 1	BGD:BT29599,GeneID:514663
LRP2	4.408415	5.22E-06	Up		GeneID:100337021
LRP3	-3.54791	0.048541	Down		GeneID:100301323
LRRC15	3.563899	2.05E-08	Up		GeneID:100848949
LRRC3B	-1.39397	0.009602	Down	leucine rich repeat containing 3B	BGD:BT18669,GeneID:783571

LRRC58		-1.42199	0.005012	Down	leucine rich repeat containing 58	BGD:BT23873,GeneID:535725
LRRC75B		-2.6944	0.015351	Down		GeneID:101902409
LSAMP		-3.4151	0.003177	Down	neuronal growth regulator 1-like	BGD:BT21504,GeneID:100336456
LST1		1.315693	0.039148	Up		GeneID:100296268
LYG2		5.766771	0.008091	Up	lysozyme G-like 2	BGD:BT11219,GeneID:536852
MAFF		-1.01983	0.018067	Down	v-maf musculoaponeurotic fibrosarcoma oncogene homolog F (avian)	BGD:BT22707,GeneID:617914
MAG	Inf		0.03781	Up	myelin associated glycoprotein	GeneID:540576
MAK		2.367526	0.009908	Up	male germ cell-associated kinase	BGD:BT17487,GeneID:536048
MAP1LC3C		3.385932	0.019199	Up	microtubule-associated proteins 1A/1B light chain 3C-like	BGD:BT19901,GeneID:507432
MASTL		1.921577	0.03041	Up	microtubule associated serine/threonine kinase-like	BGD:BT24071,GeneID:540206
MBNL2		-1.17463	0.020384	Down	muscleblind-like 2 (Drosophila)	GeneID:527679
MBNL3		-1.38196	0.005578	Down	muscleblind-like 3 (Drosophila)	BGD:BT24150,GeneID:540550
MCHR1		2.830933	0.000147	Up	melanin-concentrating hormone receptor 1	BGD:BT21699,GeneID:540119
MCM2		1.723253	0.000972	Up		BGD:BT30474,GeneID:510120
MCM3		1.368268	0.017149	Up	minichromosome maintenance complex component 3	BGD:BT18197,GeneID:281302
MDFI		1.377769	0.022287	Up	MyoD family inhibitor	BGD:BT30096,GeneID:286808
MDK		1.681391	0.00184	Up	midkine (neurite growth-promoting factor 2)	BGD:BT19041,GeneID:280852
ME1		1.284699	0.02566	Up	malic enzyme 1, NADP(+)-dependent, cytosolic	BGD:BT12316,GeneID:540985
MEF2C		-1.40861	0.04263	Down	myocyte enhancer factor 2C	BGD:BT26127,GeneID:512254
MELK		1.770541	0.046345	Up	maternal embryonic leucine zipper kinase	BGD:BT18773,GeneID:520088
MEX3A		2.77829	0.001852	Up	mex-3 homolog A (C. elegans)	BGD:BT20334,GeneID:618154
MFAP3L		1.608579	0.005328	Up	microfibrillar-associated protein 3-like	BGD:BT21262,GeneID:529443
MGC139164		-1.38467	0.034243	Down	uncharacterized LOC509649	BGD:BT13316,GeneID:509649

MIC1		-1.21956	0.034449	Down	major histocompatibility class I related protein	BGD:BT12102,GeneID:533051
MILR1		1.182806	0.017292	Up		GeneID:789682
MIS18A		2.615951	0.016788	Up	MIS18 kinetochore protein homolog A (S. pombe)	BGD:BT10547,GeneID:510809
MIS18BP1		2.179289	0.005141	Up	MIS18 binding protein 1	BGD:BT26880,GeneID:507661
MKI67		2.469771	1.89E-08	Up		BGD:BT29460,GeneID:513220
MLLT3		-1.24084	0.004136	Down	myeloid/lymphoid or mixed-lineage leukemia (trithorax homolog, Drosophila); translocated to, 3	BGD:BT10597,GeneID:521962
MLXIPL		-3.07947	0.049518	Down	MLX interacting protein-like	BGD:BT20624,GeneID:788534
MME		1.257012	0.003181	Up	membrane metallo-endopeptidase	BGD:BT19724,GeneID:536741
MMP12		5.578465	5.51E-05	Up	matrix metallopeptidase 12 (macrophage elastase)	BGD:BT11597,GeneID:526981
MMP13	Inf		4.36E-05	Up	matrix metallopeptidase 13 (collagenase 3)	BGD:BT10004,GeneID:281914
MMP19		1.16667	0.007936	Up	matrix metallopeptidase 19	BGD:BT10746,GeneID:533203
MMP27		2.80854	0.041974	Up	matrix metallopeptidase 27	BGD:BT23130,GeneID:518487
MMP7		4.019175	3.89E-08	Up	matrix metallopeptidase 7 (matrilysin, uterine)	BGD:BT10674,GeneID:286794
MMP9		4.942272	1.26E-05	Up	matrix metallopeptidase 9 (gelatinase B, 92kDa gelatinase, 92kDa type IV collagenase)	BGD:BT11364,GeneID:282871
MND1		1.962282	0.009853	Up	meiotic nuclear divisions 1 homolog (S. cerevisiae)	BGD:BT30387,GeneID:618239
MOCS1		-2.03232	0.046312	Down	molybdenum cofactor synthesis 1	BGD:BT29886,GeneID:281917
MOXD1		1.263258	0.02793	Up		BGD:BT24727,GeneID:507076
MPEG1		1.212993	0.009277	Up	macrophage expressed 1	GeneID:539997
MROH2B		-7.11339	0.047939	Down		BGD:BT19678,GeneID:518808
MS4A7		1.650374	0.006086	Up	membrane-spanning 4-domains, subfamily A, member 7	BGD:BT18118,GeneID:767975
MS4A8		1.013411	0.038923	Up	membrane-spanning 4-domains, subfamily A, member 8B	BGD:BT27491,GeneID:415111
M-SAA3.2		3.143562	3.36E-05	Up	mammary serum amyloid A3.2	BGD:BT10151,GeneID:618238

