

Table i. Genes identified by transcriptome-wide association study.

Tissue	Gene	CHR	BEST GWAS.ID	NSNP	TWAS.Z	TWAS.P
Musculoskeletal	RCHY1	4	rs6535523	427	3.886	0.0001
	FBXO25	8	rs7822166	405	-3.43673	0.0006
	IZUMO1	19	rs838143	429	3.38693	0.0007
	ARNTL	11	rs10766064	550	3.26467	0.0011
	CNTF	11	rs3829218	412	3.204	0.0014
	ATAD5	17	rs216462	279	-3.19725	0.0014
	FLYWCH1	16	rs9930148	340	3.19167	0.0014
	PI4KA	22	rs4820579	432	-3.19005	0.0014
	MYL12B	18	rs8086134	486	3.174	0.0015
	FAM221A	7	rs1559012	439	3.155	0.0016
	RRP1	21	rs4819314	460	3.01611	0.0026
	RRM1	11	rs11032302	509	2.98189	0.0029
	SUZ12P	17	rs216462	288	2.961	0.0031
	ANTXR2	4	rs7665764	377	2.949	0.0032
	TEFM	17	rs216462	271	2.91115	0.0036
	ERCC6	10	rs1917804	417	2.90866	0.0036
	SLC25A27	6	rs1234166	515	2.86489	0.0042
	NBPF2P	1	rs2501257	377	-2.862	0.0042
	MBLAC1	7	rs4729565	281	2.835	0.0046
	AC007255.8	7	rs1107011	630	-2.82978	0.0047
	BTNL8	5	rs6601167	331	-2.81626	0.0049
	STRN3	14	rs10483360	332	2.802	0.0051
	CRTAM	11	rs11218901	516	2.793	0.0052

	DPH1	17	rs4790653	465	-2.78869	0.0053
	TBC1D22B	6	rs262899	602	-2.77801	0.0055
	ARHGAP19	10	rs701814	459	-2.773	0.0056
	PERP	6	rs9402947	472	2.76392	0.0057
	KLHL30	2	rs935411	491	2.76146	0.0058
	LINC00487	2	rs11681428	621	-2.72552	0.0064
	PTK7	6	rs9462875	372	-2.71281	0.0067
	MOB1A	2	rs828884	352	-2.70772	0.0068
	CTD-2540F13.2	19	rs1052375	411	2.69761	0.007
	SERPIND1	22	rs4820579	432	2.68597	0.0072
	ACSS2	20	rs6060013	348	-2.681	0.0073
	HS3ST3A1	17	rs11870353	617	2.68066	0.0074
	WDFY3	4	rs4693115	345	2.67287	0.0075
	RP11-703I16.1	18	rs1250171	437	-2.663	0.0077
	ZNF579	19	rs306497	570	2.65634	0.0079
	ZDHHC5	11	rs17453436	392	2.65162	0.008
	EMP1	12	rs11055034	653	-2.65131	0.008
	TMEM87B	2	rs4632347	331	2.62919	0.0086
	HNRNPA1P66	2	rs2422008	300	2.621	0.0088
	WDPCP	2	rs2422008	316	2.61513	0.0089
	PKD1P6	16	rs7405315	111	2.607	0.0091
	RP4-614O4.12	20	rs6060013	350	2.607	0.0091
	ATP6V1H	8	rs6473885	385	2.587	0.0097
	CNIH4	1	rs6675858	354	2.58607	0.0097
	STK39	2	rs1004367	499	2.57935	0.0099
	HFM1	1	rs284164	526	-2.57716	0.01
	AMIGO1	1	rs2297797	424	2.562	0.0104
	TMEM182	2	rs2732809	419	2.55724	0.0106
	AP000695.6	21	rs2835316	543	-2.557	0.0106
	CYB5R1	1	rs2993655	494	2.55	0.0108
	ANKRD27	19	rs3816031	409	-2.548	0.0108
	RPL18	19	rs838143	465	-2.539	0.0111
	FXN	9	rs10890	563	2.532	0.0113

	PRDM5	4	rs896060	453	-2.533	0.0113
	IPO11	5	rs3776637	373	2.52983	0.0114
	TMEM30A	6	rs16886411	275	2.521	0.0117
	ASLP1	22	rs5996555	467	2.512	0.012
	KDELR3	22	rs86796	377	2.51182	0.012
	TSPYL1	6	rs15679	375	2.50778	0.0122
	RP5-827C21.4	1	rs2582650	633	-2.499	0.0125
	CCDC112	5	rs4705731	421	-2.486	0.0129
	RP11-242F4.2	8	rs2904724	743	2.48547	0.0129
	CBX1	17	rs17623518	445	2.47934	0.0132
	TUBGCP3	13	rs2317448	521	-2.475428	0.0133
	RP11-654A16.3	15	rs2684788	551	-2.47	0.0135
	RP11-1017G21.6	14	rs4906160	338	-2.4586	0.014
	ANKRD44	2	rs7594879	341	-2.43851	0.0148
	PNP	14	rs17308401	660	-2.4336	0.015
	FGFBP3	10	rs716361	317	2.4237	0.0154
	RP11-274B21.9	7	rs4731447	367	2.42236	0.0154
	KXD1	19	rs1076235	375	-2.409	0.016
	SMCO4	11	rs11020408	425	-2.407	0.0161
	ABCA7	19	rs10423270	474	-2.40523	0.0162
	ENPEP	4	rs1056355	428	-2.405	0.0162
	SLC22A1	6	rs3101826	544	-2.40332	0.0163
	C17orf97	17	rs4968145	299	2.40256	0.0163
	C16orf45	16	rs7405315	255	2.39744	0.0165
	GGACT	13	rs2803219	512	-2.386112	0.017
	ZDHHC2	8	rs2285284	698	2.38361	0.0171
	DLST	14	rs10149538	381	-2.3781	0.0174
	RASGEF1A	10	rs12359825	419	2.37729	0.0174
	CYP4Z1	1	rs12041262	406	2.37516	0.0175
	DYNC1I1	7	rs17705297	541	-2.37433	0.0176
	RP3-508I15.9	22	rs139410	373	2.37282	0.0177
	PPAPDC1B	8	rs28617731	292	2.372	0.0177
	CINP	14	rs2181343	332	2.3702	0.0178

	IGF1R	15	rs6598416	627	-2.368187	0.0179
	RP11-173B14.5	13	rs7331661	562	-2.365185	0.018
	KDM4A	1	rs11210843	451	-2.36313	0.0181
	RP5-1024N4.4	1	rs11205469	485	2.3535	0.0186
	CIDEA	18	rs1250171	433	2.3507	0.0187
	WDR12	2	rs2165034	262	2.34872	0.0188
	EIF3L	22	rs11913731	405	-2.348	0.0189
	CYP4A22	1	rs7535192	423	2.34784	0.0189
	GDF9	5	rs13155634	411	2.34761	0.0189
	CD209	19	rs10409294	399	-2.34621	0.019
	ATP11B	3	rs12696498	360	2.342	0.0192
	FMO5	1	rs6661540	407	2.34	0.0193
	SGK223	8	rs4840913	436	-2.33998	0.0193
	GIPC1	19	rs4545927	389	2.33571	0.0195
	TRIM62	1	rs654947	374	-2.329	0.0199
	UROS	10	rs17152891	593	2.326	0.02
	TFCP2L1	2	rs13382915	384	2.32287	0.0202
	GSS	20	rs6060013	347	-2.3228	0.0202
	MICA	6	rs769178	243	2.32066	0.0203
	ST3GAL4	11	rs4935994	703	2.318	0.0205
	CPD	17	rs28437451	303	2.317	0.0205
	UGP2	2	rs2422008	321	2.313	0.0207
	UBA52	19	rs1076235	372	-2.31177	0.0208
	ADCK5	8	rs1735404	192	2.30781	0.021
	KIF2A	5	rs3776637	388	2.30768	0.021
	CLU	8	rs1316801	616	2.30654	0.0211
	INPP5D	2	rs13386477	441	-2.29285	0.0219
	RP11-268J15.5	1	rs11588253	361	2.292	0.0219
	ZNF571-AS1	19	rs3826849	280	-2.29142	0.0219
	GEMIN7	19	rs3729640	368	-2.28864	0.0221
	RNASEL	1	rs1689804	456	2.28833	0.0221
	LRP2BP	4	rs959779	548	2.28647	0.0222
	GMPS	3	rs6441026	338	2.286	0.0223

	XXbac-BPG181B23.7	6	rs769178	243	2.28311	0.0224
	BZRAP1	17	rs8077465	348	-2.28023	0.0226
	HYI	1	rs11210834	441	2.28	0.0226
	TDRD6	6	rs1234166	523	-2.278	0.0227
	ILKAP	2	rs935411	487	2.276	0.0229
	AC099754.1	3	rs9835368	412	-2.27265	0.023
	GNRH1	8	rs10090201	489	2.273	0.023
	SPINK5	5	rs7713010	446	-2.27	0.0232
	RP3-449M8.6	14	rs10149538	371	-2.266	0.0235
	MAN1A2	1	rs13951	485	2.26337	0.0236
	RNF6	13	rs1359311	515	-2.258	0.0239
	CREG1	1	rs12093287	600	2.25726	0.024
	SLC26A6	3	rs3731563	260	2.253	0.0243
	SLC16A10	6	rs9400464	322	-2.25126	0.0244
	FKSG48	1	rs654947	305	2.249	0.0245
	GSTM2	1	rs2297797	459	-2.24736	0.0246
	UBR2	6	rs16896041	403	2.2463	0.0247
	RIMS1	6	rs720742	427	2.24538	0.0247
	PGD	1	rs284289	379	2.24302	0.0249
	A3GALT2	1	rs717030	434	-2.241	0.025
	PAN3-AS1	13	rs2296189	539	-2.238782	0.0252
	LRPPRC	2	rs12473033	507	-2.23694	0.0253
	TMEM206	1	rs6690208	466	2.236	0.0254
	NOXRED1	14	rs6574405	575	-2.227	0.026
	MICB	6	rs769178	280	-2.22323	0.0262
	FNDC5	1	rs654947	274	-2.22121	0.0263
	CERS6	2	rs12618884	556	2.22055	0.0264
	PRIM2	6	rs1023114	204	2.21642	0.0267
	DDHD2	8	rs28617731	282	-2.21598	0.0267
	MPHOSPH8	13	rs9508933	291	2.213575	0.0269
	EPHX2	8	rs1316801	641	2.21262	0.0269
	TMEM101	17	rs9895585	363	2.20896	0.0272
	COQ6	14	rs2240624	411	2.2034	0.0276

