

Anti-inflammatory Properties of Mineral-balanced Deep Sea Water in In-vitro and In-vivo Models of Inflamed Intestinal Epithelium

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Table S1. Different expression gene PCA analysis in all groups.

no.	Atomic number	Symbol	Unit	TM	HMLS	HM	HMHC	LOQ	Analyzer
1	3	Li	mg/L	0.00	0.01	0.10	0.10	0.01	ICP-AES
2	4	Be	µg/L	0.00	0.00	0.00	0.00	0.1	ICP-MS
3	9	F	mg/L	0.01	0.00	0.07	0.07	1	IC
4	11	Na	mg/L	36.60	70.80	39.90	55.40	-	ICP-AES
5	12	Mg	mg/L	6.00	166.00	248.00	227.00	-	ICP-AES
6	13	Al	mg/L	0.09	0.07	0.00	0.00	0.01	ICP-AES
7	14	Si	mg/L	0.01	0.11	0.00	0.00	0.01	ICP-AES
8	15	P	mg/L	0.00	0.00	0.00	0.00	0.01	ICP-AES
9	16	SO4	mg/L	13.30	169.90	51.60	51.60	0	IC
10	17	Cl	mg/L	97.50	580.56	916.40	916.40	0	IC
11	19	K	mg/L	1.70	2.30	45.20	50.80	-	ICP-AES
12	20	Ca	mg/L	2.20	37.50	0.78	196.00	-	ICP-AES
13	21	Sc	µg/L	2.40	3.46	0.01	0.01	1	ICP-MS
14	22	Ti	µg/L	0.00	0.77	0.00	0.00	0.1	ICP-MS
15	23	V	µg/L	2.05	0.97	0.14	0.14	0.1	ICP-MS
16	24	Cr	µg/L	0.00	0.02	0.06	0.06	0.1	ICP-MS
17	25	Mn	µg/L	0.00	0.02	0.06	0.06	0.1	ICP-MS
18	26	Fe	mg/L	4.40	0.15	0.00	0.00	0.01	ICP-AES
19	27	Co	µg/L	0.00	0.12	0.12	0.12	0.1	ICP-MS
20	28	Ni	µg/L	0.00	0.79	0.19	0.19	0.1	ICP-MS
21	29	Cu	µg/L	0.42	0.44	0.19	0.19	0.1	ICP-MS
22	30	Zn	µg/L	0.00	0.48	0.33	0.33	0.1	ICP-MS
23	31	Ga	µg/L	0.00	0.30	0.02	0.02	1	ICP-MS
24	32	Ge	µg/L	0.00	0.00	0.00	0.00	0.1	ICP-MS
25	33	As	µg/L	0.50	19.84	2.45	2.45	0.1	ICP-MS

26	34	Se	µg/L	0.80	13.45	34.80	34.80	1	ICP-MS
27	35	Br	mg/L	0.28	1.12	18.76	18.76	0	IC
28	37	Rb	µg/L	0.50	0.38	30.00	30.00	0.1	ICP-MS
29	38	Sr	µg/L	37.50	934.80	0.01	0.01	0.1	ICP-MS
30	39	Y	µg/L	0.00	0.01	0.00	0.00	0.01	ICP-MS
31	40	Zr	µg/L	0.00	0.23	0.00	0.00	0.1	ICP-MS
32	41	Nb	µg/L	0.00	0.08	0.00	0.00	0.1	ICP-MS
33	42	Mo	µg/L	0.60	0.84	2.17	2.17	0.1	ICP-MS
34	44	Ru	µg/L	0.00	0.31	0.00	0.00	0.1	ICP-MS
35	45	Rh	µg/L	0.00	0.03	0.00	0.00	0.1	ICP-MS
36	46	Pd	µg/L	0.00	0.33	0.02	0.02	0.1	ICP-MS
37	47	Ag	µg/L	0.00	0.00	0.00	0.00	1	ICP-MS
38	48	Cd	µg/L	0.00	0.00	0.00	0.00	0.1	ICP-MS
39	49	In	µg/L	0.00	0.39	0.00	0.00	0.1	ICP-MS
40	50	Sn	µg/L	0.00	0.13	0.00	0.00	0.1	ICP-MS
41	51	Sb	µg/L	0.00	0.20	0.04	0.04	0.1	ICP-MS
42	52	Te	µg/L	0.00	0.00	0.00	0.00	0.1	ICP-MS
43	53	I	mg/L	0.00	0.00	0.00	0.00	1	IC
44	55	Cs	µg/L	0.00	0.00	0.06	0.06	0.01	ICP-MS
45	56	Ba	µg/L	0.08	1.05	0.11	0.11	0.1	ICP-MS
46	57	La	µg/L	0.00	0.00	0.00	0.00	0.01	ICP-MS
47	58	Ce	µg/L	0.00	0.00	0.00	0.00	0.01	ICP-MS
48	59	Pr	µg/L	0.00	0.00	0.00	0.00	0.01	ICP-MS
49	60	Nd	µg/L	0.00	0.02	0.00	0.00	0.01	ICP-MS
50	62	Sm	µg/L	0.00	0.02	0.00	0.00	0.01	ICP-MS
51	63	Eu	µg/L	0.00	0.01	0.00	0.00	0.01	ICP-MS
52	64	Gd	µg/L	0.00	0.02	0.00	0.00	0.01	ICP-MS
53	65	Tb	µg/L	0.00	0.00	0.00	0.00	0.01	ICP-MS
54	66	Dy	µg/L	0.00	0.02	0.00	0.00	0.01	ICP-MS
55	67	Ho	µg/L	0.00	0.00	0.00	0.00	0.01	ICP-MS
56	68	Er	µg/L	0.00	0.02	0.00	0.00	0.01	ICP-MS
57	69	Tm	µg/L	0.00	0.00	0.00	0.00	0.01	ICP-MS
58	70	Yb	µg/L	0.00	0.03	0.00	0.00	0.01	ICP-MS
59	71	Lu	µg/L	0.00	0.00	0.00	0.00	0.01	ICP-MS
60	72	Hf	µg/L	0.00	0.18	0.01	0.01	0.1	ICP-MS
61	73	Ta	µg/L	0.00	0.00	0.00	0.00	0.1	ICP-MS
62	74	W	µg/L	0.14	2.38	0.00	0.00	0.1	ICP-MS
63	75	Re	µg/L	0.00	0.00	0.00	0.00	0.1	ICP-MS
64	77	Ir	µg/L	0.00	0.00	0.00	0.00	0.1	ICP-MS
65	78	Pt	µg/L	0.00	0.00	0.00	0.00	0.1	ICP-MS
66	79	Au	µg/L	0.00	0.23	0.01	0.01	0.1	ICP-MS

67	80	Hg	µg/L	0.20	0.61	0.00	0.00	0.1	ICP-MS
68	81	Tl	µg/L	0.00	0.00	0.00	0.00	0.1	ICP-MS
69	82	Pb	µg/L	0.00	0.00	0.02	0.02	0.1	ICP-MS
70	83	Bi	µg/L	0.00	2.94	0.00	0.00	0.1	ICP-MS
71	90	Th	µg/L	0.00	0.48	0.00	0.00	0.1	ICP-MS

Table S2. Detailed information on the differentially expressed genes between DSS group and the three groups.

a) CON vs DSS

gene Name	gene	locus	Fold change	log2FoldC hange	test stat	pva lue	q_value (FDR)
182209 .0	Prl2a1	chr13:27801654- 27808716	138.945	7.11837	0.650 299	0.00 705	0.058228
162820 .0	Retnlg	chr16:48872607- 48874498	66.32809	6.051548	1.032 03	0.01 4	0.096939 8
181695 .0	Lcn2	chr2:32384636- 32387739	55.34359	5.790344	5.461 56	0.00 005	0.001127 09
179153 .0	Prss22	chr17:23993533- 23998100	54.89769	5.778674	2.723 33	0.01 34	0.093738 9
-	AI74744 8	chr3:144910920- 144932529	50.5698	5.660204	8.482 22	0.00 005	0.001127 09
184602 .0	Adh6a	chr3:138313285- 138331134	17.32439	4.114733	2.376 05	0.00 07	0.009993 71
179165 .0	Saa3	chr7:46711997- 46715676	15.84986	3.986398	5.789 43	0.00 005	0.001127 09
183918 .0	Reg3a	chr6:78380708- 78383839	15.53247	3.957216	3.852 005	0.00 005	0.001127 09
176011 .0	Reg3b	chr6:78370884- 78373466	15.52326	3.95636	3.801 12	0.00 005	0.001127 09
70021. 0	Nos2	chr11:78920858- 78960124	12.01599	3.586884	5.518 63	0.00 005	0.001127 09
179945 .0	Reg3g	chr6:78466267- 78468874	11.53642	3.528123	6.198 42	0.00 005	0.001127 09
165120 .0	Gdf15	chr8:70629393- 70631635	9.882086	3.304816	2.683 19	0.00 005	0.001127 09
173260 .0	Serpina3 n	chr12:104406707- 104414329	9.553582	3.256042	5.684 83	0.00 005	0.001127 09
415237 .0	BB12369 6	chr13:52729369- 52757205	9.470787	3.243484	3.756 74	0.00 005	0.001127 09
176552 .0	Lrg1	chr17:56119677- 56121946	9.257495	3.210622	4.632 1	0.00 005	0.001127 09
163300 .0	Pla2g4e	chr2:120166411- 120245335	8.782743	3.134672	4.141 42	0.00 005	0.001127 09
185626 .0	Apod	chr16:31296191- 31314596	8.166783	3.029768	4.790 25	0.00 005	0.001127 09

414134	Fam209	chr2:172472553-	7.811892	2.965672	1.480	0.01	0.086017
.0		172474316			24	195	4
414109	Ms4a18	chr19:10997024-	7.359359	2.87958	3.158	0.00	0.001127
.0		11017963			41	005	09
169716	Ctla2a	chr13:60934154-	6.869177	2.780137	6.056	0.00	0.001127
.0		60936625			9	005	09
180076	Ddit4	chr10:59949674-	6.773994	2.760007	5.617	0.00	0.001127
.0		59951770			98	005	09
177189	Cxcl1	chr5:90891244-	6.568173	2.715492	1.695	0.00	0.035601
.0		90893115			49	365	6
185751	Nt5c1a	chr4:123201552-	6.425697	2.683853	2.339	0.00	0.001127
.0		123216207			89	005	09
175167	Saa2	chr7:46751832-	6.372834	2.671935	1.827	0.00	0.031815
.0		46754314			83	315	
173458	Acot5	chr12:84069324-	5.961534	2.575684	1.839	0.00	0.016779
.0		84076019			18	135	1
185904	Xkr9	chr1:13668770-	5.777228	2.530377	3.215	0.00	0.001127
.0		13701723			36	005	09
184461	Slc10a6	chr5:103605710-	5.506339	2.461093	2.508	0.00	0.001127
.0		103629403			41	005	09
279339	Il20rb	chr9:100457718-	5.497273	2.458716	2.467	0.00	0.001127
.0		100486473			26	005	09
184532	Mchr1	chr15:81235498-	5.357992	2.421692	2.637	0.00	0.001127
.0		81238964			88	005	09
21441.	Apoa1	chr9:46228629-	5.307702	2.408087	1.627	0.00	0.036283
0		46230469			57	375	1
285101	Ciart	chr3:95871521-	5.206963	2.380442	2.176	0.00	0.002048
.0		95891930			92	01	29
44277.	Per1	chr11:69098955-	5.205766	2.38011	5.061	0.00	0.001127
0		69109957			61	005	09
185530	Asb14	chr14:26894603-	5.202472	2.379197	2.706	0.00	0.001127
.0		26915257			61	005	09
176596	Duoxa2	chr2:122298899-	5.140013	2.361772	3.963	0.00	0.001127
.0		122302885			15	005	09
174734	Slc37a2	chr9:37229148-	5.009638	2.324706	2.946	0.00	0.001127
.0		37255738			87	005	09
170750	Mmp10	chr9:7502341-7510242	4.941838	2.305048	1.953	0.00	0.005106
.0					45	03	46
185525	Ms4a10	chr19:10962294-	4.887022	2.288956	1.917	0.00	0.003663
.0		10974670			87	02	23
22614.	Prss27	chr17:24038242-	4.809661	2.265935	1.713	0.00	0.013804
0		24045949			05	105	5
415259	Tmem18	chr17:6610102-6620925	4.749233	2.247695	5.040	0.00	0.001127
.0	1c-ps				76	005	09
171303	Adamts	chr16:85793827-	4.726257	2.240698	4.286	0.00	0.001127
.0	1	85803115			14	005	09

163737 .0	Zbtb16	chr9:48654296- 48835945	4.636564	2.213056	4.784 07	0.00 005	0.001127 09
179950 .0	Gzma	chr13:113093826- 113100981	4.596882	2.200656	2.230 33	0.00 005	0.001127 09
177700 .0	Cd38	chr5:43868826- 43912374	4.548324	2.185335	5.081 88	0.00 005	0.001127 09
172566 .0	Areg	chr5:91139614- 91148432	4.533755	2.180707	3.479 4	0.00 005	0.001127 09
172281 .0	Zc3h12a	chr4:125118413- 125127881	4.527511	2.178718	4.548 36	0.00 005	0.001127 09
183794 .0	Lingo4	chr3:94399218- 94404501	4.449675	2.1537	2.158 16	0.00 005	0.001127 09
171075 .0	Cdkn1a	chr17:29090985- 29100722	4.420902	2.144341	4.904 9	0.00 005	0.001127 09
69002. 0	Sphk1	chr11:116531910- 116536675	4.41607	2.142763	2.498 51	0.00 005	0.001127 09
179043 .0	Ccl2	chr11:82035576- 82037452	4.411093	2.141136	1.217 53	0.01 28	0.090545 2
182851 .0	Tnip3	chr6:65590397- 65634040	4.410978	2.141099	3.341 81	0.00 005	0.001127 09
176081 .0	Adamts 4	chr1:171250421- 171259922	4.386226	2.13298	3.148 76	0.00 005	0.001127 09
174010 .0	Chrdl2	chr7:100006403- 100034726	4.290912	2.101284	1.657 46	0.00 8	0.063961 6
170411 .0	Tnf	chr17:35199366- 35202007	4.27266	2.095135	2.874 35	0.00 005	0.001127 09
179259 .0	Rdh9	chr10:127776404- 127792697	4.268456	2.093714	3.739 46	0.00 005	0.001127 09
185018 .0	Gp1bb	chr16:18620318- 18629938	4.244068	2.085448	1.424 41	0.00 565	0.049247 9
186187 .0	Pde11a	chr2:75991131- 76338653	4.229323	2.080427	2.259 59	0.00 005	0.001127 09
170747 .0	Mmp3	chr9:7445821-7455974	4.229163	2.080372	2.422 48	0.00 005	0.001127 09
171090 .0	Ly6a	chr15:74994876- 74998031	4.202679	2.071309	3.554 92	0.00 005	0.001127 09
176698 .0	8430408 G22Rik	chr6:116633007- 116673836	4.187129	2.065961	1.689 9	0.00 415	0.039198 6
178337 .0	Ido1	chr8:24584140- 24597009	4.156259	2.055286	3.405 2	0.00 005	0.001127 09
184941 .0	Bmp8b	chr4:123105164- 123126091	4.073093	2.026125	2.414 03	0.00 005	0.001127 09
181570 .0	Saa1	chr7:46740498- 46742980	4.049113	2.017606	4.744 2	0.00 005	0.001127 09
174404 .0	Zfp36	chr7:28376783- 28379228	3.99295	1.997455	4.465 21	0.00 005	0.001127 09

175878 .0	Trim15	chr17:36860690- 36867210	3.983953	1.994201	3.348 19	0.00 005	0.001127 09
178439 .0	Pmaip1	chr18:66458603- 66465558	3.955757	1.983954	4.180 66	0.00 005	0.001127 09
171824 .0	Lbp	chr2:158306492- 158332852	3.954818	1.983611	2.976 54	0.00 005	0.001127 09
171494 .0	Thpo	chr16:20724453- 20742384	3.941596	1.97878	1.090 47	0.00 585	0.050619 2
172187 .0	Steap4	chr5:7960471-7982213	3.860808	1.948903	3.991 51	0.00 005	0.001127 09
414146 .0	Olfr920	chr9:38752795- 38756863	3.848554	1.944316	1.992 55	0.00 005	0.001127 09
175923 .0	Ifitm1	chr7:140967428- 140969827	3.726407	1.897785	2.227 26	0.00 005	0.001127 09
173422 .0	Fkbp5	chr17:28398752- 28486149	3.703886	1.88904	4.253 65	0.00 005	0.001127 09
405688 .0	Mfsd2a	chr4:122946850- 122961188	3.687195	1.882524	2.287 77	0.00 005	0.001127 09
185762 .0	Trim40	chr17:36881597- 36890125	3.672343	1.876701	4.079 71	0.00 005	0.001127 09
172749 .0	Hmox1	chr8:75093617- 75100593	3.672089	1.876601	2.890 34	0.00 005	0.001127 09
171756 .0	Card14	chr11:119314786- 119355510	3.667125	1.874649	2.573 75	0.00 005	0.001127 09
176633 .0	Nfil3	chr13:52967208- 52981039	3.638528	1.863355	3.932 19	0.00 005	0.001127 09
192224 .0	Olr1	chr6:129485246- 129507165	3.638325	1.863275	2.670 26	0.00 005	0.001127 09
148253 .0	Inhbb	chr1:119415464- 119422248	3.593862	1.845535	2.473 25	0.00 005	0.001127 09
177465 .0	Bmper	chr9:23223075- 23485215	3.57373	1.837431	3.135 11	0.00 005	0.001127 09
76051. 0	Tat	chr8:109990435- 109999804	3.557025	1.830671	3.871 6	0.00 005	0.001127 09
72051. 0	Hp	chr8:109575127- 109579172	3.547	1.826599	2.590 65	0.00 005	0.001127 09
185298 .0	Cebpd	chr16:15887285- 16146851	3.49436	1.805028	3.035 62	0.00 005	0.001127 09
180764 .0	St3gal5	chr6:72097607- 72154570	3.40269	1.766676	2.328 19	0.00 005	0.001127 09
73581. 0	Krt12	chr11:99415663- 99422259	3.397481	1.764465	1.776 31	0.00 04	0.006444 22
176574 .0	Pla2g5	chr4:138799246- 138863469	3.38624	1.759684	1.512 87	0.00 05	0.007650 54
184123 .0	Map3k6	chr4:133240817- 133252928	3.38277	1.758205	3.256 12	0.00 005	0.001127 09

173481 .0	Arl4d	chr11:101665540- 101667832	3.378245	1.756274	3.324 74	0.00 005	0.001127 09
178636 .0	Socs3	chr11:117966086- 117969366	3.373873	1.754406	3.609 6	0.00 005	0.001127 09
178968 .0	Hk2	chr6:82725026- 82774454	3.360395	1.748631	4.440 99	0.00 005	0.001127 09
176905 .0	Gprc5a	chr6:135065661- 135084708	3.359019	1.74804	3.849 34	0.00 005	0.001127 09
175362 .0	Ly6d	chr15:74762055- 74763567	3.337698	1.738853	1.381 36	0.00 32	0.032174 7
171184 .0	Sgk1	chr10:21882183- 21999902	3.336809	1.738469	3.537 96	0.00 005	0.001127 09
21179. 0	Tnnt2	chr1:135836333- 135852268	3.29431	1.719976	1.826 79	0.00 005	0.001127 09
184547 .0	Adamtsl 2	chr2:27079380- 27108613	3.268879	1.708796	2.278 65	0.00 005	0.001127 09
40454. 0	Cry2	chr2:92403646- 92434069	3.252296	1.701459	3.484 29	0.00 005	0.001127 09
298333 .0	Csrnp1	chr9:119971165- 119984658	3.246205	1.698754	2.704 13	0.00 005	0.001127 09
166358 .0	Trpc4	chr3:54156056- 54318471	3.177071	1.667697	2.100 58	0.00 005	0.001127 09
176102 .0	Ereg	chr5:91074616- 91093649	3.164561	1.662005	3.376 08	0.00 005	0.001127 09
414928 .0	Slc25a48	chr13:56438354- 56472363	3.142666	1.651989	1.532 31	0.00 105	0.013804 5
72100. 0	Duox2	chr2:122280436- 122298165	3.121069	1.64204	3.902 07	0.00 005	0.001127 09
172598 .0	Adamts 15	chr9:30899154- 30922452	3.092153	1.628612	3.004 16	0.00 005	0.001127 09
184134 .0	Hif3a	chr7:17030992- 17062427	3.068908	1.617725	3.302 1	0.00 005	0.001127 09
172355 .0	Ier3	chr17:35821712- 35822911	3.05822	1.612692	2.791 95	0.00 005	0.001127 09
99199. 0	Zbp1	chr2:173206611- 173218922	3.052554	1.610017	2.407 25	0.00 005	0.001127 09
41193. 0	Gal	chr19:3409916-3414457	3.043349	1.60566	2.414 49	0.00 005	0.001127 09
164455 .0	Lif	chr11:4257567-4272514	3.030955	1.599773	2.013 27	0.00 005	0.001127 09
-	Gp49a	chr10:51480611- 51486329	3.029057	1.598869	1.395 89	0.00 14	0.017247 1
180468 .0	Doc2b	chr11:75769089- 75796057	3.026822	1.597804	2.048 98	0.00 005	0.001127 09
176660 .0	Crybb3	chr5:113075838- 113081584	3.015109	1.59221	1.130 51	0.00 365	0.035601 6

