

Supplementary Material

Comparative Transcriptomic Analysis of Embryo Implantation in Mice and Rats

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Supplementary figure legends

Figure S1. GO enrichment analysis of differentially expressed genes. (A) GO terms enriched for mice. (B) GO terms enriched for rats. The significance cutoff was set at 0.05. For each enriched GO term, the font size in the word cloud is proportional to $-\log_{10}$ of the FDR. The font color indicates the type of GO term as the biological process category (red), cellular component category (green), and molecular function category (blue). Species-specific enriched GO terms are shaded.

Figure S2. Gene network analysis of differentially expressed genes in mice. (A) Gene-gene interaction network. (B) Degree distribution of the network. (C) Bar plot showing the hub genes for all selected genes with degree values exceeding the mean plus two standard deviations.

Figure S3. Gene network analysis of differentially expressed genes in rats. (A) Gene-gene interaction network. (B) Degree distribution of the network. (C) Bar plot showing the hub genes for all selected genes with degree values exceeding the mean plus two standard deviations.

Figure S4. Analysis of transcription factor binding sites. (A) Transcription factor analysis using the up-regulated and down-regulated genes in mice. (B) Transcription factor analysis using the up-regulated and down-regulated genes in rats. The sequence logo for the transcription factor whose binding sites was significantly enriched is displayed on the right.

Figure S1

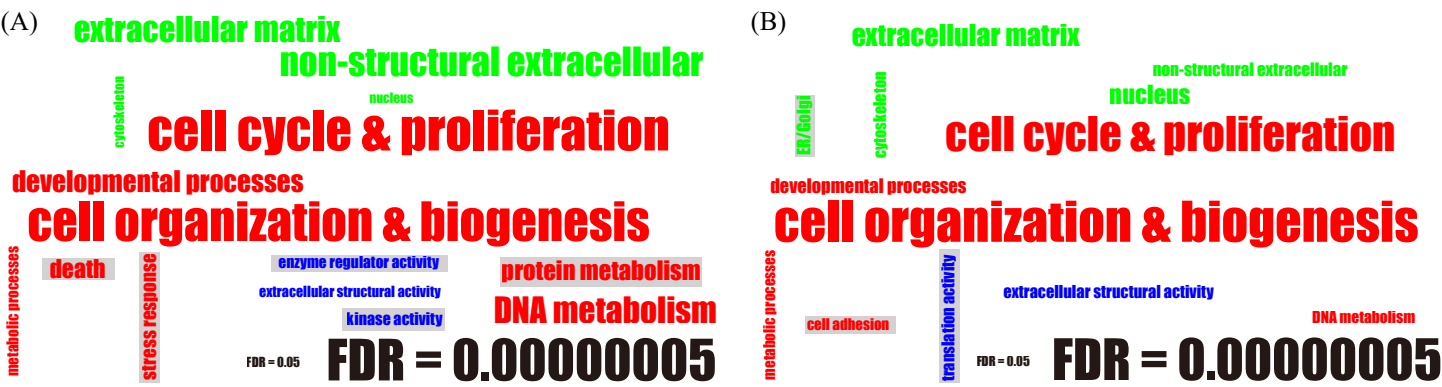


Figure S2

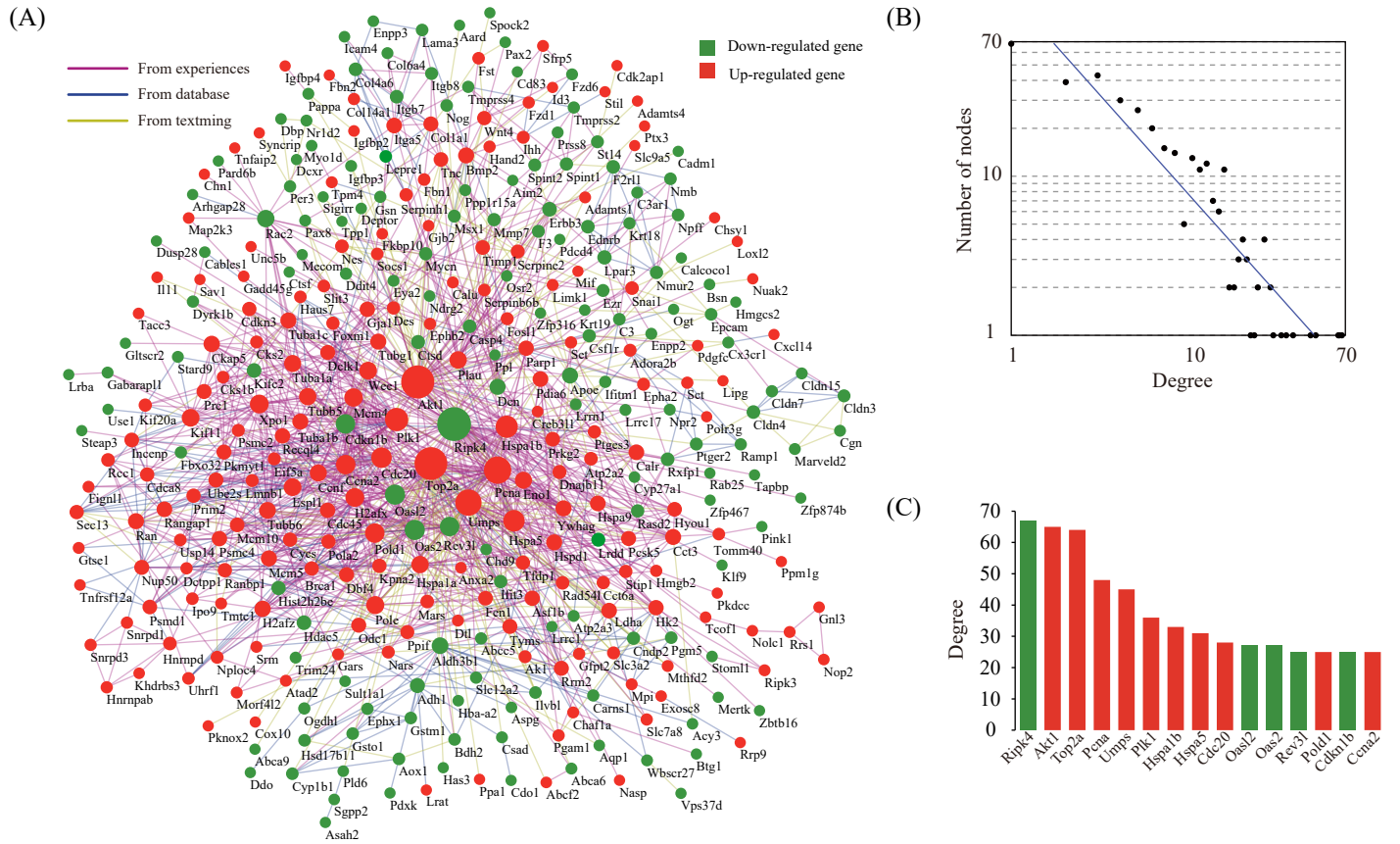


Figure S3

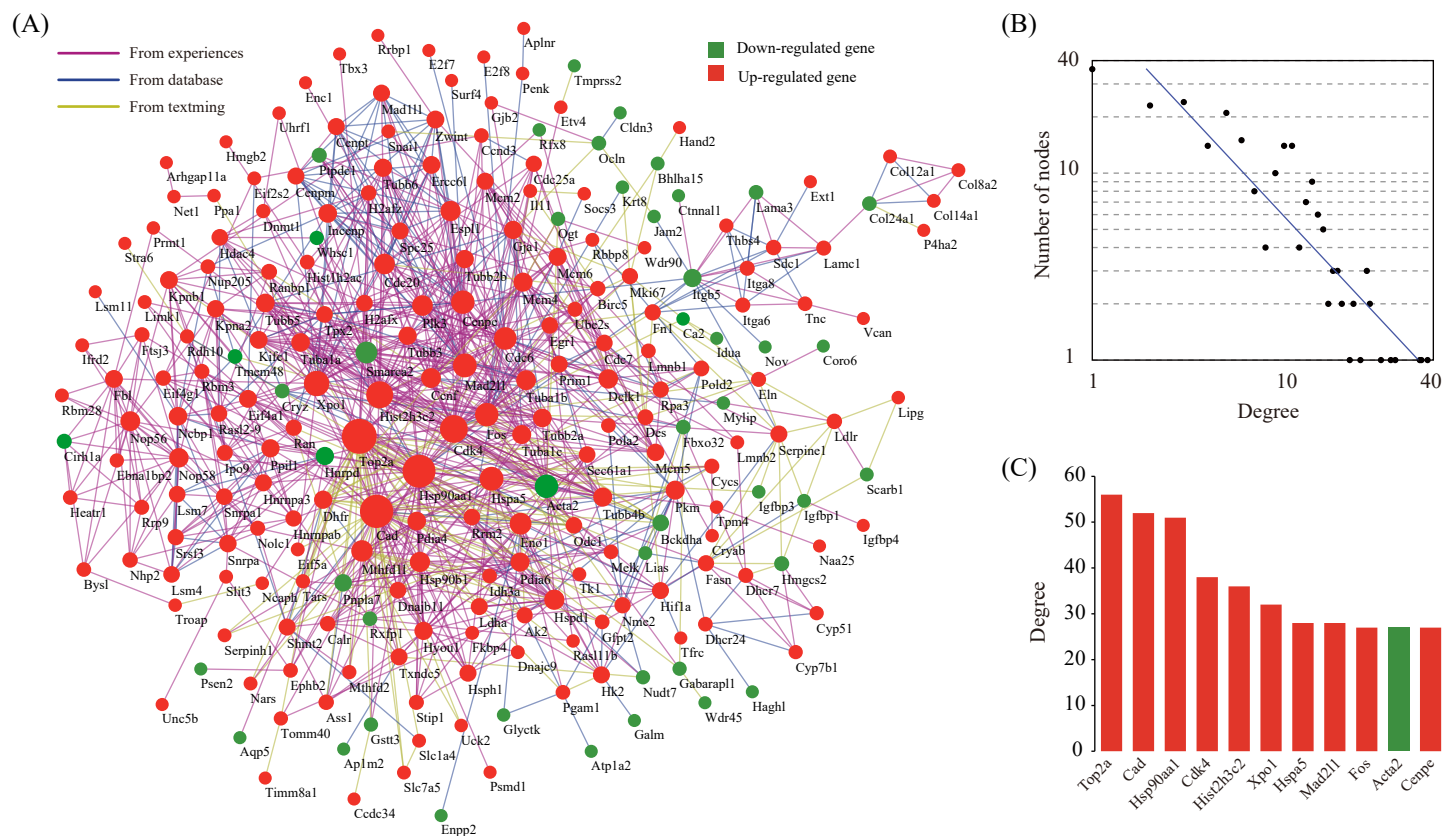
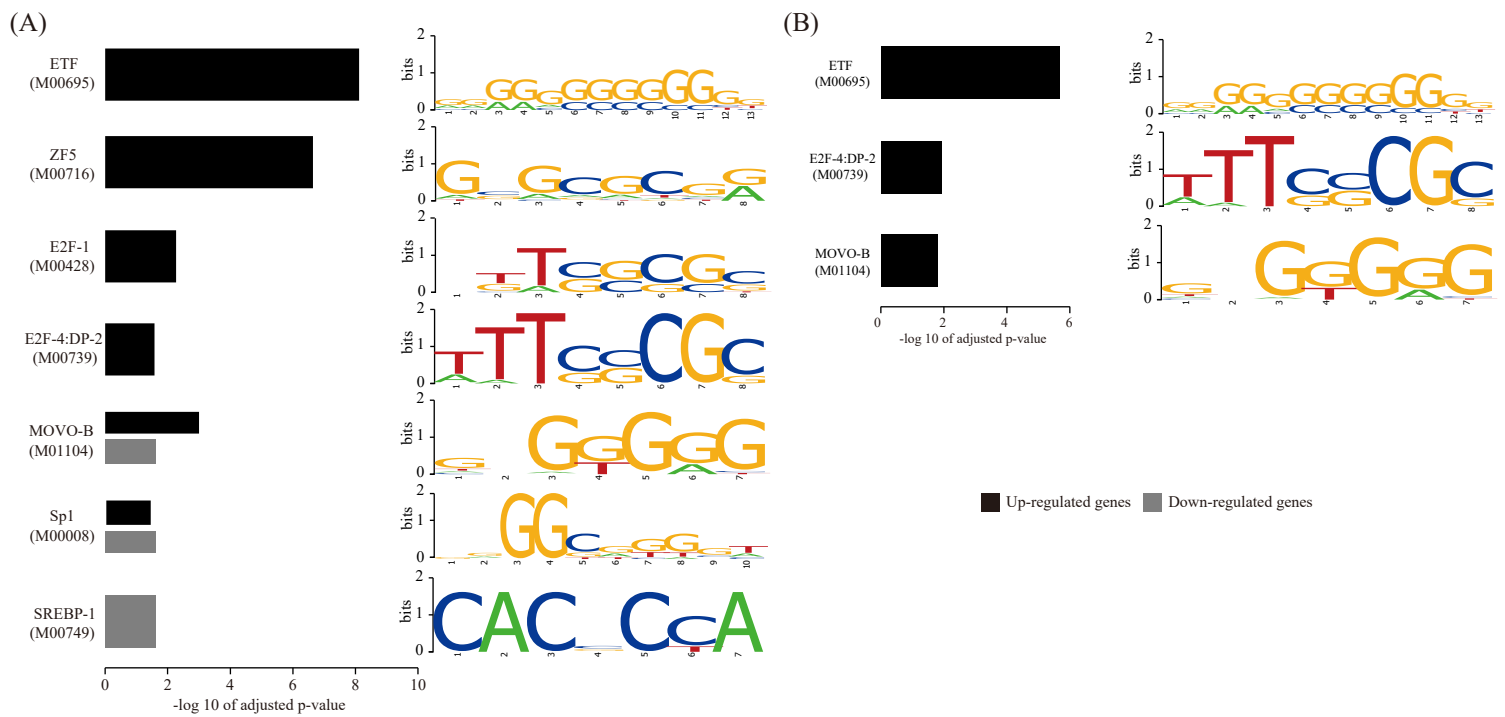


Figure S4



Supplementary Table 1. Primers used in this study for quantitative RT-PCR analysis.

Symbol	Species	ID	Primers	Length
Dio3	Mouse	ensmust00000173014	cagtgaaggcgaggagat	209bp
Sct	Mouse	ensmust00000210928	accagatgaggaggaa	66bp
Ptx3	Mouse	ensmust00000029421	atgcttggagcgtttat;a	75bp
Rrm2	Mouse	ensmust00000020980	tagccaagaagttcaagtt	168bp
Hk2	Mouse	ensmust00000000642	gtcttgcaatatggttg;c	132bp
Plk1	Mouse	ensmust00000033154	cgagttcttcacttctggct	59bp
Dio2	Mouse	ensmust00000082432	ggttggtctcccaggtat;t	147bp
Gsto1	Mouse	ensmust00000026050	cccgagtggttctttgag;a	67bp
Cyp1b1	Mouse	ensmust00000024894	tccatcttgattatttcgttd	99bp
F3	Mouse	ensmust00000029771	tatcatcctcctgtccata;g	69bp
Paqr5	Mouse	ensmust00000034817	actatggtgccgtcaatc;g	70bp
Mmp7	Mouse	ensmust00000018767	gaacacgctgtgatagatg	127bp
Rpl7	Mouse	ensmust00000140597	gcagatgtaccgcactgag	129bp
Atp1a2	Rat	ensrnot00000058143	tggcatagagtatatcttcd	126bp
Cryab	Rat	ensrnot00000059127	aatggaccaaggaaacag	109bp
E2f8	Rat	ensrnot00000035512	atacctaataccctcttaccd	144bp
Ass1	Rat	ensrnot00000093365	aacgggtggaaaggaaagg	136bp
E2f7	Rat	ensrnot00000031986	aagtttctagctcgctatcd	129bp
Rrm2	Rat	ensrnot00000091551	tgccgagctggaaagtaa;g	95bp
Gja1	Rat	ensrnot00000001054	acatgggtgactggagt;g	59bp
Dio3	Rat	ensrnot00000078113	ctttctgacacctgctccc;g	57bp
Odc1	Rat	ensrnot00000079185	gttgctgctgcttctact;a	70bp
Fn1	Rat	ensrnot00000057585	gccgaatgtagatgagga	73bp
Hk2	Rat	ensrnot00000008813	cctcttagtgggttatagg;g	125bp
Gstt3	Rat	ensrnot00000036518	actcggtttgtgctgtga;g	141bp
Rpl7	Rat	ensrnot00000009431	tgtagaaggtggagacgc	86bp

Supplementary Table 2. The complete list of differentially expressed genes in mice (fold change > 2 and FDR < 0.05)

Gene	GeneID	TranscriptID	Average-of-IS	Average-of-IIS	Fold(IS/IIS)	Pvalue	FDR	Gene description
Aard	ENSMUSG000	ENSMUST00000090025	3,265976667	8,974146667	0,363931724	0,002038093	0,046492643	alanine and arginine rich domain containing protein [Source:MGI Symbol;Acc:MG1:2181621]
Aarsd1	ENSMUSG000	ENSMUST00000070395	63,22646667	29,0574	2,175916175	0,001522494	0,044044181	alanyl-tRNA synthetase domain containing 1 [Source:MGI Symbol;Acc:MG1:1916934]
Abca6	ENSMUSG000	ENSMUST00000044003	0,230309667	3,4784	0,066211381	0,001390099	0,043193781	ATP-binding cassette, sub-family A (ABC1), member 6 [Source:MGI Symbol;Acc:MG1:1923434]
Abca9	ENSMUSG000	ENSMUST00000044850	1,197066667	3,96561	0,301861925	0,000584732	0,034140507	ATP-binding cassette, sub-family A (ABC1), member 9 [Source:MGI Symbol;Acc:MG1:2386796]

Abcc5	ENSMUSG000	ENSMUST00000079158	26,6658	65,51776667	0,407001053	0,000984475	0,040185228	ATP-binding cassette, sub-family C (CFTR/MRP), member 5 [Source:MGI Symbol;Acc:MG1:1351644]
Abcf2	ENSMUSG000	ENSMUST00000030795	53,9002	25,79196667	2,089805741	0,001568036	0,044309347	ATP-binding cassette, sub-family F (GCN20), member 2 [Source:MGI Symbol;Acc:MG1:1351657]
Abtb1	ENSMUSG000	ENSMUST00000032169	28,808	100,874	0,285583996	0,00084883	0,037942213	ankyrin repeat and BTB (POZ) domain containing 1 [Source:MGI Symbol;Acc:MG1:1933148]
Acap3	ENSMUSG000	ENSMUST00000079031	52,5507	25,94786667	2,025241638	0,000050843	0,022205781	ArfGAP with coiled-coil, ankyrin repeat and PH domains 3 [Source:MGI Symbol;Acc:MG1:2153589]

Acy3	ENSMUSG000	ENSMUST00000054030	2,564496667	6,401866667	0,400585767	0,001076623	0,040416894	aspartoacylase (aminoacylase) 3 [Source:MGI Symbol;Acc:M GI:1918920]
Adamts1	ENSMUSG000	ENSMUST00000023610	45,91616667	19,9039	2,306892954	0,002468964	0,04911186	a disintegrin- like and metallopeptida se (reprolysin type) with thrombospondi n type 1 motif, 1 [Source:MGI Symbol;Acc:M GI:109249]
Adamts4	ENSMUSG000	ENSMUST00000111315	37,13576667	9,67768	3,837259205	0,000424679	0,031625783	a disintegrin- like and metallopeptida se (reprolysin type) with thrombospondi n type 1 motif, 4 [Source:MGI Symbol;Acc:M GI:1339949]
Adh1	ENSMUSG000	ENSMUST00000162032	26,42553333	96,02783333	0,275186187	0,000638999	0,034862518	alcohol dehydrogenase 1 (class I) [Source:MGI Symbol;Acc:M GI:87921]

Adora2b	ENSMUSG000	ENSMUST00000018644	29,24636667	2,671403333	10,94794122	6,02094E-05	0,022205781	adenosine A2b receptor [Source:MG Symbol;Acc:M GI:99403]
Aim2	ENSMUSG000	ENSMUST00000147604	1,63962	4,79743	0,34177049	0,00014892	0,0253873	absent in melanoma 2 [Source:MG Symbol;Acc:M GI:2686159]
Ak1	ENSMUSG000	ENSMUST00000113278	242,728	31,39106667	7,732390956	8,42808E-05	0,024692104	adenylate kinase 1 [Source:MG Symbol;Acc:M GI:87977]
Akap8l	ENSMUSG000	ENSMUST00000050214	20,7702	44,35873333	0,468232486	0,00212265	0,046860928	A kinase (PRKA) anchor protein 8-like [Source:MG Symbol;Acc:M GI:1860606]
Akt1	ENSMUSG000	ENSMUST00000001780	341,7143333	169,949	2,01068752	0,001062217	0,040416894	thymoma viral proto- oncogene 1 [Source:MG Symbol;Acc:M GI:87986]
Aldh3b1	ENSMUSG000	ENSMUST00000051803	1,715956667	5,655663333	0,303405024	0,002158973	0,047187347	aldehyde dehydrogenase 3 family, member B1 [Source:MG Symbol;Acc:M GI:1914939]

Amigo2	ENSMUSG000	ENSMUST00000053106	2,507036667	11,6144	0,215855892	0,002315551	0,048267329	adhesion molecule with Ig like domain 2 [Source:MGI Symbol;Acc:MGI:2145995]
Anxa2	ENSMUSG000	ENSMUST00000034756	754,4523333	345,3143333	2,184827737	0,001036471	0,040265643	annexin A2 [Source:MGI Symbol;Acc:MGI:88246]
Aox1	ENSMUSG000	ENSMUST00000001027	0,638768	8,077813333	0,079076846	0,000325527	0,029788668	aldehyde oxidase 1 [Source:MGI Symbol;Acc:MGI:88035]
Ap1s3	ENSMUSG000	ENSMUST00000162342	4,563333333	15,96423333	0,285847321	0,002042204	0,046513212	adaptor-related protein complex AP-1, sigma 3 [Source:MGI Symbol;Acc:MGI:1891304]
Ap5z1	ENSMUSG000	ENSMUST00000198967	11,65835	32,27353333	0,361235626	0,001708767	0,044928651	adaptor-related protein complex 5, zeta 1 subunit [Source:MGI Symbol;Acc:MGI:1924908]
Apoe	ENSMUSG000	ENSMUST00000174064	939,872	2162,72	0,434578679	4,82804E-05	0,022205781	apolipoprotein E [Source:MGI Symbol;Acc:MGI:88057]

Aqp1	ENSMUSG000	ENSMUST00000004774	48,278	146,426	0,329709205	0,000157183	0,0253873	aquaporin 1 [Source:MGI Symbol;Acc:MG GI:103201]
Arhgap28	ENSMUSG000	ENSMUST00000024840	2,10412	5,01554	0,419520131	0,000874196	0,038368201	Rho GTPase activating protein 28 [Source:MGI Symbol;Acc:MG GI:2147003]
Armxc1	ENSMUSG000	ENSMUST00000113199	16,27703333	33,90423333	0,480088524	0,000176975	0,026749724	armadillo repeat containing, X- linked 1 [Source:MGI Symbol;Acc:MG GI:1925498]
Arrdc1	ENSMUSG000	ENSMUST00000102935	28,76066667	79,32686667	0,362558965	0,000631577	0,034862518	arrestin domain containing 1 [Source:MGI Symbol;Acc:MG GI:2446136]
Asah2	ENSMUSG000	ENSMUST00000096119	0,625516	1,93978	0,322467496	0,000646428	0,034868869	N- acylsphingosin e amidohydrolas e 2 [Source:MGI Symbol;Acc:MG GI:1859310]

Asf1b	ENSMUSG000	ENSMUST00000005607	72,4842	11,89226667	6,095070186	0,002008414	0,046233583	anti-silencing function 1B histone chaperone [Source:MGI Symbol;Acc:M GI:1914179]
Aspg	ENSMUSG000	ENSMUST00000079400	15,642	34,55696667	0,452643895	0,002003094	0,046233583	asparaginase [Source:MGI Symbol;Acc:M GI:2144822]
Atad2	ENSMUSG000	ENSMUST00000038194	12,2207	3,596126667	3,398295203	0,00174824	0,045167212	ATPase family, AAA domain containing 2 [Source:MGI Symbol;Acc:M GI:1917722]
Atp2a2	ENSMUSG000	ENSMUST00000179939	106,2113333	48,90193333	2,171925036	4,56537E-06	0,021833927	ATPase, Ca++ transporting, cardiac muscle, slow twitch 2 [Source:MGI Symbol;Acc:M GI:88110]
Atp2a3	ENSMUSG000	ENSMUST00000108486	6,722873333	18,4667	0,364053856	0,002505751	0,049458835	ATPase, Ca++ transporting, ubiquitous [Source:MGI Symbol;Acc:M GI:1194503]

Barx2	ENSMUSG000	ENSMUST00000116615	0,517286333	4,605316667	0,112323727	0,000749268	0,037056621	BarH-like homeobox 2 [Source:MGI Symbol;Acc:MGi:109617]
Bdh2	ENSMUSG000	ENSMUST00000120397	3,053973333	21,79173333	0,140143663	0,000960011	0,040021698	3-hydroxybutyrate dehydrogenase, type 2 [Source:MGI Symbol;Acc:MGi:1917022]
Bend5	ENSMUSG000	ENSMUST00000030274	3,85936	14,02273333	0,275221664	0,002385055	0,048709234	BEN domain containing 5 [Source:MGI Symbol;Acc:MGi:1914871]
Blnk	ENSMUSG000	ENSMUST00000117695	10,07859	24,2844	0,415023225	0,001493661	0,043964067	B cell linker [Source:MGI Symbol;Acc:MGi:96878]
Bmp2	ENSMUSG000	ENSMUST00000028836	47,19053333	1,362146667	34,64423802	5,61864E-05	0,022205781	bone morphogenetic protein 2 [Source:MGI Symbol;Acc:MGi:88177]
Brca1	ENSMUSG000	ENSMUST00000017290	9,27843	2,6399	3,51468995	0,002491126	0,04942648	breast cancer 1, early onset [Source:MGI Symbol;Acc:MGi:104537]

Bsn	ENSMUSG000	ENSMUST00000035208	0,598654333	1,680506667	0,356234429	0,000736395	0,036981107	bassoon [Source:MGI Symbol;Acc:M GI:1277955]
Bspry	ENSMUSG000	ENSMUST00000030088	4,269696667	16,29143333	0,262082321	0,00191058	0,045762341	B-box and SPRY domain containing [Source:MGI Symbol;Acc:M GI:2177191]
Btg1	ENSMUSG000	ENSMUST00000038377	35,4414	97,71356667	0,362707055	0,00262722	0,04982077	B cell translocation gene 1, anti- proliferative [Source:MGI Symbol;Acc:M GI:88215]
Bysl	ENSMUSG000	ENSMUST00000024783	25,2442	8,12989	3,105109663	0,001198294	0,041711552	bystin-like [Source:MGI Symbol;Acc:M GI:1858419]
C2cd4a	ENSMUSG000	ENSMUST00000054500	36,06116667	149,5296667	0,241163961	0,000583135	0,034140507	C2 calcium- dependent domain containing 4A [Source:MGI Symbol;Acc:M GI:3645763]
C3	ENSMUSG000	ENSMUST00000024988	233,1493333	482,269	0,483442505	0,002668774	0,049893849	complement component 3 [Source:MGI Symbol;Acc:M GI:88227]

C3ar1	ENSMUSG000	ENSMUST00000042081	0,988153	2,244816667	0,440193186	0,001860721	0,045357114	complement component 3a receptor 1 [Source:MGI Symbol;Acc:MG1:1097680]
Cables1	ENSMUSG000	ENSMUST00000046948	4,066346667	8,39904	0,48414422	0,002127415	0,046860928	CDK5 and Abl enzyme substrate 1 [Source:MGI Symbol;Acc:MG1:1927065]
Cadm1	ENSMUSG000	ENSMUST00000114548	5,625283333	13,42663333	0,418964546	0,001657158	0,044591157	cell adhesion molecule 1 [Source:MGI Symbol;Acc:MG1:1889272]
Calcoco1	ENSMUSG000	ENSMUST00000023818	24,4028	76,83496667	0,31760019	0,00084026	0,037820362	calcium binding and coiled coil domain 1 [Source:MGI Symbol;Acc:MG1:1914738]
Calr	ENSMUSG000	ENSMUST00000003912	1356,766667	617,017	2,198912942	0,000124789	0,0253873	calreticulin [Source:MGI Symbol;Acc:MG1:88252]
Calu	ENSMUSG000	ENSMUST00000173216	420,3853333	198,6053333	2,116687031	0,000528048	0,033324312	calumenin [Source:MGI Symbol;Acc:MG1:1097158]

