

**Table S1. Non-competitive repopulation using Ott1-deficient bone marrow.**

<b>Cell Dose<sup>1</sup></b>	<b>Control (surviving/total)<sup>2</sup></b>	<b>Ott1 KO (surviving/total)<sup>3</sup></b>
0	0/2	Not performed
0.05x10 <sup>6</sup>	0/4	0/4
0.2x10 <sup>6</sup>	1/4	0/4
0.5x10 <sup>6</sup>	3/4	0/4
1.0x10 <sup>6</sup>	4/4	0/4
5.0x10 <sup>6</sup>	3/3	3/4 <sup>4</sup>

<sup>1</sup> Nucleated cells from whole bone marrow injected via tail vein into lethally irradiated recipients.

<sup>2</sup> Bone marrow from mice with wild type Ott1 allele 6 weeks after plpC treatment.

<sup>3</sup> Bone marrow from Ott1<sup>flox/null</sup> Mx1-cre mice 6 weeks after plpC treatment.

<sup>4</sup> Recipient mice show presence of Ott1<sup>flox</sup> allele indicating engraftment by non-excised cells.

**TABLE S2**

Chambers UP\_WITH\_AGE\_ALL

Upregulated in class	OTT1KO
GeneSet	UP_WITH_AGE
Enrichment Score (ES)	0.2421749
Normalized Enrichment Score (NES)	1.166678
Nominal p-value	0.0123207
FDR q-value	0.0378227
FWER p-Value	0.0372

NAME	GENE	GENE_TITLE	RANK	RANK	FOLD	CORE
			GENE LIST	METRIC SCORE	RUNNING ES	CHANGE ENRICH
row_0	SELP	selectin, platelet	0	3.673389	0.004563459	6.5380 Yes
row_1	CALML4	calmodulin-like 4	6	2.982871	0.008026733	5.0244 Yes
row_2	CD38	CD38 antigen	12	2.601485	0.011016211	3.5424 Yes
row_3	NEO1	neogenin	15	2.536915	0.014070885	9.3667 Yes
row_4	GEM	GTP binding protein	18	2.396166	0.016950706	3.6524 Yes
row_5	SELP	selectin, platelet	19	2.368882	0.019893574	5.1390 Yes
row_6	CLU	clusterin	22	2.268948	0.02261535	2.6616 Yes
row_7	SULT1A1	sulfotransferase family 1A, phenol-preferring, member 1	26	2.144482	0.025134034	3.3821 Yes
row_8	CLU	clusterin	29	2.137277	0.027692236	2.5889 Yes
row_9	TEK	endothelial-specific receptor tyrosine kinase	30	2.133659	0.030342886	2.7105 Yes
row_10	BGN	biglycan	31	2.125874	0.032983866	2.8059 Yes
row_11	CLU	clusterin	35	1.999496	0.03532243	2.7936 Yes
row_12	PIM2	proviral integration site 2	36	1.989080	0.03779347	2.7195 Yes
row_13	BGN	biglycan	45	1.877414	0.039738018	2.2025 Yes
row_14	CLU	clusterin	50	1.836075	0.041825097	2.8111 Yes
row_15	ITGA2B	integrin alpha 2b	62	1.772908	0.043494407	2.1858 Yes
row_16	RAB27B	RAB27b, member RAS oncogene family	70	1.748577	0.045327373	2.0756 Yes
row_17	SDPR	serum deprivation response	75	1.720258	0.04727057	2.1741 Yes
row_18	JAM2	junction adhesion molecule 2	78	1.698374	0.049283523	3.2658 Yes
row_19	BGN	biglycan	81	1.666934	0.051257417	2.4381 Yes
row_20	ASPH	aspartate-beta-hydroxylase	82	1.666048	0.053327154	2.3083 Yes
row_21	PPIC	peptidylprolyl isomerase C	86	1.640376	0.055219583	1.9765 Yes
row_22	MUC1	mucin 1, transmembrane	92	1.627312	0.056998845	1.9737 Yes
row_23	FZD3	frizzled homolog 3 (Drosophila)	93	1.627115	0.05902021	1.9648 Yes
row_24	PRICKLE1	prickle like 1 (Drosophila)	100	1.604554	0.060722727	1.9451 Yes
row_25	RAMP2	receptor (calcitonin) activity modifying protein 2	112	1.549013	0.062113892	2.5185 Yes
row_26	GHR	growth hormone receptor	127	1.498179	0.06329649	2.2265 Yes
row_27	LMAN1	lectin, mannose-binding, 1	130	1.493228	0.065054595	1.8516 Yes
row_28	PRKCA	protein kinase C, alpha	131	1.489532	0.066905044	1.9396 Yes
row_29	CLCA1	chloride channel calcium activated 1	134	1.488915	0.068657786	3.4813 Yes

row_30	F11R	F11 receptor	136	1.483640	0.070452444	1.8438	Yes
row_31	SLC7A7	solute carrier family 7	146	1.465292	0.07183654	1.8563	Yes
row_32	CLCA1	chloride channel calcium activated 1	160	1.424618	0.072976224	3.2962	Yes
row_33	CXCL16	chemokine (C-X-C motif) ligand 16	162	1.418001	0.07468934	2.1837	Yes
row_34	GSTM2	glutathione S-transferase, mu 2	184	1.377998	0.07538334	3.5219	Yes
row_35	DAG1	dystroglycan 1	187	1.376940	0.07699698	1.7601	Yes
row_36	PCLO	piccolo (presynaptic cytomatrix protein)	192	1.368484	0.07850317	2.8325	Yes
row_37	TIE1	tyrosine kinase receptor 1	206	1.339600	0.079537235	1.9236	Yes
row_38	ADD3	adducin 3 (gamma)	218	1.313112	0.08063534	1.7123	Yes
row_39	PBX3	pre B-cell leukemia transcription factor 3	221	1.309646	0.082165375	2.4242	Yes
row_40	PMP22	peripheral myelin protein	228	1.300549	0.08349022	1.8919	Yes
row_41	PODXL	podocalyxin-like	244	1.273562	0.08434531	1.8414	Yes
row_42	USP38	ubiquitin specific peptidase 38	255	1.253043	0.08541726	1.6823	Yes
row_43	RAB14	RAB14, member RAS oncogene family	256	1.252982	0.086973846	1.6706	Yes
row_44	ULK2	Unc-51 like kinase 2 (C. elegans)	260	1.244353	0.0883743	2.1750	Yes
row_45	PTPN12	protein tyrosine phosphatase, non-receptor type 12	270	1.231542	0.08946801	1.6536	Yes
row_46	SH3D19	SH3 domain protein D19	272	1.227529	0.0909445	1.6508	Yes
row_47	STAU2	staufen (RNA binding protein) homolog 2 (Drosophila)	275	1.224578	0.092368856	2.3749	Yes
row_48	SNRPD3	small nuclear ribonucleoprotein D3	288	1.204993	0.093284175	1.6350	Yes
row_49	PFTK1	PFTAIRE protein kinase 1	291	1.203982	0.09468294	1.9078	Yes
row_50	RAB27B	RAB27b, member RAS oncogene family	303	1.193545	0.09563251	1.6271	Yes
row_51	CDC5L	cell division cycle 5-like (S. pombe)	307	1.190194	0.09696567	1.9981	Yes
row_52	CTTN	cortactin	337	1.157354	0.096997805	1.6024	Yes
row_53	CTTN	cortactin	343	1.149418	0.09818338	1.5970	Yes
row_54	SDPR	serum deprivation response	351	1.139193	0.0992593	1.7810	Yes
row_55	CTTN	cortactin	353	1.138019	0.1006246	1.5893	Yes
row_56	TM4SF1	transmembrane 4 superfamily member 1	354	1.137760	0.10203803	2.9735	Yes
row_57	KHDRBS3	KH domain containing, RNA binding, signal transduction asso	368	1.126257	0.10280707	1.5815	Yes
row_58	FIGNL1	fidgetin-like 1	391	1.109720	0.10311932	1.6135	Yes
row_59	NEDD4	neural precursor cell expressed, developmentally down-regult	398	1.106502	0.104203105	1.5684	Yes
row_60	DAG1	dystroglycan 1	425	1.085421	0.10429129	1.6191	Yes
row_61	FKBP9	FK506 binding protein 9	429	1.083224	0.10549156	1.6591	Yes
row_62	DSC2	desmocollin 2	432	1.079879	0.10673616	2.3060	Yes
row_63	EHD4	EH-domain containing 4	437	1.075869	0.107878834	1.5483	Yes
row_64	CITED2	Cbp/p300-interacting transactivator, with Glu/Asp-rich carboxy	445	1.071040	0.1088701	2.1354	Yes
row_65	TPM3	tropomyosin 3, gamma	450	1.068676	0.11000383	1.6195	Yes
row_66	METAP1	methionyl aminopeptidase 1	460	1.063009	0.11088817	1.7333	Yes
row_67	SLC1A1	solute carrier family 1 (neuronal/epithelial high affinity glutama	463	1.062025	0.112110585	1.6192	Yes
row_68	JAM2	junction adhesion molecule 2	464	1.061828	0.113429695	1.5392	Yes
row_69	PJA2	praja 2, RING-H2 motif containing	470	1.056909	0.114500344	1.5588	Yes
row_70	CRTAP	cartilage associated protein	491	1.045080	0.114829235	1.5448	Yes
row_71	PROS1	protein S (alpha)	492	1.044777	0.11612716	1.5337	Yes
row_72	DLG5	discs, large homolog 5 (Drosophila)	502	1.037115	0.11697934	1.9467	Yes
row_73	SOAT1	Sterol O-acyltransferase 1	508	1.034346	0.11802196	1.5262	Yes
row_74	LPHN1	latrophilin 1	518	1.029373	0.11886451	1.5185	Yes
row_75	KIF1B	kinesin family member 1B	519	1.027754	0.12014129	1.5175	Yes
row_76	GALNT1	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgl	521	1.026599	0.12136816	1.5368	Yes

row_77	HK1	hexokinase 1	543	1.011801	0.121607244	1.6136	Yes
row_78	SYNPO	synaptopodin	553	1.008425	0.122423775	1.5053	Yes
row_79	F2RL3	coagulation factor II (thrombin) receptor-like 3	563	1.001574	0.1232318	1.6010	Yes
row_80	PLXNC1	plexin C1	571	0.997527	0.12413173	1.6407	Yes
row_81	CRNKL1	Crn, crooked neck-like 1 (Drosophila)	573	0.995997	0.12532058	1.5413	Yes
row_82	TNFRSF21	tumor necrosis factor receptor superfamily, member 21	576	0.993949	0.12645844	1.5009	Yes
row_83	ST13	Suppression of tumorigenicity 13	585	0.989058	0.12729937	1.4932	Yes
row_84	SPRED1	sprouty protein with EVH-1 domain 1, related sequence	587	0.988501	0.12847893	1.4928	Yes
row_85	PPM1A	protein phosphatase 1A, magnesium dependent, alpha isoform	598	0.983344	0.12921582	1.4896	Yes
row_86	KCTD5	potassium channel tetramerisation domain containing 5	608	0.978877	0.12999564	1.5398	Yes
row_87	SMAP1	stromal membrane-associated protein 1	612	0.977706	0.13106485	1.4941	Yes
row_88	SNAP23	synaptosomal-associated protein 23	620	0.972897	0.13193418	1.4832	Yes
row_89	FHL1	four and a half LIM domains 1	645	0.957056	0.13195984	1.6106	Yes
row_90	FUT8	fucosyltransferase 8	646	0.956854	0.13314854	1.4733	Yes
row_91	TIMP3	tissue inhibitor of metalloproteinase 3	648	0.955546	0.13428715	1.5496	Yes
row_92	SPRED2	sprouty-related, EVH1 domain containing 2	650	0.954627	0.13542461	1.4720	Yes
row_93	SDC2	syndecan 2	661	0.947379	0.13611683	1.4675	Yes
row_94	PTPRK	protein tyrosine phosphatase, receptor type, K	662	0.946955	0.13729323	1.6811	Yes
row_95	CITED2	Cbp/p300-interacting transactivator, with Glu/Asp-rich carboxy-terminal domain 2	666	0.943907	0.13832045	1.4654	Yes
row_96	PEX13	peroxisomal biogenesis factor 13	682	0.937593	0.13875815	1.4616	Yes
row_97	CD151	CD151 antigen	687	0.936437	0.1397276	1.4609	Yes
row_98	BAZ1B	bromodomain adjacent to zinc finger domain, 1B	695	0.934108	0.14054875	1.4793	Yes
row_99	IPO11	importin 11	696	0.934096	0.1417092	1.4595	Yes
row_100	SENP6	SUMO/sentrin specific peptidase 6	708	0.929438	0.14233065	1.4567	Yes
row_101	DSCR1	Down syndrome critical region homolog 1 (human)	712	0.928337	0.14333852	1.4560	Yes
row_102	NEO1	neogenin	720	0.925510	0.14414899	3.0471	Yes
row_103	SH3D19	SH3 domain protein D19	726	0.922927	0.14505318	1.5989	Yes
row_104	SRR	serine racemase	733	0.919248	0.14590435	1.4660	Yes
row_105	GJA1	gap junction membrane channel protein alpha 1	737	0.914345	0.14689483	1.4476	Yes
row_106	NEDD9	neural precursor cell expressed, developmentally down-regulated 9	752	0.910200	0.14734697	1.4451	Yes
row_107	CPSF2	cleavage and polyadenylation specific factor 2	767	0.902749	0.14778988	1.6496	Yes
row_108	SLC14A1	solute carrier family 14 (urea transporter), member 1	769	0.902481	0.14886256	1.4405	Yes
row_109	FAP	fibroblast activation protein	775	0.901157	0.14973971	1.7657	Yes
row_110	CPSF2	cleavage and polyadenylation specific factor 2	786	0.897441	0.1503699	1.4375	Yes
row_111	RYK	receptor-like tyrosine kinase	789	0.895698	0.15138568	1.4365	Yes
row_112	SIAH2	seven in absentia 2	792	0.894323	0.15239976	1.4357	Yes
row_113	F2R	coagulation factor II (thrombin) receptor	797	0.888864	0.15331012	1.5341	Yes
row_114	LGALS3BP	lectin, galactoside-binding, soluble, 3 binding protein	808	0.885217	0.15392512	1.4303	Yes
row_115	PLXNC1	plexin C1	812	0.883870	0.15487774	1.4295	Yes
row_116	CD151	CD151 antigen	817	0.882499	0.15578018	1.4617	Yes
row_117	SLC14A1	solute carrier family 14 (urea transporter), member 1	819	0.882428	0.15682796	1.4830	Yes
row_118	CD38	CD38 antigen	826	0.879175	0.15762934	1.4267	Yes
row_119	SLCO3A1	solute carrier organic anion transporter family, member 3a1	835	0.875509	0.15832922	1.4245	Yes
row_120	ABCC1	ATP-binding cassette, sub-family C (CFTR/MRP), member 1	843	0.872976	0.15907443	1.4785	Yes
row_121	NUDT11	nudix (nucleoside diphosphate linked moiety X)-type motif 11	850	0.870310	0.15986478	1.5653	Yes
row_122	SLAMF1	signaling lymphocytic activation molecule family member 1	851	0.869845	0.1609454	2.5388	Yes
row_123	SLC12A2	solute carrier family 12, member 2	868	0.861938	0.16124065	1.4316	Yes

row_124	LCP2	lymphocyte cytosolic protein 2	870	0.861760	0.16226275	1.4165	Yes
row_125	HS2ST1	heparan sulfate 2-O-sulfotransferase 1	896	0.853973	0.16211186	1.4182	Yes
row_126	SMAP1	stromal membrane-associated protein 1	921	0.845158	0.16199851	1.5178	Yes
row_127	CTF1	cardiotrophin 1	942	0.837516	0.16206954	1.4367	Yes
row_128	FOSB	FBJ osteosarcoma oncogene B	948	0.833582	0.16286275	4.8173	Yes
row_129	MCOLN1	mucolipin 1	951	0.833154	0.16380084	1.3999	Yes
row_130	SLAMF1	signaling lymphocytic activation molecule family member 1	954	0.831777	0.16473722	2.4328	Yes
row_131	MTAC2D1	membrane targeting (tandem) C2 domain containing 1	963	0.829067	0.1653794	1.3975	Yes
row_132	MAPK6	mitogen-activated protein kinase 6	971	0.826492	0.16606686	1.5978	Yes
row_133	PLSCR1	phospholipid scramblase 1	976	0.824932	0.16689779	1.3952	Yes
row_134	ARHGAP5	Rho GTPase activating protein 5	985	0.822737	0.16753212	1.5062	Yes
row_135	NUP62	nucleoporin 62	988	0.822593	0.16845709	1.3938	Yes
row_136	CPEB4	cytoplasmic polyadenylation element binding protein 4	999	0.817485	0.16898794	1.3909	Yes
row_137	FOSL1	fos-like antigen 1	1025	0.810453	0.168783	1.7972	Yes
row_138	S100A6	S100 calcium binding protein A6 (calcyclin)	1036	0.806651	0.16930039	1.6541	Yes
row_139	GOLPH3	golgi phosphoprotein 3	1044	0.801128	0.16995634	1.5229	Yes
row_140	PLXNC1	plexin C1	1055	0.797793	0.17046274	1.4843	Yes
row_141	CUL3	cullin 3	1060	0.796311	0.1712581	1.3789	Yes
row_142	BAG4	BCL2-associated athanogene 4	1087	0.788052	0.17097688	1.4045	Yes
row_143	NCBP2	nuclear cap binding protein subunit 2	1097	0.784949	0.17151578	1.3725	Yes
row_144	FKBP9	FK506 binding protein 9	1101	0.783235	0.17234339	1.5213	Yes
row_145	ACBD6	acyl-Coenzyme A binding domain containing 6	1104	0.782733	0.17321883	1.3712	Yes
row_146	MAGEE1	melanoma antigen, family E, 1	1106	0.782694	0.1741427	1.6591	Yes
row_147	TBC1D15	TBC1 domain family, member 15	1111	0.781927	0.17492022	1.5294	Yes
row_148	NCK1	non-catalytic region of tyrosine kinase adaptor protein 1	1114	0.781603	0.17579426	1.3706	Yes
row_149	CD9	CD9 antigen	1118	0.780707	0.17661873	1.6046	Yes
row_150	SOS1	Son of sevenless homolog 1 (Drosophila)	1121	0.777703	0.17748792	1.4150	Yes
row_151	CRK	v-crk sarcoma virus CT10 oncogene homolog (avian)	1124	0.777230	0.17835653	1.7501	Yes
row_152	CRYZ	crystallin, zeta	1155	0.770646	0.17785978	1.4145	Yes
row_153	ITGB1	integrin beta 1 (fibronectin receptor beta)	1165	0.768397	0.17837813	1.3632	Yes
row_154	DAG1	dystroglycan 1	1180	0.765223	0.17865017	1.3614	Yes
row_155	FOXA3	forkhead box A3	1183	0.764738	0.17950328	1.6030	Yes
row_156	SOCS3	suppressor of cytokine signaling 3	1192	0.762770	0.1800631	1.5911	Yes
row_157	MYCBP	c-myc binding protein	1199	0.761934	0.18071882	1.3596	Yes
row_158	IMMT	inner membrane protein, mitochondrial	1200	0.761879	0.1816653	1.3797	Yes
row_159	H1F0	H1 histone family, member 0	1216	0.756791	0.1818784	1.3567	Yes
row_160	NUP62	nucleoporin 62	1221	0.755148	0.18262264	1.3558	Yes
row_161	PTPN2	protein tyrosine phosphatase, non-receptor type 2	1247	0.751019	0.18234387	1.6870	Yes
row_162	MTMR1	myotubularin related protein 1	1258	0.748158	0.1827886	1.3519	Yes
row_163	DNAJC3	DnaJ (Hsp40) homolog, subfamily C, member 3	1264	0.746631	0.1834738	1.3511	Yes
row_164	BHLHB2	basic helix-loop-helix domain containing, class B2	1289	0.740031	0.18322983	1.3474	Yes
row_165	NR4A2	nuclear receptor subfamily 4, group A, member 2	1290	0.739724	0.18414879	1.3473	Yes
row_166	SH3D19	SH3 domain protein D19	1295	0.737694	0.18487135	1.4132	Yes
row_167	ITGA6	integrin alpha 6	1305	0.735056	0.18534827	1.5505	Yes
row_168	PTGS2	prostaglandin-endoperoxide synthase 2	1315	0.730470	0.1858195	2.1276	Yes
row_169	WDR26	WD repeat domain 26	1316	0.730461	0.18672696	1.5639	Yes
row_170	ASH1L	ash1 (absent, small, or homeotic)-like (Drosophila)	1322	0.729511	0.18739088	1.3417	Yes

row_171	LPHN1	latrophilin 1	1328	0.728523	0.18805356	1.3411	Yes
row_172	GUCY1B3	guanylate cyclase 1, soluble, beta 3	1351	0.722685	0.187885	1.5597	Yes
row_173	FNDC4	fibronectin type III domain containing 4	1353	0.722622	0.18873425	1.3875	Yes
row_174	MPL	myeloproliferative leukemia virus oncogene	1369	0.717400	0.18889841	1.3350	Yes
row_175	MCOLN1	mucolipin 1	1370	0.717373	0.18978961	1.3350	Yes
row_176	RRAGA	Ras-related GTP binding A	1382	0.712563	0.19014165	1.3324	Yes
row_177	CTSB	cathepsin B	1399	0.709345	0.19024734	1.3306	Yes
row_178	DECR1	2,4-dienoyl CoA reductase 1, mitochondrial	1436	0.699641	0.18937156	1.3254	Yes
row_179	NR4A2	nuclear receptor subfamily 4, group A, member 2	1451	0.696350	0.18955804	2.0244	Yes
row_180	CXCL16	chemokine (C-X-C motif) ligand 16	1453	0.696023	0.19037424	1.5099	Yes
row_181	SDC2	syndecan 2	1463	0.694572	0.19080088	1.3371	Yes
row_182	ARF6	ADP-ribosylation factor 6	1469	0.693604	0.19142018	1.3221	Yes
row_183	ATP8A1	ATPase, aminophospholipid transporter (APLT), class I, type I	1477	0.692608	0.19194132	1.3216	Yes
row_184	HERPUD1	homocysteine-inducible, endoplasmic reticulum stress-inducible	1481	0.692039	0.19265562	1.3213	Yes
row_185	CRYZ	Crystallin, zeta	1484	0.691518	0.19341776	1.3210	Yes
row_186	PPM1A	protein phosphatase 1A, magnesium dependent, alpha isoform	1487	0.691163	0.19417945	1.3705	Yes
row_187	NBEA	neurobeachin	1518	0.687001	0.1935788	1.7413	Yes
row_188	NSF	N-ethylmaleimide sensitive fusion protein	1538	0.683116	0.19350648	1.3165	Yes
row_189	TNFRSF21	tumor necrosis factor receptor superfamily, member 21	1570	0.675394	0.19284293	1.5273	Yes
row_190	DAG1	dystroglycan 1	1582	0.672619	0.19314535	1.3613	Yes
row_191	NEDD4	neural precursor cell expressed, developmentally down-regulated	1592	0.671012	0.19354272	1.3100	Yes
row_192	TIAM1	T-cell lymphoma invasion and metastasis 1	1595	0.670820	0.19427913	1.3099	Yes
row_193	CDV3	carnitine deficiency-associated gene expressed in ventricle 3	1604	0.669169	0.19472268	1.6492	Yes
row_194	CLNS1A	chloride channel, nucleotide-sensitive, 1A	1610	0.667292	0.19530931	1.5420	Yes
row_195	PLA2G4A	phospholipase A2, group IVA (cytosolic, calcium-dependent)	1630	0.663395	0.1952125	1.4031	Yes
row_196	GNS	glucosamine (N-acetyl)-6-sulfatase	1633	0.662502	0.19593859	1.3055	Yes
row_197	SERPINI1	serine (or cysteine) peptidase inhibitor, clade I, member 1	1640	0.661587	0.19646965	1.3050	Yes
row_198	BTBD14A	BTB (POZ) domain containing 14A	1654	0.659595	0.19665895	1.3039	Yes
row_199	MYH9	myosin, heavy polypeptide 9, non-muscle	1662	0.658306	0.19713748	1.3032	Yes
row_200	PLOD2	procollagen lysine, 2-oxoglutarate 5-dioxygenase 2	1670	0.657438	0.19761491	1.4031	Yes
row_201	STX12	syntaxin 12	1673	0.657012	0.19833417	1.3026	Yes
row_202	SPOP	speckle-type POZ protein	1674	0.656880	0.19915022	1.5012	Yes
row_203	SPRY1	sprouty homolog 1 (Drosophila)	1682	0.655763	0.19962558	1.3723	Yes
row_204	MMP8	matrix metalloproteinase 8	1684	0.655503	0.20039144	1.3018	Yes
row_205	CAMK2D	calcium/calmodulin-dependent protein kinase II, delta	1693	0.654047	0.2008162	1.3010	Yes
row_206	PBEF1	pre-B-cell colony-enhancing factor 1	1699	0.653266	0.2013854	1.4553	Yes
row_207	JAK1	Janus kinase 1	1703	0.652634	0.20205076	1.3002	Yes
row_208	CNOT7	CCR4-NOT transcription complex, subunit 7	1717	0.650717	0.20222902	1.5182	Yes
row_209	PHLDA1	pleckstrin homology-like domain, family A, member 1	1719	0.649778	0.20298778	1.8218	Yes
row_210	CCT3	chaperonin subunit 3 (gamma)	1728	0.647677	0.20340462	1.5576	Yes
row_211	OCLN	occludin	1758	0.641931	0.20279644	1.3039	Yes
row_212	BCL10	B-cell leukemia/lymphoma 10	1769	0.640040	0.20310685	1.2949	Yes
row_213	SOCS6	suppressor of cytokine signaling 6	1771	0.639602	0.20385297	1.4313	Yes
row_214	MRPL50	mitochondrial ribosomal protein L50	1776	0.638567	0.20445238	1.3408	Yes
row_215	ITGA6	integrin alpha 6	1789	0.636206	0.20466109	1.2916	Yes
row_216	ILK	integrin linked kinase	1791	0.635791	0.20540246	1.2914	Yes
row_217	FECH	ferrochelatase	1798	0.634916	0.20590039	1.2909	Yes

row_218	NUP62	nucleoporin 62	1801	0.634511	0.20659171	1.2907	Yes
row_219	SLC39A6	solute carrier family 39 (metal ion transporter), member 6	1809	0.633111	0.20703892	1.5077	Yes
row_220	NCK1	non-catalytic region of tyrosine kinase adaptor protein 1	1823	0.629703	0.20719108	1.2882	Yes
row_221	ARF2	ADP-ribosylation factor 2	1843	0.626481	0.20704842	1.2865	Yes
row_222	CLIC4	chloride intracellular channel 4 (mitochondrial)	1847	0.626088	0.2076808	1.2890	Yes
row_223	PURB	purine rich element binding protein B	1854	0.624837	0.20816621	1.3918	Yes
row_224	ST7L	suppression of tumorigenicity 7-like	1855	0.624804	0.20894241	1.2856	Yes
row_225	KIF1B	kinesin family member 1B	1859	0.623866	0.20957203	1.2851	Yes
row_226	PJA2	praja 2, RING-H2 motif containing	1861	0.623724	0.2102984	1.3783	Yes
row_227	ADAM10	a disintegrin and metallopeptidase domain 10	1869	0.622195	0.21073207	1.2842	Yes
row_228	PPP1R2	protein phosphatase 1, regulatory (inhibitor) subunit 2	1902	0.617377	0.20994797	1.2817	Yes
row_229	MYNN	myoneurin	1911	0.616497	0.21032608	1.2864	Yes
row_230	SOCS6	suppressor of cytokine signaling 6	1920	0.615011	0.21070234	1.2805	Yes
row_231	JAM2	junction adhesion molecule 2	1944	0.611679	0.21034741	1.2788	Yes
row_232	GOLGA4	golgi autoantigen, golgin subfamily a, 4	1953	0.610588	0.21071818	1.2782	Yes
row_233	PRKCH	protein kinase C, eta	1999	0.603640	0.2092869	1.4922	Yes
row_234	TFG	Trk-fused gene	2016	0.600560	0.20925744	1.2730	Yes
row_235	JAK1	Janus kinase 1	2027	0.599805	0.20951788	1.2726	Yes
row_236	GOPC	golgi associated PDZ and coiled-coil motif containing	2035	0.598740	0.20992239	1.3056	Yes
row_237	NT5C3	5'-nucleotidase, cytosolic III	2039	0.598173	0.21052009	1.2718	Yes
row_238	HS2ST1	heparan sulfate 2-O-sulfotransferase 1	2040	0.597982	0.21126297	1.2717	Yes
row_239	ARL6IP2	ADP-ribosylation factor-like 6 interacting protein 2	2051	0.597013	0.21151993	1.7165	Yes
row_240	ARL2BP	ADP-ribosylation factor-like 2 binding protein	2066	0.594364	0.21157973	1.2698	Yes
row_241	QSCN6	quiescin Q6	2081	0.591586	0.21163605	1.2684	Yes
row_242	SLC1A1	solute carrier family 1 (neuronal/epithelial high affinity glutama	2090	0.590561	0.21198195	1.3007	Yes
row_243	CTTN	cortactin	2100	0.589306	0.21227781	1.2672	Yes
row_244	SAT1	spermidine/spermine N1-acetyl transferase 1	2104	0.588801	0.21286386	1.3180	Yes
row_245	KLHL13	kelch-like 13 (Drosophila)	2109	0.587769	0.21340017	1.3412	Yes
row_246	THBD	thrombomodulin	2116	0.587005	0.21383858	1.2800	Yes
row_247	GTF2B	general transcription factor IIB	2130	0.585273	0.21393555	1.2651	Yes
row_248	SHOC2	soc-2 (suppressor of clear) homolog (C. elegans)	2147	0.583510	0.2138849	1.4750	Yes
row_249	LAP3	leucine aminopeptidase 3	2149	0.583161	0.21456091	1.3026	Yes
row_250	REST	RE1-silencing transcription factor	2166	0.581161	0.21450736	1.3818	Yes
row_251	ASPH	aspartate-beta-hydroxylase	2174	0.580410	0.2148891	1.3342	Yes
row_252	VLDLR	very low density lipoprotein receptor	2177	0.579954	0.21551263	1.3200	Yes
row_253	CSNK1E	casein kinase 1, epsilon	2191	0.578040	0.21560061	1.2614	Yes
row_254	GJA1	gap junction membrane channel protein alpha 1	2193	0.577784	0.21626993	1.3093	Yes
row_255	MYLK	myosin, light polypeptide kinase	2199	0.577367	0.21674484	1.2611	Yes
row_256	TM9SF2	transmembrane 9 superfamily member 2	2203	0.576680	0.21731584	1.2741	Yes
row_257	ABCC5	ATP-binding cassette, sub-family C (CFTR/MRP), member 5	2217	0.575020	0.21740006	1.2599	Yes
row_258	TPM3	tropomyosin 3, gamma	2225	0.573601	0.21777336	1.2646	Yes
row_259	PHKA1	phosphorylase kinase alpha 1	2232	0.572868	0.2181942	1.2772	Yes
row_260	GOPC	golgi associated PDZ and coiled-coil motif containing	2242	0.571955	0.21846852	1.4113	Yes
row_261	MYCT1	myc target 1	2276	0.566803	0.21757312	1.2557	Yes
row_262	SPIN	spindlin	2286	0.565957	0.21783997	1.3766	Yes
row_263	GABARAPL2	gamma-aminobutyric acid (GABA-A) receptor-associated prot	2297	0.564843	0.21805696	1.2547	Yes
row_264	LMAN1	lectin, mannose-binding, 1	2300	0.564284	0.21866104	1.2544	Yes