183567	2010109I	chr15:74878335-	2.981258	1.575921	2.936	0.00	0.001127
.0	03Rik	74881704			39	005	09
179119	Sesn1	chr10:41810573-	2.954052	1.562695	3.400	0.00	0.001127
.0		41908436			01	005	09
165219	Gda	chr19:21391306-	2.949013	1.560232	4.046	0.00	0.001127
.0		21472661			57	005	09
369413	Syne3	chr12:104929932-	2.935575	1.553643	2.885	0.00	0.001127
.0		105009809			23	005	09
184292	Ptk6	chr2:181195123-	2.922443	1.547175	3.167	0.00	0.001127
.0		181202789			34	005	09
172708	Cyp2d9	chr15:82452376-	2.909184	1.540614	3.094	0.00	0.001127
.0		82456827			04	005	09
182418	Prrg4	chr2:104830740-	2.906933	1.539498	2.108	0.00	0.001127
.0		104849850			52	005	09
191988	Sik1	chr17:31844249-	2.873922	1.523021	3.183	0.00	0.001127
.0		31855792			05	005	09
181769	Hbegf	chr18:36504926-	2.844673	1.508263	2.954	0.00	0.001127
.0		36515805			14	005	09
415180	Wfdc17	chr11:83704055-	2.830077	1.500841	1.591	0.00	0.001127
.0		83706269			7	005	09
164482	Chrd	chr16:20724453-	2.822596	1.497023	2.047	0.00	0.001127
.0		20742384			55	005	09
414346	Ak4	chr4:101419288-	2.82074	1.496074	3.647	0.00	0.001127
.0		101467771			28	005	09
186049	Ntn5	chr7:45677685-	2.798485	1.484646	1.074	0.00	0.068488
.0		45694556			26	875	7
173412	Slc6a6	chr6:91684066-	2.797638	1.484209	3.530	0.00	0.001127
.0		91759063			16	005	09
75829.	Bhmt	chr13:93616890-	2.788204	1.479336	1.488	0.00	0.014793
0		93637758			43	115	7
185359	Epha2	chr4:141301220-	2.758314	1.463787	3.157	0.00	0.001127
.0		141329384			68	005	09
174762	Maff	chr15:79347677-	2.757192	1.463199	2.741	0.00	0.001127
.0		79359076			75	005	09
174667	Fam43a	chr16:30599722-	2.753867	1.461459	2.792	0.00	0.001127
.0		30602797			62	005	09
174590	S100a11	chr3:93520495-	2.750159	1.459515	3.387	0.00	0.001127
.0		93526288			71	005	09
175537	Soat2	chr15:102150574-	2.744792	1.456697	1.513	0.00	0.007066
.0		102163436			46	045	46
279687	Ptprh	chr7:4548613-4604041	2.7268	1.447209	3.683	0.00	0.001127
.0					1	005	09
163059	Klf15	chr6:90462625-	2.712663	1.43971	2.384	0.00	0.001127
.0		90475209			38	005	09
186929	Adamts	chr6:92772698-	2.703533	1.434846	2.458	0.00	0.001127
.0	9	92901441			84	005	09

176949 .0	Akr1c18	chr13:4132626-4150631	2.696092	1.43087	2.291 97	0.00 005	0.001127 09
46154. 0	Arg2	chr12:79130787- 79172458	2.683816	1.424286	1.959 43	0.00 005	0.001127 09
162189 .0	Herpud 1	chr8:94386499- 94395358	2.671627	1.417719	2.945 62	0.00 005	0.001127 09
171944 .0	Errfi1	chr4:150855090- 150868880	2.669725	1.416691	3.590 02	0.00 005	0.001127 09
180641 .0	Ppp1r15 a	chr7:45522916- 45526268	2.665971	1.414661	2.968 66	0.00 005	0.001127 09
183516 .0	Slc35d1	chr4:103171717- 103214884	2.661771	1.412386	3.178 67	0.00 005	0.001127 09
177904 .0	Fbxo34	chr14:47472560- 47531962	2.658747	1.410747	3.345 56	0.00 005	0.001127 09
182376 .0	Efh2	chr4:141858141- 141874920	2.654177	1.408264	3.639 25	0.00 005	0.001127 09
175674 .0	Coro2a	chr4:46536936- 46601929	2.653502	1.407898	3.632 52	0.00 005	0.001127 09
171608 .0	Xdh	chr17:73883894- 73950196	2.653197	1.407732	3.560 22	0.00 005	0.001127 09
176157 .0	Slpi	chr2:164354069- 164356507	2.649191	1.405552	1.432 15	0.00 155	0.018643 1
177799 .0	Nfkb1a	chr12:55280813- 55492647	2.647204	1.40447	2.166 99	0.00 005	0.001127 09
179252 .0	Neurl3	chr1:36264601- 36273425	2.643091	1.402226	3.514 91	0.00 005	0.001127 09
172838 .0	Fus	chr7:127967478- 127982031	2.626548	1.393168	2.971 52	0.00 005	0.001127 09
176012 .0	Iapp	chr6:142234226- 142322981	2.623327	1.391398	1.435 17	0.00 355	0.034869 6
-	Gm1437 8	chr8:4248213-4251423	2.622575	1.390984	1.761 98	0.00 005	0.001127 09
177483 .0	Fhdc1	chr3:84442195- 84480439	2.602472	1.379883	2.849 6	0.00 005	0.001127 09
171398 .0	Eif1	chr11:100319995- 100322096	2.600614	1.378852	3.408 87	0.00 005	0.001127 09
414342 .0	Slc51b	chr9:65398487- 65422773	2.589296	1.37256	2.434 29	0.00 005	0.001127 09
184441 .0	Plaur	chr7:24462499- 24475873	2.588258	1.371981	2.154 05	0.00 005	0.001127 09
175367 .0	Pard6b	chr2:168081003- 168101203	2.585073	1.370205	3.147 2	0.00 005	0.001127 09
178462 .0	Ccdc116	chr16:17139063- 17144423	2.582683	1.36887	2.502 01	0.00 005	0.001127 09
165380 .0	Tef	chr15:81802672- 81826863	2.572038	1.362912	3.028 58	0.00 005	0.001127 09

402093	Proser1	chr3:53463816-	2.548934	1.349894	2.760	0.00	0.001127
.0		53481755			84	005	09
181994	Ppfia4	chr1:134296782-	2.529445	1.338821	1.970	0.00	0.001127
.0		134332928			56	005	09
166181	Tcf7l2	chr19:55741809-	2.523764	1.335577	3.320	0.00	0.001127
.0		55933655			47	005	09
262676	Penk	chr4:4133535-4138445	2.519825	1.333323	2.384	0.00	0.001127
.0					05	005	09
179960	Pde9a	chr17:31386233-	2.516702	1.331535	3.365	0.00	0.001127
.0		31476309			84	005	09
-	BC021614	chr19:4057486-4059294	2.509429	1.327359	1.408	0.00	0.019103
					31	16	6
181771	Rdh16	chr10:127801152-	2.504943	1.324778	3.097	0.00	0.001127
.0		127815839			15	005	09
177462	Aim1l	chr4:134068451-	2.501664	1.322888	3.332	0.00	0.001127
.0		134092504			92	005	09
192307	Slc9a3	chr13:74121514-	2.491108	1.316788	3.332	0.00	0.001127
.0		74166064			31	005	09
171584	Igfbp5	chr1:72858064-	2.489598	1.315913	3.252	0.00	0.001127
.0		72874865			48	005	09
172936	Slc25a33	chr4:149744035-	2.488533	1.315295	2.047	0.00	0.001127
.0		149774267			24	005	09
177765	Slc16a3	chr11:120948483-	2.485173	1.313346	2.271	0.00	0.001127
.0		120959000			49	005	09
178630	Foxc1	chr13:31806645-	2.477555	1.308917	1.968	0.00	0.001127
.0		31810635			3	005	09
180347	Tifa	chr3:127789912-	2.468381	1.303565	3.093	0.00	0.001127
.0		127798389			57	005	09
166602	Kcne4	chr1:78816948-	2.463913	1.300951	1.864	0.00	0.001127
.0		78820025			25	005	09
163678	Alpl	chr4:137741730-	2.461677	1.299642	1.691	0.00	0.001127
.0		137796384			09	005	09
170155	Cyp26b1	chr6:84571413-	2.457272	1.297057	1.684	0.00	0.002048
.0		84593908			73	01	29
184720	Ttc22	chr4:106622448-	2.457111	1.296963	3.234	0.00	0.001127
.0		106640187			96	005	09
178321	Dmbt1	chr7:131032075-	2.456126	1.296385	1.154	0.00	0.053908
.0		131121628			08	635	5
415391	Mir22hg	chr11:75461538-	2.45541	1.295964	2.937	0.00	0.001127
.0		75466690			56	005	09
185416	Btnl2	chr17:34354821-	2.451256	1.293521	2.192	0.00	0.001127
.0		34369492			47	005	09
171097	Gzmb	chr14:56258857-	2.439472	1.286569	1.256	0.00	0.032981
.0		56262260			17	33	
192174	Ranbp17	chr11:33211793-	2.439457	1.28656	2.067	0.00	0.001127
.0		33513746			78	005	09

172742	Slc7a9	chr7:35449091-	2.438633	1.286073	2.003	0.00	0.001127
.0		35466034			27	005	09
174532	Sp2	chr11:96944145-	2.433039	1.28276	1.982	0.00	0.001127
.0		96977688			86	005	09
182096	Slc23a3	chr1:75125541-	2.428705	1.280187	1.807	0.00	0.001127
.0		75133890			62	005	09
171458	Kcnj8	chr6:142564938-	2.426975	1.279159	2.570	0.00	0.001127
.0		142571356			83	005	09
179429	Hlf	chr11:90336534-	2.425776	1.278446	1.987	0.00	0.001127
.0		90390917			28	005	09
175698	Vps37b	chr5:124004640-	2.423671	1.277194	2.966	0.00	0.001127
.0		124032260			78	005	09
177505	Nts	chr10:102481755-	2.421751	1.27605	2.537	0.00	0.001127
.0		102490418			04	005	09
170174	Usp2	chr9:44067020-	2.420206	1.27513	2.306	0.00	0.001127
.0		44095627			65	005	09
173351	Hsd11b2	chr8:105518745-	2.415377	1.272248	3.346	0.00	0.001127
.0		105523988			15	005	09
281204	Snhg3	chr4:132351932-	2.411648	1.270019	1.702	0.00	0.001127
.0		132353686			19	005	09
184586	Prdm1	chr10:44437174-	2.411038	1.269654	2.347	0.00	0.001127
.0		44458687			07	005	09
23636.	Jun	chr4:95049035-	2.409039	1.268458	3.215	0.00	0.001127
0		95052222			63	005	09
187010	Neat1	chr19:5842301-5845478	2.407281	1.267405	2.952	0.00	0.001127
.0					62	005	09
415730	Gm1380	chr2:93403546-	2.402661	1.264633	1.434	0.00	0.009993
.0	7	93417830			54	07	71
170298	Pdgfa	chr5:138976971-	2.398732	1.262272	3.053	0.00	0.001127
.0		138994953			83	005	09
166064	Gfap	chr11:102887335-	2.385422	1.254245	2.032	0.00	0.001127
.0		102897200			3	005	09
174202	Atf3	chr1:191170296-	2.373394	1.246951	2.594	0.00	0.001127
.0		191183333			57	005	09
177812	Spsb1	chr4:149896283-	2.371519	1.245812	2.419	0.00	0.001127
.0		149955006			43	005	09
176821	9930012	chr14:70154404-	2.367471	1.243347	1.336	0.00	0.023807
.0	K11Rik	70159502			68	215	3
176353	Ripk3	chr14:55784994-	2.365222	1.241975	2.581	0.00	0.001127
.0		55788857			39	005	09
172735	Bhlhe40	chr6:108577035-	2.363974	1.241214	3.125	0.00	0.001127
.0		108666925			58	005	09
181189	Cldn4	chr5:134945123-	2.360591	1.239148	3.084	0.00	0.001127
.0		134946934			5	005	09
415370	Gm1598	chr6:128934380-	2.357954	1.237536	1.355	0.00	0.017247
.0	7	128984707			76	14	1

178722 .0	Pfkfb3	chr2:11471430- 11553929	2.355432	1.235992	2.148 73	0.00 005	0.001127 09
174855 .0	Rassf4	chr6:116633007- 116673836	2.352182	1.234	1.778 61	0.00 005	0.001127 09
176616 .0	Plk3	chr4:117126812- 117133952	2.34472	1.229415	2.458 94	0.00 005	0.001127 09
177330 .0	Vamp2	chr11:69088527- 69092381	2.344079	1.229021	2.775 72	0.00 005	0.001127 09
178693 .0	Hs6st1	chr1:36068399- 36106446	2.342993	1.228353	3.168 35	0.00 005	0.001127 09
46361. 0	Acpp	chr9:104288239- 104337722	2.338733	1.225727	2.144 66	0.00 005	0.001127 09
377557 .0	Rn45s	chr17:39842996- 39848829	2.335396	1.223667	1.072 72	0.01 345	0.094029 9
414460 .0	Gm1154 5	chr11:94755135- 94761182	2.334179	1.222915	2.817 41	0.00 005	0.001127 09
42349. 0	Pgd	chr4:149149984- 149166707	2.32499	1.217225	3.148 16	0.00 005	0.001127 09
185120 .0	Egr1	chr18:34861206- 34864956	2.316385	1.211875	2.394 21	0.00 005	0.001127 09
72099. 0	Duox1	chr2:122315671- 122347972	2.316072	1.21168	1.786 7	0.00 005	0.001127 09
177413 .0	Myh14	chr7:44605802- 44670843	2.315912	1.21158	2.839 94	0.00 005	0.001127 09
414358 .0	Galnt15	chr14:32029102- 32058326	2.312593	1.209511	2.011 6	0.00 005	0.001127 09
171726 .0	Iigp1	chr18:60376028- 60392629	2.312303	1.20933	1.846 57	0.00 005	0.001127 09
222364 .0	Raph1	chr1:60483184- 60566765	2.311257	1.208677	3.131 03	0.00 005	0.001127 09
414511 .0	Apol10a	chr15:77477046- 77491069	2.308482	1.206944	2.443 67	0.00 005	0.001127 09
174660 .0	Sytl3	chr17:6673609-6738044	2.302261	1.203051	1.306 21	0.00 19	0.021670 6
171484 .0	Apobec1	chr6:122577791- 122602444	2.301822	1.202776	2.813 69	0.00 005	0.001127 09
172232 .0	Wwc1	chr11:35839177- 35980089	2.299912	1.201578	3.053 14	0.00 005	0.001127 09
402244 .0	Dusp5	chr19:53529317- 53541322	2.294007	1.19787	1.831 85	0.00 005	0.001127 09
177079 .0	Upp1	chr11:9118007-9136170	2.293065	1.197277	1.943 34	0.00 005	0.001127 09
170116 .0	Tmc7	chr7:118535843- 118584686	2.292724	1.197063	2.125 005	0.00 005	0.001127 09
165444 .0	Kif21b	chr1:136131400- 136178014	2.286819	1.193342	3.121 3	0.00 005	0.001127 09

74756. 0	Ager	chr17:34597849- 34600937	2.281425	1.189935	1.099 74	0.00 11	0.014289
414392 .0	Prss48	chr3:85993809- 86002491	2.277903	1.187707	1.055 21	0.01 045	0.077855 2
171539 .0	Mospd3	chr5:137596646- 137601059	2.27384	1.18513	1.818 19	0.00 005	0.001127 09
166618 .0	Tac4	chr11:95261528- 95269261	2.269103	1.182122	1.175 53	0.00 505	0.045341 1
179290 .0	Efnb2	chr8:8617438-8660773	2.267248	1.180942	2.926 57	0.00 005	0.001127 09
185103 .0	Fut2	chr7:45648590- 45666394	2.263442	1.178518	2.839 69	0.00 005	0.001127 09
175762 .0	Tmcc3	chr10:94514856- 94590954	2.258386	1.175292	3.052 51	0.00 005	0.001127 09
166498 .0	Tob1	chr11:94211453- 94215492	2.258069	1.17509	2.959 49	0.00 005	0.001127 09
174621 .0	Osgin1	chr8:119437161- 119446256	2.25558	1.173499	1.900 68	0.00 005	0.001127 09
171383 .0	Slc40a1	chr1:45908069- 45925594	2.255	1.173128	2.757 35	0.00 005	0.001127 09
171039 .0	Mapk13	chr17:28769316- 28778704	2.252749	1.171686	3.114 69	0.00 005	0.001127 09
192425 .0	Kcnc3	chr7:44590885- 44604751	2.248812	1.169163	1.618 65	0.00 02	0.003663 23
171519 .0	Eif2s2	chr2:154871409- 154892906	2.248425	1.168915	3.060 92	0.00 005	0.001127 09
170842 .0	Pcsk9	chr4:106442333- 106464325	2.240961	1.164118	1.876 97	0.00 005	0.001127 09
29879. 0	Best2	chr8:85007202- 85014531	2.239223	1.162998	2.201 06	0.00 005	0.001127 09
163852 .0	Npc1	chr18:12168729- 12236386	2.23559	1.160656	2.436 5	0.00 005	0.001127 09
173375 .0	Cplx1	chr5:108518553- 108550027	2.231654	1.158113	1.376 52	0.00 14	0.017247 1
175744 .0	B4galt1	chr4:40804581- 40854537	2.23065	1.157464	3.075 52	0.00 005	0.001127 09
174765 .0	Egln3	chr12:54178980- 54203874	2.229269	1.156571	2.725 71	0.00 005	0.001127 09
359486 .0	Cct8l1	chr5:25516066- 25518027	2.228338	1.155968	1.243 48	0.00 365	0.035601 6
170094 .0	Cyp2c66	chr19:39113897- 39186756	2.228172	1.15586	1.763 45	0.00 01	0.002048 29
44288. 0	Per3	chr4:151003654- 151044665	2.220329	1.150774	2.493 45	0.00 005	0.001127 09
174057 .0	Lss	chr10:76531626- 76562226	2.219538	1.150259	2.667 13	0.00 005	0.001127 09

77438. 0	Il18	chr9:50565367- 50581837	2.217443	1.148897	2.629 12	0.00 005	0.001127 09
185142 .0	Klf9	chr19:23141225- 23166911	2.21431	1.146857	2.794 34	0.00 005	0.001127 09
192682 .0	Gltscr1	chr7:15971261- 15999495	2.212563	1.145718	2.562 58	0.00 005	0.001127 09
165083 .0	Il18bp	chr7:102015076- 102018155	2.210927	1.144651	1.840 93	0.00 005	0.001127 09
166363 .0	Gbp5	chr3:142496933- 142522344	2.209093	1.143454	1.414 31	0.00 105	0.013804 5
172328 .0	Trim25	chr11:88999402- 89020293	2.208291	1.142931	2.964 36	0.00 005	0.001127 09
170282 .0	Cpeb4	chr11:31870939- 31935635	2.200793	1.138024	2.848 26	0.00 005	0.001127 09
68709. 0	Ldlr	chr9:21723575- 21749918	2.199301	1.137045	2.996 52	0.00 005	0.001127 09
416238 .0	4933431 E20Rik	chr3:107877229- 107898685	2.198766	1.136694	1.470 42	0.00 08	0.011089 6
177729 .0	Parp4	chr14:56575618- 56659798	2.195171	1.134333	2.966 15	0.00 005	0.001127 09
77640. 0	Cdkn1c	chr7:143458338- 143461050	2.189801	1.1308	1.976 36	0.00 005	0.001127 09
172986 .0	Il1b	chr2:129364579- 129375733	2.186913	1.128896	1.256 65	0.00 37	0.035959 3
185435 .0	Slc2a6	chr2:27021364- 27027998	2.186809	1.128827	1.578 59	0.00 025	0.004402 85
175552 .0	Pdk4	chr6:5483350-5496278	2.182801	1.12618	2.568 23	0.00 005	0.001127 09
163606 .0	Aldh1a3	chr7:66390892- 66427477	2.18158	1.125374	1.954 17	0.00 005	0.001127 09
26115. 0	Ace2	chrX:164139341- 164188418	2.180966	1.124967	1.783 15	0.00 005	0.001127 09
177923 .0	Furin	chr7:80389193- 80405431	2.177914	1.122947	2.922 97	0.00 005	0.001127 09
171170 .0	Asap1	chr15:64086839- 64382919	2.177772	1.122853	2.715 61	0.00 005	0.001127 09
173971 .0	Pnpla2	chr7:141455187- 141460743	2.176521	1.122024	2.757 9	0.00 005	0.001127 09
182500 .0	Grip2	chr6:91761509- 91807393	2.175802	1.121547	1.633 16	0.00 01	0.002048 29
171088 .0	Ier2	chr8:84661330- 84662852	2.169472	1.117344	2.410 92	0.00 005	0.001127 09
40164. 0	Prdx6	chr1:161240111- 161251166	2.168376	1.116615	2.619 49	0.00 005	0.001127 09
182269 .0	Elf3	chr1:135253573- 135258472	2.159873	1.110946	2.888 15	0.00 005	0.001127 09