Camk2n1	ENSMUSG000	ENSMUST00000050918	4,389696667	13,99893333	0,313573653	0,001688848	0,044745641	calcium/calmodulin-dependent protein kinase II inhibitor 1 [Source:MGI Symbol;Acc:MG1:1913509]
Carns1	ENSMUSG000	ENSMUST00000167055	0,937944333	2,7483	0,341281641	0,002483888	0,049337382	carnosine synthase 1 [Source:MGI Symbol;Acc:MG1:2147595]
Casp4	ENSMUSG000	ENSMUST00000162846	17,10153333	37,56156667	0,455293398	0,0020445	0,046528013	caspase 4, apoptosis-related cysteine peptidase [Source:MGI Symbol;Acc:MG1:107700]
Cbfa2t2	ENSMUSG000	ENSMUST00000109725	17,09496667	7,338256667	2,329567831	0,002325885	0,048267329	core-binding factor, runt domain, alpha subunit 2, translocated to, 2 (human) [Source:MGI Symbol;Acc:MG1:1333833]
Ccna2	ENSMUSG000	ENSMUST00000029270	53,2924	14,74	3,615495251	0,000369394	0,030732883	cyclin A2 [Source:MGI Symbol;Acc:MG1:108069]

Ccnf	ENSMUSG000	ENSMUST00000115390	16,5343	5,501056667	3,005658913	0,002666387	0,049893849	cyclin F [Source:MGI Symbol;Acc:M GI:102551]
Cct3	ENSMUSG000	ENSMUST00000001452	614,513	283,5426667	2,167268183	0,000378578	0,030732883	chaperonin containing Tcp1, subunit 3 (gamma) [Source:MGI Symbol;Acc:M GI:104708]
Cct6a	ENSMUSG000	ENSMUST00000201414	436,5693333	195,589	2,232075083	0,001111792	0,040634775	chaperonin containing Tcp1, subunit 6a (zeta) [Source:MGI Symbol;Acc:M GI:107943]
Cd83	ENSMUSG000	ENSMUST00000015540	2,86569	9,353163333	0,306387251	0,001960573	0,045898162	CD83 antigen [Source:MGI Symbol;Acc:M GI:1328316]
Cdc20	ENSMUSG000	ENSMUST000000006565	115,9586667	42,87213333	2,704756159	0,001016644	0,040265643	cell division cycle 20 [Source:MGI Symbol;Acc:M GI:1859866]
Cdc45	ENSMUSG000	ENSMUST000000000028	37,03556667	4,936536667	7,502338009	2,18718E-06	0,021833927	cell division cycle 45 [Source:MGI Symbol;Acc:M GI:1338073]

Cdca8	ENSMUSG000	ENSMUST00000084296	60,14506667	17,47623333	3,441534885	0,001556387	0,04421234	cell division cycle associated 8 [Source:MGI Symbol;Acc:M GI:1196274]
Cdk2ap1	ENSMUSG000	ENSMUST00000031341	165,74	60,23893333	2,75137674	0,000288596	0,029657549	CDK2 (cyclin- dependent kinase 2)- associated protein 1 [Source:MGI Symbol;Acc:M GI:1202069]
Cdk11	ENSMUSG000	ENSMUST00000021377	0,830341	10,6863	0,07770145	0,00252517	0,04958105	cyclin- dependent kinase-like 1 (CDC2-related kinase) [Source:MGI Symbol;Acc:M GI:1918341]
Cdkn1b	ENSMUSG000	ENSMUST00000067327	21,201	48,44296667	0,437648671	0,001450076	0,043600224	cyclin- dependent kinase inhibitor 1B [Source:MGI Symbol;Acc:M GI:104565]
Cdkn3	ENSMUSG000	ENSMUST00000067426	12,628	5,068263333	2,491583245	0,001743552	0,045167212	cyclin- dependent kinase inhibitor 3 [Source:MGI Symbol;Acc:M GI:1919641]

Cdo1	ENSMUSG000	ENSMUST00000035804	13,09263333	38,97946667	0,335885389	0,001124914	0,040722094	cysteine dioxygenase 1, cytosolic [Source:MGI Symbol;Acc:M GI:105925]
Cdr2l	ENSMUSG000	ENSMUST00000053288	47,3552	16,3403	2,898061847	0,000320733	0,029788668	cerebellar degeneration- related protein 2-like [Source:MGI Symbol;Acc:M GI:2684867]
Cebpb	ENSMUSG000	ENSMUST00000070642	192,869	59,55083333	3,238728817	0,000216962	0,027988398	CCAAT/enhan cer binding protein (C/EBP), beta [Source:MGI Symbol;Acc:M GI:88373]
Cgn	ENSMUSG000	ENSMUST00000107272	3,803046667	13,23343333	0,287381707	0,001948103	0,045898162	cingulin [Source:MGI Symbol;Acc:M GI:1927237]
Chaf1a	ENSMUSG000	ENSMUST00000002914	31,5197	5,032846667	6,262797595	8,43552E-05	0,024692104	chromatin assembly factor 1, subunit A (p150) [Source:MGI Symbol;Acc:M GI:1351331]

								chromodomain helicase DNA binding protein 9 [Source:MGI Symbol;Acc:M GI:1924001]
Chd9	ENSMUSG000	ENSMUST00000048665	15,94873333	58,38026667	0,273187059	0,001010019	0,040265643	
								chimerin 1 [Source:MGI Symbol;Acc:M GI:1915674]
Chn1	ENSMUSG000	ENSMUST00000112024	39,56926667	11,25202333	3,516635675	0,001264737	0,041987226	
								chondroitin sulfate synthase 1 [Source:MGI Symbol;Acc:M GI:2681120]
Chsy1	ENSMUSG000	ENSMUST00000036372	32,63016667	9,65519	3,379546821	0,001287868	0,042152406	
								Cbp/p300- interacting transactivator, with Glu/Asp- rich carboxy- terminal domain, 4 [Source:MGI Symbol;Acc:M GI:1861694]
Cited4	ENSMUSG000	ENSMUST00000094814	34,87676667	124,804	0,279452315	0,000379472	0,030732883	
								cytoskeleton- associated protein 4 [Source:MGI Symbol;Acc:M GI:2444926]
Ckap4	ENSMUSG000	ENSMUST00000053871	167,8393333	44,40943333	3,779362193	6,49205E-05	0,022462575	

Ckap5	ENSMUSG000	ENSMUST0000011338	15,2864	6,914133333	2,2108917	0,000784461	0,037202668	cytoskeleton associated protein 5 [Source:MGI Symbol;Acc:MGI:1923036]
Cks1b	ENSMUSG000	ENSMUST00000029679	266,8906667	68,36406667	3,903961243	0,000140624	0,0253873	CDC28 protein kinase 1b [Source:MGI Symbol;Acc:MGI:1889208]
Cks2	ENSMUSG000	ENSMUST00000075853	53,3424	22,4718	2,373748431	0,001832096	0,045357114	CDC28 protein kinase regulatory subunit 2 [Source:MGI Symbol;Acc:MGI:1913447]
Cldn15	ENSMUSG000	ENSMUST00000111093	8,268586667	16,86703333	0,490221754	0,000387377	0,030801177	claudin 15 [Source:MGI Symbol;Acc:MGI:1913103]
Cldn3	ENSMUSG000	ENSMUST00000094245	102,4590667	424,0243333	0,241634875	4,38226E-05	0,022205781	claudin 3 [Source:MGI Symbol;Acc:MGI:1329044]
Cldn4	ENSMUSG000	ENSMUST00000051401	11,6937	42,40493333	0,275762726	0,002108868	0,046860928	claudin 4 [Source:MGI Symbol;Acc:MGI:1313314]
Cldn7	ENSMUSG000	ENSMUST00000108597	106,6651667	358,3196667	0,297681586	3,96315E-05	0,022205781	claudin 7 [Source:MGI Symbol;Acc:MGI:1859285]

Clec14a	ENSMUSG000	ENSMUST00000062254	5,14982	14,81733333	0,347553766	0,000537712	0,033324312	C-type lectin domain family 14, member a [Source:MGI Symbol;Acc:MG1:1914114]
Cndp2	ENSMUSG000	ENSMUST00000025546	98,48266667	226,415	0,434965292	0,001002827	0,040265643	CNDP dipeptidase 2 (metallopeptidase M20 family) [Source:MGI Symbol;Acc:MG1:1913304]
Col14a1	ENSMUSG000	ENSMUST00000023053	105,8176667	49,73646667	2,12756703	0,000755792	0,037056621	collagen, type XIV, alpha 1 [Source:MGI Symbol;Acc:MG1:1341272]
Col1a1	ENSMUSG000	ENSMUST00000001547	2038,513333	643,145	3,169601464	0,000357829	0,030252831	collagen, type I, alpha 1 [Source:MGI Symbol;Acc:MG1:88467]
Col4a6	ENSMUSG000	ENSMUST00000101205	5,78649	21,28956667	0,271799332	0,001343511	0,042684469	collagen, type IV, alpha 6 [Source:MGI Symbol;Acc:MG1:2152695]

Col6a4	ENSMUSG000	ENSMUST00000149207	23,0472	54,47203333	0,423101518	0,00257799	0,04982077	collagen, type VI, alpha 4 [Source:MGI Symbol;Acc:MG1:1915803]
Cox10	ENSMUSG000	ENSMUST00000049091	11,4488	4,04648	2,829323264	0,000307026	0,029788668	cytochrome c oxidase assembly protein 10 [Source:MGI Symbol;Acc:MG1:1917633]
Cox7a2l	ENSMUSG000	ENSMUST00000167741	114,019	246,995	0,461624729	0,002564729	0,04982077	cytochrome c oxidase subunit VIIa polypeptide 2-like [Source:MGI Symbol;Acc:MG1:106015]
Cplx2	ENSMUSG000	ENSMUST00000026985	5,47584	13,36953333	0,409576001	0,000388114	0,030801177	complexin 2 [Source:MGI Symbol;Acc:MG1:104726]
Cpne5	ENSMUSG000	ENSMUST00000024805	3,261126667	10,9229	0,298558686	0,000574618	0,034063473	copine V [Source:MGI Symbol;Acc:MG1:2385908]
Creb3l1	ENSMUSG000	ENSMUST00000028663	67,98446667	19,693	3,452214831	0,000125239	0,0253873	cAMP responsive element binding protein 3-like 1 [Source:MGI Symbol;Acc:MG1:1347062]

Csad	ENSMUSG000	ENSMUST00000023805	11,8719	25,71473333	0,461676963	0,002368986	0,048517067	cysteine sulfinic acid decarboxylase [Source:MGI Symbol;Acc:M GI:2180098]
Csflr	ENSMUSG000	ENSMUST00000025523	5,580886667	12,50413333	0,446323349	0,001813078	0,045357114	colony stimulating factor 1 receptor [Source:MGI Symbol;Acc:M GI:1339758]
Ctsd	ENSMUSG000	ENSMUST00000151120	233,7103333	580,145	0,402848139	0,000885982	0,038702462	cathepsin D [Source:MGI Symbol;Acc:M GI:88562]
Ctsf	ENSMUSG000	ENSMUST00000119694	10,47641333	56,29276667	0,186105853	0,001524542	0,044044181	cathepsin F [Source:MGI Symbol;Acc:M GI:1861434]
Cx3cr1	ENSMUSG000	ENSMUST00000064165	1,545083333	3,412273333	0,452801749	0,002310344	0,048267329	chemokine (C- X3-C motif) receptor 1 [Source:MGI Symbol;Acc:M GI:1333815]
Cxcl14	ENSMUSG000	ENSMUST00000021970	548,108	144,0043333	3,806191017	6,51665E-05	0,022462575	chemokine (C- X-C motif) ligand 14 [Source:MGI Symbol;Acc:M GI:1888514]

Cxcl17	ENSMUSG000	ENSMUST00000200880	28,95683333	81,19896667	0,356615786	0,001702665	0,044893495	chemokine (C-X-C motif) ligand 17 [Source:MGI Symbol;Acc:MG1:2387642]
Cys	ENSMUSG000	ENSMUST00000161401	63,6105	20,0453	3,173337391	0,000129557	0,0253873	cytochrome c, somatic [Source:MGI Symbol;Acc:MG1:88578]
Cyp1b1	ENSMUSG000	ENSMUST00000024894	2,517823333	10,81476667	0,232813468	0,000585818	0,034140507	cytochrome P450, family 1, subfamily b, polypeptide 1 [Source:MGI Symbol;Acc:MG1:88590]
Cyp27a1	ENSMUSG000	ENSMUST00000027356	16,7428	140,5443333	0,119128247	0,001299165	0,04215947	cytochrome P450, family 27, subfamily a, polypeptide 1 [Source:MGI Symbol;Acc:MG1:88594]
Dbf4	ENSMUSG000	ENSMUST00000002368	19,8381	6,923213333	2,865446873	0,000268786	0,029657549	DBF4 zinc finger [Source:MGI Symbol;Acc:MG1:1351328]

Dbp	ENSMUSG000	ENSMUST00000080885	4,230336667	27,5085	0,153782891	2,24111E-05	0,021833927	D site albumin promoter binding protein [Source:MGI Symbol;Acc:MG1:94866]
Dcl1	ENSMUSG000	ENSMUST00000196745	14,88913333	7,375596667	2,018702216	0,00023569	0,028210259	doublecortin-like kinase 1 [Source:MGI Symbol;Acc:MG1:1330861]
Dcn	ENSMUSG000	ENSMUST00000105287	270,492	665,432	0,406490821	0,00226424	0,048100467	decorin [Source:MGI Symbol;Acc:MG1:94872]
Dctpp1	ENSMUSG000	ENSMUST00000035276	193,328	77,58883333	2,491698763	0,000521326	0,033324312	dCTP pyrophosphatase 1 [Source:MGI Symbol;Acc:MG1:1913672]
Dexr	ENSMUSG000	ENSMUST00000106148	24,01306667	86,45353333	0,277756915	0,000424386	0,031625783	dicarbonyl L-xylulose reductase [Source:MGI Symbol;Acc:MG1:1915130]
Ddit4	ENSMUSG000	ENSMUST00000020308	25,9258	65,41416667	0,396333108	0,000823424	0,037642907	DNA-damage-inducible transcript 4 [Source:MGI Symbol;Acc:MG1:1921997]

Ddo	ENSMUSG000	ENSMUST00000019977	2,141696667	5,94947	0,359981085	0,001534123	0,044089874	D-aspartate oxidase [Source:MGI Symbol;Acc:MG1:1925528]
Deptor	ENSMUSG000	ENSMUST00000096433	2,07818	4,283806667	0,485124601	0,000297992	0,029657549	DEP domain containing MTOR-interacting protein [Source:MGI Symbol;Acc:MG1:2146322]
Des	ENSMUSG000	ENSMUST00000027409	1000,868333	417,2156667	2,398923179	0,00180457	0,045357114	desmin [Source:MGI Symbol;Acc:MG1:94885]
Dhrs7	ENSMUSG000	ENSMUST00000021512	16,55523333	34,721	0,476807504	0,001856753	0,045357114	dehydrogenase/reductase (SDR family) member 7 [Source:MGI Symbol;Acc:MG1:1913625]
Dio2	ENSMUSG000	ENSMUST00000082432	8,594403333	27,1129	0,316985765	2,72154E-05	0,021833927	deiodinase, iodothyronine, type II [Source:MGI Symbol;Acc:MG1:1338833]
Dio3	ENSMUSG000	ENSMUST00000173014	165,7843333	1,76283	94,04442478	0,00151687	0,044044181	deiodinase, iodothyronine type III [Source:MGI Symbol;Acc:MG1:1306782]

Dleu7	ENSMUSG000	ENSMUST00000063169	0,214097333	7,9748	0,026846734	0,001687068	0,044745641	deleted in lymphocytic leukemia, 7 [Source:MGI Symbol;Acc:MGI:2447771]
Dnajb11	ENSMUSG000	ENSMUST00000004574	284,209	120,1706667	2,365044714	0,002671748	0,049893849	DnaJ heat shock protein family (Hsp40) member B11 [Source:MGI Symbol;Acc:MGI:1915088]
Draxin	ENSMUSG000	ENSMUST00000030862	11,46073333	4,452136667	2,574209687	5,57476E-05	0,022205781	dorsal inhibitory axon guidance protein [Source:MGI Symbol;Acc:MGI:1917683]
Dtl	ENSMUSG000	ENSMUST00000195650	11,27233333	2,211346667	5,097497151	0,000483666	0,033324312	denticleless E3 ubiquitin protein ligase [Source:MGI Symbol;Acc:MGI:1924093]
Dusp28	ENSMUSG000	ENSMUST00000060913	4,09473	9,4282	0,434306655	0,001888461	0,045582707	dual specificity phosphatase 28 [Source:MGI Symbol;Acc:MGI:1914696]

Dyrk1b	ENSMUSG000	ENSMUST00000085901	5,64869333	17,3573	0,325436176	0,000483956	0,033324312	dual-specificity tyrosine-(Y)- phosphorylation regulated kinase 1b [Source:MG Symbol;Acc:MG GI:1330302]
Ednrb	ENSMUSG000	ENSMUST00000022718	7,34334	30,1084333	0,24389645	0,000119161	0,0253873	endothelin receptor type B [Source:MG Symbol;Acc:MG GI:102720]
Efhc1	ENSMUSG000	ENSMUST00000160782	1,003119667	5,21704	0,19227755	0,002245181	0,048100467	EF-hand domain (C- terminal) containing 1 [Source:MG Symbol;Acc:MG GI:1919127]
Efhf1	ENSMUSG000	ENSMUST00000118687	41,2465333	109,029	0,378307912	0,001570086	0,044309347	EF hand domain containing 1 [Source:MG Symbol;Acc:MG GI:1921607]
Eif5a	ENSMUSG000	ENSMUST00000108610	1158,28333	520,192333	2,226644376	5,20499E-05	0,022205781	eukaryotic translation initiation factor 5A [Source:MG Symbol;Acc:MG GI:106248]

Emc8	ENSMUSG000	ENSMUST00000034277	256,5466667	122,1273333	2,100649049	0,001971532	0,045930462	ER membrane protein complex subunit 8 [Source:MGI Symbol;Acc:MG1:1343095]
Emilin2	ENSMUSG000	ENSMUST00000024849	47,52003333	11,33796667	4,191230644	0,001579014	0,044320587	elastin microfibril interfacer 2 [Source:MGI Symbol;Acc:MG1:2389136]
Eno1	ENSMUSG000	ENSMUST00000150175	388,159	146,9243333	2,641897303	0,001070428	0,040416894	enolase 1, alpha non-neuron [Source:MGI Symbol;Acc:MG1:95393]
Enpp2	ENSMUSG000	ENSMUST00000041591	3,18196	16,8021	0,189378709	0,002281144	0,048188741	ectonucleotide pyrophosphatase/phosphodiesterase 2 [Source:MGI Symbol;Acc:MG1:1321390]
Enpp3	ENSMUSG000	ENSMUST00000020169	57,47343333	251,864	0,228192331	0,002608126	0,04982077	ectonucleotide pyrophosphatase/phosphodiesterase 3 [Source:MGI Symbol;Acc:MG1:2143702]

Epcam	ENSMUSG000	ENSMUST00000053577	27,7074	82,0808	0,337562499	0,000870797	0,038368201	epithelial cell adhesion molecule [Source:MGI Symbol;Acc:M GI:106653]
Epha2	ENSMUSG000	ENSMUST00000006614	15,13173333	6,747613333	2,242531186	0,001036801	0,040265643	Eph receptor A2 [Source:MGI Symbol;Acc:M GI:95278]
Ephb2	ENSMUSG000	ENSMUST00000105845	46,92346667	13,87426667	3,382050223	0,000701603	0,036320163	Eph receptor B2 [Source:MGI Symbol;Acc:M GI:99611]
Ephx1	ENSMUSG000	ENSMUST00000154133	13,10656667	67,56236667	0,193992119	0,00075821	0,037056621	epoxide hydrolase 1, microsomal [Source:MGI Symbol;Acc:M GI:95405]
ErbB3	ENSMUSG000	ENSMUST00000082059	6,75259	21,6241	0,312271493	0,000526177	0,033324312	erb-b2 receptor tyrosine kinase 3 [Source:MGI Symbol;Acc:M GI:95411]
Esp1	ENSMUSG000	ENSMUST00000064924	7,627166667	2,459976667	3,100503663	0,002256063	0,048100467	extra spindle pole bodies 1, separase [Source:MGI Symbol;Acc:M GI:2146156]

Etfbkm	ENSMUSG000	ENSMUST00000126406	6,077446667	25,61176667	0,237291193	0,001259429	0,041987226	electron transfer flavoprotein beta subunit lysine methyltransfer ase [Source:MGI Symbol;Acc:M GI:2443575]
Exosc8	ENSMUSG000	ENSMUST00000029316	157,7026667	73,24873333	2,152974659	0,002658637	0,04986488	exosome component 8 [Source:MGI Symbol;Acc:M GI:1916889]
Eya2	ENSMUSG000	ENSMUST00000063433	23,23483333	53,38463333	0,435234484	0,001575884	0,044320587	EYA transcriptional coactivator and phosphatase 2 [Source:MGI Symbol;Acc:M GI:109341]
Ezr	ENSMUSG000	ENSMUST00000064234	55,35096667	195,329	0,28337301	0,000313867	0,029788668	ezrin [Source:MGI Symbol;Acc:M GI:98931]
F2rl1	ENSMUSG000	ENSMUST00000022185	3,987476667	12,95913333	0,307696245	5,12914E-05	0,022205781	coagulation factor II (thrombin) receptor-like 1 [Source:MGI Symbol;Acc:M GI:101910]

F3	ENSMUSG000	ENSMUST00000029771	27,69946667	155,342	0,178312798	7,07608E-05	0,022860411	coagulation factor III [Source:MGI Symbol;Acc:M GI:88381]
Fam102b	ENSMUSG000	ENSMUST00000046924	9,825993333	29,07376667	0,337967675	0,000188668	0,026840416	family with sequence similarity 102, member B [Source:MGI Symbol;Acc:M GI:3036259]
Fam189a2	ENSMUSG000	ENSMUST00000096164	12,4147	63,11316667	0,196705389	0,000520673	0,033324312	family with sequence similarity 189, member A2 [Source:MGI Symbol;Acc:M GI:2685813]
Fam20c	ENSMUSG000	ENSMUST00000026972	32,71356667	89,3027	0,366322258	0,00106087	0,040416894	family with sequence similarity 20, member C [Source:MGI Symbol;Acc:M GI:2136853]
Fam46a	ENSMUSG000	ENSMUST00000034802	3,967886667	10,55602	0,375888514	0,002104029	0,046860928	family with sequence similarity 46, member A [Source:MGI Symbol;Acc:M GI:2670964]

Fam84b	ENSMUSG000	ENSMUST00000100635	3,384506667	9,30324	0,363798705	0,000373886	0,030732883	family with sequence similarity 84, member B [Source:MGI Symbol;Acc:M GI:3026924]
Fam8a1	ENSMUSG000	ENSMUST00000099547	10,15872333	21,15773333	0,480142328	0,001456556	0,043600224	family with sequence similarity 8, member A1 [Source:MGI Symbol;Acc:M GI:2145496]
Fbn1	ENSMUSG000	ENSMUST00000028633	39,41983333	15,1304	2,605339802	0,001299127	0,04215947	fibrillin 1 [Source:MGI Symbol;Acc:M GI:95489]
Fbn2	ENSMUSG000	ENSMUST00000025497	9,553123333	2,695173333	3,544530222	0,00029529	0,029657549	fibrillin 2 [Source:MGI Symbol;Acc:M GI:95490]
Fbxo32	ENSMUSG000	ENSMUST00000022986	3,699523333	26,84743333	0,137798027	0,000694516	0,036190496	F-box protein 32 [Source:MGI Symbol;Acc:M GI:1914981]
Fen1	ENSMUSG000	ENSMUST00000156291	49,87946667	15,26896667	3,266721826	0,000782936	0,037202668	flap structure specific endonuclease 1 [Source:MGI Symbol;Acc:M GI:102779]

Fibin	ENSMUSG000	ENSMUST00000099626	1,152459	5,831696667	0,197619847	0,001461293	0,043600224	fin bud initiation factor homolog (zebrafish) [Source:MGI Symbol;Acc:M GI:1914856]
Fignl1	ENSMUSG000	ENSMUST00000047689	8,34593	2,588373333	3,224391896	0,002196043	0,04749132	fidgetin-like 1 [Source:MGI Symbol;Acc:M GI:1890648]
Fjx1	ENSMUSG000	ENSMUST00000099678	7,50662	19,81533333	0,378828853	0,001016618	0,040265643	four jointed box 1 (Drosophila) [Source:MGI Symbol;Acc:M GI:1341907]
Fkbp10	ENSMUSG000	ENSMUST00000001595	175,9296667	87,16436667	2,018366833	0,0025237	0,04958105	FK506 binding protein 10 [Source:MGI Symbol;Acc:M GI:104769]
Fndc5	ENSMUSG000	ENSMUST00000102600	5,537743333	22,99763333	0,240796227	8,12679E-05	0,024692104	fibronectin type III domain containing 5 [Source:MGI Symbol;Acc:M GI:1917614]
Fosl1	ENSMUSG000	ENSMUST00000025850	8,731353333	2,734726667	3,192770027	0,000709306	0,036472848	fos-like antigen 1 [Source:MGI Symbol;Acc:M GI:107179]

Foxm1	ENSMUSG000	ENSMUST00000123988	27,38103333	9,269543333	2,953870795	0,00103235	0,040265643	forkhead box M1 [Source:MG Symbol;Acc:M GI:1347487]
Fst	ENSMUSG000	ENSMUST00000022287	57,1326	12,32763333	4,63451487	0,000143407	0,0253873	follicle-stimulating [Source:MG Symbol;Acc:M GI:95586]
Fut8	ENSMUSG000	ENSMUST00000177595	30,33483333	13,1482	2,307147239	0,00033667	0,029788668	fucosyltransferase 8 [Source:MG Symbol;Acc:M GI:1858901]
Fzd1	ENSMUSG000	ENSMUST00000054294	124,38	46,9753	2,647774469	5,46157E-05	0,022205781	frizzled class receptor 1 [Source:MG Symbol;Acc:M GI:1196625]
Fzd6	ENSMUSG000	ENSMUST00000022906	8,971636667	21,1906	0,423378133	0,001217428	0,041738619	frizzled class receptor 6 [Source:MG Symbol;Acc:M GI:108474]
Gabarapl1	ENSMUSG000	ENSMUST00000032264	120,9233333	311,5276667	0,388162421	0,000469869	0,033073183	gamma-aminobutyric acid (GABA) A receptor- associated protein-like 1 [Source:MG Symbol;Acc:M GI:1914980]

Gadd45g	ENSMUSG000	ENSMUST00000021903	121,1513333	46,0839	2,628929699	0,001386816	0,043193781	growth arrest and DNA-damage-inducible 45 gamma [Source:MGISymbol;Acc:MG1:1346325]
Galnt11	ENSMUSG000	ENSMUST00000196213	22,021	84,885	0,25942157	0,001659391	0,044591157	UDP-N-acetyl-alpha-D-galactosamine: polypeptide N-acetylgalactosaminyltransferase 11 [Source:MGISymbol;Acc:MG1:2444392]
Galnt15	ENSMUSG000	ENSMUST00000022460	4,570703333	38,35296667	0,119174701	0,000763668	0,037056621	UDP-N-acetyl-alpha-D-galactosamine: polypeptide N-acetylgalactosaminyltransferase 15 [Source:MGISymbol;Acc:MG1:1926004]
Gars	ENSMUSG000	ENSMUST00000003572	87,52083333	40,1279	2,181046936	0,000438103	0,032005913	glycyl-tRNA synthetase [Source:MGISymbol;Acc:MG1:2449057]