	LRRC47	1	rs7516150	470	-2.20193	0.0277
	CTD-2538C1.2	19	rs3816031	404	-2.20178	0.0277
	AKAP6	14	rs10431651	567	-2.1984	0.0279
	AC016773.1	4	rs13117476	270	2.19819	0.0279
	MARK2P9	10	rs12780253	329	-2.19681	0.028
	FABP7	6	rs11969369	420	-2.196	0.0281
	KB-208E9.1	22	rs5996555	469	2.19528	0.0281
	EMR4P	19	rs339408	422	-2.194	0.0282
	THBS4	5	rs3926218	498	2.19231	0.0284
	RUFY3	4	rs1043903	390	-2.191	0.0285
	PPP4R1	18	rs8087451	532	-2.1878	0.0287
	SLC46A3	13	rs9508127	483	2.183437	0.029
	CHMP2B	3	rs2118082	339	2.18	0.0293
	LIN7B	19	rs838143	398	2.17767	0.0294
	ERI2	16	rs12928136	338	2.1749	0.0296
	COTL1	16	rs8045919	874	2.17106	0.0299
	SLC16A14	2	rs1427283	474	-2.16862	0.0301
	C12orf29	12	rs1877472	282	-2.16667	0.0303
	LINC00665	19	rs17639574	306	2.16641	0.0303
	CTC-523E23.8	19	rs7624	463	2.16629	0.0303
	MLEC	12	rs651221	445	-2.16406	0.0305
	RP11-168O16.2	1	rs6697899	645	-2.15442	0.0312
	ANKS1B	12	rs11833159	363	-2.15393	0.0313
	ZNF90	19	rs247792	261	-2.15351	0.0313
	AC017074.2	2	rs4295010	321	2.147	0.0318
	CTD-2623N2.3	19	rs889130	338	2.14671	0.0318
	FAM26F	6	rs15679	380	2.14629	0.0319
	AC012309.5	19	rs3826849	280	2.144	0.032
	UQCRCQ	5	rs13155634	411	2.141	0.0323
	NFYA	6	rs6458197	570	2.128	0.0333
	FOXQ1	6	rs238039	749	2.12751	0.0334
	AKAP3	12	rs2909379	695	-2.12725	0.0334
	CHST8	19	rs451218	475	-2.126	0.0335

	LBH	2	rs12986790	486	2.123	0.0338
	DGKG	3	rs2268835	512	-2.12271	0.0338
	RP4-803A2.1	1	rs654947	306	2.12192	0.0338
	SLC25A10	17	rs11871837	328	2.11858	0.0341
	TMEM150C	4	rs13119500	431	2.11684	0.0343
	SMAD3	15	rs4147358	559	2.116	0.0343
	CRLF1	19	rs1076235	374	2.11552	0.0344
	RPL32P3	3	rs1872113	285	2.115	0.0344
	PYGM	11	rs476037	349	2.115	0.0344
	RP11-108K14.4	10	rs12765125	318	-2.11262	0.0346
	MAX	14	rs17180497	447	2.1097	0.0349
	GPR155	2	rs1077071	365	-2.10822	0.035
	ARPC3	12	rs2301610	235	2.101	0.0356
	PSMA4	15	rs9788682	426	-2.100629	0.0357
	DUTP6	1	rs12568568	590	-2.09909	0.0358
	LYSMD1	1	rs1539493	319	2.0983	0.0359
	ELTD1	1	rs17102821	422	-2.09693	0.036
	MPV17L	16	rs7405315	244	2.09377	0.0363
	TM2D2	8	rs4733980	311	2.092	0.0364
	CEP76	18	rs1864532	388	2.0902	0.0366
	AC004562.1	17	rs999978	418	2.085	0.0371
	NUDT19	19	rs3816031	404	-2.08463	0.0371
	C2orf43	2	rs535022	512	-2.083	0.0373
	CATSPER2	15	rs12050645	258	2.076682	0.0378
	RP11-561C5.4	15	rs16974632	527	-2.077471	0.0378
	FAM98A	2	rs10495790	654	-2.07	0.0385
	ATP13A4	3	rs9872487	474	-2.068	0.0386
	RP4-803A2.2	1	rs654947	309	-2.068	0.0386
	SMG1P1	16	rs12923227	257	2.06741	0.0387
	SLC5A9	1	rs11205469	486	2.06676	0.0388
	CTD-2516F10.2	11	rs12805083	663	-2.06116	0.0393
	SNAPIN	1	rs28538178	404	2.05743	0.0396
	DFFA	1	rs284289	405	-2.05683	0.0397

	CTD-2260A17.2	5	rs2617448	504	2.056	0.0398
	AC005775.2	19	rs3761008	383	2.05562	0.0398
	RP11-274B21.2	7	rs4731447	368	2.05328	0.0401
	RP11-72I8.1	16	rs7405315	102	-2.05088	0.0403
	TREX1	3	rs3731563	257	-2.04711	0.0406
	SLC37A1	21	rs3746935	725	2.044	0.041
	NKTR	3	rs587546	474	-2.04333	0.041
	GBAP1	1	rs7513331	328	-2.04223	0.0411
	GOLGA8B	15	rs8039908	401	-2.041767	0.0412
	ZNF582-AS1	19	rs9636161	533	-2.041	0.0413
	PPP4R2	3	rs4677215	481	2.04	0.0414
	PRRC1	5	rs185033	383	2.03684	0.0417
	VASH1	14	rs4569181	565	2.0356	0.0418
	RP11-479O17.10	10	rs10887199	309	-2.03545	0.0418
	TACC3	4	rs2402494	271	2.035	0.0419
	U2AF1L4	19	rs17639574	436	2.03442	0.0419
	ZNF334	20	rs6065998	558	-2.034	0.042
	RALGPS2	1	rs12064728	389	2.03311	0.042
	PPM1B	2	rs7593926	501	2.02829	0.0425
	GGT7	20	rs6060013	349	-2.0277	0.0426
	PDCD6IP	3	rs9838500	354	2.02785	0.0426
	GPANK1	6	rs769178	245	2.02509	0.0429
	FAM43B	1	rs17354650	509	-2.025	0.0429
	DSTN	20	rs17791728	653	-2.0221	0.0432
	C3orf20	3	rs4685165	633	-2.02057	0.0433
	FAM71F1	7	rs28959472	367	-2.02084	0.0433
	CNOT6L	4	rs4859864	432	-2.01745	0.0436
	NFATC2	20	rs6123105	591	-2.0143	0.044
	CANX	5	rs11738720	463	2.012	0.0442
	COLEC11	2	rs10202002	559	2.01082	0.0443
	AC016747.3	2	rs1177285	315	-2.00891	0.0446
	PSEN1	14	rs11627663	406	2.0087	0.0446
	XXYLT1	3	rs7613935	376	-2.008	0.0446

	PCDHGB2	5	rs248592	498	-2.008	0.0446
	SLC9A2	2	rs2732809	495	2.00411	0.0451
	ZFAND4	10	rs11239587	199	2.00409	0.0451
	GPR35	2	rs903756	501	-2.00344	0.0451
	BCR	22	rs6003301	396	-2.001	0.0454
	RP11-299J3.8	3	rs17201246	462	1.99973	0.0455
	CWF19L2	11	rs17607969	470	-1.99951	0.0456
	NMRAL1	16	rs8051560	427	-1.99909	0.0456
	MAP1LC3A	20	rs6060013	304	-1.999	0.0456
	RP11-274B21.3	7	rs4731447	367	1.99872	0.0456
	COX7A1	19	rs17639574	334	-1.99851	0.0457
	AC005523.3	19	rs11668886	427	1.99683	0.0458
	FCN1	9	rs4842169	680	1.99497	0.046
	HOMER1	5	rs3926218	438	1.9941	0.0461
	PGM2	4	rs4832960	672	-1.99329	0.0462
	C7orf73	7	rs11768238	462	-1.99302	0.0463
	PSMC5	17	rs7211557	328	-1.991	0.0465
	DDX42	17	rs7211557	316	1.991	0.0465
	SNRPA	19	rs17726963	432	1.99	0.0466
	TMA7	3	rs3731563	258	1.99	0.0466
	CAPN12	19	rs1052375	407	1.98943	0.0467
	VCPKMT	14	rs7155104	353	1.9886	0.0467
	NBAS	2	rs6732672	488	-1.988	0.0468
	RP11-96H19.1	12	rs4768745	347	-1.98672	0.047
	FAM161A	2	rs9808464	286	1.984	0.0473
	EFTUD2	17	rs12941574	369	1.983	0.0474
	AC018638.1	7	rs4731447	367	1.98274	0.0474
	C9orf41	9	rs4629935	449	1.983	0.0474
	CARS2	13	rs9559771	679	-1.982596	0.0474
	ANKEF1	20	rs4404352	681	-1.9821	0.0475
	VWA7	6	rs769178	242	-1.98096	0.0476
	ZNF331	19	rs307943	482	-1.98063	0.0476
	RP11-486O12.2	12	rs1022321	382	-1.97945	0.0478

	LAMC3	9	rs710075	441	-1.97896	0.0478
	RP11-274B21.1	7	rs4731447	373	1.97384	0.0484
	STEAP1	7	rs12538980	488	-1.97	0.0488
	CTD-2568A17.5	19	rs3745532	535	-1.96972	0.0489
	OTOF	2	rs12615509	362	1.96606	0.0493
	ZNF717	3	rs17028208	167	-1.96115	0.0499
	TTC23	15	rs2684788	545	-1.960886	0.0499
	APBB2	4	rs10006144	466	1.96	0.05
Whole blood	FLYWCH1	16	rs9930148	335	3.3599	0.0008
	CRLF3	17	rs216462	294	3.33733	0.0008
	TNPO3	7	rs17340646	359	3.2003	0.0014
	C2CD2L	11	rs643788	367	-3	0.0027
	MAEA	4	rs13117476	374	2.92888	0.0034
	DUTP6	1	rs12568568	574	-2.902	0.0037
	SNAP29	22	rs4820579	416	2.8489	0.0044
	MBLAC1	7	rs4729565	265	2.791	0.0053
	CNIH4	1	rs6675858	360	2.7908	0.0053
	ATP6V0E2	7	rs7795944	256	-2.707	0.0068
	AC018638.1	7	rs4731447	349	2.6472	0.0081
	RP11-203J24.8	9	rs3217750	311	-2.633	0.0085
	RTN4	2	rs2588519	587	-2.623	0.0087
	CNN2	19	rs8110307	433	-2.603	0.0092
	TMEM87B	2	rs4632347	349	-2.5698	0.0102
	SPNS1	16	rs17835978	173	2.5601	0.0105
	ANKRD44	2	rs7594879	419	-2.551	0.0107
	AIFM3	22	rs4820579	362	2.549	0.0108
	FLYWCH2	16	rs9930148	317	2.5452	0.0109
	SLC25A25	9	rs3217750	287	-2.5322	0.0113
	RP4-614O4.12	20	rs6060013	338	2.5072	0.0122
	ADCY10P1	6	rs6458197	559	2.4817	0.0131
	SEC13	3	rs17032817	597	-2.4571	0.0141
	TOR3A	1	rs12064728	465	-2.4214	0.0155
	CEP104	1	rs7516150	458	2.4113	0.0159