172363 .0	Dusp1	chr17:26505590- 26508472	2.157296	1.109224	2.575 49	0.00 005	0.001127 09
178378 .0	Slc6a7	chr18:60995379- 61014199	2.150621	1.104753	1.621 78	0.00 025	0.004402 85
175110 .0	Hhat1	chr9:121784015- 121792507	2.148894	1.103594	1.488 3	0.00 105	0.013804 5
185862 .0	Irs2	chr8:10986963- 11054541	2.148783	1.10352	2.616 21	0.00 005	0.001127 09
181860 .0	Crispld2	chr8:119992469- 120052793	2.148382	1.10325	2.418 88	0.00 005	0.001127 09
178633 .0	Nrsn1	chr13:25252038- 25269996	2.147201	1.102458	1.250 49	0.00 355	0.034869 6
173737 .0	Pim3	chr15:88862193- 88865726	2.145106	1.101049	2.472 8	0.00 005	0.001127 09
173341 .0	Eps8l3	chr3:107877229- 107898685	2.142871	1.099545	2.270 89	0.00 005	0.001127 09
162643 .0	Rnf39	chr17:36943050- 36947986	2.141591	1.098683	2.210 78	0.00 005	0.001127 09
163057 .0	Gadd45a	chr6:67035095- 67080652	2.137851	1.096161	2.073 11	0.00 005	0.001127 09
-	C920025 E04Rik	chr17:36109029- 36111676	2.13661	1.095324	1.425 3	0.00 075	0.010538 4
173451 .0	Baiap2l1	chr5:144244436- 144361005	2.133125	1.092969	2.628 71	0.00 005	0.001127 09
58151. 0	Smad1	chr8:79338397- 79399468	2.131924	1.092156	2.814 23	0.00 005	0.001127 09
192278 .0	Scube2	chr7:109798690- 109865679	2.13143	1.091822	2.191 06	0.00 005	0.001127 09
402206 .0	Msmo1	chr8:64718144- 64733578	2.130958	1.091502	2.577 1	0.00 005	0.001127 09
172888 .0	Hnrnpd	chr5:99955934- 99978938	2.122592	1.085827	2.627 71	0.00 005	0.001127 09
293815 .0	Kdm6b	chr11:69398517- 69413675	2.117451	1.082329	2.767 12	0.00 005	0.001127 09
174970 .0	Hmgcs1	chr13:119690350- 119708260	2.113136	1.079385	2.754 5	0.00 005	0.001127 09
176243 .0	Safb2	chr17:56562941- 56584583	2.112418	1.078896	2.538 2	0.00 005	0.001127 09
180461 .0	Cobll1	chr2:65088338- 65238626	2.111886	1.078532	2.638 28	0.00 005	0.001127 09
174098 .0	2210407 C18Rik	chr11:58608205- 58613492	2.109105	1.076631	1.992 08	0.00 005	0.001127 09
182691 .0	Syt8	chr7:142434976- 142440396	2.107581	1.075588	1.055 32	0.00 72	0.059098 9
75280. 0	Itgam	chr7:128062639- 128118491	2.106053	1.074542	1.924 62	0.00 005	0.001127 09

163073	Als2cl	chr9:110880173-	2.103037	1.072474	2.648	0.00	0.001127
.0		110900530			46	005	09
172262	Mapk6	chr9:75386781-	2.10183	1.071646	2.696	0.00	0.001127
.0		75410016			59	005	09
174309	Dsg2	chr18:20558115-	2.101644	1.071518	2.693	0.00	0.001127
.0		20604526			55	005	09
187680	Nos1ap	chr1:170317495-	2.100078	1.070443	1.740	0.00	0.002048
.0		170589849			37	01	29
175608	Wfikkn1	chr17:25877627-	2.100034	1.070413	1.582	0.00	0.002888
.0		25880858			06	015	72
181648	Tc2n	chr12:101645445-	2.099722	1.070199	2.595	0.00	0.001127
.0		101718523			5	005	09
58385.	Rdh1	chr10:127759762-	2.093044	1.065602	1.489	0.00	0.008848
0		127768299			16	06	5
182066	Slc25a18	chr6:120773767-	2.089248	1.062984	1.035	0.01	0.079160
.0		120793982			83	07	2
407274	Gm1336	chr1:30940302-	2.088128	1.06221	2.036	0.00	0.001127
.0	3	30949755			08	005	09
172820	Cyp2d10	chr15:82402845-	2.088058	1.062162	2.185	0.00	0.001127
.0		82407194			54	005	09
179457	Mapre3	chr5:30814755-	2.088038	1.062148	2.201	0.00	0.001127
.0		30866106			55	005	09
75022.	Nr1d1	chr11:98767931-	2.087523	1.061792	2.181	0.00	0.001127
0		98775377			9	005	09
407414	4930526I	chr9:124423250-	2.085018	1.060059	1.714	0.00	0.002048
.0	15Rik	124424856			37	01	29
176513	Snhg11	chr2:158375637-	2.080882	1.057195	1.730	0.00	0.001127
.0		158386145			78	005	09
173115	Car4	chr11:84957753-	2.079862	1.056487	2.545	0.00	0.001127
.0		84966054			05	005	09
407522	Gm1564	chr7:105861780-	2.077031	1.054523	1.579	0.00	0.002888
.0	5	105863327			62	015	72
172208	Ctps	chr4:120539867-	2.07598	1.053793	2.208	0.00	0.001127
.0		120570276			64	005	09
180044	Ceacam	chr7:25376818-	2.075905	1.053741	1.580	0.00	0.007650
.0	1	25566417			02	05	54
285037	Sowahb	chr5:93041122-	2.075318	1.053333	2.614	0.00	0.001127
.0		93045022			38	005	09
281763	Eva1c	chr16:90830858-	2.072123	1.051109	1.279	0.00	0.020852
.0		90904885			42	18	1
177821	Cdk5r1	chr11:80477045-	2.067826	1.048115	1.499	0.00	0.011089
.0		80481179			09	08	6
174255	Klf6	chr13:5861488-5870393	2.065837	1.046726	2.600	0.00	0.001127
.0					04	005	09
172283	Mal	chr2:127633225-	2.065321	1.046366	2.496	0.00	0.001127
.0		127656695			06	005	09

173050 .0	Fth1	chr19:9980599-9985111	2.064153	1.04555	2.056 51	0.00 005	0.001127 09
175726 .0	Polr3c	chr3:96711894- 96727439	2.062442	1.044353	2.167 9	0.00 005	0.001127 09
44291. 0	Per2	chr1:91415981- 91459328	2.059565	1.042339	2.200 24	0.00 005	0.001127 09
173048 .0	Il4ra	chr7:125552281- 125579474	2.059046	1.041976	2.657 68	0.00 005	0.001127 09
176692 .0	Ermp1	chr19:29609882- 29648420	2.057837	1.041129	2.721 42	0.00 005	0.001127 09
185767 .0	Apol10b	chr15:77584157- 77596125	2.056759	1.040373	1.452 61	0.00 04	0.006444 22
176952 .0	Lrrc29	chr8:105312339- 105326276	2.0502	1.035765	1.524 79	0.00 035	0.005791 28
179787 .0	Gatad2b	chr3:90341653- 90358120	2.049368	1.035179	2.210 84	0.00 005	0.001127 09
21130. 0	Atp1b1	chr1:164307674- 164458355	2.047456	1.033833	2.412 68	0.00 005	0.001127 09
402026 .0	Tmem15 0b	chr7:4690927-4725251	2.046554	1.033197	1.725 22	0.00 01	0.002048 29
172164 .0	P2ry2	chr7:100996571- 101011991	2.043668	1.031161	2.265 11	0.00 005	0.001127 09
22616. 0	Sulf2	chr2:166073898- 166155683	2.043095	1.030756	2.368 04	0.00 005	0.001127 09
173038 .0	Pcsk1n	chrX:7919821-7928607	2.042215	1.030135	1.694 3	0.00 005	0.001127 09
176391 .0	Gem	chr4:11704446- 11714993	2.038256	1.027335	1.935 92	0.00 005	0.001127 09
172159 .0	AI66145 3	chr17:47412733- 47470638	2.037429	1.02675	2.637 13	0.00 005	0.001127 09
171740 .0	Fkbp1a	chr2:151542498- 151561691	2.037281	1.026645	2.481 91	0.00 005	0.001127 09
181319 .0	Osbp17	chr11:97050819- 97068904	2.035012	1.025037	2.599 95	0.00 005	0.001127 09
178489 .0	Itga5	chr15:103344285- 103366748	2.027597	1.019771	2.254 43	0.00 005	0.001127 09
173632 .0	Crlf2	chr5:109554708- 109558993	2.024868	1.017828	1.430 07	0.00 06	0.008848 5
73001. 0	Kcna5	chr6:126532550- 126535555	2.023934	1.017162	1.310 08	0.00 195	0.022108 8
22739. 0	Apob	chr12:7977676-8016839	2.022455	1.016108	1.936 51	0.00 005	0.001127 09
46091. 0	Lgmn	chr12:102394097- 102439697	2.01938	1.013913	2.588 54	0.00 005	0.001127 09
186021 .0	Aoc2	chr11:101325062- 101329694	2.014983	1.010767	1.504 55	0.00 02	0.003663 23

165542 .0	Trim6	chr7:104218794- 104235152	2.013626	1.009796	1.521 74	0.00 025	0.004402 85
52753. 0	Rps16	chr7:28350688- 28352698	2.013041	1.009376	2.448 53	0.00 005	0.001127 09
177892 .0	Srebf2	chr15:82147268- 82204960	2.012123	1.008718	2.677 8	0.00 005	0.001127 09
178823 .0	Igsf3	chr3:101377124- 101463060	2.009756	1.007021	2.506 73	0.00 005	0.001127 09
176997 .0	Pitpnb	chr5:111330762- 111388359	2.007995	1.005756	2.232 68	0.00 005	0.001127 09
171828 .0	Idi1	chr13:8885605-8892396	2.007112	1.005121	2.322 56	0.00 005	0.001127 09
176144 .0	Cck	chr9:121489823- 121495694	2.005421	1.003905	1.127 69	0.00 65	0.054819 2
179241 .0	Rsad1	chr11:94539797- 94549207	2.005167	1.003723	2.099 69	0.00 005	0.001127 09
172508 .0	Nr1d2	chr14:18204055- 18239106	2.00092	1.000663	2.317 55	0.00 005	0.001127 09
183550 .0	Fnip2	chr3:79345375- 79567679	2.000779	1.000562	2.305 3	0.00 005	0.001127 09
40386. 0	Slc6a4	chr11:76998596- 77032343	2.000027	1.00002	1.755 78	0.00 005	0.001127 09
183733 .0	Hoxa2	chr6:52162416- 52164831	2.001037	-1.00075	- 1.201 96	0.00 285	0.029457 9
177136 .0	Senp8	chr9:59734258- 59750649	2.001876	-1.00135	- 1.502 91	0.00 025	0.004402 85
177494 .0	Shf	chr2:122348891- 122368918	2.002418	-1.00174	- 1.720 5	0.00 005	0.001127 09
53116. 0	Hes6	chr1:91411482- 91413222	2.005701	-1.00411	- 2.170 59	0.00 005	0.001127 09
183695 .0	Hist1h4 k	chr13:21750144- 21750553	2.007455	-1.00537	- 1.747 02	0.00 005	0.001127 09
281278 .0	Tbc1d31	chr15:57912198- 57970068	2.008832	-1.00636	- 1.362 01	0.00 105	0.013804 5
183485 .0	Adcy7	chr8:88272402- 88329962	2.010604	-1.00763	- 1.970 18	0.00 005	0.001127 09
178394 .0	Tead2	chr7:45215752- 45233619	2.011851	-1.00852	- 1.435 97	0.00 055	0.008230 54

414810 .0	Fam187 b	chr7:30973803- 30989725	2.012955	−1.00932	- 1.125 07	0.00 65	0.054819 2
352934 .0	6720489 N17Rik	chr13:62603014- 62624182	2.013468	−1.00968	- 1.194 6	0.00 49	0.044273 7
182699 .0	Dock2	chr11:34226820- 34783905	2.013725	−1.00987	- 1.765 7	0.00 005	0.001127 09
166566 .0	Rgs13	chr1:144138666- 144177372	2.013746	−1.00988	- 1.094 61	0.00 73	0.059713 1
179842 .0	Zeb2	chr2:44983511- 45114084	2.016438	−1.01181	- 2.259 16	0.00 005	0.001127 09
139429 .0	Fibin	chr2:110360924- 110362993	2.018553	−1.01332	- 1.766 48	0.00 005	0.001127 09
183340 .0	Acss3	chr10:106936163- 107123664	2.024273	−1.0174	- 1.176 28	0.00 55	0.048268 4
414403 .0	Rbbp8nl	chr2:180277645- 180289879	2.025372	−1.01819	- 1.196 03	0.00 4	0.038131 5
181753 .0	Il7r	chr15:9506158-9529876	2.026974	−1.01933	- 1.334 73	0.00 21	0.023422 6
280933 .0	Acap1	chr11:69881566- 69895539	2.027987	−1.02005	- 1.378 01	0.00 055	0.008230 54
174645 .0	Srpx	chrX:10037976- 10117661	2.028337	−1.0203	- 1.803 82	0.00 005	0.001127 09
94714. 0	Aox1	chr1:58029968- 58106410	2.029756	−1.02131	- 1.616 24	0.00 005	0.001127 09
176387 .0	Ephx1	chr1:180989555- 181017495	2.032148	−1.02301	- 2.020 56	0.00 005	0.001127 09
171486 .0	Stip1	chr19:7020695-7040026	2.034231	−1.02448	- 2.517	0.00 005	0.001127 09
414938 .0	1190007I 07Rik	chr10:82619850- 82623228	2.037055	−1.02648	- 1.170 39	0.00 375	0.036283 1
395039 .0	Hist1h2 bl	chr13:21715712- 21716143	2.038921	−1.02781	- 1.684 15	0.00 015	0.002888 72

175521 .0	Sirpa	chr2:129592838- 129632228	2.039391	−1.02814	- 2.130 21	0.00 005	0.001127 09
407322 .0	Zfp934	chr13:62516796- 62558599	2.039678	−1.02834	- 1.151 91	0.00 66	0.055394
179619 .0	Ptger3	chr3:157566891- 157644758	2.040352	−1.02882	- 1.386 61	0.00 13	0.016292 2
174566 .0	Emid1	chr11:5106265-5152222	2.042432	−1.03029	- 1.455 53	0.00 06	0.008848 5
184204 .0	Hist1h3c	chr13:23745041- 23745521	2.045852	−1.0327	- 1.795 1	0.00 015	0.002888 72
180315 .0	Tiam1	chr16:89787110- 89974699	2.050041	−1.03565	- 1.989 73	0.00 005	0.001127 09
176739 .0	Des	chr1:75360291- 75375015	2.05008	−1.03568	- 2.390 01	0.00 005	0.001127 09
74163. 0	Hoxa5	chr6:52169061- 52213597	2.051003	−1.03633	- 1.079 28	0.01 335	0.093514 5
179802 .0	Zfp82	chr7:30056033- 30072823	2.051145	−1.03643	- 1.294 57	0.00 265	0.027910 4
174894 .0	Phlda3	chr1:135766084- 135769134	2.054366	−1.03869	- 1.349 21	0.00 09	0.012199 3
173411 .0	Ephx2	chr14:66084371- 66124522	2.054857	−1.03904	- 2.344 24	0.00 005	0.001127 09
415677 .0	Gm1540 1	chr6:72626370- 72789045	2.055986	−1.03983	- 1.159 1	0.00 97	0.073763 2
181254 .0	Amt	chr9:108296921- 108301597	2.056971	−1.04052	- 1.651 29	0.00 005	0.001127 09
179268 .0	Dclk3	chr9:111439080- 111489611	2.057018	−1.04055	- 1.447 94	0.00 08	0.011089 6
181149 .0	Arhgap3 0	chr1:171388959- 171410239	2.057989	−1.04124	- 1.841 09	0.00 005	0.001127 09

177087 .0	Hoxa7	chr6:52215623- 52218573	2.058871	−1.04185	- 1.658 2	0.00 01	0.002048 29
402453 .0	Pbld1	chr10:63061616- 63077536	2.060591	−1.04306	- 1.826 37	0.00 005	0.001127 09
73628. 0	Parp1	chr1:180568974- 180601254	2.065115	−1.04622	- 2.491 6	0.00 005	0.001127 09
181898 .0	Ccr6	chr17:8236042-8257129	2.066222	−1.047	- 0.926 189	0.00 76	0.061485 8
181954 .0	Hist1h4i	chr13:22040959- 22041362	2.069174	−1.04906	- 1.947 9	0.00 005	0.001127 09
170909 .0	Lrrk2	chr15:91673223- 91816124	2.069566	−1.04933	- 2.092 77	0.00 005	0.001127 09
171741 .0	Lsr	chr7:30957769- 30973469	2.071273	−1.05052	- 2.547 96	0.00 005	0.001127 09
179345 .0	Itgax	chr7:128129567- 128150657	2.071545	−1.05071	- 1.659 4	0.00 01	0.002048 29
279547 .0	Strip2	chr6:29917012- 29959680	2.072746	−1.05154	- 1.586 93	0.00 02	0.003663 23
181952 .0	Hist1h2 bh	chr13:23542922- 23543444	2.07323	−1.05188	- 1.609 37	0.00 04	0.006444 22
171360 .0	Ceacam 10	chr7:24777203- 24784655	2.073922	−1.05236	- 2.291 65	0.00 005	0.001127 09
179940 .0	Lyz1	chr10:117287794- 117292868	2.076445	−1.05412	- 1.798 77	0.00 01	0.002048 29
166548 .0	Abca9	chr11:110100821- 110168153	2.077531	−1.05487	- 1.822 65	0.00 005	0.001127 09
163635 .0	Rnf152	chr1:105276916- 105356710	2.07857	−1.05559	- 1.539 71	0.00 035	0.005791 28
179444 .0	Lmo2	chr2:103957994- 103981878	2.078946	−1.05585	- 1.351 74	0.00 085	0.011634 4

171089 .0	Lyz2	chr10:117277540- 117282272	2.080858	−1.05718	- 2.594 99	0.00 005	0.001127 09
175867 .0	Trib2	chr12:15791726- 15816785	2.080925	−1.05722	- 1.719 72	0.00 005	0.001127 09
67139. 0	Mcm5	chr8:75109527- 75128439	2.082225	−1.05813	- 1.947 71	0.00 015	0.002888 72
173125 .0	Igfbp6	chr15:102144185- 102149512	2.082398	−1.05825	- 1.500 16	0.00 015	0.002888 72
174126 .0	Plcg2	chr8:117498290- 117635142	2.084694	−1.05984	- 1.911 09	0.00 005	0.001127 09
171255 .0	Col1a1	chr11:94936269- 94951856	2.086324	−1.06096	- 2.666 3	0.00 005	0.001127 09
407459 .0	BC03770 4	chr19:43675177- 43677170	2.086832	−1.06131	- 1.136 62	0.00 94	0.072077 1
171908 .0	Rcn3	chr7:45082913- 45092213	2.090128	−1.06359	- 1.908 07	0.00 005	0.001127 09
414606 .0	Six5	chr7:19094543- 19098345	2.09303	−1.06559	- 1.851 39	0.00 005	0.001127 09
159866 .0	Grap	chr11:61653320- 61672777	2.093187	−1.0657	- 1.318 49	0.00 17	0.020001 6
176278 .0	Fstl1	chr16:37777054- 37836516	2.093801	−1.06612	- 2.521 28	0.00 005	0.001127 09
180761 .0	Hao2	chr3:98874518- 98893230	2.097683	−1.0688	- 2.698 98	0.00 005	0.001127 09
183820 .0	Rasl11a	chr5:146845070- 146847726	2.099334	−1.06993	- 1.240 79	0.00 38	0.03664
176208 .0	Procr	chr2:155751216- 155755478	2.103517	−1.0728	- 1.253 6	0.00 28	0.029029 3
300877 .0	Cep41	chr6:30653456- 30693682	2.104323	−1.07336	- 1.407 67	0.00 09	0.012199 3

173415 .0	Acsm3	chr7:119760922- 119794058	2.105288	−1.07402	- 2.343 18	0.00 005	0.001127 09
185170 .0	Gnai1	chr5:18265134- 18360413	2.106982	−1.07518	- 2.156 84	0.00 005	0.001127 09
177986 .0	My14	chr11:104550662- 104587219	2.10945	−1.07687	- 1.093 84	0.00 63	0.053577
191952 .0	Ciita	chr16:10480071- 10527564	2.109867	−1.07715	- 1.934 65	0.00 005	0.001127 09
176224 .0	Sash3	chrX:48146526- 48161563	2.110641	−1.07768	- 1.520 85	0.00 055	0.008230 54
175941 .0	Myebpap	chr11:94501346- 94521502	2.113812	−1.07985	- 1.442 38	0.00 12	0.015281 2
166305 .0	Arhgap4	chrX:73892101- 73911298	2.119134	−1.08347	- 1.583 21	0.00 045	0.007066 46
285295 .0	Mira	chr6:52214491- 52215288	2.124601	−1.08719	- 1.678 47	0.00 015	0.002888 72
73139. 0	Fzd2	chr11:102604430- 102608058	2.129818	−1.09073	- 1.658 5	0.00 005	0.001127 09
171115 .0	Ly6e	chr15:74955050- 74959905	2.133609	−1.0933	- 1.954 99	0.00 005	0.001127 09
165748 .0	Figl1	chr11:11800287- 11808962	2.134518	−1.09391	- 1.346 31	0.00 115	0.014793 7
180149 .0	Napepld	chr5:21662902- 21701345	2.135361	−1.09448	- 1.978 26	0.00 005	0.001127 09
181006 .0	Cilp	chr9:65265179- 65280605	2.138758	−1.09677	- 2.036 24	0.00 005	0.001127 09
174708 .0	Ccdc80	chr16:45094052- 45127924	2.141755	−1.09879	- 2.159 93	0.00 005	0.001127 09
180661 .0	Klhl23	chr2:69822369- 69836651	2.142531	−1.09932	- 2.651 8	0.00 005	0.001127 09