Gfpt2	ENSMUSG000	ENSMUST00000130129	11,12773333	4,16652	2,67075001	0,001538037	0,044089874	glutamine fructose-6- phosphate transaminase 2 [Source:MGI Symbol;Acc:M GI:1338883]
Gigyf1	ENSMUSG000	ENSMUST00000197624	14,47173333	33,36023333	0,433801922	0,001894786	0,045696354	GRB10 interacting GYF protein 1 [Source:MGI Symbol;Acc:M GI:1888677]
Gimap1	ENSMUSG000	ENSMUST00000054368	18,1295	36,53496667	0,496223253	0,000746185	0,037056621	GTPase, IMAP family member 1 [Source:MGI Symbol;Acc:M GI:109368]
Gja1	ENSMUSG000	ENSMUST00000068581	1389,536667	298,8266667	4,64997546	0,000959028	0,040021698	gap junction protein, alpha 1 [Source:MGI Symbol;Acc:M GI:95713]
Gjb2	ENSMUSG000	ENSMUST00000055698	80,30096667	15,52056667	5,17384245	0,000731985	0,036981107	gap junction protein, beta 2 [Source:MGI Symbol;Acc:M GI:95720]

Gltscr2	ENSMUSG000	ENSMUST00000044158	375,3076667	863,4413333	0,43466493	0,001701305	0,044893495	glioma tumor suppressor candidate region gene 2 [Source:MGI Symbol;Acc:MGI:2154441]
Gnl3	ENSMUSG000	ENSMUST00000037739	61,7603	26,29833333	2,348449205	0,001887928	0,045582707	guanine nucleotide binding protein like 3 (nucleolar) [Source:MGI Symbol;Acc:MGI:1353651]
Gpm6a	ENSMUSG000	ENSMUST00000033915	0,943911	2,355193333	0,400778563	0,000143567	0,0253873	glycoprotein m6a [Source:MGI Symbol;Acc:MGI:107671]
Gsn	ENSMUSG000	ENSMUST000000201185	241,7423333	529,621	0,456444011	0,000144456	0,0253873	gelsolin [Source:MGI Symbol;Acc:MGI:95851]
Gstm1	ENSMUSG000	ENSMUST00000004140	60,37076667	232,1916667	0,26000402	0,002008715	0,046233583	glutathione S-transferase, mu 1 [Source:MGI Symbol;Acc:MGI:95860]

Gsto1	ENSMUSG000	ENSMUST00000026050	92,53826667	388,7666667	0,238030352	0,000191548	0,026840416	glutathione S-transferase omega 1 [Source:MGI Symbol;Acc:MGI:1342273]
Gtse1	ENSMUSG000	ENSMUST00000170629	13,88816667	3,276853333	4,238263131	0,000526552	0,033324312	G two S phase expressed protein 1 [Source:MGI Symbol;Acc:MGI:1352755]
H2afx	ENSMUSG000	ENSMUST00000052686	194,166	78,97996667	2,458420891	0,00070822	0,036472848	H2A histone family, member X [Source:MGI Symbol;Acc:MGI:102688]
H2afz	ENSMUSG000	ENSMUST00000041045	1673,023333	670,1353333	2,496545474	0,00065137	0,03500185	H2A histone family, member Z [Source:MGI Symbol;Acc:MGI:1888388]
Hand2	ENSMUSG000	ENSMUST00000040104	353,4063333	118,299	2,987399161	0,000366817	0,0306748	heart and neural crest derivatives expressed transcript 2 [Source:MGI Symbol;Acc:MGI:103580]

Has3	ENSMUSG000	ENSMUST00000034385	1,028884333	4,961553333	0,207371415	0,001371022	0,042962236	hyaluronan synthase 3 [Source:MGI Symbol;Acc:MGI:109599]
Haus7	ENSMUSG000	ENSMUST00000033737	28,5066	14,13423333	2,016847984	0,001837186	0,045357114	HAUS augmin-like complex, subunit 7 [Source:MGI Symbol;Acc:MGI:1920988]
Hba-a2	ENSMUSG000	ENSMUST00000093207	216,0456667	484,4966667	0,445917757	0,001497716	0,043964067	hemoglobin alpha, adult chain 2 [Source:MGI Symbol;Acc:MGI:96016]
Hdac5	ENSMUSG000	ENSMUST00000107151	47,77123333	182,4696667	0,261803697	0,001976897	0,045982274	histone deacetylase 5 [Source:MGI Symbol;Acc:MGI:1333784]
Hexb	ENSMUSG000	ENSMUST00000022169	19,44406667	60,77923333	0,319912997	0,001299116	0,04215947	hexosaminidase B [Source:MGI Symbol;Acc:MGI:96074]
Hirip3	ENSMUSG000	ENSMUST00000037248	193,005	84,5122	2,283753115	0,00160138	0,044515641	HIRA interacting protein 3 [Source:MGI Symbol;Acc:MGI:2142364]

Hist2h2be	ENSMUSG000	ENSMUST00000090781	1,777603333	4,681356667	0,379719697	0,001962759	0,045898162	histone cluster 2, H2be [Source:MGI Symbol;Acc:M GI:2448415]
Hk2	ENSMUSG000	ENSMUST00000000642	39,75166667	4,107533333	9,67774658	0,00065689	0,03512522	hexokinase 2 [Source:MGI Symbol;Acc:M GI:1315197]
Hmgb2	ENSMUSG000	ENSMUST00000067925	278,7943333	136,9136667	2,036278336	0,001593389	0,044415326	high mobility group box 2 [Source:MGI Symbol;Acc:M GI:96157]
Hmgcs2	ENSMUSG000	ENSMUST00000120541	5,311543333	34,8838	0,152263897	0,000498297	0,033324312	3-hydroxy-3- methylglutaryl- Coenzyme A synthase 2 [Source:MGI Symbol;Acc:M GI:101939]
Hnmpab	ENSMUSG000	ENSMUST00000074669	700,5563333	303,9593333	2,304769936	8,33963E-05	0,024692104	heterogeneous nuclear ribonucleoprot ein A/B [Source:MGI Symbol;Acc:M GI:1330294]

Hnmpd	ENSMUSG000	ENSMUST00000172361	461,1973333	152,0416667	3,033361469	0,00210627	0,046860928	heterogeneous nuclear ribonucleoprotein D [Source:MGI Symbol;Acc:MGI:101947]
Hsd11b2	ENSMUSG000	ENSMUST00000034363	128,012	300,8576667	0,425490237	0,00011345	0,0253873	hydroxysteroid 11-beta dehydrogenase 2 [Source:MGI Symbol;Acc:MGI:104720]
Hsd17b11	ENSMUSG000	ENSMUST00000031251	17,17236667	60,35313333	0,284531485	0,001930164	0,045776519	hydroxysteroid (17-beta) dehydrogenase 11 [Source:MGI Symbol;Acc:MGI:2149821]
Hspa1a	ENSMUSG000	ENSMUST00000087328	86,83193333	36,95886667	2,349420888	0,00016637	0,025696437	heat shock protein 1A [Source:MGI Symbol;Acc:MGI:96244]
Hspa1b	ENSMUSG000	ENSMUST00000172753	103,1136667	44,13256667	2,336452975	0,000568436	0,034039923	heat shock protein 1B [Source:MGI Symbol;Acc:MGI:99517]
Hspa5	ENSMUSG000	ENSMUST00000028222	2142,546667	799,0586667	2,681338375	0,000376259	0,030732883	heat shock protein 5 [Source:MGI Symbol;Acc:MGI:95835]

Hspa9	ENSMUSG000	ENSMUST00000025217	189,273	90,16923333	2,099086274	0,000406222	0,031285735	heat shock protein 9 [Source:MGI Symbol;Acc:MGI:96245]
Hspd1	ENSMUSG000	ENSMUST00000027123	267,1576667	94,04526667	2,840734852	0,001787166	0,045357114	heat shock protein 1 (chaperonin) [Source:MGI Symbol;Acc:MGI:96242]
Hyou1	ENSMUSG000	ENSMUST00000066601	194,2256667	82,5714	2,35221477	0,001948365	0,045898162	hypoxia up-regulated 1 [Source:MGI Symbol;Acc:MGI:108030]
Icam4	ENSMUSG000	ENSMUST00000001040	0,335659667	1,216118	0,276009126	0,002416546	0,048978413	intercellular adhesion molecule 4, Landsteiner-Wiener blood group [Source:MGI Symbol;Acc:MGI:1925619]
Id3	ENSMUSG000	ENSMUST00000008016	265,1043333	106,3336667	2,493136385	0,00190691	0,045728359	inhibitor of DNA binding 3 [Source:MGI Symbol;Acc:MGI:96398]
Ier5l	ENSMUSG000	ENSMUST000000065134	44,22606667	16,3195	2,710013583	0,001370898	0,042962236	immediate early response 5-like [Source:MGI Symbol;Acc:MGI:1919750]

Ifit3	ENSMUSG000	ENSMUST00000102825	1,913823333	13,82993333	0,138382687	0,001060229	0,040416894	interferon-induced protein with tetra-ricopeptide repeats 3 [Source:MGI Symbol;Acc:MG1:1101055]
Ifitm1	ENSMUSG000	ENSMUST00000106042	417,1096667	855,014	0,487839575	0,001137722	0,040901323	interferon induced transmembrane protein 1 [Source:MGI Symbol;Acc:MG1:1915963]
Igfbp2	ENSMUSG000	ENSMUST00000047328	44,33903333	9,400383333	4,716726091	0,001496825	0,043964067	insulin-like growth factor binding protein 2 [Source:MGI Symbol;Acc:MG1:96437]
Igfbp3	ENSMUSG000	ENSMUST00000020702	365,8443333	995,6076667	0,367458333	0,000144924	0,0253873	insulin-like growth factor binding protein 3 [Source:MGI Symbol;Acc:MG1:96438]
Igfbp4	ENSMUSG000	ENSMUST00000017637	2475,676667	655,9396667	3,774244481	0,000222744	0,027988398	insulin-like growth factor binding protein 4 [Source:MGI Symbol;Acc:MG1:96439]

Igfbp6	ENSMUSG000	ENSMUST00000023807	229,363	580,9123333	0,394832382	0,00010692	0,0253873	insulin-like growth factor binding protein 6 [Source:MGI Symbol;Acc:MGI:96441]
Ihh	ENSMUSG000	ENSMUST00000164097	55,89633333	27,77153333	2,01272046	0,002316481	0,048267329	Indian hedgehog [Source:MGI Symbol;Acc:MGI:96533]
Il11	ENSMUSG000	ENSMUST00000094892	36,81576667	0,316506333	116,31921	0,000163813	0,025660582	interleukin 11 [Source:MGI Symbol;Acc:MGI:107613]
Ilf2	ENSMUSG000	ENSMUST00000196769	99,68063333	49,45276667	2,015673542	0,000511853	0,033324312	interleukin enhancer binding factor 2 [Source:MGI Symbol;Acc:MGI:1915031]
Ilvbl	ENSMUSG000	ENSMUST00000218061	76,12953333	207,886	0,366208082	0,000910613	0,039283223	ilvB (bacterial acetolactate synthase)-like [Source:MGI Symbol;Acc:MGI:1351911]
Incnp	ENSMUSG000	ENSMUST00000025562	36,046	12,52826667	2,877173751	0,000584143	0,034140507	inner centromere protein [Source:MGI Symbol;Acc:MGI:1313288]

Inf2	ENSMUSG000	ENSMUST00000101029	112,2756667	38,72673333	2,899177313	0,001322028	0,042270499	inverted formin, FH2 and WH2 domain containing [Source:MG Symbol;Acc:M GI:1917685]
Inmt	ENSMUSG000	ENSMUST00000003569	0,261369333	42,46016667	0,006155636	0,001117043	0,040634775	indolethylamin e N- methyltransfer ase [Source:MG Symbol;Acc:M GI:102963]
Inpp5k	ENSMUSG000	ENSMUST00000006286	16,42913333	48,18723333	0,340943694	0,001450208	0,043600224	inositol polyphosphate 5-phosphatase K [Source:MG Symbol;Acc:M GI:1194899]
Ip6k2	ENSMUSG000	ENSMUST00000192307	94,29016667	194,9636667	0,483629428	0,000240604	0,028283921	inositol hexaphosphate kinase 2 [Source:MG Symbol;Acc:M GI:1923750]
Ipo9	ENSMUSG000	ENSMUST00000041023	146,073	57,72003333	2,530715794	0,001824589	0,045357114	importin 9 [Source:MG Symbol;Acc:M GI:1918944]

Itga5	ENSMUSG000	ENSMUST00000215331	79,05123333	32,6081	2,424282106	0,000148113	0,0253873	integrin alpha 5 (fibronectin receptor alpha) [Source:MGI Symbol;Acc:MGI:96604]
Itgb7	ENSMUSG000	ENSMUST00000001327	3,46641	7,469976667	0,464045626	0,002453422	0,049107567	integrin beta 7 [Source:MGI Symbol;Acc:MGI:96616]
Itgb8	ENSMUSG000	ENSMUST00000026360	1,606536667	5,35201	0,300174452	0,000270394	0,029657549	integrin beta 8 [Source:MGI Symbol;Acc:MGI:1338035]
Itm2b	ENSMUSG000	ENSMUST00000022704	168,9233333	444,5793333	0,379962182	9,90017E-05	0,0253873	integral membrane protein 2B [Source:MGI Symbol;Acc:MGI:1309517]
Jade3	ENSMUSG000	ENSMUST00000115384	8,45487	1,759283333	4,805860341	0,001854596	0,045357114	jade family PHD finger 3 [Source:MGI Symbol;Acc:MGI:2148019]
Kank4	ENSMUSG000	ENSMUST00000102790	7,527543333	2,785793333	2,702118367	0,001672267	0,044591157	KN motif and ankyrin repeat domains 4 [Source:MGI Symbol;Acc:MGI:3043381]

Khdrbs3	ENSMUSG000	ENSMUST00000022954	59,20773333	14,65646667	4,039700337	0,001526461	0,044044181	KH domain containing, RNA binding, signal transduction associated 3 [Source:MGI Symbol;Acc:MGI:1313312]
Kif11	ENSMUSG000	ENSMUST00000012587	9,190853333	3,045103333	3,018240213	0,001297309	0,04215947	kinesin family member 11 [Source:MGI Symbol;Acc:MGI:1098231]
Kif20a	ENSMUSG000	ENSMUST00000166044	28,56806667	9,331743333	3,061385815	0,000303657	0,029788668	kinesin family member 20A [Source:MGI Symbol;Acc:MGI:1201682]
Kifc2	ENSMUSG000	ENSMUST00000004294	1,010315667	7,476976667	0,135123555	0,001449391	0,043600224	kinesin family member C2 [Source:MGI Symbol;Acc:MGI:109187]
Kirrel	ENSMUSG000	ENSMUST00000159976	17,15233333	8,150163333	2,1045386	0,000154236	0,0253873	kin of IRRE like (Drosophila) [Source:MGI Symbol;Acc:MGI:1891396]

Klf9	ENSMUSG000	ENSMUST00000036884	9,871853333	28,67076667	0,344317731	0,000619292	0,034712152	Kruppel-like factor 9 [Source:MGI Symbol;Acc:MGI:1333856]
Klh33	ENSMUSG000	ENSMUST00000164415	0,210365667	1,412156667	0,148967655	0,000171382	0,026043614	kelch-like 33 [Source:MGI Symbol;Acc:MGI:3644593]
Kpna2	ENSMUSG000	ENSMUST00000145331	43,17393333	12,29023333	3,512865229	0,000225433	0,027988398	karyopherin (importin) alpha 2 [Source:MGI Symbol;Acc:MGI:103561]
Krt18	ENSMUSG000	ENSMUST00000023803	79,50316667	262,259	0,303147525	0,000153524	0,0253873	keratin 18 [Source:MGI Symbol;Acc:MGI:96692]
Krt19	ENSMUSG000	ENSMUST00000007317	18,7738	116,394	0,161295256	0,000898246	0,038940066	keratin 19 [Source:MGI Symbol;Acc:MGI:96693]
Krtcap3	ENSMUSG000	ENSMUST00000201333	14,29416667	50,9034	0,280809664	0,00227186	0,048100467	keratinocyte associated protein 3 [Source:MGI Symbol;Acc:MGI:1917065]
Lad1	ENSMUSG000	ENSMUST00000038760	6,18727	27,46806667	0,225253203	0,000305402	0,029788668	ladinin [Source:MGI Symbol;Acc:MGI:109343]

Lag3	ENSMUSG000	ENSMUST00000032217	1,172339333	6,513603333	0,179983225	0,002311215	0,048267329	lymphocyte-activation gene 3 [Source:MGISymbol;Acc:MGi:106588]
Lama3	ENSMUSG000	ENSMUST00000092070	4,119583333	29,24453333	0,140866783	0,001138841	0,040901323	laminin, alpha 3 [Source:MGISymbol;Acc:MGi:99909]
Ldha	ENSMUSG000	ENSMUST00000147535	830,136	282,1896667	2,941766117	0,000218009	0,027988398	lactate dehydrogenase A [Source:MGISymbol;Acc:MGi:96759]
Limk1	ENSMUSG000	ENSMUST00000015137	55,9398	11,37376667	4,918317884	0,001112999	0,040634775	LIM-domain containing, protein kinase [Source:MGISymbol;Acc:MGi:104572]
Lipg	ENSMUSG000	ENSMUST00000066532	27,29963333	5,34596	5,106591395	0,000986828	0,040185228	lipase, endothelial [Source:MGISymbol;Acc:MGi:1341803]
Lmnbl	ENSMUSG000	ENSMUST00000025486	117,7013333	44,8478	2,624461698	0,002337802	0,048267329	lamin B1 [Source:MGISymbol;Acc:MGi:96795]

Loxl1	ENSMUSG000	ENSMUST00000061799	70,18866667	26,19473333	2,679495369	0,000777069	0,037114332	lysyl oxidase-like 1 [Source:MGI Symbol;Acc:MGI:106096]
Loxl2	ENSMUSG000	ENSMUST00000022660	27,90086667	12,82636667	2,17527437	0,001212461	0,041738619	lysyl oxidase-like 2 [Source:MGI Symbol;Acc:MGI:2137913]
Loxl4	ENSMUSG000	ENSMUST00000026190	1,291346667	0,324968867	3,973755024	0,000621926	0,034712152	lysyl oxidase-like 4 [Source:MGI Symbol;Acc:MGI:1914823]
Lpar3	ENSMUSG000	ENSMUST00000039164	0,483353	3,727416667	0,129675065	0,000795068	0,03751067	lysophosphatidic acid receptor 3 [Source:MGI Symbol;Acc:MGI:1929469]
Lrat	ENSMUSG000	ENSMUST00000029632	10,3346	3,9559	2,612452287	0,0016958	0,044879135	lecithin-retinol acyltransferase (phosphatidylcholine-retinol-O-acyltransferase) [Source:MGI Symbol;Acc:MGI:1891259]

Lrba	ENSMUSG000	ENSMUST00000192145	2,83968	7,68024	0,369738446	0,002572812	0,04982077	LPS-responsive beige-like anchor [Source:MGI Symbol;Acc:MG1:1933162]
Lrrc1	ENSMUSG000	ENSMUST00000183873	15,09883333	37,0384	0,407653498	0,000818242	0,037642907	leucine rich repeat containing 1 [Source:MGI Symbol;Acc:MG1:2442313]
Lrrc17	ENSMUSG000	ENSMUST00000199277	42,50996667	95,0869	0,447064387	0,001023249	0,040265643	leucine rich repeat containing 17 [Source:MGI Symbol;Acc:MG1:1921761]
Lrrc59	ENSMUSG000	ENSMUST00000021239	227,3336667	72,78146667	3,123510381	0,00104014	0,040265643	leucine rich repeat containing 59 [Source:MGI Symbol;Acc:MG1:2138133]
Lrrn1	ENSMUSG000	ENSMUST00000049285	1,112749667	4,420203333	0,251741737	0,001013793	0,040265643	leucine rich repeat protein 1, neuronal [Source:MGI Symbol;Acc:MG1:106038]

Lyar	ENSMUSG000	ENSMUST00000087514	140,8676667	47,64816667	2,956413153	0,000215032	0,027988398	Lyl antibody reactive clone [Source:MGI Symbol;Acc:M GI:107470]
Macrocl	ENSMUSG000	ENSMUST00000040261	3,536696667	9,398713333	0,376295833	0,000493764	0,033324312	MACRO domain containing 1 [Source:MGI Symbol;Acc:M GI:2147583]
Mamdc2	ENSMUSG000	ENSMUST00000036069	3,824113333	27,48403333	0,139139452	0,001803331	0,045357114	MAM domain containing 2 [Source:MGI Symbol;Acc:M GI:1918988]
Manf	ENSMUSG000	ENSMUST00000159620	1027,946667	491,7276667	2,090479622	0,000663772	0,035332421	mesencephalic astrocyte- derived neurotrophic factor [Source:MGI Symbol;Acc:M GI:1922090]
Map2k3	ENSMUSG000	ENSMUST00000019076	88,50613333	41,77806667	2,118483223	0,000223421	0,027988398	mitogen- activated protein kinase kinase 3 [Source:MGI Symbol;Acc:M GI:1346868]

Mars	ENSMUSG000	ENSMUST00000037290	96,126	43,91653333	2,18883397	0,001751398	0,045167212	methionine- tRNA synthetase [Source:MGI Symbol;Acc:M GI:1345633]
Marveld2	ENSMUSG000	ENSMUST00000022137	3,22885	7,866556667	0,410452773	0,002591182	0,04982077	MARVEL (membrane- associating) domain containing 2 [Source:MGI Symbol;Acc:M GI:2446166]
Mb21d1	ENSMUSG000	ENSMUST00000070742	4,386733333	1,29647	3,383598026	0,001656821	0,044591157	Mab-21 domain containing 1 [Source:MGI Symbol;Acc:M GI:2442261]
Mcm10	ENSMUSG000	ENSMUST00000102985	39,1846	8,53693	4,590010695	0,002039656	0,046492643	minichromoso me maintenance 10 replication initiation factor [Source:MGI Symbol;Acc:M GI:1917274]
Mcm4	ENSMUSG000	ENSMUST00000023353	37,8212	8,80893	4,293506703	0,000717555	0,036675754	minichromoso me maintenance complex component 4 [Source:MGI Symbol;Acc:M GI:103199]

Mcm5	ENSMUSG000	ENSMUST00000164309	105,9503333	20,15016667	5,258037568	0,000103094	0,0253873	minichromosome maintenance complex component 5 [Source:MGI Symbol;Acc:MG1:103197]
Mecom	ENSMUSG000	ENSMUST00000172694	14,37286667	31,57646667	0,455176534	0,001785682	0,045357114	MDS1 and EVI1 complex locus [Source:MGI Symbol;Acc:MG1:95457]
Medag	ENSMUSG000	ENSMUST00000093110	42,29446667	7,274706667	5,813906815	0,000197964	0,02729489	mesenteric estrogen dependent adipogenesis [Source:MGI Symbol;Acc:MG1:1917967]
Mertk	ENSMUSG000	ENSMUST00000014505	3,682146667	8,916053333	0,412979435	0,000130046	0,0253873	c-met proto-oncogene tyrosine kinase [Source:MGI Symbol;Acc:MG1:96965]
Mgat5	ENSMUSG000	ENSMUST00000189427	3,558763333	8,807473333	0,404061778	0,001062098	0,040416894	mannoside acetylglucosaminyltransferase 5 [Source:MGI Symbol;Acc:MG1:894701]

Mif	ENSMUSG000	ENSMUST00000038169	601,1903333	257,7353333	2,332587952	4,98925E-05	0,022205781	macrophage migration inhibitory factor (glycosylation- inhibiting factor) [Source:MGI Symbol;Acc:M GI:96982]
Mkrl1	ENSMUSG000	ENSMUST00000114823	36,1265	85,21623333	0,423939179	0,000311922	0,029788668	makorin, ring finger protein, 1 [Source:MGI Symbol;Acc:M GI:1859353]
Mmp7	ENSMUSG000	ENSMUST00000018767	8,797673333	112,2616667	0,078367564	0,00067141	0,035569551	matrix metallopeptida se 7 [Source:MGI Symbol;Acc:M GI:103189]
Mmrn2	ENSMUSG000	ENSMUST00000111908	11,80813333	23,6671	0,498926076	0,001071637	0,040416894	multimerin 2 [Source:MGI Symbol;Acc:M GI:2385618]
Morf4l2	ENSMUSG000	ENSMUST00000113097	777,3153333	376,0966667	2,066796657	0,001035765	0,040265643	mortality factor 4 like 2 [Source:MGI Symbol;Acc:M GI:1927167]
Mpc2	ENSMUSG000	ENSMUST00000195026	45,452	98,8682	0,459723147	0,001087672	0,04045138	mitochondrial pyruvate carrier 2 [Source:MGI Symbol;Acc:M GI:1917706]

Mpi	ENSMUSG000	ENSMUST00000034856	70,2836333	23,1396333	3,037370226	0,002067947	0,046760418	mannose phosphate isomerase [Source:MGI Symbol;Acc:M GI:97075]
Msx1	ENSMUSG000	ENSMUST00000063116	24,36236667	51,11976667	0,476574293	0,001654983	0,044591157	msh homeobox 1 [Source:MGI Symbol;Acc:M GI:97168]
Mt1	ENSMUSG000	ENSMUST00000034215	901,6316667	370,9993333	2,430278401	0,000920282	0,039401922	metallothionei n 1 [Source:MGI Symbol;Acc:M GI:97171]
Mthfd2	ENSMUSG000	ENSMUST00000005810	100,4008667	15,2236	6,595080445	0,000689739	0,036035994	methylenetetra hydrofolate dehydrogenase (NAD+ dependent), methenyltetra hydrofolate cyclohydrolase [Source:MGI Symbol;Acc:M GI:1338850]
Mycn	ENSMUSG000	ENSMUST00000043396	5,86412	20,11156667	0,291579473	0,001781223	0,045357114	v-myc avian myelocytomato sis viral related oncogene, neuroblastoma derived [Source:MGI Symbol;Acc:M GI:97357]

Myo1d	ENSMUSG000	ENSMUST00000041065	10,22990667	25,22826667	0,405493838	0,001852108	0,045357114	myosin ID [Source:MGI Symbol;Acc:M GI:107728]
Nars	ENSMUSG000	ENSMUST00000025483	165,982	46,80786667	3,546027876	0,002305645	0,048267329	asparaginyl- tRNA synthetase [Source:MGI Symbol;Acc:M GI:1917473]
Nasp	ENSMUSG000	ENSMUST00000030456	91,84503333	28,16056667	3,261476746	0,000725935	0,036903383	nuclear autoantigenic sperm protein (histone- binding) [Source:MGI Symbol;Acc:M GI:1355328]
Nav1	ENSMUSG000	ENSMUST00000067414	44,12693333	14,6157	3,019146078	0,001247339	0,041987226	neuron navigator 1 [Source:MGI Symbol;Acc:M GI:2183683]
Ndrg2	ENSMUSG000	ENSMUST00000004673	9,191383333	66,62713333	0,137952556	0,000278471	0,029657549	N-myc downstream regulated gene 2 [Source:MGI Symbol;Acc:M GI:1352498]
Nes	ENSMUSG000	ENSMUST00000159830	13,18706667	6,028566667	2,187429848	0,000986441	0,040185228	nestin [Source:MGI Symbol;Acc:M GI:101784]

Nmb	ENSMUSG000	ENSMUST00000146619	88,39443333	209,487	0,421956653	0,000964876	0,040106206	neuromedin B [Source:MGI Symbol;Acc:M GI:1915289]
Nmur2	ENSMUSG000	ENSMUST00000037682	0,287083333	1,184193333	0,242429446	0,001048489	0,040265643	neuromedin U receptor 2 [Source:MGI Symbol;Acc:M GI:2441765]
Nog	ENSMUSG000	ENSMUST00000061728	11,90466667	71,6353	0,166184363	0,00128573	0,042152406	noggin [Source:MGI Symbol;Acc:M GI:104327]
Nolc1	ENSMUSG000	ENSMUST00000165017	65,84253333	21,3441	3,084811884	0,000695257	0,036190496	nucleolar and coiled-body phosphoprotei n 1 [Source:MGI Symbol;Acc:M GI:1918019]
Nomo1	ENSMUSG000	ENSMUST00000033121	81,8069	35,8679	2,280783096	0,002504582	0,049458835	nodal modulator 1 [Source:MGI Symbol;Acc:M GI:2385850]
Nop2	ENSMUSG000	ENSMUST00000044200	62,16066667	21,105	2,94530522	0,000773938	0,037114332	NOP2 nucleolar protein [Source:MGI Symbol;Acc:M GI:107891]