	C17orf97	17	rs4968145	285	2.40999	0.016
	RP11-274B21.4	7	rs4731447	350	2.3841	0.0171
	C4orf33	4	rs4975196	380	2.35276	0.0186
	AC007308.7	22	rs4820579	408	2.3384	0.0194
	ATF1	12	rs2359005	329	-2.327	0.02
	AC108004.3	17	rs4968145	283	2.32583	0.02
	PLK1S1	20	rs6035813	419	2.315	0.0206
	CD101	1	rs10923122	415	2.303	0.0213
	RP11-703I16.1	18	rs1250171	418	-2.279	0.0227
	P2RX4	12	rs651221	409	2.2581	0.0239
	KB-208E9.1	22	rs5996555	444	2.2495	0.0245
	VANGL1	1	rs12058927	549	2.2478	0.0246
	SEC31B	10	rs11595238	425	-2.248	0.0246
	TP53INP1	8	rs11787473	493	2.241	0.025
	S100PBP	1	rs654947	260	2.2397	0.0251
	CBLN3	14	rs10145542	541	2.2347	0.0254
	RP11-274B21.2	7	rs4731447	350	2.2185	0.0265
	OGFOD1	16	rs2032924	465	-2.212	0.027
	SNX11	17	rs17623518	451	2.20812	0.0272
	TM2D2	8	rs4733980	300	-2.207	0.0273
	ADCK1	14	rs7155022	694	2.205	0.0275
	RP11-693N9.2	11	rs11226669	342	-2.20041	0.0278
	AHSA2	2	rs1177285	293	-2.1802	0.0292
	AC016747.3	2	rs1177285	301	-2.1433	0.0321
	RP11-225H22.7	10	rs12259802	342	2.14	0.0324
	RP11-96H19.1	12	rs1987203	366	-2.139	0.0324
	ARHGEF7	13	rs2479958	618	-2.13	0.0332
	C22orf43	22	rs5996555	457	2.1082	0.035
	SLC12A7	5	rs3810853	379	2.10459	0.0353
	ANKRD28	3	rs9839223	523	-2.103	0.0355
	POLR2L	11	rs11245936	385	-2.103	0.0355
	KHK	2	rs12615509	302	-2.102	0.0356
	TMEM220	17	rs10852925	509	2.101	0.0356

	FAM189B	1	rs7513331	305	-2.0965	0.036
	TWISTNB	7	rs7790536	529	2.0846	0.0371
	ZNF74	22	rs4820579	301	2.0796	0.0376
	DDX55	12	rs1022321	373	2.0741	0.0381
	ARNT	1	rs10305748	298	-2.0674	0.0387
	CYP2D7P1	22	rs6002695	346	2.0661	0.0388
	CLCN6	1	rs198372	458	2.0648	0.0389
	IL15RA	10	rs6602502	715	-2.059	0.0395
	CTD-3138B18.5	19	rs7260445	338	2.055	0.0399
	SEMA4B	15	rs3853640	408	2.053	0.0401
	RP11-231C14.6	16	rs34763945	162	2.0428	0.0411
	MARC2	1	rs2068446	402	2.042	0.0412
	CASP7	10	rs11196266	609	-2.04	0.0414
	PPM1N	19	rs8109620	341	-2.0337	0.042
	FAM118B	11	rs657320	653	-2.01545	0.0439
	CAT	11	rs17358030	605	-2.007	0.0447
	CD151	11	rs11245936	390	2.00259	0.0452
	SEMA4D	9	rs7860559	477	2	0.0455
	RP13-977J11.2	12	rs3751315	275	-1.98844	0.0468
	AMDHD1	12	rs4600288	547	1.97869	0.0479
	MAP7D1	1	rs11588253	320	-1.9643	0.0495

Table ii. Differentially expressed genes of lumbar spinal stenosis identified by gene expression omnibus.

Gene symbol	logFC	p-value
BMPR1B	-2.12	0.0001
CHRM3	-2.25	0.0001
TGFB1	-1.62	0.0001
LOC283404	2.22	0.0001
MYADML	4.08	0.0001
COL13A1	-1.59	0.0001
MDM2	-1.26	0.0001
CHST10	-1.73	0.0001
ULBP1	-3.08	0.0001

GABRD	-4.46	0.0001
FGFR1OP2	3.08	0.0001
THBS1	-2.3	0.0001
COL11A1	-1.93	0.0001
C2orf84	1.47	0.0001
HPS4	-1.54	0.0001
HERC6	2.93	0.0001
LTBP3	-1.6	0.0001
COL11A2	-2.67	0.0001
GREM1	-2.52	0.0001
C9orf117	3.15	0.0001
COL9A2	-2.97	0.0001
MT1H	-2.21	0.0001
BCAT1	-1.69	0.0001
OVCH1	-1.46	0.0001
XLOC_005770	-2.32	0.0001
FGFRL1	-1.25	0.0001
TP53I13	-1.22	0.0001
NRP2	-1.39	0.0001
XLOC_004598	1.18	0.0001
C6orf138	4.16	0.0001
LOC150622	-2.29	0.0001
PSAP	-1.18	0.0001
MFI2	-2.62	0.0001
CGREF1	-2.22	0.0001
RNF152	-1.38	0.0001
JPH4	5.32	0.0001
BTC	3.55	0.0001
GIGYF2	4.66	0.0001
STEAP3	-1.54	0.0001
LYPD6	1.84	0.0001
IL2RA	4.06	0.0001
JSRP1	3.97	0.0001

CASKIN2	2.65	0.0001
LOC389199	-1.51	0.0001
CHRM2	-1.99	0.0001
IGSF21	-2.44	0.0001
LOC100652995	4	0.0001
SPPL2A	-1.02	0.0001
BGN	-2.14	0.0001
PIK3IP1	-1.01	0.0001
IVNS1ABP	-1.02	0.0001
PCDH19	1.65	0.0001
KCNN3	-1.81	0.0001
FEM1A	3.17	0.0001
APBA1	-2.47	0.0001
EVI2A	-1.71	0.0001
PANX3	-1.53	0.0001
EML1	-1.19	0.0001
LOC100131608	4.6	0.0001
FAM176A	-2.22	0.0001
UHMK1	-1.18	0.0001
MRGPRF	-1.06	0.0001
GIPC3	-1.34	0.0001
HAPLN1	-2.42	0.0001
TMEM231	-1.51	0.0001
ADAMTS2	-2.2	0.0001
LRRC10	3.77	0.0001
ZNF827	-1.54	0.0001
PLXNB2	-1.26	0.0001
P4HA2	-1.82	0.0001
UBE2Z	-1.28	0.0001
RASL10A	-1.75	0.0001
TIMP1	-1.36	0.0001
HTRA1	-1.76	0.0001
ERVMER34-1	-2.38	0.0001

KIAA1751	-3.06	0.0001
QSOX1	-1.28	0.0001
LOC145216	-1.4	0.0001
COL8A2	-1.88	0.0001
LOC283731	4.08	0.0001
ADARB2	3.03	0.0001
PLOD1	-1.9	0.0001
JAKMIP2	5.11	0.0002
DKK3	-2.2	0.0002
MXD1	2.29	0.0002
SEC14L2	-1.75	0.0002
STX1A	-1.5	0.0002
WNT2B	3.34	0.0002
CA5BP1	3.15	0.0002
GLT25D2	-2.31	0.0002
LPAR5	-2.17	0.0002
LOC348120	-1.77	0.0002
LIMS3L	1.58	0.0002
RIMS3	2.9	0.0002
FRMD8	-1.43	0.0002
ATP1A4	-1.24	0.0002
RAPH1	-1.58	0.0002
SHOX2	-2.76	0.0002
FLJ46906	-2.09	0.0002
CD55	-1.84	0.0002
KIFC3	-1.29	0.0002
SCN7A	1.92	0.0002
SPTY2D1	3.2	0.0002
NLRC3	2.13	0.0002
TGM6	4.31	0.0002
SDF4	-1.21	0.0002
FGFR3	-1.39	0.0002
ADC	-1.13	0.0002

LY6D	-4.22	0.0002
B4GALNT3	-1.62	0.0002
HECW2	-1.58	0.0002
PDGFC	-1.01	0.0002
COL2A1	-4.33	0.0002
PODNL1	-1.72	0.0002
PCDH8	2.16	0.0002
OSBPL5	-1.47	0.0002
TAS2R13	-2.66	0.0002
CD28	-1.25	0.0002
ANKH	-1.05	0.0002
SYCE1L	2.61	0.0002
NDUFA4L2	-1.05	0.0002
NUDCD3	3.87	0.0002
FUT11	-1.06	0.0002
ENO1	-1.33	0.0002
LOC100127885	3.33	0.0003
YIF1A	-1.01	0.0003
ZNF620	4.41	0.0003
COG8	3.5	0.0003
SCRG1	-2.42	0.0003
BTN3A1	4.03	0.0003
FLJ42842	3.92	0.0003
CISH	3.74	0.0003
VKORC1	-1.21	0.0003
PIK3R5	4.85	0.0003
FLG	3.6	0.0003
LOC100131910	4.41	0.0003
EFCAB6	1.2	0.0003
IL4R	2.87	0.0003
CHRDL2	-3.76	0.0003
CADM3	1.98	0.0003
WDR67	4.39	0.0003

EGFR	3.93	0.0003
KCNJ13	-1.49	0.0003
MED19	2.79	0.0003
LGMMN	-1.41	0.0003
CYB5R3	-1.15	0.0003
CCDC144A	-1.82	0.0003
TMEM45A	-1.37	0.0003
CHID1	-1.09	0.0003
GAA	-1.04	0.0003
STX16	1.59	0.0003
FBLN7	-2.08	0.0003
ALDH3B1	-1.26	0.0003
SLC16A3	-2.13	0.0003
LOXL3	-1.75	0.0003
DIRAS3	1.72	0.0003
MSR1	-2.78	0.0003
IL11	-3.35	0.0003
FMR1NB	4.28	0.0003
DNASE1	-1.27	0.0003
TTLL9	3.93	0.0003
TLL1	1.97	0.0003
ANGPTL2	-1.95	0.0003
SLC17A5	-1.01	0.0003
C1orf61	4.95	0.0003
CHPF2	-1.35	0.0003
LOC400950	3.41	0.0003
EMILIN3	-1.07	0.0003
CTNND1	3.2	0.0004
PLD3	-1.5	0.0004
RCN3	-1.33	0.0004
CHAC1	-1.62	0.0004
ADAMTS6	-2.16	0.0004
PPAN-P2RY11	4.57	0.0004

MVD	-1.12	0.0004
GCC2	2.46	0.0004
LOC257358	2.64	0.0004
LOC84856	-1.73	0.0004
ATXN3L	4.43	0.0004
PITPNM1	-1.48	0.0004
KCNIP1	5.24	0.0004
SLC45A1	-1.83	0.0004
EDC4	-1.21	0.0004
GPR17	4.72	0.0004
EFTUD1	4.23	0.0004
CLLU1	-2.09	0.0004
RHBDF2	-1.38	0.0004
AKAP12	4.33	0.0004
KLHL12	-1.22	0.0004
ENO4	-1.31	0.0004
TMEM59L	-2.45	0.0004
VAV3	-1.48	0.0004
AANAT	5.29	0.0004
PAPL	-1.71	0.0004
CNR1	2.23	0.0004
XLOC_002049	4.33	0.0004
GOS2	2.19	0.0004
LOC541473	4.13	0.0004
SLC39A14	-2.63	0.0004
CCDC150	3.71	0.0004
SH3TC1	-1.85	0.0004
P4HB	-1.08	0.0004
GALNTL4	-1.58	0.0004
AGTRAP	-1.15	0.0005
POFUT2	-1.21	0.0005
RTKN2	3.94	0.0005
MED18	-1.94	0.0005