182060 .0	Zfp273	chr13:67796593- 67830985	2.143384	-1.09989	- 1.118 42	0.00 41	0.038824 7
181269 .0	Cidec	chr6:113424635- 113435755	2.143559	-1.10001	- 2.349 47	0.00 005	0.001127 09
172842 .0	Cyp2f2	chr7:27119954- 27133660	2.147514	-1.10267	- 1.734 35	0.00 015	0.002888 72
184895 .0	Mkx	chr18:6934965-7004779	2.148587	-1.10339	- 2.045 45	0.00 005	0.001127 09
175093 .0	Ms4a7	chr19:11321038- 11336146	2.150302	-1.10454	- 1.190 22	0.00 26	0.027505 9
414079 .0	Ces2b	chr8:104831643- 104838652	2.152041	-1.10571	- 2.202 87	0.00 005	0.001127 09
182431 .0	Wfdc2	chr2:164562715- 164568506	2.153891	-1.10695	- 2.082 58	0.00 005	0.001127 09
179011 .0	Tppp	chr13:74009418- 74035753	2.154446	-1.10732	- 2.692 93	0.00 005	0.001127 09
174108 .0	Sycn	chr7:28540884- 28542210	2.155262	-1.10786	- 2.299	0.00 005	0.001127 09
175503 .0	Wfdc1	chr8:119666364- 119688020	2.155754	-1.10819	- 1.761 24	0.00 005	0.001127 09
167291 .0	Ly6g6c	chr17:35067324- 35070048	2.158854	-1.11027	- 1.860 59	0.00 005	0.001127 09
177596 .0	Col5a2	chr1:45374330- 45503282	2.159259	-1.11054	- 2.756 91	0.00 005	0.001127 09
192086 .0	Ikzf3	chr11:98464692- 98546031	2.161543	-1.11206	- 1.715 1	0.00 005	0.001127 09
164572 .0	Gfra2	chr14:70890129- 70979838	2.162073	-1.11242	- 1.760 74	0.00 005	0.001127 09
169588 .0	Ddo	chr10:40630010- 40649931	2.162653	-1.1128	-1.33	0.00 17	0.020001 6
172349 .0	Armcx2	chrX:134804141- 134809221	2.1636	-1.11343	- 1.725 94	0.00 02	0.003663 23

175853 .0	Cenpn	chr8:116921739- 116941503	2.164066	-1.11374	- 1.121 33	0.00 655	0.055098 4
177201 .0	Gimap9	chr6:48676134- 48678704	2.167304	-1.1159	- 1.467 59	0.00 01	0.002048 29
180351 .0	Ly86	chr13:37345344- 37419036	2.169753	-1.11753	- 1.210 35	0.00 255	0.027086 8
180171 .0	B3gnt5	chr16:19760233- 19772753	2.171992	-1.11902	- 1.972 66	0.00 005	0.001127 09
183637 .0	Hist1h2 bb	chr13:23746733- 23747223	2.172048	-1.11906	- 2.081 45	0.00 005	0.001127 09
184245 .0	SrpK3	chrX:73774421- 73778924	2.173748	-1.12018	- 1.237 51	0.00 31	0.031431 7
178137 .0	Rcn1	chr2:105385947- 105399319	2.179151	-1.12377	- 1.940 51	0.00 005	0.001127 09
182193 .0	Tmem10 7	chr11:69070808- 69073293	2.180268	-1.12451	- 1.373 75	0.00 13	0.016292 2
173705 .0	Tnfrsf25	chr4:152115933- 152120119	2.184712	-1.12744	- 1.042 65	0.01 15	0.083546 6
47425. 0	Cdc7	chr5:106964321- 106984439	2.188906	-1.13021	- 1.819 96	0.00 005	0.001127 09
182813 .0	Ubp1	chr10:7444872-7473477	2.192317	-1.13246	- 1.101 02	0.00 735	0.059934 1
178135 .0	Lca5	chr9:83391354- 83454574	2.193026	-1.13292	- 1.438 57	0.00 05	0.007650 54
177302 .0	Cd4	chr6:124864692- 124888209	2.193939	-1.13352	- 1.627 87	0.00 01	0.002048 29
414315 .0	Zfp874a	chr13:67440430- 67451624	2.197011	-1.13554	- 1.757 83	0.00 005	0.001127 09
162478 .0	Lfng	chr5:140607340- 140615545	2.198487	-1.13651	- 2.106 07	0.00 005	0.001127 09

186229 .0	Was	chrX:8081465-8090491	2.199464	-1.13715	- 1.281 95	0.00 275	0.028655 1
74751. 0	Smoc2	chr17:14279505- 14404790	2.201033	-1.13818	- 2.004	0.00 005	0.001127 09
174888 .0	Trim47	chr11:116105749- 116110235	2.202543	-1.13917	- 1.859 18	0.00 005	0.001127 09
176569 .0	Lgals12	chr19:7596660-7607176	2.203476	-1.13978	- 2.177 45	0.00 005	0.001127 09
174685 .0	Sult1c2	chr17:53829636- 53845958	2.204092	-1.14018	- 2.724 98	0.00 005	0.001127 09
402009 .0	Rasal3	chr17:32390660- 32404808	2.205067	-1.14082	- 1.427 33	0.00 105	0.013804 5
177301 .0	Icam2	chr11:106377655- 106382641	2.207228	-1.14224	- 1.082 07	0.01 125	0.082203 5
175848 .0	Cysltr1	chrX:106576508- 106710557	2.208333	-1.14296	- 1.244 28	0.00 235	0.025474 1
178067 .0	Dusp2	chr2:127336158- 127338377	2.210092	-1.14411	- 1.029 18	0.01 445	0.099039 3
177585 .0	Slc1a4	chr11:20302179- 20332713	2.210156	-1.14415	- 2.678 05	0.00 005	0.001127 09
183259 .0	Calcb	chr7:114718642- 114723365	2.213078	-1.14605	- 1.190 97	0.00 49	0.044273 7
171791 .0	Cyb5rl	chr4:107070167- 107084805	2.216062	-1.148	- 1.431 42	0.00 075	0.010538 4
172310 .0	Abhd14 a	chr9:106440050- 106447678	2.224309	-1.15336	- 1.617 14	0.00 03	0.005106 46
171046 .0	Emp3	chr7:45918022- 45921426	2.224635	-1.15357	- 1.535 85	0.00 06	0.008848 5
402189 .0	Gatsl3	chr11:4218250-4222409	2.234261	-1.1598	- 1.296 79	0.00 21	0.023422 6
169877 .0	Itga11	chr9:62677854- 62783979	2.237695	-1.16201	- 1.602 41	0.00 025	0.004402 85

179576 .0	Maged2	chrX:150806420- 150814339	2.23868	−1.16265	- 2.163 99	0.00 005	0.001127 09
174174 .0	Zfp566	chr7:30077336- 30090510	2.240786	−1.164	- 1.423 66	0.00 05	0.007650 54
279734 .0	Spi1	chr2:91096796- 91115756	2.240844	−1.16404	- 1.311 16	0.00 165	0.019563 3
172892 .0	Itgb7	chr15:102215994- 102231935	2.243307	−1.16563	- 1.690 57	0.00 01	0.002048 29
175272 .0	Otc	chrX:10252358- 10321024	2.250967	−1.17054	- 2.025 07	0.00 005	0.001127 09
185152 .0	Ikzf1	chr11:11686212- 11772926	2.254124	−1.17257	- 1.892 04	0.00 005	0.001127 09
180349 .0	Slc9a3r2	chr17:24639281- 24650305	2.254988	−1.17312	- 2.357 99	0.00 005	0.001127 09
174336 .0	Apol9a	chr15:77403788- 77411080	2.26017	−1.17643	- 1.257 71	0.00 35	0.034473 6
185692 .0	Hist1h2 bk	chr13:22035820- 22036320	2.2606	−1.17671	- 1.823 44	0.00 005	0.001127 09
299114 .0	L3hypd h	chr12:72073427- 72085313	2.263737	−1.17871	- 1.207 16	0.00 615	0.052598 6
175563 .0	Gimap7	chr6:48718620- 48724636	2.265208	−1.17964	- 1.180 12	0.00 585	0.050619 2
415159 .0	Trim30a	chr7:104409025- 104465193	2.265611	−1.1799	- 1.705 54	0.00 015	0.002888 72
181801 .0	Stbd1	chr5:92603050- 92606579	2.266149	−1.18024	- 1.512 36	0.00 035	0.005791 28
-	Emr1	chr17:57358685- 57483529	2.267903	−1.18136	- 1.621 3	0.00 015	0.002888 72
187470 .0	Pex5l	chr3:32949633- 33143191	2.272853	−1.1845	- 2.205 78	0.00 005	0.001127 09

175712 .0	Cmtm7	chr9:114756835- 114781993	2.275139	-1.18595	- 1.474 53	0.00 095	0.012738
183391 .0	Sema3g	chr14:31217872- 31229511	2.278543	-1.18811	- 1.577 27	0.00 035	0.005791 28
177810 .0	Mcm8	chr2:132816140- 132844188	2.280638	-1.18944	- 1.542 76	0.00 025	0.004402 85
180053 .0	Cnn1	chr9:22055459- 22389206	2.282298	-1.19049	- 1.766 37	0.00 045	0.007066 46
166562 .0	Coro1a	chr7:126699773- 126704754	2.287324	-1.19366	- 2.271 02	0.00 005	0.001127 09
171087 .0	Lgals1	chr15:78926724- 78930465	2.288692	-1.19452	- 2.662 24	0.00 005	0.001127 09
414343 .0	Zfp964	chr8:69654555- 69664453	2.288808	-1.1946	- 1.430 12	0.00 065	0.009415 56
414190 .0	1700066 B19Rik	chr18:35726988- 35730869	2.297338	-1.19996	- 2.050 68	0.00 005	0.001127 09
178824 .0	Dzip3	chr16:48924227- 48994112	2.298134	-1.20046	- 1.989 78	0.00 005	0.001127 09
172163 .0	Sox18	chr2:181669836- 181671640	2.298916	-1.20095	- 1.480 5	0.00 055	0.008230 54
179006 .0	Rhbd13	chr11:80300911- 80355986	2.30279	-1.20338	- 2.043 94	0.00 005	0.001127 09
170504 .0	Flrt2	chr12:95692225- 95785213	2.304848	-1.20467	- 2.018 73	0.00 005	0.001127 09
164449 .0	Cd86	chr16:36603868- 36666077	2.307209	-1.20615	- 1.369 83	0.00 075	0.010538 4
50711. 0	Amy1	chr3:113555951- 113577750	2.311079	-1.20857	- 1.363 8	0.00 205	0.023019 1
175472 .0	Atp10a	chr7:58658201- 58829426	2.311591	-1.20889	- 1.924 75	0.00 005	0.001127 09

183026 .0	Hist1h3 h	chr13:21717627- 21718115	2.31198	-1.20913	- 1.664 58	0.00 02	0.003663 23
-	2810442I 21Rik	chr11:16934708- 16951282	2.313434	-1.21004	- 1.176 58	0.00 235	0.025474 1
46506. 0	Uros	chr7:133686329- 133709295	2.313473	-1.21006	- 1.950 06	0.00 005	0.001127 09
182859 .0	Npy2r	chr3:82538382- 82548085	2.315146	-1.2111	- 1.987 03	0.00 005	0.001127 09
165954 .0	Aspn	chr13:49464058- 49652731	2.317385	-1.2125	- 1.559 92	0.00 035	0.005791 28
185104 .0	Calcr1	chr2:84330626- 84425266	2.31743	-1.21253	- 2.752 11	0.00 005	0.001127 09
169594 .0	Col6a4	chr9:105990317- 106096691	2.317461	-1.21255	- 2.579 08	0.00 005	0.001127 09
424735 .0	Gm5141	chr13:62772199- 62785808	2.317738	-1.21272	- 1.507 68	0.00 05	0.007650 54
185849 .0	Hmcn1	chr1:150562501- 150993435	2.321603	-1.21512	- 2.363 19	0.00 005	0.001127 09
424713 .0	Gm3604	chr13:62367715- 62383174	2.322224	-1.21551	- 1.541 22	0.00 02	0.003663 23
172161 .0	Cd34	chr1:194938820- 194976959	2.325985	-1.21784	- 1.998 03	0.00 015	0.002888 72
57092. 0	Dach1	chr14:97786845- 98169765	2.326575	-1.21821	- 2.006 81	0.00 005	0.001127 09
67164. 0	Dpt	chr1:164796731- 164824266	2.331678	-1.22137	- 2.745 49	0.00 005	0.001127 09
178807 .0	Clec1a	chr6:129426683- 129452000	2.332863	-1.2221	- 1.419 35	0.00 105	0.013804 5
184721 .0	H2-Eb1	chr17:34305866- 34316674	2.333048	-1.22222	- 2.748 99	0.00 005	0.001127 09

181164 .0	Tm4sf1	chr3:57287063- 57301919	2.333642	-1.22258	- 1.838 51	0.00 005	0.001127 09
175129 .0	Oit1	chr14:8348947-8378763	2.337661	-1.22507	- 3.125 7	0.00 005	0.001127 09
181039 .0	Slc16a7	chr10:125227484- 125328535	2.337708	-1.22509	- 2.096 46	0.00 005	0.001127 09
182711 .0	Mybl1	chr1:9667410-9700209	2.342661	-1.22815	- 1.636 97	0.00 02	0.003663 23
73545. 0	Angptl2	chr2:33133418- 33371494	2.350631	-1.23305	- 1.687 79	0.00 135	0.016779 1
166964 .0	Tnni1	chr1:135799420- 135810989	2.351784	-1.23376	- 1.545 28	0.00 035	0.005791 28
183925 .0	Fcer2a	chr8:3681736-3694174	2.360137	-1.23887	- 1.411 03	0.00 03	0.005106 46
174880 .0	Iyd	chr10:3540278-3554877	2.36539	-1.24208	- 1.448 84	0.00 065	0.009415 56
183769 .0	Fzd10	chr5:128601105- 128604093	2.365435	-1.24211	- 1.502 13	0.00 045	0.007066 46
180644 .0	Casq2	chr3:102086454- 102146512	2.369943	-1.24485	- 1.539 18	0.00 04	0.006444 22
181633 .0	Prim1	chr10:128015214- 128030030	2.370971	-1.24548	- 1.836 18	0.00 005	0.001127 09
181906 .0	Pla2g2d	chr4:138775734- 138782143	2.375326	-1.24813	- 1.381 8	0.00 185	0.021273 9
174357 .0	Cd53	chr3:106758860- 106790149	2.375841	-1.24844	- 2.059 04	0.00 005	0.001127 09
77336. 0	Thbd	chr2:148404470- 148408188	2.379638	-1.25074	- 2.714 79	0.00 005	0.001127 09
175029 .0	Shisa2	chr14:59625280- 59631660	2.380179	-1.25107	- 2.248 38	0.00 005	0.001127 09

183827 .0	Zfp72	chr13:74371425- 74376566	2.38789	−1.25574	- 1.451 54	0.00 045	0.007066 46
173796 .0	Hsp90aa 1	chr12:110691035- 110696395	2.391245	−1.25776	- 3.178 36	0.00 005	0.001127 09
166565 .0	Gdnf	chr15:7811010-7837575	2.401295	−1.26381	- 1.623 46	0.00 035	0.005791 28
176843 .0	Prrg1	chrX:78449609- 78583897	2.404173	−1.26554	- 1.644 46	0.00 025	0.004402 85
177659 .0	Ell3	chr2:121439026- 121442601	2.404727	−1.26587	- 1.271 48	0.00 475	0.043278 1
294203 .0	Dtl	chr1:191537364- 191575534	2.414368	−1.27165	- 1.785 86	0.00 015	0.002888 72
177161 .0	Capsl	chr15:9436027-9466035	2.418848	−1.27432	- 1.100 32	0.00 82	0.065214 2
171469 .0	Nov	chr15:54745927- 54753761	2.419839	−1.27491	- 2.925 91	0.00 005	0.001127 09
76027. 0	Cldn15	chr5:136967868- 136975845	2.420738	−1.27545	- 3.195 26	0.00 005	0.001127 09
179874 .0	Cox7a1	chr7:30184170- 30186030	2.420871	−1.27553	- 2.060 44	0.00 005	0.001127 09
-	2610018 G03Rik	chrX:50841435- 50891850	2.430335	−1.28116	- 1.361 19	0.00 085	0.011634 4
262657 .0	Fam213a	chr14:40993739- 41013775	2.436133	−1.28459	- 2.266 58	0.00 005	0.001127 09
300710 .0	Cela1	chr15:100674421- 100687920	2.445718	−1.29026	- 2.049 88	0.00 005	0.001127 09
170790 .0	Ppp1r1a	chr15:103530278- 103537992	2.44675	−1.29087	- 1.335 73	0.00 165	0.019563 3
177105 .0	Fam46c	chr3:100471535- 100489192	2.452216	−1.29409	- 1.641 66	0.00 01	0.002048 29

183480 .0	Hist1h2 bj	chr13:22043229- 22043658	2.45707	-1.29694	- 1.646 33	0.00 025	0.004402 85
173096 .0	Dnase11 3	chr14:7965189-7994182	2.45762	-1.29726	- 1.778 59	0.00 01	0.002048 29
414794 .0	Zfp808	chr13:62129889- 62173936	2.457795	-1.29736	- 1.994 82	0.00 005	0.001127 09
175480 .0	Olfml2b	chr1:170644531- 170682789	2.461738	-1.29968	- 2.132 58	0.00 005	0.001127 09
185502 .0	Lrat	chr3:82876704- 82943638	2.465882	-1.3021	- 2.238 25	0.00 005	0.001127 09
181574 .0	Clec9a	chr6:129408861- 129424764	2.46827	-1.3035	- 1.435 51	0.00 025	0.004402 85
52963. 0	Chek1	chr9:36708481- 36726658	2.468856	-1.30384	- 1.566 09	0.00 065	0.009415 56
181442 .0	Mmp23	chr4:155650654- 155653384	2.469312	-1.30411	- 1.554 3	0.00 055	0.008230 54
407340 .0	Arxes2	chrX:135993819- 135995359	2.475291	-1.3076	- 1.188 06	0.00 935	0.071792 2
185741 .0	Wscd2	chr5:113550419- 113589725	2.482176	-1.31161	- 2.334 11	0.00 005	0.001127 09
176477 .0	C1qtnf2	chr11:43474305- 43491525	2.483345	-1.31228	- 1.448 11	0.00 03	0.005106 46
407349 .0	Gm8979	chr7:106075730- 106079148	2.487014	-1.31441	- 2.605 24	0.00 005	0.001127 09
175914 .0	Armxc6	chrX:134748454- 134751419	2.49443	-1.31871	- 1.539 08	0.00 05	0.007650 54
179142 .0	Zfp420	chr7:29859978- 29877302	2.500476	-1.3222	- 1.659 72	0.00 03	0.005106 46
182694 .0	Bmp5	chr9:75775364- 75899017	2.501 675	-1.32289	-1.98886	0.00 005	0.001127 09
177037 .0	Clec3b	chr9:123150945- 123157432	2.502 624	-1.32344	-1.61537	0.00 035	0.005791 28

165515	Ccr10	chr11:101172997-	2.505	-1.32494	-1.2515	0.00	0.058480
.0		101175443	228			71	5
176159	Ptpnc	chr1:138062858-	2.511	-1.32846	-2.99684	0.00	0.001127
.0		138175305	346			005	09
415627	5730405	chrX:13042014-	2.514	-1.33038	-1.05975	0.01	0.093738
.0	O15Rik	13045295	688			34	9
175771	Cd320	chr17:33843090-	2.517	-1.33197	-2.09512	0.00	0.001127
.0		33849774	464			005	09
186116	Hspa1b	chr17:34956428-	2.519	-1.33315	-2.43427	0.00	0.001127
.0		34959238	515			005	09
-	Ptplad2	chr4:88412929-	2.526	-1.33698	-1.84905	0.00	0.001127
		88438926	221			005	09
174758	Lcp1	chr14:75004109-	2.539	-1.34433	-1.62124	0.00	0.010538
.0		75388146	123			075	4
183611	Abo	chr2:26842502-	2.540	-1.34491	-1.80896	0.00	0.002048
.0		26864995	146			01	29
181576	Odf3b	chr15:89377448-	2.541	-1.34547	-1.50274	0.00	0.013804
.0		89379254	124			105	5
414363	Rslcan18	chr13:67069397-	2.545	-1.34815	-1.39278	0.00	0.041929
.0		67114028	846			455	3
-	Clca3	chr3:145004536-	2.549	-1.35	-2.39525	0.00	0.001127
		145032776	123			005	09
164159	Col6a3	chr1:90766859-	2.549	-1.35008	-3.42123	0.00	0.001127
.0		90843971	27			005	09
169607	Gimap4	chr6:48684577-	2.551	-1.35126	-1.89254	0.00	0.001127
.0		48692062	346			005	09
177478	Lax1	chr1:133679028-	2.551	-1.35139	-1.78654	0.00	0.002888
.0		133690108	585			015	72
185326	Thbs4	chr13:92751585-	2.553	-1.35225	-2.57801	0.00	0.001127
.0		92794818	097			005	09
186500	Etv4	chr11:101769741-	2.557	-1.35479	-1.3178	0.00	0.017247
.0		101785310	591			14	1
183150	Rgs10	chr7:128373624-	2.558	-1.35513	-1.97794	0.00	0.001127
.0		128418172	197			005	09
54970.	Aqp1	chr6:55336298-	2.564	-1.35848	-3.3551	0.00	0.001127
0		55348555	146			005	09
177154	Fgf1	chr18:38838672-	2.564	-1.35885	-3.25974	0.00	0.001127
.0		38971274	798			005	09
185440	Zfp456	chr13:67363583-	2.565	-1.35921	-1.84542	0.00	0.001127
.0		67375763	442			005	09
185322	Hist1h2	chr13:21722043-	2.569	-1.36162	-2.17922	0.00	0.001127
.0	bm	21722526	731			005	09
265321	H2-Ea-	chr17:34342211-	2.577	-1.36576	-2.96197	0.00	0.001127
.0	ps	34344645	129			005	09
176236	Rassf9	chr10:102512221-	2.581	-1.3683	-1.83479	0.00	0.001127
.0		102546560	666			005	09