Npff	ENSMUSG000	ENSMUST00000023814	3,462696667	11,40606667	0,303583765	0,00150136	0,043975068	neuropeptide FF-amide peptide precursor [Source:MGI Symbol;Acc:MGI:1891708]
Nploc4	ENSMUSG000	ENSMUST00000044271	56,12916667	28,05343333	2,000794912	0,002525356	0,04958105	NPL4 homolog, ubiquitin recognition factor [Source:MGI Symbol;Acc:MGI:2679787]
Npr2	ENSMUSG000	ENSMUST00000030191	34,58756667	88,2309	0,392011944	0,002645975	0,04982077	natriuretic peptide receptor 2 [Source:MGI Symbol;Acc:MGI:97372]
Nr1d2	ENSMUSG000	ENSMUST00000090543	4,081493333	10,57549333	0,385938812	0,001258103	0,041987226	nuclear receptor subfamily 1, group D, member 2 [Source:MGI Symbol;Acc:MGI:2449205]
Nrxn2	ENSMUSG000	ENSMUST00000113462	11,24748333	40,94616667	0,274689531	0,002206578	0,047647621	neurexin II [Source:MGI Symbol;Acc:MGI:1096362]
Nsg2	ENSMUSG000	ENSMUST00000020537	1,680122	12,08456667	0,139030389	0,000634292	0,034862518	neuron specific gene family member 2 [Source:MGI Symbol;Acc:MGI:1202070]

Nt5dc2	ENSMUSG000	ENSMUST00000090212	135,8953333	31,18636667	4,357523747	9,92795E-05	0,0253873	5'-nucleotidase domain containing 2 [Source:MGI Symbol;Acc:MGI:1917271]
Nuak2	ENSMUSG000	ENSMUST00000072177	8,032573333	1,835603333	4,375985371	0,002119622	0,046860928	NUAK family, SNF1-like kinase, 2 [Source:MGI Symbol;Acc:MGI:1921387]
Nucks1	ENSMUSG000	ENSMUST00000189946	45,31083333	18,844	2,404523102	0,000539283	0,033324312	nuclear casein kinase and cyclin-dependent kinase substrate 1 [Source:MGI Symbol;Acc:MGI:1934811]
Nup50	ENSMUSG000	ENSMUST00000165443	26,04383333	12,23343333	2,128906303	0,001265374	0,041987226	nucleoporin 50 [Source:MGI Symbol;Acc:MGI:1351502]
Oas2	ENSMUSG000	ENSMUST00000053909	6,453736667	16,7658	0,384934609	0,001307688	0,042165328	2'-5' oligoadenylate synthetase 2 [Source:MGI Symbol;Acc:MGI:2180852]

Oasl2	ENSMUSG000	ENSMUST00000031542	17,3491	37,71066667	0,460058162	0,002071535	0,046804106	2'-5' oligoadenylate synthetase-like 2 [Source:MGI Symbol;Acc:MGI:1344390]
Odc1	ENSMUSG000	ENSMUST00000171737	52,18253333	17,5914	2,966366141	0,00029503	0,029657549	ornithine decarboxylase, structural 1 [Source:MGI Symbol;Acc:MGI:97402]
Ogdhl	ENSMUSG000	ENSMUST00000022480	5,706116667	11,7524	0,485527779	0,001966562	0,045898162	oxoglutarate dehydrogenase-like [Source:MGI Symbol;Acc:MGI:3616088]
Ogt	ENSMUSG000	ENSMUST00000119299	38,67953333	95,6703	0,404300325	0,000849723	0,037942213	O-linked N-acetylglucosamine (GlcNAc) transferase (UDP-N-acetylglucosamine:polypeptide N-acetylglucosaminyl transferase) [Source:MGI Symbol;Acc:MGI:1339639]
Olfm1	ENSMUSG000	ENSMUST00000028177	125,0663333	524,8413333	0,238293605	0,000226204	0,027988398	olfactomedin 1 [Source:MGI Symbol;Acc:MGI:1860437]

Olfml3	ENSMUSG000	ENSMUST00000157042	108,8356667	51,41936667	2,116627911	0,000445142	0,032261381	olfactomedin-like 3 [Source:MGI Symbol;Acc:MGI:1914877]
Osr2	ENSMUSG000	ENSMUST00000022952	43,64486667	174,71	0,249813214	0,000531059	0,033324312	odd-skipped related 2 [Source:MGI Symbol;Acc:MGI:1930813]
P3h1	ENSMUSG000	ENSMUST00000121111	238,9516667	85,0862	2,808348083	0,000838337	0,037820362	prolyl 3-hydroxylase 1 [Source:MGI Symbol;Acc:MGI:1888921]
Pappa	ENSMUSG000	ENSMUST00000084501	0,309146	1,598663333	0,193377801	0,001633548	0,044515641	pregnancy-associated plasma protein A [Source:MGI Symbol;Acc:MGI:97479]
Paqr5	ENSMUSG000	ENSMUST00000034817	2,341185667	15,48806667	0,151160614	0,001666461	0,044591157	progesterone and adiponectin receptor family member V [Source:MGI Symbol;Acc:MGI:1921340]
Pard6b	ENSMUSG000	ENSMUST00000052125	2,40085	9,11178	0,263488583	0,001225157	0,041738619	par-6 family cell polarity regulator beta [Source:MGI Symbol;Acc:MGI:2135605]

								poly (ADP-ribose) polymerase family, member 1 [Source:MGI Symbol;Acc:MGi:1340806]
Parp1	ENSMUSG000	ENSMUST00000194608	131,9353333	61,86046667	2,13278917	0,002334958	0,048267329	
								paired box 2 [Source:MGI Symbol;Acc:MGi:97486]
Pax2	ENSMUSG000	ENSMUST00000174490	3,371503333	11,69506667	0,288284234	0,002621741	0,04982077	
								paired box 8 [Source:MGI Symbol;Acc:MGi:97492]
Pax8	ENSMUSG000	ENSMUST00000028355	27,14443333	57,96776667	0,46826771	0,000585129	0,034140507	
								proliferating cell nuclear antigen [Source:MGI Symbol;Acc:MGi:97503]
Pcna	ENSMUSG000	ENSMUST00000140338	145,3416667	51,4662	2,82402172	0,000318328	0,029788668	
								proprotein convertase subtilisin/kexin type 5 [Source:MGI Symbol;Acc:MGi:97515]
Pcsk5	ENSMUSG000	ENSMUST00000025618	116,634	34,24016667	3,406350242	0,000599491	0,034300836	
								programmed cell death 4 [Source:MGI Symbol;Acc:MGi:107490]
Pdcd4	ENSMUSG000	ENSMUST00000074371	27,09476667	57,28316667	0,472997012	0,000182303	0,026840416	

Pdgfc	ENSMUSG000	ENSMUST00000029652	56,45243333	21,4151	2,63610412	0,002422129	0,048978413	platelet- derived growth factor, C polypeptide [Source:MGI Symbol;Acc:M GI:1859631]
Pdia6	ENSMUSG000	ENSMUST00000162936	574,465	285,6083333	2,011373384	0,000993569	0,040185228	protein disulfide isomerase associated 6 [Source:MGI Symbol;Acc:M GI:1919103]
Pdxk	ENSMUSG000	ENSMUST00000041616	14,2936	29,9265	0,477623511	0,002189184	0,047384974	pyridoxal (pyridoxine, vitamin B6) kinase [Source:MGI Symbol;Acc:M GI:1351869]
Peli2	ENSMUSG000	ENSMUST00000073150	5,871146667	12,53196667	0,468493639	0,001499429	0,043964067	pellino 2 [Source:MGI Symbol;Acc:M GI:1891445]
Per3	ENSMUSG000	ENSMUST00000103204	1,254146667	7,174313333	0,17481069	0,000621906	0,034712152	period circadian clock 3 [Source:MGI Symbol;Acc:M GI:1277134]
Pgam1	ENSMUSG000	ENSMUST00000011896	180,1903333	69,29496667	2,600337976	0,000061279	0,022205781	phosphoglycer ate mutase 1 [Source:MGI Symbol;Acc:M GI:97552]

Pgm5	ENSMUSG000	ENSMUST00000047666	44,30093333	105,9826667	0,418001686	0,001569833	0,044309347	phosphogluco mutase 5 [Source:MGI Symbol;Acc:M GI:1925668]
Phf3	ENSMUSG000	ENSMUST00000186733	29,72146667	61,67643333	0,481893408	0,002444651	0,049107567	PHD finger protein 3 [Source:MGI Symbol;Acc:M GI:2446126]
Phlda3	ENSMUSG000	ENSMUST00000038945	85,72236667	37,66356667	2,276002361	0,00153021	0,044044181	pleckstrin homology like domain, family A, member 3 [Source:MGI Symbol;Acc:M GI:1351485]
Phyhd1	ENSMUSG000	ENSMUST00000154647	25,9677	83,25316667	0,31191246	0,00166347	0,044591157	phytanoyl-CoA dioxygenase domain containing 1 [Source:MGI Symbol;Acc:M GI:3612860]
Pidd1	ENSMUSG000	ENSMUST00000190068	9,860776667	3,798456667	2,595995567	0,002632434	0,04982077	p53 induced death domain protein 1 [Source:MGI Symbol;Acc:M GI:1889507]

Piezo2	ENSMUSG000	ENSMUST00000047480	4,40321	11,8878	0,370397382	0,000636749	0,034862518	piezo-type mechanosensitive ion channel component 2 [Source:MGI Symbol;Acc:MG GI:1918781]
Pink1	ENSMUSG000	ENSMUST00000105816	50,3944	137,053	0,367700087	4,31397E-05	0,022205781	PTEN induced putative kinase 1 [Source:MGI Symbol;Acc:MG GI:1916193]
Pkdcc	ENSMUSG000	ENSMUST00000170794	782,3446667	346,4073333	2,258452958	0,000630437	0,034862518	protein kinase domain containing, cytoplasmic [Source:MGI Symbol;Acc:MG GI:2147077]
Pkmyt1	ENSMUSG000	ENSMUST00000024701	16,51493333	5,56922	2,965394316	0,001097075	0,040534412	protein kinase, membrane associated tyrosine/threon ine 1 [Source:MGI Symbol;Acc:MG GI:2137630]
Pknox2	ENSMUSG000	ENSMUST00000177218	68,80893333	33,68716667	2,04258595	0,000878756	0,038448976	Pbx/knotted 1 homeobox 2 [Source:MGI Symbol;Acc:MG GI:2445415]

Plau	ENSMUSG000	ENSMUST00000022368	26,7996	7,097376667	3,775986714	0,002619919	0,04982077	plasminogen activator, urokinase [Source:MGI Symbol;Acc:MGI:97611]
Pld6	ENSMUSG000	ENSMUST00000051493	0,736766667	3,420473333	0,215399038	0,001625751	0,044515641	phospholipase D family, member 6 [Source:MGI Symbol;Acc:MGI:2687283]
Plekhs1	ENSMUSG000	ENSMUST00000178590	2,118553333	13,198	0,160520786	0,002630924	0,04982077	pleckstrin homology domain containing, family S member 1 [Source:MGI Symbol;Acc:MGI:2443041]
Plet1	ENSMUSG000	ENSMUST00000114474	7,099883333	42,81426667	0,165829848	0,000641304	0,034862518	placenta expressed transcript 1 [Source:MGI Symbol;Acc:MGI:1923759]
Plk1	ENSMUSG000	ENSMUST00000033154	41,74963333	12,161	3,433075679	0,001074014	0,040416894	polo-like kinase 1 [Source:MGI Symbol;Acc:MGI:97621]
Pola2	ENSMUSG000	ENSMUST00000025752	33,7851	12,73303333	2,653342618	0,001861463	0,045357114	polymerase (DNA directed), alpha 2 [Source:MGI Symbol;Acc:MGI:99690]

Pold1	ENSMUSG000	ENSMUST00000049343	66,32356667	24,58323333	2,697918771	0,001564944	0,044309347	polymerase (DNA directed), delta 1, catalytic subunit [Source:MGI Symbol;Acc:M GI:97741]
Pole	ENSMUSG000	ENSMUST00000007296	13,96876667	6,771833333	2,062774729	0,000276665	0,029657549	polymerase (DNA directed), epsilon [Source:MGI Symbol;Acc:M GI:1196391]
Polr3g	ENSMUSG000	ENSMUST00000048993	11,30086667	2,69617	4,191451825	0,001164706	0,04146148	polymerase (RNA) III (DNA directed) polypeptide G [Source:MGI Symbol;Acc:M GI:1914736]
Ppa1	ENSMUSG000	ENSMUST00000020286	156,847	34,2989	4,572945488	0,001108682	0,040634775	pyrophosphata se (inorganic) 1 [Source:MGI Symbol;Acc:M GI:97831]
Ppif	ENSMUSG000	ENSMUST00000125881	42,60896667	17,81173333	2,392185301	0,001013917	0,040265643	peptidylprolyl isomerase F (cyclophilin F) [Source:MGI Symbol;Acc:M GI:2145814]

Ppl	ENSMUSG000	ENSMUST00000035672	3,089646667	11,26123333	0,274361304	0,000522446	0,033324312	periplakin [Source:MGI Symbol;Acc:M GI:1194898]
Ppm1g	ENSMUSG000	ENSMUST00000202294	212,594	91,2878	2,328832549	0,000358345	0,030252831	protein phosphatase 1G (formerly 2C), magnesium- dependent, gamma isoform [Source:MGI Symbol;Acc:M GI:106065]
Ppp1r14b	ENSMUSG000	ENSMUST00000070850	255,5943333	123,3693333	2,07178175	0,000831822	0,037820362	protein phosphatase 1, regulatory (inhibitor) subunit 14B [Source:MGI Symbol;Acc:M GI:107682]
Ppp1r15a	ENSMUSG000	ENSMUST00000211212	42,81206667	116,3426667	0,367982511	0,001859175	0,045357114	protein phosphatase 1, regulatory (inhibitor) subunit 15A [Source:MGI Symbol;Acc:M GI:1927072]
Prc1	ENSMUSG000	ENSMUST00000163812	93,41103333	34,0746	2,741368448	0,00099379	0,040185228	protein regulator of cytokinesis 1 [Source:MGI Symbol;Acc:M GI:1858961]

Prep	ENSMUSG000	ENSMUST00000099858	10,31268667	4,536293333	2,273372974	0,001916461	0,045762341	prolyl endopeptidase [Source:MGI Symbol;Acc:M GI:1270863]
Prim2	ENSMUSG000	ENSMUST00000027312	18,1361	5,645633333	3,212411953	8,90199E-05	0,024912351	DNA primase, p58 subunit [Source:MGI Symbol;Acc:M GI:97758]
Prkg2	ENSMUSG000	ENSMUST00000161490	9,462923333	0,327241	28,91729133	0,001902996	0,045728359	protein kinase, cGMP- dependent, type II [Source:MGI Symbol;Acc:M GI:108173]
Prr11	ENSMUSG000	ENSMUST00000051395	7,963093333	1,723713333	4,619731819	7,36038E-05	0,023115682	proline rich 11 [Source:MGI Symbol;Acc:M GI:2444496]
Prrg2	ENSMUSG000	ENSMUST00000210690	24,8438	57,39806667	0,432833394	0,00053457	0,033324312	proline-rich Gla (G- carboxyglutam ic acid) polypeptide 2 [Source:MGI Symbol;Acc:M GI:1929596]
Prss56	ENSMUSG000	ENSMUST00000044533	30,9332	0,097179	318,3115694	0,001508337	0,044044181	protease, serine 56 [Source:MGI Symbol;Acc:M GI:1916703]

Prss8	ENSMUSG000	ENSMUST00000032988	13,728	50,08376667	0,27410079	0,00229368	0,048267329	protease, serine 8 (prostasin) [Source:MGI Symbol;Acc:M GI:1923810]
Psmc2	ENSMUSG000	ENSMUST00000030769	104,201	49,2855	2,114232381	0,001751016	0,045167212	proteasome (prosome, macropain) 26S subunit, ATPase 2 [Source:MGI Symbol;Acc:M GI:109555]
Psmc4	ENSMUSG000	ENSMUST00000032824	313,2013333	149,021	2,101726155	0,002089844	0,046860928	proteasome (prosome, macropain) 26S subunit, ATPase, 4 [Source:MGI Symbol;Acc:M GI:1346093]
Psmc1	ENSMUSG000	ENSMUST00000147807	71,31226667	35,21123333	2,025270345	0,002267028	0,048100467	proteasome (prosome, macropain) 26S subunit, non-ATPase, 1 [Source:MGI Symbol;Acc:M GI:1917497]
Ptger2	ENSMUSG000	ENSMUST00000046891	13,3518	31,63993333	0,42199204	5,06419E-05	0,022205781	prostaglandin E receptor 2 (subtype EP2) [Source:MGI Symbol;Acc:M GI:97794]

Ptges3	ENSMUSG000	ENSMUST00000052798	151,8466667	67,3787	2,253630104	0,001070778	0,040416894	prostaglandin E synthase 3 (cytosolic) [Source:MGI Symbol;Acc:M GI:1929282]
Ptx3	ENSMUSG000	ENSMUST00000029421	79,8292	1,594083333	50,07843588	0,000425183	0,031625783	pentraxin related gene [Source:MGI Symbol;Acc:M GI:104641]
Rab25	ENSMUSG000	ENSMUST00000008745	24,72903333	107,7689	0,22946354	0,002613519	0,04982077	RAB25, member RAS oncogene family [Source:MGI Symbol;Acc:M GI:1858203]
Rac2	ENSMUSG000	ENSMUST00000043214	5,89411	14,15333333	0,416446773	0,000288928	0,029657549	RAS-related C3 botulinum substrate 2 [Source:MGI Symbol;Acc:M GI:97846]
Rad54l	ENSMUSG000	ENSMUST00000139147	12,28603333	3,990763333	3,078617374	0,000311993	0,029788668	RAD54 like (S. cerevisiae) [Source:MGI Symbol;Acc:M GI:894697]

Ramp1	ENSMUSG000	ENSMUST00000165855	17,3345	61,09016667	0,283752704	0,001126647	0,040722094	receptor (calcitonin) activity modifying protein 1 [Source:MGI Symbol;Acc:M GI:1858418]
Ran	ENSMUSG000	ENSMUST00000031383	2416,413333	850,618	2,840773806	0,002593209	0,04982077	RAN, member RAS oncogene family [Source:MGI Symbol;Acc:M GI:1333112]
Ranbp1	ENSMUSG000	ENSMUST00000115645	418,6933333	153,7166667	2,723799198	0,001020603	0,040265643	RAN binding protein 1 [Source:MGI Symbol;Acc:M GI:96269]
Rangap1	ENSMUSG000	ENSMUST00000170134	80,3768	31,8296	2,525221806	0,001739358	0,045167212	RAN GTPase activating protein 1 [Source:MGI Symbol;Acc:M GI:103071]
Rapgef1l	ENSMUSG000	ENSMUST00000107479	1,28943	4,33824	0,29722422	0,000355865	0,030252831	Rap guanine nucleotide exchange factor (GEF)- like 1 [Source:MGI Symbol;Acc:M GI:3611446]

Rasd2	ENSMUSG000	ENSMUST00000139848	4,231386667	13,17643333	0,321132932	0,000226006	0,027988398	RASD family, member 2 [Source:MGISymbol;Acc:MGi:1922391]
Rassf9	ENSMUSG000	ENSMUST00000220230	1,269222	2,791993333	0,454593492	0,002638091	0,04982077	Ras association (RalGDS/AF-6) domain family (N-terminal) member 9 [Source:MGISymbol;Acc:MGi:2384307]
Rbm19	ENSMUSG000	ENSMUST00000031590	58,94656667	26,61483333	2,21480127	0,002050245	0,046546325	RNA binding motif protein 19 [Source:MGISymbol;Acc:MGi:1921361]
Rbm24	ENSMUSG000	ENSMUST00000037923	3,262096667	11,90133333	0,274095059	0,001963266	0,045898162	RNA binding motif protein 24 [Source:MGISymbol;Acc:MGi:3610364]
Rcc1	ENSMUSG000	ENSMUST000000084250	101,0335333	26,2678	3,846288358	0,001947865	0,045898162	regulator of chromosome condensation 1 [Source:MGISymbol;Acc:MGi:1913989]

Recql4	ENSMUSG000	ENSMUST00000036852	7,31161	1,725916667	4,236363285	0,002118699	0,046860928	RecQ protein-like 4 [Source:MGI Symbol;Acc:MGI:1931028]
Relt	ENSMUSG000	ENSMUST00000008462	11,79576667	1,155563333	10,20780629	4,43973E-05	0,022205781	RELT tumor necrosis factor receptor [Source:MGI Symbol;Acc:MGI:2443373]
Rev3l	ENSMUSG000	ENSMUST00000019986	16,7307	50,99816667	0,328064734	0,002632108	0,04982077	REV3 like, DNA directed polymerase zeta catalytic subunit [Source:MGI Symbol;Acc:MGI:1337131]
Rgl3	ENSMUSG000	ENSMUST00000214026	29,88363333	126,1386667	0,236910966	0,001191411	0,041661737	ral guanine nucleotide dissociation stimulator-like 3 [Source:MGI Symbol;Acc:MGI:1918996]
Ripk3	ENSMUSG000	ENSMUST00000168716	29,9708	11,30433333	2,651266476	0,002672538	0,049893849	receptor-interacting serine-threonine kinase 3 [Source:MGI Symbol;Acc:MGI:2154952]

Ripk4	ENSMUSG000	ENSMUST00000113743	1,460573333	5,52567	0,264325111	0,000500975	0,033324312	receptor- interacting serine- threonine kinase 4 [Source:MGI Symbol;Acc:M GI:1919638]
Rnf150	ENSMUSG000	ENSMUST00000078525	1,676813333	6,72525	0,249331004	0,001670864	0,044591157	ring finger protein 150 [Source:MGI Symbol;Acc:M GI:2443860]
Rnf186	ENSMUSG000	ENSMUST00000116094	5,969006667	13,9457	0,428017716	0,002270481	0,048100467	ring finger protein 186 [Source:MGI Symbol;Acc:M GI:1914075]
Rrm2	ENSMUSG000	ENSMUST00000020980	172,452	11,19159	15,40907056	0,000523674	0,033324312	ribonucleotide reductase M2 [Source:MGI Symbol;Acc:M GI:98181]
Rrn3	ENSMUSG000	ENSMUST00000023363	25,00486667	12,15806667	2,056648261	0,001826484	0,045357114	RRN3 RNA polymerase I transcription factor homolog (yeast) [Source:MGI Symbol;Acc:M GI:1925255]

Rrp9	ENSMUSG000	ENSMUST00000123464	185,5673333	80,8768	2,294444554	0,001804893	0,045357114	RRP9, small subunit (SSU) processome component, homolog (yeast) [Source:MGI Symbol;Acc:MG1:2384313]
Rrs1	ENSMUSG000	ENSMUST00000072079	67,67563333	29,78923333	2,271815208	0,00056175	0,033997057	ribosome biogenesis regulator 1 [Source:MGI Symbol;Acc:MG1:1929721]
Rxfp1	ENSMUSG000	ENSMUST00000078527	14,1408	52,89626667	0,267330776	0,001061168	0,040416894	relaxin/insulin-like family peptide receptor 1 [Source:MGI Symbol;Acc:MG1:2682211]
S100g	ENSMUSG000	ENSMUST00000038769	774,2336667	2809,676667	0,275559703	0,000027809	0,021833927	S100 calcium binding protein G [Source:MGI Symbol;Acc:MG1:104528]
Sapcd2	ENSMUSG000	ENSMUST00000114293	19,8144	6,43464	3,07933311	0,000876295	0,038400741	suppressor APC domain containing 2 [Source:MGI Symbol;Acc:MG1:1919330]

Sav1	ENSMUSG000	ENSMUST00000021467	49,30556667	21,4014	2,303847723	0,000393344	0,030801177	salvador family WW domain containing 1 [Source:MGI Symbol;Acc:M GI:1927144]
Scara5	ENSMUSG000	ENSMUST00000022610	17,14296667	39,0523	0,438974572	0,001094578	0,040495088	scavenger receptor class A, member 5 [Source:MGI Symbol;Acc:M GI:1918395]
Sct	ENSMUSG000	ENSMUST00000210928	76,53833333	1,379773333	55,47167168	0,001856841	0,045357114	secretin [Source:MGI Symbol;Acc:M GI:99466]
Scube1	ENSMUSG000	ENSMUST00000144773	79,05916667	30,75496667	2,570614611	0,001985303	0,046088946	signal peptide, CUB domain, EGF-like 1 [Source:MGI Symbol;Acc:M GI:1890616]
Sec13	ENSMUSG000	ENSMUST00000032440	178,1896667	50,20383333	3,549323923	0,000796264	0,03751067	SEC13 homolog, nuclear pore and COPII coat complex component [Source:MGI Symbol;Acc:M GI:99832]

Sema4b	ENSMUSG000	ENSMUST00000032754	6,536903333	17,10246667	0,382219914	0,001461832	0,043600224	sema domain, immunoglobuli n domain (Ig), transmembrane domain (TM) and short cytoplasmic domain, (semaphorin) 4B [Source:MGI Symbol;Acc:M GI:107559]
Serpinb6b	ENSMUSG000	ENSMUST00000110293	29,7233	8,030176667	3,701450321	0,001589586	0,044353059	serine (or cysteine) peptidase inhibitor, clade B, member 6b [Source:MGI Symbol;Acc:M GI:894688]
Serpine2	ENSMUSG000	ENSMUST00000027467	339,576	112,9203333	3,007217478	0,000023558	0,021833927	serine (or cysteine) peptidase inhibitor, clade E, member 2 [Source:MGI Symbol;Acc:M GI:101780]
Serpinh1	ENSMUSG000	ENSMUST00000169437	2633,656667	859,1836667	3,065301133	2,45902E-05	0,021833927	serine (or cysteine) peptidase inhibitor, clade H, member 1 [Source:MGI Symbol;Acc:M GI:88283]

Set	ENSMUSG000	ENSMUST00000134364	211,4773333	97,11366667	2,177626905	0,001361908	0,042962236	SET nuclear oncogene [Source:MGI Symbol;Acc:MG I:1860267]
Sfrp5	ENSMUSG000	ENSMUST00000018966	50,95623333	0,441487333	115,4194684	0,000928726	0,039492453	secreted frizzled-related sequence protein 5 [Source:MGI Symbol;Acc:MG I:1860298]
Sgpp2	ENSMUSG000	ENSMUST00000036172	0,456618667	2,048713333	0,222880702	0,002534276	0,049606171	sphingosine-1-phosphate phosphatase 2 [Source:MGI Symbol;Acc:MG I:3589109]
Shtn1	ENSMUSG000	ENSMUST00000047511	1,733866667	4,68842	0,369818972	0,000467425	0,033073183	shootin 1 [Source:MGI Symbol;Acc:MG I:1918903]
Sigirr	ENSMUSG000	ENSMUST00000210167	14,51406667	40,35776667	0,359635031	0,002496649	0,049458835	single immunoglobulin and toll-interleukin 1 receptor (TIR) domain [Source:MGI Symbol;Acc:MG I:1344402]

Slc12a2	ENSMUSG000	ENSMUST00000115366	20,648	42,35276667	0,487524231	0,00113812	0,040901323	solute carrier family 12, member 2 [Source:MGI Symbol:Acc:M GI:101924]
Slc16a3	ENSMUSG000	ENSMUST00000070653	22,8419	8,146166667	2,804005974	0,000142652	0,0253873	solute carrier family 16 (monocarboxyl ic acid transporters), member 3 [Source:MGI Symbol:Acc:M GI:1933438]
Slc25a27	ENSMUSG000	ENSMUST00000024705	1,717616667	8,94463	0,192027693	0,001720773	0,04504645	solute carrier family 25, member 27 [Source:MGI Symbol:Acc:M GI:1921261]
Slc25a42	ENSMUSG000	ENSMUST00000110127	4,063923333	12,07966667	0,336426778	0,00203768	0,046492643	solute carrier family 25, member 42 [Source:MGI Symbol:Acc:M GI:1920345]
Slc38a9	ENSMUSG000	ENSMUST00000052514	1,012609667	2,36039	0,429000998	0,002271335	0,048100467	solute carrier family 38, member 9 [Source:MGI Symbol:Acc:M GI:1918839]