GPR137	-1.15	0.0005
HILS1	-1.29	0.0005
STON1-GTF2A1L	-2.2	0.0005
GPAA1	-1.12	0.0005
WFDC2	1.8	0.0005
LOC100130872	-1.03	0.0005
THOC2	2.1	0.0005
VMO1	-1.59	0.0005
FAM160A1	3.82	0.0005
AGPAT4	-1.38	0.0005
SYTL1	-1.74	0.0005
PVRL4	-3.52	0.0005
SPRR1B	1.81	0.0005
LEPREL1	-1.35	0.0005
NR1H2	-1.25	0.0005
C8orf12	2.83	0.0005
PKP4	1.12	0.0005
CTSD	-1.97	0.0005
LDHA	-1.11	0.0005
COL4A6	2.62	0.0005
ACAN	-2.66	0.0005
ITGB5	-1.27	0.0005
LOC284889	-1.17	0.0005
ZCCHC13	5.5	0.0005
OR52I2	5.8	0.0005
ADRA1A	2.95	0.0005
NXPH4	-3.24	0.0005
RGS22	1.46	0.0005
SHC4	-1.89	0.0005
SAMD4A	-1.11	0.0005
RNF150	3.79	0.0005
ADM2	-1.9	0.0005
SLC10A1	5.28	0.0005

SPOCK1	-1.09	0.0006
C2orf72	-2.6	0.0006
WWP2	-1.38	0.0006
LOC100130587	4.72	0.0006
REP15	4.87	0.0006
TEF	3.69	0.0006
SBSN	-3.75	0.0006
LEPREL4	-1.37	0.0006
BDKRB1	-1.41	0.0006
FN1	-3.11	0.0006
PCM1	1.31	0.0006
CYTL1	-3.5	0.0006
RALYL	5.88	0.0006
SKIL	-1.38	0.0006
DPP9	-1.5	0.0006
C13orf30	5.5	0.0006
CDRT15L2	5.5	0.0006
FBXO27	1.24	0.0006
DHRS4L1	5.18	0.0006
TREM1	-2.95	0.0006
DCDC2	4.15	0.0006
STARD13	1.76	0.0006
DPRX	4.57	0.0006
CCL3	-3.67	0.0006
LRP10	-1.02	0.0006
MYO1D	-1.25	0.0006
BCR	4.31	0.0006
SELENBP1	1.16	0.0006
CHODL	2.4	0.0006
CERCAM	-1.3	0.0006
PARM1	1.44	0.0006
ZBED3	1.03	0.0006
MIA	-2.4	0.0007

LMF2	-1.32	0.0007
WDR33	5.58	0.0007
TTC23	3.43	0.0007
GPR64	-1.91	0.0007
SLC1A1	-1.25	0.0007
NPTX2	-1.57	0.0007
ZNF460	-1.31	0.0007
TEX12	4.82	0.0007
CYP27C1	-3.16	0.0007
KCNN4	-2.36	0.0007
MFGE8	-1.81	0.0007
P4HA1	-1.08	0.0007
LOC100272216	-1.09	0.0007
PAMR1	-2.26	0.0007
GUSBP11	-1.19	0.0007
ZNF806	3.58	0.0007
ABCD1	-1.29	0.0007
PCSK5	-1.07	0.0007
XLOC_009344	3.71	0.0007
POLR2F	2.65	0.0007
SLC14A2	-1.42	0.0007
GRIK3	4.73	0.0007
LOC79015	1.39	0.0007
ZFYVE9	-1.4	0.0007
DCLRE1B	2.32	0.0007
FLOT2	-1.18	0.0007
FAM46A	-1.15	0.0008
CCL3L3	-3.26	0.0008
ANKRD29	1.11	0.0008
CA9	-4.62	0.0008
FAT2	2.54	0.0008
LOC100652763	-1.5	0.0008
CUL4A	1.98	0.0008

ENG	-1.6	0.0008
PLCXD1	1.07	0.0008
CTSA	-1.42	0.0008
ZNF282	-1.73	0.0008
MGC4294	-2.89	0.0008
LINC00281	5.09	0.0008
PPP1R1A	5.71	0.0008
LOC730020	1.07	0.0008
FTO	4.45	0.0008
TMEM54	-1.15	0.0008
RFX8	-1.57	0.0008
BICC1	5.58	0.0008
CRTAC1	-3.04	0.0008
SLC20A1	-1.03	0.0008
GALE	-1.25	0.0008
NAALAD2	1.56	0.0009
PTPRC	3.03	0.0009
BACE1	-1.24	0.0009
QPCTL	-1.01	0.0009
ATRNL1	-1.08	0.0009
MYADM	-1.05	0.0009
GALNT1	-1.22	0.0009
PPP1R21	1.81	0.0009
TREM2	-3.53	0.0009
ENPP1	-1.15	0.0009
UNC93B1	-1.33	0.0009
IRAK1	-1.45	0.0009
LOC100131094	1.39	0.0009
FKBP10	-1.81	0.0009
DNASE2	-1.03	0.0009
LOC100287765	5.33	0.0009
PHTF2	-1.09	0.0009
CLEC3A	-3.9	0.0009

SMOC2	-2.26	0.0009
TMEM2	-1.51	0.0009
EDARADD	-1.11	0.0010
OR52E8	6.16	0.0010
COPE	2.18	0.0010
TNFSF11	-3.03	0.0010
RFNG	-1.05	0.0010
LOC389247	1.68	0.0010
TTC12	1.61	0.0010
CCL4	-2.95	0.0010
TMEM14E	-1.26	0.0010
P39194	2.33	0.0010
WWTR1	-1.21	0.0010
TNXB	-1.16	0.0010
VWF	1.08	0.0010
LOC100499467	-3.11	0.0010
CHPF	-1.15	0.0010
TMEM52	3.02	0.0010
HOXD11	2.03	0.0010
TYK2	-1.26	0.0010
FAM160B2	-1.29	0.0010
RPL39L	1.63	0.0010
SEZ6L	-2.73	0.0010
CNKSR3	2.17	0.0010
IGFBP3	-1.41	0.0010
COL9A3	-2.4	0.0010
Q5A5F0	5.78	0.0010
PENK	-2.14	0.0010
LOC100130015	1.65	0.0010
ACPT	-1.47	0.0010
C19orf28	-1.68	0.0010
CCDC66	5.48	0.0011
SERINC2	-1.48	0.0011

PRKCZ	-1.13	0.0011
KIAA1549	-1.38	0.0011
CCL23	2.31	0.0011
GAS6	-1.54	0.0011
CT45A5	-1.75	0.0011
SERGEF	1.29	0.0011
SPINT1	-2.09	0.0011
LOC100506411	2.59	0.0011
COL4A5	1.64	0.0011
SPECC1L	2.03	0.0011
FGA	4.57	0.0011
ITGA8	1.76	0.0011
ST14	-1.23	0.0011
EMP3	-1.12	0.0011
YIF1B	-1.13	0.0011
SMG9	-1.06	0.0011
PDPN	-1.54	0.0011
AMTN	-6.69	0.0011
IFT74	3.46	0.0011
ORAI2	-1.34	0.0011
NIN	1.47	0.0012
SDK2	-1.43	0.0012
XLOC_004881	-1.82	0.0012
CXCL16	-1.23	0.0012
STMN2	-2.88	0.0012
IL21R	-2.51	0.0012
LOC389043	5.66	0.0012
SNX30	-1.28	0.0012
LOC100130417	-1.35	0.0012
IGSF3	-1.36	0.0012
CACNA1E	-1.31	0.0012
LOC144481	-1.09	0.0012
DLX4	-2.2	0.0012

SPARC	-1.34	0.0012
AQP6	1.39	0.0012
EXOC3L1	-1.11	0.0012
KIAA0930	-1.05	0.0012
CALCA	4.92	0.0012
HHIPL1	-1.33	0.0012
FAM155A	-1.55	0.0012
TMED3	-1.25	0.0013
PLXNA4	-1.05	0.0013
XRRA1	3.09	0.0013
PLOD2	-1.36	0.0013
PCDHA3	-1.8	0.0013
C4orf51	5.35	0.0013
UBE3C	-1.38	0.0013
SLC38A10	-1.19	0.0013
PDE4D	-2.78	0.0013
CRHR1	-1.21	0.0013
SOX11	-3.77	0.0013
SERPINA1	-1.99	0.0013
ITGA5	-1.01	0.0013
SOX2	2.26	0.0013
AEBP1	-1.46	0.0013
VAT1	-1.07	0.0013
IL27	-1.27	0.0013
TAS1R3	-1.08	0.0013
FAM108A1	-1.01	0.0014
CHAD	-1.99	0.0014
GRHL3	-1.15	0.0014
SFRP1	2.43	0.0014
PAIP2B	1.74	0.0014
DPT	-1.3	0.0014
LOC646626	-1.08	0.0014
ERO1L	-1.11	0.0014

SERTAD4	-1.33	0.0014
TRABD	-1.64	0.0015
VPS29	1.04	0.0015
AOC3	1.93	0.0015
EHBP1	1.09	0.0015
FLT4	-1.31	0.0015
IPO7	-1.21	0.0015
NIPAL3	-1.15	0.0015
PACSIN1	1.58	0.0015
CNIH3	-1.22	0.0015
GNASAS	1.35	0.0015
ARSB	-1.06	0.0015
GHSR	-1.57	0.0015
OSTBETA	5.75	0.0015
KLHL23	2.79	0.0016
IL28RA	-2.05	0.0016
ZDHHC20	-1.31	0.0016
ZDHHC3	1.12	0.0016
PSMA6	1.17	0.0016
MILR1	-1.88	0.0016
WASH1	1.96	0.0016
DNAH14	-1.57	0.0016
XAGE-4	5.77	0.0016
B4GALT7	-1.08	0.0016
C1S	-1.05	0.0016
MOGAT1	2.41	0.0016
ITIH6	-2.32	0.0016
KCTD17	-1.16	0.0016
CILP2	-2.76	0.0016
MAN1B1	-1.17	0.0016
SMARCA4	3.58	0.0016
C10orf105	-2.92	0.0016
CPSF3L	-1.03	0.0016

LOC282980	2.37	0.0016
SLC27A4	-1.33	0.0016
PNPLA7	1.13	0.0016
LOC100131581	5.65	0.0016
RIMS1	-2.69	0.0017
PLAUR	-1.88	0.0017
ERCC4	-1.14	0.0017
CELF4	-1.77	0.0017
PPP2R5C	-1.12	0.0017
UNC5B	-1.29	0.0017
SNCG	1.16	0.0017
LMO7	-1.54	0.0017
LOC283392	3.12	0.0017
ANKRD42	-1.04	0.0017
MAGOHB	-1.37	0.0017
CD3E	3.29	0.0017
SH3GL3	1.35	0.0018
LOC100129846	1.06	0.0018
KIAA0368	1.08	0.0018
DDB1	-1.8	0.0018
IARS	-1.22	0.0018
LMOD1	1.3	0.0018
TRPS1	-1.07	0.0018
RBPMS	1.51	0.0018
NT5E	-1.09	0.0018
DPP7	-1.23	0.0019
BMP1	-2.14	0.0019
KIF5C	-1.48	0.0019
CHST6	-1.96	0.0019
BAMBI	-1.29	0.0019
LSP1	-1.11	0.0019
RN5-8S1	-4.12	0.0019
GMPPB	-1.23	0.0019