165249 .0	Tmod4	chr3:95124513- 95129208	2.588 582	-1.37216	-1.42923	0.00 13	0.016292 2
180679 .0	Cd24a	chr10:43579168- 43584265	2.588 599	-1.37217	-3.48787	0.00 005	0.001127 09
170188 .0	Slfn9	chr11:82980302- 82991830	2.589 781	-1.37283	-2.28858	0.00 005	0.001127 09
176741 .0	Arhgdib	chr6:136923708- 136941717	2.596 147	-1.37637	-2.04878	0.00 005	0.001127 09
184124 .0	Elmod1	chr9:53911459- 53975301	2.608 498	-1.38322	-1.83221	0.00 005	0.001127 09
178697 .0	Fam105a	chr15:27655070- 27681542	2.611 345	-1.38479	-1.81786	0.00 005	0.001127 09
171947 .0	Lum	chr10:97565500- 97572703	2.621 564	-1.39043	-2.75032	0.00 005	0.001127 09
167072 .0	Kcne3	chr7:100176669- 100184869	2.627 041	-1.39344	-2.65023	0.00 005	0.001127 09
69239. 0	Trf	chr9:103208875- 103230286	2.632 458	-1.39641	-2.95054	0.00 005	0.001127 09
179905 .0	Hist1h2 bp	chr13:21787487- 21789213	2.633 356	-1.3969	-1.3322	0.00 235	0.025474 1
173131 .0	Serpina1 b	chr12:103728155- 103738189	2.640 531	-1.40083	-1.28444	0.00 46	0.042255 8
180988 .0	Grem2	chr1:174833784- 174921819	2.641 891	-1.40157	-2.39784	0.00 005	0.001127 09
56055. 0	Mcm6	chr1:128331590- 128359656	2.644 786	-1.40315	-2.67167	0.00 005	0.001127 09
192689 .0	Greb1	chr12:16670614- 16800886	2.655 829	-1.40916	-3.04554	0.00 005	0.001127 09
179908 .0	Serpina6 b	chr13:32965512- 32979037	2.661 304	-1.41213	-1.47224	0.00 07	0.009993 71
180408 .0	Cdca7	chr2:72476218- 72486890	2.667 082	-1.41526	-2.85103	0.00 005	0.001127 09
164007 .0	Fgd2	chr17:29360913- 29379535	2.672 661	-1.41828	-1.76927	0.00 025	0.004402 85
4473.0	Rrad	chr8:104628065- 104631321	2.675 296	-1.4197	-1.33779	0.00 215	0.023807 3
173173 .0	Pth1r	chr9:110722084- 110747145	2.684 506	-1.42466	-1.83526	0.00 005	0.001127 09
169633 .0	Htr4	chr18:62324203- 62467802	2.686 039	-1.42548	-2.20279	0.00 005	0.001127 09
414087 .0	Wdfy4	chr14:32959546- 33185066	2.693 994	-1.42975	-2.87778	0.00 005	0.001127 09
170334 .0	Gstm3	chr3:107963695- 107969174	2.709 733	-1.43815	-1.57532	0.00 03	0.005106 46
73645. 0	Hsph1	chr5:149616844- 149636315	2.723 751	-1.4456	-3.12889	0.00 005	0.001127 09

178685	Pcdh18	chr3:49743295-	2.739	-1.45416	-2.4388	0.00	0.001127
.0		49757316	975			005	09
180359	Hist1h2a	chr13:22042477-	2.750	-1.45966	-1.62208	0.00	0.011634
.0	g	22042949	439			085	4
414017	9930111J	chr11:48945351-	2.751	-1.45997	-2.05679	0.00	0.001127
.0	21Rik1	48979398	029			005	09
163309	Cd48	chr1:171682054-	2.767	-1.46872	-1.53002	0.00	0.007066
.0		171705257	764			045	46
166324	Il2rg	chrX:101264386-	2.776	-1.47343	-1.90832	0.00	0.001127
.0		101268206	819			005	09
183045	Cd83	chr13:43785111-	2.777	-1.47387	-2.61449	0.00	0.001127
.0		43803133	661			005	09
172072	Cib2	chr9:54545351-	2.787	-1.47892	-1.56048	0.00	0.009993
.0		54560079	395			07	71
175987	Cd52	chr4:134093537-	2.788	-1.47947	-2.15786	0.00	0.001127
.0		134095073	472			005	09
179673	Kif26a	chr12:112146207-	2.800	-1.48593	-2.21004	0.00	0.001127
.0		112181747	97			005	09
179004	Hspa1a	chr17:34969358-	2.806	-1.48886	-2.42851	0.00	0.001127
.0		34972156	673			005	09
192282	B3gnt6	chr7:98192414-	2.811	-1.49158	-2.79982	0.00	0.001127
.0		98199475	97			005	09
171992	Cd177	chr7:24743982-	2.812	-1.49205	-3.66631	0.00	0.001127
.0		24760311	877			005	09
181312	Serpinh1	chr7:99345374-	2.822	-1.49696	-3.3557	0.00	0.001127
.0		99353239	479			005	09
-	5430435	chr1:131688694-	2.828	-1.49986	-1.79871	0.00	0.002048
	G22Rik	131713464	146			01	29
177448	Tmem35	chrX:134295224-	2.830	-1.50081	-2.0224	0.00	0.001127
.0		134305969	014			005	09
180223	Cxcr5	chr9:44511786-	2.834	-1.50312	-1.71649	0.00	0.002048
.0		44526421	543			01	29
184935	Olfml2a	chr2:38931979-	2.834	-1.50319	-1.64881	0.00	0.006444
.0		38960585	689			04	22
175690	Afm	chr5:90518948-	2.836	-1.50387	-2.36934	0.00	0.001127
.0		90553544	02			005	09
280400	Rgcc	chr14:79288749-	2.853	-1.51284	-1.88942	0.00	0.002048
.0		79301635	705			01	29
178846	Hhip	chr8:79965850-	2.854	-1.51328	-2.58208	0.00	0.001127
.0		80058008	576			005	09
180675	Hpn	chr7:31098724-	2.863	-1.51774	-1.88993	0.00	0.001127
.0		31115326	426			005	09
182358	Col15a1	chr4:47208011-	2.876	-1.52417	-3.18719	0.00	0.001127
.0		47313165	211			005	09
186514	Cytl1	chr5:37735518-	2.888	-1.53037	-1.4505	0.00	0.022108
.0		37739820	594			195	8

174230	Aadac	chr3:60031787-	2.889	-1.53065	-2.12363	0.00	0.001127
.0		60040157	161			005	09
167513	Mirg	chr12:109734980-	2.889	-1.53097	-1.37272	0.00	0.030616
.0		109749457	793			3	1
179586	Ccdc3	chr2:5137775-5230866	2.901	-1.53671	-2.50583	0.00	0.001127
.0			331			005	09
55823.	Traf1	chr2:34943257-	2.905	-1.53882	-2.56729	0.00	0.001127
0		34961772	57			005	09
179285	2700097	chr12:55045660-	2.907	-1.5397	-1.85891	0.00	0.001127
.0	O09Rik	55080110	339			005	09
176105	Col3a1	chr1:45311537-	2.922	-1.54735	-3.74403	0.00	0.001127
.0		45349706	793			005	09
175975	Ms4a6b	chr19:11518558-	2.933	-1.55248	-1.93945	0.00	0.001127
.0		11530403	208			005	09
173387	Ephb3	chr16:21204794-	2.934	-1.55306	-3.23263	0.00	0.001127
.0		21223304	383			005	09
279856	Chp2	chr7:122219495-	2.938	-1.55489	-2.96251	0.00	0.001127
.0		122222539	122			005	09
185511	Cttnbp2	chr6:18366476-	2.939	-1.5557	-3.05433	0.00	0.001127
.0		18514825	769			005	09
173254	Pygl	chr12:70190814-	2.942	-1.55721	-2.55365	0.00	0.001127
.0		70227683	839			005	09
172030	Cd44	chr2:102811141-	2.943	-1.55759	-3.86466	0.00	0.001127
.0		102901665	626			005	09
195800	Fzd9	chr5:135248937-	2.946	-1.55921	-1.54498	0.00	0.009415
.0		135251047	926			065	56
105951	Ccr2	chr9:124102182-	2.948	-1.56003	-1.88027	0.00	0.002888
.0		124109140	605			015	72
177710	Adamde	chr14:68563386-	2.952	-1.56212	-3.76406	0.00	0.001127
.0	c1	68582072	866			005	09
184891	Irf4	chr13:30749257-	2.960	-1.56585	-2.59704	0.00	0.001127
.0		30766927	509			005	09
171695	Cd37	chr7:45233631-	2.973	-1.57232	-1.72294	0.00	0.003663
.0		45239115	832			02	23
183152	Fndc5	chr4:129137059-	2.977	-1.57432	-2.43785	0.00	0.001127
.0		129144593	945			005	09
170468	Spon2	chr5:33213517-	2.982	-1.57675	-2.86406	0.00	0.001127
.0		33218238	964			005	09
183979	Hist1h2a	chr13:23574380-	2.989	-1.58003	-1.81477	0.00	0.002048
.0	d	23574915	77			01	29
185608	Nkx3-2	chr5:41761482-	2.998	-1.58433	-1.96508	0.00	0.002888
.0		41764220	687			015	72
185418	H2-	chr17:34145415-	3.035	-1.60205	-2.17497	0.00	0.001127
.0	DMb2	34151095	75			005	09
172914	Fmo1	chr1:162829560-	3.041	-1.60465	-1.76407	0.00	0.006444
.0		162866548	22			04	22

166416		chr16:92498146-	3.046			0.00	0.001127
.0	Clic6	92541241	786	-1.60729	-1.88605	005	09
179609		chr15:8634123-8710807	3.049			0.00	0.001127
.0	Slc1a3		451	-1.60855	-2.20634	005	09
177979		chr4:25199908-	3.060			0.00	0.049567
.0	Fhl5	25242876	185	-1.61362	-1.22407	57	8
173317		chr19:43956307-	3.083			0.00	0.006444
.0	Cpn1	43986520	92	-1.62477	-1.69227	04	22
253064		chr5:123876735-	3.085			0.00	0.001127
.0	Hcar1	123880020	954	-1.62572	-2.03712	005	09
178074		chr12:31958478-	3.090			0.00	0.001127
.0	Prkar2b	32061279	606	-1.62789	-2.5411	005	09
281461		chr3:94464984-	3.119			0.00	0.042585
.0	Riiad1	94473591	704	-1.64141	-1.27263	465	1
179454		chr5:86071827-	3.120			0.00	0.036283
.0	Stap1	86103993	663	-1.64185	-1.42264	375	1
139482		chr4:98754891-	3.131			0.00	0.001127
.0	Kank4	98817537	121	-1.64668	-2.08824	005	09
170549		chr3:122882591-	3.131			0.00	0.001127
.0	Fabp2	122924116	833	-1.64701	-3.92125	005	09
166492		chr18:15389393-	3.137			0.00	0.001127
.0	Aqp4	15403684	695	-1.64971	-3.40572	005	09
173256		chr18:46713204-	3.163			0.00	0.001127
.0	Cdo1	46728342	258	-1.66141	-3.40637	005	09
414535		chr7:106156535-	3.193			0.00	0.001127
.0	Gvin1	106215340	325	-1.67506	-2.00109	005	09
183435		chr9:99612501-	3.202			0.00	0.001127
.0	A4gnt	99622367	528	-1.67921	-3.55168	005	09
402387		chr3:79885929-	3.207			0.00	0.001127
.0	Fam198b	79946278	839	-1.6816	-2.73345	005	09
180377		chr1:127954178-	3.232			0.00	0.001127
.0	Zranb3	128103047	17	-1.6925	-2.67883	005	09
180385		chr17:75435904-	3.237			0.00	0.001127
.0	Rasgrp3	75529053	182	-1.69474	-2.52414	005	09
163586		chr1:164062075-	3.244			0.00	0.002048
.0	Sell	164080785	114	-1.69782	-1.80529	01	29
176721		chr8:48099091-	3.244			0.00	0.001127
.0	Dctd	48141667	759	-1.69811	-1.80441	005	09
170010		chr11:28853204-	3.259			0.00	0.001127
.0	Efemp1	28926743	694	-1.70474	-2.61978	005	09
174009		chr7:19689479-	3.287			0.00	0.0242
.0	Apoc1	19692659	064	-1.7168	-1.35976	22	
169659		chr16:22381312-	3.316			0.00	0.001127
.0	Etv5	22439570	418	-1.72963	-4.12123	005	09
170064		chr15:55307749-	3.324			0.00	0.001127
.0	Col14a1	55520803	914	-1.73332	-3.20709	005	09

169644	Col6a5	chr9:105856069-	3.343	-1.74155	-2.77025	0.00	0.001127
.0		105960643	951			005	09
174050	Cyp2c68	chr19:39688835-	3.370	-1.75297	-3.23611	0.00	0.001127
.0		39741101	51			005	09
176969	Car5b	chrX:163976821-	3.383	-1.75841	-2.56232	0.00	0.001127
.0		164028010	251			005	09
176018	Bcl2a1d	chr9:88723287-	3.399	-1.76529	-1.24593	0.01	0.081625
.0		88731850	415			115	2
75408.	Hoxa10	chr6:52231196-	3.403	-1.7672	-3.12625	0.00	0.001127
0		52240854	924			005	09
174342	Cckar	chr5:53698484-	3.506	-1.81002	-2.24258	0.00	0.001127
.0		53707704	483			005	09
173085	Cx3cr1	chr9:120048682-	3.544	-1.82549	-2.38167	0.00	0.001127
.0		120068296	265			005	09
181483	Tmed6	chr8:107061483-	3.552	-1.82891	-1.80628	0.00	0.006444
.0		107065644	691			04	22
172640	Cd36	chr5:17781689-	3.585	-1.8421	-4.08844	0.00	0.001127
.0		17888959	312			005	09
415088	Sis	chr3:72888559-	3.610	-1.85206	-2.709	0.00	0.001127
.0		72966866	162			005	09
182948	Colec10	chr15:54410773-	3.626	-1.85848	-3.00444	0.00	0.001127
.0		54466358	243			005	09
70582.	Cd2	chr3:101275907-	3.664	-1.87365	-1.51519	0.00	0.015281
0		101287939	592			12	2
182656	Ifi2712a	chr12:103433872-	3.676	-1.87837	-1.5156	0.00	0.023807
.0		103443680	586			215	3
395086	Npy4r	chr14:34145645-	3.677	-1.87871	-2.42354	0.00	0.001127
.0		34152419	454			005	09
414272	Zfp493	chr13:67779692-	3.691	-1.88435	-2.11792	0.00	0.001127
.0		67789080	863			005	09
177317	Aplnr	chr2:85136359-	3.699	-1.88719	-2.38233	0.00	0.001127
.0		85139923	136			005	09
407869	Gm1966	chr7:106595548-	3.715	-1.89363	-3.91843	0.00	0.001127
.0		106644645	692			005	09
170250	Btla	chr16:45224336-	3.716	-1.89392	-2.34502	0.00	0.001127
.0		45252895	428			005	09
179583	Pou2af1	chr9:51213689-	3.743	-1.90424	-2.71478	0.00	0.001127
.0		51240079	108			005	09
181205	Rnf32	chr5:29195992-	3.755	-1.90909	-2.82691	0.00	0.001127
.0		29225524	722			005	09
171778	Derl3	chr10:75893397-	3.770	-1.91464	-1.83731	0.00	0.002888
.0		75895941	185			015	72
51081.	Pln	chr10:53278080-	3.785	-1.92046	-2.96347	0.00	0.001127
0		53379851	426			005	09
164741	Cd22	chr7:30865403-	3.795	-1.92426	-2.06832	0.00	0.058480
.0		30880342	421			71	5

181843	Cd19	chr7:126408447-	3.801			0.00	0.001127
.0		126414870	446	-1.92655	-2.45161	005	09
175358	Ccl19	chr4_JH584294_rando	3.846			0.01	0.08576
.0		m:102333-104327	36	-1.94349	-1.24092	19	
171179	Dkkl1	chr7:45207524-	3.851			0.00	0.071513
.0		45211883	024	-1.94524	-1.27691	93	5
176044	Cd79a	chr7:24897510-	3.854			0.00	0.001127
.0		24902197	716	-1.94662	-2.53072	005	09
179035	C1qtnf3	chr15:10952331-	3.857			0.00	0.001127
.0		10980162	404	-1.94763	-3.09087	005	09
182354	Piwil4	chr9:14702357-	3.884			0.00	0.001127
.0		14740733	031	-1.95755	-2.19027	005	09
181473	Diras2	chr13:52504374-	3.903			0.00	0.001127
.0		52530836	774	-1.96487	-2.59927	005	09
177299	Pi16	chr17:29318881-	3.938			0.00	0.001127
.0		29328902	897	-1.97779	-2.01501	005	09
138102	Axin2	chr11:108920348-	3.978			0.00	0.001127
.0		108950781	545	-1.99224	-3.77967	005	09
183389	Klhl30	chr1:91351072-	3.998			0.00	0.002048
.0		91362404	59	-1.99949	-1.9798	01	29
183369	Sval1	chr6:41951627-	4.010			0.00	0.001127
.0		41956098	448	-2.00376	-2.09003	005	09
176209	Nnmt	chr9:48591889-	4.010			0.00	0.023422
.0		48605077	922	-2.00393	-1.48053	21	6
174942	Gabrp	chr11:33550780-	4.023			0.00	0.001127
.0		33578957	271	-2.00837	-2.71654	005	09
182684	H2-Ob	chr17:34238904-	4.130			0.00	0.001127
.0		34245908	318	-2.04625	-2.39968	005	09
176476	Rgs14	chr13:55369731-	4.149			0.00	0.001127
.0		55384687	278	-2.05286	-2.04835	005	09
179045	Cmah	chr13:24327403-	4.167			0.00	0.001127
.0		24477289	55	-2.0592	-5.0068	005	09
75117.	Krt17	chr11:100256216-	4.195			0.00	0.001127
0		100260989	76	-2.06893	-2.14149	005	09
176449	Tnfrsf19	chr14:60963833-	4.287			0.00	0.001127
.0		61046855	756	-2.10022	-3.11342	005	09
184263	Il22ra2	chr10:19622027-	4.298			0.00	0.001127
.0		19634681	171	-2.10372	-2.81745	005	09
166186	Smpx	chrX:157698972-	4.399			0.00	0.005106
.0		157752591	519	-2.13735	-1.67321	03	46
177708	B3galt2	chr1:143607498-	4.424			0.00	0.001127
.0		143702684	162	-2.1454	-3.2534	005	09
173970	Abcd2	chr15:91145870-	4.459			0.00	0.001127
.0		91191807	805	-2.15698	-2.75656	005	09
182110	Cpa2	chr6:30541641-	4.553			0.00	0.023807
.0		30564473	979	-2.18713	-1.64396	215	3

173700	Nr2e3	chr9:59942770-	4.559	-2.18881	-1.98888	0.00	0.002888
.0		59950079	301			015	72
166343	Clps	chr17:28558213-	4.581	-2.19595	-2.71008	0.00	0.001127
.0		28560714	925			005	09
184661	Adrb3	chr8:27225775-	4.582	-2.196	-2.62265	0.00	0.001127
.0		27229588	066			005	09
185567	Samd5	chr10:9627258-9675208	4.623	-2.20908	-3.46108	0.00	0.001127
.0			793			005	09
402157	Igsf10	chr3:59006977-	4.624	-2.20938	-3.41753	0.00	0.001127
.0		59344256	761			005	09
416221	Hoxa11o	chr6:52242104-522497	4.632	-2.21171	-2.75115	0.00	0.001127
.0	s	69	248			005	09
174804	Spsb4	chr9:96943481-970183	4.634	-2.21241	-2.31882	0.00	0.001127
.0		55	491			005	09
166007	Abcg8	chr17:84658233-84700	4.635	-2.21265	-1.94972	0.00	0.001127
.0		333	263			005	09
76219.	Aldh1a2	chr9:71215788-712962	4.758	-2.25047	-2.42804	0.00	0.001127
0		43	368			005	09
170482	Fabp4	chr3:10204342-102085	4.768	-2.25351	-4.6897	0.00	0.001127
.0		76	416			005	09
185129	Slitrk6	chr14:110748577-1107	4.781	-2.25758	-3.02734	0.00	0.001127
.0		55149	892			005	09
175784	Bank1	chr3:136053363-13632	4.826	-2.27084	-2.55691	0.00	0.001127
.0		6046	043			005	09
75244.	Slc34a2	chr5:53049352-530716	5.052	-2.33712	-4.2284	0.00	0.001127
0		63	913			005	09
253028	Cyp2c69	chr19:39842659-39886	5.068	-2.34145	-2.8413	0.00	0.001127
.0		769	105			005	09
173126	Igfbp2	chr1:72824479-728524	5.069	-2.34178	-3.19621	0.00	0.001127
.0		71	279			005	09
179039	Hoxa9	chr6:52223096-522273	5.072	-2.3428	-3.48076	0.00	0.001127
.0		70	851			005	09
165931	Abcg5	chr17:84658233-84700	5.115	-2.35496	-2.52558	0.00	0.001127
.0		333	789			005	09
175359	Mfap5	chr6:122513675-12252	5.207	-2.3806	-2.01988	0.00	0.008230
.0		9287	546			055	54
163633	Ms4a1	chr19:11196816-11299	5.213	-2.38226	-2.82697	0.00	0.001127
.0		884	512			005	09
170098	Slc36a2	chr11:55158467-55185	5.256	-2.39401	-2.53219	0.00	0.001127
.0		077	179			005	09
414637	Adig	chr2:158502611-15850	5.375	-2.42633	-2.05911	0.00	0.005106
.0		8198	256			03	46
170716	Itln1	chr1:171518123-17153	5.615	-2.48934	-3.14712	0.00	0.001127
.0		5294	199			005	09
182095	Rnase6	chr14:51129067-51131	5.714	-2.51462	-1.68064	0.00	0.032981
.0		121	463			33	