Slc39a4	ENSMUSG000	ENSMUST00000073428	105,7333333	313,5556667	0,337207535	3,17451E-05	0,022205781	solute carrier family 39 (zinc transporter), member 4 [Source:MGI Symbol;Acc:MGI:1919277]
Slc39a8	ENSMUSG000	ENSMUST00000081978	21,51556667	70,93663333	0,303306848	0,00147416	0,043767996	solute carrier family 39 (metal ion transporter), member 8 [Source:MGI Symbol;Acc:MGI:1914797]
Slc3a2	ENSMUSG000	ENSMUST00000170157	496,537	226,0263333	2,196810401	0,001854578	0,045357114	solute carrier family 3 (activators of dibasic and neutral amino acid transport), member 2 [Source:MGI Symbol;Acc:MGI:96955]
Slc6a8	ENSMUSG000	ENSMUST00000033752	74,14363333	24,01916667	3,086852861	0,00256324	0,04982077	solute carrier family 6 (neurotransmitter transporter, creatine), member 8 [Source:MGI Symbol;Acc:MGI:2147834]

Slc7a8	ENSMUSG000	ENSMUST00000022787	64,02286667	12,6851	5,047091995	0,001263284	0,041987226	solute carrier family 7 (cationic amino acid transporter, y+ system), member 8 [Source:MGI Symbol;Acc:MG1:1355323]
Slc9a5	ENSMUSG000	ENSMUST00000073149	8,536143333	3,940546667	2,166233281	0,001787799	0,045357114	solute carrier family 9 (sodium/hydrogen exchanger), member 5 [Source:MGI Symbol;Acc:MG1:2685542]
Slfn2	ENSMUSG000	ENSMUST00000038038	7,27249	17,46896667	0,416309112	0,000734772	0,036981107	schlafen 2 [Source:MGI Symbol;Acc:MG1:1313258]
Slit3	ENSMUSG000	ENSMUST00000069837	55,00876667	17,1174	3,213616943	0,002433197	0,049059472	slit homolog 3 (Drosophila) [Source:MGI Symbol;Acc:MG1:1315202]
Smpd13a	ENSMUSG000	ENSMUST00000151623	9,005813333	30,06103333	0,29958429	0,001239049	0,041987226	sphingomyelin phosphodiesterase, acid-like 3A [Source:MGI Symbol;Acc:MG1:1931437]

								snail family zinc finger 1 [Source:MGI Symbol;Acc:M GI:98330]
Snai1	ENSMUSG000	ENSMUST00000052631	174,4683333	34,95393333	4,99137913	0,000644837	0,034868869	
								small nuclear ribonucleoprot ein D1 [Source:MGI Symbol;Acc:M GI:98344]
Snrpd1	ENSMUSG000	ENSMUST00000002551	67,25686667	32,7694	2,052428994	0,000284962	0,029657549	
								small nuclear ribonucleoprot ein D3 [Source:MGI Symbol;Acc:M GI:1914582]
Snrpd3	ENSMUSG000	ENSMUST00000020397	375,4523333	172,4366667	2,177334674	4,05366E-05	0,022205781	
								suppressor of cytokine signaling 1 [Source:MGI Symbol;Acc:M GI:1354910]
Socs1	ENSMUSG000	ENSMUST00000038099	25,79756667	12,4756	2,06784176	0,001453929	0,043600224	
								serine protease inhibitor, Kunitz type 1 [Source:MGI Symbol;Acc:M GI:1338033]
Spint1	ENSMUSG000	ENSMUST00000028783	34,35506667	117,2203333	0,293081121	0,001460596	0,043600224	

Spint2	ENSMUSG000	ENSMUST00000207601	135,157	462,6313333	0,292148392	0,000113042	0,0253873	serine protease inhibitor, Kunitz type 2 [Source:MGJ Symbol;Acc:MGJ:1338031]
Spock2	ENSMUSG000	ENSMUST00000138976	17,35933333	59,7917	0,290330152	0,000170077	0,025985008	sparc/osteonectin, cwcv and kazal-like domains proteoglycan 2 [Source:MGJ Symbol;Acc:MGJ:1891351]
Spon2	ENSMUSG000	ENSMUST00000200884	107,7463333	29,40956667	3,66364913	0,001770484	0,045257197	spondin 2, extracellular matrix protein [Source:MGJ Symbol;Acc:MGJ:1923724]
Srm	ENSMUSG000	ENSMUST00000006611	279,953	76,53853333	3,657673956	0,000296996	0,029657549	spermidine synthase [Source:MGJ Symbol;Acc:MGJ:102690]
Ssr1	ENSMUSG000	ENSMUST00000021864	36,01246667	17,4759	2,060693107	0,001705874	0,044894321	signal sequence receptor, alpha [Source:MGJ Symbol;Acc:MGJ:105082]

St14	ENSMUSG000	ENSMUST00000034478	31,0173	96,0413	0,322957936	0,002221033	0,047766732	suppression of tumorigenicity 14 (colon carcinoma) [Source:MGI Symbol;Acc:MGI:1338881]
St6galnac2	ENSMUSG000	ENSMUST00000079545	15,28193333	40,0855	0,381233447	0,002433447	0,049059472	ST6 (alpha-N-acetyl-neuraminyl-2,3-beta-galactosyl-1,3)-N-acetylgalactosaminide alpha-2,6-sialyltransferase 2 [Source:MGI Symbol;Acc:MGI:107553]
Stard9	ENSMUSG000	ENSMUST00000150912	3,754606667	16,1369	0,232672116	0,000653455	0,035100893	START domain containing 9 [Source:MGI Symbol;Acc:MGI:3045258]
Steap1	ENSMUSG000	ENSMUST00000015796	6,820513333	2,581343333	2,642234082	0,002533519	0,049606171	six transmembrane epithelial antigen of the prostate 1 [Source:MGI Symbol;Acc:MGI:1917608]

Steap2	ENSMUSG000	ENSMUST00000115426	7,77084	3,03509	2,560332643	0,001810561	0,045357114	six transmembrane epithelial antigen of prostate 2 [Source:MGI Symbol;Acc:M GI:1921301]
Steap3	ENSMUSG000	ENSMUST00000112641	16,9733	49,61246667	0,34211764	0,002019982	0,046380799	STEAP family member 3 [Source:MGI Symbol;Acc:M GI:1915678]
Stil	ENSMUSG000	ENSMUST00000030490	3,08566	0,598775	5,153287963	0,000538983	0,033324312	Scf/Tal1 interrupting locus [Source:MGI Symbol;Acc:M GI:107477]
Stip1	ENSMUSG000	ENSMUST00000025918	199,2883333	61,5461	3,238033496	2,12261E-05	0,021833927	stress-induced phosphoprotei n 1 [Source:MGI Symbol;Acc:M GI:109130]
Stoml1	ENSMUSG000	ENSMUST00000034883	20,08263333	44,6157	0,450124807	0,001972743	0,045930462	stomatin-like 1 [Source:MGI Symbol;Acc:M GI:1916356]

Sult1a1	ENSMUSG000	ENSMUST00000106373	10,59414667	56,79786667	0,186523672	0,00225274	0,048100467	sulfotransferase family 1A, phenol-preferring, member 1 [Source:MGI Symbol;Acc:MG1:102896]
Sult1d1	ENSMUSG000	ENSMUST00000166996	27,335	108,7822667	0,251281765	0,001711482	0,044958214	sulfotransferase family 1D, member 1 [Source:MGI Symbol;Acc:MG1:1926341]
Sult5a1	ENSMUSG000	ENSMUST00000000755	4,910343333	17,9892	0,272960628	0,000117996	0,0253873	sulfotransferase family 5A, member 1 [Source:MGI Symbol;Acc:MG1:1931463]
Syncrip	ENSMUSG000	ENSMUST000000069221	70,9667	34,38276667	2,064019475	0,002441337	0,049107567	synaptotagmin binding, cytoplasmic RNA interacting protein [Source:MGI Symbol;Acc:MG1:1891690]
Tacc3	ENSMUSG000	ENSMUST000000074849	96,71153333	26,41246667	3,661586574	0,000907397	0,039216477	transforming, acidic coiled-coil containing protein 3 [Source:MGI Symbol;Acc:MG1:1341163]

Tagln2	ENSMUSG000	ENSMUST00000138296	1050,09	336,592	3,119771118	0,000508268	0,033324312	transgelin 2 [Source:MGI Symbol;Acc:M GI:1312985]
Tapbp	ENSMUSG000	ENSMUST00000172619	138,5676667	298,742	0,463837246	0,000120059	0,0253873	TAP binding protein [Source:MGI Symbol;Acc:M GI:1201689]
Tcf19	ENSMUSG000	ENSMUST00000161012	54,8777	16,9707	3,233673331	0,002581445	0,04982077	transcription factor 19 [Source:MGI Symbol;Acc:M GI:103180]
Tcof1	ENSMUSG000	ENSMUST00000175934	44,3486	14,41083333	3,077448679	0,001642661	0,044515641	treacle ribosome biogenesis factor 1 [Source:MGI Symbol;Acc:M GI:892003]
Tcp112	ENSMUSG000	ENSMUST00000020223	6,085693333	30,99686667	0,196332533	0,000677227	0,03564585	t-complex 11 (mouse) like 2 [Source:MGI Symbol;Acc:M GI:2444679]
Tfcp2l1	ENSMUSG000	ENSMUST00000190652	15,82763333	46,94903333	0,337123732	0,000280354	0,029657549	transcription factor CP2-like 1 [Source:MGI Symbol;Acc:M GI:2444691]

Tfdp1	ENSMUSG000	ENSMUST00000209885	238,9693333	99,65913333	2,397866862	0,002530944	0,049606171	transcription factor Dp 1 [Source:MGI Symbol;Acc:MG1:101934]
Timpl	ENSMUSG000	ENSMUST00000115342	123,7546667	31,1146	3,977382536	0,000376588	0,030732883	tissue inhibitor of metalloproteinase 1 [Source:MGI Symbol;Acc:MG1:98752]
Tll1	ENSMUSG000	ENSMUST00000066166	5,170383333	15,63223333	0,330751418	5,52325E-05	0,022205781	tolloid-like [Source:MGI Symbol;Acc:MG1:106923]
Tmc4	ENSMUSG000	ENSMUST00000038743	19,9952	55,77596667	0,358491322	0,000241601	0,028283921	transmembrane channel-like gene family 4 [Source:MGI Symbol;Acc:MG1:2669035]
Tmcc1	ENSMUSG000	ENSMUST00000088896	103,5282	48,02563333	2,155686304	0,001515263	0,044044181	transmembrane and coiled coil domains 1 [Source:MGI Symbol;Acc:MG1:2442368]
Tmem191c	ENSMUSG000	ENSMUST00000159242	4,305393333	21,55216667	0,199766149	0,000291774	0,029657549	transmembrane protein 191C [Source:MGI Symbol;Acc:MG1:107238]

Tmem2	ENSMUSG000	ENSMUST00000096194	18,1611	7,982706667	2,275055411	0,00163074	0,044515641	transmembrane protein 2 [Source:MGI Symbol;Acc:M GI:1890373]
Tmem213	ENSMUSG000	ENSMUST00000031851	195,198	446,4116667	0,437260078	0,000226759	0,027988398	transmembrane protein 213 [Source:MGI Symbol;Acc:M GI:1924772]
Tmem97	ENSMUSG000	ENSMUST00000103242	47,435	9,350023333	5,073249372	0,001828324	0,045357114	transmembrane protein 97 [Source:MGI Symbol;Acc:M GI:1916321]
Tmprss2	ENSMUSG000	ENSMUST00000000395	13,27706667	73,09706667	0,181636108	0,000240494	0,028283921	transmembrane protease, serine 2 [Source:MGI Symbol;Acc:M GI:1354381]
Tmprss4	ENSMUSG000	ENSMUST00000034599	31,72896667	116,7476667	0,271773883	0,000570129	0,034063473	transmembrane protease, serine 4 [Source:MGI Symbol;Acc:M GI:2384877]

Tmtc1	ENSMUSG000	ENSMUST00000060095	32,50556667	7,0257	4,626665908	0,000232849	0,028174649	transmembrane and tetratricopeptide repeat containing 1 [Source:MGI Symbol;Acc:MGI:3039590]
Tnc	ENSMUSG000	ENSMUST00000030056	22,04113333	3,47516	6,342480154	0,000843235	0,037820362	tenascin C [Source:MGI Symbol;Acc:MGI:101922]
Tnfaip2	ENSMUSG000	ENSMUST00000102745	141,4513333	32,98316667	4,288591655	0,001723051	0,04504645	tumor necrosis factor, alpha-induced protein 2 [Source:MGI Symbol;Acc:MGI:104960]
Tnfrsf12a	ENSMUSG000	ENSMUST00000167059	101,1468333	21,55863333	4,691708967	0,001544612	0,044188723	tumor necrosis factor receptor superfamily, member 12a [Source:MGI Symbol;Acc:MGI:1351484]
Tomm40	ENSMUSG000	ENSMUST00000093552	163,6986667	74,39893333	2,200282441	0,001174063	0,041478412	translocase of outer mitochondrial membrane 40 homolog (yeast) [Source:MGI Symbol;Acc:MGI:1858259]

Top2a	ENSMUSG000	ENSMUST00000068031	237,255	77,8485	3,047650244	0,000834897	0,037820362	topoisomerase (DNA) II alpha [Source:MGI Symbol;Acc:M GI:98790]
Tpm4	ENSMUSG000	ENSMUST00000123177	582,4613333	249,1466667	2,33782511	0,001309788	0,042165328	tropomyosin 4 [Source:MGI Symbol;Acc:M GI:2449202]
Tpp1	ENSMUSG000	ENSMUST00000033184	50,18736667	102,3219333	0,490484934	0,001789985	0,045357114	tripeptidyl peptidase I [Source:MGI Symbol;Acc:M GI:1336194]
Trabd2b	ENSMUSG000	ENSMUST00000094894	12,37156667	0,972014667	12,72775719	0,001182069	0,041549164	TraB domain containing 2B [Source:MGI Symbol;Acc:M GI:3650152]
Trim13	ENSMUSG000	ENSMUST00000165015	3,479693333	7,604296667	0,457595684	0,001169979	0,041478412	tripartite motif- containing 13 [Source:MGI Symbol;Acc:M GI:1913847]
Trim24	ENSMUSG000	ENSMUST00000153004	8,298576667	17,19246667	0,482686797	0,001125818	0,040722094	tripartite motif- containing 24 [Source:MGI Symbol;Acc:M GI:109275]

Trpv6	ENSMUSG000	ENSMUST00000031902	15,64443333	107,917	0,144967274	0,000574855	0,034063473	transient receptor potential cation channel, subfamily V, member 6 [Source:MGI Symbol;Acc:M GI:1927259]
Tsc22d1	ENSMUSG000	ENSMUST00000110888	116,8703333	317,2713333	0,368360835	0,00205563	0,046567244	TSC22 domain family, member 1 [Source:MGI Symbol;Acc:M GI:109127]
Tsc22d3	ENSMUSG000	ENSMUST00000112995	31,84126667	121,7333333	0,261565717	0,001134322	0,040901323	TSC22 domain family, member 3 [Source:MGI Symbol;Acc:M GI:1196284]
Ttl12	ENSMUSG000	ENSMUST00000136066	31,13196667	14,11403333	2,205745582	0,00104725	0,040265643	tubulin tyrosine ligase- like family, member 12 [Source:MGI Symbol;Acc:M GI:3039573]
Tuba1a	ENSMUSG000	ENSMUST00000097014	351,1336667	137,178	2,559693731	0,000136098	0,0253873	tubulin, alpha 1A [Source:MGI Symbol;Acc:M GI:98869]

Tuba1b	ENSMUSG000	ENSMUST00000077577	469,3576667	167,3223333	2,805110695	0,000182987	0,026840416	tubulin, alpha 1B [Source:MGI Symbol;Acc:MGI:107804]
Tuba1c	ENSMUSG000	ENSMUST00000058914	205,4093333	78,10403333	2,629945274	0,000762087	0,037056621	tubulin, alpha 1C [Source:MGI Symbol;Acc:MGI:1095409]
Tubb5	ENSMUSG000	ENSMUST00000001566	1060,983333	474,411	2,236422286	2,44428E-05	0,021833927	tubulin, beta 5 class I [Source:MGI Symbol;Acc:MGI:107812]
Tubb6	ENSMUSG000	ENSMUST00000001513	366,407	88,0711	4,160354532	0,00024139	0,028283921	tubulin, beta 6 class V [Source:MGI Symbol;Acc:MGI:1915201]
Tubg1	ENSMUSG000	ENSMUST00000043680	49,01473333	17,62173333	2,781493308	0,000216576	0,027988398	tubulin, gamma 1 [Source:MGI Symbol;Acc:MGI:101834]
Txnip	ENSMUSG000	ENSMUST00000074519	158,6673333	889,986	0,178280707	0,000188503	0,026840416	thioredoxin interacting protein [Source:MGI Symbol;Acc:MGI:1889549]
Tyms	ENSMUSG000	ENSMUST00000141630	151,466	41,2256	3,674076302	0,000322635	0,029788668	thymidylate synthase [Source:MGI Symbol;Acc:MGI:98878]

Ube2s	ENSMUSG000	ENSMUST00000205815	329,619	120,932	2,72565574	0,001998582	0,046227431	ubiquitin-conjugating enzyme E2S [Source:MGI Symbol;Acc:MG1:1925141]
Uhrf1	ENSMUSG000	ENSMUST00000001258	104,8277333	16,65043333	6,295796105	0,002093018	0,046860928	ubiquitin-like, containing PHD and RING finger domains, 1 [Source:MGI Symbol;Acc:MG1:1338889]
Umps	ENSMUSG000	ENSMUST00000023510	32,51083333	15,43586667	2,106187753	0,001377574	0,043101658	uridine monophosphate synthetase [Source:MGI Symbol;Acc:MG1:1298388]
Unc5b	ENSMUSG000	ENSMUST00000077925	20,29033333	2,675656667	7,583309767	0,000475066	0,033073183	unc-5 netrin receptor B [Source:MGI Symbol;Acc:MG1:894703]
Unc93b1	ENSMUSG000	ENSMUST00000162708	24,50556667	54,25886667	0,451641698	0,000388676	0,030801177	unc-93 homolog B1 (C. elegans) [Source:MGI Symbol;Acc:MG1:1859307]
Upk1b	ENSMUSG000	ENSMUST00000057767	1,806186667	6,452496667	0,279920589	0,0010069	0,040265643	uroplakin 1B [Source:MGI Symbol;Acc:MG1:98912]

Upk3b	ENSMUSG000	ENSMUST00000062606	4,04738	10,6178	0,381188193	0,001792909	0,045357114	uroplakin 3B [Source:MGI Symbol;Acc:M GI:2140882]
Use1	ENSMUSG000	ENSMUST00000019169	134,146	379,6576667	0,3533341	0,000484697	0,033324312	unconventional SNARE in the ER 1 homolog (S. cerevisiae) [Source:MGI Symbol;Acc:M GI:1914273]
Usp14	ENSMUSG000	ENSMUST00000092096	37,33186667	16,95686667	2,201578122	0,002091174	0,046860928	ubiquitin specific peptidase 14 [Source:MGI Symbol;Acc:M GI:1928898]
Vill	ENSMUSG000	ENSMUST00000135872	7,253033333	24,0103	0,30208008	0,000325939	0,029788668	villin-like [Source:MGI Symbol;Acc:M GI:1201781]
Vps37d	ENSMUSG000	ENSMUST00000067935	6,690273333	25,3295	0,264129704	1,90776E-05	0,021833927	vacuolar protein sorting 37D [Source:MGI Symbol;Acc:M GI:2159402]
Vwa2	ENSMUSG000	ENSMUST00000026068	4,341203333	22,43753333	0,193479527	0,000947066	0,03989392	von Willebrand factor A domain containing 2 [Source:MGI Symbol;Acc:M GI:2684334]

Wbscr27	ENSMUSG000	ENSMUST00000047196	8,53474	41,28396667	0,206732557	0,000139953	0,0253873	Williams Beuren syndrome chromosome region 27 (human) [Source:MGI Symbol;Acc:M GI:1933146]
Wee1	ENSMUSG000	ENSMUST00000033326	28,89436667	9,19937	3,140907113	0,002427586	0,049011227	WEE 1 homolog 1 (S. pombe) [Source:MGI Symbol;Acc:M GI:103075]
Wfdc2	ENSMUSG000	ENSMUST00000146270	350,447	1696,41	0,206581546	0,000547408	0,033562879	WAP four- disulfide core domain 2 [Source:MGI Symbol;Acc:M GI:1914951]
Wnt4	ENSMUSG000	ENSMUST00000045747	24,05423333	2,6647	9,026994909	0,001045459	0,040265643	wingless-type MMTV integration site family, member 4 [Source:MGI Symbol;Acc:M GI:98957]
Xpo1	ENSMUSG000	ENSMUST00000102869	55,69183333	23,7999	2,340002829	0,00227185	0,048100467	exportin 1 [Source:MGI Symbol;Acc:M GI:2144013]

Ypel1	ENSMUSG000	ENSMUST00000035682	3,379043333	15,63176667	0,216165159	0,001638393	0,044515641	yippee-like 1 (Drosophila) [Source:MGI Symbol;Acc:M GI:1913303]
Ypel4	ENSMUSG000	ENSMUST00000090729	5,144136667	21,44176667	0,239911979	0,002583298	0,04982077	yippee-like 4 (Drosophila) [Source:MGI Symbol;Acc:M GI:3605071]
Ywhag	ENSMUSG000	ENSMUST00000198270	171,643	73,59633333	2,332222167	0,000542799	0,033352639	tyrosine 3- monooxygenas e/tryptophan 5- monooxygenas e activation protein, gamma polypeptide [Source:MGI Symbol;Acc:M GI:108109]
Zbtb16	ENSMUSG000	ENSMUST00000093852	3,76571	15,6374	0,24081433	0,00246254	0,049107567	zinc finger and BTB domain containing 16 [Source:MGI Symbol;Acc:M GI:103222]

Zdhc1	ENSMUSG000	ENSMUST00000212303	25,93986667	66,2532	0,391526246	0,002598107	0,04982077	zinc finger, DHC domain containing 1 [Source:MGI Symbol;Acc:M GI:1918046]
Zfp316	ENSMUSG000	ENSMUST00000161448	3,980996667	8,75138	0,454899304	0,001747466	0,045167212	zinc finger protein 316 [Source:MGI Symbol;Acc:M GI:1860402]
Zfp467	ENSMUSG000	ENSMUST00000114566	10,57986	27,63626667	0,382825225	0,000420195	0,031625783	zinc finger protein 467 [Source:MGI Symbol;Acc:M GI:1916160]
Zfp608	ENSMUSG000	ENSMUST00000064763	5,13368	15,4498	0,332281324	0,000284096	0,029657549	zinc finger protein 608 [Source:MGI Symbol;Acc:M GI:2442338]
Zfp618	ENSMUSG000	ENSMUST00000030043	1,934386667	3,945006667	0,490337997	0,000332436	0,029788668	zinc finger protein 618 [Source:MGI Symbol;Acc:M GI:1919950]
Zfp874b	ENSMUSG000	ENSMUST00000019572	0,948977	4,417136667	0,214839855	0,002323644	0,048267329	zinc finger protein 874b [Source:MGI Symbol;Acc:M GI:3040702]

Supplementary Table 3. The complete list of differentially expressed genes in rats (fold change > 2 and FDR < 0.05)

gene	gene_id	Transcript stable ID	mean_I	mean_NI	fold_lvsNI	ttest_paired	FDR	Gene description
Pinlyp	ENSRNOG0000019862	ENSRNOT00000026946	5,48513	44,15276667	0,12423072	0,001908988	0,044247668	phospholipase A2 inhibitor and LY6/PLAUR domain containing [Source:RGD Symbol;Acc:1565787]
Klhdc9	ENSRNOG0000004022	ENSRNOT00000005352	0,316249	2,167496667	0,145905184	0,000460851	0,031638843	kelch domain containing 9 [Source:RGD Symbol;Acc:1561025]
Col24a1	ENSRNOG0000014143	ENSRNOT00000019210	2,697226667	16,216	0,166331196	0,002721088	0,048453208	collagen type XXIV alpha 1 chain [Source:RGD Symbol;Acc:1565539]
Hmgcs2	ENSRNOG0000019120	ENSRNOT00000026121	8,20189	47,1555	0,173932839	0,001545314	0,040836768	3-hydroxy-3-methylglutaryl-CoA synthase 2 [Source:RGD Symbol;Acc:2804]
Atp1a2	ENSRNOG0000007290	ENSRNOT00000058143	4,861253333	27,17753333	0,178870292	0,000483659	0,031960499	ATPase Na+/K+ transporting subunit alpha 2 [Source:RGD Symbol;Acc:2168]

Rfx8	ENSRNOG0000058243	ENSRNOT00000078196	0,300722333	1,602163333	0,187697675	0,002859279	0,049252945	RFX family member 8, lacking RFX DNA binding domain [Source:RGD Symbol;Acc:1560724]
Kcnj9	ENSRNOG0000007645	ENSRNOT00000080638	0,673297333	3,13911	0,214486696	0,002112193	0,045271272	potassium voltage-gated channel subfamily J member 9 [Source:RGD Symbol;Acc:621440]
Col23a1	ENSRNOG0000003349	ENSRNOT00000064078	1,791233333	8,228943333	0,217674768	0,001384509	0,040476789	collagen type XXIII alpha 1 chain [Source:RGD Symbol;Acc:727898]
Selenbp1	ENSRNOG0000053812	ENSRNOT00000088465	6,698346667	29,02946667	0,230743015	0,000483134	0,031960499	selenium binding protein 1 [Source:RGD Symbol;Acc:620571]
Nov	ENSRNOG0000008697	ENSRNOT00000011904	5,304913333	19,97343333	0,26559847	0,000459829	0,031638843	nephroblastoma overexpressed [Source:RGD Symbol;Acc:621553]

Enpp2	ENSRNOG0000004089	ENSRNOT00000051139	8,57648	30,4124	0,282006024	0,001363414	0,040476789	ectonucleotide pyrophosphatase/phosphodiesterase 2 [Source:RGD Symbol;Acc:69298]
Ypel3	ENSRNOG0000019721	ENSRNOT00000026755	55,4152	195,962	0,282785438	0,000568047	0,033841756	yippee-like 3 [Source:RGD Symbol;Acc:1564579]
Fam107a	ENSRNOG0000033261	ENSRNOT00000071273	9,120403333	32,15796667	0,283612563	0,000461802	0,031638843	family with sequence similarity 107, member A [Source:RGD Symbol;Acc:1306327]
Them5	ENSRNOG0000043445	ENSRNOT00000066020	13,0817	45,8447	0,285348143	0,000756602	0,035989879	thioesterase superfamily member 5 [Source:RGD Symbol;Acc:1562059]
Haghl	ENSRNOG0000019612	ENSRNOT00000026536	1,671226667	5,51829	0,302852273	0,002103553	0,045271272	hydroxyacylglutathione hydrolase-like [Source:RGD Symbol;Acc:1308042]
Ptpdc1	ENSRNOG0000026564	ENSRNOT00000060550	1,321478	4,320413333	0,30586842	0,000849782	0,036574167	protein tyrosine phosphatase domain containing 1 [Source:RGD Symbol;Acc:1307698]