row_265	CNTN1	contactin 1	2309	0.563269	0.21897303	1.3179	Yes
row_266	TGFB1	transforming growth factor, beta 1	2370	0.555825	0.21675529	1.2501	Yes
row_267	KDEL1	KDEL (Lys-Asp-Glu-Leu) containing 1	2377	0.555137	0.2171541	1.4576	Yes
row_268	TMOD3	tropomodulin 3	2385	0.554422	0.21750356	1.3037	Yes
row_269	NFYA	nuclear transcription factor-Y alpha	2389	0.553507	0.21804579	1.2756	Yes
row_270	ARL6IP2	ADP-ribosylation factor-like 6 interacting protein 2	2394	0.553057	0.21853895	1.2487	Yes
row_271	TIPARP	TCDD-inducible poly(ADP-ribose) polymerase	2395	0.552846	0.21922576	1.2486	Yes
row_272	LOX	lysyl oxidase	2407	0.551701	0.21937796	1.2481	Yes
row_273	PAFAH1B2	platelet-activating factor acetylhydrolase, isoform 1b, alpha2 s	2409	0.551493	0.22001462	1.3164	Yes
row_274	PAFAH1B1	platelet-activating factor acetylhydrolase, isoform 1b, beta1 su	2418	0.550898	0.22031122	1.2476	Yes
row_275	LCP2	lymphocyte cytosolic protein 2	2425	0.550306	0.22070405	1.2473	Yes
row_276	TOX	thymocyte selection-associated HMG box gene	2442	0.547705	0.22060893	1.2941	Yes
row_277	CDADC1	cytidine and dCMP deaminase domain containing 1	2451	0.546319	0.22089987	1.4179	Yes
row_278	APLP2	amyloid beta (A4) precursor-like protein 2	2456	0.545751	0.22138396	1.2694	Yes
row_279	TBL1X	transducin (beta)-like 1 X-linked	2457	0.545734	0.22206193	1.3953	Yes
row_280	BCL3	B-cell leukemia/lymphoma 3	2459	0.545555	0.22269121	1.2449	Yes
row_281	PPP1R2	protein phosphatase 1, regulatory (inhibitor) subunit 2	2461	0.545271	0.22332013	1.2448	Yes
row_282	HSD17B12	hydroxysteroid (17-beta) dehydrogenase 12	2471	0.544521	0.22356035	1.2946	Yes
row_283	CCNI	cyclin I	2476	0.543631	0.22404182	1.3021	Yes
row_284	NFYA	nuclear transcription factor-Y alpha	2478	0.543552	0.2246686	1.3241	Yes
row_285	NME7	non-metastatic cells 7, protein expressed in	2511	0.539237	0.22378744	1.4427	Yes
row_286	USP9X	ubiquitin specific peptidase 9, X chromosome	2519	0.537941	0.22411643	1.2955	Yes
row_287	SLAMF1	signaling lymphocytic activation molecule family member 1	2526	0.536634	0.22449227	1.2644	Yes
row_288	SLC23A2	solute carrier family 23 (nucleobase transporters), member 2	2573	0.531207	0.22292253	1.2377	Yes
row_289	SLC12A2	solute carrier family 12, member 2	2576	0.530950	0.22348519	1.2376	Yes
row_290	NRGN	neurogranin	2581	0.530559	0.22395042	1.2374	Yes
row_291	MAFB	v-maf musculoaponeurotic fibrosarcoma oncogene family, prc	2585	0.530376	0.2244639	1.4194	Yes
row_292	PPP2R5C	protein phosphatase 2, regulatory subunit B (B56), gamma isc	2610	0.527681	0.22395614	1.2360	Yes
row_293	NUP62	nucleoporin 62	2613	0.527392	0.22451438	1.2358	Yes
row_294	DDX10	DEAD (Asp-Glu-Ala-Asp) box polypeptide 10	2623	0.526004	0.2247316	1.5280	Yes
row_295	RAC1	RAS-related C3 botulinum substrate 1	2642	0.523802	0.22450984	1.2340	Yes
row_296	SPRED1	sprouty protein with EVH-1 domain 1, related sequence	2644	0.523659	0.22511192	1.2340	Yes
row_297	MYCBP	c-myc binding protein	2667	0.520855	0.22469261	1.2884	Yes
row_298	COTL1	coactosin-like 1 (Dictyostelium)	2687	0.519061	0.22441651	1.2317	Yes
row_299	GJA1	gap junction membrane channel protein alpha 1	2694	0.518613	0.22476995	1.2983	Yes
row_300	CUL3	cullin 3	2701	0.517670	0.22512223	1.2310	Yes
row_301	SEPW1	selenoprotein W, muscle 1	2705	0.517304	0.22561947	1.2308	Yes
row_302	SCML4	sex comb on midleg-like 4 (Drosophila)	2716	0.515984	0.22577576	1.2677	Yes
row_303	MCL1	myeloid cell leukemia sequence 1	2746	0.513206	0.22500767	1.3885	Yes
row_304	PVR	poliovirus receptor	2754	0.512128	0.22530459	1.2308	Yes
row_305	CLCA2	chloride channel calcium activated 2	2761	0.511479	0.22564918	1.2279	Yes
row_306	ITGB1	integrin beta 1 (fibronectin receptor beta)	2763	0.511108	0.22623566	1.2633	Yes
row_307	MAP1LC3B	microtubule-associated protein 1 light chain 3 beta	2765	0.510977	0.22682197	1.2277	Yes
row_308	ITGAV	integrin alpha V	2781	0.509736	0.22672816	1.2270	Yes
row_309	HS3ST1	heparan sulfate (glucosamine) 3-O-sulfotransferase 1	2796	0.507850	0.22668047	1.3757	Yes
row_310	SCAMP1	secretory carrier membrane protein 1	2798	0.507682	0.2272627	1.2260	Yes
row_311	RPN2	ribophorin II	2801	0.507483	0.22779621	1.2259	Yes



row_312	SRR	serine racemase	2802	0.507282	0.2284264	1.2294	Yes
row_313	HS6ST1	heparan sulfate 6-O-sulfotransferase 1	2807	0.506792	0.2288621	1.2256	Yes
row_314	RUNX1	runt related transcription factor 1	2836	0.504251	0.22813137	1.2243	Yes
row_315	PTPRK	protein tyrosine phosphatase, receptor type, K	2837	0.504139	0.22875765	1.2659	Yes
row_316	MYLK	myosin, light polypeptide kinase	2840	0.504053	0.2292869	1.2663	Yes
row_317	PPM1A	protein phosphatase 1A, magnesium dependent, alpha isoform	2843	0.503936	0.229816	1.4484	Yes
row_318	TOX	thymocyte selection-associated HMG box gene	2852	0.503018	0.23005313	1.3910	Yes
row_319	BTBD14A	BTB (POZ) domain containing 14A	2856	0.502475	0.23053195	1.2234	Yes
row_320	LEPROTL1	leptin receptor overlapping transcript-like 1	2863	0.501516	0.23086415	1.2230	Yes
row_321	PHKA1	phosphorylase kinase alpha 1	2867	0.500964	0.2313411	1.3583	Yes
row_322	PVR	poliovirus receptor	2877	0.500457	0.23152657	1.2248	Yes
row_323	GADD45A	growth arrest and DNA-damage-inducible 45 alpha	2881	0.500042	0.23200236	1.3010	Yes
row_324	SERTAD2	SERTA domain containing 2	2884	0.499658	0.23252615	1.2221	Yes
row_325	PCDH7	protocadherin 7	2897	0.498428	0.2325637	1.4848	Yes
row_326	UBQLN1	ubiquilin 1	2903	0.497912	0.2329399	1.2278	Yes
row_327	GNPNAT1	glucosamine-phosphate N-acetyltransferase 1	2906	0.497757	0.23346134	1.2368	Yes
row_328	ASB4	ankyrin repeat and SOCS box-containing protein 4	2914	0.497191	0.23373969	1.5318	Yes
row_329	KIF1B	kinesin family member 1B	2930	0.494887	0.23362744	1.4935	Yes
row_330	ASPH	aspartate-beta-hydroxylase	2935	0.494453	0.23404782	1.2195	Yes
row_331	LEPROTL1	leptin receptor overlapping transcript-like 1	2944	0.492790	0.23427224	1.2187	Yes
row_332	SRF	serum response factor	2955	0.492259	0.23439907	1.2514	Yes
row_333	RAP1B	RAS related protein 1b	2956	0.492060	0.23501036	1.2183	Yes
row_334	SNRPD3	Small nuclear ribonucleoprotein D3	2961	0.491496	0.23542705	1.2908	Yes
row_335	ARHGAP5	Rho GTPase activating protein 5	2964	0.491210	0.23594035	1.2733	Yes
row_336	RAD21	RAD21 homolog (S. pombe)	2968	0.490755	0.2364046	1.2177	Yes
row_337	GCNT2	glucosaminyl (N-acetyl) transferase 2, I-branching enzyme	2976	0.490288	0.23667438	1.4659	Yes
row_338	CTSC	cathepsin C	2985	0.489753	0.23689504	1.2172	Yes
row_339	SGPP1	sphingosine-1-phosphate phosphatase 1	2992	0.489067	0.2372118	1.6146	Yes
row_340	DNAJC3	DnaJ (Hsp40) homolog, subfamily C, member 3	3036	0.485546	0.23573074	1.2151	Yes
row_341	NDN	necdin	3041	0.485055	0.23613945	1.2221	Yes
row_342	PIP5K2A	Phosphatidylinositol-4-phosphate 5-kinase, type II, alpha	3047	0.484490	0.23649898	1.2146	Yes
row_343	ATP8A1	ATPase, aminophospholipid transporter (APLT), class I, type I	3063	0.483383	0.23637243	1.3341	Yes
row_344	MAP2K3	mitogen activated protein kinase kinase 3	3073	0.482289	0.23653534	1.3180	Yes
row_345	PUM1	pumilio 1 (Drosophila)	3086	0.480996	0.23655123	1.3854	Yes
row_346	TRIM37	tripartite motif protein 37	3116	0.478448	0.23573995	1.2116	Yes
row_347	DDX3Y	DEAD (Asp-Glu-Ala-Asp) box polypeptide 3, Y-linked	3131	0.476683	0.23565355	1.2207	Yes
row_348	TCERG1	transcription elongation regulator 1 (CA150)	3136	0.475940	0.23605092	1.2408	Yes
row_349	TPP2	tripeptidyl peptidase II	3140	0.475408	0.2364961	1.2101	Yes
row_350	COPB2	coatamer protein complex, subunit beta 2 (beta prime)	3157	0.474457	0.23631	1.2097	Yes
row_351	ARHGAP5	Rho GTPase activating protein 5	3158	0.474404	0.23689935	1.2097	Yes
row_352	MTMR1	myotubularin related protein 1	3163	0.473959	0.23729427	1.2235	Yes
row_353	MAP2K3	mitogen activated protein kinase kinase 3	3166	0.473562	0.23778564	1.2092	Yes
row_354	SLCO3A1	solute carrier organic anion transporter family, member 3a1	3170	0.473459	0.2382284	1.2105	Yes
row_355	CRK	v-crk sarcoma virus CT10 oncogene homolog (avian)	3172	0.473276	0.23876788	1.2091	Yes
row_356	NDN	necdin	3177	0.472867	0.23916145	1.4435	Yes
row_357	PFTK1	PFTAIRE protein kinase 1	3178	0.472810	0.23974882	1.2461	Yes
row_358	TLOC1	translocation protein 1	3213	0.469485	0.23868406	1.2073	Yes

row_359	DDX50	DEAD (Asp-Glu-Ala-Asp) box polypeptide 50	3214	0.469433	0.23926723	1.2383	Yes
row_360	GHR	growth hormone receptor	3224	0.468869	0.23941347	1.4442	Yes
row_361	RNGTT	RNA guanylyltransferase and 5'-phosphatase	3230	0.467799	0.23975226	1.2422	Yes
row_362	MYCBP	c-myc binding protein	3259	0.464517	0.23897216	1.2161	Yes
row_363	NCAM1	neural cell adhesion molecule 1	3277	0.462706	0.23872297	1.2275	Yes
row_364	NEDD4	neural precursor cell expressed, developmentally down-regul	3279	0.462658	0.23924926	1.2039	Yes
row_365	TARS	threonyl-tRNA synthetase	3287	0.462183	0.23948413	1.2037	Yes
row_366	TRIM2	tripartite motif protein 2	3314	0.459952	0.2387953	1.2026	Yes
row_367	CTSB	cathepsin B	3337	0.458274	0.23829825	1.2730	Yes
row_368	ZDHHC5	zinc finger, DHHC domain containing 5	3357	0.456705	0.23794468	1.2417	Yes
row_369	SEN2	SUMO/sentrin specific peptidase 2	3370	0.455757	0.23792921	1.2558	Yes
row_370	ABHD5	abhydrolase domain containing 5	3373	0.455414	0.23839803	1.2004	Yes
row_371	OSTF1	osteoclast stimulating factor 1	3375	0.455085	0.23891492	1.2003	Yes
row_372	KDEL1	KDEL (Lys-Asp-Glu-Leu) containing 1	3400	0.452901	0.23831426	1.1992	Yes
row_373	BAZ1B	bromodomain adjacent to zinc finger domain, 1B	3401	0.452740	0.2388767	1.1991	Yes
row_374	RGS18	regulator of G-protein signaling 18	3444	0.450113	0.2374001	1.1979	Yes
row_375	GJA1	gap junction membrane channel protein alpha 1	3451	0.449615	0.23766784	1.1976	Yes
row_376	NCAM1	neural cell adhesion molecule 1	3458	0.449315	0.2379352	1.1988	Yes
row_377	PLXNC1	plexin C1	3460	0.449265	0.23844485	1.2542	Yes
row_378	PURB	Purine rich element binding protein B	3480	0.447812	0.23808023	1.2131	Yes
row_379	CHUK	conserved helix-loop-helix ubiquitous kinase	3494	0.446532	0.23800483	1.2666	Yes
row_380	MAP2K4	mitogen activated protein kinase kinase 4	3502	0.446107	0.23821974	1.3139	Yes
row_381	COPS2	COP9 (constitutive photomorphogenic) homolog, subunit 2 (A	3507	0.445698	0.23857954	1.1957	Yes
row_382	TBC1D15	TBC1 domain family, member 15	3528	0.443738	0.23816139	1.1948	Yes
row_383	PIP5K1A	phosphatidylinositol-4-phosphate 5-kinase, type 1 alpha	3529	0.443695	0.2387126	1.2265	Yes
row_384	MYCBP	c-myc binding protein	3532	0.443510	0.23916662	1.1947	Yes
row_385	SLC12A2	solute carrier family 12, member 2	3551	0.442067	0.23884334	1.1940	Yes
row_386	PPM1B	protein phosphatase 1B, magnesium dependent, beta isoform	3554	0.441667	0.23929508	1.2492	Yes
row_387	KIF5B	kinesin family member 5B	3555	0.441488	0.23984353	1.2151	Yes
row_388	PPP2R2A	protein phosphatase 2 (formerly 2A), regulatory subunit B (PR	3558	0.441202	0.2402947	1.2314	Yes
row_389	EIF3S10	eukaryotic translation initiation factor 3, subunit 10 (theta)	3569	0.440461	0.24035718	1.3184	Yes
row_390	RUSC1	RUN and SH3 domain containing 1	3586	0.439326	0.24012741	1.1927	Yes
row_391	MIPOL1	mirror-image polydactyly gene 1 homolog (human)	3592	0.438527	0.24042985	1.2038	Yes
row_392	EIF5	eukaryotic translation initiation factor 5	3602	0.437679	0.24053735	1.1919	Yes
row_393	PURB	purine rich element binding protein B	3604	0.437509	0.24103239	1.1918	Yes
row_394	KHDRBS1	KH domain containing, RNA binding, signal transduction asso	3610	0.436953	0.24133286	1.2592	Yes
row_395	IL27RA	interleukin 27 receptor, alpha	3611	0.436897	0.24187562	1.1915	Yes
row_396	CD151	CD151 antigen	3617	0.436008	0.24217492	1.2483	Yes
row_397	ADAM9	a disintegrin and metallopeptidase domain 9 (meltrin gamma)	3649	0.432157	0.2412092	1.1892	No
row_398	STAG2	stromal antigen 2	3683	0.429755	0.24014355	1.2819	No
row_399	WDR12	WD repeat domain 12	3696	0.428815	0.24009462	1.1876	No
row_400	BCL10	B-cell leukemia/lymphoma 10	3697	0.428799	0.24062732	1.2081	No
row_401	CCT2	chaperonin subunit 2 (beta)	3702	0.428452	0.24096571	1.1874	No
row_402	BET1	blocked early in transport 1 homolog (S. cerevisiae)	3716	0.427536	0.2408667	1.1870	No
row_403	USP9X	ubiquitin specific peptidase 9, X chromosome	3761	0.424055	0.23926081	1.3955	No
row_404	EIF3S10	eukaryotic translation initiation factor 3, subunit 10 (theta)	3770	0.422997	0.23939852	1.1848	No
row_405	RANBP9	RAN binding protein 9	3790	0.421092	0.23900071	1.2202	No

row_406	SRPRB	signal recognition particle receptor, B subunit	3808	0.419823	0.23869826	1.1833	No
row_407	ZFX	zinc finger protein X-linked	3816	0.419289	0.23887984	1.1842	No
row_408	TCEB1	transcription elongation factor B (SIII), polypeptide 1	3841	0.417131	0.23823474	1.1820	No
row_409	SNAP23	synaptosomal-associated protein 23	3851	0.416614	0.23831607	1.1916	No
row_410	STAU2	staufen (RNA binding protein) homolog 2 (Drosophila)	3866	0.415595	0.23815377	1.2487	No
row_411	UBE2L3	ubiquitin-conjugating enzyme E2L 3	3874	0.415232	0.23833032	1.1811	No
row_412	MYNN	myoneurin	3882	0.414717	0.23850623	1.1809	No
row_413	HERPUD1	homocysteine-inducible, endoplasmic reticulum stress-inducib	3919	0.411823	0.23727289	1.1795	No
row_414	PAFAH1B2	platelet-activating factor acetylhydrolase, isoform 1b, alpha2 s	3925	0.411308	0.23754151	1.2527	No
row_415	EIF4A1	eukaryotic translation initiation factor 4A1	3932	0.410939	0.2377612	1.2643	No
row_416	DNAJB6	DnaJ (Hsp40) homolog, subfamily B, member 6	3933	0.410900	0.23827165	1.1881	No
row_417	CLTB	clathrin, light polypeptide (Lcb)	3946	0.410020	0.23819938	1.1787	No
row_418	COPS2	COP9 (constitutive photomorphogenic) homolog, subunit 2 (A	3949	0.409784	0.2386115	1.1785	No
row_419	TTC3	tetratricopeptide repeat domain 3	3959	0.408708	0.23868302	1.3309	No
row_420	RAD18	RAD18 homolog (S. cerevisiae)	4001	0.406162	0.23720029	1.2027	No
row_421	ITGB2	integrin beta 2	4018	0.404631	0.23692743	1.2393	No
row_422	ARF4	ADP-ribosylation factor 4	4053	0.402351	0.23577927	1.1960	No
row_423	SLC15A4	solute carrier family 15, member 4	4058	0.402003	0.23608479	1.1749	No
row_424	CASP12	caspase 12	4083	0.400026	0.23541845	1.2931	No
row_425	BZW1	basic leucine zipper and W2 domains 1	4102	0.399289	0.235042	1.2824	No
row_426	NSF	N-ethylmaleimide sensitive fusion protein	4117	0.398599	0.2348586	1.1733	No
row_427	CRNKL1	Crn, crooked neck-like 1 (Drosophila)	4118	0.398581	0.23535375	1.2884	No
row_428	PECR	peroxisomal trans-2-enoyl-CoA reductase	4142	0.396990	0.2347321	1.2713	No
row_429	BCL10	B-cell leukemia/lymphoma 10	4144	0.396859	0.23517667	1.1973	No
row_430	PLOD2	procollagen lysine, 2-oxoglutarate 5-dioxygenase 2	4160	0.395627	0.2349411	1.2487	No
row_431	SPTLC1	serine palmitoyltransferase, long chain base subunit 1	4176	0.394404	0.234704	1.1980	No
row_432	TRIM32	tripartite motif protein 32	4182	0.394049	0.23495117	1.1711	No
row_433	ETV3	ets variant gene 3	4191	0.393652	0.23505244	1.1838	No
row_434	SRRM1	serine/arginine repetitive matrix 1	4193	0.393181	0.23549242	1.1707	No
row_435	ARL2BP	ADP-ribosylation factor-like 2 binding protein	4212	0.392287	0.23510729	1.1703	No
row_436	SS18	synovial sarcoma translocation, Chromosome 18	4213	0.392227	0.23559456	1.1702	No
row_437	PSAT1	phosphoserine aminotransferase 1	4220	0.391721	0.23579036	1.1700	No
row_438	OPRS1	opioid receptor, sigma 1	4247	0.389482	0.23501398	1.1690	No
row_439	DDX46	DEAD (Asp-Glu-Ala-Asp) box polypeptide 46	4255	0.388966	0.23515789	1.1687	No
row_440	KPNA1	karyopherin (importin) alpha 1	4256	0.388949	0.23564109	1.1687	No
row_441	CSNK1D	casein kinase 1, delta	4279	0.386651	0.23505507	1.2197	No
row_442	HRB	HIV-1 Rev binding protein	4289	0.385419	0.23509763	1.2037	No
row_443	MEF2C	myocyte enhancer factor 2C	4290	0.385315	0.23557632	1.1679	No
row_444	DNAJC3	DnaJ (Hsp40) homolog, subfamily C, member 3	4309	0.384097	0.235181	1.2147	No
row_445	KIT	kit oncogene	4347	0.381050	0.23386097	1.2596	No
row_446	NCOA6IP	nuclear receptor coactivator 6 interacting protein	4363	0.379050	0.2336048	1.2835	No
row_447	IL1RAP	interleukin 1 receptor accessory protein	4365	0.378997	0.23402716	1.1640	No
row_448	GRSF1	G-rich RNA sequence binding factor 1	4372	0.378539	0.2342066	1.1638	No
row_449	ADD3	adducin 3 (gamma)	4374	0.378332	0.23462813	1.2097	No
row_450	MSH2	mutS homolog 2 (E. coli)	4386	0.377650	0.23456411	1.1634	No
row_451	MLLT3	myeloid/lymphoid or mixed lineage-leukemia translocation to	4395	0.376844	0.23464449	1.3204	No
row_452	SFRS10	splicing factor, arginine/serine-rich 10 (transformer 2 homolog	4400	0.376545	0.2349184	1.1629	No

row_453	API5	apoptosis inhibitor 5	4409	0.375882	0.23499759	1.1680	No
row_454	MOAP1	modulator of apoptosis 1	4421	0.374453	0.23492959	1.2204	No
row_455	PIK3R1	phosphatidylinositol 3-kinase, regulatory subunit, polypeptide	4459	0.372099	0.23359844	1.1608	No
row_456	ZDHHC5	zinc finger, DHHC domain containing 5	4465	0.371167	0.23381719	1.1604	No
row_457	FBNP1	formin binding protein 1	4466	0.371143	0.23427826	1.1604	No
row_458	TCERG1	transcription elongation regulator 1 (CA150)	4475	0.370646	0.23435095	1.1965	No
row_459	RAC1	RAS-related C3 botulinum substrate 1	4494	0.369534	0.23393755	1.1596	No
row_460	CFLAR	CASP8 and FADD-like apoptosis regulator	4496	0.369406	0.23434798	1.1596	No
row_461	RAB14	RAB14, member RAS oncogene family	4507	0.368964	0.23432164	1.2624	No
row_462	KCTD5	potassium channel tetramerisation domain containing 5	4510	0.368614	0.23468263	1.1614	No
row_463	ATF2	activating transcription factor 2	4532	0.367217	0.23412094	1.2258	No
row_464	ATP2C1	ATPase, Ca++-sequestering	4538	0.366990	0.2343345	1.1584	No
row_465	TGFBI	transforming growth factor, beta induced	4564	0.365392	0.23357666	1.2338	No
row_466	DNAJA2	DnaJ (Hsp40) homolog, subfamily A, member 2	4572	0.364548	0.23369025	1.2813	No
row_467	BTBD14A	BTB (POZ) domain containing 14A	4579	0.364135	0.23385178	1.1624	No
row_468	YWHAQ	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase acti	4601	0.362180	0.23328383	1.1562	No
row_469	PLEKHC1	pleckstrin homology domain containing, family C (with FERM)	4605	0.361837	0.23358794	1.1560	No
row_470	F2R	coagulation factor II (thrombin) receptor	4615	0.361145	0.23360035	1.2925	No
row_471	NBR1	neighbor of Brca1 gene 1	4632	0.360142	0.23327222	1.1552	No
row_472	NDN	neccdin	4668	0.357873	0.23202033	1.2952	No
row_473	SMARCE1	SWI/SNF related, matrix associated, actin dependent regulat	4695	0.355891	0.23120221	1.1533	No
row_474	HBLD2	HESB like domain containing 2	4700	0.355792	0.23145033	1.1532	No
row_475	ABCC1	ATP-binding cassette, sub-family C (CFTR/MRP), member 1	4713	0.354969	0.23130967	1.1528	No
row_476	LMAN1	lectin, mannose-binding, 1	4729	0.354115	0.23102252	1.3807	No
row_477	KIF1B	kinesin family member 1B	4738	0.353477	0.23107389	1.1521	No
row_478	E2F6	E2F transcription factor 6	4742	0.353051	0.23136707	1.1519	No
row_479	APLP2	amyloid beta (A4) precursor-like protein 2	4748	0.352639	0.2315628	1.1673	No
row_480	PSMD1	proteasome (prosome, macropain) 26S subunit, non-ATPase,	4760	0.351537	0.23146634	1.1512	No
row_481	SNAP23	synaptosomal-associated protein 23	4770	0.350912	0.23146604	1.2029	No
row_482	SMARCA2	SWI/SNF related, matrix associated, actin dependent regulat	4777	0.350571	0.23161073	1.2737	No
row_483	PIP5K2A	phosphatidylinositol-4-phosphate 5-kinase, type II, alpha	4785	0.349965	0.23170619	1.1505	No
row_484	REST	RE1-silencing transcription factor	4811	0.348304	0.23092712	1.1709	No
row_485	WDR1	WD repeat domain 1	4814	0.347989	0.23126249	1.4198	No
row_486	SNRPD3	small nuclear ribonucleoprotein D3	4831	0.346996	0.23091803	1.1545	No
row_487	PIK3R1	phosphatidylinositol 3-kinase, regulatory subunit, polypeptide	4835	0.346751	0.23120339	1.2159	No
row_488	APLP2	amyloid beta (A4) precursor-like protein 2	4837	0.346522	0.2315854	1.1546	No
row_489	RSU1	Ras suppressor protein 1	4863	0.345136	0.2308024	1.1483	No
row_490	RNF103	ring finger protein 103	4868	0.344636	0.23103665	1.1481	No
row_491	PTDSS1	Phosphatidylserine synthase 1	4881	0.343800	0.23088211	1.1477	No
row_492	FBXW2	F-box and WD-40 domain protein 2	4901	0.342668	0.23038687	1.1472	No
row_493	TIMP3	tissue inhibitor of metalloproteinase 3	4905	0.342387	0.2306668	1.1470	No
row_494	TMOD3	tropomodulin 3	4916	0.341689	0.23060657	1.1831	No
row_495	CEACAM1	CEA-related cell adhesion molecule 1	4919	0.341443	0.2309338	1.1743	No
row_496	HS2ST1	Heparan sulfate 2-O-sulfotransferase 1	4932	0.340740	0.23077546	1.1463	No
row_497	PSME3	proteasome (prosome, macropain) 28 subunit, 3	4937	0.340344	0.23100439	1.1671	No
row_498	MEF2C	myocyte enhancer factor 2C	4952	0.339741	0.23074785	1.2156	No
row_499	CSDA	cold shock domain protein A	4955	0.339572	0.23107277	1.1457	No

row_500	SFMBT1	Scm-like with four mbt domains 1	4958	0.339375	0.23139744	1.1456	No
row_501	USP9X	ubiquitin specific peptidase 9, X chromosome	4974	0.338550	0.23109095	1.1453	No
row_502	TXNRD1	thioredoxin reductase 1	4975	0.338455	0.23151141	1.1775	No
row_503	EIF3S6	Eukaryotic translation initiation factor 3, subunit 6	4976	0.338423	0.23193184	1.1452	No
row_504	RDX	radixin	4979	0.338075	0.2322549	1.1450	No
row_505	VLDLR	very low density lipoprotein receptor	4982	0.337913	0.23257774	1.1953	No
row_506	NUPL1	nucleoporin like 1	4992	0.337066	0.23256023	1.2116	No
row_507	NDN	neccdin	5036	0.334582	0.23089164	1.1434	No
row_508	ATP2C1	ATPase, Ca <sup>++</sup> -sequestering	5069	0.332682	0.22975388	1.1426	No
row_509	SNX9	sorting nexin 9	5072	0.332584	0.2300701	1.1546	No
row_510	MMP14	matrix metalloproteinase 14 (membrane-inserted)	5073	0.332497	0.23048316	1.1425	No
row_511	SENP6	SUMO/sentrin specific peptidase 6	5083	0.332091	0.23045948	1.1448	No
row_512	PUM2	pumilio 2 (Drosophila)	5091	0.331653	0.2305322	1.3635	No
row_513	PTP4A1	protein tyrosine phosphatase 4a1	5118	0.330553	0.22968261	1.1416	No
row_514	PPAT	phosphoribosyl pyrophosphate amidotransferase	5121	0.330304	0.22999601	1.1825	No
row_515	SORBS1	sorbin and SH3 domain containing 1	5134	0.329686	0.22982393	1.1412	No
row_516	PA2G4	proliferation-associated 2G4	5146	0.329064	0.22969955	1.1414	No
row_517	NOLC1	nucleolar and coiled-body phosphoprotein 1	5157	0.328554	0.229623	1.1442	No
row_518	METAP1	methionyl aminopeptidase 1	5162	0.328344	0.22983702	1.1406	No
row_519	PSMD11	proteasome (prosome, macropain) 26S subunit, non-ATPase,	5164	0.328277	0.23019637	1.2705	No
row_520	ETF1	eukaryotic translation termination factor 1	5167	0.327877	0.23050675	1.2712	No
row_521	ARL6IP1	ADP-ribosylation factor-like 6 interacting protein 1	5175	0.327491	0.2305743	1.1402	No
row_522	AMFR	autocrine motility factor receptor	5184	0.327197	0.23059301	1.1400	No
row_523	SDC4	syndecan 4	5189	0.326967	0.23080532	1.1817	No
row_524	RAB18	RAB18, member RAS oncogene family	5213	0.325450	0.2300948	1.1392	No
row_525	OPRS1	opioid receptor, sigma 1	5221	0.324944	0.23015918	1.1390	No
row_526	UBXD4	UBX domain containing 4	5224	0.324875	0.23046583	1.1410	No
row_527	RASSF3	Ras association (RalGDS/AF-6) domain family 3	5232	0.324287	0.2305294	1.1387	No
row_528	SLC25A17	solute carrier family 25 (mitochondrial carrier, peroxisomal me	5240	0.323967	0.23059258	1.1386	No
row_529	GOLPH4	golgi phosphoprotein 4	5243	0.323812	0.2308979	1.1385	No
row_530	ATP1B3	ATPase, Na <sup>+</sup> /K <sup>+</sup> transporting, beta 3 polypeptide	5249	0.323568	0.23105752	1.1384	No
row_531	ANXA4	annexin A4	5261	0.322593	0.2309251	1.1379	No
row_532	COTL1	coactosin-like 1 (Dictyostelium)	5288	0.321325	0.23006405	1.1374	No
row_533	PDCD6IP	programmed cell death 6 interacting protein	5296	0.320947	0.23012346	1.2551	No
row_534	CHN2	chimerin (chimaerin) 2	5302	0.320626	0.23027942	1.1410	No
row_535	HRB	HIV-1 Rev binding protein	5329	0.319155	0.22941567	1.1364	No
row_536	UBE2L3	ubiquitin-conjugating enzyme E2L 3	5383	0.315927	0.22723919	1.1349	No
row_537	GNB1	guanine nucleotide binding protein, beta 1	5392	0.315515	0.2272434	1.1347	No
row_538	GNAI3	guanine nucleotide binding protein, alpha inhibiting 3	5429	0.313234	0.22588758	1.1337	No
row_539	PLEKHB2	pleckstrin homology domain containing, family B (evectins) m	5431	0.313091	0.22622806	1.1357	No
row_540	TRPC1	transient receptor potential cation channel, subfamily C, meml	5450	0.312211	0.22574346	1.1466	No
row_541	NOLC1	nucleolar and coiled-body phosphoprotein 1	5456	0.312077	0.22588879	1.1480	No
row_542	IMMT	inner membrane protein, mitochondrial	5471	0.311206	0.22559682	1.2242	No
row_543	MPP5	membrane protein, palmitoylated 5 (MAGUK p55 subfamily m	5483	0.310428	0.22544928	1.1604	No
row_544	ZFP36	zinc finger protein 36	5499	0.308952	0.22510603	1.2593	No
row_545	PIP5K2A	phosphatidylinositol-4-phosphate 5-kinase, type II, alpha	5500	0.308945	0.22548984	1.1317	No
row_546	RAP2C	RAP2C, member of RAS oncogene family	5507	0.308696	0.2255825	1.1316	No