PCYT2	1.43	0.0019
KCNK5	-1.15	0.0019
PPARG	1.52	0.0019
C3orf45	1.87	0.0019
XLOC_000670	-1.33	0.0019
AKAP9	-1.76	0.0019
LRRC15	-2.17	0.0020
KAZN	-1.14	0.0020
MAGEB6	6.04	0.0020
CARD11	-1.93	0.0020
SLC39A9	-1.14	0.0020
ARSE	-1.72	0.0020
FBXL13	1.4	0.0020
FXVD6	-1.47	0.0020
ANKRD33B	1.15	0.0020
LOC100506694	-1.57	0.0020
LOC285740	-1.07	0.0020
ANGPTL6	-2.29	0.0020
SLC25A21	1.41	0.0020
LOC100129858	5.79	0.0020
SERPINE2	-2.11	0.0020
SEC24A	-1.04	0.0021
CNTNAP5	-1.9	0.0021
XLOC_006009	4.83	0.0021
HAVCR2	-1.6	0.0021
ZNF354A	1.48	0.0021
MARK1	1.11	0.0021
YBX2	1.4	0.0021
GLYATL1	-2.5	0.0022
LEPREL2	-1.03	0.0022
SH3GL1P3	-1.09	0.0022
ITGA11	-1.56	0.0022
NDE1	-1.34	0.0022

C2orf82	-2.26	0.0022
ZNF555	1.64	0.0022
RAB7L1	-1.13	0.0022
PRKCA	-1.24	0.0022
PPP1R14C	-1.69	0.0023
PPT1	-1.21	0.0023
FMOD	-1.6	0.0023
SELP	1.02	0.0023
FREM1	1.85	0.0023
PMFBP1	-1.75	0.0024
APLN	-2.33	0.0024
PRPH	1.12	0.0024
TMEM217	-1.68	0.0024
HOMER3	-1.47	0.0024
RANBP3L	-1.6	0.0024
TXNIP	1.08	0.0024
ELAC2	-1.14	0.0024
SIPA1L2	-1.07	0.0025
USP11	-1.12	0.0025
CAV3	1.09	0.0025
COL6A2	-1.77	0.0025
IST1	-1.06	0.0025
KBTBD13	-2.49	0.0025
LOC572558	1.33	0.0025
CCDC148	1.69	0.0025
RANBP17	1.12	0.0025
LAMB2	-1.21	0.0025
MGC39584	5.67	0.0025
TAPBP	-1.3	0.0025
LOC400456	1.35	0.0025
FCGR1B	-2.14	0.0025
LOC729177	-1.01	0.0025
LOC100134240	-1.69	0.0025

ZIC3	1.15	0.0025
RAB9B	1.04	0.0026
PPP1R14A	1.85	0.0026
C17orf81	1.46	0.0026
NGF	-1.71	0.0026
CCL18	-3.06	0.0026
P2RY6	-1.95	0.0026
ORC4	1.4	0.0026
PLIN2	-1.12	0.0026
NETO2	-1.85	0.0026
CUL7	-1.01	0.0026
GPR182	5.97	0.0027
PAPSS2	-1.59	0.0027
CLEC18C	-3.53	0.0027
SLAMF8	-2.29	0.0027
CCDC80	-1.41	0.0027
BTBD19	-1.14	0.0027
LAMA3	1.17	0.0028
CD70	-2.22	0.0028
COL5A1	-1.74	0.0028
BACH1	-1.28	0.0028
KRT79	6.19	0.0028
RPA4	5.12	0.0028
F10	1.89	0.0028
CDKN2A	-1.98	0.0028
CCDC71	-1.52	0.0028
EPG5	-1.66	0.0028
KREMEN1	-1.33	0.0028
VCX2	1.22	0.0028
FLJ40039	-1.77	0.0028
PROM2	5.52	0.0028
SIGLEC7	-1.76	0.0029
NEFL	-1.6	0.0029

CCDC134	-1.15	0.0029
C1orf95	1.45	0.0029
FABP5	1.16	0.0029
C12orf39	1.98	0.0029
BAGE	-1.18	0.0029
AKR1B10	1.37	0.0029
TLCD1	-1.03	0.0030
MFSD2A	-1.46	0.0030
KCNE1L	1.92	0.0030
CHST1	-1.17	0.0030
NDP	4.4	0.0030
LUZP6	-1.53	0.0030
LMLN	-1.28	0.0030
ACVR1C	2.35	0.0030
SORCS2	-1.39	0.0030
C4orf6	2.27	0.0031
PRDX4	-1.01	0.0031
SPG20OS	1.16	0.0031
KLF6	-2.4	0.0031
FAP	-2.01	0.0031
LOC100128343	-1.81	0.0031
GJA5	-1.7	0.0031
AOX1	1.52	0.0031
ANAPC1	-1.02	0.0031
ATP1B2	1.1	0.0032
TLE4	-1.02	0.0032
SDS	-2.9	0.0032
RRP7A	-1.06	0.0032
ADAM10	-1.07	0.0032
RRBP1	-1.19	0.0032
TNFRSF19	-2.21	0.0032
ADAMTSL2	-1.95	0.0032
TPSAB1	-2.5	0.0032

CHD5	2.31	0.0032
ACACB	1.37	0.0032
FOXD3	2.04	0.0032
WDFY4	-1.27	0.0032
PPAP2B	1.02	0.0033
RAP1GAP	7.02	0.0033
ACTG2	2.48	0.0033
KCNB1	1.22	0.0033
FLJ22184	-1.01	0.0033
PART1	-2.5	0.0033
SPRY4	-1.11	0.0033
AP1B1	-1.39	0.0034
CAT	1.06	0.0034
LCN10	-2.21	0.0034
GPR179	6.05	0.0034
CORO1B	-1.16	0.0034
NCCRP1	-1.06	0.0034
THRSP	2.69	0.0034
SCARNA10	-1.05	0.0034
TP53I11	-1.02	0.0034
HS1BP3	-1.52	0.0035
ACTA1	8.15	0.0035
KRTAP19-2	2.23	0.0035
CDH23	-1.11	0.0035
SCG5	-2.01	0.0035
XLOC_I2_008434	-1.88	0.0035
SCARF2	-1.13	0.0035
OR1D2	-1.02	0.0035
PROSER1	-1.09	0.0035
ASPN	-1.7	0.0035
GFRA2	-1.71	0.0035
C1QTNF9	2.49	0.0035
TCEANC	1.49	0.0035

LRRD1	2.2	0.0035
PPA2	-1.23	0.0036
PVRL2	-1.12	0.0036
EPT1	-1.06	0.0036
MOB1B	-1.26	0.0036
PLA2G7	-1.7	0.0036
XLOC_008079	-1.29	0.0036
PHLDA2	-1.09	0.0037
LRRFIP1	-1.2	0.0037
SAA1	-1.8	0.0037
LOR	-2	0.0037
PPP6R1	5.39	0.0037
SYT8	-1.08	0.0037
SLC12A8	-1.07	0.0037
HIST4H4	-1.81	0.0038
BPIFB2	-1.03	0.0038
FZD9	-1.06	0.0038
SNORA2A	-2.04	0.0038
XLOC_001851	-2.44	0.0038
MYC	1.09	0.0038
OR8G2	-1.12	0.0039
TPSD1	-2.35	0.0039
CAPG	-1.63	0.0039
TMEM151A	-1.14	0.0039
MXRA8	-1.06	0.0039
FAM84A	-1.65	0.0039
CLECL1	-1.5	0.0039
PAQR5	-2.73	0.0040
C14orf167	1.51	0.0040
CTSZ	-1.2	0.0040
HSPA6	-1.35	0.0040
ATP1A2	2.08	0.0040
FLJ43663	-1.28	0.0040

GMPPA	-1.12	0.0041
EXOC3L2	-1.38	0.0041
SNTG2	1.38	0.0041
TM7SF4	-2.06	0.0041
SPNS1	-1.11	0.0041
EPAG	1.33	0.0041
TAF13	-1.16	0.0042
PYCR1	-2.02	0.0042
MMP1	-3.66	0.0042
C14orf37	-1.25	0.0042
KIAA0556	-1.1	0.0042
ENTPD3	1.48	0.0042
HOTAIR	2.59	0.0042
COBL	-1.77	0.0042
SLC22A3	1.43	0.0043
LOC100130480	2.18	0.0043
SLC16A10	-2.21	0.0043
ADORA3	-2.21	0.0043
LRRC16A	-1.35	0.0043
PCDHA11	-1.67	0.0043
CHST3	-1.34	0.0043
TRPV4	-2.17	0.0043
RBM23	-1.39	0.0044
ATHL1	-1.58	0.0044
CMKLR1	-1.1	0.0044
GDPD5	-1.26	0.0045
FLJ20712	-1.27	0.0045
MTHFD1L	-1.08	0.0045
IGSF6	-1.41	0.0045
NISCH	1.45	0.0046
HOXD10	1.39	0.0046
NRIP3	-1.56	0.0046
TLR7	-1.77	0.0046

VENTX	-1.91	0.0046
FARP1	-1.33	0.0046
GADD45G	1.4	0.0046
PDK3	-1.12	0.0046
MTFP1	-1.17	0.0047
PKDCC	2.05	0.0047
FCGR2A	-1.35	0.0047
C3orf55	1.78	0.0047
OPN1MW	-1.05	0.0047
PCK1	2.79	0.0047
FNDC1	-1.89	0.0047
MEST	1.55	0.0048
XLOC_005327	5.57	0.0048
UBL4A	-1.09	0.0048
C20orf112	-1.12	0.0048
C10orf81	-3.38	0.0048
CHST11	-1.37	0.0049
FOLR2	-1.46	0.0049
MAOA	1.33	0.0049
PPIC	-1.06	0.0049
TBL3	-1.13	0.0049
GPC3	2.03	0.0049
BTBD11	-1.65	0.0049
OAF	-1.12	0.0049
DKK1	-2.41	0.0049
CD109	-1.35	0.0049
TFCP2L1	-1.91	0.0049
TNFAIP6	-2.03	0.0050
SGCG	2.63	0.0050
ADAMTS7	-1.56	0.0050
GOLGA6A	1.76	0.0050
GJA1	-1.16	0.0050
PNMT	3.3	0.0050

C8orf56	-1.37	0.0050
PRDM1	-1.61	0.0050
KCNMA1	-1.09	0.0051
CORO2A	1.6	0.0051
MCF2L	1.99	0.0051
NGEF	-2.27	0.0051
ANTXR1	-1.23	0.0052
MAGEL2	-1.87	0.0052
SOX3	1.84	0.0052
GPX8	-1.17	0.0052
KL	1.29	0.0052
LONRF1	1.3	0.0052
BAALC	-1.47	0.0052
SGK1	-1.13	0.0052
MAN2B1	-1.62	0.0052
OR4A47	2.55	0.0052
POSTN	-2.5	0.0053
IFITM10	-1.88	0.0053
LOC100505702	-1.55	0.0053
HIF1A	-1.03	0.0053
C12orf68	-1.17	0.0053
SPEN	4.49	0.0054
GPR4	-1.25	0.0054
MAFIP	-1.75	0.0054
C1orf87	-1.5	0.0054
HSFX1	-1.17	0.0054
LRRC2	4.95	0.0054
SDF2L1	-1.02	0.0054
LHX6	1.43	0.0054
C19orf77	2.69	0.0055
FIBCD1	-1.27	0.0055
MCM3AP-AS1	1.17	0.0055
XLOC_I2_011612	1.23	0.0055