Trappc6a	ENSRNOG0000017468	ENSRNOT00000023652	18,3519	58,14186667	0,315640021	0,00270176	0,048252444	trafficking protein particle complex 6A [Source:RGD Symbol;Acc:1591735]
Coro6	ENSRNOG0000014496	ENSRNOT00000019759	2,9684	9,288286667	0,319585313	0,000567512	0,033841756	coronin 6 [Source:RGD Symbol;Acc:708560]
Ndrp2	ENSRNOG0000010389	ENSRNOT00000042055	56,6372	174,808	0,323996613	0,000364486	0,030001912	NDRG family member 2 [Source:RGD Symbol;Acc:621874]
Upk3bl	ENSRNOG0000038896	ENSRNOT00000059451	8,370673333	25,75443333	0,325018735	0,001679526	0,04207912	uropod 3B-like [Source:RGD Symbol;Acc:1598237]
Pnpla7	ENSRNOG0000008190	ENSRNOT00000011633	7,259573333	22,3101	0,325394029	0,001329626	0,040476789	patatin-like phospholipase domain containing 7 [Source:RGD Symbol;Acc:708466]
Galm	ENSRNOG0000007023	ENSRNOT00000009221	9,343363333	28,64036667	0,326230577	0,002946451	0,049841494	galactose mutarotase [Source:RGD Symbol;Acc:1359459]
Bhlha15	ENSRNOG0000025164	ENSRNOT00000037251	22,61646667	66,6737	0,339211213	0,000877726	0,036574167	basic helix-loop-helix family, member a15 [Source:RGD Symbol;Acc:3091]

Gstt3	ENSRNOG0000001242	ENSRNOT00000036518	10,69743333	31,4567	0,340068518	0,001487711	0,040517129	glutathione S-transferase, theta 3 [Source:RGD Symbol;Acc:1562732]
Ocln	ENSRNOG0000018297	ENSRNOT00000024674	7,891566667	22,96023333	0,343705857	0,001750935	0,043041515	occludin [Source:RGD Symbol;Acc:620089]
Ehf	ENSRNOG0000007484	ENSRNOT00000010580	1,160647	3,322293333	0,349351151	0,002076683	0,045257317	ets homologous factor [Source:RGD Symbol;Acc:1310282]
Ptpn18	ENSRNOG0000013415	ENSRNOT00000067928	11,23893	31,9463	0,351806939	0,002760597	0,048605665	protein tyrosine phosphatase, non-receptor type 18 [Source:RGD Symbol;Acc:1311586]
Aatk	ENSRNOG0000004392	ENSRNOT00000005839	2,11883	6,002783333	0,352974592	0,002875162	0,049252945	apoptosis-associated tyrosine kinase [Source:RGD Symbol;Acc:1590980]
Abtb1	ENSRNOG0000015762	ENSRNOT00000021445	11,05807333	30,70246667	0,36016889	0,00247356	0,046757069	ankyrin repeat and BTB domain containing 1 [Source:RGD Symbol;Acc:1359363]

Psen2	ENSRNOG0000002879	ENSRNOT00000091715	12,61956667	34,69766667	0,363700729	0,001221107	0,039400586	presenilin 2 [Source:RGD Symbol;Acc:6 21060]
Myliip	ENSRNOG0000017579	ENSRNOT00000024021	7,66348	20,93786667	0,366010546	0,001655523	0,041765257	myosin regulatory light chain interacting protein [Source:RGD Symbol;Acc:1 305761]
Mgst1	ENSRNOG0000007743	ENSRNOT00000010579	24,85553333	67,04616667	0,370722661	0,000855936	0,036574167	microsomal glutathione S- transferase 1 [Source:RGD Symbol;Acc:7 0927]
Arhgef6	ENSRNOG0000000869	ENSRNOT00000001158	1,208276667	3,256013333	0,371090823	0,001140003	0,038856841	Rac/Cdc42 guanine nucleotide exchange factor 6 [Source:RGD Symbol;Acc:1 359674]
Txnip	ENSRNOG0000021201	ENSRNOT00000028793	175,002	469,093	0,373064616	0,000365626	0,030001912	thioredoxin interacting protein [Source:RGD Symbol;Acc:6 20886]
Pcmt2	ENSRNOG0000017404	ENSRNOT00000023989	5,610386667	14,99593333	0,374127208	0,002870897	0,049252945	protein-L- isoaspartate (D- aspartate) O- methyltransfer ase domain containing 2 [Source:RGD Symbol;Acc:1 305684]

Tmprss2	ENSRNOG0000001976	ENSRNOT00000002713	12,7234	33,72646667	0,377252682	0,002469909	0,046757069	transmembrane protease, serine 2 [Source:RGD Symbol;Acc:620766]
Tacstd2	ENSRNOG0000007740	ENSRNOT00000010156	12,4381	32,8004	0,379205741	0,001013588	0,03781251	tumor-associated calcium signal transducer 2 [Source:RGD Symbol;Acc:1359498]
Lama3	ENSRNOG0000011300	ENSRNOT00000092846	16,1427	42,28463333	0,3817628	0,000852424	0,036574167	laminin subunit alpha 3 [Source:RGD Symbol;Acc:628776]
Arrdc2	ENSRNOG0000019009	ENSRNOT00000025956	5,17313	13,5297	0,382353637	0,000608932	0,034624717	arrestin domain containing 2 [Source:RGD Symbol;Acc:1309659]
Pitpnm3	ENSRNOG0000008323	ENSRNOT00000071764	2,713283333	7,085406667	0,382939676	0,001306807	0,040376986	PITPNM family member 3 [Source:RGD Symbol;Acc:1308200]
Ptprr	ENSRNOG0000004483	ENSRNOT00000006401	7,45845	19,4353	0,383757904	0,000710585	0,03541687	protein tyrosine phosphatase, receptor type, R [Source:RGD Symbol;Acc:620780]

Papln	ENSRNOG0000009448	ENSRNOT00000012757	8,869213333	23,10383333	0,383884925	0,001845754	0,043732586	papilin, proteoglycan-like sulfated glycoprotein [Source:RGD Symbol;Acc:1311176]
Sesn1	ENSRNOG0000000302	ENSRNOT00000089611	7,885746667	20,5039	0,384597402	0,002312726	0,046132834	sestrin 1 [Source:RGD Symbol;Acc:1307517]
Cldn3	ENSRNOG0000046007	ENSRNOT00000075280	119,6256667	310,9413333	0,384721019	0,002189033	0,045916525	claudin 3 [Source:RGD Symbol;Acc:68425]
Gabarapl1	ENSRNOG0000053362	ENSRNOT00000077356	57,95293333	149,7083333	0,387105594	0,001114003	0,038744182	GABA type A receptor associated protein like 1 [Source:RGD Symbol;Acc:1596143]
Cacna1d	ENSRNOG0000013147	ENSRNOT00000048459	9,59638	24,78403333	0,387200093	0,000469944	0,031771627	calcium voltage-gated channel subunit alpha1D [Source:RGD Symbol;Acc:70973]
Cited4	ENSRNOG0000046607	ENSRNOT00000072427	35,58843333	91,83686667	0,387517939	0,002523363	0,047163404	Cbp/p300-interacting transactivator, with Glu/Asp-rich carboxy-terminal domain, 4 [Source:RGD Symbol;Acc:620113]

Rxfp1	ENSRNOG0000024120	ENSRNOT00000033107	3,05821	7,83875	0,39014001	0,002324873	0,046132834	relaxin/insulin-like family peptide receptor 1 [Source:RGD Symbol;Acc:1302973]
Cpm	ENSRNOG0000034134	ENSRNOT00000044413	8,324856667	21,19036667	0,392860435	0,001397647	0,040476789	carboxypeptidase M [Source:RGD Symbol;Acc:1310532]
Lias	ENSRNOG0000002759	ENSRNOT00000003779	3,444066667	8,746376667	0,393770678	0,002722673	0,048453208	lipoic acid synthetase [Source:RGD Symbol;Acc:1307270]
Akap8l	ENSRNOG0000006355	ENSRNOT00000008560	17,57666667	44,58756667	0,39420556	0,000264557	0,028639971	A-kinase anchoring protein 8 like [Source:RGD Symbol;Acc:1359200]
Ppl	ENSRNOG0000002930	ENSRNOT00000004026	4,69125	11,87113333	0,395181308	0,001250093	0,039579838	periplakin [Source:RGD Symbol;Acc:1305511]
Ech1	ENSRNOG0000020308	ENSRNOT00000027537	51,11913333	129,2146667	0,395614017	0,000372246	0,030001912	enoyl-CoA hydratase 1 [Source:RGD Symbol;Acc:69353]
Smoc1	ENSRNOG0000005998	ENSRNOT00000007947	37,8172	94,45763333	0,400361503	0,002485717	0,046765825	SPARC related modular calcium binding 1 [Source:RGD Symbol;Acc:1303126]

Tsc22d3	ENSRNOG0000056135	ENSRNOT00000085118	23,06433333	57,59153333	0,400481321	0,00158029	0,041231262	TSC22 domain family, member 3 [Source:RGD Symbol;Acc:621654]
Efemp1	ENSRNOG0000003553	ENSRNOT00000004764	21,06786667	52,55583333	0,40086638	0,000241565	0,028274478	EGF-containing fibulin-like extracellular matrix protein 1 [Source:RGD Symbol;Acc:1308528]
Fmo4	ENSRNOG0000003400	ENSRNOT00000004599	0,851922	2,08946	0,407723527	0,001452172	0,040517129	flavin containing monooxygenase 4 [Source:RGD Symbol;Acc:628601]
Krt8	ENSRNOG0000009779	ENSRNOT00000038480	27,6024	67,52793333	0,40875529	0,000999493	0,03781251	keratin 8 [Source:RGD Symbol;Acc:2984]
Bckdha	ENSRNOG0000020607	ENSRNOT00000027995	27,5705	67,3321	0,409470372	0,000651244	0,035292945	branched chain ketoacid dehydrogenase E1, alpha polypeptide [Source:RGD Symbol;Acc:2196]
Tmem59	ENSRNOG0000009778	ENSRNOT00000013224	156,1956667	376,38	0,414994598	0,001071204	0,038582183	transmembrane protein 59 [Source:RGD Symbol;Acc:1310313]

Scnn1b	ENSRNOG0000030981	ENSRNOT00000067138	1,940396667	4,65159	0,417146968	0,002467332	0,046756056	sodium channel epithelial 1 beta subunit [Source:RGD Symbol;Acc:3640]
P2rx2	ENSRNOG0000037456	ENSRNOT00000085661	40,78943333	97,6306	0,417793533	0,001752289	0,043041515	purinergic receptor P2X 2 [Source:RGD Symbol;Acc:620251]
Cpne7	ENSRNOG0000015397	ENSRNOT00000068231	3,183606667	7,590726667	0,419407365	0,000995714	0,03781251	copine 7 [Source:RGD Symbol;Acc:1307466]
Scarb1	ENSRNOG0000000981	ENSRNOT00000064276	58,24843333	138,858	0,419482013	0,002141789	0,045655096	scavenger receptor class B, member 1 [Source:RGD Symbol;Acc:2302]
Jam2	ENSRNOG0000042848	ENSRNOT00000046973	8,264836667	19,37783333	0,426509844	0,000502281	0,03266421	junctional adhesion molecule 2 [Source:RGD Symbol;Acc:1561692]
Idua	ENSRNOG0000000043	ENSRNOT00000000048	21,05066667	49,00326667	0,429576804	0,001489864	0,040517129	iduronidase, alpha-L- [Source:RGD Symbol;Acc:1310943]
Glyetk	ENSRNOG0000046307	ENSRNOT00000074595	1,621566667	3,76427	0,430778522	0,000656262	0,035317215	glycerate kinase [Source:RGD Symbol;Acc:1591498]

Fam84a	ENSRNOG0000004084	ENSRNOT00000065531	11,1318	25,69603333	0,433210833	0,000146387	0,027015655	family with sequence similarity 84, member A [Source:RGD Symbol;Acc:1305779]
Wdr45	ENSRNOG0000009749	ENSRNOT00000013369	10,61466333	24,44906667	0,434154133	0,000992728	0,03781251	WD repeat domain 45 [Source:RGD Symbol;Acc:1359718]
Ap1m2	ENSRNOG0000043093	ENSRNOT00000066340	7,622626667	17,2286	0,442440283	0,00065985	0,035378225	adaptor-related protein complex 1, mu 2 subunit [Source:RGD Symbol;Acc:1561490]
Tgfbr3l	ENSRNOG0000050573	ENSRNOT00000075527	5,553843333	12,41836667	0,447228165	0,002645411	0,048025731	transforming growth factor beta receptor 3 like [Source:RGD Symbol;Acc:1586419]
Gstm7	ENSRNOG0000018937	ENSRNOT00000081501	73,53826667	163,961	0,448510723	0,002679347	0,048103789	glutathione S-transferase, mu 7 [Source:RGD Symbol;Acc:621287]
Zfp395	ENSRNOG0000014191	ENSRNOT00000044562	8,539676667	18,93436667	0,451014645	0,000251206	0,028274478	zinc finger protein 395 [Source:RGD Symbol;Acc:1307849]

Ogt	ENSRNOG0000003359	ENSRNOT00000075963	23,05973333	51,00356667	0,452120015	0,00141561	0,040476789	O-linked N-acetylglucosamine (GlcNAc) transferase [Source:RGD Symbol;Acc:62060]
Ctnnal1	ENSRNOG0000010593	ENSRNOT00000014888	20,14663333	44,5256	0,452473034	0,000858449	0,036574167	catenin alpha-like 1 [Source:RGD Symbol;Acc:1311434]
Igfbp1	ENSRNOG0000058780	ENSRNOT00000077177	261,43	573,7673333	0,455637651	0,000628869	0,034624717	insulin-like growth factor binding protein 1 [Source:RGD Symbol;Acc:2872]
Evpl	ENSRNOG0000009343	ENSRNOT00000012373	20,84283333	45,44686667	0,45861981	0,000800094	0,036534646	envoplakin [Source:RGD Symbol;Acc:1306141]
Crb3	ENSRNOG0000047322	ENSRNOT00000080856	16,08746667	34,91106667	0,460812808	0,002521161	0,047163404	crumbs 3, cell polarity complex component [Source:RGD Symbol;Acc:1565035]
Aqp5	ENSRNOG0000051970	ENSRNOT00000084911	281,726	607,5423333	0,463714188	0,001677614	0,04207912	aquaporin 5 [Source:RGD Symbol;Acc:2144]
Gltser2	ENSRNOG0000013023	ENSRNOT00000017555	101,2784667	216,4526667	0,467901219	0,000057084	0,020647802	glioma tumor suppressor candidate region gene 2 [Source:RGD Symbol;Acc:1303085]

Chchd10	ENSRNOG0000053231	ENSRNOT00000084046	42,16283333	89,72036667	0,469936035	0,002564538	0,047296849	coiled-coil-helix-coiled-coil-helix domain containing 10 [Source:RGD Symbol;Acc:1359417]
Igfbp3	ENSRNOG0000061910	ENSRNOT00000088355	244,291	519,519	0,470225343	0,00031017	0,030001912	insulin-like growth factor binding protein 3 [Source:RGD Symbol;Acc:2874]
Cryz	ENSRNOG0000028319	ENSRNOT00000032808	3,23	6,79658	0,475239017	0,000588733	0,034457701	crystallin zeta [Source:RGD Symbol;Acc:1311639]
Vps37d	ENSRNOG0000048699	ENSRNOT00000077016	20,60813333	43,35866667	0,475294443	0,000550515	0,033663581	VPS37D, ESCRT-I subunit [Source:RGD Symbol;Acc:1587769]
Itm2b	ENSRNOG0000016271	ENSRNOT00000023037	256,5346667	537,306	0,477446123	0,000546071	0,033663581	integral membrane protein 2B [Source:RGD Symbol;Acc:620727]

Smarca2	ENSRNOG0000011931	ENSRNOT00000080124	10,47593333	21,935	0,477589849	0,001038496	0,038124714	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a, member 2 [Source:RGD Symbol;Acc:1302988]
Sspn	ENSRNOG0000001807	ENSRNOT00000002465	5,337086667	10,95396667	0,487228675	6,66738E-05	0,021110923	sarcospan [Source:RGD Symbol;Acc:1559723]
Itgb5	ENSRNOG0000001795	ENSRNOT00000049974	39,45686667	80,875	0,487874704	0,000481742	0,031960499	integrin subunit beta 5 [Source:RGD Symbol;Acc:628869]
Fbxo32	ENSRNOG0000006738	ENSRNOT00000010361	24,61643333	49,96206667	0,492702464	0,002242622	0,046125214	F-box protein 32 [Source:RGD Symbol;Acc:620373]
Nudt7	ENSRNOG0000011976	ENSRNOT00000034012	10,90788	22,00023333	0,495807469	0,002393301	0,046559137	nudix hydrolase 7 [Source:RGD Symbol;Acc:1306719]
Lsm7	ENSRNOG0000019552	ENSRNOT00000026551	219,693	109,3325667	2,009401285	0,000736742	0,035989879	LSM7 homolog, U6 small nuclear RNA and mRNA degradation associated [Source:RGD Symbol;Acc:1305354]

Srsf3	ENSRNOG000000520	ENSRNOT00000092645	120,9766667	60,13106667	2,011882931	0,001424994	0,040476789	serine and arginine rich splicing factor 3 [Source:RGD Symbol;Acc:1309233]
Ext1	ENSRNOG0000024886	ENSRNOT00000037809	16,23276667	8,049476667	2,016623855	0,001988848	0,044380775	exostosin glycosyltransferase 1 [Source:RGD Symbol;Acc:1587375]
Mad1l1	ENSRNOG0000001265	ENSRNOT00000001709	16,31373333	8,04911	2,026774803	0,000984506	0,03781251	MAD1 mitotic arrest deficient like 1 [Source:RGD Symbol;Acc:1596881]
Rrbp1	ENSRNOG0000005958	ENSRNOT00000055602	165,4643333	81,62966667	2,027012238	0,000487571	0,032115408	ribosome binding protein 1 [Source:RGD Symbol;Acc:1306536]
Hif1a	ENSRNOG0000008292	ENSRNOT00000049725	49,3552	24,34043333	2,027704245	0,002017552	0,044777414	hypoxia inducible factor 1 alpha subunit [Source:RGD Symbol;Acc:61928]
Egr1	ENSRNOG0000019422	ENSRNOT00000026303	62,44503333	30,76603333	2,0296745	0,001474342	0,040517129	early growth response 1 [Source:RGD Symbol;Acc:2544]

Slc1a4	ENSRNOG0000005248	ENSRNOT00000007002	14,9493	7,351343333	2,033546703	2,17926E-05	0,015377805	solute carrier family 1 member 4 [Source:RGD Symbol;Acc:735146]
Eif4g1	ENSRNOG0000001738	ENSRNOT00000041777	56,8314	27,7518	2,047845545	0,000353709	0,030001912	eukaryotic translation initiation factor 4 gamma, 1 [Source:RGD Symbol;Acc:1306144]
Psmc1	ENSRNOG0000017730	ENSRNOT00000024306	53,2506	25,92086667	2,054352607	0,000198834	0,028140467	proteasome 26S subunit, non-ATPase 1 [Source:RGD Symbol;Acc:621669]
Hnrnpa3	ENSRNOG0000027006	ENSRNOT00000035567	79,94263333	38,8952	2,055334163	0,000692927	0,03541687	heterogeneous nuclear ribonucleoprotein A3 [Source:RGD Symbol;Acc:727807]
Ifid2	ENSRNOG0000016150	ENSRNOT00000022092	47,5475	23,09803333	2,058508589	0,00281558	0,049025969	interferon-related developmental regulator 2 [Source:RGD Symbol;Acc:1310222]
Ssbp4	ENSRNOG0000019698	ENSRNOT00000026713	145,5066667	70,6582	2,059303332	0,001498204	0,040542548	single stranded DNA binding protein 4 [Source:RGD Symbol;Acc:1359619]

Net1	ENSRNOG0000017765	ENSRNOT00000023945	131,6923333	63,91633333	2,060386234	0,002294885	0,046132834	neuroepithelial cell transforming 1 [Source:RGD Symbol;Acc:1305034]
Wfikkn2	ENSRNOG0000002831	ENSRNOT00000003784	186,0896667	90,0472	2,066579157	0,001476281	0,040517129	WAP, follistatin/kazal, immunoglobulin, kunitz and netrin domain containing 2 [Source:RGD Symbol;Acc:1305361]
Dok4	ENSRNOG0000015679	ENSRNOT00000021037	20,38506667	9,84974	2,069604545	0,00260185	0,04749771	docking protein 4 [Source:RGD Symbol;Acc:1310084]
Cand2	ENSRNOG0000010473	ENSRNOT00000014217	16,0724	7,749446667	2,074006144	0,001239233	0,039480075	cullin-associated and neddylation-dissociated 2 (putative) [Source:RGD Symbol;Acc:620480]
Slc30a7	ENSRNOG0000013912	ENSRNOT00000019172	7,94643	3,830606667	2,07445731	0,001508033	0,040700996	solute carrier family 30 member 7 [Source:RGD Symbol;Acc:1307873]
Tpm4	ENSRNOG0000015496	ENSRNOT00000021073	947,7043333	456,3556667	2,076679228	0,000875745	0,036574167	tropomyosin 4 [Source:RGD Symbol;Acc:3899]

Fos	ENSRNOG0000008015	ENSRNOT00000010712	49,69963333	23,9118	2,078456383	0,001847912	0,043732586	FBJ osteosarcoma oncogene [Source:RGD Symbol;Acc:2 626]
Cotl1	ENSRNOG0000016257	ENSRNOT00000021954	201,6926667	96,96583333	2,080038502	0,002475583	0,046757069	coactosin-like F-actin binding protein 1 [Source:RGD Symbol;Acc:1 305498]
Ipo9	ENSRNOG0000007418	ENSRNOT00000011105	56,53456667	27,1711	2,080687446	0,002646866	0,048025731	importin 9 [Source:RGD Symbol;Acc:1 310537]
Ccdc34	ENSRNOG0000005902	ENSRNOT00000065333	5,48353	2,633203333	2,082455969	0,002821155	0,049025969	coiled-coil domain containing 34 [Source:RGD Symbol;Acc:1 560583]
Naa25	ENSRNOG0000001350	ENSRNOT00000048984	9,683596667	4,63911	2,087382422	0,001340368	0,040476789	N(alpha)- acetyltransfera se 25, NatB auxiliary subunit [Source:RGD Symbol;Acc:1 305685]
Zwint	ENSRNOG0000048682	ENSRNOT00000074404	80,7511	38,64996667	2,089292876	0,001877484	0,043870867	ZW10 interacting kinetochore protein [Source:RGD Symbol;Acc:6 28671]

Shf	ENSRNOG0000028685	ENSRNOT00000064592	10,21799	4,887443333	2,09066158	0,002244297	0,046125214	Src homology 2 domain containing F [Source:RGD Symbol;Acc:1562705]
Slc28a3	ENSRNOG0000018853	ENSRNOT00000025745	3,32355	1,589666667	2,090721325	9,12048E-06	0,012455536	solute carrier family 28 member 3 [Source:RGD Symbol;Acc:621224]
Surf4	ENSRNOG0000060005	ENSRNOT00000071754	166,604	79,6411	2,091934943	0,000538414	0,033663581	surfeit 4 [Source:RGD Symbol;Acc:1561980]
Chrdl2	ENSRNOG0000018394	ENSRNOT00000024803	29,80716667	14,17583333	2,10267474	0,001809887	0,043679997	chordin-like 2 [Source:RGD Symbol;Acc:1306179]
Hnrmpd	ENSRNOG0000002292	ENSRNOT00000047840	181,7623333	86,11056667	2,110801733	0,002374822	0,046518992	heterogeneous nuclear ribonucleoprotein D [Source:RGD Symbol;Acc:620365]
Ftsj3	ENSRNOG0000009857	ENSRNOT00000013295	37,97953333	17,98386667	2,111866933	0,000541803	0,033663581	FtsJ homolog 3 [Source:RGD Symbol;Acc:1307110]
Tubb2a	ENSRNOG0000017558	ENSRNOT00000023611	90,41713333	42,77103333	2,113980568	8,55279E-05	0,021110923	tubulin, beta 2A class IIa [Source:RGD Symbol;Acc:1588452]

Lsm4	ENSRNOG0000019572	ENSRNOT00000026567	156,2193333	73,85263333	2,115284537	8,96583E-05	0,021110923	LSM4 homolog, U6 small nuclear RNA and mRNA degradation associated [Source:RGD Symbol;Acc:1306808]
Hirip3	ENSRNOG0000029061	ENSRNOT00000039964	44,49193333	21,0069	2,117967588	0,002082806	0,045257317	HIRA interacting protein 3 [Source:RGD Symbol;Acc:1306463]
Tmem132e	ENSRNOG0000007455	ENSRNOT00000076773	5,245623333	2,475373333	2,119124119	0,001609023	0,04155794	transmembrane protein 132E [Source:RGD Symbol;Acc:1565522]
P4ha2	ENSRNOG0000033663	ENSRNOT00000042144	45,0981	21,26926667	2,120341087	0,002608563	0,047499034	prolyl 4-hydroxylase subunit alpha 2 [Source:RGD Symbol;Acc:1309673]
B4galt5	ENSRNOG0000008283	ENSRNOT00000064849	117,1303333	54,94863333	2,131633241	0,002738475	0,048569403	beta-1,4-galactosyltransferase 5 [Source:RGD Symbol;Acc:1310062]
Tubb2b	ENSRNOG0000017445	ENSRNOT00000083705	20,91356667	9,7883	2,13658824	0,001433343	0,040476789	tubulin, beta 2B class IIb [Source:RGD Symbol;Acc:1309427]

Stip1	ENSRNOG0000021164	ENSRNOT00000028743	95,19286667	44,40033333	2,143967388	0,002720436	0,048453208	stress-induced phosphoprotein 1 [Source:RGD Symbol;Acc:621599]
Nars	ENSRNOG0000017852	ENSRNOT00000024264	57,1522	26,61566667	2,147314239	0,002866311	0,049252945	asparaginyl-tRNA synthetase [Source:RGD Symbol;Acc:1307238]
Cad	ENSRNOG0000026474	ENSRNOT00000039709	21,5232	10,00469667	2,151309602	0,000601408	0,034624717	carbamoyl-phosphate synthetase 2, aspartate transcarbamylase, and dihydroorotase [Source:RGD Symbol;Acc:1588606]
Prickle1	ENSRNOG0000022772	ENSRNOT00000036750	46,99586667	21,8156	2,15423214	3,58362E-05	0,017303307	prickle planar cell polarity protein 1 [Source:RGD Symbol;Acc:735090]
Rasl11b	ENSRNOG0000002097	ENSRNOT00000002869	46,8439	21,6456	2,164130354	8,21235E-05	0,021110923	RAS-like family 11 member B [Source:RGD Symbol;Acc:1303099]
Slc35b1	ENSRNOG0000004510	ENSRNOT00000006179	60,80313333	27,95566667	2,174984201	0,001644278	0,041765257	solute carrier family 35, member B1 [Source:RGD Symbol;Acc:727783]

Utp4	ENSRNOG0000020333	ENSRNOT00000027553	20,84093333	9,574173333	2,176786717	0,002379883	0,046518992	UTP4 small subunit processome component [Source:RGD Symbol;Acc:1 311341]
Txndc5	ENSRNOG0000013469	ENSRNOT00000018310	196,5556667	90,1273	2,180867136	0,001526287	0,040836768	thioredoxin domain containing 5 [Source:RGD Symbol;Acc:2 323973]
Pgam1	ENSRNOG0000050585	ENSRNOT00000071965	275,843	125,903	2,190916817	0,001533582	0,040836768	phosphoglycerate mutase 1 [Source:RGD Symbol;Acc:3 312]
Eif2s2	ENSRNOG0000017447	ENSRNOT00000023786	98,3566	44,766	2,197127284	0,001118224	0,038744182	eukaryotic translation initiation factor 2 subunit beta [Source:RGD Symbol;Acc:7 35192]
Rbm28	ENSRNOG0000005468	ENSRNOT00000077079	16,5028	7,510726667	2,197230805	0,002420827	0,046602991	RNA binding motif protein 28 [Source:RGD Symbol;Acc:1 311336]
Rbbp8	ENSRNOG0000012899	ENSRNOT00000078615	17,6654	8,036756667	2,198075758	0,000472073	0,03181051	RB binding protein 8, endonuclease [Source:RGD Symbol;Acc:1 308872]