MSLN	3.983617	0.002252	Up	mesothelin	BGD:BT13178,GeneID:516237
MT1A	3.226815	4.90E-05	Up	metallothionein-1A	GeneID:404071
MTFR2	2.8367	0.017885	Up	family with sequence similarity 54, member A	BGD:BT18852,GeneID:534254
MTHFD1L	1.025554	0.01887	Up	methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 1-like	BGD:BT17891,GeneID:534296
MTMR10	-1.04291	0.027492	Down	myotubularin related protein 10	BGD:BT16029,GeneID:615443
MTURN	-1.53838	0.021469	Down	maturin, neural progenitor differentiation regulator homolog (Xenopus)	GeneID:615685
MUC1	-6.17251	0.009892	Down	mucin 1, cell surface associated	GeneID:281333
MXD3	1.94363	0.004532	Up	MAX dimerization protein 3	BGD:BT21953,GeneID:533359
MXRA5	1.144665	0.046939	Up		BGD:BT19396,GeneID:786844
MYB	3.47514	3.06E-10	Up	v-myb myeloblastosis viral oncogene homolog (avian)	BGD:BT11241,GeneID:317776
MYBPC1	-8.61245	0.013334	Down	myosin binding protein C, slow type	GeneID:510763
MYH2	-5.75596	0.032721	Down	myosin, heavy chain 2, skeletal muscle, adult	BGD:BT11534,GeneID:788772
MYH7B	-1.20635	0.020678	Down		GeneID:521764
N4BP2L1	-1.41457	0.001249	Down	NEDD4 binding protein 2-like 1	BGD:BT28733,GeneID:616069
NAPSA	1.156699	0.024435	Up		BGD:BT19957,GeneID:539259
NAT16	4.714627	0.002303	Up		GeneID:100139949
NCF1	1.745927	0.001667	Up	neutrophil cytosolic factor 1	BGD:BT29391,GeneID:281345
NCF2	1.280662	0.020216	Up	neutrophil cytosolic factor 2	BGD:BT27828,GeneID:281346
NCF4	1.154681	0.005284	Up	neutrophil cytosolic factor 4, 40kDa	BGD:BT19103,GeneID:507859
NCKAP1L	1.028431	0.046948	Up	NCK-associated protein 1-like	BGD:BT30193,GeneID:513641
NDC80	3.048764	0.000173	Up	NDC80 homolog, kinetochore complex component (S. cerevisiae)	BGD:BT13798,GeneID:538789
NDRG4	-2.73064	0.039562	Down	NDRG family member 4	BGD:BT13774,GeneID:515033

NEFM	5.394827	0.001022	Up	neurofilament, medium polypeptide	BGD:BT17405,GeneID:281347
NEK2	2.842867	0.000521	Up	NIMA (never in mitosis gene a)-related kinase 2	BGD:BT29579,GeneID:523998
NEURL1	1.986825	0.008249	Up	neuralized homolog (Drosophila)	GeneID:510334
NFE2	2.196992	0.001328	Up	nuclear factor (erythroid-derived 2), 45kDa	BGD:BT25207,GeneID:514006
NGEF	1.798234	0.03737	Up	neuronal guanine nucleotide exchange factor	BGD:BT22300,GeneID:540756
NGFR	2.361709	3.98E-05	Up	nerve growth factor receptor	BGD:BT14859,GeneID:353110
NIPAL1	-1.66586	0.002166	Down	NIPA-like domain containing 1	BGD:BT29812,GeneID:539757
NKAIN2	3.321085	0.008109	Up	Na+/K+ transporting ATPase interacting 2	BGD:BT27150,GeneID:787444
NLRC4	1.40791	0.014866	Up	NLR family, CARD domain containing 4	BGD:BT12232,GeneID:512480
NLRP1	1.207436	0.019534	Up		GeneID:528166
NPM3	1.167001	0.01737	Up	nucleophosmin/nucleoplasmin 3	BGD:BT29626,GeneID:504950
NR1D2	-1.25302	0.001112	Down	nuclear receptor subfamily 1, group D, member 2	BGD:BT13154,GeneID:532076
NT5C3B	1.175251	0.042539	Up	5'-nucleotidase, cytosolic III-like	BGD:BT13954,GeneID:511449
NT5DC2	1.296755	0.006368	Up		GeneID:514296
NT5M	1.115904	0.044506	Up	5',3'-nucleotidase, mitochondrial	BGD:BT14904,GeneID:616992
NUPR1	-2.35935	0.034523	Down	nuclear protein, transcriptional regulator, 1	BGD:BT19263,GeneID:614673
NUSAP1	2.01575	0.000721	Up	nucleolar and spindle associated protein 1	BGD:BT14848,GeneID:616028
NXPE2	-10.3875	0.003027	Down		BGD:BT17275,GeneID:782358
OLFM2	1.622596	0.020116	Up	olfactomedin 2	BGD:BT18265,GeneID:507252
OLFML2B	1.301815	0.013684	Up	olfactomedin-like 2B	BGD:BT18819,GeneID:513053
ORC1	2.649439	0.000492	Up	origin recognition complex, subunit 1	GeneID:513523
ORM1	8.387548	0.002156	Up	orosomucoid 1	GeneID:497200
OSBPL8	-1.00116	0.011852	Down		GeneID:533350
OSCAR	2.04047	0.041712	Up		GeneID:100336423
P2RX3	1.646605	0.02305	Up		BGD:BT13525,GeneID:530468
P2RY12	2.165591	0.013091	Up	purinergic receptor P2Y, G-protein coupled, 12	BGD:BT23976,GeneID:408007

P2RY13	1.837607	0.014694	Up	purinergic receptor P2Y, G-protein coupled, 13	BGD:BT22579,GeneID:782774
P2RY6	1.613384	0.007121	Up	pyrimidinergic receptor P2Y, G-protein coupled, 6	BGD:BT17537,GeneID:539703
P3H4	1.629369	0.000653	Up		GeneID:788823
PAEP	-7.48072	0.005143	Down	progestagen-associated endometrial protein	BGD:BT10129,GeneID:280838
PAPPA2	2.347534	6.23E-07	Up		BGD:BT26739,GeneID:538320
PAQR7	1.64643	0.005573	Up	progestin and adipoQ receptor family member VII	BGD:BT29031,GeneID:522932
PBK	1.910256	0.017556	Up	PDZ binding kinase	BGD:BT21676,GeneID:534781
PCDHA13	1.300694	0.016888	Up	protocadherin alpha 13	BGD:BT19025,GeneID:523226
PCDHB15	-1.48799	0.003285	Down		BGD:BT25508,GeneID:786553
PCGF5	-1.35243	0.002143	Down	polycomb group ring finger 5	GeneID:528946
PDCD1	1.4712	0.002199	Up	programmed cell death 1	BGD:BT17846,GeneID:613842
PDE3A	-1.04012	0.040122	Down		BGD:BT15654,GeneID:536636
PDE3B	-1.31404	0.008315	Down		BGD:BT17078,GeneID:533323
PDZD2	-1.75415	8.12E-05	Down		BGD:BT24035,GeneID:516852
PDZD4	1.374971	0.031714	Up	PDZ domain containing 4	BGD:BT16050,GeneID:538475
PDZK1	3.051661	3.26E-08	Up	PDZ domain containing 1	BGD:BT10985,GeneID:534439
PDZRN3	1.196056	0.044275	Up		BGD:BT15499,GeneID:509083
PER2	-1.23628	0.011436	Down	period circadian clock 2	BGD:BT24722,GeneID:512237
PHACTR2	-1.67203	0.016991	Down		BGD:BT23775,GeneID:522158
PHYHIPL	#NAME?	0.023872	Down	phytanoyl-CoA 2-hydroxylase interacting protein-like	BGD:BT10075,GeneID:780878
PIEZO2	1.295905	0.035374	Up		GeneID:522631
PITPNM3	1.854843	0.009381	Up		GeneID:518986
PKDCC	1.3143	0.006454	Up	protein kinase domain containing, cytoplasmic homolog (mouse)	GeneID:539467
PKMYT1	1.995713	0.000586	Up		BGD:BT15374,GeneID:522613