GDF6	-2.68	0.0055
LOC100129112	-2.52	0.0055
OR10A3	1.65	0.0055
MS4A14	-1.9	0.0056
HIPK1	-1.11	0.0056
SYT13	-3	0.0056
HHIPL2	-2.69	0.0056
DIO2	-2.03	0.0056
ALS2	-1.04	0.0057
SMARCAD1	1.11	0.0057
CYP2S1	-1.84	0.0057
TMEM132C	2.43	0.0057
SLC6A16	1.13	0.0058
RUNX1	-1.8	0.0058
C4orf47	-1.16	0.0058
MIRLET7BHG	-1.12	0.0058
ANO7	-1.73	0.0058
EIF4G3	2.34	0.0058
GPR62	1.29	0.0058
C17orf78	-1.18	0.0059
MARC1	1.46	0.0059
OXGR1	1.08	0.0059
KLF5	1.56	0.0059
SERPINA3	-2	0.0059
C1QTNF9B-AS1	-1.08	0.0059
CASZ1	1.18	0.0060
FIG4	-1.15	0.0060
EGR3	2.59	0.0060
MALAT1	-1.04	0.0060
ZIC1	1.04	0.0061
WNT5B	-1.21	0.0061
LOC440993	1.6	0.0061
DDX50	1.03	0.0061

TMEM44	-1.15	0.0061
KCNQ1	-1.5	0.0061
LCN1	-1.48	0.0061
FSCN1	-1.2	0.0061
FAM101A	-1.12	0.0062
RDH5	1.56	0.0062
ELAVL4	-1.48	0.0062
TFEC	-1.49	0.0063
GPR34	-1.19	0.0063
BDNF	1.16	0.0063
GALNT5	-2.12	0.0063
CTSK	-1.21	0.0063
CKM	7.51	0.0063
PCSK1	-1.73	0.0063
GHR	1.05	0.0064
HMBOX1	5.5	0.0064
F13A1	-1.14	0.0064
PLIN1	2.49	0.0064
GABRA3	-1.46	0.0064
STAC2	-1.59	0.0065
ROS1	1.04	0.0065
KCND1	-1.43	0.0065
WISP1	-1.95	0.0065
AHNAK2	-1.24	0.0065
C17orf62	-1.07	0.0066
LAMC2	1.01	0.0066
OTOP2	-1.06	0.0066
C19orf20	-1.15	0.0066
LOC100131864	-1.11	0.0066
CPNE5	-1.27	0.0066
CLEC7A	-2.47	0.0066
HDAC9	-1.21	0.0066
ARMC9	-1.3	0.0067

IQCA1	-1.05	0.0067
TPPP2	1.22	0.0067
CECR3	-1.06	0.0067
MUSTN1	2.03	0.0067
USF1	-1.24	0.0068
LUM	-1.89	0.0068
LOC100130111	-2.03	0.0068
ETV3	-1.77	0.0068
TUSC5	1.89	0.0068
HMOX1	-2.46	0.0069
KRTAP5-5	-1.02	0.0069
CLIC5	1.52	0.0069
EBI3	-1.76	0.0069
PTPRK	-1.06	0.0069
FP588	1.21	0.0069
NUAK1	-1.24	0.0070
ADH1A	2.33	0.0070
CD83	-1.56	0.0070
CHMP4B	-1.12	0.0070
CTSB	-1.2	0.0070
DOK2	-1.29	0.0070
FLJ46020	-1.33	0.0070
SLC25A18	1.9	0.0070
ADH1C	2.19	0.0071
MS4A7	-1.46	0.0071
TIAM2	-1.5	0.0071
FCGR2C	-1.22	0.0071
CRLF1	-3.47	0.0071
FAM70B	-1.03	0.0071
APH1A	-1.19	0.0071
ARSA	-1.06	0.0072
DNAH17	-1.59	0.0072
RP1-177G6.2	-1.02	0.0072

LPXN	1.67	0.0072
MXRA5	-1.85	0.0072
PTGS1	-1.22	0.0072
EPHB2	-1.26	0.0073
PXN	-1.02	0.0073
ZNF114	1.12	0.0073
CLTC	-1.07	0.0073
THY1	-2.11	0.0073
COL10A1	-2.66	0.0073
PCOLCE	-1.4	0.0074
SLC17A9	-1.29	0.0074
CLDND2	1.31	0.0074
CPZ	-2.44	0.0074
PGGT1B	-1.34	0.0075
ATAD3B	-1.19	0.0075
FOLH1	-2.04	0.0075
CD276	-1.35	0.0076
LOC100506253	2.09	0.0076
CALCR	-1.36	0.0076
CENPV	1.16	0.0077
IL24	-1.09	0.0077
PLXDC1	-2.31	0.0077
PRAMEF4	1.02	0.0077
PLIN4	2.25	0.0077
KIAA1598	-1.1	0.0077
SIGLEC12	-1.7	0.0078
RIN3	-1.57	0.0078
OSBPL3	-1.29	0.0078
ECEL1P2	-1.66	0.0078
TNFSF8	-1.75	0.0078
MS4A2	-1.56	0.0079
SERPINA5	-2.14	0.0079
TMEM26	-1.83	0.0079

BCL6	1.13	0.0079
RHBDL2	-1.76	0.0079
ASPHD2	-1.64	0.0079
CCBE1	-1.65	0.0079
HSPA5	-1.17	0.0079
GAS2L2	-1.22	0.0080
MS4A8B	2.11	0.0080
CD300C	-2.16	0.0080
RNF145	-1.18	0.0080
FLJ22447	-1.3	0.0080
LOC646324	-1.62	0.0080
FABP4	2.24	0.0081
MAPK13	-1.12	0.0081
CADM1	-1.83	0.0081
PRKAR2B	1.85	0.0081
ITLN1	-1.77	0.0081
PEG3	2.6	0.0081
HDGF	1.15	0.0082
CCDC85A	1.05	0.0082
MOXD1	-1.76	0.0083
C1orf229	-1.04	0.0083
KIAA0415	-1.35	0.0083
VSNL1	-1.95	0.0083
GOLM1	-1.45	0.0083
ADH1B	2.25	0.0083
STYK1	1.66	0.0083
FPR3	-2.27	0.0083
ZNF676	-1.39	0.0084
HAGHL	-1.39	0.0084
FLJ26332	1.07	0.0085
CLSTN3	-1.14	0.0085
KLB	2.5	0.0086
MMP23B	-1.89	0.0086

TPH1	1.73	0.0086
STAB1	-1.36	0.0087
WISP3	-2.41	0.0087
EDIL3	-1.52	0.0087
TSPAN2	-1.54	0.0088
SLC37A2	-2.27	0.0088
LOC400743	-1.66	0.0088
CATSPER1	-1.82	0.0088
CDKN1A	-1.04	0.0088
ECM1	-1.58	0.0090
SLIT3	-1.66	0.0090
LECT1	-2.17	0.0091
FKBP5	1.14	0.0091
NEFM	-1.23	0.0091
LINC00340	4.4	0.0091
APOD	1.55	0.0091
ASPHD1	-2.17	0.0091
SAMD14	-1.37	0.0092
SORBS1	1.34	0.0092
F2	-1.6	0.0094
LINC00473	-3.16	0.0094
ADIPOQ	2.55	0.0094
TNF	-1.77	0.0094
ACOT11	-1.21	0.0095
STOX1	1.42	0.0095
DES	2.94	0.0095
PDE10A	-1.06	0.0095
PPP1R37	-1.79	0.0095
MEGF10	-1.36	0.0095
GRIA1	2.5	0.0095
MPEG1	-1.73	0.0096
KCNJ15	-1.08	0.0096
GYG2	1.3	0.0096

ERBB3	1.96	0.0096
TRMT61A	-1.24	0.0096
MAGED4B	-2.16	0.0097
C21orf88	1.68	0.0098
ENKUR	-1.19	0.0099
AQP1	-1.08	0.0099
CLDN12	-1.19	0.0099
CACNA1C	-1.55	0.0100
FAM55D	1.57	0.0100
LOC100130849	2.29	0.0100
HIST2H2BF	-1.71	0.0100
CD68	-1.31	0.0100
KMO	-1.55	0.0100
LOC729187	-1.51	0.0100
CLVS2	-2.34	0.0100
ADAM21	-1.12	0.0100
PAR5	-1.33	0.0101
CPNE9	3.34	0.0101
NUDT7	1.2	0.0101
ACER1	-1.03	0.0101
MMP7	-2	0.0102
SDC1	-1.31	0.0102
C1QTNF5	-1.2	0.0102
PTCD2	-1.19	0.0103
STARD4	-1.05	0.0103
C6orf141	1.77	0.0103
SPTB	2.96	0.0104
EPB41L4B	2.23	0.0104
IL15RA	-1.08	0.0104
ADORA2B	-1.31	0.0105
OR10Z1	1.05	0.0106
EFHC2	-2.09	0.0106
C5orf42	-1.01	0.0106

C6	1.92	0.0106
RAB38	-1.08	0.0108
PPP1R9A	1.37	0.0108
Q6TXI9	1.14	0.0109
HSF1	-1.38	0.0109
SMPD1	-1.61	0.0109
LOC283867	-2.38	0.0109
LOC284998	-1.69	0.0109
XPO5	-1.11	0.0110
GCNT1	-1.03	0.0110
FCGBP	-2.51	0.0110
MCOLN3	-1.81	0.0110
NEURL	1.29	0.0110
BEAN1	-1.22	0.0110
ANK3	-1.96	0.0111
LOC100129223	1.46	0.0111
AKAP14	1.07	0.0111
GOLGA7B	-1.47	0.0111
LINC00163	-1.9	0.0111
PNPLA4	1.04	0.0112
RENBP	-1.04	0.0112
EFEMP1	-1.25	0.0112
PTGES	1.08	0.0112
ACSL1	1.24	0.0112
LOC339240	-2.07	0.0113
COL1A2	-1.28	0.0113
MYOT	4.81	0.0113
IRX1	-1.15	0.0113
OR10W1	1.36	0.0113
XLOC_004323	-1.98	0.0113
TPPP3	-1.03	0.0114
SEZ6L2	-2.37	0.0114
SCML4	-1.69	0.0114

NEFH	-1.12	0.0115
HEYL	-1.04	0.0115
TTN	1.85	0.0115
IFI6	-1.08	0.0115
GPR172B	-1.35	0.0116
WDR63	-1.26	0.0116
LOC100509860	-1.45	0.0116
ZNF365	-1.18	0.0116
MAL	1.19	0.0116
DEFB124	1.39	0.0116
NBLA00301	1.48	0.0116
EHMT1	-1.07	0.0116
C1orf49	1.2	0.0117
NMNAT2	1.72	0.0117
DACH1	1.01	0.0117
HIRA	-1.06	0.0117
P2RY4	1.97	0.0118
GPD1	2.51	0.0118
C21orf96	-1.76	0.0118
KRTAP4-1	-1.84	0.0118
RNASE6	-1.27	0.0118
DSCAM	-1.3	0.0118
PRSS36	1.71	0.0118
GRIN3A	-1.15	0.0119
ACP2	-1.22	0.0119
C17orf74	-1.17	0.0120
PROC	-1.83	0.0120
ITGAX	-1.94	0.0121
BPY2B	1.27	0.0121
GPC5	-1.75	0.0121
LRRC8E	-2.44	0.0121
ZNF414	-1.12	0.0122
IMPA2	1.01	0.0122