Ppa1	ENSRNOG000000557	ENSRNOT00000079584	181,2226667	82,0874	2,207679457	0,000217354	0,028140467	pyrophosphatase (inorganic) 1 [Source:RGD Symbol;Acc:1589773]
Cdk4	ENSRNOG0000025602	ENSRNOT00000031796	317,396	143,6766667	2,209099135	0,000923316	0,036993718	cyclin-dependent kinase 4 [Source:RGD Symbol;Acc:621120]
Rpa3	ENSRNOG0000008309	ENSRNOT00000011123	37,27313333	16,86873333	2,209598824	0,002399095	0,046583375	replication protein A3 [Source:RGD Symbol;Acc:1306810]
Cd248	ENSRNOG0000052685	ENSRNOT00000080189	33,23543333	15,02656667	2,211778251	0,002821772	0,049025969	CD248 molecule [Source:RGD Symbol;Acc:1310404]
Cnd3	ENSRNOG0000050258	ENSRNOT00000074217	86,44576667	39,01363333	2,215783542	0,000776448	0,036269227	cyclin D3 [Source:RGD Symbol;Acc:2293]
Hnmpab	ENSRNOG0000046272	ENSRNOT00000086193	284,5133333	127,9366667	2,223860764	9,75743E-05	0,021726191	heterogeneous nuclear ribonucleoprotein A/B [Source:RGD Symbol;Acc:69255]
Pbdc1	ENSRNOG0000002662	ENSRNOT00000003667	30,62736667	13,77183333	2,223913543	4,92688E-06	0,009175194	polysaccharide biosynthesis domain containing 1 [Source:RGD Symbol;Acc:1562502]

P3h1	ENSRNOG0000053991	ENSRNOT00000084651	72,48363333	32,55853333	2,226256097	0,000529934	0,033663581	prolyl 3-hydroxylase 1 [Source:RGD Symbol;Acc:628823]
Eif5a	ENSRNOG0000016478	ENSRNOT00000022343	725,859	325,8476667	2,227602264	0,002924338	0,049659795	eukaryotic translation initiation factor 5A [Source:RGD Symbol;Acc:1308029]
Actc1	ENSRNOG0000008536	ENSRNOT00000011773	10,82519667	4,83401	2,239382349	0,000699849	0,03541687	actin, alpha, cardiac muscle 1 [Source:RGD Symbol;Acc:2026]
Fam46c	ENSRNOG0000015222	ENSRNOT00000020401	40,29143333	17,89223333	2,251895143	0,000780802	0,036269227	family with sequence similarity 46, member C [Source:RGD Symbol;Acc:1359446]
Prmt1	ENSRNOG0000026109	ENSRNOT00000064272	118,461	51,78983333	2,287340823	0,002250517	0,046125214	protein arginine methyltransferase 1 [Source:RGD Symbol;Acc:62020]
Wdr90	ENSRNOG0000020006	ENSRNOT00000027121	8,43277	3,652336667	2,308869847	0,00082936	0,036534646	WD repeat domain 90 [Source:RGD Symbol;Acc:7520481]
Tubb4b	ENSRNOG0000010170	ENSRNOT00000013863	170,7366667	73,33403333	2,328205049	0,001033764	0,03801913	tubulin, beta 4B class IVb [Source:RGD Symbol;Acc:735101]

Hand2	ENSRNOG0000060448	ENSRNOT00000079552	258,5996667	111,0693333	2,32827243	0,000818258	0,036534646	heart and neural crest derivatives expressed transcript 2 [Source:MGI Symbol;Acc:MGI:103580]
Dnajc9	ENSRNOG0000006619	ENSRNOT00000009009	56,72456667	24,34876667	2,329668991	0,00015849	0,027499803	DnaJ heat shock protein family (Hsp40) member C9 [Source:RGD Symbol;Acc:1305009]
Isyna1	ENSRNOG0000019741	ENSRNOT00000026821	234,951	100,8308	2,330151105	0,000235524	0,028274478	inositol-3-phosphate synthase 1 [Source:RGD Symbol;Acc:1359423]
Rbm3	ENSRNOG0000005387	ENSRNOT00000007367	236,4563333	101,3768333	2,332449393	0,00046857	0,031771627	RNA binding motif (RNP1, RRM) protein 3 [Source:RGD Symbol;Acc:620145]
Sec61a1	ENSRNOG0000013743	ENSRNOT00000018454	163,3863333	69,92933333	2,336449177	0,000102501	0,022102453	Sec61 translocon alpha 1 subunit [Source:RGD Symbol;Acc:68321]
Il1rl	ENSRNOG0000014504	ENSRNOT00000082146	16,43543333	6,974166667	2,356616083	0,000862916	0,036574167	interleukin 1 receptor type 1 [Source:RGD Symbol;Acc:2892]

Xpo1	ENSRNOG0000009935	ENSRNOT00000014062	27,7304	11,73226667	2,363601237	0,001495928	0,040542548	exportin 1 [Source:RGD Symbol;Acc:6 20517]
Ak2	ENSRNOG0000000122	ENSRNOT00000000134	70,80953333	29,91863333	2,366736894	0,001500193	0,040542815	adenylate kinase 2 [Source:RGD Symbol;Acc:2 077]
Idh3a	ENSRNOG0000010277	ENSRNOT00000015102	41,22116667	17,384	2,371212993	0,002341815	0,046171396	isocitrate dehydrogenase 3 (NAD+) alpha [Source:RGD Symbol;Acc:7 0889]
Ncbp1	ENSRNOG0000023605	ENSRNOT00000030825	26,12306667	10,9611	2,383252289	0,002820753	0,049025969	nuclear cap binding protein subunit 1 [Source:RGD Symbol;Acc:1 308973]
Vwa1	ENSRNOG0000018338	ENSRNOT00000024897	42,7715	17,92613333	2,385985823	0,002330851	0,046132834	von Willebrand factor A domain containing 1 [Source:RGD Symbol;Acc:1 311476]
Ube2s	ENSRNOG0000016930	ENSRNOT00000022977	287,8926667	120,6476667	2,386226561	0,000922026	0,036993718	ubiquitin- conjugating enzyme E2S [Source:RGD Symbol;Acc:1 564746]

Slc39a14	ENSRNOG0000009832	ENSRNOT00000013067	12,77516667	5,347313333	2,389081371	0,002293423	0,046132834	solute carrier family 39 member 14 [Source:RGD Symbol;Acc:1307026]
Fkbp4	ENSRNOG0000006444	ENSRNOT00000008737	245,805	102,8633333	2,389627013	0,000341578	0,030001912	FK506 binding protein 4 [Source:RGD Symbol;Acc:628729]
Nme2	ENSRNOG0000002671	ENSRNOT00000003611	687,1163333	286,5993333	2,397480571	0,001347625	0,040476789	NME/NM23 nucleoside diphosphate kinase 2 [Source:RGD Symbol;Acc:619877]
Nsd2	ENSRNOG0000038140	ENSRNOT00000021952	11,83283333	4,90944	2,410220582	0,001017962	0,03781251	nuclear receptor binding SET domain protein 2 [Source:RGD Symbol;Acc:1307955]
Cycs	ENSRNOG0000032885	ENSRNOT00000048429	255,9996667	106,1733333	2,411148437	0,001857233	0,043732586	cytochrome c, somatic [Source:RGD Symbol;Acc:2451]
Nop58	ENSRNOG0000016486	ENSRNOT00000022676	71,34686667	29,25426667	2,438853364	0,00081115	0,036534646	NOP58 ribonucleoprotein [Source:RGD Symbol;Acc:620484]
Eno1	ENSRNOG0000017895	ENSRNOT00000081579	171,5086667	70,31923333	2,439000804	0,001404849	0,040476789	enolase 1 [Source:RGD Symbol;Acc:2553]

Nop56	ENSRNOG0000007128	ENSRNOT00000009564	71,7482	29,3138333	2,447588454	0,000093002	0,021248226	NOP56 ribonucleoprotein [Source:RGD Symbol;Acc:1 308892]
Dnajb11	ENSRNOG0000001803	ENSRNOT00000002462	65,44706667	26,70076667	2,451130617	0,002568529	0,047296849	DnaJ heat shock protein family (Hsp40) member B11 [Source:RGD Symbol;Acc:1 307373]
Eif4a1	ENSRNOG0000030628	ENSRNOT00000049048	351,821	142,9863333	2,460521868	0,000357479	0,030001912	eukaryotic translation initiation factor 4A1 [Source:RGD Symbol;Acc:7 35141]
H2afz	ENSRNOG0000010306	ENSRNOT00000013919	482,1853333	195,896	2,461435319	0,000280597	0,02890835	H2A histone family, member Z [Source:RGD Symbol;Acc:6 21464]
Cep128	ENSRNOG0000003908	ENSRNOT00000076887	11,49063333	4,66817	2,461485621	0,001931538	0,044247668	centrosomal protein 128 [Source:RGD Symbol;Acc:1 595693]
Chchd6	ENSRNOG0000060248	ENSRNOT00000088753	24,60483333	9,989633333	2,463036681	0,002195406	0,045916525	coiled-coil- helix-coiled- coil-helix domain containing 6 [Source:RGD Symbol;Acc:1 304561]

Pdia6	ENSRNOG0000050197	ENSRNOT00000074829	341,1123333	138,3753333	2,465123842	0,000838714	0,036555439	protein disulfide isomerase family A, member 6 [Source:RGD Symbol;Acc:6 28688]
Manf	ENSRNOG0000014201	ENSRNOT00000019107	302,757	122,2106667	2,477336948	0,001426158	0,040476789	mesencephalic astrocyte-derived neurotrophic factor [Source:RGD Symbol;Acc:1 307252]
Slit3	ENSRNOG0000007377	ENSRNOT00000009714	58,86456667	23,56743333	2,497707995	0,001931952	0,044247668	slit guidance ligand 3 [Source:RGD Symbol;Acc:6 9311]
Kpnb1	ENSRNOG0000009275	ENSRNOT00000012376	77,40733333	30,98423333	2,498281384	0,002584825	0,047488915	karyopherin subunit beta 1 [Source:RGD Symbol;Acc:2 909]
Serpinh1	ENSRNOG0000016831	ENSRNOT00000022983	1837,216667	729,4176667	2,518744405	0,000165226	0,027499803	serpin family H member 1 [Source:RGD Symbol;Acc:6 9302]
Trabd2b	ENSRNOG0000029141	ENSRNOT00000047522	11,87813333	4,709863333	2,521969852	0,000256827	0,028537155	TraB domain containing 2B [Source:RGD Symbol;Acc:1 586386]
Aplnr	ENSRNOG0000009227	ENSRNOT00000012379	37,63503333	14,86356667	2,532032464	0,000444766	0,031526061	apelin receptor [Source:RGD Symbol;Acc:6 21645]

Uck2	ENSRNOG0000003917	ENSRNOT00000076125	47,71896667	18,8055	2,537500554	0,000775454	0,036269227	uridine-cytidine kinase 2 [Source:RGD Symbol;Acc:620742]
Pprc1	ENSRNOG0000018561	ENSRNOT00000025221	22,99786667	9,045303333	2,542520225	4,2955E-06	0,009175194	peroxisome proliferator-activated receptor gamma, coactivator-related 1 [Source:RGD Symbol;Acc:1309688]
Hspa5	ENSRNOG0000018294	ENSRNOT00000025067	306,2213333	119,9603333	2,55268825	5,03684E-05	0,020231307	heat shock protein family A member 5 [Source:RGD Symbol;Acc:2843]
Tubb6	ENSRNOG0000018371	ENSRNOT00000024947	339,4623333	132,7433333	2,557283479	0,000324033	0,030001912	tubulin, beta 6 class V [Source:RGD Symbol;Acc:1305887]
Ebna1bp2	ENSRNOG0000045760	ENSRNOT00000072245	53,6688	20,97156667	2,559122113	0,001921048	0,044247668	EBNA1 binding protein 2 [Source:RGD Symbol;Acc:1305762]
Tubb5	ENSRNOG0000061216	ENSRNOT00000079854	1453,046667	566,2473333	2,566098913	5,73593E-06	0,009787544	tubulin, beta 5 class I [Source:RGD Symbol;Acc:628596]
Cdc7	ENSRNOG0000002105	ENSRNOT00000068520	6,89742	2,679723333	2,573929896	0,002545423	0,04727379	cell division cycle 7 [Source:RGD Symbol;Acc:1308351]

Fmo1	ENSRNOG0000034191	ENSRNOT00000041908	71,3458	27,59433333	2,585523598	0,001641688	0,041765257	flavin containing monooxygenase 1 [Source:RGD Symbol;Acc:2 622]
Fasn	ENSRNOG0000045636	ENSRNOT00000073321	31,1126	11,97536667	2,598049886	0,000345219	0,030001912	fatty acid synthase [Source:RGD Symbol;Acc:6 20665]
Adamtsl2	ENSRNOG0000027742	ENSRNOT00000036995	4,660456667	1,78471	2,611324342	0,002106061	0,045271272	ADAMTS-like 2 [Source:RGD Symbol;Acc:1 305459]
Tars	ENSRNOG0000019023	ENSRNOT00000088202	57,00416667	21,80013333	2,614854038	0,000709749	0,03541687	threonyl-tRNA synthetase [Source:RGD Symbol;Acc:1 359527]
Cdc25a	ENSRNOG0000020737	ENSRNOT00000028141	14,98903333	5,71696	2,621853806	0,002016571	0,044777414	cell division cycle 25A [Source:RGD Symbol;Acc:6 21498]
Itga6	ENSRNOG0000001518	ENSRNOT00000002075	22,5735	8,593173333	2,626910819	0,000326515	0,030001912	integrin subunit alpha 6 [Source:RGD Symbol;Acc:6 21633]
Etv4	ENSRNOG0000020792	ENSRNOT00000028213	6,586316667	2,501793333	2,632638188	0,000988007	0,03781251	ets variant 4 [Source:RGD Symbol;Acc:1 306524]
Dhfr	ENSRNOG0000013521	ENSRNOT00000018259	5,088283333	1,924776667	2,643570769	0,001356619	0,040476789	dihydrofolate reductase [Source:RGD Symbol;Acc:2 500]

Pkm	ENSRNOG0000011329	ENSRNOT00000015332	183,375	69,2725	2,647154354	0,000404691	0,030255822	pyruvate kinase, muscle [Source:RGD Symbol;Acc:3337]
Hist2h3c2	ENSRNOG0000060366	ENSRNOT00000085945	49,9952	18,81393333	2,657349695	0,002887533	0,049333706	histone cluster 2, H3c2 [Source:RGD Symbol;Acc:1306445]
Lsm11	ENSRNOG0000005450	ENSRNOT00000007267	6,738773333	2,51821	2,676017224	6,77895E-05	0,021110923	LSM11, U7 small nuclear RNA associated [Source:RGD Symbol;Acc:1565523]
Csrnp1	ENSRNOG0000033433	ENSRNOT00000083004	15,75126667	5,884266667	2,676844467	0,001095322	0,03868564	cysteine and serine rich nuclear protein 1 [Source:RGD Symbol;Acc:1305999]
Ramp3	ENSRNOG0000053766	ENSRNOT00000086468	233,823	87,34683333	2,676948792	0,000473861	0,031826369	receptor activity modifying protein 3 [Source:RGD Symbol;Acc:61873]
Fam167b	ENSRNOG0000049425	ENSRNOT00000074172	57,6508	21,52883333	2,677841345	0,000985001	0,03781251	family with sequence similarity 167, member B [Source:RGD Symbol;Acc:1584589]

Pold2	ENSRNOG0000014098	ENSRNOT00000084633	44,55386667	16,62096667	2,680582156	0,001108817	0,038744182	DNA polymerase delta 2, accessory subunit [Source:RGD Symbol;Acc:1304954]
Hyou1	ENSRNOG0000010944	ENSRNOT00000044613	77,91823333	29,06496667	2,680829957	0,000982913	0,03781251	hypoxia up-regulated 1 [Source:RGD Symbol;Acc:621146]
Ncs1	ENSRNOG0000008761	ENSRNOT00000011648	12,8624	4,767383333	2,697999951	0,002314965	0,046132834	neuronal calcium sensor 1 [Source:RGD Symbol;Acc:68417]
Tbx3	ENSRNOG0000008706	ENSRNOT00000084018	60,41756667	22,3488	2,703391979	0,000429464	0,030868667	T-box 3 [Source:RGD Symbol;Acc:735203]
Hspd1	ENSRNOG0000014525	ENSRNOT00000066589	105,4661	38,98833333	2,705068183	0,002320186	0,046132834	heat shock protein family D member 1 [Source:RGD Symbol;Acc:621314]
Hsph1	ENSRNOG0000000902	ENSRNOT00000001201	61,38173333	22,60803333	2,715040819	0,000327412	0,030001912	heat shock protein family H (Hsp110) member 1 [Source:RGD Symbol;Acc:1311609]
Lyar	ENSRNOG0000005374	ENSRNOT00000084093	41,04196667	15,01993333	2,732499922	0,001058401	0,038374061	Ly1 antibody reactive [Source:RGD Symbol;Acc:1305352]

Socs3	ENSRNOG0000002946	ENSRNOT00000003940	46,89476667	17,09966667	2,742437474	0,000949246	0,037466868	suppressor of cytokine signaling 3 [Source:RGD Symbol;Acc:621087]
Sdk2	ENSRNOG0000024711	ENSRNOT00000091129	5,15494	1,874313333	2,750308557	0,001071675	0,038582183	sidekick cell adhesion molecule 2 [Source:RGD Symbol;Acc:1310397]
Hmgb2	ENSRNOG0000033321	ENSRNOT00000046874	88,17116667	31,98573333	2,756577933	0,001707623	0,04262951	high mobility group box 2 [Source:RGD Symbol;Acc:69291]
Dhcr7	ENSRNOG0000020776	ENSRNOT00000028195	11,39933333	4,13439	2,757198361	0,001236556	0,039456152	7-dehydrocholesterol reductase [Source:RGD Symbol;Acc:621769]
Hsp90b1	ENSRNOG0000026963	ENSRNOT00000029435	380,9076667	138,048	2,759240747	9,98766E-05	0,021999701	heat shock protein 90 beta family member 1 [Source:RGD Symbol;Acc:1310482]
Lamc1	ENSRNOG0000002680	ENSRNOT00000003605	487,301	175,4413333	2,77757237	0,000109446	0,022877564	laminin subunit gamma 1 [Source:RGD Symbol;Acc:621052]
Fstl3	ENSRNOG0000009311	ENSRNOT00000012578	38,59996667	13,88346667	2,780283023	0,000837151	0,036555439	folliculin like 3 [Source:RGD Symbol;Acc:621811]

Prim1	ENSRNOG0000031993	ENSRNOT00000065593	31,94983333	11,4235	2,79685152	0,002136228	0,04558399	primase (DNA) subunit 1 [Source:RGD Symbol;Acc:6 21380]
Acot7	ENSRNOG0000010580	ENSRNOT00000000079	47,78006667	17,06026667	2,80066353	0,002530747	0,047179892	acyl-CoA thioesterase 7 [Source:RGD Symbol;Acc:6 28856]
Tomm40	ENSRNOG0000018556	ENSRNOT00000025281	129,4196667	46,00056667	2,813436356	0,000371082	0,030001912	translocase of outer mitochondrial membrane 40 [Source:RGD Symbol;Acc:1 303022]
Ldha	ENSRNOG0000013009	ENSRNOT00000017468	248,007	88,05856667	2,816386973	2,00295E-05	0,015377805	lactate dehydrogenase A [Source:RGD Symbol;Acc:2 996]
Ssr1	ENSRNOG0000014165	ENSRNOT00000084090	88,02873333	31,19163333	2,822190566	0,001614752	0,04155794	signal sequence receptor subunit 1 [Source:RGD Symbol;Acc:1 310961]
Ttl12	ENSRNOG0000022623	ENSRNOT00000037710	35,37096667	12,43786667	2,84381298	0,001975145	0,044267883	tubulin tyrosine ligase like 12 [Source:RGD Symbol;Acc:1 305319]

Tnfaip2	ENSRNOG0000010165	ENSRNOT00000042973	17,31233333	6,08715	2,844078647	0,002330664	0,046132834	TNF alpha induced protein 2 [Source:RGD Symbol;Acc:1594556]
Sdc1	ENSRNOG0000059947	ENSRNOT00000086633	72,59396667	25,16943333	2,884211405	4,69487E-06	0,009175194	syndecan 1 [Source:RGD Symbol;Acc:3648]
Delk1	ENSRNOG0000032922	ENSRNOT00000093407	26,451	9,094746667	2,908382275	0,001478327	0,040517129	doublecortin-like kinase 1 [Source:RGD Symbol;Acc:68437]
Cyp51	ENSRNOG0000007234	ENSRNOT00000009985	32,50006667	11,1722	2,909012251	0,00076249	0,035989879	cytochrome P450, family 51 [Source:RGD Symbol;Acc:2481]
Calr	ENSRNOG0000003029	ENSRNOT00000004091	922,262	315,9073333	2,919406746	0,000172884	0,027499803	calreticulin [Source:RGD Symbol;Acc:620288]
Pdia4	ENSRNOG0000006228	ENSRNOT00000008728	152,4736667	52,21886667	2,91989613	0,000963078	0,037651508	protein disulfide isomerase family A, member 4 [Source:RGD Symbol;Acc:619835]
Mfsd12	ENSRNOG0000039858	ENSRNOT00000061191	70,15303333	24,01806667	2,920844309	0,002082336	0,045257317	major facilitator superfamily domain containing 12 [Source:RGD Symbol;Acc:1307722]

Gfpt2	ENSRNOG0000002810	ENSRNOT00000003770	6,660043333	2,26955	2,934521528	0,000673013	0,035378225	glutamine-fructose-6-phosphate transaminase 2 [Source:RGD Symbol;Acc:1303097]
Rdh10	ENSRNOG0000006681	ENSRNOT00000009096	25,40016667	8,631146667	2,942849618	0,002103601	0,045271272	retinol dehydrogenase 10 [Source:RGD Symbol;Acc:727793]
Heatr1	ENSRNOG0000047594	ENSRNOT00000078906	7,70126	2,616503333	2,943340412	0,002698967	0,048252444	HEAT repeat containing 1 [Source:RGD Symbol;Acc:1564769]
Tuba1c	ENSRNOG0000021438	ENSRNOT00000033450	249,504	84,64566667	2,947628743	0,000704149	0,03541687	tubulin, alpha 1C [Source:RGD Symbol;Acc:1307226]
Ndurfaf4	ENSRNOG0000007506	ENSRNOT00000010073	9,214453333	3,11711	2,956088599	0,002033203	0,04495262	NADH:ubiquinone oxidoreductase complex assembly factor 4 [Source:RGD Symbol;Acc:735162]
Fzd1	ENSRNOG0000016242	ENSRNOT00000021979	55,859	18,87363333	2,959631514	0,002286637	0,046132834	frizzled class receptor 1 [Source:RGD Symbol;Acc:61916]

Nolc1	ENSRNOG0000018704	ENSRNOT00000025791	60,84213333	20,5212	2,964842862	0,002306062	0,046132834	nucleolar and coiled-body phosphoprotein 1 [Source:RGD Symbol;Acc:621578]
Tfrc	ENSRNOG0000001766	ENSRNOT00000002407	10,9632	3,696226667	2,966051866	0,000683271	0,03541687	transferrin receptor [Source:RGD Symbol;Acc:70488]
Cenpe	ENSRNOG0000009339	ENSRNOT00000034565	5,29425	1,775383333	2,982032049	0,002561031	0,047296849	centromere protein E [Source:RGD Symbol;Acc:1307115]
Taf1d	ENSRNOG0000010921	ENSRNOT00000078161	38,27216667	12,81776667	2,985868573	3,58533E-06	0,009175194	TATA-box binding protein associated factor, RNA polymerase I subunit D [Source:RGD Symbol;Acc:1309627]
Rrp9	ENSRNOG0000012927	ENSRNOT00000017469	48,94373333	16,35696667	2,992225535	0,001861597	0,043732586	ribosomal RNA processing 9, small subunit (SSU) processome component, homolog (yeast) [Source:RGD Symbol;Acc:1307881]

Slco2a1	ENSRNOG0000009005	ENSRNOT00000091275	22,22683333	7,40614	3,001135994	0,001483832	0,040517129	solute carrier organic anion transporter family, member 2a1 [Source:RGD Symbol;Acc:3051]
Nhp2	ENSRNOG0000004247	ENSRNOT00000064984	133,1683333	44,3279	3,004165172	0,000865007	0,036574167	NHP2 ribonucleoprotein [Source:RGD Symbol;Acc:1309435]
Ndc1	ENSRNOG0000010620	ENSRNOT00000014275	7,91176	2,616566667	3,023718104	0,001363418	0,040476789	NDC1 transmembrane nucleoporin [Source:RGD Symbol;Acc:1560173]
Ppil1	ENSRNOG0000000523	ENSRNOT00000093253	87,06563333	28,64906667	3,039039085	0,000750766	0,035989879	peptidylprolyl isomerase like 1 [Source:RGD Symbol;Acc:1309119]
Ttyh2	ENSRNOG0000024578	ENSRNOT00000004081	5,555056667	1,818806667	3,054231529	0,001011411	0,03781251	tweety family member 2 [Source:RGD Symbol;Acc:1562969]
Igfbp4	ENSRNOG0000010635	ENSRNOT00000014153	614,7013333	199,56	3,08028329	7,67298E-05	0,021110923	insulin-like growth factor binding protein 4 [Source:RGD Symbol;Acc:2875]

Hsp90aa1	ENSRNOG0000007219	ENSRNOT00000009556	129,3096667	41,95556667	3,082062213	6,06768E-07	0,006214821	heat shock protein 90 alpha family class A member 1 [Source:RGD Symbol;Acc:631409]
Des	ENSRNOG0000019810	ENSRNOT00000026860	2527,19	819,791	3,082724743	2,19495E-05	0,015377805	desmin [Source:RGD Symbol;Acc:620686]
Tuba1a	ENSRNOG0000060728	ENSRNOT00000083156	435,8426667	140,666	3,098422267	0,000898343	0,036731649	tubulin, alpha 1A [Source:RGD Symbol;Acc:619717]
Fbl	ENSRNOG0000019229	ENSRNOT00000026021	174,146	56,11123333	3,103585319	0,001109494	0,038744182	fibrillarin [Source:RGD Symbol;Acc:1305542]
Gadd45g	ENSRNOG0000013090	ENSRNOT00000018252	253,959	81,72286667	3,10756353	0,000560175	0,033806678	growth arrest and DNA-damage-inducible, gamma [Source:RGD Symbol;Acc:1311796]
Dnmt1	ENSRNOG0000039859	ENSRNOT00000064932	38,50113333	12,3858	3,10848983	0,000318221	0,030001912	DNA methyltransferase 1 [Source:RGD Symbol;Acc:620979]
Tmem132c	ENSRNOG0000000963	ENSRNOT00000048474	67,54076667	21,59936667	3,126979032	0,00169829	0,042477986	transmembrane protein 132C [Source:RGD Symbol;Acc:1583824]

Kpna2	ENSRNOG0000015329	ENSRNOT00000020795	29,1251	9,280373333	3,138354348	0,002121336	0,045319826	karyopherin subunit alpha 2 [Source:RGD Symbol;Acc:6 21419]
Fads3	ENSRNOG0000020385	ENSRNOT00000027693	27,68453333	8,717873333	3,175606283	0,001440163	0,040476789	fatty acid desaturase 3 [Source:RGD Symbol;Acc:6 28876]
Pola2	ENSRNOG0000020906	ENSRNOT00000084800	11,55596667	3,625083333	3,187779591	0,002844107	0,049252945	DNA polymerase alpha 2, accessory subunit [Source:RGD Symbol;Acc:6 21817]
Bysl	ENSRNOG0000049121	ENSRNOT00000075630	55,67083333	17,43463333	3,19311753	0,001731367	0,042834605	bystin-like [Source:RGD Symbol;Acc:7 27959]
Lmnb2	ENSRNOG0000025742	ENSRNOT00000022336	29,8055	9,183526667	3,245539658	0,001212997	0,039400586	lamin B2 [Source:RGD Symbol;Acc:1 563803]
Tmem2	ENSRNOG0000012782	ENSRNOT00000087386	21,1113	6,502493333	3,246646927	0,002004653	0,044587749	transmembrane protein 2 [Source:RGD Symbol;Acc:1 307941]
Baspl	ENSRNOG0000046313	ENSRNOT00000073915	166,2893333	50,8673	3,269081184	0,000303355	0,030001912	brain abundant, membrane attached signal protein 1 [Source:RGD Symbol;Acc:6 21491]