PLA2G2D4	3.728891	0.033474	Up	calcium-dependent phospholipase A2 PLA2G2D4	BGD:BT10414,GeneID:503625
PLA2G5	2.499356	6.83E-07	Up	phospholipase A2, group V	BGD:BT28059,GeneID:614911
PLAC8	1.507066	0.029735	Up	placenta-specific 8	BGD:BT21347,GeneID:767910
PLAG1	-1.27773	0.033516	Down		BGD:BT22546,GeneID:539210
PLB1	1.256329	0.019777	Up		BGD:BT15486,GeneID:506508
PLBD1	1.120194	0.014928	Up	phospholipase B domain containing 1	GeneID:317710
PLCH1	2.061283	0.002681	Up		BGD:BT23326,GeneID:513565
PLCXD1	2.763105	6.94E-05	Up	phosphatidylinositol-specific phospholipase C, X domain containing 1	GeneID:100125761
PLD4	1.007978	0.005864	Up		BGD:BT18141,GeneID:789315
PLEK	1.413062	0.004687	Up	pleckstrin	BGD:BT27741,GeneID:518658
PLEK2	1.590926	0.002391	Up	pleckstrin 2	BGD:BT28727,GeneID:784941
PLOD2	1.009802	0.039733	Up	procollagen-lysine, 2-oxoglutarate 5-dioxygenase 2	BGD:BT17401,GeneID:533642
PLSCR1	-1.07678	0.046352	Down	phospholipid scramblase 1	BGD:BT15332,GeneID:513193
PLTP	1.173936	0.017578	Up	phospholipid transfer protein	BGD:BT11362,GeneID:505640
PLXDC1	1.148835	0.042043	Up	plexin domain containing 1	BGD:BT18539,GeneID:536989
PLXNC1	1.531754	0.013539	Up	plexin C1	BGD:BT26524,GeneID:518168
PMAIP1	-1.23546	0.024515	Down		GeneID:100296226
PNMT	5.919289	1.39E-19	Up	phenylethanolamine N-methyltransferase	BGD:BT23498,GeneID:281413
POF1B	-1.19899	0.026673	Down		GeneID:614768
POLE	1.815442	7.35E-05	Up	polymerase (DNA directed), epsilon, catalytic subunit	GeneID:785457
PORCN	3.046677	2.94E-06	Up	porcupine homolog (Drosophila)	GeneID:540373
POSTN	1.164062	0.033337	Up	periostin, osteoblast specific factor	BGD:BT11935,GeneID:281960
PPAPDC1A	2.87981	0.019412	Up	phosphatidic acid phosphatase type 2 domain containing 1A	BGD:BT13454,GeneID:529067

PPM1K	-1.21588	0.004153	Down	protein phosphatase, Mg2+/Mn2+ dependent, 1K	BGD:BT21228,GeneID:540329
PRELP	1.010693	0.041063	Up	proline/arginine-rich end leucine-rich repeat protein	BGD:BT26498,GeneID:282000
PREX2	-1.49409	0.034132	Down	phosphatidylinositol-3,4,5-trisphosphate-dependent Rac exchange factor 2	BGD:BT13634,GeneID:520704
PRKCB	1.464456	0.007228	Up	protein kinase C, beta	BGD:BT10706,GeneID:282325
PROK1	-5.56284	0.01757	Down	prokineticin 1	BGD:BT13263,GeneID:617599
PROKR1	2.251561	0.000778	Up	prokineticin receptor 1	BGD:BT25220,GeneID:281800
PROSER3	1.505545	0.009914	Up		GeneID:785831
PROX1	-2.48358	0.030013	Down	prospero homeobox 1	BGD:BT18526,GeneID:515324
PRR27	#NAME?	0.013093	Down		GeneID:100298118
PRRG1	-1.06694	0.034396	Down	proline rich Gla (G-carboxyglutamic acid) 1	BGD:BT22839,GeneID:785916
PRSS22	2.169274	0.001158	Up		BGD:BT27827,GeneID:510394
PRSS35	1.544747	0.01036	Up	protease, serine, 35	BGD:BT13220,GeneID:614940
PSMB9	1.158329	0.015874	Up	proteasome (prosome, macropain) subunit, beta type, 9 (large multifunctional peptidase 2)	BGD:BT10407,GeneID:510593
PSRC1	1.141755	0.048317	Up	proline/serine-rich coiled-coil 1	BGD:BT25579,GeneID:541250
PTBP3	-1.01978	0.024761	Down		GeneID:104968451
PTCH2	1.400048	0.007325	Up		BGD:BT19626,GeneID:507948
PTHLH	-6.80493	0.022785	Down	parathyroid hormone-like hormone	BGD:BT14249,GeneID:286767
PTK7	1.341529	0.011516	Up	PTK7 protein tyrosine kinase 7	BGD:BT17889,GeneID:514819
PTPN14	-1.12432	0.009519	Down	protein tyrosine phosphatase, non-receptor type 14	BGD:BT22427,GeneID:518798
PTPRD	1.956672	0.000603	Up		BGD:BT28547,GeneID:532751
PTPRG	-1.06676	0.027464	Down	protein tyrosine phosphatase, receptor type, G	BGD:BT19654,GeneID:540575
PTPRO	2.953792	0.010771	Up		BGD:BT21742,GeneID:541043
PTTG1	2.388067	0.002761	Up		GeneID:100848911