row_547	MAP1LC3B	Microtubule-associated protein 1 light chain 3 beta	5508	0.308691	0.22596599	1.2692	No
row_548	ABCC5	ATP-binding cassette, sub-family C (CFTR/MRP), member 5	5540	0.306908	0.22484466	1.1530	No
row_549	TXNDC4	thioredoxin domain containing 4 (endoplasmic reticulum)	5541	0.306893	0.22522593	1.1480	No
row_550	RALA	v-ral simian leukemia viral oncogene homolog A (ras related)	5554	0.306330	0.22502483	1.1305	No
row_551	TOB2	transducer of ERBB2, 2	5555	0.306320	0.22540537	1.1305	No
row_552	ARHGAP6	Rho GTPase activating protein 6	5556	0.306319	0.22578591	1.1447	No
row_553	PARN	poly(A)-specific ribonuclease (deadenylation nuclease)	5558	0.306232	0.22611788	1.1305	No
row_554	ATP5F1	ATP synthase, H+ transporting, mitochondrial F0 complex, su	5574	0.305485	0.22577031	1.1301	No
row_555	KDR	kinase insert domain protein receptor	5582	0.305295	0.22581029	1.1301	No
row_556	GJA1	gap junction membrane channel protein alpha 1	5597	0.304402	0.22550987	1.1752	No
row_557	EGLN3	EGL nine homolog 3 (C. elegans)	5609	0.303982	0.22535431	1.1295	No
row_558	SOCS3	suppressor of cytokine signaling 3	5616	0.303744	0.22544083	1.2632	No
row_559	TRIM37	tripartite motif protein 37	5664	0.301073	0.22353673	1.2218	No
row_560	IFRD1	interferon-related developmental regulator 1	5680	0.299847	0.22318217	1.1355	No
row_561	ATF2	activating transcription factor 2	5695	0.298808	0.22287479	1.1321	No
row_562	SDC2	syndecan 2	5701	0.298575	0.22300336	1.1732	No
row_563	DNMT3A	DNA methyltransferase 3A	5709	0.298307	0.22303465	1.1269	No
row_564	CCT8	chaperonin subunit 8 (theta)	5714	0.298021	0.223211	1.1336	No
row_565	TIMP3	tissue inhibitor of metalloproteinase 3	5715	0.297939	0.22358114	1.2467	No
row_566	GTPBP4	GTP binding protein 4	5766	0.295418	0.2215246	1.1514	No
row_567	NFE2L2	nuclear factor, erythroid derived 2, like 2	5768	0.295331	0.22184302	1.1255	No
row_568	PIP5K2A	Phosphatidylinositol-4-phosphate 5-kinase, type II, alpha	5778	0.294733	0.22177292	1.1253	No
row_569	PBX1	pre B-cell leukemia transcription factor 1	5812	0.293286	0.22053774	1.2158	No
row_570	PSME4	proteasome (prosome, macropain) activator subunit 4	5822	0.292882	0.22046535	1.1763	No
row_571	SOS1	Son of sevenless homolog 1 (Drosophila)	5837	0.292088	0.22014962	1.1579	No
row_572	KPNA3	karyopherin (importin) alpha 3	5840	0.291949	0.22041537	1.1240	No
row_573	WSB2	WD repeat and SOCS box-containing 2	5852	0.291378	0.22024417	1.1274	No
row_574	CCT7	chaperonin subunit 7 (eta)	5863	0.290688	0.22012058	1.1235	No
row_575	ACVR1	activin A receptor, type 1	5866	0.290586	0.22038464	1.1234	No
row_576	ANKRD17	ankyrin repeat domain 17	5878	0.289880	0.22021158	1.1231	No
row_577	RCN2	reticulocalbin 2	5891	0.289262	0.21998928	1.1228	No
row_578	MTAC2D1	membrane targeting (tandem) C2 domain containing 1	5895	0.289045	0.22020295	1.1227	No
row_579	NCAM1	neural cell adhesion molecule 1	5897	0.288937	0.22051343	1.2141	No
row_580	PDCD6IP	programmed cell death 6 interacting protein	5944	0.286289	0.21863943	1.1215	No
row_581	CD47	CD47 antigen (Rh-related antigen, integrin-associated signal t	5954	0.285734	0.21855816	1.1992	No
row_582	MYLK	myosin, light polypeptide kinase	5962	0.285178	0.21857314	1.1210	No
row_583	VAMP3	vesicle-associated membrane protein 3	5974	0.284632	0.21839356	1.1870	No
row_584	FBXW2	F-box and WD-40 domain protein 2	5976	0.284475	0.2186985	1.1301	No
row_585	PRKCA	protein kinase C, alpha	5977	0.284474	0.2190519	1.1238	No
row_586	SRR	serine racemase	5983	0.284067	0.21916245	1.1205	No
row_587	CREM	cAMP responsive element modulator	5987	0.283869	0.21936968	1.1509	No
row_588	TLOC1	translocation protein 1	5989	0.283656	0.2196736	1.1203	No
row_589	PITPNB	phosphatidylinositol transfer protein, beta	6002	0.282641	0.21944307	1.1198	No
row_590	HNRPAB	heterogeneous nuclear ribonucleoprotein A/B	6041	0.280585	0.21794976	1.1491	No
row_591	ABHD5	abhydrolase domain containing 5	6043	0.280450	0.2182497	1.1188	No
row_592	HK2	hexokinase 2	6049	0.280207	0.21835543	1.1194	No
row_593	ROCK1	Rho-associated coiled-coil forming kinase 1	6052	0.280081	0.21860644	1.1898	No

row_594	WSB2	WD repeat and SOCS box-containing 2	6062	0.279690	0.21851766	1.1185	No
row_595	EIF4A1	eukaryotic translation initiation factor 4A1	6096	0.277679	0.21726309	1.1195	No
row_596	EIF2S2	eukaryotic translation initiation factor 2, subunit 2 (beta)	6108	0.277157	0.21707423	1.1174	No
row_597	RGS18	regulator of G-protein signaling 18	6120	0.276558	0.21688461	1.1171	No
row_598	HMGB1	high mobility group box 1	6128	0.276068	0.21688828	1.1169	No
row_599	CD28	CD28 antigen	6131	0.276005	0.21713422	1.1661	No
row_600	CLTB	clathrin, light polypeptide (Lcb)	6149	0.275158	0.21665205	1.1236	No
row_601	PTK2B	PTK2 protein tyrosine kinase 2 beta	6152	0.275080	0.21689683	1.1164	No
row_602	PVR	poliovirus receptor	6156	0.274938	0.21709298	1.1164	No
row_603	MINPP1	multiple inositol polyphosphate histidine phosphatase 1	6166	0.274239	0.21699743	1.1161	No
row_604	NDN	necdin	6169	0.274027	0.21724091	1.1777	No
row_605	CRK	v-crk sarcoma virus CT10 oncogene homolog (avian)	6174	0.273806	0.21738718	1.1254	No
row_606	PAFAH1B2	platelet-activating factor acetylhydrolase, isoform 1b, alpha2 s	6176	0.273693	0.21767873	1.1158	No
row_607	RNF141	ring finger protein 141	6184	0.273304	0.21767895	1.1288	No
row_608	ENPP4	ectonucleotide pyrophosphatase/phosphodiesterase 4	6186	0.273222	0.21796991	1.1156	No
row_609	FKBP1A	FK506 binding protein 1a	6199	0.272221	0.21772644	1.1152	No
row_610	GPIAP1	GPI-anchored membrane protein 1	6213	0.271157	0.21743317	1.1748	No
row_611	DYRK1A	dual-specificity tyrosine-(Y)-phosphorylation regulated kinase	6220	0.270852	0.21747883	1.1398	No
row_612	ARHGAP6	Rho GTPase activating protein 6	6223	0.270727	0.21771821	1.1145	No
row_613	TSN	translin	6255	0.268920	0.2165497	1.1137	No
row_614	PPP2R5C	Protein phosphatase 2, regulatory subunit B (B56), gamma iso	6263	0.268542	0.21654402	1.1135	No
row_615	TIMP3	tissue inhibitor of metalloproteinase 3	6272	0.268075	0.21648929	1.2439	No
row_616	CD151	CD151 antigen	6278	0.267754	0.21657956	1.1132	No
row_617	UGCG	UDP-glucose ceramide glucosyltransferase	6279	0.267727	0.21691215	1.1308	No
row_618	HMMR	hyaluronan mediated motility receptor (RHAMM)	6302	0.266662	0.21617708	1.1127	No
row_619	ARL6	ADP-ribosylation factor-like 6	6322	0.265834	0.21558638	1.1123	No
row_620	UBE2D2	ubiquitin-conjugating enzyme E2D 2	6327	0.265464	0.21572228	1.1121	No
row_621	ABCC5	ATP-binding cassette, sub-family C (CFTR/MRP), member 5	6328	0.265454	0.21605206	1.1121	No
row_622	MAPK1	mitogen activated protein kinase 1	6343	0.264473	0.21570203	1.1117	No
row_623	YME1L1	YME1-like 1 (S. cerevisiae)	6349	0.264035	0.21578768	1.1153	No
row_624	DECR1	2,4-dienoyl CoA reductase 1, mitochondrial	6365	0.263144	0.21538752	1.1111	No
row_625	FBXW2	F-box and WD-40 domain protein 2	6386	0.262239	0.21474388	1.1929	No
row_626	EIF3S10	eukaryotic translation initiation factor 3, subunit 10 (theta)	6408	0.261323	0.21405065	1.1103	No
row_627	ARF1	ADP-ribosylation factor 1	6420	0.261041	0.21384175	1.1591	No
row_628	ITGB1	integrin beta 1 (fibronectin receptor beta)	6439	0.260289	0.21329264	1.1098	No
row_629	CLIC4	chloride intracellular channel 4 (mitochondrial)	6455	0.259547	0.21288802	1.1095	No
row_630	DYRK1A	dual-specificity tyrosine-(Y)-phosphorylation regulated kinase	6467	0.259089	0.2126767	1.1093	No
row_631	QSCN6	quiescin Q6	6470	0.259065	0.2129016	1.1170	No
row_632	ACP1	acid phosphatase 1, soluble	6471	0.259043	0.21322341	1.1093	No
row_633	UXS1	UDP-glucuronate decarboxylase 1	6472	0.259006	0.21354517	1.1093	No
row_634	CLTC	clathrin, heavy chain (Hc)	6490	0.258556	0.21304238	1.1091	No
row_635	TCEB1	transcription elongation factor B (SIII), polypeptide 1	6495	0.258290	0.21316937	1.1089	No
row_636	RAB7	RAB7, member RAS oncogene family	6506	0.257677	0.21300477	1.1087	No
row_637	NUSAP1	nucleolar and spindle associated protein 1	6510	0.257413	0.21317914	1.1288	No
row_638	IL10	interleukin 10	6517	0.257013	0.2132076	1.1084	No
row_639	FIGNL1	fidgetin-like 1	6524	0.256765	0.21323577	1.1083	No
row_640	PIP5K1C	phosphatidylinositol-4-phosphate 5-kinase, type 1 gamma	6532	0.256383	0.21321498	1.1081	No

row_641	CASP12	caspase 12	6544	0.255588	0.21299931	1.1482	No
row_642	FHL2	four and a half LIM domains 2	6572	0.254353	0.21200658	1.1072	No
row_643	RTN4	reticulon 4	6589	0.253577	0.21154608	1.1219	No
row_644	SLC39A6	solute carrier family 39 (metal ion transporter), member 6	6603	0.252870	0.21112301	1.1065	No
row_645	ITGAV	integrin alpha V	6604	0.252798	0.21154414	1.1065	No
row_646	PPP2R1A	protein phosphatase 2 (formerly 2A), regulatory subunit A (PR	6607	0.252772	0.21176122	1.1065	No
row_647	DNAJA2	DnaJ (Hsp40) homolog, subfamily A, member 2	6610	0.252647	0.21197815	1.1079	No
row_648	SLC25A15	solute carrier family 25 (mitochondrial carrier ornithine transp	6616	0.252263	0.21204919	1.1063	No
row_649	RUNX1	runt related transcription factor 1	6647	0.250728	0.21090654	1.2044	No
row_650	RANBP9	RAN binding protein 9	6667	0.249442	0.21029548	1.1050	No
row_651	CEBPB	CCAAT/enhancer binding protein (C/EBP), beta	6669	0.249321	0.21055673	1.1050	No
row_652	PJA2	praja 2, RING-H2 motif containing	6692	0.248694	0.20979933	1.1324	No
row_653	PLSCR2	phospholipid scramblase 2	6693	0.248605	0.21010818	1.1757	No
row_654	PARN	poly(A)-specific ribonuclease (deadenylation nuclease)	6698	0.248311	0.21022277	1.1045	No
row_655	RUSC1	RUN and SH3 domain containing 1	6706	0.247737	0.21019123	1.1043	No
row_656	RUNX1	runt related transcription factor 1	6716	0.247378	0.21006233	1.1340	No
row_657	MEF2C	myocyte enhancer factor 2C	6724	0.246827	0.21002966	1.1039	No
row_658	PPAT	phosphoribosyl pyrophosphate amidotransferase	6729	0.246487	0.21014199	1.1261	No
row_659	FBL	fibrillarin	6736	0.246175	0.21015699	1.1036	No
row_660	LITAF	LPS-induced TN factor	6744	0.245804	0.21012306	1.1034	No
row_661	JAK1	Janus kinase 1	6745	0.245796	0.2104284	1.1043	No
row_662	CFLAR	CASP8 and FADD-like apoptosis regulator	6752	0.245307	0.21044233	1.1903	No
row_663	ETF1	eukaryotic translation termination factor 1	6759	0.244939	0.21045579	1.1201	No
row_664	FYB	FYN binding protein	6785	0.243843	0.20954695	1.1025	No
row_665	SEC63	SEC63-like (S. cerevisiae)	6825	0.242547	0.20795791	1.1086	No
row_666	WAC	WW domain containing adaptor with coiled-coil	6828	0.242323	0.20816201	1.1019	No
row_667	MSN	moesin	6858	0.241054	0.20705582	1.1815	No
row_668	KPNA3	karyopherin (importin) alpha 3	6861	0.240953	0.20725821	1.1566	No
row_669	IMMT	inner membrane protein, mitochondrial	6873	0.240293	0.20702355	1.1010	No
row_670	ELMO2	engulfment and cell motility 2, ced-12 homolog (C. elegans)	6875	0.240249	0.20727354	1.1010	No
row_671	SMARCE1	SWI/SNF related, matrix associated, actin dependent regulatc	6901	0.239189	0.20635892	1.1005	No
row_672	NCAM1	neural cell adhesion molecule 1	6904	0.239114	0.20655903	1.1004	No
row_673	SENP2	SUMO/sentrin specific peptidase 2	6905	0.239111	0.20685607	1.1004	No
row_674	NPM1	Nucleophosmin 1	6939	0.237282	0.20555131	1.0996	No
row_675	RRAGC	Ras-related GTP binding C	6952	0.236627	0.20526363	1.0994	No
row_676	HIF1A	hypoxia inducible factor 1, alpha subunit	6958	0.236386	0.20531493	1.1652	No
row_677	VLDLR	very low density lipoprotein receptor	6960	0.236372	0.20556012	1.1099	No
row_678	SH3D19	SH3 domain protein D19	6993	0.235093	0.2043011	1.0987	No
row_679	ANKRD17	ankyrin repeat domain 17	7004	0.234675	0.20410794	1.0985	No
row_680	NUPL1	nucleoporin like 1	7005	0.234565	0.20439933	1.2167	No
row_681	CSNK1D	casein kinase 1, delta	7019	0.234002	0.20405991	1.0982	No
row_682	CDC5L	cell division cycle 5-like (S. pombe)	7034	0.233527	0.20367144	1.0980	No
row_683	COTL1	coactosin-like 1 (Dictyostelium)	7035	0.233464	0.20396148	1.0980	No
row_684	ZFX	zinc finger protein X-linked	7045	0.232902	0.20381457	1.1259	No
row_685	MTAC2D1	membrane targeting (tandem) C2 domain containing 1	7067	0.232140	0.20308506	1.0974	No
row_686	ATP1A1	ATPase, Na+/K+ transporting, alpha 1 polypeptide	7084	0.231449	0.20259707	1.0971	No
row_687	HMMR	hyaluronan mediated motility receptor (RHAMM)	7093	0.231033	0.20249632	1.0969	No



row_688	PLRG1	pleiotropic regulator 1, PRL1 homolog (Arabidopsis)	7104	0.230707	0.20229822	1.0967	No
row_689	LATS2	large tumor suppressor 2	7106	0.230641	0.20253627	1.1324	No
row_690	PFN2	profilin 2	7118	0.230153	0.20228902	1.1661	No
row_691	DSG2	desmoglein 2	7136	0.229218	0.20174977	1.0961	No
row_692	TPP2	tripeptidyl peptidase II	7143	0.228764	0.20174314	1.1257	No
row_693	PTGS2	prostaglandin-endoperoxide synthase 2	7144	0.228755	0.20202732	1.0959	No
row_694	TTC3	tetratricopeptide repeat domain 3	7154	0.228346	0.20187476	1.1500	No
row_695	DDX46	DEAD (Asp-Glu-Ala-Asp) box polypeptide 46	7175	0.227523	0.2011188	1.1493	No
row_696	ICAM1	intercellular adhesion molecule	7176	0.227487	0.2014706	1.0953	No
row_697	YWHAG	3-monooxygenase/tryptophan 5-monooxygenase activation pr	7188	0.227081	0.20121953	1.1209	No
row_698	RIOK2	RIO kinase 2 (yeast)	7197	0.226647	0.20111333	1.0965	No
row_699	RABGEF1	RAB guanine nucleotide exchange factor (GEF) 1	7201	0.226452	0.20124924	1.0949	No
row_700	LGALS9	lectin, galactose binding, soluble 9	7203	0.226302	0.20148191	1.0948	No
row_701	NR1D2	nuclear receptor subfamily 1, group D, member 2	7243	0.223672	0.19986941	1.0937	No
row_702	PTDSS1	phosphatidylserine synthase 1	7247	0.223479	0.20000163	1.0936	No
row_703	GCNT2	glucosaminyl (N-acetyl) transferase 2, I-branching enzyme	7276	0.222669	0.19892107	1.1555	No
row_704	HNRPL	heterogeneous nuclear ribonucleoprotein L	7297	0.221997	0.19822744	1.1107	No
row_705	DSG2	Desmoglein 2	7333	0.220406	0.19680478	1.1497	No
row_706	AP3S2	adaptor-related protein complex 3, sigma 2 subunit	7403	0.217973	0.19373108	1.0936	No
row_707	ELF1	E74-like factor 1	7410	0.217639	0.19371063	1.0910	No
row_708	DNMT3A	DNA methyltransferase 3A	7414	0.217444	0.19383535	1.0945	No
row_709	ARF6	ADP-ribosylation factor 6	7416	0.217311	0.19405684	1.1420	No
row_710	EPS8	epidermal growth factor receptor pathway substrate 8	7429	0.216570	0.19374424	1.1050	No
row_711	FRG1	FSHD region gene 1	7440	0.215730	0.19352753	1.0902	No
row_712	LMAN2	lectin, mannose-binding 2	7460	0.214824	0.19287346	1.0898	No
row_713	CD151	CD151 antigen	7481	0.214146	0.19217008	1.1266	No
row_714	GLA	galactosidase, alpha	7494	0.213717	0.19185394	1.1179	No
row_715	SIAH2	seven in absentia 2	7507	0.213200	0.19153716	1.1345	No
row_716	FBL	fibrillarlin	7509	0.213119	0.19175343	1.0890	No
row_717	PSEN1	presenilin 1	7541	0.211588	0.1905137	1.1354	No
row_718	GABARAPL1	gamma-aminobutyric acid (GABA(A)) receptor-associated pro	7542	0.211546	0.19077651	1.0884	No
row_719	PSEN1	presenilin 1	7588	0.209258	0.18885529	1.0874	No
row_720	PHKA1	phosphorylase kinase alpha 1	7617	0.208065	0.18775658	1.1925	No
row_721	ATP5A1	ATP synthase, H+ transporting, mitochondrial F1 complex, al	7627	0.207684	0.18757835	1.0867	No
row_722	KLHDC2	kelch domain containing 2	7652	0.206561	0.18667166	1.0862	No
row_723	MGEA5	meningioma expressed antigen 5 (hyaluronidase)	7675	0.205373	0.18586044	1.0857	No
row_724	GHR	growth hormone receptor	7680	0.205334	0.18592165	1.0857	No
row_725	SOCS3	suppressor of cytokine signaling 3	7684	0.205275	0.18603125	1.1319	No
row_726	PAPOLA	poly (A) polymerase alpha	7717	0.203886	0.18473348	1.1130	No
row_727	MAP2K7	mitogen activated protein kinase kinase 7	7748	0.202417	0.18353081	1.0844	No
row_728	NAB1	Ngfi-A binding protein 1	7750	0.202358	0.18373373	1.0844	No
row_729	ACVR1	activin A receptor, type 1	7759	0.201876	0.18359676	1.0841	No
row_730	PYGL	liver glycogen phosphorylase	7781	0.200871	0.18282841	1.0837	No
row_731	DSG2	desmoglein 2	7784	0.200837	0.18298097	1.1112	No
row_732	DDR1	discoidin domain receptor family, member 1	7837	0.198446	0.18070702	1.0827	No
row_733	GRINL1A	glutamate receptor, ionotropic, N-methyl D-aspartate-like 1A	7850	0.197853	0.18037117	1.0824	No
row_734	WDR1	WD repeat domain 1	7868	0.197134	0.17979206	1.0821	No

row_735	ETV3	ets variant gene 3	7888	0.196058	0.17911468	1.0914	No
row_736	METAP1	methionyl aminopeptidase 1	7892	0.195922	0.17921267	1.0816	No
row_737	CNTN1	contactin 1	7911	0.195214	0.17858271	1.0813	No
row_738	SRPK2	serine/arginine-rich protein specific kinase 2	7912	0.195175	0.17882517	1.1287	No
row_739	NDFIP1	Nedd4 family interacting protein 1	7917	0.195058	0.17887361	1.0837	No
row_740	ATP1A1	ATPase, Na+/K+ transporting, alpha 1 polypeptide	7959	0.193161	0.17712627	1.0804	No
row_741	EPS8	epidermal growth factor receptor pathway substrate 8	7965	0.193051	0.17712376	1.0803	No
row_742	PSME3	proteasome (prosome, macropain) 28 subunit, 3	7967	0.192938	0.17731497	1.0803	No
row_743	MYO6	myosin VI	7969	0.192881	0.17750612	1.0802	No
row_744	TBL1X	transducin (beta)-like 1 X-linked	7979	0.192214	0.17730866	1.0926	No
row_745	TGIF	TG interacting factor	7993	0.191549	0.17691651	1.0797	No
row_746	BXDC1	brix domain containing 1	7997	0.191431	0.17700891	1.0984	No
row_747	PPM1B	protein phosphatase 1B, magnesium dependent, beta isoform	7999	0.191380	0.17719819	1.0796	No
row_748	KLHDC2	kelch domain containing 2	8016	0.190808	0.1766597	1.0794	No
row_749	LPL	lipoprotein lipase	8031	0.190441	0.17621769	1.1405	No
row_750	CFLAR	CASP8 and FADD-like apoptosis regulator	8034	0.190420	0.17635731	1.1223	No
row_751	PIP5K2A	phosphatidylinositol-4-phosphate 5-kinase, type II, alpha	8042	0.189906	0.17625394	1.0940	No
row_752	PTEN	phosphatase and tensin homolog	8056	0.189092	0.17585872	1.0786	No
row_753	CALM2	calmodulin 2	8094	0.187396	0.17429811	1.0855	No
row_754	SLC25A17	solute carrier family 25 (mitochondrial carrier, peroxisomal me	8108	0.186382	0.17389953	1.0774	No
row_755	GORASP2	golgi reassembly stacking protein 2	8128	0.185520	0.17320906	1.1246	No
row_756	FKBP7	FK506 binding protein 7	8145	0.184828	0.17266314	1.1153	No
row_757	CDV3	carnitine deficiency-associated gene expressed in ventricle 3	8167	0.183702	0.17187347	1.0763	No
row_758	GUCY1B3	guanylate cyclase 1, soluble, beta 3	8222	0.181268	0.16948123	1.0752	No
row_759	PTPN2	protein tyrosine phosphatase, non-receptor type 2	8230	0.180767	0.16936651	1.1010	No
row_760	METAP2	methionine aminopeptidase 2	8256	0.179409	0.16837762	1.0744	No
row_761	RBPSUH	recombining binding protein suppressor of hairless (Drosophil	8269	0.178674	0.16801794	1.0741	No
row_762	TOB2	transducer of ERBB2, 2	8274	0.178288	0.16804555	1.0740	No
row_763	ARIH1	ariadne ubiquitin-conjugating enzyme E2 binding protein hom	8280	0.178168	0.16802453	1.0739	No
row_764	AP2M1	adaptor protein complex AP-2, mu1	8295	0.177751	0.16756676	1.0737	No
row_765	WDR26	WD repeat domain 26	8316	0.176687	0.16681685	1.0867	No
row_766	CBFB	core binding factor beta	8334	0.175850	0.1662113	1.0729	No
row_767	CSNK2A1	casein kinase II, alpha 1 polypeptide	8362	0.174868	0.16511983	1.0725	No
row_768	TPM3	tropomyosin 3, gamma	8383	0.174027	0.1643666	1.0721	No
row_769	TSNAX	translin-associated factor X	8390	0.173728	0.1642916	1.0720	No
row_770	AKAP9	A kinase (PRKA) anchor protein (yotiao) 9	8449	0.171404	0.16169325	1.0910	No
row_771	LITAF	LPS-induced TN factor	8467	0.170723	0.16108133	1.0707	No
row_772	TLR4	toll-like receptor 4	8476	0.170018	0.16090478	1.0766	No
row_773	TAC1	tachykinin, precursor 1 (substance K, substance P, neurokinin	8486	0.169593	0.16067922	1.1320	No
row_774	PRDX1	peroxiredoxin 1	8499	0.169273	0.16030787	1.0701	No
row_775	USP9X	ubiquitin specific peptidase 9, X chromosome	8520	0.168534	0.15954782	1.0698	No
row_776	GJA1	gap junction membrane channel protein alpha 1	8548	0.167476	0.15844716	1.0693	No
row_777	STAT4	signal transducer and activator of transcription 4	8582	0.166116	0.15705399	1.0899	No
row_778	PTN	pleiotrophin	8596	0.165621	0.15662962	1.0685	No
row_779	TGFBI	transforming growth factor, beta induced	8602	0.165437	0.1565928	1.0952	No
row_780	GTPBP4	GTP binding protein 4	8613	0.165067	0.15631315	1.0683	No
row_781	SOS1	Son of sevenless homolog 1 (Drosophila)	8623	0.164708	0.15608153	1.0681	No

row_782	FBXW7	F-box and WD-40 domain protein 7, archipelago homolog (Dr	8628	0.164467	0.15609196	1.0680	No
row_783	CREM	cAMP responsive element modulator	8648	0.163557	0.15537421	1.0676	No
row_784	HES1	hairy and enhancer of split 1 (Drosophila)	8680	0.162735	0.15407377	1.0673	No
row_785	ADD3	adducin 3 (gamma)	8693	0.162304	0.15369377	1.0671	No
row_786	DYRK1A	dual-specificity tyrosine-(Y)-phosphorylation regulated kinase	8702	0.162035	0.15350729	1.1618	No
row_787	MAP2K7	mitogen activated protein kinase kinase 7	8723	0.161417	0.1527384	1.0667	No
row_788	RPL23	ribosomal protein L23	8735	0.161120	0.15240538	1.0666	No
row_789	NUP62	Nucleoporin 62	8741	0.161016	0.15236306	1.0665	No
row_790	MYNN	myoneurin	8766	0.160052	0.1513986	1.0880	No
row_791	FADS2	fatty acid desaturase 2	8772	0.159957	0.15135497	1.0734	No
row_792	SEC23B	SEC23B (S. cerevisiae)	8782	0.159627	0.15111703	1.0660	No
row_793	VPS4A	vacuolar protein sorting 4a (yeast)	8785	0.159471	0.1512182	1.0730	No
row_794	SLC30A5	solute carrier family 30 (zinc transporter), member 5	8820	0.157503	0.14976586	1.0823	No
row_795	TKT	transketolase	8833	0.157194	0.14937949	1.0649	No
row_796	PDCD6IP	Programmed cell death 6 interacting protein	8837	0.157008	0.14942913	1.0648	No
row_797	PSME3	Proteasome (prosome, macropain) 28 subunit, 3	8843	0.156861	0.14938165	1.0648	No
row_798	HDLBP	high density lipoprotein (HDL) binding protein	8859	0.156328	0.14884879	1.0667	No
row_799	JAM2	junction adhesion molecule 2	8871	0.155631	0.14850895	1.0643	No
row_800	RAB2	RAB2, member RAS oncogene family	8875	0.155376	0.14855658	1.0641	No
row_801	GCNT2	Glucosaminyl (N-acetyl) transferase 2, l-branching enzyme	8882	0.155017	0.14845832	1.0640	No
row_802	PPP2R2A	protein phosphatase 2 (formerly 2A), regulatory subunit B (PR	8892	0.154634	0.14821419	1.0638	No
row_803	ASH1L	ash1 (absent, small, or homeotic)-like (Drosophila)	8897	0.154572	0.14821233	1.0638	No
row_804	KLHL13	kelch-like 13 (Drosophila)	8898	0.154551	0.14840433	1.1959	No
row_805	RAB18	RAB18, member RAS oncogene family	8923	0.153596	0.14743184	1.0952	No
row_806	SOAT1	sterol O-acyltransferase 1	8941	0.152805	0.14679767	1.0668	No
row_807	TRPC1	transient receptor potential cation channel, subfamily C, meml	8951	0.152423	0.14655079	1.0629	No
row_808	FTSJ3	FtsJ homolog 3 (E. coli)	8959	0.152058	0.14640039	1.0627	No
row_809	TWSG1	twisted gastrulation homolog 1 (Drosophila)	8963	0.151934	0.14644372	1.0627	No
row_810	HSPA5	heat shock 70kD protein 5 (glucose-regulated protein)	8993	0.150455	0.14522499	1.0620	No
row_811	PPP2R2A	protein phosphatase 2 (formerly 2A), regulatory subunit B (PR	8994	0.150449	0.1454119	1.0620	No
row_812	ACO1	aconitase 1	9005	0.149920	0.14511342	1.0618	No
row_813	RNF141	ring finger protein 141	9017	0.149420	0.14476588	1.0616	No
row_814	ARF4	ADP-ribosylation factor 4	9031	0.148578	0.14432034	1.0613	No
row_815	SGTA	small glutamine-rich tetratricopeptide repeat (TPR)-containing	9084	0.146311	0.14198162	1.0603	No
row_816	GOT1	glutamate oxaloacetate transaminase 1, soluble	9091	0.146147	0.14187236	1.0602	No
row_817	ABCC5	ATP-binding cassette, sub-family C (CFTR/MRP), member 5	9098	0.145789	0.14176264	1.0601	No
row_818	NBR1	neighbor of Brca1 gene 1	9125	0.145247	0.14068285	1.0598	No
row_819	ITGB1	Integrin beta 1 (fibronectin receptor beta)	9138	0.144798	0.14028108	1.0596	No
row_820	ANKRD17	ankyrin repeat domain 17	9158	0.144094	0.13953914	1.0606	No
row_821	DNMT3A	DNA methyltransferase 3A	9177	0.143256	0.13884464	1.0746	No
row_822	IER3	immediate early response 3	9180	0.143090	0.13892546	1.0882	No
row_823	TNFAIP8	tumor necrosis factor, alpha-induced protein 8	9204	0.141804	0.1379868	1.0584	No
row_824	CDYL	chromodomain protein, Y chromosome-like	9213	0.141505	0.13777483	1.0583	No
row_825	IRAK1	interleukin-1 receptor-associated kinase 1	9214	0.141430	0.13795052	1.0582	No
row_826	MAFB	v-maf musculoaponeurotic fibrosarcoma oncogene family, prc	9275	0.139261	0.13521528	1.0573	No
row_827	SPOP	speckle-type POZ protein	9276	0.139261	0.13538828	1.0573	No
row_828	BAG4	BCL2-associated athanogene 4	9284	0.138594	0.13522117	1.0570	No

row_829	CCT7	chaperonin subunit 7 (eta)	9318	0.137297	0.13379219	1.0565	No
row_830	HBLD2	HESB like domain containing 2	9353	0.135952	0.13231307	1.0674	No
row_831	SPIN	spindlin	9372	0.135023	0.13160835	1.0555	No
row_832	EIF3S1	eukaryotic translation initiation factor 3, subunit 1 alpha	9400	0.134285	0.13046646	1.0552	No
row_833	CDYL	chromodomain protein, Y chromosome-like	9419	0.133236	0.1297595	1.0952	No
row_834	HSPA2	heat shock protein 2	9428	0.132816	0.12953673	1.0546	No
row_835	MTPN	myotrophin	9452	0.131930	0.1285858	1.0592	No
row_836	UBQLN1	ubiquilin 1	9480	0.130519	0.12743925	1.0536	No
row_837	TUBA4	tubulin, alpha 4	9528	0.129002	0.12532137	1.0530	No
row_838	DSG2	desmoglein 2	9549	0.128207	0.12451123	1.0850	No
row_839	SNX9	sorting nexin 9	9558	0.127846	0.124282286	1.0525	No
row_840	RUNX1	runt related transcription factor 1	9561	0.127663	0.12434394	1.0597	No
row_841	PAK1	p21 (CDKN1A)-activated kinase 1	9568	0.127420	0.124211416	1.0570	No
row_842	FNDC4	fibronectin type III domain containing 4	9580	0.126867	0.12383584	1.0521	No
row_843	RNF11	ring finger protein 11	9591	0.126355	0.1235081	1.0599	No
row_844	PVR	poliovirus receptor	9601	0.126139	0.12322857	1.0518	No
row_845	SLC35F5	solute carrier family 35, member F5	9615	0.125843	0.12275479	1.0606	No
row_846	LACTB	lactamase, beta	9620	0.125652	0.122717	1.0591	No
row_847	PPP1R2	protein phosphatase 1, regulatory (inhibitor) subunit 2	9632	0.125177	0.12233933	1.0514	No
row_848	PSMD11	proteasome (prosome, macropain) 26S subunit, non-ATPase,	9641	0.124677	0.122106455	1.1008	No
row_849	TOB2	transducer of ERBB2, 2	9667	0.123732	0.1210484	1.0511	No
row_850	CLCN3	chloride channel 3	9672	0.123265	0.12100764	1.0778	No
row_851	PTP4A1	protein tyrosine phosphatase 4a1	9688	0.122495	0.12043276	1.0641	No
row_852	PITPNB	phosphatidylinositol transfer protein, beta	9699	0.122019	0.120099634	1.0725	No
row_853	APP	amyloid beta (A4) precursor protein	9707	0.121736	0.119911574	1.0499	No
row_854	HDLBP	high density lipoprotein (HDL) binding protein	9710	0.121707	0.11996583	1.0499	No
row_855	CLNS1A	chloride channel, nucleotide-sensitive, 1A	9719	0.121477	0.119728975	1.0498	No
row_856	BECN1	beclin 1 (coiled-coil, myosin-like BCL2-interacting protein)	9764	0.119259	0.117744416	1.0556	No
row_857	RABGEF1	RAB guanine nucleotide exchange factor (GEF) 1	9783	0.118468	0.11701912	1.0485	No
row_858	SLC9A3R1	solute carrier family 9 (sodium/hydrogen exchanger), isoform :	9794	0.118053	0.11668107	1.0484	No
row_859	ATP2A2	ATPase, Ca++ transporting, cardiac muscle, slow twitch 2	9818	0.116810	0.11571135	1.0478	No
row_860	SERPINI1	serine (or cysteine) peptidase inhibitor, clade I, member 1	9826	0.116505	0.1155168	1.0870	No
row_861	SERTAD2	SERTA domain containing 2	9836	0.116117	0.11522481	1.0476	No
row_862	TXNDC4	thioredoxin domain containing 4 (endoplasmic reticulum)	9859	0.115173	0.11430153	1.0472	No
row_863	RNF128	ring finger protein 128	9899	0.113586	0.112552285	1.0498	No
row_864	VAT1	vesicle amine transport protein 1 homolog (T californica)	9901	0.113487	0.1126448	1.0464	No
row_865	CFL2	cofilin 2, muscle	9903	0.113435	0.112737246	1.0464	No
row_866	MESDC2	mesoderm development candiate 2	9923	0.112285	0.11195579	1.0459	No
row_867	HDLBP	high density lipoprotein (HDL) binding protein	9944	0.111335	0.111124694	1.0628	No
row_868	MAGOH	mago-nashi homolog, proliferation-associated (Drosophila)	9960	0.110725	0.11053518	1.0453	No
row_869	SRPRB	signal recognition particle receptor, B subunit	9968	0.110461	0.110333115	1.0452	No
row_870	PCLO	piccolo (presynaptic cytomatrix protein)	9975	0.110210	0.1101792	1.0451	No
row_871	SLC1A1	solute carrier family 1 (neuronal/epithelial high affinity glutama	9987	0.109745	0.10978236	1.0449	No
row_872	SRR	serine racemase	10000	0.109204	0.109336376	1.0447	No
row_873	EIF3S6	eukaryotic translation initiation factor 3, subunit 6	10002	0.109145	0.109423496	1.0446	No
row_874	EGR1	early growth response 1	10008	0.108702	0.109316185	1.0859	No
row_875	GCNT2	glucosaminyl (N-acetyl) transferase 2, I-branching enzyme	10030	0.107970	0.10843243	1.0963	No