LOC283856	-1.3	0.0123
ITIH4	1.25	0.0123
POM121L8P	-1.29	0.0123
FMO2	1.58	0.0124
FAM22F	-1.05	0.0124
SHKBP1	-1.02	0.0124
SCIN	-1.91	0.0124
EEPD1	1.02	0.0124
MAP2	1.42	0.0125
IL1RL2	-1.26	0.0125
HAS1	-1.06	0.0125
LOC100506422	1.33	0.0125
SHISA3	1.98	0.0125
CD74	-1.21	0.0126
CEMP1	-1.58	0.0126
OR52R1	1.38	0.0126
ATP10A	-1.37	0.0127
RN18S1	-1.69	0.0127
CYTH4	-1.23	0.0128
PPP1R1B	3.62	0.0128
SCXA	-1.18	0.0128
PPIL4	-1.35	0.0128
VPS18	3.65	0.0128
PLN	1.92	0.0128
CD86	4.08	0.0128
GPR68	-1.95	0.0128
CD163	-1.37	0.0129
LBX2	-1.09	0.0129
SLC22A2	1.09	0.0130
NT5DC2	-1.09	0.0130
PDE4DIP	-1.22	0.0130
ISM1	-1.24	0.0131
HPSE	-1.74	0.0131

C9orf167	-1.15	0.0131
RACGAP1P	-1.31	0.0132
ZBTB26	-1.06	0.0132
C19orf29-AS1	-1.12	0.0132
PPL	1.3	0.0133
NELL1	-2.05	0.0133
CSF1R	-1.23	0.0133
GALNT6	-1.44	0.0134
LOC90834	1.8	0.0134
RIMKLA	-1.44	0.0134
C1QTNF8	-1.91	0.0135
BAI2	-1.12	0.0136
EFCAB10	-1.84	0.0136
ABI3BP	-1.17	0.0136
PELI2	1.23	0.0136
DGKE	-1.19	0.0137
KIAA1755	-1.31	0.0137
GBP1P1	1.73	0.0137
PLGLB1	1.09	0.0137
AQPEP	1.88	0.0138
HEPN1	1.63	0.0138
LOC100287879	-1.37	0.0138
LOC100131840	-1.41	0.0138
SGCD	-1.24	0.0138
FAM43B	-1.41	0.0139
ADAM12	-2.06	0.0139
PTGER3	1.44	0.0139
DNAH12	-1.07	0.0139
OSR2	1.11	0.0140
C19orf80	2.03	0.0140
PCDH12	-1.67	0.0142
LGALS2	-1.29	0.0142
ABP1	-1.63	0.0142

TMEM95	-1.06	0.0143
MAPT	1.25	0.0143
COL5A2	-1.67	0.0143
KCNJ5	-2.56	0.0144
TUBB3	-2.92	0.0144
SOX7	1.07	0.0144
C12orf28	1.49	0.0145
SPAG4	-1.25	0.0146
CST2	-2.37	0.0146
MYH7	7.23	0.0146
GPR32	-1.33	0.0146
UBASH3B	-1.53	0.0146
PAN3	-1.03	0.0146
NOV	-1.45	0.0147
NCKAP1L	-1.66	0.0147
LOXL2	-1.61	0.0147
COL8A1	-1.88	0.0148
C17orf70	-1.02	0.0149
CLSTN2	1.43	0.0150
CECR7	-1.15	0.0150
GPC6	-1.31	0.0150
VAC14	-1.45	0.0150
MYL1	6.08	0.0151
CCDC11	1.77	0.0151
ORAOV1	2.56	0.0152
SOX9	-1.9	0.0152
KCNK12	-1.42	0.0152
GRM8	-1.65	0.0153
HLA-DPA1	-1.19	0.0154
LOC400958	4.01	0.0156
DNAJC22	-1.31	0.0156
KCNAB1	1.22	0.0156
LRRC29	-1.06	0.0156

KDELR3	-1.28	0.0157
COPG2IT1	1.59	0.0157
COL3A1	-1.75	0.0158
LOC442459	-1.06	0.0159
JAG2	-1.05	0.0159
LOC284244	1.12	0.0160
HCG22	2.21	0.0162
TMEM102	-1.09	0.0162
CDK18	-1.31	0.0162
HLA-DRB1	-1.22	0.0162
SLURP1	-1.21	0.0163
MGC16121	-1.23	0.0163
GRID2IP	1.02	0.0164
C4orf39	1.06	0.0164
CDYL2	-1.69	0.0165
ZNF217	-1.29	0.0165
LHFPL4	-1.01	0.0165
CALB2	2.41	0.0165
TYROBP	-1.11	0.0166
ITGB8	-1.46	0.0166
BCMO1	-1.1	0.0166
MB	6.64	0.0166
RGS2	-1.42	0.0166
LCNL1	1.31	0.0167
CRMP1	-1.75	0.0167
ATP2B1	-1.17	0.0167
LOC283887	1.19	0.0167
TTYH3	-1.01	0.0168
LY86	-1.2	0.0168
SLC6A2	1.56	0.0169
FRMD5	1.04	0.0170
MGST1	1.27	0.0170
TRPM6	1.25	0.0171

LOC645752	1.51	0.0171
CENPI	-1.12	0.0171
TBXAS1	-1.11	0.0171
KIAA1024	-1.06	0.0172
ACTRT2	-1.44	0.0172
FAM159B	-1.36	0.0172
DACH2	1.31	0.0172
FGD2	-1.13	0.0172
HRCT1	-1.08	0.0173
CHRNA	1.52	0.0173
WNT11	1.15	0.0173
LOC441666	-1.51	0.0174
DEFB121	-1.47	0.0174
TMEM8A	-1.06	0.0175
CRTAM	-1.32	0.0175
SPAG16	-1.29	0.0175
PRG4	-1.62	0.0175
LOC390660	-1.11	0.0175
MYO1A	-1.39	0.0175
LOC100499194	-1.12	0.0176
C15orf48	-1.35	0.0176
ARAP1	-1.21	0.0176
LOC100132244	-1.09	0.0176
NOXRED1	1.31	0.0177
PBLD	-1.02	0.0177
FBXL22	2.03	0.0177
PRSS23	-1.42	0.0178
LOC100509091	-1.84	0.0178
FAM90A10	-1.5	0.0179
FGFBP2	-2.06	0.0179
LOC730159	1.65	0.0179
XLOC_002997	1.16	0.0180
LOC389834	-1.11	0.0180

IL34	-1.03	0.0180
KIAA1644	-1.14	0.0181
SEC61A2	-1.07	0.0181
GBGT1	-1.06	0.0182
ALPL	-1.89	0.0182
MAL2	2.92	0.0183
AQP4	1.61	0.0184
FZD10	-1.12	0.0184
LOC286382	-1.12	0.0184
ZNF295	-1.1	0.0185
CCDC108	-1.01	0.0185
MDFI	-1.22	0.0185
MYH11	1.46	0.0186
EYS	1.38	0.0186
NSAP11	-1.26	0.0186
SERINC5	-1.1	0.0187
LOC643486	1.4	0.0188
NPY1R	1.15	0.0189
CACNA1I	-2.38	0.0189
PRR5	-1.1	0.0191
MYOM1	1.85	0.0191
LOC283028	-1.77	0.0192
ADAM15	-1.19	0.0192
LOC644919	-1.09	0.0193
PXDNL	2.04	0.0194
KYNU	-1.72	0.0194
ND6	-1.35	0.0194
ZC3H12D	-1.26	0.0195
CDCP1	-1.87	0.0195
ATG9A	-1.27	0.0195
CLEC18B	-2.41	0.0196
C9orf102	-1.07	0.0196
LOC100132167	-1.44	0.0197

MYH2	6.89	0.0197
LOC100509861	1.28	0.0198
CIDEC	2.12	0.0199
LGALS12	2.31	0.0199
TMEM200C	-1.08	0.0199
SYT2	-1.03	0.0200
IGFBP2	-1.16	0.0200
LAPTM5	-1.39	0.0201
LOC100131231	-1.11	0.0202
LPHN3	1.84	0.0202
ELOVL4	-1.42	0.0202
PAX6	-2.75	0.0203
DUSP5P	1.34	0.0203
CLDN14	-1.97	0.0205
ITGB2	-1.69	0.0205
NAG20	-1.08	0.0206
LOC284219	-1.3	0.0206
SERPINB10	1.38	0.0207
MUC1	-1.05	0.0208
FLJ40292	-1.16	0.0209
OR51I2	-1.11	0.0209
EPS8L2	-1.65	0.0209
SLC2A5	-1.61	0.0210
CPA3	-1.36	0.0211
CHRNA5	-1.33	0.0211
SH3GL1P2	-1.01	0.0212
LOC644366	1.66	0.0213
XLOC_007052	1.24	0.0213
LOC100128727	-1.45	0.0213
LOC100129999	2.01	0.0214
RNF216	-1.32	0.0214
AJAP1	-1.08	0.0215
SPP1	-2.58	0.0215

LOC100128437	-1.21	0.0216
TRGV7	-1.4	0.0216
PPP2R1B	-1.38	0.0216
SEL1L2	1.36	0.0216
DEFB104B	-1.37	0.0217
PTPN3	1.21	0.0218
ATG12	-1.51	0.0219
NAP1L6	-1.25	0.0219
WWC2	-1.19	0.0219
KIF18A	1.07	0.0220
GK	-1.2	0.0221
IVL	-1.25	0.0221
VANGL2	1.55	0.0222
PNMA6A	-1.89	0.0222
MYH1	3.42	0.0222
KCNAB2	-1.29	0.0223
EFNA3	-1.29	0.0224
C1QA	-1.28	0.0226
XLOC_005238	-1.04	0.0226
OR4C6	-1.77	0.0227
ROPN1	-1.5	0.0227
MYOCD	1.61	0.0227
FAM26D	1.46	0.0227
SIGLECP3	-1.59	0.0228
LOC645427	-1.36	0.0229
ZNF488	-1.14	0.0229
ASB2	2.11	0.0229
CCDC88B	-1.12	0.0230
GDF15	-1.12	0.0230
P4HA3	-2.26	0.0231
L3MBTL4	1.47	0.0231
PTPRN2	-1.37	0.0231
PPP1R1C	-1.14	0.0232

C1QL4	-1.49	0.0233
CD84	-2	0.0233
HTRA3	-1.23	0.0233
ANXA3	1.35	0.0233
XLOC_006486	1.88	0.0233
C6orf208	-1.14	0.0236
LOC100506272	2.13	0.0236
MYOZ3	1.12	0.0236
ARSI	-2.14	0.0236
SVIL	1.14	0.0236
LONRF2	1.25	0.0237
LILRA4	-1.27	0.0237
HIF3A	1.07	0.0238
WNK2	1.74	0.0238
KRTAP12-4	1.59	0.0239
GAL3ST4	-1.01	0.0239
CNN1	1.53	0.0239
RET	1.54	0.0240
C2	-1.77	0.0241
GNA15	-1.89	0.0242
MCF2L-AS1	1.23	0.0243
SPRR2C	-1.38	0.0244
CCK	-2.35	0.0244
LOC100128371	1.03	0.0245
SCN3B	1.16	0.0245
ACSBG2	1.12	0.0246
MAB21L1	1.07	0.0248
SYNRG	-1.06	0.0248
COL6A3	-1.33	0.0248
BLNK	-1.01	0.0249
XLOC_006037	-2.09	0.0249
UCN2	-1.62	0.0249
ZNF680	-1.1	0.0249