PUSL1	1.195181	0.04658	Up		BGD:BT25858,GeneID:617640
PYCARD	1.612292	0.004717	Up	PYD and CARD domain containing	BGD:BT14986,GeneID:282846
RAB11FIP1	-1.07037	0.030115	Down		BGD:BT17143,GeneID:518839
RAD54L	1.539234	0.017778	Up	RAD54-like (S. cerevisiae)	BGD:BT26381,GeneID:100140639
RAMP1	2.647978	7.95E-05	Up	receptor (G protein-coupled) activity modifying protein 1	GeneID:617017
RAPGEF5	-1.13427	0.031034	Down		BGD:BT26168,GeneID:519566
RARRES1	1.182411	0.037422	Up	retinoic acid receptor responder (tazarotene induced) 1	BGD:BT25519,GeneID:510102
RCOR2	1.170009	0.030866	Up	REST corepressor 2	BGD:BT21908,GeneID:541233
RDH12	-6.4916	0.040152	Down	retinol dehydrogenase 12 (all-trans/9-cis/11-cis)	BGD:BT11404,GeneID:369021
RECQL4	1.600781	0.004623	Up	RecQ protein-like 4	BGD:BT27211,GeneID:515472
RGS10	1.576222	0.005916	Up	regulator of G-protein signaling 10	BGD:BT22686,GeneID:614550
RGS11	2.398478	0.000884	Up	regulator of G-protein signaling 11	BGD:BT21277,GeneID:521040
RGS4	2.968501	1.32E-09	Up	regulator of G-protein signaling 4	GeneID:617437
RHBDL3	1.685512	0.016762	Up		BGD:BT15757,GeneID:535623
RIPPLY3	2.724621	0.019648	Up		GeneID:100335484
RNASE10	-1.25301	0.012115	Down		BGD:BT11095,GeneID:100140137
RNASE6	1.559974	0.000723	Up	ribonuclease, RNase A family, k6	BGD:BT11567,GeneID:282341
ROM1	1.163611	0.021329	Up	retinal outer segment membrane protein 1	BGD:BT28975,GeneID:281465
RRM2	2.485724	3.84E-06	Up	ribonucleotide reductase M2	BGD:BT19334,GeneID:508167
RSPH1	5.629947	0.013467	Up	radial spoke head 1 homolog (Chlamydomonas)	GeneID:514556
RSPO1	4.443757	1.64E-14	Up	R-spondin 1	BGD:BT20367,GeneID:511675
RUNDC3B	-1.89808	0.045679	Down	RUN domain containing 3B	BGD:BT27714,GeneID:525116
S100A12	1.913367	0.01531	Up	S100 calcium binding protein A12	BGD:BT11315,GeneID:282467
S100A2	1.607656	0.007185	Up	S100 calcium binding protein A2	BGD:BT12147,GeneID:509860

S100A8	2.722478	0.003643	Up	S100 calcium binding protein A8	BGD:BT10757,GeneID:616818
S100A9	4.085774	3.84E-14	Up	S100 calcium binding protein A9	GeneID:532569
S1PR5	1.708273	0.009594	Up	sphingosine-1-phosphate receptor 5	BGD:BT25440,GeneID:517533
SAA3	3.739817	0.000353	Up	serum amyloid A 3	BGD:BT11656,GeneID:281474
SAPCD2	1.898239	0.001091	Up		GeneID:100299080
SCARA3	1.398697	0.020049	Up		BGD:BT28589,GeneID:541156
SCG2	4.722915	0.013917	Up	secretogranin II	BGD:BT10599,GeneID:281477
SCN3A	1.620483	0.004714	Up		BGD:BT19303,GeneID:534223
SCN7A	-3.94237	0.032914	Down		BGD:BT19486,GeneID:507516
SERPINA1	1.417234	0.008849	Up	serpin peptidase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), member 1	BGD:BT10021,GeneID:280699
SERPINA11	2.046582	3.10E-06	Up	serpin peptidase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), member 11	BGD:BT25915,GeneID:538280
SERPINA3-1	5.721601	1.34E-05	Up	serpin peptidase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), member 3	BGD:BT18817,GeneID:286804
SERPINA5	1.711722	0.000366	Up	serpin peptidase inhibitor, clade A (alpha-1 antiproteinase, antitrypsin), member 5	BGD:BT11145,GeneID:338050
SERPINE2	1.313105	0.003789	Up	serpin peptidase inhibitor, clade E (nexin, plasminogen activator inhibitor type 1), member 2	BGD:BT22167,GeneID:282521
SERPINH1	1.007672	0.003152	Up	serpin peptidase inhibitor, clade H (heat shock protein 47), member 1, (collagen binding protein 1)	BGD:BT18583,GeneID:510850
SETD7	-1.43513	0.006325	Down		GeneID:515928
SFXN5	1.066338	0.049826	Up	sideroflexin 5	BGD:BT29274,GeneID:528468
SGOL1	1.708656	0.028904	Up	shugoshin-like 1 (S. pombe)	BGD:BT21934,GeneID:614056
SH2B2	1.721693	0.002013	Up		BGD:BT16370,GeneID:617840

SH2D5	2.626473	0.000807	Up	SH2 domain containing 5	GeneID:789769
SHE	-2.1151	0.006101	Down	Src homology 2 domain containing E	BGD:BT21121,GeneID:617777
SHISA2	1.534238	0.007392	Up	shisa homolog 2 (Xenopus laevis)	BGD:BT15999,GeneID:617336
SHISA3	-4.13212	0.028932	Down	shisa homolog 3 (Xenopus laevis)	BGD:BT21082,GeneID:781091
SHISA9	2.849115	0.004788	Up	shisa homolog 9 (Xenopus laevis)	BGD:BT19260,GeneID:100139490
SHOX2	1.883384	0.00387	Up	short stature homeobox 2	BGD:BT14115,GeneID:525900
SIGLEC14	1.685352	0.012662	Up		GeneID:512863
SIGLEC15	2.732677	0.013973	Up	sialic acid binding Ig-like lectin 15	BGD:BT18887,GeneID:522776
SIRPB2	1.130804	0.042755	Up		GeneID:786236
SLAMF8	1.811598	0.004286	Up	SLAM family member 8	BGD:BT22992,GeneID:514609
SLC10A6	-1.66136	0.002023	Down	solute carrier family 10 (sodium/bile acid cotransporter family), member 6	BGD:BT24260,GeneID:540841
SLC12A3	3.03897	0.003582	Up	solute carrier family 12 (sodium/chloride transporters), member 3	BGD:BT23365,GeneID:404171
SLC13A5	1.906522	0.029426	Up	solute carrier family 13 (sodium-dependent citrate transporter), member 5	BGD:BT17452,GeneID:507000
SLC15A3	1.029622	0.015568	Up		BGD:BT21631,GeneID:513984
SLC16A3	1.258802	0.041877	Up	solute carrier family 16, member 3 (monocarboxylic acid transporter 4)	BGD:BT24513,GeneID:510085
SLC16A9	1.864157	0.01356	Up		BGD:BT15677,GeneID:539514
SLC17A5	-1.05731	0.048231	Down	solute carrier family 17 (anion/sugar transporter), member 5	BGD:BT29788,GeneID:530164
SLC1A3	1.457645	0.041026	Up	solute carrier family 1 (glial high affinity glutamate transporter), member 3	BGD:BT12286,GeneID:282354
SLC22A3	3.281636	0.001515	Up		GeneID:535665
SLC26A2	1.12502	0.010444	Up	solute carrier family 26 (sulfate transporter),	BGD:BT15710,GeneID:513953