173999	Bambi	chr18:3507956–351640	5.794	–2.53462	–3.35299	0.00	0.001127
.0		4	229			005	09
414567	Nxpe2	chr9:48318003–483408	5.800	–2.53624	–5.87884	0.00	0.001127
.0		98	76			005	09
182790	Tnfrsf13	chr15:82221743–82224	6.329	–2.66206	–2.44248	0.00	0.001127
.0	c	336	346			005	09
173017	Cd79b	chr11:106311340–1063	6.359	–2.66887	–3.02033	0.00	0.001127
.0		14529	324			005	09
165735	Rbp7	chr4:149449701–14945	6.378	–2.67311	–1.50671	0.00	0.053238
.0		4968	043			625	6
182689	Hoxa13	chr6:52258852–522608	6.793	–2.76425	–2.67827	0.00	0.001127
.0		80	968			005	09
75064.	Cr2	chr1:195136810–19517	6.963	–2.79985	–3.70056	0.00	0.001127
0		6715	661			005	09
–	Faim3	chr1:130865776–13088	6.976	–2.8026	–2.68292	0.00	0.001127
		0790	974			005	09
180251	Fcrla	chr1:170917593–17092	7.069	–2.82155	–2.20603	0.00	0.002048
.0		7583	224			01	29
178523	Retn	chr8:3655769–3659818	7.123	–2.83264	–3.22888	0.00	0.001127
.0			775			005	09
185203	H2–Oa	chr17:34083842–34095	8.242	–3.043	–1.54636	0.00	0.058781
.0		309	006			715	
173127	Orm1	chr4:63344565–633481	8.648	–3.11243	–1.75379	0.00	0.068206
.0		62	354			87	5
177252	Glb1l2	chr9:26763043–268064	8.707	–3.12225	–3.56685	0.00	0.001127
.0		17	435			005	09
166588	Scd1	chr19:44394449–44407	8.983	–3.16731	–6.70214	0.00	0.001127
.0		709	706			005	09
170342	Cyp2e1	chr7:140763831–14077	9.710	–3.2795	–6.24116	0.00	0.001127
.0		4977	177			005	09
–	Igj	chr5:88519808–885278	9.886	–3.30544	–6.68328	0.00	0.001127
		97	353			005	09
183132	Atp12a	chr14:56365067–56388	9.916	–3.30985	–3.47818	0.00	0.001127
.0		551	638			005	09
174082	Ascl2	chr7:142966821–14296	10.02	–3.32494	–2.89036	0.00	0.007650
.0		9264	091			05	54
414404	Mptx1	chr1:174330517–17433	10.16	–3.345	–4.10213	0.00	0.001127
.0		2877	122			005	09
283903	Plin1	chr7:79721163–797327	10.41	–3.38058	–3.34353	0.00	0.020001
.0		76	492			17	6
402094	Mzb1	chr18:35647264–35649	11.05	–3.46718	–2.12404	0.00	0.023422
.0		367	922			21	6
173117	Pon1	chr6:5168089–5193946	11.29	–3.49784	–3.04992	0.00	0.001127
.0			68			005	09
172585	Thrsp	chr7:97412956–974175	12.28	–3.61898	–3.88777	0.00	0.001127
.0		10	634			005	09

414576	Mptx2	chr1:173274460–17327	12.41	–3.63424	–4.09136	0.00	0.001127
.0		7756	699			005	09
192460	Lgr5	chr10:115450313–1155	12.85	–3.68436	–3.83532	0.00	0.001127
.0		87780	589			005	09
176221	Adipoq	chr16:23146535–23157	13.11	–3.7129	–5.27324	0.00	0.001127
.0		968	277			005	09
172866	Car3	chr3:14863537–148723	19.38	–4.27692	–7.72227	0.00	0.001127
.0		73	564			005	09
170060	Ang4	chr14:51763891–51773	20.24	–4.33973	–4.15379	0.00	0.001127
.0		590	825			005	09
184589	Tgm3	chr2:130012339–13005	25.10	–4.6498	–4.23238	0.00	0.001127
.0		0399	316			005	09
173257	Hoxb13	chr11:96194360–96196	60.51	–5.91929	–3.29252	0.00	0.034122
.0		599	791			345	9

b) DSS vs HMLS

geneName	gene	locus	Fold change	log2FoldChange	test stat	pvalue	q_value(FDR)
407424.0	9130221F2	chr6:72013895–720	8.387918	3.068313	2.15189	0.0007	0.009994
174009.0	1Rik	42528					
170342.0	Apoc1	chr7:19689479–196	7.130193	2.833941	2.36531	0.0005	0.001127
407630.0	Cyp2e1	92659					
174734.0	Cyp2e1	chr7:140763831–14	6.606382	2.72386	4.83909	0.0005	0.001127
176221.0	Gm6086	0774977					
184891.0	Gm6086	chr1:93990508–940	6.366478	2.670495	3.73005	0.0005	0.001127
184537.0	Slc37a2	11539					
22739.0	Slc37a2	chr9:37229148–372	6.143466	2.619053	3.02092	0.0005	0.001127
183182.0	Adipoq	55738					
180764.0	Adipoq	chr16:23146535–23	4.977288	2.31536	3.0987	0.0005	0.001127
172866.0	Irf4	157968					
163213.0	Irf4	chr13:30749257–30	4.685029	2.228058	3.30641	0.0005	0.001127
176154.0	Nr4a3	766927					
176154.0	Nr4a3	chr4:48051247–480	4.239831	2.084007	2.43389	0.0005	0.001127
176154.0	Apob	83352					
176154.0	Apob	chr12:7977676–801	3.73517	1.901174	2.86236	0.0005	0.001127
176154.0	Gpr64	6839					
176154.0	Gpr64	chrX:160390689–1	3.719751	1.895206	2.48844	0.0005	0.001127
176154.0	Psca	60498076					
176154.0	Psca	chr15:74714838–74	3.653655	1.869341	1.71518	0.00275	0.028655
176154.0	St3gal5	717065					
176154.0	St3gal5	chr6:72097607–721	3.378384	1.756333	2.78872	0.0005	0.001127
176154.0	Car3	54570					
176154.0	Car3	chr3:14863537–148	3.040649	1.604379	2.77833	0.0005	0.001127
176154.0	Reg4	72373					
176154.0	Reg4	chr3:98222155–982	3.018338	1.593754	2.15339	0.0005	0.001127
176154.0	Ccl20	36748					
176154.0	Ccl20	chr1:83116765–831	2.940234	1.555931	1.87697	0.0001	0.002048
176154.0		19167					

173410.0	Slc20a1	chr2:129198772–129211612	2.858533	1.515275	2.8914	0.00005	0.001127
184830.0	Gal3st2	chr1:93861343–93876494	2.720476	1.443859	2.44966	0.00005	0.001127
173213.0	Inmt	chr6:55170626–55174990	2.697498	1.431622	1.60705	0.0032	0.032175
253028.0	Cyp2c69	chr19:39842659–39886769	2.643077	1.402219	1.5666	0.002	0.022581
176969.0	Car5b	chrX:163976821–164028010	2.610198	1.384159	1.88822	0.00025	0.004403
163635.0	Rnf152	chr1:105276916–105356710	2.589688	1.372779	1.88585	0.00015	0.002889
181434.0	Akr1b7	chr6:34412361–34423137	2.558682	1.355401	2.09808	0.00005	0.001127
139973.0	Arc	chr15:74669080–74672570	2.510023	1.327701	1.94941	0.0001	0.002048
173171.0	Slc27a2	chr2:126553023–126588243	2.462724	1.300255	2.00228	0.00005	0.001127
174244.0	Ttc39c	chr18:12643532–12737052	2.461035	1.299265	1.54884	0.00225	0.024629
170992.0	Rarres1	chr3:67478885–67515523	2.379618	1.25073	1.98368	0.00005	0.001127
175690.0	Afm	chr5:90518948–90553544	2.372774	1.246575	1.88464	0.0002	0.003663
172526.0	Cyp4b1	chr4:115624727–115647705	2.371862	1.24602	2.94425	0.00005	0.001127
170482.0	Fabp4	chr3:10204342–10208576	2.305818	1.205279	2.45924	0.00005	0.001127
179609.0	Slc1a3	chr15:8634123–8710807	2.245009	1.166721	1.50258	0.0025	0.026679
183340.0	Acss3	chr10:106936163–107123664	2.200352	1.137734	1.2665	0.00825	0.065505
181644.0	Slc47a1	chr11:61343399–61378075	2.144232	1.100461	1.35365	0.0055	0.048268
173254.0	Pygl	chr12:70190814–70227683	2.118086	1.082761	1.73879	0.0006	0.008849
166588.0	Scd1	chr19:44394449–44407709	2.079217	1.05604	2.50797	0.00005	0.001127
165120.0	Gdf15	chr8:70629393–70631635	2.06147	1.043673	1.26965	0.00555	0.048566
176376.0	Edn1	chr13:42301269–42307989	2.045463	1.032428	2.4477	0.00005	0.001127
171325.0	Lpl	chr8:68880554–68906932	2.038164	1.02727	2.26802	0.00005	0.001127
165942.0	Slc26a3	chr12:31438218–31473919	2.03679	1.026297	2.05526	0.00005	0.001127
172749.0	Hmox1	chr8:75093617–75100593	2.027379	1.019616	1.79696	0.00035	0.005791
414079.0	Ces2b	chr8:104831643–104838652	2.025902	1.018565	1.96021	0.00025	0.004403
178694.0	Rtn4r	chr16:18127705–18152408	2.000389	−1.00028	−1.30688	0.00785	0.063046

170782.0	Retnlb	chr16:48816855–48818892	2.005034	−1.00363	−2.01152	0.00005	0.001127
175024.0	Gcat	chr15:79030873–79043558	2.005048	−1.00364	−1.34304	0.0053	0.046913
164830.0	Clca2	chr3:144796558–144819494	2.00547	−1.00394	−1.53984	0.0014	0.017247
414511.0	Apol10a	chr15:77477046–77491069	2.014357	−1.01032	−1.83574	0.00015	0.002889
171841.0	Psat1	chr19:15905122–15925059	2.015622	−1.01122	−1.3529	0.00615	0.052599
181610.0	Ltb	chr17:35194506–35196305	2.02228	−1.01598	−1.30824	0.0089	0.069316
178632.0	Ntrk2	chr13:58806568–59133970	2.023495	−1.01685	−1.56558	0.0022	0.0242
71796.0	Muc1	chr3:89229055–89233381	2.030176	−1.0216	−1.77513	0.00035	0.005791
183637.0	Hist1h2bb	chr13:23746733–23747223	2.033059	−1.02365	−1.63958	0.0006	0.008849
164470.0	Bcl3	chr7:19808461–19822755	2.037051	−1.02648	−1.99089	0.00005	0.001127
170410.0	Fos	chr12:85473900–85477270	2.041034	−1.0293	−2.37388	0.00005	0.001127
182425.0	Hist1h2ai	chr13:21716411–21716859	2.04289	−1.03061	−1.25593	0.0117	0.084685
174076.0	Mthfd2	chr6:83305703–83317604	2.047316	−1.03373	−1.3728	0.00585	0.050619
179950.0	Gzma	chr13:113093826–113100981	2.049523	−1.03529	−1.26424	0.00855	0.067287
425954.0	Hist1h2ac	chr13:23683472–23683959	2.05539	−1.03941	−1.3742	0.00425	0.03984
182716.0	Hist1h3f	chr13:23544051–23544954	2.055465	−1.03946	−1.88026	0.00015	0.002889
171407.0	Cd74	chr18:60803848–60812652	2.067913	−1.04818	−2.61679	0.00005	0.001127
183918.0	Reg3a	chr6:78380708–78383839	2.076023	−1.05382	−1.43165	0.00505	0.045341
184547.0	Adamtsl2	chr2:27079380–27108613	2.087294	−1.06163	−1.51994	0.00205	0.023019
170411.0	Tnf	chr17:35199366–35202007	2.088485	−1.06246	−1.6644	0.0008	0.01109
183336.0	Fam83c	chr2:155829182–155834854	2.090378	−1.06376	−1.36455	0.0058	0.050264
175945.0	P2ry6	chr7:100937633–100964366	2.092966	−1.06555	−1.45507	0.0029	0.029841
414088.0	Hilpda	chr6:29272487–29275449	2.096139	−1.06773	−1.67228	0.00105	0.013805
172355.0	Ier3	chr17:35821712–35822911	2.102287	−1.07196	−1.94336	0.00005	0.001127
171902.0	Prc1	chr7:80294450–80316259	2.112083	−1.07867	−1.65572	0.00085	0.011634
179929.0	Myl7	chr11:5896636–5898782	2.121427	−1.08504	−1.23415	0.0106	0.078673

414460.0	Gm11545	chr11:94755135–94761182	2.121841	−1.08532	−2.55356	0.00005	0.001127
181157.0	Espl1	chr15:102296292–102324356	2.121888	−1.08535	−1.55066	0.001	0.013277
182195.0	S1pr2	chr9:20965951–20976793	2.12457	−1.08717	−1.30852	0.0099	0.074898
181464.0	E2f8	chr7:48866428–48881041	2.141377	−1.09854	−1.57272	0.00145	0.01771
169646.0	Selplg	chr5:113817797–113830501	2.14968	−1.10412	−1.34314	0.0075	0.060916
163427.0	Pyy	chr11:102106675–102107776	2.156487	−1.10868	−2.13015	0.00005	0.001127
164453.0	H2–Ab1	chr17:34263226–34269418	2.167017	−1.11571	−2.24146	0.00005	0.001127
293627.0	Art2a–ps	chr7:101552452–101560865	2.173075	−1.11974	−1.60446	0.0012	0.015281
175897.0	Gtse1	chr15:85859706–85876573	2.176153	−1.12178	−1.41231	0.0029	0.029841
67660.0	Rbp4	chr19:38116619–38125321	2.218409	−1.14953	−1.53316	0.00225	0.024629
414404.0	Mptx1	chr1:174330517–174332877	2.227431	−1.15538	−1.78104	0.0003	0.005106
414254.0	Igsf23	chr7:19937304–19950743	2.236639	−1.16133	−1.62929	0.0015	0.01817
165782.0	Uhrf1	chr17:56303336–56323486	2.242647	−1.1652	−1.65866	0.00025	0.004403
281370.0	Wfdc18	chr11:83709003–83711360	2.250719	−1.17039	−1.27734	0.0093	0.071514
172682.0	Hck	chr2:153108467–153151441	2.256693	−1.17421	−1.60982	0.001	0.013277
171097.0	Gzmb	chr14:56258857–56262260	2.260066	−1.17636	−1.21751	0.0106	0.078673
166363.0	Gbp5	chr3:142496933–142522344	2.26033	−1.17653	−1.45932	0.00305	0.031017
177206.0	Fcgr2b	chr1:170960558–170976071	2.264201	−1.179	−1.73652	0.00075	0.010538
183728.0	Hist2h2ac	chr3:96220412–96220880	2.267001	−1.18079	−2.09438	0.00005	0.001127
99199.0	Zbp1	chr2:173206611–173218922	2.269611	−1.18245	−1.82094	0.00005	0.001127
175987.0	Cd52	chr4:134093537–134095073	2.270349	−1.18291	−1.39025	0.0062	0.05294
181952.0	Hist1h2bh	chr13:23542922–23543444	2.278111	−1.18784	−1.48834	0.0013	0.016292
178337.0	Ido1	chr8:24584140–24597009	2.306393	−1.20564	−2.26174	0.00005	0.001127
167482.0	Slc11a2	chr15:100387899–100423055	2.315889	−1.21157	−2.32524	0.00005	0.001127
166618.0	Tac4	chr11:95261528–95269261	2.318531	−1.21321	−1.20829	0.012	0.08629
181308.0	Vgf	chr5:137030294–137033351	2.330741	−1.22079	−1.39495	0.0055	0.048268

185288.0	Hist2h3b	chr3:96268653–96269155	2.331735	−1.2214	−1.67777	0.0009	0.012199
172246.0	Pbk	chr14:65805910–65817822	2.332086	−1.22162	−1.49562	0.00295	0.030228
414570.0	Spdl1	chr11:34809184–34833641	2.337862	−1.22519	−1.3423	0.00505	0.045341
72099.0	Duox1	chr2:122315671–122347972	2.36728	−1.24323	−1.8591	0.00015	0.002889
414190.0	1700066B19Rik	chr18:35726988–35730869	2.396925	−1.26118	−1.76984	0.0006	0.008849
175923.0	Ifitm1	chr7:140967428–140969827	2.39815	−1.26192	−1.60007	0.0007	0.009994
171090.0	Ly6a	chr15:74994876–74998031	2.41068	−1.26944	−2.31968	0.00005	0.001127
173632.0	Crlf2	chr5:109554708–109558993	2.418764	−1.27427	−1.78326	0.00065	0.009416
172187.0	Steap4	chr5:7960471–7982213	2.454646	−1.29552	−2.80087	0.00005	0.001127
182729.0	Msc	chr1:14753345–14755966	2.458792	−1.29795	−1.3411	0.01145	0.083315
173902.0	Cyth4	chr15:78597046–78622019	2.459311	−1.29825	−1.64397	0.0012	0.015281
183375.0	Hist1h1b	chr13:21779831–21780625	2.460272	−1.29882	−2.14037	0.00005	0.001127
171194.0	H2-DMb1	chr17:34153190–34160229	2.463292	−1.30059	−1.34541	0.00865	0.067883
148253.0	Inhbb	chr1:119415464–119422248	2.475899	−1.30795	−1.8761	0.00035	0.005791
176379.0	B3gnt7	chr1:86303220–86307305	2.48503	−1.31326	−2.67798	0.00005	0.001127
176117.0	Srpx2	chrX:133908424–133932446	2.486326	−1.31402	−1.69431	0.0007	0.009994
175816.0	Gna14	chr19:16435666–16610818	2.49822	−1.3209	−3.03015	0.00005	0.001127
173934.0	Lmcd1	chr6:112273757–112330423	2.509936	−1.32765	−1.44274	0.00735	0.059934
176081.0	Adamts4	chr1:171250421–171259922	2.510667	−1.32807	−2.11297	0.00005	0.001127
170842.0	Pcsk9	chr4:106442333–106464325	2.549907	−1.35044	−2.1199	0.00005	0.001127
179221.0	Cartpt	chr13:99898482–99900683	2.568717	−1.36105	−1.54442	0.003	0.030616
181479.0	Spink3	chr18:43728068–43737237	2.572398	−1.36311	−1.96542	0.00015	0.002889
177151.0	Fkbp11	chr15:98724367–98728198	2.572991	−1.36345	−1.53717	0.00275	0.028655
402067.0	Plet1	chr9:50488798–50505639	2.594962	−1.37571	−3.36581	0.00005	0.001127
179153.0	Prss22	chr17:23993533–23998100	2.622706	−1.39106	−1.60632	0.00155	0.018643
185103.0	Fut2	chr7:45648590–45666394	2.628898	−1.39446	−3.30995	0.00005	0.001127