Timm8a1	ENSRNOG0000011226	ENSRNOT00000015043	95,1776	28,8433	3,299816595	0,000678513	0,03541687	translocase of inner mitochondrial membrane 8 homolog A1 (yeast) [Source:Entrez Gene;Acc:84383]
Car2	ENSRNOG0000009629	ENSRNOT00000013354	28,9106	8,75849	3,300865789	0,001264473	0,039789139	carbonic anhydrase 2 [Source:RGD Symbol;Acc:2240]
Plk3	ENSRNOG0000018484	ENSRNOT00000025197	13,85713333	4,190056667	3,307147	0,001781927	0,043352464	polo-like kinase 3 [Source:RGD Symbol;Acc:62039]
Tuba1b	ENSRNOG0000053468	ENSRNOT00000081355	627,908	189,0126667	3,322041909	0,000245434	0,028274478	tubulin, alpha 1B [Source:RGD Symbol;Acc:1565476]
Hmmr	ENSRNOG0000059894	ENSRNOT00000085499	6,839536667	2,051923333	3,333232073	0,00158605	0,041231262	hyaluronan-mediated motility receptor [Source:RGD Symbol;Acc:2805]
H2afx	ENSRNOG0000010386	ENSRNOT00000059715	154,02	46,16153333	3,33654428	0,000261637	0,028546283	H2A histone family, member X [Source:RGD Symbol;Acc:1566119]
Nptx2	ENSRNOG0000001006	ENSRNOT00000001331	14,03543333	4,195916667	3,345021946	0,000390378	0,030176956	neuronal pentraxin 2 [Source:RGD Symbol;Acc:1309447]

Ckap4	ENSRNOG0000008016	ENSRNOT00000010601	143,7956667	42,57193333	3,37771051	0,000296312	0,030001912	cytoskeleton-associated protein 4 [Source:RGD Symbol;Acc:1311989]
Ncapg2	ENSRNOG0000004968	ENSRNOT00000035255	5,272646667	1,53832	3,427535667	0,002235963	0,046125214	non-SMC condensin II complex, subunit G2 [Source:RGD Symbol;Acc:1308406]
Stra6	ENSRNOG0000008312	ENSRNOT00000011074	61,69356667	17,94053333	3,438781084	0,001980658	0,044342928	stimulated by retinoic acid 6 [Source:RGD Symbol;Acc:1307551]
Tpx2	ENSRNOG0000008165	ENSRNOT00000010851	26,43316667	7,644183333	3,457945148	0,000580584	0,034274534	TPX2, microtubule nucleation factor [Source:RGD Symbol;Acc:1311894]
Ran	ENSRNOG0000000938	ENSRNOT00000001247	493,1036667	142,459	3,461372512	4,91523E-05	0,020231307	RAN, member RAS oncogene family [Source:RGD Symbol;Acc:620367]
Ranbp1	ENSRNOG0000001884	ENSRNOT00000002579	216,9983333	62,67846667	3,462087458	0,000177254	0,027499803	RAN binding protein 1 [Source:RGD Symbol;Acc:1310521]

Shmt2	ENSRNOG0000008106	ENSRNOT00000011082	74,56786667	21,43863333	3,478200569	0,001535041	0,040836768	serine hydroxymethyl transferase 2 [Source:RGD Symbol;Acc:1 308582]
Spc25	ENSRNOG0000006731	ENSRNOT00000008837	12,20413333	3,4979	3,488988631	0,000626744	0,034624717	SPC25, NDC80 kinetochore complex component [Source:RGD Symbol;Acc:1 307811]
Hk2	ENSRNOG0000006116	ENSRNOT00000008813	11,06453333	3,17078	3,489530442	0,000829247	0,036534646	hexokinase 2 [Source:RGD Symbol;Acc:2 797]
Fn1	ENSRNOG0000014288	ENSRNOT00000057585	466,6856667	133,574	3,493836126	5,44307E-05	0,020647802	fibronectin 1 [Source:RGD Symbol;Acc:2 624]
Cdc20	ENSRNOG0000028415	ENSRNOT00000092742	51,1114	14,51456667	3,521386561	0,000280828	0,02890835	cell division cycle 20 [Source:RGD Symbol;Acc:6 20477]
Lypd6	ENSRNOG0000038980	ENSRNOT00000059588	3,596603333	1,015724	3,540925816	0,001966689	0,044267883	LY6/PLAUR domain containing 6 [Source:RGD Symbol;Acc:1 587119]
Incnp	ENSRNOG0000032929	ENSRNOT00000077823	32,23473333	8,921733333	3,613057253	0,00096285	0,037651508	inner centromere protein [Source:RGD Symbol;Acc:1 305292]

Lrrc59	ENSRNOG0000003524	ENSRNOT00000004941	142,569	39,0282	3,652974003	0,002429396	0,046602991	leucine rich repeat containing 59 [Source:RGD Symbol;Acc:1 305092]
Nt5dc2	ENSRNOG0000018358	ENSRNOT00000024840	95,59606667	25,80263333	3,704895754	0,001171968	0,039277568	5'-nucleotidase domain containing 2 [Source:RGD Symbol;Acc:1 305524]
Snrpa1	ENSRNOG0000011932	ENSRNOT00000016758	70,27973333	18,9397	3,710709955	0,000514005	0,0330075	small nuclear ribonucleoprotein polypeptide A' [Source:RGD Symbol;Acc:2 320494]
Stac2	ENSRNOG0000004805	ENSRNOT00000066855	4,977783333	1,325176667	3,756316768	0,000562757	0,033806678	SH3 and cysteine rich domain 2 [Source:RGD Symbol;Acc:1 305548]
Eln	ENSRNOG0000001469	ENSRNOT00000040069	168,6803333	44,71723333	3,772154956	0,001485096	0,040517129	elastin [Source:RGD Symbol;Acc:6 7394]
Arhgap11a	ENSRNOG0000008115	ENSRNOT00000010994	13,94213333	3,69518	3,773059319	0,000452816	0,031638843	Rho GTPase activating protein 11A [Source:RGD Symbol;Acc:1 309107]

Igfbp2	ENSRNOG0000016957	ENSRNOT00000023068	40,51153333	10,72794667	3,776261627	0,001434283	0,040476789	insulin-like growth factor binding protein 2 [Source:RGD Symbol;Acc:2873]
Mthfd1l	ENSRNOG0000019582	ENSRNOT00000026564	9,074426667	2,368353333	3,831534146	0,00046885	0,031771627	methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 1-like [Source:RGD Symbol;Acc:1307311]
Tnfrsf12a	ENSRNOG0000003546	ENSRNOT00000004842	111,0886667	28,97966667	3,833331416	0,001534053	0,040836768	TNF receptor superfamily member 12A [Source:RGD Symbol;Acc:631329]
Ogfod1	ENSRNOG0000019288	ENSRNOT00000026118	4,77358	1,241043333	3,846424917	0,000876976	0,036574167	2-oxoglutarate and iron-dependent oxygenase domain containing 1 [Source:RGD Symbol;Acc:1308848]
Spry4	ENSRNOG0000013851	ENSRNOT00000018511	12,41643333	3,217456667	3,859083313	0,001364279	0,040476789	sprouty RTK signaling antagonist 4 [Source:RGD Symbol;Acc:1305324]

Cxcl14	ENSRNOG0000011984	ENSRNOT00000016009	380,0006667	98,3844	3,862407726	0,001414783	0,040476789	C-X-C motif chemokine ligand 14 [Source:RGD Symbol;Acc:1307406]
Col12a1	ENSRNOG0000058470	ENSRNOT00000077071	67,09696667	17,3288	3,871991521	0,000279371	0,02890835	collagen type XII alpha 1 chain [Source:RGD Symbol;Acc:2374]
Cenpt	ENSRNOG0000024178	ENSRNOT00000036702	8,171923333	2,077126667	3,9342441	0,002339902	0,046171396	centromere protein T [Source:RGD Symbol;Acc:1309383]
Unc5b	ENSRNOG0000000567	ENSRNOT00000038537	18,08936667	4,574406667	3,954472784	0,000212978	0,028140467	unc-5 netrin receptor B [Source:RGD Symbol;Acc:621756]
Nup205	ENSRNOG0000010852	ENSRNOT00000014832	7,914326667	1,99801	3,961104632	0,002378374	0,046518992	nucleoporin 205 [Source:RGD Symbol;Acc:1309413]
Odc1	ENSRNOG0000005424	ENSRNOT00000079185	104,3356667	26,2958	3,967769251	0,000890677	0,03669857	ornithine decarboxylase 1 [Source:RGD Symbol;Acc:3227]
Mki67	ENSRNOG0000028137	ENSRNOT00000038176	14,93163333	3,747483333	3,984442893	0,000758017	0,035989879	marker of proliferation Ki-67 [Source:RGD Symbol;Acc:1305476]

Encl	ENSRNOG0000016541	ENSRNOT00000022144	33,5266	8,330943333	4,024346183	0,000686011	0,03541687	ectodermal-neural cortex 1 [Source:RGD Symbol;Acc:1303152]
Rasl2-9	ENSRNOG0000032913	ENSRNOT00000050233	57,03223333	13,9302	4,094143181	0,000940287	0,037184902	RAS-like, family 2, locus 9 [Source:RGD Symbol;Acc:2314256]
Mcm2	ENSRNOG0000016316	ENSRNOT00000022231	42,73613333	10,22827	4,178236724	0,000823167	0,036534646	minichromosome maintenance complex component 2 [Source:RGD Symbol;Acc:1305577]
Hdac4	ENSRNOG0000020372	ENSRNOT00000027622	26,38673333	6,160906667	4,282930218	0,000311219	0,030001912	histone deacetylase 4 [Source:RGD Symbol;Acc:619979]
Col14a1	ENSRNOG0000026415	ENSRNOT00000067649	102,1647667	23,82883333	4,287443084	0,001184943	0,039277568	collagen type XIV alpha 1 chain [Source:RGD Symbol;Acc:1305806]
Lmnb1	ENSRNOG0000013774	ENSRNOT00000019351	56,36223333	13,0638	4,314382747	0,001477974	0,040517129	lamin B1 [Source:RGD Symbol;Acc:620522]
Limk1	ENSRNOG0000001470	ENSRNOT00000001996	38,6096	8,90403	4,336193836	0,000664882	0,035378225	LIM domain kinase 1 [Source:RGD Symbol;Acc:62055]

Mad2l1	ENSRNOG0000005376	ENSRNOT00000007285	14,08393333	3,233153333	4,356098175	0,001865611	0,04377668	MAD2 mitotic arrest deficient-like 1 (yeast) [Source:RGD Symbol;Acc:1310889]
Hist1h2ac	ENSRNOG0000059748	ENSRNOT00000077571	50,2596	11,20158667	4,486828652	0,001441849	0,040476789	histone cluster 1, H2ac [Source:RGD Symbol;Acc:1597155]
Ccnf	ENSRNOG0000007483	ENSRNOT00000064392	9,453726667	2,044073333	4,624944963	0,001017746	0,03781251	cyclin F [Source:RGD Symbol;Acc:67401]
Ephb2	ENSRNOG0000012531	ENSRNOT00000016983	37,58063333	8,083463333	4,649075747	0,002167922	0,045852385	Eph receptor B2 [Source:RGD Symbol;Acc:1564232]
Mcm4	ENSRNOG0000001833	ENSRNOT00000002510	19,97293333	4,281713333	4,664705873	0,000346947	0,030001912	minichromosome maintenance complex component 4 [Source:RGD Symbol;Acc:3060]
Scube1	ENSRNOG0000010617	ENSRNOT00000017727	50,47143333	10,76151667	4,689992582	0,000831103	0,036534646	signal peptide, CUB domain and EGF like domain containing 1 [Source:RGD Symbol;Acc:1309015]

Cdea7	ENSRNOG0000001514	ENSRNOT00000002066	18,67933333	3,947183333	4,732319671	0,002857617	0,049252945	cell division cycle associated 7 [Source:RGD Symbol;Acc:1309363]
Top2a	ENSRNOG0000053047	ENSRNOT00000085344	31,9312	6,733236667	4,742325509	0,000210717	0,028140467	topoisomerase (DNA) II alpha [Source:RGD Symbol;Acc:62048]
Gjb2	ENSRNOG0000008855	ENSRNOT00000011711	95,30043333	19,99493333	4,766229111	0,001471184	0,040517129	gap junction protein, beta 2 [Source:RGD Symbol;Acc:728891]
Snrpa	ENSRNOG0000001501	ENSRNOT00000002053	73,8929	15,4525	4,781938198	0,002753057	0,048605665	small nuclear ribonucleoprotein polypeptide A [Source:RGD Symbol;Acc:1307416]
Esp1l	ENSRNOG0000012835	ENSRNOT00000017314	5,28083	1,097144667	4,813248572	0,00261505	0,047574866	extra spindle pole bodies like 1, separase [Source:RGD Symbol;Acc:1306266]
Kifc1	ENSRNOG0000000479	ENSRNOT00000092584	35,87053333	7,37053	4,866750876	0,001134646	0,038856841	kinesin family member C1 [Source:RGD Symbol;Acc:1359118]
Kn1l	ENSRNOG0000060100	ENSRNOT00000081613	1,486343333	0,304387	4,883071003	0,001046168	0,038162427	kinetochore scaffold 1 [Source:RGD Symbol;Acc:1307498]

Ltbp2	ENSRNOG0000012094	ENSRNOT00000082792	8,886273333	1,817186667	4,890126863	0,000335008	0,030001912	latent transforming growth factor beta binding protein 2 [Source:RGD Symbol;Acc:68380]
Ncaph	ENSRNOG0000012051	ENSRNOT00000016157	11,13086667	2,225953333	5,00049417	0,00072729	0,035727903	non-SMC condensin I complex, subunit H [Source:RGD Symbol;Acc:1596799]
A2m	ENSRNOG0000028896	ENSRNOT00000019346	15,87513333	3,130943333	5,070399443	0,002337583	0,046171396	alpha-2-macroglobulin [Source:RGD Symbol;Acc:2004]
Cenpm	ENSRNOG0000023262	ENSRNOT00000036917	12,7185	2,40657	5,284907566	0,000303561	0,030001912	centromere protein M [Source:RGD Symbol;Acc:1307309]
Ercc6l	ENSRNOG0000003208	ENSRNOT00000004310	2,49268	0,463505667	5,377884629	0,000440267	0,031315519	ERCC excision repair 6 like, spindle assembly checkpoint helicase [Source:RGD Symbol;Acc:1565734]
Vcan	ENSRNOG0000029212	ENSRNOT00000067456	76,93193333	13,68443333	5,621857439	0,001536991	0,040836768	versican [Source:RGD Symbol;Acc:619940]

Snai1	ENSRNOG0000009594	ENSRNOT00000012939	163,486	29,03866667	5,629941687	6,80507E-05	0,021110923	snail family transcriptional repressor 1 [Source:RGD Symbol;Acc:620758]
Melk	ENSRNOG0000013598	ENSRNOT00000066277	7,770003333	1,372471667	5,661321485	0,001987521	0,044380775	maternal embryonic leucine zipper kinase [Source:RGD Symbol;Acc:1308974]
Ldlr	ENSRNOG0000009946	ENSRNOT00000013496	41,09836667	6,72967	6,107040415	0,001235124	0,039456152	low density lipoprotein receptor [Source:RGD Symbol;Acc:2998]
Slc7a5	ENSRNOG0000018824	ENSRNOT00000025784	25,30296667	4,0999	6,171605812	0,000140089	0,026088392	solute carrier family 7 member 5 [Source:RGD Symbol;Acc:620639]
Mis18a	ENSRNOG0000021555	ENSRNOT00000037444	6,978726667	1,125407667	6,20106551	8,44773E-05	0,021110923	MIS18 kinetochore protein A [Source:RGD Symbol;Acc:1310778]
Cryab	ENSRNOG0000010524	ENSRNOT00000059127	95,69416667	15,36076667	6,229778028	0,002690485	0,048177085	crystallin, alpha B [Source:RGD Symbol;Acc:2414]

Birc5	ENSRNOG0000050819	ENSRNOT00000072387	43,19416667	6,898036667	6,261805896	0,001729648	0,042834605	baculoviral IAP repeat-containing 5 [Source:RGD Symbol;Acc:70499]
Rab32	ENSRNOG0000014258	ENSRNOT00000019121	17,98416667	2,840293333	6,331799063	0,000414995	0,030470153	RAB32, member RAS oncogene family [Source:RGD Symbol;Acc:1559997]
Mthfd2	ENSRNOG0000010833	ENSRNOT00000014603	23,93173333	3,75467	6,373857978	0,001259683	0,039760564	methylenetetrahydrofolate dehydrogenase (NADP+ dependent) 2, methenyltetrahydrofolate cyclohydrolase [Source:RGD Symbol;Acc:1311313]
Cyp7b1	ENSRNOG0000009730	ENSRNOT00000013116	11,7278	1,835016667	6,391113614	0,001951023	0,044247668	cytochrome P450, family 7, subfamily b, polypeptide 1 [Source:RGD Symbol;Acc:2483]
Dio3	ENSRNOG0000052017	ENSRNOT00000078113	99,38406667	15,28466667	6,502207005	0,000810439	0,036534646	iodothyronine deiodinase 3 [Source:RGD Symbol;Acc:68420]

Gja1	ENSRNOG000000805	ENSRNOT00000001054	123,7183333	17,89093333	6,915141375	0,000325612	0,030001912	gap junction protein, alpha 1 [Source:RGD Symbol;Acc:2690]
Serpine1	ENSRNOG0000001414	ENSRNOT00000001916	36,98296667	5,253006667	7,04034261	0,000461478	0,031638843	serpin family E member 1 [Source:RGD Symbol;Acc:3249]
Tmem97	ENSRNOG0000022657	ENSRNOT00000011808	76,48386667	10,52422333	7,267411974	0,001386541	0,040476789	transmembrane protein 97 [Source:RGD Symbol;Acc:1307423]
Tk1	ENSRNOG0000047314	ENSRNOT00000071420	56,70313333	7,539393333	7,520914592	0,001430887	0,040476789	thymidine kinase 1 [Source:RGD Symbol;Acc:621014]
Ptx3	ENSRNOG0000012280	ENSRNOT00000016541	6,300686667	0,834043	7,554390681	0,001068762	0,038582183	pentraxin 3 [Source:RGD Symbol;Acc:1593476]
Rrm2	ENSRNOG0000054286	ENSRNOT00000091551	19,4586	2,449673333	7,943344827	1,58713E-05	0,014401579	ribonucleotide reductase regulatory subunit M2 [Source:RGD Symbol;Acc:1598310]
Syt13	ENSRNOG0000008000	ENSRNOT00000011459	15,47363333	1,902233333	8,13445599	0,001118643	0,038744182	synaptotagmin 13 [Source:RGD Symbol;Acc:621877]
Fbn2	ENSRNOG0000043219	ENSRNOT00000066548	6,421426667	0,788647333	8,142329778	0,002238176	0,046125214	fibrillin 2 [Source:RGD Symbol;Acc:620910]

Dhcr24	ENSRNOG0000006787	ENSRNOT00000009402	28,18146667	3,444823333	8,180816239	0,002223341	0,046051709	24-dehydrocholesterol reductase [Source:RGD Symbol;Acc:1306529]
Troap	ENSRNOG0000006703	ENSRNOT00000089448	22,37156667	2,709856667	8,255627296	0,000909723	0,036902328	trophinin associated protein [Source:RGD Symbol;Acc:1306870]
Draxin	ENSRNOG0000008911	ENSRNOT00000012080	17,67973333	2,112023333	8,370993376	0,002306966	0,046132834	dorsal inhibitory axon guidance protein [Source:RGD Symbol;Acc:1585098]
Penk	ENSRNOG0000008943	ENSRNOT00000089318	55,07556667	6,57119	8,381368773	0,001570004	0,041231262	proenkephalin [Source:RGD Symbol;Acc:68946]
Col8a2	ENSRNOG0000010841	ENSRNOT00000014388	7,86337	0,912029333	8,621838918	7,61324E-05	0,021110923	collagen type VIII alpha 2 chain [Source:RGD Symbol;Acc:1305182]
E2f7	ENSRNOG0000026252	ENSRNOT00000031986	2,611973333	0,302686333	8,629307127	0,000926661	0,036993718	E2F transcription factor 7 [Source:RGD Symbol;Acc:1310258]
Tubb3	ENSRNOG0000017209	ENSRNOT00000023452	38,4626	4,326123333	8,890777501	0,002081779	0,045257317	tubulin, beta 3 class III [Source:RGD Symbol;Acc:628595]

Mcm6	ENSRNOG0000003703	ENSRNOT00000004969	40,04566667	4,466683333	8,965414308	0,001837448	0,043732586	minichromosome maintenance complex component 6 [Source:RGD Symbol;Acc:61967]
Ptprn	ENSRNOG0000019587	ENSRNOT00000026654	57,17443333	6,215173333	9,199169559	0,001113186	0,038744182	protein tyrosine phosphatase, receptor type, N [Source:RGD Symbol;Acc:620777]
Uhrf1	ENSRNOG0000048411	ENSRNOT00000083848	40,67696667	4,050983333	10,04125747	0,000363316	0,030001912	ubiquitin-like with PHD and ring finger domains 1 [Source:RGD Symbol;Acc:1595855]
Bhlhe22	ENSRNOG0000021745	ENSRNOT00000033940	32,02803333	3,167696667	10,11082711	0,000916502	0,036993718	basic helix-loop-helix family, member e22 [Source:RGD Symbol;Acc:1305451]
Scn3b	ENSRNOG0000057221	ENSRNOT00000087022	7,59056	0,736101333	10,31184112	0,00108586	0,038633077	sodium voltage gated channel beta subunit 3 [Source:RGD Symbol;Acc:621657]

Ass1	ENSRNOG000008837	ENSRNOT00000093365	46,13176667	4,2811	10,77568071	0,001464703	0,040517129	argininosuccinate synthase 1 [Source:RGD Symbol;Acc:2163]
Thbs4	ENSRNOG0000012471	ENSRNOT00000083531	28,1972	2,47588	11,38875874	3,33927E-05	0,017303307	thrombospondin 4 [Source:RGD Symbol;Acc:62046]
Fam181b	ENSRNOG0000010763	ENSRNOT00000014284	45,02303333	3,720336667	12,10187071	0,000961869	0,037651508	family with sequence similarity 181, member B [Source:RGD Symbol;Acc:1564695]
E2f8	ENSRNOG0000022537	ENSRNOT00000035512	21,21476667	1,645473333	12,89280491	0,00157288	0,041231262	E2F transcription factor 8 [Source:RGD Symbol;Acc:1308091]
Itga8	ENSRNOG0000016538	ENSRNOT00000022711	2,50648	0,1928865	12,9945849	0,000420879	0,030675198	integrin subunit alpha 8 [Source:RGD Symbol;Acc:621634]
Mcm5	ENSRNOG0000014336	ENSRNOT00000084271	43,93496667	3,10984	14,12772576	0,001087158	0,038633077	minichromosome maintenance complex component 5 [Source:RGD Symbol;Acc:1306616]
Cdc6	ENSRNOG0000027787	ENSRNOT00000081424	6,605653333	0,427198333	15,46273199	0,000902205	0,036816075	cell division cycle 6 [Source:RGD Symbol;Acc:1309157]

Ptges	ENSRNOG0000006320	ENSRNOT00000045993	67,68776667	4,23681	15,97611568	0,002237798	0,046125214	prostaglandin E synthase [Source:RGD Symbol;Acc:62076]
Lipg	ENSRNOG0000018694	ENSRNOT00000025257	8,941353333	0,50548	17,68883701	0,002091667	0,045271272	lipase G, endothelial type [Source:RGD Symbol;Acc:1310740]
Wnt4	ENSRNOG0000013166	ENSRNOT00000018064	110,3173333	6,163636667	17,89809155	0,00242968	0,046602991	wingless-type MMTV integration site family, member 4 [Source:RGD Symbol;Acc:621348]
Tnc	ENSRNOG0000058645	ENSRNOT00000084563	45,35686667	2,256616667	20,09949999	0,001001107	0,03781251	tenascin C [Source:RGD Symbol;Acc:621057]
Sfrp5	ENSRNOG0000014940	ENSRNOT00000020182	17,5272	0,615736667	28,46541541	0,002441563	0,046682944	secreted frizzled-related protein 5 [Source:RGD Symbol;Acc:1310369]
Il11	ENSRNOG0000017386	ENSRNOT00000090636	63,33516667	0,525269	120,5766315	0,001297532	0,040272641	interleukin 11 [Source:RGD Symbol;Acc:621475]
Mt4	ENSRNOG0000019004	ENSRNOT00000025694	2,00532	0	200	0,001422502	0,040476789	metallothionein 4 [Source:RGD Symbol;Acc:1565500]

Supplementary Table 4. A list of rapidly evolving genes identified as differentially expressed genes in either mice or rats (dN/dS > 0.5).

Gene	Mouse						Rat						dN	dS	dN/dS
	Average-of-IS	Average-of-IIS	Fold(IS/IIS)	Pvalue	FDR	Significance	Average-of-IS	Average-of-IIS	Fold(IS/IIS)	Pvalue	FDR	Significance			
Cd80	0,144038	0,178253	0,808053721	0,775607582	0,843861016	NO	0,511600333	0,112647667	4,541597252	0,001772202	0,04328605	Yes	0,2668	0,2999	0,8898
Tnfrsf12a	101,1468333	21,55863333	4,691708967	0,001544612	0,044188723	Yes	111,0886667	28,97966667	3,833331416	0,001534053	0,040836768	Yes	0,0591	0,0754	0,7832
Plet1	7,099883333	42,81426667	0,165829848	0,000641304	0,034862518	Yes	222,9983333	411,1716667	0,542348492	5,65E-05	0,020647802	NO	0,2425	0,3209	0,7556
Cxcl17	28,95683333	81,19896667	0,356615786	0,001702665	0,044893495	Yes	1,400306	5,896343333	0,237487188	0,043888647	0,155010161	NO	0,1073	0,1473	0,7284
Mki67	22,823	11,5508	1,975880459	0,000645455	0,034868869	NO	14,93163333	3,747483333	3,984442893	0,000758017	0,035989879	Yes	0,1837	0,2637	0,6966
Tcof1	44,3486	14,41083333	3,077448679	0,001642661	0,044515641	Yes	26,59726667	13,53183333	1,965533126	0,033612975	0,135437017	NO	0,1313	0,1949	0,6737
Lag3	1,172339333	6,513603333	0,179983225	0,002311215	0,048267329	Yes	0,575382667	0,770947	0,746332325	0,686206249	0,779439431	NO	0,0971	0,1443	0,6729
Oas2	6,453736667	16,7658	0,384934609	0,001307688	0,042165328	Yes	1,253833333	1,163881667	1,077285921	0,829839741	0,89043356	NO	0,1477	0,2203	0,6704
Ripk3	29,9708	11,30433333	2,651266476	0,002672538	0,049893849	Yes	9,084303333	2,36486	3,841370455	0,028835785	0,126137317	NO	0,1261	0,206	0,6119
Mpi	70,28363333	23,13963333	3,037370226	0,002067947	0,046760418	Yes	21,53653333	13,7164	1,570130161	0,03663137	0,141311987	NO	0,0629	0,1101	0,5714
Npff	3,462696667	11,40606667	0,303583765	0,00150136	0,043975068	Yes	6,42304	12,69520667	0,505942138	0,415714858	0,550982828	NO	0,0661	0,1158	0,5708
Gtse1	13,88816667	3,276853333	4,238263131	0,000526552	0,033324312	Yes	9,79226	2,20969	4,431508492	0,013428657	0,08842367	NO	0,0796	0,1511	0,5271
Troap	13,89463333	4,836843333	2,872665575	0,018874784	0,107352795	NO	22,37156667	2,709856667	8,255627296	0,000909723	0,036902328	Yes	0,1167	0,2219	0,5259
Timp1	123,7546667	31,1146	3,977382536	0,000376588	0,030732883	Yes	180,1056667	56,40986667	3,192804332	0,00839906	0,073511025	NO	0,0807	0,1562	0,5166
Itga5	79,05123333	32,6081	2,424282106	0,000148113	0,0253873	Yes	100,9498333	55,62206667	1,814924173	0,003174019	0,051547444	NO	0,0435	0,0843	0,5163