				member 2	
SLC26A7	-1.31374	0.033842	Down	solute carrier family 26, member 7	BGD:BT21060,GeneID:617196
SLC27A6	-3.04139	0.042996	Down	solute carrier family 27 (fatty acid transporter), member 6	BGD:BT26280,GeneID:537062
SLC29A1	-1.2692	0.022684	Down	solute carrier family 29 (nucleoside transporters), member 1	BGD:BT16594,GeneID:510932
SLC2A5	2.870079	5.61E-07	Up	solute carrier family 2 (facilitated glucose/fructose transporter), member 5	BGD:BT12085,GeneID:282868
SLC30A2	-6.05693	0.035352	Down	solute carrier family 30 (zinc transporter), member 2	BGD:BT19763,GeneID:511061
SLC36A4	-1.13788	0.010708	Down	solute carrier family 36 (proton/amino acid symporter), member 4	GeneID:616864
SLC37A2	2.130561	8.93E-06	Up	solute carrier family 37 (glycerol-3-phosphate transporter), member 2	BGD:BT20538,GeneID:506687
SLC38A3	-5.49421	0.019459	Down	solute carrier family 38, member 3	BGD:BT10512,GeneID:326576
SLC39A12	-6.96004	0.031495	Down	solute carrier family 39 (zinc transporter), member 12	BGD:BT14277,GeneID:527210
SLC44A4	2.170384	0.003732	Up	solute carrier family 44, member 4	BGD:BT10283,GeneID:520625
SLC46A3	-1.10878	0.044725	Down	solute carrier family 46, member 3	GeneID:781117
SLC4A3	1.73796	0.000439	Up	solute carrier family 4, anion exchanger, member 3	BGD:BT22875,GeneID:535049
SLC6A14	1.58367	0.013684	Up	solute carrier family 6 (amino acid transporter), member 14	BGD:BT24819,GeneID:511661
SLC6A4	-3.78774	0.005866	Down	solute carrier family 6 (neurotransmitter transporter, serotonin), member 4	GeneID:282365
SLIT1	2.208141	0.018627	Up		BGD:BT19931,GeneID:510761
SLITRK5	3.327844	0.019535	Up		BGD:BT23874,GeneID:781586

SMKR1	2.024602	0.003289	Up		BGD:BT19523,GeneID:784270
SNRK	-1.53332	0.003529	Down		GeneID:536909
SOGA3	4.489959	0.043429	Up		BGD:BT20200,GeneID:535392
SORCS2	1.66269	0.000945	Up		GeneID:618257
SOSTDC1	1.013206	0.028544	Up	sclerostin domain containing 1	BGD:BT26100,GeneID:523184
SOX12	1.103139	0.038897	Up		GeneID:101905202
SOX5	-1.10076	0.021449	Down	SRY (sex determining region Y)-box 5	BGD:BT17169,GeneID:533829
SP6	2.002243	0.000943	Up		BGD:BT12638,GeneID:540288
SPADH1	-5.48523	0.031682	Down	spermadhesin 1	BGD:BT25513,GeneID:282373
SPAG16	-1.80977	0.040886	Down		BGD:BT22052,GeneID:522957
SPAG5	2.715096	4.39E-06	Up	sperm associated antigen 5	BGD:BT20257,GeneID:504585
SPC24	2.191338	0.000351	Up	SPC24, NDC80 kinetochore complex component, homolog (S. cerevisiae)	BGD:BT27408,GeneID:509117
SPEF1	1.254478	0.014532	Up	sperm flagellar 1	BGD:BT13720,GeneID:512410
SPHKAP	1.159873	0.008465	Up		BGD:BT22312,GeneID:540759
SPI1	1.518831	0.00207	Up	spleen focus forming virus (SFFV) proviral integration oncogene spi1	BGD:BT20324,GeneID:507100
SRCIN1	2.35222	0.013311	Up		BGD:BT25307,GeneID:535629
SRD5A1	1.639552	0.001182	Up	steroid-5-alpha-reductase, alpha polypeptide 1 (3-oxo-5 alpha-steroid delta 4-dehydrogenase alpha 1)	BGD:BT22366,GeneID:614612
SREK1IP1	-1.20428	0.020555	Down	SREK1-interacting protein 1	BGD:BT14076,GeneID:614029
ST6GALNAC3	-3.27487	0.008966	Down		GeneID:782689
STAG3	1.474236	0.018964	Up	stromal antigen 3	BGD:BT21957,GeneID:515399
STATH	-6.44702	0.036355	Down	statherin	BGD:BT12436,GeneID:286765
STEAP1	1.707473	0.005676	Up	six transmembrane epithelial antigen of the prostate 1	BGD:BT23219,GeneID:515156