row_876	PPP2R1A	protein phosphatase 2 (formerly 2A), regulatory subunit A (PR	10034	0.107879	0.108421035	1.0441	No
row_877	DSCR1	Down syndrome critical region homolog 1 (human)	10054	0.107134	0.10763319	1.0438	No
row_878	ALDH9A1	aldehyde dehydrogenase 9, subfamily A1	10066	0.106580	0.107232414	1.0436	No
row_879	NPM1	nucleophosmin 1	10071	0.106504	0.107170835	1.0435	No
row_880	PLEKHA3	pleckstrin homology domain-containing, family A (phosphoino	10082	0.106139	0.10681798	1.0486	No
row_881	ASB3	ankyrin repeat and SOCS box-containing protein 3	10106	0.105039	0.10583365	1.0429	No
row_882	PUM1	pumilio 1 (Drosophila)	10126	0.103987	0.10504189	1.0443	No
row_883	F11R	F11 receptor	10133	0.103632	0.104879804	1.0423	No
row_884	ITGB1	integrin beta 1 (fibronectin receptor beta)	10163	0.101957	0.103600815	1.0416	No
row_885	FBXW2	F-box and WD-40 domain protein 2	10179	0.101502	0.10299985	1.0414	No
row_886	CCNK	cyclin K	10187	0.101257	0.10278635	1.0413	No
row_887	NCAM1	neural cell adhesion molecule 1	10193	0.101052	0.10266953	1.0413	No
row_888	HNRPU	heterogeneous nuclear ribonucleoprotein U	10194	0.100973	0.10279497	1.0497	No
row_889	RPS6KA3	ribosomal protein S6 kinase polypeptide 3	10227	0.099750	0.101367824	1.0407	No
row_890	UGCG	UDP-glucose ceramide glucosyltransferase	10236	0.099179	0.10110327	1.0405	No
row_891	MEIS1	myeloid ecotropic viral integration site 1	10239	0.099113	0.10112946	1.0404	No
row_892	PPP2R5C	protein phosphatase 2, regulatory subunit B (B56), gamma isc	10259	0.098248	0.10033057	1.0401	No
row_893	MAP2K7	mitogen activated protein kinase kinase 7	10306	0.096631	0.09822096	1.0452	No
row_894	USP15	ubiquitin specific peptidase 15	10307	0.096568	0.09834092	1.0394	No
row_895	LOX	lysyl oxidase	10315	0.096298	0.09812126	1.0424	No
row_896	CSNK2A1	casein kinase II, alpha 1 polypeptide	10318	0.095934	0.098143496	1.0441	No
row_897	SENP2	SUMO/sentrin specific peptidase 2	10319	0.095873	0.0982626	1.0391	No
row_898	RAB14	RAB14, member RAS oncogene family	10321	0.095855	0.09833321	1.0391	No
row_899	METAP2	methionine aminopeptidase 2	10337	0.095366	0.097724624	1.0389	No
row_900	CEBPB	CCAAT/enhancer binding protein (C/EBP), beta	10350	0.094632	0.097260535	1.0386	No
row_901	MTAP	methylthioadenosine phosphorylase	10390	0.092993	0.0954857	1.0379	No
row_902	CCT3	chaperonin subunit 3 (gamma)	10406	0.092548	0.094873615	1.0377	No
row_903	TUFT1	tuftelin 1	10407	0.092543	0.09498858	1.0377	No
row_904	NDN	neccdin	10414	0.092068	0.09481213	1.0504	No
row_905	DDR1	discoidin domain receptor family, member 1	10428	0.091694	0.09429593	1.0374	No
row_906	VAMP3	vesicle-associated membrane protein 3	10466	0.090322	0.09261471	1.0368	No
row_907	SEC63	SEC63-like (S. cerevisiae)	10487	0.089618	0.09175663	1.0365	No
row_908	ARIH1	ariadne ubiquitin-conjugating enzyme E2 binding protein hom	10498	0.089280	0.09138284	1.0364	No
row_909	CLDN2	claudin 2	10519	0.088430	0.09052328	1.0360	No
row_910	BTK	Bruton agammaglobulinemia tyrosine kinase	10534	0.087812	0.08995377	1.0358	No
row_911	MTAP	methylthioadenosine phosphorylase	10553	0.087186	0.08918961	1.0355	No
row_912	PRKG1	protein kinase, cGMP-dependent, type I	10590	0.085839	0.0875513	1.0361	No
row_913	PIP5K1A	phosphatidylinositol-4-phosphate 5-kinase, type 1 alpha	10609	0.085122	0.08678458	1.0346	No
row_914	TRIM2	tripartite motif protein 2	10610	0.085119	0.086890325	1.0387	No
row_915	ATP1A1	ATPase, Na <sup>+</sup> /K <sup>+</sup> transporting, alpha 1 polypeptide	10657	0.083460	0.08476435	1.0340	No
row_916	SLC6A6	solute carrier family 6 (neurotransmitter transporter, taurine), r	10665	0.083026	0.0845282	1.0514	No
row_917	CSNK1D	casein kinase 1, delta	10677	0.082521	0.084097534	1.0336	No
row_918	ARF2	ADP-ribosylation factor 2	10719	0.080385	0.0822101	1.0352	No
row_919	PTPN2	protein tyrosine phosphatase, non-receptor type 2	10733	0.079951	0.0816793	1.0325	No
row_920	APP	Amyloid beta (A4) precursor protein	10734	0.079935	0.08177861	1.0325	No
row_921	RNF111	ring finger 111	10742	0.079598	0.08153819	1.0324	No
row_922	MAFK	v-maf musculoaponeurotic fibrosarcoma oncogene family, prc	10759	0.078911	0.0808607	1.0321	No

row_923	MYD88	myeloid differentiation primary response gene 88	10796	0.077316	0.079211794	1.0314	No
row_924	SRPK2	serine/arginine-rich protein specific kinase 2	10799	0.077216	0.07921078	1.0622	No
row_925	PPP2CA	protein phosphatase 2 (formerly 2A), catalytic subunit, alpha i	10825	0.076207	0.078093685	1.0310	No
row_926	STK24	serine/threonine kinase 24 (STE20 homolog, yeast)	10853	0.075130	0.07687831	1.0305	No
row_927	HDAC2	histone deacetylase 2	10869	0.074433	0.07624371	1.0302	No
row_928	MTCH1	mitochondrial carrier homolog 1 (C. elegans)	10887	0.073517	0.075511046	1.0298	No
row_929	DBI	diazepam binding inhibitor	10888	0.073517	0.075602375	1.0298	No
row_930	CDC42	cell division cycle 42 homolog (S. cerevisiae)	10925	0.072047	0.07394693	1.0292	No
row_931	GHITM	growth hormone inducible transmembrane protein	10930	0.071943	0.07384242	1.0292	No
row_932	NUDT4	nudix (nucleoside diphosphate linked moiety X)-type motif 4	10943	0.071394	0.07334947	1.0455	No
row_933	BAG3	Bcl2-associated athanogene 3	10945	0.071258	0.07338952	1.0289	No
row_934	RPL23	ribosomal protein L23	10948	0.071114	0.073380925	1.0289	No
row_935	CSNK1E	casein kinase 1, epsilon	10970	0.070264	0.072450325	1.0310	No
row_936	RNF128	ring finger protein 128	10977	0.070004	0.07224647	1.0284	No
row_937	RUSC1	RUN and SH3 domain containing 1	10985	0.069649	0.0719937	1.0335	No
row_938	GALNT1	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgl	10988	0.069565	0.07198318	1.0282	No
row_939	UGP2	UDP-glucose pyrophosphorylase 2	11005	0.068735	0.07129303	1.0315	No
row_940	BCL6	B-cell leukemia/lymphoma 6	11023	0.067988	0.0705535	1.0282	No
row_941	RAP1GDS1	RAP1, GTP-GDP dissociation stimulator 1	11075	0.065975	0.06816345	1.0320	No
row_942	FKBP1A	FK506 binding protein 1a	11109	0.064371	0.06664388	1.0261	No
row_943	DSG2	desmoglein 2	11146	0.062890	0.064977065	1.0410	No
row_944	PSEN1	presenilin 1	11167	0.062084	0.064084776	1.0251	No
row_945	SRF	serum response factor	11168	0.062052	0.06416186	1.0251	No
row_946	PSMC5	protease (prosome, macropain) 26S subunit, ATPase 5	11172	0.061677	0.06409307	1.0250	No
row_947	CLCN3	chloride channel 3	11182	0.061295	0.06373298	1.0248	No
row_948	NPM1	Nucleophosmin 1	11193	0.060903	0.06332393	1.0247	No
row_949	TSN	translin	11197	0.060698	0.063253924	1.0246	No
row_950	RASSF3	Ras association (RalGDS/AF-6) domain family 3	11209	0.060234	0.06279558	1.0244	No
row_951	GPLD1	glycosylphosphatidylinositol specific phospholipase D1	11244	0.059356	0.06122131	1.0265	No
row_952	VLDLR	very low density lipoprotein receptor	11295	0.057297	0.058868952	1.0305	No
row_953	PAFAH1B1	platelet-activating factor acetylhydrolase, isoform 1b, beta1 su	11313	0.056658	0.058115337	1.0559	No
row_954	WAC	WW domain containing adaptor with coiled-coil	11354	0.054657	0.056244407	1.0221	No
row_955	TIPARP	TCDD-inducible poly(ADP-ribose) polymerase	11374	0.053757	0.055390246	1.0217	No
row_956	TXNDC1	thioredoxin domain containing 1	11381	0.053393	0.055165753	1.0216	No
row_957	DNMT3A	DNA methyltransferase 3A	11393	0.052869	0.05469825	1.0341	No
row_958	RAB2	RAB2, member RAS oncogene family	11404	0.052585	0.05427887	1.0213	No
row_959	TAF13	TAF13 RNA polymerase II, TATA box binding protein (TBP)-a	11407	0.052444	0.05424708	1.0212	No
row_960	CAPN7	calpain 7	11409	0.052412	0.054263722	1.0212	No
row_961	ARHGAP6	Rho GTPase activating protein 6	11415	0.052094	0.05408608	1.0211	No
row_962	WBP11	WW domain binding protein 11	11418	0.052029	0.054053776	1.0210	No
row_963	SLC7A5	solute carrier family 7 (cationic amino acid transporter, y+ syst	11439	0.051089	0.05314783	1.0209	No
row_964	PDCD6IP	programmed cell death 6 interacting protein	11455	0.050300	0.052483257	1.0203	No
row_965	PTPN12	protein tyrosine phosphatase, non-receptor type 12	11467	0.049922	0.052012097	1.0236	No
row_966	GOLPH3	golgi phosphoprotein 3	11471	0.049770	0.051928513	1.0201	No
row_967	IL1RAPL2	interleukin 1 receptor accessory protein-like 2	11483	0.049230	0.051456496	1.0199	No
row_968	STARD3NL	STARD3 N-terminal like	11500	0.048588	0.050741322	1.0233	No
row_969	USP9X	ubiquitin specific peptidase 9, X chromosome	11505	0.048075	0.050607163	1.0194	No

row_970	CSNK1D	casein kinase 1, delta	11511	0.047760	0.050424144	1.0193	No
row_971	FKBP1A	FK506 binding protein 1a	11517	0.047590	0.050240908	1.0192	No
row_972	API5	apoptosis inhibitor 5	11540	0.046755	0.049232636	1.0189	No
row_973	DNMT3A	DNA methyltransferase 3A	11547	0.046608	0.048999712	1.0188	No
row_974	YAF2	YY1 associated factor 2	11555	0.046155	0.048717756	1.0186	No
row_975	DNAJA1	DnaJ (Hsp40) homolog, subfamily A, member 1	11564	0.045887	0.048387	1.0185	No
row_976	TAC1	tachykinin 1	11571	0.045738	0.048152994	1.0185	No
row_977	MAP1LC3B	microtubule-associated protein 1 light chain 3 beta	11581	0.045319	0.047773056	1.0183	No
row_978	EIF2S2	eukaryotic translation initiation factor 2, subunit 2 (beta)	11582	0.045314	0.04782935	1.0183	No
row_979	BXDC1	brix domain containing 1	11583	0.045271	0.04788559	1.0183	No
row_980	PAFAH1B2	platelet-activating factor acetylhydrolase, isoform 1b, alpha2 s	11590	0.044919	0.04765057	1.0181	No
row_981	SLPI	secretory leukocyte peptidase inhibitor	11596	0.044706	0.047463752	1.0473	No
row_982	PRDX1	peroxiredoxin 1	11599	0.044550	0.04742216	1.0180	No
row_983	HNRPAB	heterogeneous nuclear ribonucleoprotein A/B	11610	0.044244	0.046992414	1.0179	No
row_984	BZW1	basic leucine zipper and W2 domains 1	11615	0.044135	0.04685336	1.0178	No
row_985	NCAM1	neural cell adhesion molecule 1	11629	0.043561	0.046277355	1.0232	No
row_986	ITGB1	integrin beta 1 (fibronectin receptor beta)	11673	0.042045	0.044245347	1.0170	No
row_987	HNRPAB	heterogeneous nuclear ribonucleoprotein A/B	11685	0.041516	0.043763746	1.0167	No
row_988	FOS	FBJ osteosarcoma oncogene	11688	0.041354	0.043718178	1.0389	No
row_989	DHX36	DEAH (Asp-Glu-Ala-His) box polypeptide 36	11692	0.041235	0.04362399	1.0180	No
row_990	RAP2C	RAP2C, member of RAS oncogene family	11705	0.040717	0.043092925	1.0164	No
row_991	ARPC4	actin related protein 2/3 complex, subunit 4	11721	0.040199	0.042415805	1.0211	No
row_992	EIF2S2	eukaryotic translation initiation factor 2, subunit 2 (beta)	11745	0.039617	0.041350193	1.0160	No
row_993	CPEB4	cytoplasmic polyadenylation element binding protein 4	11746	0.039588	0.041399375	1.0160	No
row_994	ERO1L	ERO1-like (S. cerevisiae)	11758	0.039124	0.0409148	1.0199	No
row_995	MYNN	myoneurin	11763	0.038920	0.040769268	1.0157	No
row_996	RAD18	RAD18 homolog (S. cerevisiae)	11777	0.038306	0.040186733	1.0154	No
row_997	DHX36	DEAH (Asp-Glu-Ala-His) box polypeptide 36	11821	0.036324	0.038147617	1.0146	No
row_998	ARIH1	ariadne ubiquitin-conjugating enzyme E2 binding protein hom	11840	0.035355	0.037319068	1.0142	No
row_999	AHCYL1	S-adenosylhomocysteine hydrolase-like 1	11861	0.034380	0.03639236	1.0234	No
row_1000	SFMBT1	Scm-like with four mbt domains 1	11888	0.033506	0.035173748	1.0148	No
row_1001	OXR1	oxidation resistance 1	11896	0.033303	0.034875825	1.0155	No
row_1002	YWHAZ	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase acti	11936	0.031744	0.0330249	1.0128	No
row_1003	TKT	transketolase	11961	0.030652	0.03189968	1.0123	No
row_1004	PAFAH1B1	platelet-activating factor acetylhydrolase, isoform 1b, beta1 su	11968	0.030395	0.031646617	1.0122	No
row_1005	GLRX2	glutaredoxin 2 (thioltransferase)	11990	0.029619	0.030665526	1.0119	No
row_1006	MRPL50	mitochondrial ribosomal protein L50	11994	0.029454	0.030556705	1.0119	No
row_1007	SNX3	sorting nexin 3	12007	0.029085	0.030011188	1.0117	No
row_1008	PTP4A2	protein tyrosine phosphatase 4a2	12020	0.028684	0.029465172	1.0115	No
row_1009	LMAN2	lectin, mannose-binding 2	12023	0.028622	0.029403789	1.0115	No
row_1010	CAB39	calcium binding protein 39	12049	0.027990	0.028226791	1.0138	No
row_1011	GNG12	guanine nucleotide binding protein (G protein), gamma 12	12052	0.027965	0.028164592	1.0124	No
row_1012	MYO6	myosin VI	12053	0.027957	0.028199323	1.0114	No
row_1013	SLCO3A1	solute carrier organic anion transporter family, member 3a1	12072	0.027330	0.0273608	1.0110	No
row_1014	HMG1	high mobility group nucleosomal binding domain 1	12086	0.027037	0.02676427	1.0211	No
row_1015	CANX	calnexin	12089	0.026967	0.02670083	1.0137	No
row_1016	TWSG1	twisted gastrulation homolog 1 (Drosophila)	12092	0.026888	0.02663729	1.0178	No

row_1017	CAB39	calcium binding protein 39	12100	0.026689	0.02633115	1.0118	No
row_1018	BRE	brain and reproductive organ-expressed protein	12105	0.026411	0.026170077	1.0120	No
row_1019	SUCLA2	succinate-Coenzyme A ligase, ADP-forming, beta subunit	12127	0.025646	0.025184052	1.0103	No
row_1020	LYST	lysosomal trafficking regulator	12131	0.025540	0.025070367	1.0103	No
row_1021	PODXL	podocalyxin-like	12151	0.024590	0.02417997	1.0099	No
row_1022	GNB1	guanine nucleotide binding protein, beta 1	12155	0.024457	0.024064941	1.0098	No
row_1023	KIF1B	kinesin family member 1B	12164	0.024046	0.023707049	1.0210	No
row_1024	DDX3X	DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 3, X-linked	12166	0.024035	0.023688436	1.0110	No
row_1025	FOSL1	fos-like antigen 1	12167	0.024024	0.02371828	1.0097	No
row_1026	QSCN6	quiescin Q6	12202	0.022827	0.022098633	1.0092	No
row_1027	RUSC1	RUN and SH3 domain containing 1	12210	0.022550	0.021787351	1.0091	No
row_1028	MEF2C	myocyte enhancer factor 2C	12225	0.021897	0.021135963	1.0088	No
row_1029	TTC3	tetratricopeptide repeat domain 3	12226	0.021866	0.021163128	1.0129	No
row_1030	ARF3	ADP-ribosylation factor 3	12243	0.021139	0.020413857	1.0085	No
row_1031	YWHAQ	3-monooxygenase/tryptophan 5-monooxygenase activation pr	12246	0.020911	0.020342894	1.0099	No
row_1032	BMPR1A	bone morphogenetic protein receptor, type 1A	12278	0.019965	0.018865103	1.0118	No
row_1033	SRPK2	serine/arginine-rich protein specific kinase 2	12339	0.017907	0.015979104	1.0072	No
row_1034	HRSP12	heat-responsive protein 12	12344	0.017653	0.01580715	1.0071	No
row_1035	LATS2	large tumor suppressor 2	12355	0.017381	0.015344035	1.0070	No
row_1036	ATP5A1	ATP synthase, H+ transporting, mitochondrial F1 complex, al	12368	0.017070	0.014783593	1.0069	No
row_1037	CCT8	chaperonin subunit 8 (theta)	12371	0.016971	0.014707734	1.0068	No
row_1038	MGEA5	meningioma expressed antigen 5 (hyaluronidase)	12388	0.016496	0.013952696	1.0076	No
row_1039	CTSB	cathepsin B	12389	0.016414	0.013973086	1.0073	No
row_1040	MPL	myeloproliferative leukemia virus oncogene	12390	0.016367	0.013993419	1.0066	No
row_1041	CEACAM1	CEA-related cell adhesion molecule 1	12391	0.016249	0.014013605	1.0065	No
row_1042	NCOA6IP	nuclear receptor coactivator 6 interacting protein	12404	0.015810	0.013451597	1.0063	No
row_1043	SPATA6	spermatogenesis associated 6	12412	0.015619	0.013131705	1.0095	No
row_1044	NOLC1	nucleolar and coiled-body phosphoprotein 1	12418	0.015284	0.012908339	1.0061	No
row_1045	GLRX2	glutaredoxin 2 (thioltransferase)	12424	0.015163	0.012684822	1.0061	No
row_1046	MYH9	myosin, heavy polypeptide 9, non-muscle	12425	0.015132	0.012703621	1.0061	No
row_1047	TPM3	Tropomyosin 3, gamma	12426	0.015078	0.012722352	1.0060	No
row_1048	PPP3R1	protein phosphatase 3, regulatory subunit B, alpha isoform (c	12435	0.014690	0.012352835	1.0067	No
row_1049	SFRS1	splicing factor, arginine/serine-rich 1 (ASF/SF2)	12453	0.014169	0.011546434	1.0059	No
row_1050	EMP2	epithelial membrane protein 2	12497	0.012338	0.00947752	1.0049	No
row_1051	IFRG15	interferon alpha responsive gene	12507	0.012004	0.009056196	1.0048	No
row_1052	PTPN12	protein tyrosine phosphatase, non-receptor type 12	12516	0.011814	0.008683107	1.0047	No
row_1053	USP9X	ubiquitin specific peptidase 9, X chromosome	12517	0.011808	0.008697775	1.0047	No
row_1054	LCP1	lymphocyte cytosolic protein 1	12543	0.010725	0.007499331	1.0043	No
row_1055	DUSP6	dual specificity phosphatase 6	12561	0.010306	0.006688132	1.0041	No
row_1056	HIBADH	3-hydroxyisobutyrate dehydrogenase	12565	0.010170	0.006555354	1.0041	No
row_1057	BCAP29	B-cell receptor-associated protein 29	12577	0.009647	0.006034161	1.0039	No
row_1058	CRK	v-crk sarcoma virus CT10 oncogene homolog (avian)	12578	0.009625	0.006046118	1.0048	No
row_1059	HIBADH	3-hydroxyisobutyrate dehydrogenase	12593	0.009268	0.005379041	1.0042	No
row_1060	DSC2	desmocollin 2	12617	0.008527	0.004274807	1.0034	No
row_1061	MYNN	myoneurin	12626	0.008228	0.003897263	1.0033	No
row_1062	PURB	purine rich element binding protein B	12650	0.007322	0.002791531	1.0042	No
row_1063	ACP1	acid phosphatase 1, soluble	12659	0.006933	0.002412378	1.0029	No



row_1064	CHD1	chromodomain helicase DNA binding protein 1	12674	0.006460	0.001741812	1.0033	No
row_1065	PKM2	pyruvate kinase, muscle	12676	0.006333	0.001701209	1.0025	No
row_1066	WDR1	WD repeat domain 1	12678	0.006285	0.001660546	1.0027	No
row_1067	ADAMTS1	a disintegrin-like and metallopeptidase (reprolysin type) with th	12724	0.004644	-0.000515	1.0022	No
row_1068	ASH1L	ash1 (absent, small, or homeotic)-like (Drosophila)	12725	0.004611	-0.000509	1.0018	No
row_1069	CLDN2	claudin 2	12729	0.004490	-0.000649	1.0018	No
row_1070	GCNT2	glucosaminyl (N-acetyl) transferase 2, I-branching enzyme	12744	0.004088	-0.001322488	1.0027	No
row_1071	CTSB	cathepsin B	12751	0.003888	-0.001608482	1.0016	No
row_1072	CCT3	chaperonin subunit 3 (gamma)	12755	0.003797	-0.001749177	1.0015	No
row_1073	PAPOLA	poly (A) polymerase alpha	12760	0.003684	-0.001938483	1.0015	No
row_1074	PPP2R5C	protein phosphatase 2, regulatory subunit B (B56), gamma isc	12796	0.002515	-0.003631835	1.0014	No
row_1075	TXNRD1	thioredoxin reductase 1	12799	0.002452	-0.00372573	1.0014	No
row_1076	TRIM37	tripartite motif protein 37	12807	0.002135	-0.004062373	1.0009	No
row_1077	GFPT1	glutamine fructose-6-phosphate transaminase 1	12822	0.001557	-0.004739029	1.0008	No
row_1078	SLC31A1	solute carrier family 31, member 1	12848	0.000605	-0.005950047	1.0002	No
row_1079	BET1	blocked early in transport 1 homolog (S. cerevisiae)	12869	-5.86e-05	-0.006919389	1.0000	No
row_1080	HDLBP	high density lipoprotein (HDL) binding protein	12878	-0.000356	-0.007306713	0.9999	No
row_1081	SDCBP	syndecan binding protein	12879	-0.000382	-0.007306239	0.9998	No
row_1082	TRIM24	tripartite motif protein 24	12884	-0.000415	-0.007499607	0.9998	No
row_1083	MCL1	myeloid cell leukemia sequence 1	12886	-0.000498	-0.007547459	0.9998	No
row_1084	TLK2	tousled-like kinase 2 (Arabidopsis)	12898	-0.001024	-0.008079365	0.9996	No
row_1085	PTEN	phosphatase and tensin homolog	12901	-0.001081	-0.008174963	0.9996	No
row_1086	MAP2K5	mitogen activated protein kinase kinase 5	12905	-0.001163	-0.008318931	0.9993	No
row_1087	IL6ST	interleukin 6 signal transducer	12939	-0.002634	-0.009915193	0.9989	No
row_1088	TXNL2	thioredoxin-like 2	12951	-0.003263	-0.010444317	0.9987	No
row_1089	APLP2	amyloid beta (A4) precursor-like protein 2	12985	-0.004299	-0.01203851	0.9983	No
row_1090	TM9SF1	transmembrane 9 superfamily member 1	12989	-0.004477	-0.012178361	0.9982	No
row_1091	DDR1	discoidin domain receptor family, member 1	12997	-0.004960	-0.012511496	0.9979	No
row_1092	IKBKG	inhibitor of kappaB kinase gamma	13009	-0.005329	-0.013038053	0.9979	No
row_1093	PTPRK	protein tyrosine phosphatase, receptor type, K	13017	-0.005774	-0.013370175	0.9977	No
row_1094	UBQLN1	ubiquilin 1	13037	-0.006417	-0.014283148	0.9974	No
row_1095	IKBKG	inhibitor of kappaB kinase gamma	13038	-0.006495	-0.014275079	0.9965	No
row_1096	TRAM1	translocating chain-associating membrane protein 1	13041	-0.006619	-0.014363797	0.9974	No
row_1097	UBE2L3	ubiquitin-conjugating enzyme E2L 3	13046	-0.006807	-0.014549224	0.9973	No
row_1098	BECN1	beclin 1 (coiled-coil, myosin-like BCL2-interacting protein)	13061	-0.007481	-0.015218521	0.9970	No
row_1099	DDR1	discoidin domain receptor family, member 1	13072	-0.007814	-0.015693521	0.9969	No
row_1100	PCOLN3	procollagen (type III) N-endopeptidase	13078	-0.007921	-0.015926033	0.9968	No
row_1101	KCMF1	potassium channel modulatory factor 1	13098	-0.008514	-0.016836401	0.9966	No
row_1102	NDFIP1	Nedd4 family interacting protein 1	13116	-0.009190	-0.017648987	0.9963	No
row_1103	GABARAPL1	gamma-aminobutyric acid (GABA(A)) receptor-associated pro	13117	-0.009237	-0.017637512	0.9963	No
row_1104	TIAM1	T-cell lymphoma invasion and metastasis 1	13120	-0.009356	-0.01772283	0.9963	No
row_1105	APP	amyloid beta (A4) precursor protein	13125	-0.009433	-0.017904995	0.9950	No
row_1106	TLR4	toll-like receptor 4	13166	-0.010668	-0.019830573	0.9957	No
row_1107	MTCH2	mitochondrial carrier homolog 2 (C. elegans)	13184	-0.011523	-0.02064026	0.9954	No
row_1108	CTCF	CCCTC-binding factor	13186	-0.011734	-0.020674154	0.9953	No
row_1109	SPIN	spindlin	13212	-0.012731	-0.021870106	0.9949	No
row_1110	BAZ1B	bromodomain adjacent to zinc finger domain, 1B	13262	-0.014569	-0.024227073	0.9942	No

row_1111	GLIPR1	GLI pathogenesis-related 1 (glioma)	13276	-0.014961	-0.024838606	0.9940	No
row_1112	PAK1	p21 (CDKN1A)-activated kinase 1	13292	-0.015712	-0.025546148	0.9937	No
row_1113	ACVR1	activin A receptor, type 1	13301	-0.016059	-0.025913965	0.9908	No
row_1114	FKBP1A	FK506 binding protein 1a	13302	-0.016097	-0.025893968	0.9936	No
row_1115	ST13	suppression of tumorigenicity 13	13324	-0.016797	-0.026890986	0.9933	No
row_1116	ULK2	Unc-51 like kinase 2 (C. elegans)	13348	-0.017994	-0.027983459	0.9928	No
row_1117	QSCN6	Quiescin Q6	13361	-0.018400	-0.02854225	0.9927	No
row_1118	NCBP2	nuclear cap binding protein subunit 2	13362	-0.018473	-0.0285193	0.9884	No
row_1119	DBI	diazepam binding inhibitor	13366	-0.018934	-0.028641192	0.9925	No
row_1120	YAF2	YY1 associated factor 2	13378	-0.019413	-0.029150253	0.9923	No
row_1121	PDCD6IP	programmed cell death 6 interacting protein	13384	-0.019530	-0.029368345	0.9890	No
row_1122	ACADL	acyl-Coenzyme A dehydrogenase, long-chain	13386	-0.019707	-0.029392334	0.9921	No
row_1123	LYST	lysosomal trafficking regulator	13401	-0.020268	-0.030045746	0.9919	No
row_1124	RAB14	RAB14, member RAS oncogene family	13415	-0.021261	-0.030649453	0.9915	No
row_1125	YWHAH	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase acti	13442	-0.022372	-0.0318819	0.9911	No
row_1126	UBE2G1	ubiquitin-conjugating enzyme E2G 1 (UBC7 homolog, C. eleg	13458	-0.022826	-0.032580607	0.9909	No
row_1127	PTP4A2	protein tyrosine phosphatase 4a2	13461	-0.023039	-0.032648925	0.9908	No
row_1128	RPL23	ribosomal protein L23	13491	-0.023859	-0.034024935	0.9905	No
row_1129	CCT2	chaperonin subunit 2 (beta)	13495	-0.024232	-0.034140244	0.9904	No
row_1130	BECN1	beclin 1 (coiled-coil, myosin-like BCL2-interacting protein)	13496	-0.024286	-0.034110077	0.9903	No
row_1131	SHPRH	SNF2 histone linker PHD RING helicase	13502	-0.024677	-0.034321774	0.9902	No
row_1132	CSTF2	cleavage stimulation factor, 3' pre-RNA subunit 2	13546	-0.026443	-0.036373165	0.9876	No
row_1133	PPM1A	protein phosphatase 1A, magnesium dependent, alpha isoform	13592	-0.028269	-0.03851923	0.9888	No
row_1134	SLC25A15	solute carrier family 25 (mitochondrial carrier ornithine transp	13601	-0.028809	-0.038871206	0.9885	No
row_1135	TEX2	testis expressed gene 2	13603	-0.028907	-0.038883768	0.9885	No
row_1136	ARL6IP5	ADP-ribosylation factor-like 6 interacting protein 5	13613	-0.029223	-0.0392837	0.9881	No
row_1137	GNB1	guanine nucleotide binding protein, beta 1	13620	-0.029575	-0.039537784	0.9882	No
row_1138	PHTF2	putative homeodomain transcription factor 2	13630	-0.029941	-0.039936822	0.9881	No
row_1139	ATP6V1B2	ATPase, H+ transporting, lysosomal V1 subunit B2	13637	-0.030209	-0.04019012	0.9880	No
row_1140	PTGER4	prostaglandin E receptor 4 (subtype EP4)	13664	-0.031152	-0.041411657	0.9876	No
row_1141	KATNA1	katanin p60 (ATPase-containing) subunit A1	13679	-0.032141	-0.04205032	0.9872	No
row_1142	PSMA1	proteasome (prosome, macropain) subunit, alpha type 1	13681	-0.032202	-0.042058785	0.9872	No
row_1143	SEPW1	selenoprotein W, muscle 1	13712	-0.033833	-0.04347088	0.9866	No
row_1144	YWHAZ	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase acti	13741	-0.035438	-0.044784036	0.9859	No
row_1145	RAD23B	RAD23b homolog (S. cerevisiae)	13746	-0.035658	-0.04493362	0.9858	No
row_1146	DNAJA1	DnaJ (Hsp40) homolog, subfamily A, member 1	13758	-0.036341	-0.045421652	0.9856	No
row_1147	USP33	ubiquitin specific peptidase 33	13761	-0.036668	-0.04547304	0.9854	No
row_1148	FADS2	fatty acid desaturase 2	13775	-0.037208	-0.046056937	0.9836	No
row_1149	LATS2	large tumor suppressor 2	13777	-0.037237	-0.046059147	0.9852	No
row_1150	MAPK6	mitogen-activated protein kinase 6	13786	-0.037508	-0.046400316	0.9851	No
row_1151	NDN	Necdin	13806	-0.038384	-0.047273576	0.9848	No
row_1152	RAB11A	RAB11a, member RAS oncogene family	13810	-0.038622	-0.04737101	0.9847	No
row_1153	GRB10	growth factor receptor bound protein 10	13814	-0.038858	-0.04746815	0.9846	No
row_1154	TPP2	tripeptidyl peptidase II	13836	-0.040191	-0.048436105	0.9755	No
row_1155	NRAP	nebulin-related anchoring protein	13858	-0.041479	-0.049402464	0.9835	No
row_1156	NAP1L1	nucleosome assembly protein 1-like 1	13916	-0.043721	-0.05211098	0.9801	No
row_1157	GNS	glucosamine (N-acetyl)-6-sulfatase	13919	-0.043827	-0.052153476	0.9818	No