173260.0	Serpina3n	chr12:104406707–104414329	2.634989	−1.3978	−2.79153	0.00005	0.001127
415180.0	Wfdc17	chr11:83704055–83706269	2.665192	−1.41424	−1.46025	0.0037	0.035959
183611.0	Abo	chr2:26842502–26864995	2.666688	−1.41505	−1.46318	0.0035	0.034474
183026.0	Hist1h3h	chr13:21717627–21718115	2.675016	−1.41955	−1.46419	0.00485	0.043928
179945.0	Reg3g	chr6:78466267–78468874	2.691739	−1.42854	−2.26481	0.00005	0.001127
395039.0	Hist1h2bl	chr13:21715712–21716143	2.743763	−1.45616	−1.90802	0.00005	0.001127
192597.0	Hist1h3d	chr13:23575762–23576266	2.761101	−1.46524	−1.62097	0.0011	0.014289
165053.0	Pirb	chr7:3712504–3720382	2.769784	−1.46977	−1.70017	0.0009	0.012199
178636.0	Socs3	chr11:117966086–117969366	2.773546	−1.47173	−3.14701	0.00005	0.001127
166064.0	Gfap	chr11:102887335–102897200	2.774915	−1.47244	−2.38041	0.00005	0.001127
183480.0	Hist1h2bj	chr13:22043229–22043658	2.789453	−1.47998	−1.39807	0.0067	0.055957
184204.0	Hist1h3c	chr13:23745041–23745521	2.812058	−1.49163	−1.9843	0.0001	0.002048
405688.0	Mfsd2a	chr4:122946850–122961188	2.819024	−1.4952	−1.84534	0.0009	0.012199
176574.0	Pla2g5	chr4:138799246–138863469	2.82741	−1.49948	−1.52535	0.00665	0.055688
183483.0	Hist1h3a	chr13:23761884–23762386	2.845213	−1.50854	−1.95138	0.00015	0.002889
72100.0	Duox2	chr2:122280436–122298165	2.860344	−1.51619	−3.67558	0.00005	0.001127
414576.0	Mptx2	chr1:173274460–173277756	2.869154	−1.52063	−1.62651	0.00145	0.01771
185751.0	Nt5c1a	chr4:123201552–123216207	2.884187	−1.52816	−1.58034	0.0014	0.017247
176157.0	Slpi	chr2:164354069–164356507	2.89436	−1.53324	−1.65617	0.00205	0.023019
183825.0	Dhrs9	chr2:69380461–69403086	2.898687	−1.5354	−2.9569	0.00005	0.001127
182524.0	Ppy	chr11:102099930–102101300	2.906495	−1.53928	−1.6924	0.00185	0.021274
176523.0	Ankle1	chr8:71406011–71409904	2.908506	−1.54028	−1.58521	0.0019	0.021671
182944.0	Tnfrsf23	chr7:143665806–143685872	2.921501	−1.54671	−2.0049	0.00045	0.007066
183979.0	Hist1h2ad	chr13:23574380–23574915	2.988922	−1.57963	−1.31345	0.01075	0.079433
185322.0	Hist1h2bm	chr13:21722043–21722526	3.000175	−1.58505	−1.93124	0.00005	0.001127
176596.0	Duoxa2	chr2:122298899–122302885	3.04593	−1.60688	−3.0553	0.00005	0.001127

170747.0	Mmp3	chr9:7445821–7455974	3.075811	−1.62097	−1.87782	0.00065	0.009416
75829.0	Bhmt	chr13:93616890–93637758	3.128745	−1.64558	−1.69469	0.0004	0.006444
184265.0	Hist1h2af	chr13:23533910–23534378	3.138705	−1.65017	−1.84349	0.00025	0.004403
180833.0	Usp18	chr6:121245905–121270917	3.17865	−1.66841	−1.80388	0.00055	0.008231
163678.0	Alpl	chr4:137741730–137796384	3.186899	−1.67215	−2.13949	0.00005	0.001127
184298.0	Hist1h3g	chr13:23535417–23535909	3.245126	−1.69827	−1.86567	0.00025	0.004403
177502.0	Hba-a1,Hba-a2	chr11:32296488–32297310	3.279442	−1.71345	−1.75943	0.0063	0.053577
185692.0	Hist1h2bk	chr13:22035820–22036320	3.297051	−1.72118	−2.04715	0.0001	0.002048
183369.0	Sval1	chr6:41951627–41956098	3.309872	−1.72678	−1.53098	0.01015	0.076215
425957.0	Hist1h2bn	chr13:21754122–21754553	3.311166	−1.72734	−2.60994	0.00005	0.001127
183994.0	Hist1h2ak	chr13:21753376–21753912	3.591268	−1.84449	−2.66123	0.00005	0.001127
414928.0	Slc25a48	chr13:56438354–56472363	3.655807	−1.87019	−1.68197	0.00235	0.025474
–	AI747448	chr3:144910920–144932529	3.676088	−1.87817	−3.19806	0.00005	0.001127
164954.0	Ins15	chr4:103017872–103026842	3.678419	−1.87909	−1.73136	0.00105	0.013805
192274.0	Hbb-b1,Hbb-bs	chr7:103826522–103827929	3.740063	−1.90306	−2.1949	0.0077	0.062179
176144.0	Cck	chr9:121489823–121495694	3.740977	−1.90342	−1.88819	0.0007	0.009994
183736.0	Hist1h2ab	chr13:23751087–23751592	3.771626	−1.91519	−2.31522	0.00005	0.001127
183631.0	Hist1h1a	chr13:23763667–23764412	3.885443	−1.95808	−2.99667	0.00005	0.001127
170750.0	Mmp10	chr9:7502341–7510242	3.891669	−1.96039	−1.89501	0.00085	0.011634
177765.0	Slc16a3	chr11:120948483–120959000	4.289316	−2.10075	−3.36771	0.00005	0.001127
175362.0	Ly6d	chr15:74762055–74763567	4.357076	−2.12336	−1.72609	0.0059	0.050928
174010.0	Chrdl2	chr7:100006403–100034726	4.390603	−2.13442	−1.7766	0.0018	0.020852
183731.0	Ccl8	chr11:82115184–82116799	4.499278	−2.16969	−1.48307	0.0135	0.094262
22614.0	Prss27	chr17:24038242–24045949	5.023378	−2.32866	−1.72152	0.00615	0.052599
180359.0	Hist1h2ag	chr13:22042477–22042949	5.055756	−2.33793	−1.85098	0.0056	0.048905
192596.0	Hist1h3b	chr13:23752379–23752840	5.087396	−2.34693	−2.32035	0.00005	0.001127

181695.0	Lcn2	chr2:32384636–32387739	5.134062	−2.3601	−3.40083	0.00005	0.001127
184270.0	Hist1h2ah	chr13:22035121–22035643	5.565839	−2.4766	−1.92164	0.0009	0.012199
414914.0	C2cd4b	chr9:67759436–67760933	6.122592	−2.61414	−2.72475	0.00005	0.001127
176552.0	Lrg1	chr17:56119677–56121946	6.525255	−2.70603	−4.00504	0.00005	0.001127
70021.0	Nos2	chr11:78920858–78960124	7.754095	−2.95496	−5.0549	0.00005	0.001127

c) DSS vs TM

geneName	gene	locus	Fold change	log2FoldChange	test stat	pvalue	q_value(FDR)
179687.0	Hba-a2	chr11:32296488–32297310	12.92057	3.691598	0.374527	0.32445	0.700557
414528.0	Tgtp1	chr11:48985328–48992246	11.85759	3.567739	3.66329	0.00005	0.001127
402094.0	Mzb1	chr18:35647264–35649367	9.901264	3.307613	1.99123	0.00395	0.03777
171726.0	Iigp1	chr18:60376028–60392629	7.077632	2.823267	4.32629	0.00005	0.001127
414780.0	Gm12250	chr11:58183842–58190198	5.954233	2.573916	3.39188	0.00005	0.001127
407952.0	Gm4951	chr18:60212076–60247820	5.851957	2.548919	2.47559	0.00005	0.001127
414157.0	Tgtp2	chr11:49037659–49135387	5.718236	2.51557	1.57387	0.10585	0.380208
–	Igj	chr5:88519808–88527897	4.550014	2.185871	4.18693	0.00005	0.001127
262510.0	Gbp2b	chr3:142594846–142619176	4.521273	2.176729	3.63899	0.00005	0.001127
183284.0	Gbp10	chr5:105215698–105239533	4.435864	2.149215	2.74856	0.00005	0.001127
163213.0	Reg4	chr3:98222155–98236748	4.418831	2.143665	2.63889	0.00005	0.001127
170073.0	Igtp	chr11:58199555–58207592	4.212994	2.074846	3.1932	0.00005	0.001127
173974.0	Gbp3	chr3:142560051–142573212	4.16808	2.059383	3.15545	0.00005	0.001127
172627.0	Gbp6	chr5:105270701–105293699	4.161501	2.057104	3.02665	0.00005	0.001127
176452.0	Cxcl10	chr5:92331840–92414627	4.02621	2.009422	0.769872	0.34775	0.72304
164558.0	Gbp2	chr3:142620662–142638008	3.804726	1.927793	3.16664	0.00005	0.001127
179583.0	Pou2af1	chr9:51213689–51240079	3.648893	1.867459	2.65931	0.00005	0.001127
176040.0	Ubd	chr17:37193891–37196101	3.608382	1.851352	2.65429	0.00005	0.001127

415887.0	1810008118Rik	chr7:65804051–65806223	3.418994	1.773572	1.02815	0.0514	0.239825
171357.0	Cxcl9	chr5:92321330–92328079	3.387345	1.760155	1.725	0.0002	0.003663
179146.0	Fcrl1	chr3:87376386–87392133	3.374233	1.754559	1.46565	0.03975	0.202383
173017.0	Cd79b	chr11:106311340–106314529	3.325521	1.73358	1.85766	0.0004	0.006444
–	Faim3	chr1:130865776–130880790	3.268294	1.708538	1.56378	0.0021	0.023423
407575.0	1700084E18Rik	chr2:30237197–30237631	3.257831	1.703912	0.886578	0.0943	0.354554
185497.0	Gbp4	chr5:105115766–105139586	3.12561	1.644138	2.75934	0.00005	0.001127
–	AF251705	chr11:114996768–115001880	3.122399	1.642655	1.39267	0.0076	0.061486
185553.0	Glycam1	chr15:103562759–103565081	3.104583	1.634399	1.67667	0.04305	0.213328
173131.0	Serpina1b	chr12:103728155–103738189	3.019033	1.594087	1.49591	0.00295	0.030228
414393.0	Gbp7	chr3:142530335–142550151	2.917293	1.54463	2.95972	0.00005	0.001127
70582.0	Cd2	chr3:101275907–101287939	2.895436	1.53378	1.24636	0.0106	0.078673
176154.0	Ccl20	chr1:83116765–83119167	2.881445	1.526793	1.84803	0.00015	0.002889
192576.0	H2–Q8	chr17:35424846–35428361	2.845101	1.50848	0.908229	0.12705	0.424576
178067.0	Dusp2	chr2:127336158–127338377	2.833154	1.502409	1.35306	0.00485	0.043928
170250.0	Btla	chr16:45224336–45252895	2.690081	1.427649	1.72061	0.0007	0.009994
182684.0	H2–Ob	chr17:34238904–34245908	2.669609	1.416629	1.60336	0.0016	0.019104
163586.0	Sell	chr1:164062075–164080785	2.6605	1.411697	1.47969	0.00215	0.023807
175778.0	Ifi44	chr3:151730922–151749959	2.630894	1.395553	1.51816	0.0012	0.015281
175530.0	Cxcl11	chr5:92331840–92414627	2.595057	1.375766	0.593097	0.264	0.634581
173174.0	G6pc	chr11:101367729–101377903	2.558974	1.355565	1.32027	0.0062	0.052939
175975.0	Ms4a6b	chr19:11518558–11530403	2.539186	1.344366	1.67172	0.0008	0.01109
182624.0	Bcl2a1b	chr9:89199272–89207838	2.49481	1.31893	1.09977	0.01825	0.117115
171048.0	Cldn1	chr16:26356645–26371839	2.427728	1.279607	1.40093	0.0031	0.031432
178337.0	Ido1	chr8:24584140–24597009	2.421007	1.275607	2.11229	0.0001	0.002048
71194.0	Pax5	chr4:44531505–44710440	2.400564	1.263373	1.03317	0.266	0.636632

177189.0	Cxcl1	chr5:90891244–90893115	2.358305	1.23775	1.21152	0.0095	0.07263
175995.0	Lgals2	chr15:78842646–78855529	2.288338	1.1943	0.399656	0.6064	0.893868
178846.0	Hhip	chr8:79965850–80058008	2.288213	1.194221	2.01286	0.00005	0.001127
165381.0	Nrg1	chr8:31818027–31918203	2.287523	1.193786	1.64511	0.0011	0.014289
175573.0	Gpnmb	chr6:49036517–49058182	2.268714	1.181875	1.52671	0.0015	0.01817
356999.0	Atcayos	chr10:81194690–81230779	2.253494	1.172164	0.44495	0.52015	0.848056
171495.0	Ifit3	chr19:34583528–34588982	2.251202	1.170696	1.41666	0.003	0.030616
173442.0	Grem1	chr2:113748674–113758648	2.249437	1.169564	1.86957	0.0001	0.002048
177105.0	Fam46c	chr3:100471535–100489192	2.232495	1.158657	1.45752	0.00115	0.014794
172882.0	Vcam1	chr3:116110019–116129688	2.2186	1.149649	2.1241	0.00005	0.001127
169652.0	Pitx2	chr3:129199877–129219594	2.217374	1.148852	1.07527	0.4166	0.780664
180353.0	Crabp1	chr9:54764747–54773110	2.212323	1.145562	0.928672	0.03365	0.180533
71632.0	H19	chr7:142575531–142578146	2.191199	1.131721	1.09342	0.01405	0.097131
181906.0	Pla2g2d	chr4:138775734–138782143	2.185348	1.127863	1.25345	0.0092	0.070954
191952.0	Ciita	chr16:10480071–10527564	2.183852	1.126875	1.95562	0.00005	0.001127
175075.0	Madcam1	chr10:79664573–79668536	2.171303	1.118561	1.18591	0.007	0.057937
172767.0	Tm4sf5	chr11:70505273–70511183	2.156634	1.108782	0.99514	0.02925	0.163834
178787.0	Kcnj11	chr7:46097122–46100764	2.156319	1.108571	1.35027	0.0032	0.032175
182694.0	Bmp5	chr9:75775364–75899017	2.149502	1.104003	1.65476	0.0005	0.007651
414935.0	Irgm2	chr11:58214976–58222783	2.142161	1.099067	1.8895	0.0003	0.005106
166324.0	Il2rg	chrX:101264386–101268206	2.103804	1.073	1.35241	0.00245	0.026289
57925.0	Mpeg1	chr19:12460778–12465285	2.100462	1.070707	2.35191	0.00005	0.001127
177302.0	Cd4	chr6:124864692–124888209	2.094733	1.066766	1.52863	0.00095	0.012738
179930.0	Fxyd7	chr7:31042514–31051454	2.089451	1.063124	0.952011	0.0393	0.200811
163633.0	Ms4a1	chr19:11196816–11299884	2.084037	1.059381	1.18026	0.0184	0.117836
181753.0	Il7r	chr15:9506158–9529876	2.083077	1.058716	1.40449	0.0036	0.035237

171089.0	Lyz2	chr10:117277540–17282272	2.064672	1.045913	2.60578	0.00005	0.001127
182689.0	Hoxa13	chr6:52258852–52260880	2.059453	1.042261	0.941324	0.03285	0.177678
183707.0	Spink4	chr4:40920055–40931395	2.058826	1.041822	2.10409	0.00005	0.001127
185418.0	H2-DMb2	chr17:34145415–34151095	2.041485	1.029619	1.36758	0.003	0.030616
180223.0	Cxcr5	chr9:44511786–44526421	2.027216	1.0195	1.15082	0.0122	0.087367
415052.0	Gm13547	chr2:29761527–29764089	2.017331	1.012448	0.727386	0.1035	0.375072
415159.0	Trim30a	chr7:104409025–104465193	2.00992	1.007138	1.43316	0.0018	0.020852
175213.0	Ttr	chr18:20665249–20674326	2.001647	1.001187	1.09223	0.01265	0.089776
179945.0	Reg3g	chr6:78466267–78468874	2.004592	−1.00331	−1.67565	0.0005	0.007651
179643.0	Nptxr	chr15:79786350–79834333	2.021934	−1.01574	−0.642511	0.1464	0.461662
414511.0	Apol10a	chr15:77477046–77491069	2.03877	−1.0277	−1.92379	0.00005	0.001127
179153.0	Prss22	chr17:23993533–23998100	2.100924	−1.07102	−1.26266	0.00515	0.04597
176861.0	Esco2	chr14:65819026–65833969	2.131263	−1.09171	−1.2336	0.00585	0.050619
176552.0	Lrg1	chr17:56119677–56121946	2.151763	−1.10552	−1.96439	0.00005	0.001127
183794.0	Lingo4	chr3:94399218–94404501	2.155636	−1.10811	−1.20149	0.01025	0.076752
285101.0	Ciart	chr3:95871521–95891930	2.207856	−1.14265	−1.24577	0.0151	0.102259
166964.0	Tnni1	chr1:135799420–135810989	2.261054	−1.177	−1.17218	0.0109	0.080268
179004.0	Hspa1a	chr17:34969358–34972156	2.286212	−1.19296	−1.68585	0.00025	0.004403
178523.0	Retn	chr8:3655769–3659818	2.293081	−1.19729	−1.00776	0.1333	0.437247
179897.0	Steap1	chr5:5736321–5749317	2.299827	−1.20153	−1.10017	0.01735	0.113139
407131.0	E130304I02Rik	chr7:35772345–35838074	2.533212	−1.34097	−0.228844	0.39625	0.764665
359500.0	Gm5741	chr8:85067567–85067982	2.538212	−1.34381	−0.731293	0.2083	0.563207
173146.0	Ggt1	chr10:75573592–75586182	2.573497	−1.36373	−2.50962	0.00005	0.001127
172866.0	Car3	chr3:14863537–14872373	2.587867	−1.37176	−2.01996	0.00005	0.001127
416416.0	Speer8-ps1	chr5:14945293–14978899	2.727289	−1.44747	−1.33237	0.0062	0.052939
402345.0	Erich4	chr7:25614620–25615892	2.80232	−1.48662	−1.41152	0.00285	0.029458

–	Speer7–p s1	chr5:15680709–157 14596	2.806654	–1.48885	–1.334 42	0.007 3	0.059713
181002. 0	Lars2	chr9:123366939–12 3462664	2.870456	–1.52128	–2.765 7	0.000 05	0.001127
186116. 0	Hspa1b	chr17:34956428–34 959238	2.877005	–1.52457	–2.585 24	0.000 05	0.001127
175362. 0	Ly6d	chr15:74762055–74 763567	2.91744	–1.5447	–1.286 95	0.008 5	0.067015
–	AI747448	chr3:144910920–14 4932529	3.721494	–1.89588	–3.476 45	0.000 05	0.001127
176057. 0	Bcl2l15	chr3:103193822–10 3854618	3.740779	–1.90334	–0.172 933	0.254 2	0.622593
182926. 0	Olfr1373	chr11:52144592–52 145528	3.749496	–1.9067	–1.382 91	0.022 65	0.136572
410237. 0	Mir6360	chr18:23752332–23 893861	3.836949	–1.93996	–3.344 64	0.312 15	0.687406
407196. 0	Snora31	chr14:75845255–75 848303	4.190537	–2.06713	–5.174 1	0.432 25	0.791828
407726. 0	Atp6v0c– ps2	chr17:24163864–24 169429	4.454726	–2.15534	–0.438 546	0.560 85	0.870189
407817. 0	Gm8580	chr10:93641048–93 745972	4.475863	–2.16217	–0.459 424	0.299 8	0.674345
182209. 0	Prl2a1	chr13:27801654–27 808716	6.222979	–2.63761	–1.937 74	0.000 55	0.008231
174734. 0	Slc37a2	chr9:37229148–372 55738	6.833108	–2.77254	–3.455 11	0.000 05	0.001127
421642. 0	Mir8094	chr17:35241745–35 253707	9.980663	–3.31914	–21.79 56	0.174 15	0.510004
414196. 0	Eif3j1,Eif3 j2	chr2:122028579–12 2118386	13.87965	–3.7949	–0.899 307	0.232 25	0.595581
173116. 0	Btg3	chr16:78359859–78 376785	160.3361	–7.32496	–0.464 994	0.371 55	0.743718
192252. 0	H2–Q6,H 2–Q8	chr17:35424846–35 428361	491.5405	–8.94117	–0.122 645	0.233 55	0.597229

Table S3. Differentially expressed genes list not specified in DAVID of each group.

a) CON vs DSS

gene symbol	Fold change	p-value
2610018G03Rik	0.411466	0.00085
2810442I21Rik	0.432258	0.00235
5430435G22Rik	0.353589	0.0001
AI747448	50.5698	0.00005
BC021614	2.509429	0.0016
C920025E04Rik	2.13661	0.00075
Clca3	0.392292	0.00005
Emr1	0.440936	0.00015
Faim3	0.143329	0.00005

Gm14378	2.622575	0.00005
Gp49a	3.029057	0.0014
Igj	0.10115	0.00005
Ptplad2	0.395848	0.00005
Tmem35	0.353355	0.00005

b) DSS vs HMLS

gene symbol	Fold change	p-value
AI747448	3.676088	0.00005
Gpr64	3.719751	0.00005
Spink3	2.572398	0.00015

c) DSS vs TM

gene symbol	Fold change	p-value
AI747448	0.268709	0.00005
Speer7-ps1	0.356296	0.0073
AF251705	3.122399	0.0076
Faim3	3.268294	0.0021
Igj	4.550014	0.00005

Table S4. Detailed functional enrichment analysis of differentially expressed gene between DSS group and each group.

a) CON vs DSS								
Category	Term	Count	%	p	List Total	Fold Enrichment	Benjamini	FDR
GOTERM_CC_DIRECT	GO:0005576~extracellular region	157	20.3679	5.47E-27	715	2.462858	2.24E-24	7.65E-24
GOTERM_CC_DIRECT	GO:0005615~extracellular space	116	15.0259	1.12E-14	715	2.120957	2.30E-1	1.57E-1
GOTERM_CC_DIRECT	GO:0070062~extracellular exosome	166	21.5025	1.66E-19	715	1.707137	2.27E-1	2.33E-09
KEGG_PATHWAY	mmu04640:Hematopoietic cell lineage	221	2.84974	7.94E-1	345	5.769889	2.00E-0	1.03E-07
GOTERM_CC_DIRECT	GO:0009986~cell surface	583	7.51295	2.14E-1	715	2.535707	2.19E-0	2.99E-07