STK17A		-1.14711	0.033932	Down	serine/threonine kinase 17a	GeneID:513665
STMN1		1.573019	0.004755	Up	stathmin 1	BGD:BT21052,GeneID:616317
STRA6		2.095592	1.18E-05	Up	stimulated by retinoic acid gene 6 homolog (mouse)	BGD:BT12061,GeneID:515911
STX19		-1.11714	0.040011	Down	syntaxin 19	BGD:BT27394,GeneID:514487
STXBP6		-1.36244	0.007787	Down	syntaxin binding protein 6 (amisyn)	BGD:BT24243,GeneID:534718
SUCNR1		-2.33169	0.027398	Down		GeneID:539622
SVIP		-2.01747	0.002366	Down		GeneID:100300295
SYNDIG1		-1.43693	0.006721	Down	synapse differentiation inducing 1	GeneID:541217
SYT15		-1.94807	0.035236	Down	synaptotagmin XV	BGD:BT15322,GeneID:529391
SYT7		-1.21843	0.030218	Down		BGD:BT13336,GeneID:540850
SYT8		5.298512	2.89E-20	Up		GeneID:613562
TACC3		1.66497	0.000445	Up	transforming, acidic coiled-coil containing protein 3	BGD:BT24010,GeneID:506194
TAGAP		1.178318	0.026102	Up	T-cell activation RhoGTPase activating protein	GeneID:509236
TAP		6.127396	0.012902	Up	tracheal antimicrobial peptide	BGD:BT10927,GeneID:286837
TCN1	Inf		0.002452	Up	transcobalamin I (vitamin B12 binding protein, R binder family)	BGD:BT16712,GeneID:616239
TDRD6		1.942399	0.041031	Up	tudor domain containing 6	BGD:BT24179,GeneID:512705
TENM2		1.043936	0.041348	Up		BGD:BT13215,GeneID:100138541
TFEC		1.787886	0.011421	Up	transcription factor EC	BGD:BT14768,GeneID:539016
TGFBI		1.769176	0.000193	Up	transforming growth factor, beta-induced, 68kDa	GeneID:539596
TGFBR3		-1.17583	0.012495	Down		BGD:BT11550,GeneID:784894
TGM3		1.557651	0.018267	Up	transglutaminase 3 (E polypeptide, protein-glutamine-gamma-glutamyltransferase)	BGD:BT28536,GeneID:505080
THEM6		1.811275	0.011053	Up	thioesterase superfamily member 6	GeneID:516073

TIAM1	1.523032	0.012662	Up		BGD:BT24661,GeneID:536517
TICRR	3.152994	0.000235	Up		GeneID:529868
TIMD4	1.360306	0.024057	Up	T-cell immunoglobulin and mucin domain containing 4	BGD:BT18030,GeneID:507549
TIMP3	-1.57933	0.032396	Down	TIMP metallopeptidase inhibitor 3	BGD:BT10620,GeneID:282094
TIMP4	-2.62852	0.034147	Down	TIMP metallopeptidase inhibitor 4	BGD:BT15474,GeneID:317694
TK1	1.032408	0.021382	Up	thymidine kinase 1, soluble	BGD:BT28422,GeneID:504652
TLE6	2.308023	0.032322	Up		BGD:BT26257,GeneID:511478
TMC5	-8.33003	0.000983	Down		BGD:BT16374,GeneID:513865
TMEM106B	-1.68559	0.000141	Down	transmembrane protein 106B	BGD:BT19578,GeneID:508903
TMEM150A	1.632438	0.012302	Up	transmembrane protein 150A	BGD:BT19344,GeneID:515742
TMEM170B	-1.1768	0.02492	Down		BGD:BT20920,GeneID:615389
TMEM173	1.337479	0.040332	Up	transmembrane protein 173	BGD:BT14287,GeneID:533661
TMEM190	2.550644	7.75E-06	Up	transmembrane protein 190	BGD:BT20187,GeneID:504932
TMEM213	3.73684	0.006572	Up	transmembrane protein 213	BGD:BT27351,GeneID:510137
TMEM233	#NAME?	0.043905	Down		GeneID:100297703
TMEM255A	-1.50309	0.038193	Down	family with sequence similarity 70, member A	GeneID:533569
TMEM45A	1.799084	0.004874	Up	transmembrane protein 45A	BGD:BT15412,GeneID:509461
TMEM54	1.935609	0.00633	Up	transmembrane protein 54	BGD:BT14361,GeneID:509773
TMEM74B	3.54532	0.00697	Up		BGD:BT27886,GeneID:539523
TMEM92	1.793078	0.036487	Up	transmembrane protein 92	BGD:BT20452,GeneID:507710
TMPRSS6	1.667354	0.030816	Up		BGD:BT16835,GeneID:614844
TMTC1	-2.05074	0.000418	Down	transmembrane and tetratricopeptide repeat containing 1	BGD:BT17128,GeneID:533191
TNC	2.334013	0.016527	Up	tenascin C	GeneID:540664
TNFAIP6	1.790459	0.013837	Up	tumor necrosis factor, alpha-induced protein 6	BGD:BT30202,GeneID:493710

TNFAIP8L2	1.300179	0.021902	Up	tumor necrosis factor, alpha-induced protein 8-like 2	BGD:BT24611,GeneID:510652
TNFAIP8L3	1.636884	0.033011	Up		BGD:BT20290,GeneID:523131
TNFRSF11A	1.425157	0.014014	Up		BGD:BT12188,GeneID:530884
TNFRSF18	1.525937	0.023146	Up	tumor necrosis factor receptor superfamily, member 18	BGD:BT20147,GeneID:516256
TNFSF10	-1.32982	0.040788	Down		BGD:BT10122,GeneID:507215
TNFSF13B	1.833015	0.002929	Up	tumor necrosis factor (ligand) superfamily, member 13b	GeneID:504507
TNNI2	3.001945	0.000242	Up	troponin I type 2 (skeletal, fast)	BGD:BT26440,GeneID:506434
TOP2A	1.712247	2.25E-06	Up		BGD:BT11705,GeneID:787696
TPX2	1.376934	0.00204	Up	TPX2, microtubule-associated, homolog (Xenopus laevis)	GeneID:507226
TRABD2B	1.317476	0.011251	Up		BGD:BT21673,GeneID:787081
TREM1	3.566001	0.016362	Up	triggering receptor expressed on myeloid cells 1	BGD:BT14876,GeneID:404547
TRIM46	-6.01993	0.004767	Down	tripartite motif containing 46	BGD:BT25871,GeneID:535897
TRIM6	2.254046	0.018623	Up	tripartite motif containing 6	GeneID:514492
TROAP	2.121133	5.28E-05	Up	trophinin associated protein (tastin)	BGD:BT28114,GeneID:505791
TRPV3	1.763807	0.005726	Up	transient receptor potential cation channel, subfamily V, member 3	BGD:BT27353,GeneID:523538
TRPV4	1.679436	0.025043	Up	transient receptor potential cation channel, subfamily V, member 4	BGD:BT17230,GeneID:540259
TRPV6	1.769936	0.032159	Up	transient receptor potential cation channel, subfamily V, member 6	BGD:BT10643,GeneID:614878
TSPAN11	1.355511	0.00369	Up	tetraspanin 11	BGD:BT17506,GeneID:616660
TSPAN19	-1.29027	0.004319	Down	tetraspanin 19	BGD:BT30445,GeneID:781222