RBM44	-1.25	0.0250
FOLH1B	-1.51	0.0250
SPON2	-1.36	0.0250
CBLN4	-3.06	0.0252
CIDEA	2.39	0.0252
AZGP1	2.14	0.0252
WBP2NL	-1.26	0.0254
TNFRSF4	-1.18	0.0254
MFAP2	-1.15	0.0254
MMD	1.13	0.0255
HS3ST2	-1.11	0.0257
HLA-DRB5	-1.72	0.0258
FCER1G	-1.04	0.0258
CSTA	1.16	0.0258
SLC4A8	-1.56	0.0258
FGL1	-1.67	0.0259
HIVEP3	-1.08	0.0260
NEBL	-1.18	0.0260
CHRDL1	1.31	0.0260
LOC100507012	-1.13	0.0263
ACP5	-2.01	0.0265
PRIC285	-1.12	0.0265
GPR157	-1.42	0.0266
SCG2	-1.57	0.0266
ZNF385D	-1.2	0.0268
CCR1	-1.27	0.0272
KCNT1	1.46	0.0272
HPSE2	2.09	0.0272
IL8	-1.97	0.0273
CCDC64	1.01	0.0275
FHAD1	-1.93	0.0275
AKAP6	1.05	0.0275
GPRIN1	-1.85	0.0277

CXCL1	-1.84	0.0278
PLIN5	2.29	0.0279
SLC7A5	-1.26	0.0280
ATP6V0D1	-1.38	0.0281
LPL	1.62	0.0282
SLC12A1	-1.48	0.0284
DOCK2	-1.25	0.0284
ZNF829	-1.12	0.0285
ENTPD7	-1.13	0.0285
TNFRSF11B	-1.99	0.0285
HLA-DPB1	-1.09	0.0286
SRPX2	-1.91	0.0286
SLCO1B3	3.2	0.0286
ATP2A1	3.3	0.0288
LOC645434	1.1	0.0288
PPAPDC1A	-2.62	0.0289
FAM19A5	-1.05	0.0290
ROR1	-1.01	0.0290
OR5L2	1.39	0.0290
ZNF618	-1.64	0.0290
CXCR4	-1.54	0.0291
CMYA5	2.3	0.0291
KRTAP19-8	1.23	0.0292
RBM24	2.45	0.0292
IL6	2.91	0.0292
LYPD1	-1.35	0.0292
PTPRH	-1.49	0.0293
RASD2	-1.06	0.0293
CRB1	1.13	0.0293
SEMA7A	-2.35	0.0293
MS4A6A	-1.15	0.0294
ESPL1	-1.22	0.0294
ELOVL7	1.55	0.0295

ACSM1	1.04	0.0296
CPA1	1.29	0.0296
PRM2	-1.72	0.0296
RBM47	-1.5	0.0297
POM121L1P	-1.01	0.0297
C1QC	-1.2	0.0299
DIS3L2	-1.03	0.0300
SUSD4	-1.26	0.0300
DEFB131	-1.24	0.0300
PAPPA	-1.35	0.0301
OR1K1	1.24	0.0302
PCDH10	-1.19	0.0302
CFD	1.18	0.0302
C5orf52	1.17	0.0302
CHRNE	-1.03	0.0302
C9orf153	1.31	0.0303
PFKFB1	1.81	0.0304
ZNF215	-1.24	0.0305
C1QB	-1.36	0.0305
CYP3A4	1.44	0.0306
SLCO2B1	-1.16	0.0308
LINC00204B	1.23	0.0308
LILRB4	-1.42	0.0308
SLC2A4	1.7	0.0311
SCN11A	1.28	0.0312
SELPLG	-1.25	0.0312
CILP	-2.17	0.0312
CCL25	-1.39	0.0312
RSPH10B	1.09	0.0312
COMMD8	1.02	0.0313
TGM2	-1.13	0.0314
PLB1	-1.59	0.0315
PRODH	1.28	0.0316

EDA2R	-1.17	0.0318
HKDC1	1.24	0.0318
DDAH1	-1.05	0.0318
CLEC5A	-1.5	0.0319
BMS1P4	-1.55	0.0319
LOC100132078	-1.02	0.0323
CGN	1.16	0.0327
PLK5	3.19	0.0328
ARL11	-1.11	0.0328
PIK3R6	-1.18	0.0329
FAM133A	-1.75	0.0329
IL10RA	-1.3	0.0332
OPRK1	1.03	0.0333
CAMK2N2	-1.43	0.0333
FMNL1	-1.28	0.0334
SLC4A1	-1.21	0.0334
C1orf38	-1.22	0.0335
LOC100129216	-1.23	0.0335
PRELP	-1.24	0.0335
LOC100128869	-1.72	0.0335
NRAP	5.19	0.0335
ZNF100	-1.79	0.0335
DNAH10	-1.73	0.0336
MYBL1	-1.6	0.0336
C5orf58	2.23	0.0336
SEMA4G	1.46	0.0336
LDB3	2.04	0.0337
TNNT1	4.87	0.0337
GPLD1	1.19	0.0338
ANO4	2.1	0.0338
MYLPF	4.19	0.0339
DMRTA2	1.24	0.0340
DLX3	-1.83	0.0340

LZTS1	-1.31	0.0341
CSF3	2.37	0.0342
FAM65C	1.16	0.0343
SLC19A3	1.98	0.0345
FLJ45482	-1.04	0.0346
IFI30	-1.8	0.0347
BCAS1	3.55	0.0347
LEP	1.66	0.0348
PLEKHH1	1.23	0.0348
PTK6	-1.06	0.0349
TMEM72-AS1	1.65	0.0349
C14orf165	-1.19	0.0350
RERGL	1.32	0.0350
DARC	1.31	0.0352
CDK10	-1.02	0.0352
DSC2	-1.85	0.0353
PTGDS	1.26	0.0353
LEF1	-1.11	0.0355
TSPO2	-1.7	0.0355
LAMA1	-1.35	0.0355
TSPAN11	-1.04	0.0356
SPTBN5	-1.21	0.0356
POU2F3	1.78	0.0357
LOC100131234	-1.35	0.0358
CASQ2	1.34	0.0358
LOC100289079	1.12	0.0358
CXorf21	-1.06	0.0358
HRC	1.55	0.0358
SLC7A10	2.08	0.0359
AQP8	-2	0.0359
LOC388849	-1.75	0.0360
SPDYE4	-1.04	0.0360
AIF1L	-1.45	0.0360

IL4I1	-1.26	0.0363
HLA-DPB2	-1.38	0.0363
SLC6A1	1.76	0.0364
TCAP	3.87	0.0365
LOC100268168	1.05	0.0368
TNNC1	4.25	0.0368
FAM106CP	-2.45	0.0368
BCL2L11	-1.4	0.0369
POPDC2	-1.28	0.0370
IL13RA2	-1.06	0.0371
PSME4	-1.01	0.0371
XIRP2	5.26	0.0373
C4orf48	-1.14	0.0373
ANO3	1.27	0.0375
ADRA2B	1.79	0.0375
ALDOB	1.06	0.0375
ADAMTS16	1.25	0.0376
CLEC11A	-1.59	0.0376
CHST2	-1.01	0.0376
OR2T27	-1.18	0.0377
WSCD2	-1.05	0.0377
ADAM22	-1.03	0.0377
AMPH	1.42	0.0377
CYP4B1	2.15	0.0378
LBP	1.13	0.0378
HLA-DRA	-1.32	0.0380
PCDH11X	-2.18	0.0381
CSF2RA	-1.22	0.0381
LIFR	1.08	0.0381
SLC38A5	-1.33	0.0383
PLEK2	-1.97	0.0384
IRX2	-1.02	0.0385
CEBPA	1.07	0.0387

XLOC_002142	2.5	0.0390
LEFTY2	-1.51	0.0391
IL12RB2	1.41	0.0392
EEF1A2	5.02	0.0392
TPRXL	1.83	0.0396
SPANXN1	1.3	0.0398
PLEC	-1.1	0.0399
ZMAT4	-2.56	0.0399
LOC100509498	-1.1	0.0399
B3GALTL	-1.11	0.0400
USP30	-1.07	0.0401
SLC5A6	-1.06	0.0402
SRRM4	1.29	0.0404
KRT72	1.4	0.0405
C4orf11	-1.1	0.0412
EFHB	2.25	0.0412
DBNDD1	-1.24	0.0412
PRKACG	1.18	0.0413
RN28S1	-1.39	0.0413
TRPC2	-1.2	0.0415
SIGLEC15	-1.65	0.0415
FER1L4	-1.13	0.0415
LOC100506866	-1.24	0.0418
THBS2	-1.35	0.0419
ABCC3	-1.72	0.0419
CD300LG	1.32	0.0420
LOC91948	1.57	0.0420
CD53	-1.11	0.0421
C11orf45	-1.22	0.0424
EMX2OS	1.33	0.0426
MLXIPL	1.96	0.0428
C1orf195	-1.34	0.0429
RBFOX3	1.86	0.0430

RAB43P1	1.9	0.0430
ZNF331	1.17	0.0431
XLOC_006756	-1.05	0.0431
KIAA1324	-2.2	0.0434
SP5	1.21	0.0434
CDH2	-1.47	0.0435
SOX10	1.16	0.0435
C2orf54	1.01	0.0436
LILRB3	-1.35	0.0436
C8orf47	1.23	0.0436
FAM151B	-1.46	0.0437
CERS1	-1.53	0.0438
SYNPO2L	4.1	0.0439
SLC22A7	1.25	0.0440
MYO3A	2.46	0.0440
CIDECP	1.33	0.0441
CSRP3	5.14	0.0441
SYN2	1.33	0.0442
RGS9BP	1.83	0.0442
IL10	-1.06	0.0442
FAM55B	-1.45	0.0443
RYR2	1.15	0.0443
CAPZB	1.41	0.0444
Q3AHP4	1.51	0.0444
MIR31HG	-1.32	0.0445
C11orf80	-1.23	0.0445
CYP4F2	1.49	0.0449
LEPR	-1.1	0.0453
ANPEP	-1.08	0.0453
BARX1	-1.56	0.0454
LPA	-1.21	0.0454
ASPA	1.32	0.0454
ST6GALNAC1	1.16	0.0456

FIGNL1	1.35	0.0456
PADI4	1.56	0.0456
EMX2	1.34	0.0457
LOC100505474	1.97	0.0458
CPNE6	1.06	0.0458
KIRREL2	-1.54	0.0459
FLJ37644	-1.11	0.0459
SLC25A10	1.09	0.0460
COL1A1	-1.7	0.0460
DGKI	-1.56	0.0460
GALNTL2	-1.22	0.0461
XIST	1.08	0.0462
RASGEF1C	-1.19	0.0465
KCNJ11	1.41	0.0465
OR10G9	1.26	0.0466
LMOD3	3.15	0.0469
ARHGEF33	-1.04	0.0470
FILIP1L	1.03	0.0470
TNNC2	2.68	0.0472
CNIH2	3.66	0.0472
LOC80054	1.08	0.0473
ASB4	2.17	0.0473
LPPR4	1.01	0.0474
MATK	-1.29	0.0474
ATAD5	1.04	0.0476
SORCS1	1.05	0.0479
ARL4C	-1.4	0.0479
FOXA3	-1.7	0.0479
GFRAL	1.59	0.0482
KIT	-1.15	0.0482
CTHRC1	-1.2	0.0485
NOL6	1.27	0.0485
PLD4	-1.21	0.0486

DMBT1	-1.04	0.0486
LOC221122	1.23	0.0489
PEG10	1.29	0.0490
LOC100133319	1.7	0.0491
DISP2	-1.21	0.0491
DSG1	-1.36	0.0491
LIPE	1.61	0.0494
FLJ41350	4.21	0.0496
ABCB5	-1.3	0.0498
PRRT4	1.08	0.0499

logFC, log-fold change.