row_1158	NAP1L1	nucleosome assembly protein 1-like 1	13920	-0.043907	-0.05209893	0.9826	No
row_1159	PAIP1	polyadenylate binding protein-interacting protein 1	13946	-0.045039	-0.053254746	0.9814	No
row_1160	MYCT1	myc target 1	13948	-0.045079	-0.053247217	0.9783	No
row_1161	NFYA	nuclear transcription factor-Y alpha	13949	-0.045150	-0.053191125	0.9821	No
row_1162	YWHAE	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase acti	13951	-0.045612	-0.053182933	0.9819	No
row_1163	PUM2	pumilio 2 (Drosophila)	13960	-0.045917	-0.053513657	0.9818	No
row_1164	ARL6IP1	ADP-ribosylation factor-like 6 interacting protein 1	13972	-0.046433	-0.05398915	0.9816	No
row_1165	FECH	ferrochelataase	13990	-0.047213	-0.0547545	0.9813	No
row_1166	ZYX	zyxin	13992	-0.047243	-0.05474428	0.9813	No
row_1167	ITGA3	integrin alpha 3	13995	-0.047332	-0.05478242	0.9812	No
row_1168	RNMT	RNA (guanine-7-) methyltransferase	14114	-0.052007	-0.060437363	0.9794	No
row_1169	OAS3	2'-5' oligoadenylate synthetase 3	14133	-0.052706	-0.061244357	0.9781	No
row_1170	CFL1	cofilin 1, non-muscle	14137	-0.052846	-0.06132412	0.9791	No
row_1171	MLF2	myeloid leukemia factor 2	14148	-0.053301	-0.06174261	0.9789	No
row_1172	SMAP1	stromal membrane-associated protein 1	14196	-0.055313	-0.06395202	0.9781	No
row_1173	RNF11	ring finger protein 11	14198	-0.055362	-0.06393172	0.9781	No
row_1174	TMOD3	tropomodulin 3	14200	-0.055375	-0.06391139	0.9704	No
row_1175	SLBP	stem-loop binding protein	14239	-0.056964	-0.065682516	0.9775	No
row_1176	DBI	diazepam binding inhibitor	14258	-0.057568	-0.066483475	0.9772	No
row_1177	TM4SF1	transmembrane 4 superfamily member 1	14268	-0.057837	-0.06684786	0.9771	No
row_1178	SS18	synovial sarcoma translocation, Chromosome 18	14281	-0.058174	-0.06735724	0.9770	No
row_1179	SNX5	sorting nexin 5	14285	-0.058334	-0.06743018	0.9769	No
row_1180	CTTN	cortactin	14289	-0.058393	-0.06750305	0.9769	No
row_1181	GTF2A1	general transcription factor II A, 1	14299	-0.059042	-0.067865945	0.9586	No
row_1182	PANK3	pantothenate kinase 3	14327	-0.060245	-0.06909981	0.9676	No
row_1183	DDIT4	DNA-damage-inducible transcript 4	14328	-0.060328	-0.06902487	0.9657	No
row_1184	GAS2	growth arrest specific 2	14346	-0.060942	-0.06977316	0.9705	No
row_1185	PECR	peroxisomal trans-2-enoyl-CoA reductase	14367	-0.061801	-0.0706658	0.9756	No
row_1186	ACBD6	acyl-Coenzyme A binding domain containing 6	14379	-0.062658	-0.07112114	0.9752	No
row_1187	GCNT2	glucosaminyl (N-acetyl) transferase 2, I-branching enzyme	14391	-0.063113	-0.07157591	0.9750	No
row_1188	PTEN	phosphatase and tensin homolog	14409	-0.063977	-0.07232043	0.9680	No
row_1189	RBM16	RNA binding motif protein 16	14440	-0.065428	-0.073693275	0.9742	No
row_1190	API5	apoptosis inhibitor 5	14449	-0.065914	-0.07399916	0.9740	No
row_1191	RTN4	reticulon 4	14483	-0.067787	-0.07551448	0.9732	No
row_1192	EDG1	endothelial differentiation sphingolipid G-protein-coupled rece	14491	-0.068001	-0.0757693	0.9732	No
row_1193	TXNRD1	thioredoxin reductase 1	14492	-0.068027	-0.075684786	0.9732	No
row_1194	PAPOLA	poly (A) polymerase alpha	14493	-0.068032	-0.075600274	0.9732	No
row_1195	PCDH7	protocadherin 7	14494	-0.068069	-0.07551571	0.9731	No
row_1196	IRAK1	interleukin-1 receptor-associated kinase 1	14500	-0.068458	-0.075673014	0.9730	No
row_1197	CEACAM1	CEA-related cell adhesion molecule 1	14529	-0.069836	-0.07694344	0.9659	No
row_1198	AP3S2	adaptor-related protein complex 3, sigma 2 subunit	14535	-0.070215	-0.07709856	0.9723	No
row_1199	CHCHD4	coiled-coil-helix-coiled-coil-helix domain containing 4	14537	-0.070308	-0.07705969	0.9723	No
row_1200	NDN	necdin	14549	-0.070659	-0.07750509	0.9586	No
row_1201	ABCE1	ATP-binding cassette, sub-family E (OABP), member 1	14579	-0.071869	-0.07882146	0.9717	No
row_1202	NAP1L1	nucleosome assembly protein 1-like 1	14584	-0.072008	-0.078925885	0.9716	No
row_1203	NCL	nucleolin	14605	-0.072799	-0.07980487	0.9713	No
row_1204	IKBKG	inhibitor of kappaB kinase gamma	14606	-0.072842	-0.07971437	0.9686	No

row_1205	HMGN1	high mobility group nucleosomal binding domain 1	14607	-0.072850	-0.07962387	0.9713	No
row_1206	RABGEF1	RAB guanine nucleotide exchange factor (GEF) 1	14608	-0.072860	-0.07953335	0.9713	No
row_1207	ASB4	ankyrin repeat and SOCS box-containing protein 4	14621	-0.073540	-0.08002365	0.9664	No
row_1208	TWSG1	twisted gastrulation homolog 1 (Drosophila)	14628	-0.073817	-0.08022277	0.9709	No
row_1209	DNAJA1	DnaJ (Hsp40) homolog, subfamily A, member 1	14666	-0.075359	-0.08192257	0.9703	No
row_1210	UBE1C	ubiquitin-activating enzyme E1C	14670	-0.075537	-0.08197414	0.9702	No
row_1211	PTP4A2	protein tyrosine phosphatase 4a2	14671	-0.075614	-0.081880204	0.9702	No
row_1212	HAT1	histone aminotransferase 1	14675	-0.075664	-0.08193162	0.9702	No
row_1213	TRAF3	Tnf receptor-associated factor 3	14685	-0.075962	-0.08227349	0.9701	No
row_1214	SLC6A6	solute carrier family 6 (neurotransmitter transporter, taurine), r	14751	-0.078566	-0.085326485	0.9506	No
row_1215	BZW1	basic leucine zipper and W2 domains 1	14754	-0.078707	-0.08532565	0.9690	No
row_1216	ABCE1	ATP-binding cassette, sub-family E (OABP), member 1	14764	-0.079203	-0.08566349	0.9688	No
row_1217	RBPSUH	recombining binding protein suppressor of hairless (Drosophila	14767	-0.079489	-0.08566169	0.9676	No
row_1218	IL6ST	interleukin 6 signal transducer	14777	-0.079869	-0.0859987	0.9671	No
row_1219	SCML4	sex comb on midleg-like 4 (Drosophila)	14785	-0.080204	-0.086238354	0.9559	No
row_1220	CEPT1	choline/ethanolaminephosphotransferase 1	14815	-0.081438	-0.08754284	0.9679	No
row_1221	IL6ST	interleukin 6 signal transducer	14834	-0.082369	-0.08831298	0.9676	No
row_1222	CCT3	chaperonin subunit 3 (gamma)	14837	-0.082580	-0.088307336	0.9675	No
row_1223	GLA	galactosidase, alpha	14856	-0.083473	-0.08907611	0.9672	No
row_1224	BRD1	bromodomain containing 1	14883	-0.084482	-0.090231396	0.9668	No
row_1225	CEACAM1	CEA-related cell adhesion molecule 1	14913	-0.085592	-0.09153072	0.9352	No
row_1226	TRIM2	tripartite motif protein 2	14920	-0.086244	-0.091714405	0.9661	No
row_1227	CLNS1A	chloride channel, nucleotide-sensitive, 1A	14921	-0.086330	-0.09160715	0.9661	No
row_1228	TRIM2	tripartite motif protein 2	14936	-0.087042	-0.092177615	0.9491	No
row_1229	GHITM	growth hormone inducible transmembrane protein	14956	-0.087912	-0.09298934	0.9654	No
row_1230	DSG2	desmoglein 2	14957	-0.087923	-0.092880115	0.9654	No
row_1231	GFPT1	glutamine fructose-6-phosphate transaminase 1	14979	-0.088829	-0.09378765	0.9651	No
row_1232	CDC42	cell division cycle 42 homolog (S. cerevisiae)	14981	-0.088866	-0.09372572	0.9651	No
row_1233	STAM	signal transducing adaptor molecule (SH3 domain and ITAM r	15022	-0.090797	-0.09555175	0.9643	No
row_1234	PRG2	proteoglycan 2, bone marrow	15029	-0.091184	-0.0957293	0.8826	No
row_1235	PFN2	profilin 2	15035	-0.091449	-0.095858045	0.9391	No
row_1236	ZFX	zinc finger protein X-linked	15036	-0.091482	-0.0957444	0.9585	No
row_1237	NUDT4	nudix (nucleoside diphosphate linked moiety X)-type motif 4	15039	-0.091676	-0.09572745	0.9640	No
row_1238	MTCH2	mitochondrial carrier homolog 2 (C. elegans)	15053	-0.092473	-0.096242696	0.9590	No
row_1239	SFRS3	splicing factor, arginine/serine-rich 3 (SRp20)	15090	-0.093902	-0.09787098	0.9631	No
row_1240	TRAM1	translocating chain-associating membrane protein 1	15095	-0.094072	-0.097948	0.9631	No
row_1241	RALA	v-ral simian leukemia viral oncogene homolog A (ras related)	15111	-0.094597	-0.09855755	0.9629	No
row_1242	GLTP	glycolipid transfer protein	15119	-0.094953	-0.09877888	0.9627	No
row_1243	GRB10	growth factor receptor bound protein 10	15121	-0.095045	-0.09870928	0.9627	No
row_1244	RYK	receptor-like tyrosine kinase	15127	-0.095287	-0.098833255	0.9495	No
row_1245	CCR2	chemokine (C-C motif) receptor 2	15133	-0.095455	-0.098957025	0.9494	No
row_1246	H1F0	H1 histone family, member 0	15136	-0.095500	-0.09893532	0.9625	No
row_1247	TLK2	tousled-like kinase 2 (Arabidopsis)	15154	-0.096424	-0.099639535	0.9622	No
row_1248	HP	haptoglobin	15165	-0.096783	-0.10000401	0.9108	No
row_1249	MTAP	methylthioadenosine phosphorylase	15166	-0.096817	-0.099883735	0.9620	No
row_1250	EPS8	epidermal growth factor receptor pathway substrate 8	15174	-0.097219	-0.10010225	0.9301	No
row_1251	ATP1A1	ATPase, Na+/K+ transporting, alpha 1 polypeptide	15189	-0.098107	-0.10065897	0.9615	No

row_1252	KCMF1	potassium channel modulatory factor 1	15197	-0.098350	-0.100876085	0.9614	No
row_1253	ECHDC1	enoyl Coenzyme A hydratase domain containing 1	15208	-0.098793	-0.10123806	0.9449	No
row_1254	DDR1	discoidin domain receptor family, member 1	15234	-0.099741	-0.10232592	0.9609	No
row_1255	BECN1	Beclin 1 (coiled-coil, myosin-like BCL2-interacting protein)	15236	-0.099915	-0.10225026	0.9608	No
row_1256	DAZAP2	DAZ associated protein 2	15247	-0.100495	-0.102610126	0.9606	No
row_1257	RDX	radixin	15274	-0.101506	-0.10374427	0.9602	No
row_1258	TBL1X	Transducin (beta)-like 1 X-linked	15285	-0.101970	-0.1041023	0.9600	No
row_1259	SPRED1	sprouty protein with EVH-1 domain 1, related sequence	15290	-0.102200	-0.10416922	0.9542	No
row_1260	TOP1	topoisomerase (DNA) I	15292	-0.102242	-0.104090676	0.9599	No
row_1261	CENTD1	Centaurin, delta 1	15297	-0.102490	-0.10415723	0.9598	No
row_1262	DDX10	DEAD (Asp-Glu-Ala-Asp) box polypeptide 10	15311	-0.102977	-0.10465942	0.9596	No
row_1263	KPNA1	karyopherin (importin) alpha 1	15314	-0.103189	-0.104628175	0.9508	No
row_1264	TLOC1	translocation protein 1	15325	-0.103601	-0.10498418	0.9594	No
row_1265	MAP1LC3B	microtubule-associated protein 1 light chain 3 beta	15330	-0.103760	-0.105049156	0.9593	No
row_1266	ING3	inhibitor of growth family, member 3	15374	-0.105142	-0.10700278	0.9588	No
row_1267	SYNPO	synaptopodin	15425	-0.107320	-0.109293	0.9580	No
row_1268	CTCF	CCCTC-binding factor	15437	-0.107720	-0.10969236	0.9578	No
row_1269	MAP2K5	mitogen activated protein kinase kinase 5	15440	-0.107964	-0.10965517	0.9577	No
row_1270	GPIAP1	GPI-anchored membrane protein 1	15441	-0.108003	-0.109521	0.9577	No
row_1271	SPTLC1	serine palmitoyltransferase, long chain base subunit 1	15446	-0.108142	-0.10958054	0.9577	No
row_1272	IFRG15	interferon alpha responsive gene	15468	-0.109168	-0.1104628	0.9573	No
row_1273	CLCN3	chloride channel 3	15472	-0.109310	-0.11047242	0.9572	No
row_1274	LGALS8	lectin, galactose binding, soluble 8	15475	-0.109423	-0.11043342	0.9572	No
row_1275	TRIM37	tripartite motif protein 37	15476	-0.109425	-0.110297486	0.9572	No
row_1276	CSTF2	cleavage stimulation factor, 3' pre-RNA subunit 2	15490	-0.109954	-0.110791005	0.9570	No
row_1277	UBE2J1	ubiquitin-conjugating enzyme E2, J1	15502	-0.110324	-0.11118713	0.9289	No
row_1278	PPP6C	protein phosphatase 6, catalytic subunit	15532	-0.111681	-0.11245404	0.9563	No
row_1279	CDYL	chromodomain protein, Y chromosome-like	15546	-0.112329	-0.11294461	0.9503	No
row_1280	KCTD9	potassium channel tetramerisation domain containing 9	15547	-0.112396	-0.11280499	0.9560	No
row_1281	ARF3	ADP-ribosylation factor 3	15560	-0.113211	-0.113245994	0.9557	No
row_1282	FKBP1A	FK506 binding protein 1a	15568	-0.113662	-0.11344408	0.9555	No
row_1283	GAS2	Growth arrest specific 2	15594	-0.114796	-0.11451324	0.9551	No
row_1284	RTN3	reticulon 3	15602	-0.115088	-0.11470956	0.9470	No
row_1285	LAPTM5	lysosomal-associated protein transmembrane 5	15610	-0.115442	-0.11490544	0.9549	No
row_1286	MAP2K1	mitogen activated protein kinase kinase 1	15616	-0.115661	-0.11500411	0.9548	No
row_1287	TIPARP	TCDD-inducible poly(ADP-ribose) polymerase	15621	-0.116059	-0.11505381	0.9546	No
row_1288	HMGB3	high mobility group box 3	15627	-0.116356	-0.115151614	0.9545	No
row_1289	HSD17B12	hydroxysteroid (17-beta) dehydrogenase 12	15629	-0.116401	-0.11505548	0.9545	No
row_1290	TSNAX	translin-associated factor X	15635	-0.116581	-0.11515301	0.9544	No
row_1291	EIF3S6	eukaryotic translation initiation factor 3, subunit 6	15642	-0.116812	-0.11529872	0.9543	No
row_1292	GORASP2	golgi reassembly stacking protein 2	15645	-0.116932	-0.115250394	0.9543	No
row_1293	YME1L1	YME1-like 1 (S. cerevisiae)	15651	-0.117482	-0.1153468	0.9541	No
row_1294	KIF5B	kinesin family member 5B	15660	-0.118065	-0.11558789	0.9539	No
row_1295	CR11	CREBBP/EP300 inhibitory protein 1	15677	-0.118721	-0.11621594	0.9420	No
row_1296	RAB32	RAB32, member RAS oncogene family	15679	-0.118883	-0.11611672	0.9536	No
row_1297	ACADL	acyl-Coenzyme A dehydrogenase, long-chain	15684	-0.119375	-0.1161623	0.9534	No
row_1298	ZFR	zinc finger RNA binding protein	15721	-0.120954	-0.117756985	0.9528	No

row_1299	LOX	lysyl oxidase	15722	-0.121039	-0.11760662	0.9527	No
row_1300	EMP2	epithelial membrane protein 2	15729	-0.121394	-0.117746636	0.9526	No
row_1301	ARL6IP1	ADP-ribosylation factor-like 6 interacting protein 1	15755	-0.122828	-0.11880581	0.9520	No
row_1302	PFN2	profilin 2	15762	-0.123029	-0.118943796	0.8980	No
row_1303	HNRPK	Heterogeneous nuclear ribonucleoprotein K	15766	-0.123286	-0.118936054	0.9519	No
row_1304	RUNX1	runt related transcription factor 1	15778	-0.123939	-0.11931526	0.9384	No
row_1305	SCOC	short coiled-coil protein	15790	-0.124403	-0.11969389	0.9493	No
row_1306	SRRM1	serine/arginine repetitive matrix 1	15800	-0.124698	-0.11997522	0.9493	No
row_1307	ARF1	ADP-ribosylation factor 1	15801	-0.124763	-0.11982022	0.9513	No
row_1308	FBXW7	F-box and WD-40 domain protein 7, archipelago homolog (Dr	15808	-0.125045	-0.1199557	0.9419	No
row_1309	VAV3	vav 3 oncogene	15814	-0.125319	-0.120042376	0.9511	No
row_1310	HCLS1	hematopoietic cell specific Lyn substrate 1	15828	-0.126122	-0.120515816	0.9508	No
row_1311	RAB10	RAB10, member RAS oncogene family	15849	-0.127169	-0.121327244	0.9504	No
row_1312	HNRPM	heterogeneous nuclear ribonucleoprotein M	15851	-0.127214	-0.121217676	0.9504	No
row_1313	ANXA4	annexin A4	15864	-0.127954	-0.12164037	0.9501	No
row_1314	KIF3A	kinesin family member 3A	15875	-0.128547	-0.121965386	0.9334	No
row_1315	SFRS3	splicing factor, arginine/serine-rich 3 (SRp20)	15877	-0.128573	-0.12185413	0.9499	No
row_1316	PA2G4	Proliferation-associated 2G4	15881	-0.128693	-0.121839665	0.9498	No
row_1317	UBE2D2	ubiquitin-conjugating enzyme E2D 2	15897	-0.129160	-0.12240627	0.9496	No
row_1318	NAB1	Ngfi-A binding protein 1	15898	-0.129192	-0.12224577	0.9496	No
row_1319	CHIC2	cysteine-rich hydrophobic domain 2	15911	-0.129844	-0.12266612	0.9494	No
row_1320	LAPTM5	lysosomal-associated protein transmembrane 5	15917	-0.130163	-0.122746766	0.9493	No
row_1321	CD47	CD47 antigen (Rh-related antigen, integrin-associated signal t	15920	-0.130231	-0.12268192	0.9492	No
row_1322	RAP1B	RAS related protein 1b	15966	-0.132633	-0.12469834	0.9483	No
row_1323	SH3BGRL	SH3-binding domain glutamic acid-rich protein like	15974	-0.133025	-0.12487238	0.9482	No
row_1324	ARF6	ADP-ribosylation factor 6	15984	-0.133363	-0.12514293	0.9480	No
row_1325	CAPZA2	capping protein (actin filament) muscle Z-line, alpha 2	15989	-0.133424	-0.12517107	0.9480	No
row_1326	UBE2D3	ubiquitin-conjugating enzyme E2D 3 (UBC4/5 homolog, yeast	15999	-0.133804	-0.12544107	0.9479	No
row_1327	ETS1	E26 avian leukemia oncogene 1, 5' domain	16000	-0.133840	-0.1252748	0.9479	No
row_1328	USP14	ubiquitin specific peptidase 14	16023	-0.134590	-0.12617396	0.9476	No
row_1329	PRDX1	peroxiredoxin 1	16037	-0.135369	-0.12663591	0.9473	No
row_1330	DDX3X	DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 3, X-linked	16053	-0.136318	-0.12719363	0.9469	No
row_1331	IKBKKG	inhibitor of kappaB kinase gamma	16061	-0.137020	-0.1273627	0.9467	No
row_1332	RNF11	ring finger protein 11	16064	-0.137144	-0.12728927	0.9466	No
row_1333	DNAJB6	DnaJ (Hsp40) homolog, subfamily B, member 6	16074	-0.137358	-0.12755486	0.9465	No
row_1334	STX7	syntaxin 7	16086	-0.138063	-0.12791653	0.9463	No
row_1335	HMG1	high mobility group nucleosomal binding domain 1	16109	-0.139465	-0.12880963	0.9457	No
row_1336	LAMP2	lysosomal membrane glycoprotein 2	16116	-0.139792	-0.12892678	0.9456	No
row_1337	UBE2N	ubiquitin-conjugating enzyme E2N	16134	-0.140859	-0.1295758	0.9452	No
row_1338	MCL1	myeloid cell leukemia sequence 1	16139	-0.141300	-0.12959415	0.9450	No
row_1339	FZD3	frizzled homolog 3 (Drosophila)	16165	-0.142724	-0.1306286	0.9337	No
row_1340	VPS54	vacuolar protein sorting 54 (yeast)	16176	-0.143047	-0.13093561	0.9444	No
row_1341	ARF3	ADP-ribosylation factor 3	16183	-0.143208	-0.13104852	0.9443	No
row_1342	PRDX1	peroxiredoxin 1	16212	-0.144118	-0.13222666	0.9440	No
row_1343	PVR	poliovirus receptor	16227	-0.144928	-0.13272521	0.9280	No
row_1344	COTL1	coactosin-like 1 (Dictyostelium)	16231	-0.145049	-0.13269043	0.9436	No
row_1345	GNPNAT1	Glucosamine-phosphate N-acetyltransferase 1	16279	-0.147678	-0.13478509	0.9426	No

row_1346	PICALM	phosphatidylinositol binding clathrin assembly protein	16296	-0.148253	-0.13537645	0.9424	No
row_1347	GRB10	growth factor receptor bound protein 10	16297	-0.148268	-0.13519226	0.9424	No
row_1348	HSPA5	heat shock 70kD protein 5 (glucose-regulated protein)	16304	-0.148688	-0.13529837	0.9422	No
row_1349	RBM16	RNA binding motif protein 16	16316	-0.149435	-0.1356459	0.9195	No
row_1350	HRSP12	heat-responsive protein 12	16320	-0.149623	-0.13560544	0.9419	No
row_1351	RAC1	RAS-related C3 botulinum substrate 1	16331	-0.150115	-0.13590366	0.9417	No
row_1352	ARHGAP18	Rho GTPase activating protein 18	16343	-0.150673	-0.13624965	0.9415	No
row_1353	ARF2	ADP-ribosylation factor 2	16353	-0.151027	-0.13649827	0.8504	No
row_1354	SFRS1	splicing factor, arginine/serine-rich 1 (ASF/SF2)	16354	-0.151039	-0.13631064	0.9414	No
row_1355	HMGN1	high mobility group nucleosomal binding domain 1	16370	-0.152015	-0.13684884	0.9410	No
row_1356	YWHAZ	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase acti	16379	-0.152671	-0.13704695	0.9407	No
row_1357	SOAT1	sterol O-acyltransferase 1	16406	-0.153859	-0.13811605	0.8777	No
row_1358	PLEKHC1	pleckstrin homology domain containing, family C (with FERM)	16461	-0.156457	-0.1405391	0.9393	No
row_1359	IL1RAP	interleukin 1 receptor accessory protein	16488	-0.157800	-0.1416033	0.8740	No
row_1360	VAT1	vesicle amine transport protein 1 homolog (T californica)	16506	-0.158998	-0.14222978	0.9384	No
row_1361	MTMR6	myotubularin related protein 6	16510	-0.159184	-0.14217743	0.9383	No
row_1362	ABCC5	ATP-binding cassette, sub-family C (CFTR/MRP), member 5	16514	-0.159458	-0.14212476	0.9259	No
row_1363	NCL	nucleolin	16521	-0.160038	-0.14221677	0.9380	No
row_1364	CCNB1	cyclin B1	16524	-0.160088	-0.14211483	0.9380	No
row_1365	MEF2C	myocyte enhancer factor 2C	16527	-0.160260	-0.14201269	0.9379	No
row_1366	MAN2A1	mannosidase 2, alpha 1	16531	-0.160452	-0.14195876	0.9378	No
row_1367	DDX46	DEAD (Asp-Glu-Ala-Asp) box polypeptide 46	16545	-0.161248	-0.14238857	0.8999	No
row_1368	ALCAM	activated leukocyte cell adhesion molecule	16553	-0.161702	-0.14252697	0.9070	No
row_1369	ETF1	eukaryotic translation termination factor 1	16562	-0.162080	-0.14271338	0.9372	No
row_1370	HMGCS1	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1	16571	-0.162435	-0.14289936	0.9071	No
row_1371	HNRPU	heterogeneous nuclear ribonucleoprotein U	16574	-0.162485	-0.14279445	0.9371	No
row_1372	GCNT2	glucosaminyl (N-acetyl) transferase 2, I-branching enzyme	16602	-0.164017	-0.1438994	0.9365	No
row_1373	TSN	translin	16610	-0.164502	-0.14403434	0.9363	No
row_1374	NAP1L1	nucleosome assembly protein 1-like 1	16616	-0.164983	-0.14407173	0.9361	No
row_1375	MAP2K4	mitogen activated protein kinase kinase 4	16624	-0.165372	-0.14420559	0.9276	No
row_1376	MGAT2	mannoside acetylglucosaminyltransferase 2	16625	-0.165482	-0.14400001	0.9318	No
row_1377	ITPR1	inositol 1,4,5-triphosphate receptor 1	16626	-0.165574	-0.14379431	0.9359	No
row_1378	AHCYL1	S-adenosylhomocysteine hydrolase-like 1	16639	-0.166101	-0.14416961	0.9357	No
row_1379	MSH2	mutS homolog 2 (E. coli)	16650	-0.166532	-0.14444743	0.9355	No
row_1380	CFL1	cofilin 1, non-muscle	16651	-0.166543	-0.14424054	0.9355	No
row_1381	PVR	poliovirus receptor	16659	-0.167138	-0.1443722	0.9353	No
row_1382	ITGA3	integrin alpha 3	16674	-0.167891	-0.14484222	0.9350	No
row_1383	CCR2	chemokine (C-C motif) receptor 2	16692	-0.169134	-0.1454561	0.9261	No
row_1384	WDR26	WD repeat domain 26	16715	-0.170111	-0.14631113	0.9213	No
row_1385	RAB10	RAB10, member RAS oncogene family	16717	-0.170231	-0.14614813	0.9054	No
row_1386	PPP2R1A	protein phosphatase 2 (formerly 2A), regulatory subunit A (PR	16719	-0.170309	-0.14598502	0.9341	No
row_1387	PPP2R5C	protein phosphatase 2, regulatory subunit B (B56), gamma isc	16736	-0.170928	-0.14654821	0.9339	No
row_1388	DNAJB6	DnaJ (Hsp40) homolog, subfamily B, member 6	16747	-0.171448	-0.14681993	0.9246	No
row_1389	FBXL14	F-box and leucine-rich repeat protein 14	16760	-0.172682	-0.14718705	0.9332	No
row_1390	OXR1	oxidation resistance 1	16762	-0.172742	-0.14702092	0.9332	No
row_1391	PDHA1	pyruvate dehydrogenase E1 alpha 1	16779	-0.173664	-0.14758071	0.9306	No
row_1392	CALM2	calmodulin 2	16787	-0.174171	-0.14770363	0.9327	No

row_1393	NAP1L1	nucleosome assembly protein 1-like 1	16788	-0.174295	-0.1474871	0.9326	No
row_1394	NPM1	nucleophosmin 1	16789	-0.174295	-0.14727058	0.9326	No
row_1395	GNPNAT1	glucosamine-phosphate N-acetyltransferase 1	16800	-0.174918	-0.14753799	0.9324	No
row_1396	ING3	inhibitor of growth family, member 3	16802	-0.174967	-0.1473691	0.9324	No
row_1397	PSMD1	Proteasome (prosome, macropain) 26S subunit, non-ATPase	16804	-0.174989	-0.14720018	0.9324	No
row_1398	ENTPD2	ectonucleoside triphosphate diphosphohydrolase 2	16806	-0.175096	-0.14703113	0.9232	No
row_1399	NFX1	nuclear transcription factor, X-box binding 1	16815	-0.175684	-0.14720064	0.9158	No
row_1400	CPOX	coproporphyrinogen oxidase	16832	-0.176260	-0.1477572	0.9296	No
row_1401	CKS2	CDC28 protein kinase regulatory subunit 2	16842	-0.176955	-0.14797361	0.9316	No
row_1402	GLCC1	glucocorticoid induced transcript 1	16849	-0.177288	-0.14804418	0.9315	No
row_1403	ITPR1	inositol 1,4,5-triphosphate receptor 1	16850	-0.177401	-0.14782381	0.9210	No
row_1404	TLOC1	translocation protein 1	16873	-0.178419	-0.14866851	0.9311	No
row_1405	MYNN	myoneurin	16892	-0.179711	-0.14931773	0.9306	No
row_1406	CYB561	cytochrome b-561	16895	-0.179810	-0.14919129	0.8727	No
row_1407	TRIM16	tripartite motif protein 16	16901	-0.180237	-0.14920974	0.8866	No
row_1408	MTPN	myotrophin	16903	-0.180497	-0.14903398	0.9303	No
row_1409	PDHA1	pyruvate dehydrogenase E1 alpha 1	16905	-0.180568	-0.14885813	0.9303	No
row_1410	ROD1	ROD1 regulator of differentiation 1 (S. pombe)	16907	-0.180680	-0.14868213	0.8846	No
row_1411	XPO7	exportin 7	16919	-0.181422	-0.14898993	0.9300	No
row_1412	CNOT7	CCR4-NOT transcription complex, subunit 7	16927	-0.182138	-0.14910296	0.9254	No
row_1413	DUSP16	dual specificity phosphatase 16	16937	-0.183158	-0.14931166	0.9202	No
row_1414	SLC16A1	solute carrier family 16 (monocarboxylic acid transporters), mem	16939	-0.183282	-0.14913245	0.9075	No
row_1415	EIF3S6	eukaryotic translation initiation factor 3, subunit 6	16941	-0.183363	-0.14895312	0.9292	No
row_1416	ZYX	zyxin	16943	-0.183465	-0.14877367	0.9292	No
row_1417	UBE2D3	ubiquitin-conjugating enzyme E2D 3 (UBC4/5 homolog, yeast	16969	-0.184821	-0.14975584	0.9287	No
row_1418	FBNP1	formin binding protein 1	16972	-0.184989	-0.14962296	0.9131	No
row_1419	CCNB1	cyclin B1	16973	-0.185043	-0.14939308	0.9286	No
row_1420	TFAM	transcription factor A, mitochondrial	16979	-0.185488	-0.149405	0.9285	No
row_1421	STK24	serine/threonine kinase 24 (STE20 homolog, yeast)	16990	-0.185852	-0.14965883	0.9283	No
row_1422	NCL	nucleolin	16998	-0.186112	-0.14976692	0.9282	No
row_1423	HNRPAB	heterogeneous nuclear ribonucleoprotein A/B	17001	-0.186292	-0.14963242	0.9282	No
row_1424	UBE2D3	ubiquitin-conjugating enzyme E2D 3 (UBC4/5 homolog, yeast	17008	-0.186855	-0.14969112	0.9280	No
row_1425	UBE2D3	ubiquitin-conjugating enzyme E2D 3 (UBC4/5 homolog, yeast	17012	-0.187058	-0.14960416	0.9279	No
row_1426	APLP2	amyloid beta (A4) precursor-like protein 2	17019	-0.187528	-0.149662	0.9247	No
row_1427	TCEB1	transcription elongation factor B (SIII), polypeptide 1	17030	-0.188294	-0.14991279	0.9274	No
row_1428	ATP6AP2	ATPase, H+ transporting, lysosomal accessory protein 2	17049	-0.189656	-0.15054967	0.9269	No
row_1429	TCEB1	transcription elongation factor B (SIII), polypeptide 1	17076	-0.191075	-0.15157253	0.9264	No
row_1430	SFRS10	splicing factor, arginine/serine-rich 10 (transformer 2 homolog	17077	-0.191131	-0.15133509	0.9264	No
row_1431	RAP1B	RAS related protein 1b	17088	-0.191891	-0.1515814	0.9261	No
row_1432	CKS2	CDC28 protein kinase regulatory subunit 2	17115	-0.193439	-0.15260133	0.9255	No
row_1433	HNRPU	heterogeneous nuclear ribonucleoprotein U	17118	-0.193587	-0.15245779	0.9255	No
row_1434	PPM1B	protein phosphatase 1B, magnesium dependent, beta isoform	17120	-0.193642	-0.1522657	0.9254	No
row_1435	TRIM16	tripartite motif protein 16	17128	-0.194150	-0.15236379	0.9252	No
row_1436	KIFAP3	kinesin-associated protein 3	17143	-0.194856	-0.1528003	0.9250	No
row_1437	LATS2	large tumor suppressor 2	17168	-0.196490	-0.15371951	0.9244	No
row_1438	CD81	CD 81 antigen	17194	-0.197737	-0.15468563	0.9239	No
row_1439	EHD3	EH-domain containing 3	17202	-0.198126	-0.1547788	0.8952	No