TST	1.266135	0.03899	Up	thiosulfate sulfurtransferase (rhodanese)	BGD:BT20758,GeneID:280946
TTC28	-1.05098	0.016009	Down		BGD:BT18958,GeneID:537659
TTYH2	1.157537	0.010706	Up	tweety homolog 2 (Drosophila)	GeneID:533184
TUBA1D	1.038486	0.035882	Up	tubulin, alpha 3d	GeneID:535605
TUBB3	3.303076	0.000627	Up	tubulin, beta 3 class III	BGD:BT23783,GeneID:768070
TUBB4A	1.838792	0.004032	Up	tubulin, beta 4A class IVa	BGD:BT18532,GeneID:540236
TYROBP	1.462284	0.002871	Up	TYRO protein tyrosine kinase binding protein	BGD:BT26637,GeneID:282390
UBE2C	2.515283	3.05E-05	Up	ubiquitin-conjugating enzyme E2C	BGD:BT20422,GeneID:506962
UHRF1	2.334576	5.89E-08	Up	ubiquitin-like with PHD and ring finger domains 1	GeneID:530411
USH1C	2.121896	0.011632	Up	Usher syndrome 1C (autosomal recessive, severe)	BGD:BT26172,GeneID:530709
USP53	-1.1487	0.014014	Down		GeneID:529462
VAT1L	-2.35267	0.018621	Down	vesicle amine transport protein 1 homolog (T. californica)-like	BGD:BT14922,GeneID:618809
VAV1	1.307966	0.017791	Up	vav 1 guanine nucleotide exchange factor	GeneID:617345
VEPH1	-1.65903	0.046835	Down		GeneID:100337421
VGLL3	-1.24466	0.004931	Down	vestigial like 3 (Drosophila)	BGD:BT26773,GeneID:781333
VNN1	2.98508	0.024142	Up	vanin 1	BGD:BT11949,GeneID:526704
VNN2	1.172361	0.005265	Up	vanin 2	GeneID:534929
WDFY4	1.18206	0.02158	Up	WDFY family member 4	BGD:BT28308,GeneID:527790
WDHD1	1.578568	0.006015	Up	WD repeat and HMG-box DNA binding protein 1	BGD:BT13309,GeneID:540681
WFDC18	7.202171	0.005663	Up	extracellular proteinase inhibitor	GeneID:100336022
WISP1	1.689653	0.040793	Up		BGD:BT15841,GeneID:539163
WNT4	3.687046	2.73E-14	Up		GeneID:789600
XK	-1.08762	0.041264	Down		BGD:BT21213,GeneID:539621
ZBED3	1.079412	0.04908	Up		GeneID:615651
ZBTB16	-1.34031	0.030465	Down	zinc finger and BTB domain containing 16	BGD:BT13345,GeneID:534401

ZC4H2	1.100804	0.031537	Up	zinc finger, C4H2 domain containing	BGD:BT23236,GeneID:768236
ZCWPW1	1.118016	0.031862	Up	zinc finger, CW type with PWWP domain 1	BGD:BT22130,GeneID:514550
ZNF182	1.107479	0.038493	Up	zinc finger protein 182	GeneID:530262
ZNF385D	1.771853	0.028345	Up		BGD:BT18386,GeneID:789528

Table S4 Enriched pathways of the DEGs

id	term	ListHits	pval	Enrichment_score	Gene
bta05150	Staphylococcus aureus infection	14	3.06E-09	6.0733	BLA-DQB; BOLA-DOA; BOLA-DOB; BOLA-DRA; BOLA-DRB3; C1QA;
bta04110	Cell cycle	18	3.54E-06	3.123411	BUB1B; BUB1; CCNA2; CCNB1; CCNB2; CDC20; CDC25C; CHEK1; CH
bta05322	Systemic lupus erythematosus	14	1.55E-05	3.312709	BLA-DQB; BOLA-DOA; BOLA-DOB; BOLA-DRA; BOLA-DRB3; C1QA;
bta05323	Rheumatoid arthritis	13	3.87E-05	3.222567	ACP5; ATP6V0A4; ATP6V0D2; ATP6V1C2; BLA-DQB; BOLA-DOA; BO
bta04145	Phagosome	18	5.65E-05	2.584892	ATP6V0A4; ATP6V0D2; ATP6V1C2; BLA-DQB; BOLA-DOA; BOLA-DO
bta04610	Complement and coagulation cascades	12	6.37E-05	3.245103	C1QA; C1QB; C1QC; C2; C4A; C4BPA; C8B; CFB; CFI; F5; SERPINA1; S
bta05140	Leishmaniasis	11	6.71E-05	3.418659	BLA-DQB; BOLA-DOA; BOLA-DOB; BOLA-DRA; BOLA-DRB3; CYBA
bta05330	Allograft rejection	7	9.86E-05	4.554975	BLA-DQB; BOLA-DOA; BOLA-DOB; BOLA-DRA; BOLA-DRB3; CD40;
bta05310	Asthma	6	0.000164	4.805248	BLA-DQB; BOLA-DOA; BOLA-DOB; BOLA-DRA; BOLA-DRB3; CD40
bta04672	Intestinal immune network for IgA production	8	0.000231	3.701821	BLA-DQB; BOLA-DOA; BOLA-DOB; BOLA-DRA; BOLA-DRB3; CD40;
bta04114	Oocyte meiosis	14	0.000243	2.626292	AURKA; BUB1; CALML5; CCNB1; CCNB2; CDC20; CDC25C; CPEB3; C
bta05320	Autoimmune thyroid disease	7	0.000293	3.939438	BLA-DQB; BOLA-DOA; BOLA-DOB; BOLA-DRA; BOLA-DRB3; CD40;
bta05332	Graft-versus-host disease	6	0.000344	4.308154	BLA-DQB; BOLA-DOA; BOLA-DOB; BOLA-DRA; BOLA-DRB3; CD86
bta05133	Pertussis	10	0.000571	2.892048	C1QA; C1QB; C1QC; C2; C4A; C4BPA; CALML5; CASP1; CXCL5; PYC
bta04380	Osteoclast differentiation	14	0.000573	2.42932	ACP5; BLNK; BTK; CSF1R; CYBA; FCGR1A; FCGR2B; NCF1; NCF2; N
bta04966	Collecting duct acid secretion	5	0.001467	3.856063	ATP4A; ATP4B; ATP6V0A4; ATP6V0D2; ATP6V1C2
bta04940	Type I diabetes mellitus	6	0.001916	3.287801	BLA-DQB; BOLA-DOA; BOLA-DOB; BOLA-DRA; BOLA-DRB3; CD86
bta05206	MicroRNAs in cancer	14	0.002416	2.112452	CD44; CDC25C; CYP24A1; E2F1; E2F2; E2F3; IRS2; KIF23; KRAS; MMP
bta04914	Progesterone-mediated oocyte maturation	10	0.00279	2.393419	BUB1; CCNA2; CCNB1; CCNB2; CDC25C; CPEB3; CPEB4; KRAS; PDE
bta05416	Viral myocarditis	7	0.003058	2.803061	BLA-DQB; BOLA-DOA; BOLA-DOB; BOLA-DRA; BOLA-DRB3; CD40;
bta04640	Hematopoietic cell lineage	9	0.0032	2.465851	CD19; CD24; CD36; CD44; CSF1R; FCGR1A; FLT3; KITLG; MME