GOTERM_			4.79	1.36					
CC_DIREC	GO:0005578~proteinaceous	37	274	E-0	715	3.2198	1.12	1.91	
T	extracellular matrix		6	9		55	E-0	E-0	
GOTERM_			4.79	1.49					
CC_DIREC	GO:0009897~external side of plasma	37	274	E-0	715	3.2096	1.02	2.08	
T	membrane		6	9		98	E-0	E-0	
GOTERM_			1.42	3.72					
BP_DIREC	GO:0006953~acute-phase response	11	487	E-0	673	8.4441	0.00	6.72	
T				7		52	115	E-0	
GOTERM_			2.72	9.46					
MF_DIREC	GO:0008201~heparin binding	21	020	E-0	655	3.7042	8.74	0.00	
T			7	7		21	E-0	147	
GOTERM_			1.29	1.67					
BP_DIREC	GO:0042157~lipoprotein metabolic	10	533	E-0	673	8.3961	0.00	0.00	
T	process		7	6		74	259	301	
GOTERM_			1.68	2.95					
BP_DIREC	GO:0042632~cholesterol homeostasis	13	393	E-0	673	5.5441	0.00	0.00	
T			8	6		4	306	533	
GOTERM_			4.14	5.28					
BP_DIREC	GO:0006954~inflammatory response	32	507	E-0	673	2.4993	0.00	0.00	
T			8	6		26	411	955	
GOTERM_			3.62	1.02					
CC_DIREC	GO:0031012~extracellular matrix	28	694	E-0	715	2.6189	5.99	0.01	
T			3	5		81	E-0	430	
GOTERM_			4.40	1.63					
BP_DIREC	GO:0010628~positive regulation of	34	414	E-0	673	2.2894	0.01	0.02	
T	gene expression		5	5		83	011	945	
GOTERM_			25.9	1.82					
MF_DIREC	GO:0005515~protein binding	20	067	E-0	655	1.3018	0.00	0.02	
T		0	4	5		14	836	841	
GOTERM_			1.29	2.37					
CC_DIREC	GO:0000788~nuclear nucleosome	10	533	E-0	715	6.2498	0.00	0.03	
T			7	5		41	121	310	
KEGG_PA	mmu05322:Systemic lupus	20	2.59	2.72					
THWAY	erythematosus		067	E-0	345	3.0330	0.00	0.03	
GOTERM_			1.55	4.12					
CC_DIREC	GO:0031526~brush border	12	440	E-0	715	4.7141	0.00	0.05	
T	membrane		4	5		66	187	761	
GOTERM_			1.94	4.18					
BP_DIREC	GO:0001501~skeletal system	15	300	E-0	673	3.7665	0.02	0.07	
T	development		5	5		08	150	559	
GOTERM_			1.68	4.37					
CC_DIREC	GO:0005581~collagen trimer	13	393	E-0	715	4.3071	0.00	0.06	
T			8	5		19	179	117	

GOTERM_ BP_DIREC T	GO:0016525~negative regulation of angiogenesis	12	1.55 440 4	6.60 E-0 5	673	4.4779 59	0.02 900 2	0.11 935
GOTERM_ BP_DIREC T	GO:0042113~B cell activation	8	1.03 626 9	7.25 E-0 5	673	7.4117 95	0.02 786 6	0.13 097 2
GOTERM_ BP_DIREC T	GO:0030199~collagen fibril organization	9	1.16 580 3	7.73 E-0 5	673	6.2002 51	0.02 644 7	0.13 972 9
GOTERM_ BP_DIREC T	GO:0006955~immune response	25	3.23 834 2	8.37 E-0 5	673	2.4694 63	0.02 577 3	0.15 124
GOTERM_ BP_DIREC T	GO:0050728~negative regulation of inflammatory response	13	1.68 393 8	8.70 E-0 5	673	4.0147 22	0.02 437 8	0.15 724 2
GOTERM_ BP_DIREC T	GO:0051591~response to cAMP	10	1.29 533 7	9.63 E-0 5	673	5.2681 88	0.02 472 2	0.17 397 3
KEGG_PA THWAY	mmu05140:Leishmaniasis	12	1.55 440 4	1.08 E-0 4	345	4.1798 91	0.00 900 4	0.13 995 4
GOTERM_ MF_DIREC T	GO:0008083~growth factor activity	17	2.20 207 3	1.10 E-0 4	655	3.1227 38	0.03 331 4	0.17 174 6
GOTERM_ BP_DIREC T	GO:2000379~positive regulation of reactive oxygen species metabolic process	8	1.03 626 9	1.14 E-0 4	673	6.9336 15	0.02 709 3	0.20 676 6
GOTERM_ BP_DIREC T	GO:0007204~positive regulation of cytosolic calcium ion concentration	17	2.20 207 3	1.27 E-0 4	673	3.0861 61	0.02 793 5	0.22 966 5

b) DSS vs HMLS

Category	Term	C o u nt	%	p	List Tot al	Fold Enrich ment	Ben jam ini	FD R
GOTER M_CC_D IRECT	GO:0000786~nucleosome	24	13. 872 83	5.4 3E -26	169	25.854 04	9.55 E-2 4	6.6 6E -23
KEGG_P ATHWA Y	mmu05322:Systemic lupus erythematosus	27	15. 606 94	2.9 5E -24	92	15.354 7	4.31 E-2 2	3.5 1E -21
GOTER M_CC_D IRECT	GO:0000788~nuclear nucleosome	16	9.2 485 55	9.1 4E -21	169	42.306 62	8.04 E-1 9	1.1 2E -17

KEGG_P			14.	3.5					
ATHWA	mmu05034:Alcoholism	25	450	7E	92	10.346	2.60	4.2	
Y			87	−18		27	E−1	4E	
GOTER			9.8	3.7			3.56	5.3	
M_BP_DI	GO:0006334~nucleosome assembly	17	265	6E	153	19.318	E−1	3E	
RECT			9	−16		38	3	−13	
GOTER			4.6	4.2			2.27	6.7	
M_BP_DI	GO:0060968~regulation of gene silencing	8	242	5E	153	72.728	E−0	7E	
RECT			77	−12			9	−09	
GOTER			26.	1.0			6.10	1.2	
M_CC_D	GO:0005576~extracellular region	46	589	4E	169	3.0529	E−1	8E	
IRECT			6	−11		3	0	−08	
GOTER			5.2	1.8			6.55	2.9	
M_BP_DI	GO:0032776~DNA methylation on cytosine	9	023	4E	153	33.238	E−0	3E	
RECT			12	−10		97	8	−07	
GOTER			22.	9.9			4.38	1.2	
M_CC_D	GO:0005615~extracellular space	39	543	6E	169	3.0168	E−0	2E	
IRECT			35	−10		78	8	−06	
GOTER			6.9	1.0			2.83	1.6	
M_BP_DI	GO:0098792~xenophagy	12	364	6E	153	13.768	E−0	8E	
RECT			16	−09		89	7	−06	
GOTER			6.9	6.4			1.39	1.0	
M_BP_DI	GO:0002230~positive regulation of defense response to virus by host	12	364	9E	153	11.624	E−0	3E	
RECT			16	−09		56	6	−05	
GOTER			4.6	9.1			1.64	1.4	
M_BP_DI	GO:0006335~DNA replication-dependent nucleosome assembly	8	242	8E	153	28.650	E−0	6E	
RECT			77	−09		43	6	−05	
GOTER			4.6	9.1			1.64	1.4	
M_BP_DI	GO:0045815~positive regulation of gene expression, epigenetic	8	242	8E	153	28.650	E−0	6E	
RECT			77	−09		43	6	−05	
GOTER			5.2	5.4			8.30	8.6	
M_BP_DI	GO:0006342~chromatin silencing	9	023	3E	153	16.883	E−0	5E	
RECT			12	−08		29	6	−05	
GOTER			4.6	6.6			2.09	8.9	
M_MF_D	GO:0031492~nucleosomal DNA binding	8	242	6E	156	21.821	E−0	6E	
IRECT			77	−08		14	5	−05	
GOTER			4.6	1.2			1.64	1.9	
M_BP_DI	GO:0051290~protein heterotetramerization	8	242	3E	153	20.116	E−0	5E	
RECT			77	−07		26	5	−04	
GOTER			4.6	3.2			1.14	3.9	
M_CC_D	GO:0000228~nuclear chromosome	8	242	5E	169	17.561	E−0	9E	
IRECT			77	−07		24	5	−04	
GOTER			4.6	3.7			4.44	5.9	
M_BP_DI	GO:0000183~chromatin silencing at rDNA	8	242	4E	153	17.190	E−0	6E	
RECT			77	−07		26	5	−04	

GOTER			27.	6.8					
M_CC_D	GO:0070062~extracellular exosome	48	745	5E	169	2.0884	2.01	8.4	
IRECT			66	-07		34	E-0	1E	
GOTER			5.7	1.4			3.68	0.0	
M_CC_D	GO:0000784~nuclear chromosome, telomeric region	10	803	7E	169	9.1608	E-0	017	
IRECT			47	-06		82	5	98	
GOTER			4.6	1.3			0.00	0.0	
M_BP_DI	GO:0050830~defense response to Gram-positive bacterium	8	242	4E	153	10.166	142	212	
RECT			77	-05		28	9	97	
GOTER			5.2	1.4			0.00	0.0	
M_MF_D	GO:0042393~histone binding	9	023	9E	156	8.1169	234	200	
IRECT			12	-05		35	1	81	
KEGG_P			6.3	2.2			0.00	0.0	
ATHWA	mmu05202:Transcriptional misregulation in cancer	11	583	6E	92	5.5731	110	268	
Y			82	-05		88	1	99	
GOTER			5.7	2.6			0.00	0.0	
M_MF_D	GO:0020037~heme binding	10	803	9E	156	6.3904	280	361	
IRECT			47	-05		76	8	44	
GOTER			5.2	2.9			6.38	0.0	
M_CC_D	GO:0031225~anchored component of membrane	9	023	0E	169	7.4261	E-0	356	
IRECT			12	-05		61	4	15	
GOTER			4.6	6.3			0.00	0.0	
M_MF_D	GO:0005179~hormone activity	8	242	4E	156	7.9880	496	852	
IRECT			77	-05		95	1	13	
GOTER			2.8	1.2			0.00	0.1	
M_MF_D	GO:0005184~neuropeptide hormone activity	5	901	0E	156	19.281	749	609	
IRECT			73	-04		61	1	87	
GOTER			5.7	1.5			0.00	0.1	
M_CC_D	GO:0000790~nuclear chromatin	10	803	5E	169	5.1027	303	903	
IRECT			47	-04		72	2	52	
GOTER			2.8	1.6			0.01	0.2	
M_BP_DI	GO:0019731~antibacterial humoral response	5	901	2E	153	17.906	567	585	
RECT			73	-04		52	8	56	
GOTER			2.3	1.9			0.01	0.3	
M_BP_DI	GO:0019886~antigen processing and presentation of exogenous peptide antigen via MHC class II	4	121	8E	153	33.766	750	151	
RECT			39	-04		57	6	49	

3) DSS vs TM

Category	Term	Count	%	<i>p</i>	List Total	Fold Enrichment	Benjamini	FDR
GOTERM_BP_DIRECT	GO:0035458~cellular response to interferon-beta	10	13.889	1.15E-14	63	70.00387	5.23E-12	1.64E-11
GOTERM_BP_DIRECT	GO:0042832~defense response to protozoan	8	11.111	7.52E-12	63	76.53757	1.70E-09	1.07E-08
GOTERM_CC_DIRECT	GO:0020005~symbiont-containing vacuole membrane	6	8.333	2.37E-13	69	213.7174	2.46E-09	2.65E-08
GOTERM_BP_DIRECT	GO:0071346~cellular response to interferon-gamma	9	12.5	7.53E-11	63	37.98739	1.14E-08	1.07E-07
GOTERM_MF_DIRECT	GO:0003924~GTPase activity	12	16.667	1.67E-10	63	15.89975	2.32E-08	1.97E-07
GOTERM_MF_DIRECT	GO:0005525~GTP binding	14	19.444	7.06E-10	63	10.12243	4.90E-08	8.31E-07
GOTERM_BP_DIRECT	GO:0044406~adhesion of symbiont to host	5	6.944	1.56E-08	63	159.4533	1.76E-06	2.21E-05
GOTERM_BP_DIRECT	GO:0050830~defense response to Gram-positive bacterium	8	11.111	2.96E-08	63	24.68954	2.68E-06	4.20E-05
GOTERM_CC_DIRECT	GO:0009897~external side of plasma membrane	11	15.278	1.31E-07	69	9.888081	6.81E-06	1.46E-04
KEGG_PATHWAY	mmu04514:Cell adhesion molecules (CAMs)	8	11.111	2.78E-06	32	11.86883	2.25E-04	0.002959
KEGG_PATHWAY	mmu04612:Antigen processing and presentation	6	8.333	1.67E-05	32	17.58613	6.74E-04	0.017746
GOTERM_CC_DIRECT	GO:0005576~extracellular region	19	26.316	1.94E-05	69	3.088519	6.72E-04	0.021678
GOTERM_BP_DIRECT	GO:0006955~immune response	8	11.111	3.92E-05	63	8.441643	0.002952	0.055581
KEGG_PATHWAY	mmu05145:Toxoplasmosis	6	8.333	5.52E-05	32	13.733393	0.00149	0.058832

GOTERM_ BP_DIREC T	GO:0034341~response to interferon-gamma	4	5.55 555 6	9.43 E-0 5	63	44.1562 9	0.00 6087	0.13 389 5
KEGG_PA THWAY	mmu05340:Primary immunodeficiency	4	5.55 555 6	3.26 E-0 4	32	28.2757 4	0.00 6582	0.34 695 8
GOTERM_ BP_DIREC T	GO:0042130~negative regulation of T cell proliferation	4	5.55 555 6	3.46 E-0 4	63	28.7015 9	0.01 9431	0.49 088 4
GOTERM_ BP_DIREC T	GO:0006952~defense response	5	6.94 444 4	6.73 E-0 4	63	12.3713 7	0.03 3336	0.95 197 1
GOTERM_ BP_DIREC T	GO:0002376~immune system process	7	9.72 222 2	0.00 196 5	63	5.24572 1	0.08 5238	2.75 416 9
GOTERM_ BP_DIREC T	GO:0060326~cell chemotaxis	4	5.55 555 6	0.00 243 2	63	14.7187 6	0.09 5419	3.39 888 9
KEGG_PA THWAY	mmu04060:Cytokine-cytokin e receptor interaction	6	8.33 333 3	0.00 257 3	32	5.95893 6	0.04 088	2.70 851 1
KEGG_PA THWAY	mmu05164:Influenza A	5	6.94 444 4	0.00 464 6	32	7.02759 5	0.06 0929	4.84 153 5
GOTERM_ CC_DIREC T	GO:0005615~extracellular space	13	18.0 555 6	0.00 507 6	69	2.46305 5	0.12 3929	5.53 106 9
GOTERM_ CC_DIREC T	GO:0009986~cell surface	8	11.1 111 1	0.00 594 3	69	3.62424 8	0.11 6604	6.44 751 3
GOTERM_ BP_DIREC T	GO:0006954~inflammatory response	6	8.33 333 3	0.00 645 6	63	5.00609 1	0.21 6911	8.78 740 6
GOTERM_ MF_DIREC T	GO:0005125~cytokine activity	5	6.94 444 4	0.00 704 9	63	6.47010 8	0.27 9458	7.99 789 2
KEGG_PA THWAY	mmu04672:Intestinal immune network for IgA production	3	4.16 666 7	0.01 224 7	32	17.1674 1	0.13 2891	12.3 068 6
GOTERM_ MF_DIREC T	GO:0008009~chemokine activity	3	4.16 666 7	0.01 262	63	17.3075 4	0.35 6822	13.9 000 8
GOTERM_ BP_DIREC T	GO:0070098~chemokine-me diated signaling pathway	3	4.16 666 7	0.01 528 7	63	15.6554 1	0.41 5383	19.6 481 4

GOTERM_	GO:0050829~defense		4.16	0.01				20.2
BP_DIRECT	response to Gram-negative	3	666	581	63	15.3758	0.40	618
T	bacterium		7	8		5	3053	8

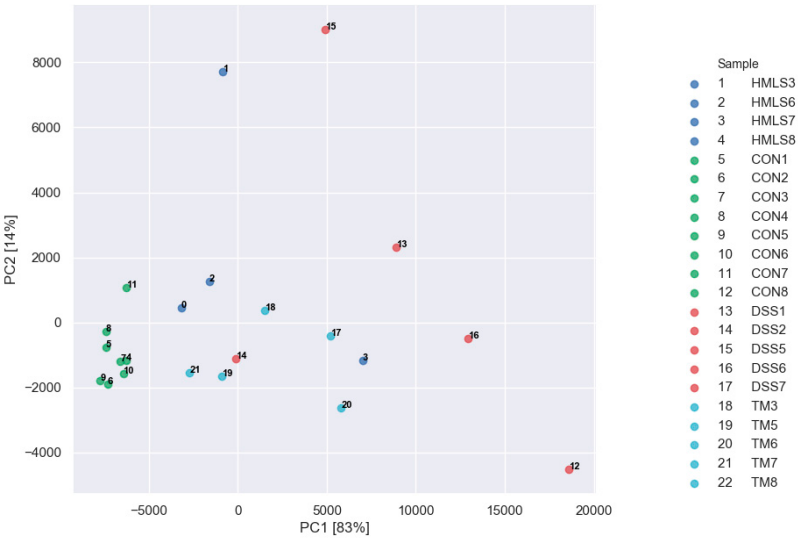


Figure S1. Different expression gene PCA analysis in all groups.

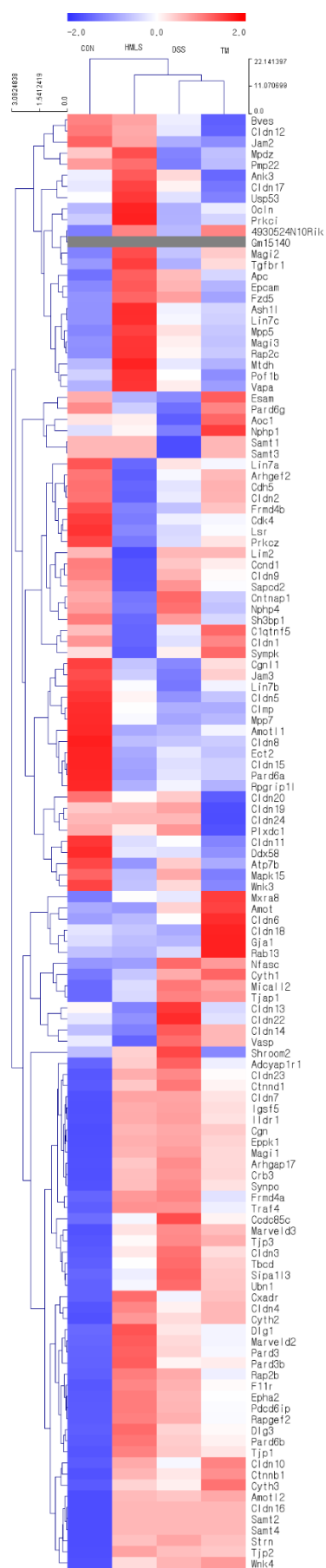


Figure S2. Total tight junction related gene heatmap.

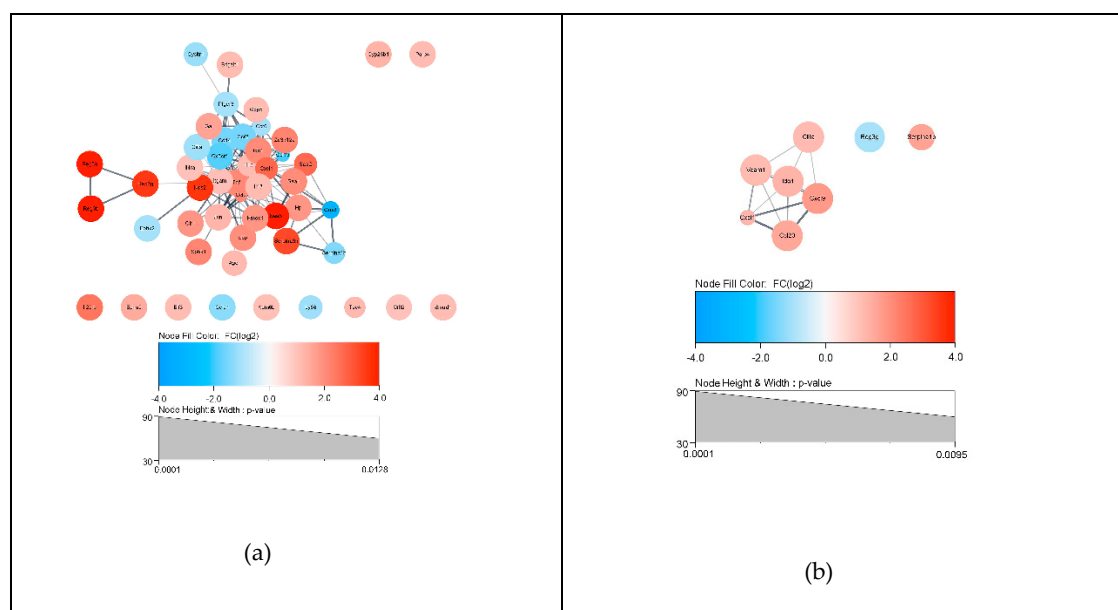


Figure S3. PPI networks of inflammatory response DEGs for groups (a) CON vs DSS and (b) DSS vs TM groups