row_1440	ELTD1	EGF, latrophilin seven transmembrane domain containing 1	17204	-0.198221	-0.15458101	0.9237	No
row_1441	CLTC	clathrin, heavy polypeptide (Hc)	17217	-0.198899	-0.15491557	0.9235	No
row_1442	EIF5	eukaryotic translation initiation factor 5	17235	-0.199690	-0.1554915	0.9232	No
row_1443	CAPN7	calpain 7	17244	-0.200304	-0.15563042	0.9230	No
row_1444	BZW1	basic leucine zipper and W2 domains 1	17247	-0.200413	-0.15547839	0.9229	No
row_1445	NAP1L1	nucleosome assembly protein 1-like 1	17285	-0.202158	-0.15702067	0.9223	No
row_1446	ATP5A1	ATP synthase, H+ transporting, mitochondrial F1 complex, al	17300	-0.202856	-0.15744725	0.9220	No
row_1447	HMGB1	high mobility group box 1	17317	-0.203891	-0.15796949	0.9216	No
row_1448	LCP1	lymphocyte cytosolic protein 1	17330	-0.205563	-0.15829577	0.9210	No
row_1449	ATP6V1B2	ATPase, H+ transporting, lysosomal V1 subunit B2	17340	-0.206142	-0.1584759	0.9208	No
row_1450	HRB	HIV-1 Rev binding protein	17344	-0.206354	-0.15836497	0.8749	No
row_1451	NCL	nucleolin	17350	-0.206779	-0.15835044	0.9206	No
row_1452	ATP6V1B2	ATPase, H+ transporting, lysosomal V1 subunit B2	17361	-0.207334	-0.15857758	0.9204	No
row_1453	MYCBP	c-myc binding protein	17365	-0.207613	-0.15846507	0.9203	No
row_1454	SRPRB	signal recognition particle receptor, B subunit	17421	-0.210963	-0.16086888	0.9190	No
row_1455	TBC1D15	TBC1 domain family, member 15	17455	-0.212777	-0.16220409	0.9184	No
row_1456	USP9X	ubiquitin specific peptidase 9, X chromosome	17466	-0.213383	-0.1624237	0.8739	No
row_1457	SFRS3	splicing factor, arginine/serine-rich 3 (SRp20)	17473	-0.213827	-0.1624489	0.9180	No
row_1458	MGEA5	meningioma expressed antigen 5 (hyaluronidase)	17474	-0.213875	-0.1621832	0.9180	No
row_1459	PAK1	p21 (CDKN1A)-activated kinase 1	17482	-0.214323	-0.16225624	0.9178	No
row_1460	ITGAV	integrin alpha V	17488	-0.214885	-0.16223164	0.9176	No
row_1461	TAX1BP1	Tax1 (human T-cell leukemia virus type I) binding protein 1	17501	-0.215810	-0.16254519	0.9172	No
row_1462	SLC31A1	solute carrier family 31, member 1	17517	-0.216705	-0.16300303	0.9138	No
row_1463	SGPL1	sphingosine phosphate lyase 1	17518	-0.216749	-0.16273376	0.9169	No
row_1464	HMGCS1	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1	17539	-0.217795	-0.16343261	0.9165	No
row_1465	HPCAL1	hippocalcin-like 1	17545	-0.218205	-0.1634039	0.9164	No
row_1466	SFRS3	splicing factor, arginine/serine-rich 3 (SRp20)	17547	-0.218396	-0.16318105	0.9163	No
row_1467	KIF1B	kinesin family member 1B	17549	-0.218592	-0.16295797	0.8727	No
row_1468	MGEA5	meningioma expressed antigen 5 (hyaluronidase)	17553	-0.218825	-0.16283153	0.9161	No
row_1469	VAMP3	vesicle-associated membrane protein 3	17561	-0.219324	-0.16289836	0.9160	No
row_1470	BAZ1B	bromodomain adjacent to zinc finger domain, 1B	17563	-0.219462	-0.16267419	0.9159	No
row_1471	SLC23A2	solute carrier family 23 (nucleobase transporters), member 2	17565	-0.219499	-0.16244997	0.9159	No
row_1472	GPIAP1	GPI-anchored membrane protein 1	17575	-0.219863	-0.16261308	0.9143	No
row_1473	KIT	kit oncogene	17581	-0.220346	-0.1625817	0.9156	No
row_1474	TXNDC1	thioredoxin domain containing 1	17588	-0.220778	-0.16259825	0.9154	No
row_1475	MAP2K7	mitogen activated protein kinase kinase 7	17624	-0.223477	-0.1640171	0.9144	No
row_1476	ARPC4	actin related protein 2/3 complex, subunit 4	17626	-0.223572	-0.16378783	0.9144	No
row_1477	SRRM1	serine/arginine repetitive matrix 1	17628	-0.223593	-0.16355853	0.8902	No
row_1478	HNRPK	heterogeneous nuclear ribonucleoprotein K	17637	-0.224165	-0.16366781	0.9142	No
row_1479	PTGER4	prostaglandin E receptor 4 (subtype EP4)	17662	-0.225590	-0.16455086	0.9137	No
row_1480	IVNS1ABP	influenza virus NS1A binding protein	17669	-0.226160	-0.16456072	0.8950	No
row_1481	RPL30	ribosomal protein L30	17671	-0.226241	-0.16432813	0.9134	No
row_1482	RALA	v-ral simian leukemia viral oncogene homolog A (ras related)	17688	-0.227350	-0.16482122	0.8383	No
row_1483	RIOK2	RIO kinase 2 (yeast)	17696	-0.227720	-0.16487762	0.9129	No
row_1484	ACTR3	ARP3 actin-related protein 3 homolog (yeast)	17718	-0.228939	-0.1656111	0.9124	No
row_1485	CCT6A	chaperonin subunit 6a (zeta)	17732	-0.230078	-0.1659554	0.9120	No
row_1486	MTCH2	mitochondrial carrier homolog 2 (C. elegans)	17744	-0.230674	-0.16620201	0.9110	No

row_1487	FMO5	flavin containing monooxygenase 5	17747	-0.231087	-0.16601187	0.9061	No
row_1488	GLRX2	glutaredoxin 2 (thioltransferase)	17749	-0.231129	-0.1657732	0.9116	No
row_1489	AP3S2	adaptor-related protein complex 3, sigma 2 subunit	17756	-0.231508	-0.16577643	0.9115	No
row_1490	CCNH	cyclin H	17758	-0.231664	-0.1655371	0.8895	No
row_1491	PUM2	pumilio 2 (Drosophila)	17762	-0.231702	-0.16539466	0.9114	No
row_1492	TPD52	tumor protein D52	17767	-0.232011	-0.16530032	0.8957	No
row_1493	RAB7	RAB7, member RAS oncogene family	17778	-0.232483	-0.16549622	0.9111	No
row_1494	WEE1	wee 1 homolog (S. pombe)	17781	-0.232695	-0.16530408	0.8784	No
row_1495	ARF2	ADP-ribosylation factor 2	17784	-0.232956	-0.16511162	0.8290	No
row_1496	PSMB7	proteasome (prosome, macropain) subunit, beta type 7	17787	-0.233063	-0.16491902	0.9109	No
row_1497	DBI	diazepam binding inhibitor	17810	-0.234384	-0.1656942	0.9104	No
row_1498	NONO	non-POU-domain-containing, octamer binding protein	17811	-0.234396	-0.16540301	0.9104	No
row_1499	BXDC1	brix domain containing 1	17827	-0.235000	-0.16583814	0.9102	No
row_1500	PLEK	pleckstrin	17830	-0.235162	-0.16564293	0.9076	No
row_1501	KPNA3	karyopherin (importin) alpha 3	17845	-0.235891	-0.16602848	0.9029	No
row_1502	SLCO2A1	solute carrier organic anion transporter family, member 2a1	17846	-0.235931	-0.16573538	0.9099	No
row_1503	RASSF3	Ras association (RalGDS/AF-6) domain family 3	17848	-0.235999	-0.16549067	0.9093	No
row_1504	DNAJB6	DnaJ (Hsp40) homolog, subfamily B, member 6	17864	-0.236896	-0.16592343	0.8943	No
row_1505	KPNA1	karyopherin (importin) alpha 1	17866	-0.237041	-0.16567743	0.8433	No
row_1506	AKAP9	A kinase (PRKA) anchor protein (yotiao) 9	17877	-0.237650	-0.1658669	0.8340	No
row_1507	RNF13	ring finger protein 13	17886	-0.238277	-0.16595866	0.8527	No
row_1508	TRIM24	tripartite motif protein 24	17891	-0.238659	-0.16585605	0.9089	No
row_1509	SRRM1	serine/arginine repetitive matrix 1	17900	-0.239223	-0.16594663	0.9087	No
row_1510	HIF1A	hypoxia inducible factor 1, alpha subunit	17909	-0.239786	-0.16603652	0.9085	No
row_1511	ATP6V1C1	ATPase, H+ transporting, lysosomal V1 subunit C1	17911	-0.239863	-0.165787	0.9010	No
row_1512	ELOVL5	ELOVL family member 5, elongation of long chain fatty acids (	17918	-0.240673	-0.16577883	0.9082	No
row_1513	MAP2K7	mitogen activated protein kinase kinase 7	17924	-0.241466	-0.16572121	0.9079	No
row_1514	MCL1	myeloid cell leukemia sequence 1	17927	-0.241679	-0.16551791	0.9078	No
row_1515	TLE3	transducin-like enhancer of split 3, homolog of Drosophila E(s	17944	-0.242277	-0.16599247	0.8990	No
row_1516	VPS54	vacuolar protein sorting 54 (yeast)	17950	-0.242741	-0.16593327	0.9074	No
row_1517	STRN3	striatin, calmodulin binding protein 3	17973	-0.243702	-0.16669688	0.9070	No
row_1518	ZBTB1	zinc finger and BTB domain containing 1	17977	-0.243813	-0.16653939	0.9070	No
row_1519	PPP2R1A	protein phosphatase 2 (formerly 2A), regulatory subunit A (PR	18001	-0.245960	-0.16734867	0.9062	No
row_1520	UBE1C	ubiquitin-activating enzyme E1C	18019	-0.247338	-0.1678654	0.8830	No
row_1521	GNPNAT1	glucosamine-phosphate N-acetyltransferase 1	18026	-0.247631	-0.16784859	0.9056	No
row_1522	UBE2D3	ubiquitin-conjugating enzyme E2D 3 (UBC4/5 homolog, yeast	18027	-0.247657	-0.16754092	0.9056	No
row_1523	GRSF1	G-rich RNA sequence binding factor 1	18028	-0.247670	-0.16723324	0.9056	No
row_1524	PSME4	proteasome (prosome, macropain) activator subunit 4	18037	-0.248220	-0.16731265	0.9054	No
row_1525	CRK	v-crk sarcoma virus CT10 oncogene homolog (avian)	18058	-0.249139	-0.16797255	0.9051	No
row_1526	RUNX1	runt related transcription factor 1	18065	-0.249794	-0.16795306	0.9048	No
row_1527	SLC6A6	Solute carrier family 6 (neurotransmitter transporter, taurine), I	18071	-0.250024	-0.16788481	0.9048	No
row_1528	SCOC	short coiled-coil protein	18126	-0.253606	-0.17018718	0.8813	No
row_1529	UCHL5	ubiquitin carboxyl-terminal esterase L5	18146	-0.255315	-0.17079094	0.9028	No
row_1530	ELTD1	EGF, latrophilin seven transmembrane domain containing 1	18159	-0.256157	-0.17105436	0.9025	No
row_1531	HMMR	hyaluronan mediated motility receptor (RHAMM)	18162	-0.256499	-0.17083266	0.8606	No
row_1532	PPP2CA	protein phosphatase 2 (formerly 2A), catalytic subunit, alpha is	18174	-0.257265	-0.17104624	0.9021	No
row_1533	ARL1	ADP-ribosylation factor-like 1	18189	-0.258037	-0.17140427	0.9019	No

row_1534	SMARCA2	SWI/SNF related, matrix associated, actin dependent regulatc	18191	-0.258220	-0.17113195	0.9018	No
row_1535	CAPN7	calpain 7	18194	-0.258474	-0.17090778	0.9017	No
row_1536	LYST	lysosomal trafficking regulator	18212	-0.259758	-0.1714091	0.9012	No
row_1537	ATP6AP2	ATPase, H+ transporting, lysosomal accessory protein 2	18226	-0.260993	-0.17171498	0.9008	No
row_1538	UGP2	UDP-glucose pyrophosphorylase 2	18227	-0.260998	-0.17139074	0.9008	No
row_1539	GOLPH3	golgi phosphoprotein 3	18234	-0.261533	-0.17135666	0.9006	No
row_1540	TLK2	tousled-like kinase 2 (Arabidopsis)	18236	-0.261672	-0.17108005	0.8750	No
row_1541	CANX	calnexin	18242	-0.261881	-0.17099707	0.9005	No
row_1542	RORA	RAR-related orphan receptor alpha	18261	-0.262922	-0.17154293	0.9001	No
row_1543	RORA	RAR-related orphan receptor alpha	18264	-0.263082	-0.17131303	0.9000	No
row_1544	PA2G4	proliferation-associated 2G4	18294	-0.264862	-0.17238964	0.8994	No
row_1545	ACP1	acid phosphatase 1, soluble	18304	-0.265553	-0.17249599	0.8991	No
row_1546	GPIAP1	GPI-anchored membrane protein 1	18306	-0.265652	-0.17221443	0.8991	No
row_1547	HIPK3	homeodomain interacting protein kinase 3	18307	-0.265714	-0.17188434	0.8662	No
row_1548	RAB2	RAB2, member RAS oncogene family	18310	-0.265869	-0.17165099	0.8990	No
row_1549	CSNK2A1	casein kinase II, alpha 1 polypeptide	18330	-0.267381	-0.17223977	0.8392	No
row_1550	XPO7	exportin 7	18334	-0.267648	-0.17205268	0.8984	No
row_1551	CEACAM1	CEA-related cell adhesion molecule 1	18347	-0.268616	-0.17230064	0.8055	No
row_1552	PAIP1	polyadenylate binding protein-interacting protein 1	18361	-0.269118	-0.17259642	0.8979	No
row_1553	TPM3	tropomyosin 3, gamma	18363	-0.269363	-0.17231026	0.8978	No
row_1554	TFPI	tissue factor pathway inhibitor	18367	-0.269767	-0.17212054	0.8569	No
row_1555	MYH9	Myosin, heavy polypeptide 9, non-muscle	18371	-0.270140	-0.17193036	0.8975	No
row_1556	PSAT1	phosphoserine aminotransferase 1	18372	-0.270172	-0.17159472	0.8975	No
row_1557	RPL23	ribosomal protein L23	18393	-0.272273	-0.17222589	0.8967	No
row_1558	PERP	PERP, TP53 apoptosis effector	18394	-0.272278	-0.17188765	0.8967	No
row_1559	CLCN3	chloride channel 3	18397	-0.272508	-0.17164604	0.8728	No
row_1560	CD47	CD47 antigen (Rh-related antigen, integrin-associated signal t	18399	-0.272571	-0.1713559	0.8966	No
row_1561	PPP2R1A	protein phosphatase 2 (formerly 2A), regulatory subunit A (PR	18416	-0.273551	-0.1717916	0.8963	No
row_1562	TUBA4	tubulin, alpha 4	18427	-0.273830	-0.17193612	0.8962	No
row_1563	DDX3Y	DEAD (Asp-Glu-Ala-Asp) box polypeptide 3, Y-linked	18440	-0.274635	-0.1721766	0.8959	No
row_1564	SOAT1	sterol O-acyltransferase 1	18443	-0.274826	-0.17193213	0.8958	No
row_1565	NEDD9	neural precursor cell expressed, developmentally down-regule	18448	-0.275327	-0.17178397	0.8956	No
row_1566	RUNX1	runt related transcription factor 1	18450	-0.275550	-0.17149012	0.8955	No
row_1567	EHD3	EH-domain containing 3	18457	-0.275772	-0.17143835	0.8868	No
row_1568	VAMP3	vesicle-associated membrane protein 3	18469	-0.277016	-0.1716274	0.8950	No
row_1569	CCNC	cyclin C	18470	-0.277019	-0.17128326	0.8950	No
row_1570	EIF3S10	eukaryotic translation initiation factor 3, subunit 10 (theta)	18471	-0.277093	-0.17093901	0.8950	No
row_1571	ERO1L	ERO1-like (S. cerevisiae)	18472	-0.277183	-0.17059468	0.8820	No
row_1572	CRI1	CREBBP/EP300 inhibitory protein 1	18497	-0.278781	-0.17141165	0.8944	No
row_1573	RAB14	RAB14, member RAS oncogene family	18530	-0.280362	-0.17261441	0.8938	No
row_1574	2-Sep	septin 2	18572	-0.283083	-0.17425004	0.8928	No
row_1575	CCT6A	chaperonin subunit 6a (zeta)	18577	-0.283471	-0.17409177	0.8927	No
row_1576	ZFR	zinc finger RNA binding protein	18581	-0.283666	-0.17388478	0.8926	No
row_1577	ANKRD17	Ankyrin repeat domain 17	18584	-0.283877	-0.17362906	0.8844	No
row_1578	GPIAP1	GPI-anchored membrane protein 1	18594	-0.284660	-0.17371166	0.8923	No
row_1579	DNAJC3	DnaJ (Hsp40) homolog, subfamily C, member 3	18613	-0.285964	-0.17422888	0.8403	No
row_1580	MPO	myeloperoxidase	18623	-0.286546	-0.17430915	0.8916	No

row_1581	PLEK	pleckstrin	18637	-0.287877	-0.17458163	0.8911	No
row_1582	ATP6V1C1	ATPase, H+ transporting, lysosomal V1 subunit C1	18639	-0.287951	-0.17427239	0.8911	No
row_1583	DDX3X	DEAD/H (Asp-Glu-Ala-Asp/His) box polypeptide 3, X-linked	18641	-0.288158	-0.17396288	0.8910	No
row_1584	KIF5B	kinesin family member 5B	18646	-0.288716	-0.17379808	0.8908	No
row_1585	HNRPU	Heterogeneous nuclear ribonucleoprotein U	18650	-0.289065	-0.17358439	0.8618	No
row_1586	ATP6V0C	ATPase, H+ transporting, lysosomal V0 subunit C	18655	-0.289207	-0.17341898	0.8906	No
row_1587	TTC3	tetratricopeptide repeat domain 3	18663	-0.289934	-0.17339809	0.8904	No
row_1588	GOLGA4	golgi autoantigen, golgin subfamily a, 4	18668	-0.290378	-0.17323124	0.8871	No
row_1589	RBM12	RNA binding motif protein 12	18683	-0.291261	-0.173548	0.8899	No
row_1590	SLC9A3R1	solute carrier family 9 (sodium/hydrogen exchanger), isoform :	18685	-0.291377	-0.17323449	0.8899	No
row_1591	SH3BGR1	SH3-binding domain glutamic acid-rich protein like	18693	-0.292317	-0.17321064	0.8895	No
row_1592	CUL3	cullin 3	18698	-0.292682	-0.17304093	0.8894	No
row_1593	MSN	moesin	18700	-0.292720	-0.17272575	0.8894	No
row_1594	ENPP5	ectonucleotide pyrophosphatase/phosphodiesterase 5	18718	-0.293946	-0.17318459	0.8667	No
row_1595	EIF4A2	eukaryotic translation initiation factor 4A2	18732	-0.294495	-0.17344885	0.8888	No
row_1596	CIRBP	cold inducible RNA binding protein	18753	-0.296089	-0.17405044	0.8882	No
row_1597	CCT3	chaperonin subunit 3 (gamma)	18770	-0.298299	-0.17445539	0.8874	No
row_1598	ATF2	activating transcription factor 2	18774	-0.298526	-0.17422993	0.8873	No
row_1599	RAP2C	RAP2C, member of RAS oncogene family	18783	-0.299019	-0.17424624	0.8871	No
row_1600	ABI1	abl-interactor 1	18784	-0.299027	-0.17387475	0.8871	No
row_1601	TACSTD1	tumor-associated calcium signal transducer 1	18814	-0.301171	-0.17490625	0.8864	No
row_1602	FUSIP1	FUS interacting protein (serine-arginine rich) 1	18823	-0.302062	-0.17491877	0.8505	No
row_1603	ARF3	ADP-ribosylation factor 3	18824	-0.302124	-0.17454344	0.8860	No
row_1604	CSF1R	colony stimulating factor 1 receptor	18837	-0.303035	-0.17474863	0.8854	No
row_1605	CSDA	cold shock domain protein A	18853	-0.304202	-0.17509778	0.8853	No
row_1606	PSEN1	presenilin 1	18856	-0.304296	-0.1748167	0.8853	No
row_1607	CDADC1	cytidine and dCMP deaminase domain containing 1	18869	-0.305810	-0.17501843	0.8416	No
row_1608	STAU2	staufer (RNA binding protein) homolog 2 (Drosophila)	18871	-0.305946	-0.17468683	0.8847	No
row_1609	MGAT2	mannoside acetylglucosaminyltransferase 2	18884	-0.306869	-0.17488725	0.8635	No
row_1610	UXS1	UDP-glucuronate decarboxylase 1	18886	-0.306989	-0.17455435	0.8779	No
row_1611	EIF5	eukaryotic translation initiation factor 5	18889	-0.307253	-0.17426959	0.8842	No
row_1612	ROCK1	Rho-associated coiled-coil forming kinase 1	18914	-0.309901	-0.1750479	0.8467	No
row_1613	YWHAQ	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase acti	18916	-0.310046	-0.1747112	0.8832	No
row_1614	SLC6A15	solute carrier family 6 (neurotransmitter transporter), member	18918	-0.310146	-0.17437437	0.8631	No
row_1615	SFRS1	splicing factor, arginine/serine-rich 1 (ASF/SF2)	18946	-0.312666	-0.17529465	0.8638	No
row_1616	PIP5K1A	phosphatidylinositol-4-phosphate 5-kinase, type 1 alpha	18952	-0.313775	-0.1751472	0.8819	No
row_1617	ELOVL5	ELOVL family member 5, elongation of long chain fatty acids (	18963	-0.314167	-0.17524162	0.8818	No
row_1618	BRE	brain and reproductive organ-expressed protein	18979	-0.315389	-0.17557688	0.8813	No
row_1619	RRS1	RRS1 ribosome biogenesis regulator homolog (S. cerevisiae)	18985	-0.315771	-0.17542695	0.8812	No
row_1620	HDLBP	high density lipoprotein (HDL) binding protein	18986	-0.315784	-0.17503464	0.8812	No
row_1621	PFTK1	PFTAIRE protein kinase 1	18987	-0.315875	-0.17464224	0.8812	No
row_1622	LAMP2	lysosomal membrane glycoprotein 2	19010	-0.317569	-0.17531408	0.8797	No
row_1623	UGP2	UDP-glucose pyrophosphorylase 2	19021	-0.318439	-0.1754032	0.8488	No
row_1624	COPG2	coatamer protein complex, subunit gamma 2	19061	-0.320704	-0.17689513	0.8636	No
row_1625	PTN	pleiotrophin	19094	-0.323035	-0.17804489	0.8485	No
row_1626	CHORDC1	cysteine and histidine-rich domain (CHORD)-containing, zinc-	19099	-0.323605	-0.17783676	0.8784	No
row_1627	ANXA5	annexin A5	19114	-0.325079	-0.17811151	0.8779	No

row_1628	PGCP	plasma glutamate carboxypeptidase	19115	-0.325137	-0.17770758	0.8779	No
row_1629	SMAP1	stromal membrane-associated protein 1	19125	-0.326219	-0.17773856	0.8676	No
row_1630	TGFBI	transforming growth factor, beta induced	19129	-0.326443	-0.17747843	0.8330	No
row_1631	UGCG	UDP-glucose ceramide glucosyltransferase	19131	-0.326625	-0.17712113	0.8774	No
row_1632	GPIAP1	GPI-anchored membrane protein 1	19170	-0.330212	-0.1785528	0.8761	No
row_1633	LGALS8	lectin, galactose binding, soluble 8	19176	-0.330677	-0.17838435	0.8494	No
row_1634	SNX5	sorting nexin 5	19202	-0.332387	-0.1791832	0.8753	No
row_1635	CCNI	cyclin I	19205	-0.332764	-0.17886674	0.8752	No
row_1636	TLE3	transducin-like enhancer of split 3, homolog of Drosophila E(s	19215	-0.333835	-0.17888826	0.8748	No
row_1637	UCHL5	ubiquitin carboxyl-terminal esterase L5	19227	-0.335376	-0.17900479	0.8743	No
row_1638	FZD3	frizzled homolog 3 (Drosophila)	19228	-0.335474	-0.17858803	0.7392	No
row_1639	ATP6V0C	ATPase, H+ transporting, lysosomal V0 subunit C	19260	-0.338402	-0.17967023	0.8732	No
row_1640	EIF4G2	eukaryotic translation initiation factor 4, gamma 2	19270	-0.339090	-0.17968522	0.8730	No
row_1641	CLIC4	chloride intracellular channel 4 (mitochondrial)	19276	-0.339465	-0.17950585	0.8728	No
row_1642	RAB2	RAB2, member RAS oncogene family	19286	-0.340367	-0.17951925	0.8456	No
row_1643	NAP1L1	nucleosome assembly protein 1-like 1	19292	-0.341205	-0.17933773	0.8722	No
row_1644	SLC38A2	solute carrier family 38, member 2	19301	-0.341897	-0.17930076	0.8633	No
row_1645	C3	complement component 3	19308	-0.342566	-0.179166	0.7319	No
row_1646	CANX	calnexin	19320	-0.344444	-0.17927128	0.8711	No
row_1647	EIF5A	eukaryotic translation initiation factor 5A	19326	-0.344745	-0.17908536	0.8538	No
row_1648	SNX5	sorting nexin 5	19331	-0.345166	-0.17885043	0.8708	No
row_1649	AGL	amylase-1,6-glycosidase, 4-alpha-glucanotransferase	19334	-0.345491	-0.17851818	0.7722	No
row_1650	CEACAM1	CEA-related cell adhesion molecule 1	19337	-0.345677	-0.17818567	0.8652	No
row_1651	HNRPK	heterogeneous nuclear ribonucleoprotein K	19346	-0.346776	-0.17814264	0.8703	No
row_1652	CD47	CD47 antigen (Rh-related antigen, integrin-associated signal t	19348	-0.346953	-0.1777601	0.8702	No
row_1653	IDI1	isopentenyl-diphosphate delta isomerase	19361	-0.348249	-0.1779091	0.8698	No
row_1654	CD28	CD28 antigen	19364	-0.348349	-0.1775733	0.8697	No
row_1655	PA2G4	proliferation-associated 2G4	19380	-0.349667	-0.17786597	0.8693	No
row_1656	ATF1	activating transcription factor 1	19403	-0.351612	-0.17849551	0.8686	No
row_1657	BMPR1A	bone morphogenetic protein receptor, type 1A	19404	-0.351701	-0.1780586	0.8686	No
row_1658	YWHAQ	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase acti	19406	-0.351778	-0.17767006	0.8685	No
row_1659	AHCYL1	S-adenosylhomocysteine hydrolase-like 1	19418	-0.353125	-0.17776455	0.8681	No
row_1660	TACSTD2	tumor-associated calcium signal transducer 2	19426	-0.353758	-0.17766437	0.7721	No
row_1661	WDR13	WD repeat domain 13	19453	-0.356011	-0.17848232	0.8671	No
row_1662	VPS35	vacuolar protein sorting 35	19454	-0.356068	-0.17803998	0.8341	No
row_1663	DARS	aspartyl-tRNA synthetase	19457	-0.356117	-0.17769453	0.8670	No
row_1664	EIF2S2	eukaryotic translation initiation factor 2, subunit 2 (beta)	19459	-0.356251	-0.17730042	0.8670	No
row_1665	HK1	hexokinase 1	19469	-0.357344	-0.17729273	0.8340	No
row_1666	BMPR1A	bone morphogenetic protein receptor, type 1A	19471	-0.357573	-0.17689699	0.8087	No
row_1667	IFITM2	interferon induced transmembrane protein 2	19476	-0.358009	-0.17664611	0.8664	No
row_1668	NR1D2	nuclear receptor subfamily 1, group D, member 2	19481	-0.358522	-0.17639461	0.8662	No
row_1669	YWHAZ	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase acti	19485	-0.359095	-0.1760939	0.8576	No
row_1670	YWHAE	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase acti	19496	-0.360220	-0.17613111	0.8656	No
row_1671	USP14	ubiquitin specific peptidase 14	19499	-0.360424	-0.17578031	0.8373	No
row_1672	SEC63	SEC63-like (S. cerevisiae)	19510	-0.361295	-0.17581618	0.8451	No
row_1673	CHUK	conserved helix-loop-helix ubiquitous kinase	19512	-0.361752	-0.17541525	0.8651	No
row_1674	UBE2J1	ubiquitin-conjugating enzyme E2, J1	19518	-0.362574	-0.17520717	0.8648	No

row_1675	ATP2A2	ATPase, Ca <sup>++</sup> transporting, cardiac muscle, slow twitch 2	19519	-0.362631	-0.17475668	0.8013	No
row_1676	SPTLC1	serine palmitoyltransferase, long chain base subunit 1	19521	-0.362766	-0.17435448	0.8647	No
row_1677	SPTLC1	serine palmitoyltransferase, long chain base subunit 1	19533	-0.364899	-0.17443433	0.8640	No
row_1678	TFPI	tissue factor pathway inhibitor	19557	-0.367342	-0.17509282	0.6604	No
row_1679	ING3	inhibitor of growth family, member 3	19558	-0.367419	-0.17463636	0.8631	No
row_1680	PLEK	pleckstrin	19564	-0.368200	-0.17442131	0.8628	No
row_1681	PPP3R1	protein phosphatase 3, regulatory subunit B, alpha isoform (c	19570	-0.369021	-0.17420523	0.8604	No
row_1682	HMGCR	3-hydroxy-3-methylglutaryl-Coenzyme A reductase	19572	-0.369410	-0.17379478	0.8227	No
row_1683	MMP14	matrix metalloproteinase 14 (membrane-inserted)	19593	-0.371638	-0.1743025	0.7329	No
row_1684	GSTM1	glutathione S-transferase, mu 1	19597	-0.372187	-0.17398556	0.8614	No
row_1685	UGP2	UDP-glucose pyrophosphorylase 2	19602	-0.372445	-0.17371674	0.8614	No
row_1686	EIF3S1	eukaryotic translation initiation factor 3, subunit 1 alpha	19613	-0.373591	-0.17373735	0.7816	No
row_1687	RNF141	ring finger protein 141	19623	-0.374117	-0.17370881	0.8608	No
row_1688	STAM	signal transducing adaptor molecule (SH3 domain and ITAM r	19629	-0.374644	-0.17348574	0.8355	No
row_1689	RAB10	RAB10, member RAS oncogene family	19632	-0.375340	-0.1731164	0.8603	No
row_1690	MATN4	matrilin 4	19634	-0.375369	-0.17269854	0.8603	No
row_1691	COPB2	coatamer protein complex, subunit beta 2 (beta prime)	19647	-0.376624	-0.17281231	0.8538	No
row_1692	STAG2	stromal antigen 2	19655	-0.377528	-0.17268261	0.8596	No
row_1693	HMMR	hyaluronan mediated motility receptor (RHAMM)	19676	-0.380124	-0.17317979	0.8176	No
row_1694	SC4MOL	sterol-C4-methyl oxidase-like	19681	-0.380627	-0.17290083	0.8585	No
row_1695	CSNK1D	casein kinase 1, delta	19690	-0.381472	-0.17281468	0.8582	No
row_1696	FUS	fusion, derived from t(12;16) malignant liposarcoma (human)	19694	-0.381654	-0.17248596	0.8582	No
row_1697	EIF3S1	eukaryotic translation initiation factor 3, subunit 1 alpha	19695	-0.381788	-0.17201167	0.8581	No
row_1698	LATS2	large tumor suppressor 2	19698	-0.382091	-0.17163394	0.8580	No
row_1699	YWHAE	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase acti	19699	-0.382259	-0.17115906	0.8580	No
row_1700	METAP2	methionine aminopeptidase 2	19707	-0.382918	-0.17102265	0.8577	No
row_1701	BMPR1A	bone morphogenetic protein receptor, type 1A	19718	-0.384510	-0.17102969	0.7445	No
row_1702	ARF4	ADP-ribosylation factor 4	19722	-0.384621	-0.17069729	0.8571	No
row_1703	NCBP2	nuclear cap binding protein subunit 2	19729	-0.385154	-0.17050962	0.8570	No
row_1704	YME1L1	YME1-like 1 (S. cerevisiae)	19737	-0.386637	-0.1703686	0.8401	No
row_1705	VAPA	vesicle-associated membrane protein, associated protein A	19743	-0.387498	-0.17012957	0.8561	No
row_1706	GNG12	guanine nucleotide binding protein (G protein), gamma 12	19745	-0.387587	-0.16969654	0.8155	No
row_1707	ANKRD10	ankyrin repeat domain 10	19755	-0.388576	-0.16965005	0.8558	No
row_1708	E2F5	E2F transcription factor 5	19764	-0.389772	-0.1695536	0.8554	No
row_1709	KIFAP3	kinesin-associated protein 3	19773	-0.390619	-0.1694561	0.8466	No
row_1710	ROD1	ROD1 regulator of differentiation 1 (S. pombe)	19775	-0.390752	-0.16901913	0.8550	No
row_1711	SGPP1	sphingosine-1-phosphate phosphatase 1	19803	-0.392867	-0.16983978	0.8473	No
row_1712	RAD23B	RAD23b homolog (S. cerevisiae)	19813	-0.394159	-0.16978636	0.8310	No
row_1713	FZD3	Frizzled homolog 3 (Drosophila)	19852	-0.396942	-0.17113513	0.7640	No
row_1714	ATP5F1	ATP synthase, H <sup>+</sup> transporting, mitochondrial F0 complex, su	19863	-0.397774	-0.17112568	0.8526	No
row_1715	HNRPK	heterogeneous nuclear ribonucleoprotein K	19867	-0.398817	-0.17077564	0.8523	No
row_1716	ATP6V1C1	ATPase, H <sup>+</sup> transporting, lysosomal V1 subunit C1	19880	-0.400770	-0.17085941	0.8516	No
row_1717	GSTM1	glutathione S-transferase, mu 1	19882	-0.400945	-0.17040978	0.8515	No
row_1718	ITGA3	integrin alpha 3	19886	-0.401143	-0.17005685	0.8246	No
row_1719	PTP4A2	Protein tyrosine phosphatase 4a2	19892	-0.401560	-0.16980036	0.8513	No
row_1720	PTPN12	protein tyrosine phosphatase, non-receptor type 12	19897	-0.402098	-0.1694947	0.8049	No
row_1721	BMP4	bone morphogenetic protein 4	19908	-0.403805	-0.16947776	0.7895	No