bta00750	Vitamin B6 metabolism	2	0.003322	5.949355	AOX1; AOX4
bta05166	HTLV-I infection	21	0.003567	1.770355	BLA-DQB; BOLA-DOA; BOLA-DOB; BOLA-DRA; BOLA-DRB3; BUB1
bta04512	ECM-receptor interaction	9	0.004663	2.342559	CD36; CD44; CHAD; COL1A1; COL1A2; FN1; ITGA7; LAMA1; TNC
bta03030	DNA replication	5	0.006713	2.892048	DNA2; FEN1; MCM2; MCM3; POLE
bta04971	Gastric acid secretion	8	0.007132	2.313638	ATP4A; ATP4B; CALML5; CFTR; KCNE2; KCNJ2; PRKCB; SLC26A7
bta04060	Cytokine-cytokine receptor interaction	19	0.009204	1.676407	BMP7; CCL19; CCL21; CCR1; CD40; CSF1R; CX3CR1; CXCL5; FLT3; IL
bta00770	Pantothenate and CoA biosynthesis	3	0.009345	3.470457	DPYD; VNN1; VNN2
bta00760	Nicotinate and nicotinamide metabolism	4	0.009762	2.974677	AOX1; AOX4; NT5C3B; NT5M
bta00430	Taurine and hypotaurine metabolism	2	0.010228	4.164548	CDO1; GGT5
bta04122	Sulfur relay system	2	0.010228	4.164548	MOCS1; TST
bta02010	ABC transporters	5	0.011269	2.602843	ABCA10; ABCA2; ABCA9; ABCG2; CFTR
bta05219	Bladder cancer	5	0.011269	2.602843	E2F1; E2F2; E2F3; KRAS; MMP9
bta00785	Lipoic acid metabolism	1	0.012932	5.205686	ACSM1
bta05202	Transcriptional misregulation in cancers	13	0.013323	1.792686	CD40; CD86; CSF1R; EYA1; FCGR1A; FLT3; MEF2C; MLLT3; MMP9; N
bta04514	Cell adhesion molecules (CAMs)	12	0.014021	1.82389	BLA-DQB; BOLA-DOA; BOLA-DOB; BOLA-DRA; BOLA-DRB3; CD40;
bta05020	Prion diseases	4	0.015011	2.686805	C1QA; C1QB; C1QC; C8B
bta00830	Retinol metabolism	5	0.017667	2.366221	AOX1; AOX4; CYP2S1; DHRS9; RDH12
bta04064	NF-kappa B signaling pathway	8	0.018722	1.983118	BLNK; BTK; CCL19; CCL21; CD40; PRKCB; TNFRSF11A; TNFSF13B
bta03320	PPAR signaling pathway	7	0.019732	2.052946	AQP7; CD36; CPT1B; FABP3; FABP4; PLTP; SLC27A6
bta04662	B cell receptor signaling pathway	7	0.019732	2.052946	BLNK; BTK; CD19; FCGR2B; KRAS; PRKCB; VAV1
bta04612	Antigen processing and presentation	6	0.020182	2.154077	BLA-DQB; BOLA-DOA; BOLA-DOB; BOLA-DRA; BOLA-DRB3; CD74
bta00564	Glycerophospholipid metabolism	8	0.021527	1.936999	ACHE; AGPAT4; ETNK2; ETNPPL; PLA2G2D4; PLA2G5; PLB1; PLD4
bta00350	Tyrosine metabolism	4	0.021877	2.449734	AOX1; AOX4; DDC; PNMT
bta05340	Primary immunodeficiency	4	0.021877	2.449734	BLNK; BTK; CD19; CD40

bta05152	Tuberculosis	13	0.022187	1.681339	ATP6V0A4; ATP6V0D2; BLA-DQB; BOLA-DOA; BOLA-DOB; BOLA-D
bta00592	alpha-Linolenic acid metabolism	3	0.022403	2.71601	PLA2G2D4; PLA2G5; PLB1
bta05321	Inflammatiory bowel disease (IBD)	6	0.028088	2.015104	BLA-DQB; BOLA-DOA; BOLA-DOB; BOLA-DRA; BOLA-DRB3; IL21R
bta04621	NOD-like receptor signaling pathway	5	0.031343	2.082274	CARD9; CASP1; NLRC4; NLRP1; PYCARD
bta05214	Glioma	6	0.035239	1.922099	CALML5; E2F1; E2F2; E2F3; KRAS; PRKCB
bta04320	Dorso-ventral axis formation	3	0.038243	2.313638	CPEB3; CPEB4; KRAS
bta00591	Linoleic acid metabolism	3	0.038243	2.313638	PLA2G2D4; PLA2G5; PLB1
bta04115	p53 signaling pathway	6	0.040622	1.864723	CCNB1; CCNB2; CHEK1; CHEK2; PMAIP1; RRM2
bta00982	Drug metabolism - cytochrome P450	4	0.041033	2.082274	AOX1; AOX4; FMO1; GSTT1
bta00565	Ether lipid metabolism	4	0.041033	2.082274	PLA2G2D4; PLA2G5; PLB1; PLD4
bta04970	Salivary secretion	7	0.042187	1.777551	AQP5; CALML5; HSTN; LPO; PRKCB; STATH; TRPV6
bta04916	Melanogenesis	8	0.042502	1.71734	CALML5; EDNRB; FZD2; FZD8; KITLG; KRAS; PRKCB; WNT4