row_1722	DDR1	discoidin domain receptor family, member 1	19921	-0.405559	-0.16955559	0.8499	No
row_1723	SLC12A6	solute carrier family 12, member 6	19926	-0.406301	-0.16924472	0.8497	No
row_1724	LCMT2	leucine carboxyl methyltransferase 2	19928	-0.406389	-0.16878833	0.8418	No
row_1725	TXNL2	thioredoxin-like 2	19936	-0.407039	-0.16862197	0.8494	No
row_1726	SOAT1	sterol O-acyltransferase 1	19948	-0.408536	-0.16864762	0.8197	No
row_1727	NCOA6IP	nuclear receptor coactivator 6 interacting protein	19963	-0.409845	-0.16881706	0.8485	No
row_1728	RAB2	RAB2, member RAS oncogene family	19964	-0.409923	-0.16830781	0.8485	No
row_1729	LAPTM4A	lysosomal-associated protein transmembrane 4A	19967	-0.410063	-0.16789533	0.8484	No
row_1730	CEACAM1	CEA-related cell adhesion molecule 1	19971	-0.410520	-0.16753075	0.7979	No
row_1731	MCL1	myeloid cell leukemia sequence 1	19975	-0.410737	-0.1671659	0.8482	No
row_1732	RBM12	RNA binding motif protein 12	19980	-0.411055	-0.16684914	0.8481	No
row_1733	EIF5A	eukaryotic translation initiation factor 5A	19997	-0.413375	-0.16711113	0.8473	No
row_1734	FECH	ferrochelatase	20005	-0.414070	-0.16693603	0.8362	No
row_1735	NFX1	nuclear transcription factor, X-box binding 1	20006	-0.414072	-0.16642162	0.8470	No
row_1736	MTPN	myotrophin	20011	-0.414391	-0.16610071	0.8469	No
row_1737	NONO	non-POU-domain-containing, octamer binding protein	20012	-0.414510	-0.16558576	0.8469	No
row_1738	ATP2A2	ATPase, Ca++ transporting, cardiac muscle, slow twitch 2	20030	-0.415750	-0.16589327	0.7519	No
row_1739	ABI1	abl-interactor 1	20032	-0.416049	-0.16542488	0.8350	No
row_1740	SGPL1	sphingosine phosphate lyase 1	20047	-0.418126	-0.16558404	0.8457	No
row_1741	YWHAQ	3-monooxygenase/tryptophan 5-monooxygenase activation pr	20048	-0.418214	-0.16506448	0.8456	No
row_1742	HMGB1	high mobility group box 1	20059	-0.419355	-0.16502823	0.8452	No
row_1743	SFRS1	splicing factor, arginine/serine-rich 1 (ASF/SF2)	20067	-0.420237	-0.16484547	0.8339	No
row_1744	HNRPAB	heterogeneous nuclear ribonucleoprotein A/B	20082	-0.421017	-0.16500102	0.8447	No
row_1745	MTCH2	mitochondrial carrier homolog 2 (C. elegans)	20095	-0.421877	-0.16505857	0.8433	No
row_1746	PEX13	peroxisomal biogenesis factor 13	20109	-0.423520	-0.16516255	0.8178	No
row_1747	NCOA6IP	nuclear receptor coactivator 6 interacting protein	20115	-0.423824	-0.16487838	0.8437	No
row_1748	PUM1	pumilio 1 (Drosophila)	20137	-0.426104	-0.16536693	0.8429	No
row_1749	MTPN	myotrophin	20144	-0.426473	-0.16512795	0.8428	No
row_1750	ABCC5	ATP-binding cassette, sub-family C (CFTR/MRP), member 5	20145	-0.426612	-0.16459796	0.7888	No
row_1751	PDE4B	phosphodiesterase 4B, cAMP specific	20156	-0.428775	-0.16455	0.8420	No
row_1752	ACTR3	ARP3 actin-related protein 3 homolog (yeast)	20157	-0.428843	-0.16401725	0.8420	No
row_1753	SLC3A1	solute carrier family 3, member 1	20177	-0.430671	-0.16440317	0.8414	No
row_1754	MCL1	myeloid cell leukemia sequence 1	20183	-0.431441	-0.16410954	0.8411	No
row_1755	TPP2	tripeptidyl peptidase II	20185	-0.431736	-0.16362166	0.7707	No
row_1756	7-Sep	septin 7	20188	-0.431977	-0.16318196	0.8410	No
row_1757	TPD52	tumor protein D52	20195	-0.432609	-0.16293536	0.8407	No
row_1758	PGCP	plasma glutamate carboxypeptidase	20204	-0.433635	-0.16278441	0.8381	No
row_1759	GRSF1	G-rich RNA sequence binding factor 1	20221	-0.435361	-0.16301909	0.8398	No
row_1760	TGFBI	transforming growth factor, beta induced	20229	-0.436134	-0.16281658	0.7473	No
row_1761	XBP1	X-box binding protein 1	20240	-0.437486	-0.1627578	0.8391	No
row_1762	HNRPC	heterogeneous nuclear ribonucleoprotein C	20247	-0.438481	-0.1625039	0.8387	No
row_1763	RAB14	RAB14, member RAS oncogene family	20252	-0.439076	-0.16215232	0.7832	No
row_1764	UBE2D2	ubiquitin-conjugating enzyme E2D 2	20256	-0.439622	-0.16175158	0.8384	No
row_1765	KPNA1	karyopherin (importin) alpha 1	20259	-0.440199	-0.16130167	0.8382	No
row_1766	NUSAP1	nucleolar and spindle associated protein 1	20264	-0.440560	-0.16094825	0.8380	No
row_1767	XBP1	X-box binding protein 1	20286	-0.443678	-0.16141494	0.8370	No
row_1768	SRPK2	serine/arginine-rich protein specific kinase 2	20290	-0.444341	-0.16100834	0.8368	No

row_1769	RIN2	Ras and Rab interactor 2	20302	-0.445636	-0.16098791	0.8363	No
row_1770	SPRED2	sprouty-related, EVH1 domain containing 2	20306	-0.446106	-0.16057913	0.8351	No
row_1771	SNX5	sorting nexin 5	20310	-0.446783	-0.1601695	0.8359	No
row_1772	GSPT1	G1 to S phase transition 1	20315	-0.447473	-0.15980749	0.8357	No
row_1773	PRPS1	phosphoribosyl pyrophosphate synthetase 1	20321	-0.448690	-0.15949243	0.8353	No
row_1774	EIF4E	eukaryotic translation initiation factor 4E	20324	-0.449349	-0.15903115	0.8351	No
row_1775	ANKRD17	ankyrin repeat domain 17	20336	-0.451716	-0.15900315	0.8343	No
row_1776	GSPT1	G1 to S phase transition 1	20362	-0.455883	-0.15964858	0.8294	No
row_1777	GSR	glutathione reductase 1	20365	-0.456314	-0.15917864	0.8216	No
row_1778	WDR26	WD repeat domain 26	20371	-0.457273	-0.15885292	0.8324	No
row_1779	ATP6AP2	ATPase, H+ transporting, lysosomal accessory protein 2	20377	-0.457773	-0.15852658	0.8322	No
row_1780	PMAIP1	phorbol-12-myristate-13-acetate-induced protein 1	20381	-0.458067	-0.15810294	0.7602	No
row_1781	SORBS1	sorbin and SH3 domain containing 1	20396	-0.460700	-0.1582092	0.8313	No
row_1782	SERPINE2	serine (or cysteine) peptidase inhibitor, clade E, member 2	20403	-0.461680	-0.15792648	0.6956	No
row_1783	RNF141	ring finger protein 141	20405	-0.461876	-0.15740116	0.8309	No
row_1784	FBXW2	F-box and WD-40 domain protein 2	20412	-0.462411	-0.15711753	0.8307	No
row_1785	TSN	translin	20415	-0.462820	-0.15663952	0.8158	No
row_1786	YWHAQ	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase acti	20416	-0.463003	-0.15606432	0.8305	No
row_1787	CD2AP	CD2-associated protein	20418	-0.463195	-0.15553737	0.7880	No
row_1788	TLE3	transducin-like enhancer of split 3, homolog of Drosophila E(s	20432	-0.465301	-0.15558945	0.8297	No
row_1789	YWHAQ	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase acti	20433	-0.465377	-0.1550113	0.8297	No
row_1790	EIF5	eukaryotic translation initiation factor 5	20435	-0.465795	-0.15448111	0.8296	No
row_1791	RNF141	ring finger protein 141	20444	-0.466830	-0.15428893	0.8292	No
row_1792	MTAP	methylthioadenosine phosphorylase	20448	-0.467515	-0.15385355	0.8290	No
row_1793	MAPK1	mitogen activated protein kinase 1	20457	-0.469363	-0.15365823	0.8284	No
row_1794	PTPLA	protein tyrosine phosphatase-like (proline instead of catalytic c	20460	-0.469384	-0.15317206	0.8284	No
row_1795	CDADC1	cytidine and dCMP deaminase domain containing 1	20462	-0.469500	-0.15263726	0.6414	No
row_1796	IVNS1ABP	influenza virus NS1A binding protein	20470	-0.470490	-0.15239207	0.8280	No
row_1797	SFRS1	splicing factor, arginine/serine-rich 1 (ASF/SF2)	20479	-0.471468	-0.15219413	0.8277	No
row_1798	UBE1C	ubiquitin-activating enzyme E1C	20481	-0.472101	-0.1516561	0.7999	No
row_1799	ANP32E	acidic (leucine-rich) nuclear phosphoprotein 32 family, memb	20486	-0.472897	-0.1512625	0.8272	No
row_1800	VAPA	vesicle-associated membrane protein, associated protein A	20505	-0.475621	-0.15154412	0.8263	No
row_1801	SYBL1	synaptobrevin like 1	20521	-0.477070	-0.15167852	0.8258	No
row_1802	TWSG1	twisted gastrulation homolog 1 (Drosophila)	20532	-0.478943	-0.15156823	0.8252	No
row_1803	FUSIP1	FUS interacting protein (serine-arginine rich) 1	20534	-0.479748	-0.1510207	0.8180	No
row_1804	LATS2	large tumor suppressor 2	20537	-0.480248	-0.15052104	0.8203	No
row_1805	CCT2	chaperonin subunit 2 (beta)	20539	-0.480406	-0.14997269	0.8247	No
row_1806	E2F5	E2F transcription factor 5	20543	-0.481178	-0.14952034	0.7861	No
row_1807	TPP2	tripeptidyl peptidase II	20554	-0.482656	-0.14940545	0.8239	No
row_1808	NDFIP2	Nedd4 family interacting protein 2	20556	-0.482809	-0.14885412	0.8030	No
row_1809	SHOC2	soc-2 (suppressor of clear) homolog (C. elegans)	20562	-0.484236	-0.14849491	0.8234	No
row_1810	CCNC	cyclin C	20594	-0.489201	-0.14938976	0.6148	No
row_1811	FMO5	flavin containing monooxygenase 5	20607	-0.490284	-0.14936234	0.8009	No
row_1812	ALDH9A1	aldehyde dehydrogenase 9, subfamily A1	20608	-0.490340	-0.14875318	0.8214	No
row_1813	FBXW2	F-box and WD-40 domain protein 2	20613	-0.490683	-0.14833748	0.7796	No
row_1814	PPP1CB	protein phosphatase 1, catalytic subunit, beta isoform	20636	-0.493651	-0.14879058	0.8124	No
row_1815	UBE2D3	ubiquitin-conjugating enzyme E2D 3 (UBC4/5 homolog, yeast	20638	-0.494150	-0.14822517	0.8201	No



row_1816	VAV3	vav 3 oncogene	20643	-0.494803	-0.14780435	0.8199	No
row_1817	CDC42	cell division cycle 42 homolog (S. cerevisiae)	20648	-0.495953	-0.14738211	0.8195	No
row_1818	VPS35	vacuolar protein sorting 35	20653	-0.497755	-0.14695764	0.8189	No
row_1819	CHN2	chimerin (chimaerin) 2	20656	-0.497987	-0.14643593	0.8188	No
row_1820	PAFAH1B1	platelet-activating factor acetylhydrolase, isoform 1b, beta1 su	20661	-0.498645	-0.14601034	0.8186	No
row_1821	SDC4	syndecan 4	20666	-0.499139	-0.14558414	0.7816	No
row_1822	CD151	CD151 antigen	20667	-0.499168	-0.14496402	0.8185	No
row_1823	UGP2	UDP-glucose pyrophosphorylase 2	20673	-0.499697	-0.14458561	0.8183	No
row_1824	FUS	fusion, derived from t(12;16) malignant liposarcoma (human)	20679	-0.501501	-0.14420494	0.8177	No
row_1825	DNAJC3	DnaJ (Hsp40) homolog, subfamily C, member 3	20683	-0.502210	-0.14372645	0.8041	No
row_1826	RPS6KA3	ribosomal protein S6 kinase polypeptide 3	20685	-0.502301	-0.14315093	0.7889	No
row_1827	PSMA1	proteasome (prosome, macropain) subunit, alpha type 1	20686	-0.502478	-0.14252669	0.8174	No
row_1828	EIF4A1	eukaryotic translation initiation factor 4A1	20693	-0.503316	-0.14219224	0.8171	No
row_1829	GRSF1	G-rich RNA sequence binding factor 1	20695	-0.503449	-0.14161527	0.8170	No
row_1830	ZFX	zinc finger protein X-linked	20699	-0.504005	-0.14113456	0.8169	No
row_1831	AGL	amylase-1,6-glucosidase, 4-alpha-glucanotransferase	20702	-0.504601	-0.14060463	0.7301	No
row_1832	ERO1L	ERO1-like (S. cerevisiae)	20716	-0.506526	-0.1406055	0.8160	No
row_1833	PBEF1	pre-B-cell colony-enhancing factor 1	20731	-0.508720	-0.1406521	0.8153	No
row_1834	NDFIP1	Nedd4 family interacting protein 1	20755	-0.512046	-0.14113082	0.7680	No
row_1835	PSCDBP	pleckstrin homology, Sec7 and coiled-coil domains, binding pr	20756	-0.512066	-0.14049467	0.8077	No
row_1836	CSNK2A1	casein kinase II, alpha 1 polypeptide	20761	-0.513389	-0.14005077	0.7900	No
row_1837	SYBL1	synaptobrevin like 1	20763	-0.513692	-0.13946109	0.8137	No
row_1838	TAX1BP1	Tax1 (human T-cell leukemia virus type I) binding protein 1	20765	-0.513807	-0.13887125	0.8136	No
row_1839	CFLAR	CASP8 and FADD-like apoptosis regulator	20766	-0.513846	-0.1382329	0.7934	No
row_1840	PSCDBP	pleckstrin homology, Sec7 and coiled-coil domains, binding pr	20784	-0.516916	-0.13841474	0.8126	No
row_1841	VAMP3	vesicle-associated membrane protein 3	20786	-0.517210	-0.13782068	0.8125	No
row_1842	GFPT2	glutamine fructose-6-phosphate transaminase 2	20810	-0.520135	-0.13828933	0.7535	No
row_1843	PIK3R1	phosphatidylinositol 3-kinase, regulatory subunit, polypeptide	20848	-0.525132	-0.13943039	0.8099	No
row_1844	IL1RAPL2	interleukin 1 receptor accessory protein-like 2	20858	-0.526429	-0.13921264	0.7601	No
row_1845	AP3S1	adaptor-related protein complex 3, sigma 1 subunit	20868	-0.528245	-0.13899264	0.7870	No
row_1846	UBE2L3	ubiquitin-conjugating enzyme E2L 3	20871	-0.529521	-0.13843174	0.7575	No
row_1847	PTGER3	prostaglandin E receptor 3 (subtype EP3)	20873	-0.529608	-0.13782229	0.7958	No
row_1848	VAPA	vesicle-associated membrane protein, associated protein A	20874	-0.529664	-0.13716428	0.7065	No
row_1849	AMPD3	AMP deaminase 3	20879	-0.530482	-0.13669914	0.7828	No
row_1850	GSPT1	G1 to S phase transition 1	20893	-0.532386	-0.13666788	0.8075	No
row_1851	PLEKHA3	pleckstrin homology domain-containing, family A (phosphoino	20894	-0.532605	-0.13600622	0.8075	No
row_1852	IFRG15	interferon alpha responsive gene	20907	-0.534316	-0.13592409	0.8069	No
row_1853	CALR	calreticulin	20912	-0.535418	-0.13545282	0.8065	No
row_1854	SLC9A3R1	solute carrier family 9 (sodium/hydrogen exchanger), isoform :	20921	-0.536574	-0.135174	0.8046	No
row_1855	CHCHD2	coiled-coil-helix-coiled-coil-helix domain containing 2	20956	-0.543008	-0.13614742	0.7921	No
row_1856	GOLPH3	golgi phosphoprotein 3	20960	-0.543539	-0.1356176	0.7932	No
row_1857	MTCH2	mitochondrial carrier homolog 2 (C. elegans)	20962	-0.543613	-0.13499074	0.8039	No
row_1858	RAB2	RAB2, member RAS oncogene family	20963	-0.543772	-0.13431521	0.8038	No
row_1859	TNPO1	transportin 1	20965	-0.544365	-0.13368742	0.8036	No
row_1860	EMP2	epithelial membrane protein 2	20971	-0.545631	-0.13325194	0.8032	No
row_1861	MYH9	myosin, heavy polypeptide 9, non-muscle	20973	-0.545975	-0.13262214	0.7614	No
row_1862	UBE2D3	ubiquitin-conjugating enzyme E2D 3 (UBC4/5 homolog, yeast	20976	-0.546511	-0.13204014	0.8029	No

row_1863	NFX1	nuclear transcription factor, X-box binding 1	21009	-0.551899	-0.13290559	0.8012	No
row_1864	WDR12	WD repeat domain 12	21018	-0.553096	-0.13260624	0.8008	No
row_1865	NPM1	Nucleophosmin 1	21032	-0.555593	-0.13254614	0.8000	No
row_1866	KCMF1	potassium channel modulatory factor 1	21051	-0.558761	-0.13272446	0.7990	No
row_1867	CCNI	cyclin I	21055	-0.559572	-0.13217472	0.7987	No
row_1868	CPEB4	cytoplasmic polyadenylation element binding protein 4	21071	-0.563577	-0.13220164	0.7974	No
row_1869	CNOT7	CCR4-NOT transcription complex, subunit 7	21075	-0.564456	-0.13164583	0.7971	No
row_1870	REL	reticuloendotheliosis oncogene	21096	-0.571629	-0.13190511	0.6806	No
row_1871	COTL1	coactosin-like 1 (Dictyostelium)	21098	-0.572078	-0.13124289	0.7226	No
row_1872	APP	amyloid beta (A4) precursor protein	21105	-0.572896	-0.130822	0.7538	No
row_1873	SORBS1	sorbin and SH3 domain containing 1	21109	-0.573310	-0.13025519	0.7943	No
row_1874	TM9SF2	transmembrane 9 superfamily member 2	21110	-0.573393	-0.12954287	0.7935	No
row_1875	PSMD11	proteasome (prosome, macropain) 26S subunit, non-ATPase,	21112	-0.573451	-0.12887894	0.7942	No
row_1876	CDC42	cell division cycle 42 homolog (S. cerevisiae)	21113	-0.573787	-0.12816612	0.7941	No
row_1877	RTN3	reticulon 3	21129	-0.576323	-0.12817721	0.7933	No
row_1878	PDE4B	phosphodiesterase 4B, cAMP specific	21135	-0.578586	-0.12770079	0.7198	No
row_1879	CSNK2A1	casein kinase II, alpha 1 polypeptide	21150	-0.580346	-0.12765841	0.7920	No
row_1880	CRI1	CREBBP/EP300 inhibitory protein 1	21161	-0.582099	-0.12741998	0.7914	No
row_1881	SGPP1	sphingosine-1-phosphate phosphatase 1	21175	-0.583578	-0.12732512	0.7699	No
row_1882	MINPP1	multiple inositol polyphosphate histidine phosphatase 1	21190	-0.585923	-0.12727581	0.7902	No
row_1883	ETS1	E26 avian leukemia oncogene 1, 5' domain	21196	-0.587017	-0.12678891	0.7899	No
row_1884	SPIN	spindlin	21201	-0.587764	-0.12625262	0.7754	No
row_1885	ACO1	aconitase 1	21206	-0.589805	-0.12571378	0.7186	No
row_1886	YWHAZ	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase acti	21220	-0.592568	-0.12560776	0.7881	No
row_1887	PSME4	proteasome (prosome, macropain) activator subunit 4	21233	-0.595292	-0.12544987	0.7872	No
row_1888	EGLN3	EGL nine homolog 3 (C. elegans)	21239	-0.596729	-0.12495091	0.7188	No
row_1889	RAB2	RAB2, member RAS oncogene family	21245	-0.597787	-0.12445063	0.7864	No
row_1890	CAPZA2	capping protein (actin filament) muscle Z-line, alpha 2	21249	-0.598407	-0.12385264	0.7862	No
row_1891	PAPOLA	poly (A) polymerase alpha	21260	-0.600994	-0.12359073	0.7854	No
row_1892	CALR	calreticulin	21262	-0.601496	-0.12289196	0.7852	No
row_1893	EIF2S2	eukaryotic translation initiation factor 2, subunit 2 (beta)	21268	-0.602980	-0.12238523	0.7848	No
row_1894	CCT3	chaperonin subunit 3 (gamma)	21269	-0.603241	-0.121635824	0.7847	No
row_1895	TM9SF2	transmembrane 9 superfamily member 2	21293	-0.607843	-0.12199552	0.7696	No
row_1896	SEC63	SEC63-like (S. cerevisiae)	21326	-0.614672	-0.12278298	0.7684	No
row_1897	GOLGA4	golgi autoantigen, golgin subfamily a, 4	21329	-0.615366	-0.122115456	0.7537	No
row_1898	SPINT1	serine protease inhibitor, Kunitz type 1	21335	-0.616101	-0.121592425	0.7298	No
row_1899	TUBA4	tubulin, alpha 4	21343	-0.617190	-0.12116498	0.6807	No
row_1900	PPP1CB	protein phosphatase 1, catalytic subunit, beta isoform	21347	-0.618062	-0.12054257	0.7720	No
row_1901	HIPK3	homeodomain interacting protein kinase 3	21355	-0.620454	-0.12011108	0.7792	No
row_1902	ASPH	aspartate-beta-hydroxylase	21358	-0.620814	-0.11943678	0.7460	No
row_1903	KIF1B	kinesin family member 1B	21373	-0.622874	-0.119341575	0.7441	No
row_1904	NUPL1	nucleoporin like 1	21375	-0.623821	-0.11861507	0.7737	No
row_1905	RNGTT	RNA guanylyltransferase and 5'-phosphatase	21379	-0.624711	-0.1179844	0.7779	No
row_1906	FECH	ferrochelatase	21382	-0.625823	-0.11730388	0.7775	No
row_1907	PPP6C	protein phosphatase 6, catalytic subunit	21395	-0.628736	-0.11710445	0.7766	No
row_1908	GOLGA7	golgi autoantigen, golgin subfamily a, 7	21401	-0.630020	-0.116564125	0.7762	No
row_1909	PPP2R5C	protein phosphatase 2, regulatory subunit B (B56), gamma isc	21403	-0.630274	-0.11582961	0.7761	No

row_1910	PRDM1	PR domain containing 1, with ZNF domain	21408	-0.631317	-0.1152392	0.5178	No
row_1911	PERP	PERP, TP53 apoptosis effector	21414	-0.633798	-0.114694186	0.7327	No
row_1912	HRB	HIV-1 Rev binding protein	21437	-0.639219	-0.11496644	0.7733	No
row_1913	MGEA5	meningioma expressed antigen 5 (hyaluronidase)	21442	-0.640147	-0.11436507	0.7730	No
row_1914	ALCAM	activated leukocyte cell adhesion molecule	21453	-0.642600	-0.11405147	0.7722	No
row_1915	IL7	interleukin 7	21458	-0.642946	-0.11344662	0.6693	No
row_1916	RDX	radixin	21462	-0.643912	-0.1127921	0.7462	No
row_1917	YWHAZ	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase acti	21463	-0.644149	-0.111991875	0.7717	No
row_1918	FUSIP1	FUS interacting protein (serine-arginine rich) 1	21464	-0.644312	-0.111191444	0.7533	No
row_1919	PTPN2	protein tyrosine phosphatase, non-receptor type 2	21502	-0.650091	-0.11217725	0.6896	No
row_1920	LAMP2	lysosomal membrane glycoprotein 2	21504	-0.650120	-0.111418076	0.7699	No
row_1921	GAS2	growth arrest specific 2	21505	-0.651080	-0.11060924	0.7696	No
row_1922	SPATA6	spermatogenesis associated 6	21507	-0.651326	-0.10984857	0.7141	No
row_1923	EIF2S2	eukaryotic translation initiation factor 2, subunit 2 (beta)	21522	-0.654607	-0.109713934	0.7685	No
row_1924	BECN1	beclin 1 (coiled-coil, myosin-like BCL2-interacting protein)	21541	-0.660196	-0.109766245	0.7667	No
row_1925	ABCC5	ATP-binding cassette, sub-family C (CFTR/MRP), member 5	21547	-0.662687	-0.10918534	0.6279	No
row_1926	KIF5B	kinesin family member 5B	21554	-0.663662	-0.1086517	0.7092	No
row_1927	KHDRBS1	KH domain containing, RNA binding, signal transduction asso	21570	-0.667353	-0.10854971	0.7111	No
row_1928	SH3BGR1	SH3-binding domain glutamic acid-rich protein like	21581	-0.669832	-0.10820228	0.7353	No
row_1929	HIF1A	hypoxia inducible factor 1, alpha subunit	21588	-0.671387	-0.107659034	0.7528	No
row_1930	IVNS1ABP	influenza virus NS1A binding protein	21590	-0.671970	-0.106872715	0.7631	No
row_1931	SFRS1	splicing factor, arginine/serine-rich 1 (ASF/SF2)	21592	-0.673406	-0.106084615	0.7398	No
row_1932	SPTLC1	serine palmitoyltransferase, long chain base subunit 1	21593	-0.673416	-0.10524803	0.7396	No
row_1933	ROCK1	Rho-associated coiled-coil forming kinase 1	21611	-0.677392	-0.1052305	0.7614	No
row_1934	PPP1CB	protein phosphatase 1, catalytic subunit, beta isoform	21613	-0.678046	-0.104436636	0.7612	No
row_1935	NONO	non-POU-domain-containing, octamer binding protein	21617	-0.678419	-0.10373925	0.7611	No
row_1936	TAX1BP1	Tax1 (human T-cell leukemia virus type I) binding protein 1	21618	-0.679141	-0.10289555	0.7459	No
row_1937	CPOX	coproporphyrinogen oxidase	21623	-0.679792	-0.10224492	0.6574	No
row_1938	HNRPAB	heterogeneous nuclear ribonucleoprotein A/B	21624	-0.679804	-0.101400405	0.7478	No
row_1939	DSTN	destrin	21632	-0.682289	-0.10089209	0.7599	No
row_1940	NEDD9	neural precursor cell expressed, developmentally down-regula	21634	-0.682482	-0.10009271	0.7598	No
row_1941	ARF3	ADP-ribosylation factor 3	21639	-0.684470	-0.099436276	0.7592	No
row_1942	CEACAM1	CEA-related cell adhesion molecule 1	21645	-0.685410	-0.09882714	0.7589	No
row_1943	RAD21	RAD21 homolog (S. pombe)	21647	-0.685585	-0.09802391	0.7420	No
row_1944	CCR2	chemokine (C-C motif) receptor 2	21651	-0.687044	-0.0973158	0.6159	No
row_1945	STRN3	striatin, calmodulin binding protein 3	21667	-0.692417	-0.097182676	0.7567	No
row_1946	MTPN	myotrophin	21672	-0.693616	-0.09651487	0.6963	No
row_1947	ACTR3	ARP3 actin-related protein 3 homolog (yeast)	21697	-0.699713	-0.09680892	0.7530	No
row_1948	RAD21	RAD21 homolog (S. pombe)	21700	-0.699838	-0.09603645	0.6979	No
row_1949	CFL2	cofilin 2, muscle	21705	-0.700726	-0.09535982	0.7542	No
row_1950	KIF3A	kinesin family member 3A	21707	-0.701331	-0.09453703	0.7098	No
row_1951	ETS1	E26 avian leukemia oncogene 1, 5' domain	21710	-0.702474	-0.09376128	0.7193	No
row_1952	IL7	interleukin 7	21713	-0.702828	-0.0929851	0.7317	No
row_1953	GLCC1	glucocorticoid induced transcript 1	21722	-0.705045	-0.09249698	0.7528	No
row_1954	FUS	fusion, derived from t(12;16) malignant liposarcoma (human)	21735	-0.707652	-0.09219952	0.7520	No
row_1955	ROD1	ROD1 regulator of differentiation 1 (S. pombe)	21742	-0.709959	-0.09160836	0.6549	No
row_1956	TRAF3	Tnf receptor-associated factor 3	21752	-0.712552	-0.09115939	0.7294	No

row_1957	KIF5B	kinesin family member 5B	21769	-0.718270	-0.091042615	0.6944	No
row_1958	YWHAQ	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase acti	21770	-0.718291	-0.090150274	0.7171	No
row_1959	PTDSS1	phosphatidylserine synthase 1	21773	-0.719127	-0.089353845	0.7053	No
row_1960	2-Sep	septin 2	21775	-0.720077	-0.088507764	0.7482	No
row_1961	TFPI	tissue factor pathway inhibitor	21778	-0.720603	-0.0877095	0.7481	No
row_1962	ALDH1A1	aldehyde dehydrogenase family 1, subfamily A1	21797	-0.727370	-0.08767836	0.6478	No
row_1963	CSNK2A1	casein kinase II, alpha 1 polypeptide	21802	-0.729328	-0.086966194	0.7116	No
row_1964	XBP1	X-box binding protein 1	21810	-0.731167	-0.08639716	0.7312	No
row_1965	ROCK1	Rho-associated coiled-coil forming kinase 1	21828	-0.737599	-0.08630484	0.7429	No
row_1966	MTMR6	myotubularin related protein 6	21840	-0.743885	-0.08591389	0.7410	No
row_1967	DDX3Y	DEAD (Asp-Glu-Ala-Asp) box polypeptide 3, Y-linked	21841	-0.744116	-0.08498947	0.7409	No
row_1968	RORA	RAR-related orphan receptor alpha	21878	-0.754296	-0.085797355	0.7378	No
row_1969	ULK2	Unc-51 like kinase 2 (C. elegans)	21881	-0.755153	-0.08495617	0.7376	No
row_1970	PPP3R1	protein phosphatase 3, regulatory subunit B, alpha isoform (c	21903	-0.763411	-0.08502567	0.7117	No
row_1971	LAMP2	lysosomal membrane glycoprotein 2	21913	-0.767822	-0.08450804	0.7338	No
row_1972	CSF1R	colony stimulating factor 1 receptor	21920	-0.769613	-0.08384277	0.7299	No
row_1973	HNRPU	Heterogeneous nuclear ribonucleoprotein U	21926	-0.771677	-0.08312646	0.7260	No
row_1974	7-Sep	septin 7	21959	-0.784945	-0.08370239	0.6613	No
row_1975	SERPINB9	serine (or cysteine) peptidase inhibitor, clade B, member 9	21969	-0.787528	-0.08316028	0.6436	No
row_1976	EMB	embigin	21975	-0.789569	-0.08242175	0.7272	No
row_1977	ETF1	eukaryotic translation termination factor 1	21987	-0.794979	-0.081967324	0.5983	No
row_1978	MTMR6	myotubularin related protein 6	21998	-0.799563	-0.08145873	0.7026	No
row_1979	TCERG1	transcription elongation regulator 1 (CA150)	22014	-0.807140	-0.08118308	0.7220	No
row_1980	RANBP9	RAN binding protein 9	22021	-0.810073	-0.08046755	0.6998	No
row_1981	PPP1CB	protein phosphatase 1, catalytic subunit, beta isoform	22033	-0.816240	-0.079986714	0.7007	No
row_1982	CNN3	Calponin 3, acidic	22059	-0.829173	-0.080168396	0.7155	No
row_1983	SLC12A6	solute carrier family 12, member 6	22113	-0.857201	-0.081672445	0.6274	No
row_1984	ATP2A2	ATPase, Ca <sup>++</sup> transporting, cardiac muscle, slow twitch 2	22115	-0.857774	-0.0806553	0.6584	No
row_1985	CSF1R	colony stimulating factor 1 receptor	22117	-0.860862	-0.079634316	0.7062	No
row_1986	BMPR1A	bone morphogenetic protein receptor, type 1A	22119	-0.861612	-0.07861241	0.5546	No
row_1987	XBP1	X-box binding protein 1	22124	-0.863069	-0.0777341	0.6226	No
row_1988	VAV3	vav 3 oncogene	22127	-0.865801	-0.07675546	0.7048	No
row_1989	ANKRD10	ankyrin repeat domain 10	22130	-0.866745	-0.07577564	0.6865	No
row_1990	MTMR6	myotubularin related protein 6	22133	-0.870573	-0.07479106	0.6758	No
row_1991	CALR	calreticulin	22140	-0.875756	-0.073993936	0.5922	No
row_1992	ATF2	activating transcription factor 2	22141	-0.876695	-0.07290481	0.6493	No
row_1993	HNRPAB	heterogeneous nuclear ribonucleoprotein A/B	22145	-0.879726	-0.07195734	0.7008	No
row_1994	LCN2	lipocalin 2	22148	-0.880651	-0.070960246	0.6599	No
row_1995	SPATA6	spermatogenesis associated 6	22150	-0.881525	-0.069913596	0.6909	No
row_1996	ACP1	acid phosphatase 1, soluble	22155	-0.883551	-0.06900984	0.6615	No
row_1997	HMGCR	3-hydroxy-3-methylglutaryl-Coenzyme A reductase	22183	-0.899193	-0.069201484	0.6951	No
row_1998	GTPBP4	GTP binding protein 4	22184	-0.899222	-0.068084374	0.6926	No
row_1999	WDR26	WD repeat domain 26	22185	-0.900485	-0.0669657	0.6948	No
row_2000	ABI1	abl-interactor 1	22194	-0.903788	-0.06623069	0.6938	No
row_2001	HRB	HIV-1 Rev binding protein	22202	-0.908569	-0.065441266	0.6925	No
row_2002	API5	apoptosis inhibitor 5	22205	-0.909612	-0.0644082	0.6109	No
row_2003	CDADC1	cytidine and dCMP deaminase domain containing 1	22215	-0.917390	-0.06370476	0.6669	No

row_2004	WEE1	wee 1 homolog (S. pombe)	22222	-0.919011	-0.062853895	0.6895	No
row_2005	DDR1	discoidin domain receptor family, member 1	22233	-0.924204	-0.06219046	0.5904	No
row_2006	CD2AP	CD2-associated protein	22250	-0.936177	-0.061802976	0.6803	No
row_2007	ATP6V0C	ATPase, H+ transporting, lysosomal V0 subunit C	22256	-0.940561	-0.06087687	0.5318	No
row_2008	RPL30	ribosomal protein L30	22259	-0.943347	-0.059801888	0.6826	No
row_2009	YWHAZ	tyrosine 3-monooxygenase/tryptophan 5-monooxygenase acti	22273	-0.950218	-0.05925155	0.5633	No
row_2010	CREM	cAMP responsive element modulator	22276	-0.953172	-0.058164366	0.5541	No
row_2011	GNAI3	guanine nucleotide binding protein, alpha inhibiting 3	22284	-0.957597	-0.057314035	0.6712	No
row_2012	EMB	embigin	22303	-0.969260	-0.056982394	0.6407	No
row_2013	DDR1	discoidin domain receptor family, member 1	22319	-0.980708	-0.056491118	0.4005	No
row_2014	PA2G4	proliferation-associated 2G4	22322	-0.982429	-0.055367585	0.6604	No
row_2015	LY86	lymphocyte antigen 86	22332	-0.987871	-0.054576587	0.4888	No
row_2016	RNF13	ring finger protein 13	22346	-0.998765	-0.05396594	0.5885	No
row_2017	CHD1	chromodomain helicase DNA binding protein 1	22351	-1.001518	-0.052915633	0.6662	No
row_2018	ARF4	ADP-ribosylation factor 4	22354	-1.005013	-0.051764045	0.5840	No
row_2019	SCOTIN	scotin gene	22359	-1.011147	-0.05070178	0.6636	No
row_2020	SLCO2A1	solute carrier organic anion transporter family, member 2a1	22373	-1.025653	-0.050057728	0.3348	No
row_2021	CAMK2D	calcium/calmodulin-dependent protein kinase II, delta	22380	-1.036267	-0.049061194	0.6567	No
row_2022	EGLN3	EGL nine homolog 3 (C. elegans)	22381	-1.037227	-0.047772646	0.6564	No
row_2023	CDADC1	cytidine and dCMP deaminase domain containing 1	22391	-1.046167	-0.046909224	0.6167	No
row_2024	ELL2	elongation factor RNA polymerase II 2	22395	-1.051734	-0.045748066	0.6523	No
row_2025	ASPA	aspartoacylase (aminoacylase) 2	22398	-1.055745	-0.044533454	0.4944	No
row_2026	PLS3	plastin 3 (T-isoform)	22399	-1.055879	-0.04322173	0.6198	No
row_2027	HMGCS1	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1	22408	-1.068050	-0.042282656	0.6249	No
row_2028	FUSIP1	FUS interacting protein (serine-arginine rich) 1	22412	-1.071595	-0.041096825	0.6348	No
row_2029	SELL	selectin, lymphocyte	22418	-1.078348	-0.039999545	0.6452	No
row_2030	CCNC	cyclin C	22422	-1.085337	-0.03879664	0.6433	No
row_2031	EIF4G2	eukaryotic translation initiation factor 4, gamma 2	22429	-1.098280	-0.03772307	0.4785	No
row_2032	USP14	Ubiquitin specific peptidase 14	22456	-1.131978	-0.03757705	0.5165	No
row_2033	UBE2D2	ubiquitin-conjugating enzyme E2D 2	22459	-1.136245	-0.03626243	0.5583	No
row_2034	GPR65	G-protein coupled receptor 65	22466	-1.147640	-0.03512754	0.6266	No
row_2035	WDR13	WD repeat domain 13	22472	-1.164425	-0.033923324	0.6222	No
row_2036	SNX5	sorting nexin 5	22474	-1.166334	-0.032522857	0.5524	No
row_2037	SQLE	squalene epoxidase	22484	-1.187263	-0.031484157	0.6134	No
row_2038	CTSS	cathepsin S	22487	-1.190072	-0.030102666	0.5089	No
row_2039	HMGCS1	3-hydroxy-3-methylglutaryl-Coenzyme A synthase 1	22493	-1.197355	-0.028857544	0.6136	No
row_2040	PTGER3	prostaglandin E receptor 3 (subtype EP3)	22500	-1.213803	-0.027640458	0.6093	No
row_2041	ASPH	aspartate-beta-hydroxylase	22504	-1.223455	-0.02626597	0.6068	No
row_2042	SELL	selectin, lymphocyte	22510	-1.235067	-0.024973998	0.6038	No
row_2043	MAP2K5	mitogen activated protein kinase kinase 5	22513	-1.237581	-0.02353349	0.5789	No
row_2044	SCOTIN	scotin gene	22530	-1.272670	-0.02272798	0.5464	No
row_2045	PSMA1	proteasome (prosome, macropain) subunit, alpha type 1	22535	-1.280029	-0.02133168	0.5923	No
row_2046	BCL6	B-cell leukemia/lymphoma 6	22549	-1.313522	-0.020330008	0.5583	No
row_2047	ETS1	E26 avian leukemia oncogene 1, 5' domain	22551	-1.319518	-0.018739238	0.5636	No
row_2048	CD2AP	CD2-associated protein	22557	-1.329968	-0.017329369	0.5693	No
row_2049	MYO6	myosin VI	22561	-1.347982	-0.015800182	0.5500	No
row_2050	CENTD1	centaurin, delta 1	22563	-1.349588	-0.014172056	0.5494	No

row_2051	IDI1	isopentenyl-diphosphate delta isomerase	22568	-1.363681	-0.012671834	0.5714	No
row_2052	IRF6	interferon regulatory factor 6	22612	-1.575029	-0.012799413	0.5099	No
row_2053	CNN3	calponin 3, acidic	22653	-1.883510	-0.012398354	0.2623	No
row_2054	VPS54	Vacuolar protein sorting 54 (yeast)	22658	-1.937028	-0.010185862	0.4415	No
row_2055	CNN3	calponin 3, acidic	22670	-2.127962	-0.008075469	0.1626	No
row_2056	CNN3	calponin 3, acidic	22680	-2.348309	-0.005594396	0.1963	No
row_2057	CNN3	calponin 3, acidic	22681	-2.354855	-0.002668954	0.1466	No
row_2058	CNN3	calponin 3, acidic	22683	-2.421435	0.000291	0.2186	No

**TABLE S3** Chambers UPWITHAGE\_HSC\_OVERLAP

Upregulated in class  
 GeneSet OTT1KO  
 UPWITHAGE\_HSC\_OVERLAP  
 Enrichment Score (ES) 0.5688053  
 Normalized Enrichment Score (NES) 2.0203335  
 Nominal p-value 0  
 FDR q-value 0  
 FWER p-Value 0

NAME	GENE	GENE_TITLE	RANK	RANK METRIC	CORE		
			GENE LIST	SCORE	RUNNING ES	Fold Change	ENRICHMENT
row_0	SULT1A1	sulfotransferase family, cytosolic, 1A, phenol-preferring, member 1	17	2.14448	0.04882	3.3821	Yes
row_1	BGN	biglycan	28	1.88969	0.09220	2.4381	Yes
row_2	DUSP3	dual specificity phosphatase 3	47	1.74487	0.13162	2.0721	Yes
row_3	JAM2	junctional adhesion molecule 2	48	1.72906	0.17198	1.5392	Yes
row_4	null	null	52	1.70834	0.21164	2.4907	Yes
row_5	PPIC	peptidylprolyl isomerase C (cyclophilin C)	57	1.64038	0.24964	1.9765	Yes
row_6	FZD3	frizzled homolog 3 (Drosophila)	62	1.62711	0.28733	1.9648	Yes
row_7	F11R	F11 receptor	93	1.48364	0.31978	1.8438	Yes
row_8	GSTM2	glutathione S-transferase M2 (muscle)	125	1.37800	0.34969	3.5219	Yes
row_9	TM4SF1	transmembrane 4 L six family member 1	236	1.13776	0.36823	2.9735	Yes
row_10	EHD4	EH-domain containing 4	287	1.07587	0.38970	1.5483	Yes
row_11	CRTAP	cartilage associated protein	318	1.04508	0.41191	1.5448	Yes
row_12	FHL1	four and a half LIM domains 1	421	0.95706	0.42682	1.6106	Yes
row_13	F2R	coagulation factor II (thrombin) receptor	513	0.88886	0.44093	1.5341	Yes
row_14	MUC13	mucin 13, cell surface associated	589	0.84233	0.45513	1.4052	Yes
row_15	CTF1	cardiotrophin 1	598	0.83752	0.47410	1.4367	Yes
row_16	FKBP9	FK506 binding protein 9, 63 kDa	694	0.78324	0.48546	1.6591	Yes
row_17	FOXA3	forkhead box A3	743	0.76474	0.49981	1.6030	Yes
row_18	NR4A2	nuclear receptor subfamily 4, group A, member 2	755	0.76204	0.51680	2.0244	Yes
row_19	BHLHB2	basic helix-loop-helix domain containing, class B, 2	813	0.74003	0.52992	1.3474	Yes
row_20	PTGS2	prostaglandin-endoperoxide synthase 2	826	0.73047	0.54609	2.1276	Yes
row_21	NBEA	neurobeachin	945	0.68700	0.55353	1.7413	Yes
row_22	ITGA6	integrin, alpha 6	1105	0.63621	0.55679	1.5505	Yes
row_23	HBEGF	heparin-binding EGF-like growth factor	1156	0.62154	0.56766	1.2839	Yes
row_24	VLDLR	very low density lipoprotein receptor	1327	0.57995	0.56881	1.3200	Yes
row_25	PVR	poliovirus receptor	1688	0.51213	0.55452	1.2308	No
row_26	ASB4	ankyrin repeat and SOCS box-containing 4	2115	0.44702	0.53391	1.5318	No

row_27	CASP12	caspase 12	2236	0.42891	0.53518	1.2931	No
row_28	NDN	necladin homolog (mouse)	2313	0.41909	0.53942	1.4435	No
row_29	TRPC1	transient receptor potential cation channel, subfamily C, member 1	3292	0.31221	0.47543	1.1466	No
row_30	ZFP36	zinc finger protein 36, C3H type, homolog (mouse)	3324	0.30895	0.48038	1.2593	No
row_31	SOCS3	suppressor of cytokine signaling 3	3388	0.30374	0.48288	1.5911	No
row_32	null	null	3851	0.26033	0.45529	1.1461	No
row_33	PLSCR2	phospholipid scramblase 2	3997	0.24861	0.45052	1.1757	No
row_34	UBE2E2	ubiquitin-conjugating enzyme E2E 2 (UBC4/5 homolog, yeast)	4065	0.24344	0.45132	1.1024	No
row_35	DSG2	desmoglein 2	4368	0.22041	0.43446	1.0961	No
row_36	STAT4	signal transducer and activator of transcription 4	5116	0.16612	0.38389	1.0899	No
row_37	IER3	immediate early response 3	5474	0.14309	0.36122	1.1458	No
row_38	EGR1	early growth response 1	6002	0.10870	0.32534	1.0859	No
row_39	MEIS1	Meis1, myeloid ecotropic viral integration site 1 homolog (mouse)	6146	0.09911	0.31724	1.0404	No
row_40	RIPK4	receptor-interacting serine-threonine kinase 4	6252	0.09248	0.31174	1.0599	No
row_41	RPL23	ribosomal protein L23	6591	0.07111	0.28877	1.0289	No
row_42	CSNK1E	casein kinase 1, epsilon	6605	0.07026	0.28946	1.2614	No
row_43	FKBP1A	FK506 binding protein 1A, 12kDa	6687	0.06437	0.28506	1.1152	No
row_44	FOS	v-fos FBJ murine osteosarcoma viral oncogene homolog	7032	0.04135	0.26095	1.0389	No
row_45	TSC22D1	TSC22 domain family, member 1	7065	0.03969	0.25955	1.0381	No
row_46	RBBP6	retinoblastoma binding protein 6	7146	0.03428	0.25452	1.0138	No
row_47	MPL	myeloproliferative leukemia virus oncogene	7480	0.01637	0.23063	1.3350	No
row_48	GABARAPL1	GABA(A) receptor-associated protein like 1	7917	-0.00924	0.19907	1.0884	No
row_49	MARVELD2	MARVEL domain containing 2	8303	-0.03380	0.17180	1.0213	No
row_50	GRB10	growth factor receptor-bound protein 10	8366	-0.03886	0.16819	-1.0157	No
row_51	KLF9	Kruppel-like factor 9	8747	-0.06507	0.14201	1.1094	No
row_52	PFN2	profilin 2	9573	-0.12303	0.08476	1.1661	No
row_53	DUSP16	dual specificity phosphatase 16	10288	-0.18316	0.03700	-1.0867	No
row_54	ITGA3	integrin, alpha 3	10307	-0.18469	0.04000	-1.0191	No
row_55	ELTD1	EGF, latrophilin and seven transmembrane domain containing 1	11068	-0.25616	-0.00941	-1.0826	No
row_56	SMAD7	SMAD, mothers against DPP homolog 7 (Drosophila)	11355	-0.28526	-0.02360	-1.1836	No
row_57	PLEK	pleckstrin	11375	-0.28788	-0.01826	-1.1018	No
row_58	SLC6A15	solute carrier family 6, member 15	11548	-0.31015	-0.02356	-1.1586	No
row_59	TACSTD2	tumor-associated calcium signal transducer 2	11873	-0.35376	-0.03891	-1.2952	No
row_60	NR1D2	nuclear receptor subfamily 1, group D, member 2	11911	-0.35852	-0.03324	1.0937	No
row_61	PGCP	-	12332	-0.43364	-0.05373	-1.1932	No
row_62	CREM	cAMP responsive element modulator	12381	-0.44186	-0.04691	1.1509	No
row_63	PSMA8	proteasome (prosome, macropain) subunit, alpha type, 8	13004	-0.61138	-0.07797	-1.2786	No
row_64	ARMCX2	armadillo repeat containing, X-linked 2	13189	-0.68759	-0.07533	1.1313	No
row_65	EGLN3	egl nine homolog 3 (C. elegans)	13591	-1.03723	-0.08035	1.1295	No
row_66	CRISPLD1	cysteine-rich secretory protein LCCL domain containing 1	13655	-1.18103	-0.05737	-1.3842	No
row_67	HLF	hepatic leukemia factor	13686	-1.29474	-0.02933	-1.5640	No
row_68	IRF6	interferon regulatory factor 6	13733	-1.57503	0.00408	-1.9613	No



Table S4 Rossi UP WITH AGE  
 Upregulated in class OTT1KO  
 GeneSet ROSSI\_HSC\_UP\_WITH\_AGE  
 Enrichment Score (ES) 0.43606934  
 Normalized Enrichment Score (NES) 1.4566088  
 Nominal p-value 0  
 FDR q-value 0.11384977  
 FWER p-Value 0.051

ROW	GENE SYMBOL	GENE_TITLE	RANK	RANK	FOLD	CORE
			GENE LIST	METRIC SCORE	RUNNING ES	CHANGE ENRICH
0	CALML4	calmodulin-like 4	5	2.982871056	0.023904394	5.0244 Yes
1	GP1BB	glycoprotein Ib (platelet), beta polypeptide	6	2.820400953	0.046856374	4.3838 Yes
2	SELP	selectin P (granule membrane protein 140kDa, antigen CD62)	13	2.368881941	0.06569027	5.1390 Yes
3	CLU	clusterin	32	1.836074829	0.079300895	2.8111 Yes
4	RAB27B	RAB27B, member RAS oncogene family	45	1.748577356	0.092643164	2.0756 Yes
5	JAM2	junctional adhesion molecule 2	48	1.729055882	0.10656606	3.1358 Yes
6	SDPR	serum deprivation response (phosphatidylserine binding protein)	50	1.720258474	0.1204913	2.1741 Yes
7	MUC1	mucin 1, cell surface associated	61	1.627312303	0.13299464	1.9737 Yes
8	CLCA1	chloride channel, calcium activated, family member 1	67	1.598093867	0.14562993	3.2577 Yes
9	NEO1	neogenin homolog 1 (chicken)	119	1.395663738	0.15321627	3.4948 Yes
10	DYRK3	dual-specificity tyrosine-(Y)-phosphorylation regulated kinase 3	135	1.361783743	0.16318902	1.7486 Yes
11	CYP4B1	cytochrome P450, family 4, subfamily B, polypeptide 1	138	1.354769826	0.17406604	1.9407 Yes
12	PBX3	pre-B-cell leukemia transcription factor 3	154	1.309645772	0.1836145	2.4242 Yes
13	HOXB8	homeobox B8	163	1.281020761	0.19344766	6.7707 Yes
14	PLXNB2	plexin B2	165	1.278396845	0.2037771	1.6870 Yes
15	null	null	182	1.241779566	0.21269935	2.8768 Yes
16	CHST2	carbohydrate (N-acetylglucosamine-6-O) sulfotransferase 2	195	1.20455277	0.22161444	1.7463 Yes
17	TRIM47	tripartite motif-containing 47	200	1.198181272	0.23106925	2.0722 Yes
18	GDA	guanine deaminase	206	1.187499285	0.2403632	2.1623 Yes
19	SLC2A10	solute carrier family 2 (facilitated glucose transporter), member 10	212	1.182801843	0.2496189	1.8744 Yes
20	CYSLTR2	cysteinyl leukotriene receptor 2	242	1.132563472	0.25669104	1.7832 Yes
21	KIF21A	kinesin family member 21A	354	1.011462688	0.25671393	1.5393 Yes
22	COL18A1	collagen, type XVIII, alpha 1	395	0.982417524	0.26175076	2.1609 Yes
23	PLXNC1	plexin C1	417	0.961616993	0.26802334	1.5239 Yes
24	FHL1	four and a half LIM domains 1	421	0.957055867	0.27558985	1.6106 Yes
25	SDC2	syndecan 2 (heparan sulfate proteoglycan 1, cell surface-associated, fibroglycan)	432	0.947378635	0.28256	1.4675 Yes

26	HOXB6	homeobox B6	460	0.930071294	0.28813216	2.6062	Yes	
27	FAP	fibroblast activation protein, alpha	499	0.901157141	0.29265562	1.7657	Yes	
28	CXCL16	chemokine (C-X-C motif) ligand 16	512	0.89003551	0.2990112	1.5661	Yes	
29	OSMR	oncostatin M receptor	581	0.850152135	0.30090114	1.6104	Yes	
30	LOXL3	lysyl oxidase-like 3	593	0.839127183	0.30691642	1.6280	Yes	
31	null	null	595	0.838070631	0.31366253	1.4559	Yes	
32	SLAMF1	signaling lymphocytic activation molecule family member 1	607	0.831776619	0.319618	2.4328	Yes	
33	PTPRK	protein tyrosine phosphatase, receptor type, K	613	0.829415917	0.3259979	1.4193	Yes	
34	DHX40	DEAH (Asp-Glu-Ala-His) box polypeptide 40	614	0.828204095	0.33273768	1.3970	Yes	
35	SEC14L1	SEC14-like 1 ( <i>S. cerevisiae</i> )	617	0.827347815	0.33932263	1.3966	Yes	
36	DAG1	dystroglycan 1 (dystrophin-associated glycoprotein 1)	741	0.765222549	0.33645427	1.3614	Yes	
37	NR4A2	nuclear receptor subfamily 4, group A, member 2	755	0.762042463	0.34169433	1.3596	Yes	
38	null	null	762	0.757939875	0.34741864	1.3573	Yes	
39	EFEMP1	EGF-containing fibulin-like extracellular matrix protein 1	810	0.740361631	0.34996802	1.3959	Yes	
40	null	null	887	0.705013514	0.35008526	2.8257	Yes	
41	ATP8A1	ATPase, aminophospholipid transporter (APLT), Class I, type 8A, member 1	922	0.692608059	0.35320735	1.3216	Yes	
42	null	null	942	0.687593997	0.35739785	1.3189	Yes	
43	NSF	N-ethylmaleimide-sensitive factor	960	0.683116436	0.36169985	1.3165	Yes	
44	null	null	1017	0.664276063	0.3629645	1.4320	Yes	
45	PPP1R11	protein phosphatase 1, regulatory (inhibitor) subunit 11	1026	0.661581457	0.36775678	1.3050	Yes	
46	TRIM46	tripartite motif-containing 46	1081	0.642917037	0.36899555	1.3281	Yes	
47	DPP7	dipeptidyl-peptidase 7	1087	0.641623437	0.37384725	1.2944	Yes	
48	null	null	1102	0.637546897	0.37800023	1.2923	Yes	
49	ITGA6	integrin, alpha 6	1105	0.636205733	0.38302967	1.2916	Yes	
50	CARD10	caspace recruitment domain family, member 10	1129	0.627179861	0.38643277	1.6535	Yes	
51	DAB2IP	DAB2 interacting protein	1150	0.623401344	0.39002693	1.2849	Yes	
52	null	null	1153	0.622028589	0.394941	1.2842	Yes	
53	APLN	apelin, AGTRL1 ligand	1193	0.611466706	0.39703307	1.2787	Yes	
54	GGNBP1		0	1246	0.597697556	0.3980517	1.2715	Yes
55	THBD	thrombomodulin	1288	0.587005079	0.3997968	1.2800	Yes	
56	APOC2	apolipoprotein C-II	1294	0.58550489	0.40419182	1.5014	Yes	
57	PTPN13	protein tyrosine phosphatase, non-receptor type 13 (APO-1/CD95 (Fas)-associated pho:	1296	0.585243404	0.40888047	1.2651	Yes	
58	VLDLR	very low density lipoprotein receptor	1327	0.579953611	0.4113816	1.3200	Yes	
59	MAPBPIP		0	1396	0.566428244	0.41096264	1.2555	Yes
60	BMPR2	bone morphogenetic protein receptor, type II (serine/threonine kinase)	1446	0.555933893	0.4118633	1.2502	Yes	
61	TNFAIP2	tumor necrosis factor, alpha-induced protein 2	1497	0.546458662	0.4126129	1.2454	Yes	
62	FGR	Gardner-Rasheed feline sarcoma viral (v-fgr) oncogene homolog	1504	0.545695186	0.41660997	1.5392	Yes	
63	BCL3	B-cell CLL/lymphoma 3	1505	0.545554936	0.42104962	1.2449	Yes	
64	HIST1H2BC	histone cluster 1, H2bc	1565	0.531322539	0.4210105	1.3739	Yes	
65	JUB	jub, ajuba homolog ( <i>Xenopus laevis</i> )	1611	0.525250852	0.42195722	1.2585	Yes	
66	NDST1	N-deacetylase/N-sulfotransferase (heparan glucosaminyl) 1	1665	0.515918136	0.42223644	1.2872	Yes	
67	GCLM	glutamate-cysteine ligase, modifier subunit	1675	0.514390528	0.42575696	1.2294	Yes	
68	SLC6A8	solute carrier family 6 (neurotransmitter transporter, creatine), member 8	1712	0.508136213	0.42722994	1.8565	Yes	

69	BTBD14A	BTB (POZ) domain containing 14A	1745	0.502474845	0.42895266	1.2234	Yes
70	HCST	hematopoietic cell signal transducer	1746	0.502348304	0.4330407	1.2234	Yes
71	USP47	ubiquitin specific peptidase 47	1777	0.496815383	0.43486527	1.2207	Yes
72	CNTN1	contactin 1	1816	0.489034176	0.43603492	1.2168	Yes
73	SLC10A1	solute carrier family 10 (sodium/bile acid cotransporter family), member 1	1926	0.474009305	0.431832	1.5045	Yes
74	SPON1	spondin 1, extracellular matrix protein	1949	0.470394284	0.43403313	1.5014	Yes
75	TRIM2	tripartite motif-containing 2	2010	0.459951729	0.43333927	1.2026	Yes
76	MTAC2D1	membrane targeting (tandem) C2 domain containing 1	2062	0.453144938	0.43325552	1.1993	Yes
77	CPD	carboxypeptidase D	2177	0.438946456	0.42839754	1.2032	Yes
78	B3GALT1	UDP-Gal:betaGlcNAc beta 1,3-galactosyltransferase, polypeptide 1	2178	0.438940108	0.43196955	1.2924	Yes
79	SCGB3A1	secretoglobin, family 3A, member 1	2196	0.43523851	0.43425435	1.4426	Yes
80	WWP2	WW domain containing E3 ubiquitin protein ligase 2	2271	0.42488122	0.4322398	1.1857	Yes
81	ABCA4	ATP-binding cassette, sub-family A (ABC1), member 4	2320	0.41821602	0.43209365	1.4926	Yes
82	STAU2	staufen, RNA binding protein, homolog 2 (Drosophila)	2342	0.415595383	0.4339228	1.2487	Yes
83	CLTB	clathrin, light chain (Lcb)	2389	0.410020053	0.43385786	1.1787	Yes
84	IER2	immediate early response 2	2405	0.408056051	0.43606934	1.3203	Yes
85	null	null	2512	0.397652566	0.43146688	1.4447	No
86	TIMP3	TIMP metallopeptidase inhibitor 3 (Sorsby fundus dystrophy, pseudoinflammatory)	2532	0.395071536	0.4332769	1.3277	No
87	NEUROG3	neurogenin 3	2636	0.381450236	0.42876443	1.1652	No
88	null	null	2673	0.375980228	0.42916197	1.1626	No
89	null	null	2686	0.373805553	0.43131655	1.1930	No
90	SESN2	sestrin 2	2718	0.369672895	0.4320325	1.1597	No
91	null	null	2811	0.359689146	0.42815638	1.3727	No
92	ABCC1	ATP-binding cassette, sub-family C (CFTR/MRP), member 1	2867	0.354968935	0.4269779	1.1528	No
93	PTK9	PTK9 protein tyrosine kinase 9	2875	0.354524255	0.42934534	1.1526	No
94	STAMBP	STAM binding protein	2987	0.342242003	0.4239222	1.1470	No
95	STX17	syntaxin 17	3012	0.339539439	0.42491058	1.1457	No
96	null	null	3175	0.322799295	0.41555786	1.1380	No
97	MYO1E	myosin IE	3261	0.314641982	0.41183278	1.1343	No
98	null	null	3279	0.313248217	0.41312483	1.1419	No
99	KDR	kinase insert domain receptor (a type III receptor tyrosine kinase)	3369	0.305295438	0.4090279	1.1301	No
100	SOCS3	suppressor of cytokine signaling 3	3388	0.30374372	0.41016865	1.2632	No
101	PBX1	pre-B-cell leukemia transcription factor 1	3497	0.293286353	0.40456897	1.2158	No
102	RAP2B	RAP2B, member of RAS oncogene family	3517	0.291652322	0.4055374	1.1239	No
103	OVGP1	oviductal glycoprotein 1, 120kDa (mucin 9, oviductin)	3582	0.285707474	0.40312976	1.1890	No
104	ETNK1	ethanolamine kinase 1	3603	0.282780916	0.40395203	1.1199	No
105	STAM2	signal transducing adaptor molecule (SH3 domain and ITAM motif) 2	3653	0.27803728	0.4025912	1.1479	No
106	CRK	v-crk sarcoma virus CT10 oncogene homolog (avian)	3696	0.273806006	0.40171355	1.1254	No
107	ENPP4	ectonucleotide pyrophosphatase/phosphodiesterase 4 (putative function)	3703	0.273222059	0.40349331	1.1156	No
108	ARHGAP6	Rho GTPase activating protein 6	3727	0.270726532	0.40399563	1.1145	No
109	CEBPD	CCAAT/enhancer binding protein (C/EBP), delta	3749	0.268893004	0.40463093	1.1137	No
110	ERG	v-ets erythroblastosis virus E26 oncogene homolog (avian)	3847	0.260774732	0.39958012	1.1289	No
111	SNRP70	small nuclear ribonucleoprotein 70kDa polypeptide (RNP antigen)	3914	0.255302936	0.39677715	1.1076	No

112	CEBPB	CCAAT/enhancer binding protein (C/EBP), beta	3989	0.249320552	0.3933339	1.1050	No
113	PLSCR2	phospholipid scramblase 2	3997	0.248605177	0.3948394	1.1757	No
114	FYB	FYN binding protein (FYB-120/130)	4053	0.243842691	0.3927566	1.1025	No
115	WAC	WW domain containing adaptor with coiled-coil	4078	0.242323101	0.39295384	1.1019	No
116	null	null	4089	0.241500258	0.39417964	1.1015	No
117	SCLY	selenocysteine lyase	4108	0.240031481	0.3948019	1.1363	No
118	GPD2	glycerol-3-phosphate dehydrogenase 2 (mitochondrial)	4187	0.234281182	0.39094052	1.0983	No
119	GRASP	GRP1 (general receptor for phosphoinositides 1)-associated scaffold protein	4235	0.231081858	0.38934547	1.0969	No
120	HIP1	huntingtin interacting protein 1	4564	0.205812782	0.36676535	1.0859	No
121	null	null	4658	0.198741287	0.3615055	1.0828	No
122	ARHGEF12	Rho guanine nucleotide exchange factor (GEF) 12	4744	0.192566112	0.356787	1.0846	No
123	LPL	lipoprotein lipase	4788	0.190440536	0.35515702	1.1405	No
124	PTPN11	protein tyrosine phosphatase, non-receptor type 11 (Noonan syndrome 1)	4937	0.178258643	0.34566334	1.0739	No
125	GADD45G	growth arrest and DNA-damage-inducible, gamma	4979	0.175652206	0.3440609	1.1129	No
126	PHIP	pleckstrin homology domain interacting protein	5363	0.150468916	0.31696326	1.0870	No
127	ELF2	E74-like factor 2 (ets domain transcription factor)	5387	0.149042994	0.31647533	1.0614	No
128	RAB40B	RAB40B, member RAS oncogene family	5519	0.140625909	0.30793253	1.0638	No
129	RORB	RAR-related orphan receptor B	5547	0.138684556	0.30706453	1.0571	No
130	BTG2	BTG family, member 2	5623	0.134214014	0.30261064	1.1499	No
131	RUNX1	runt-related transcription factor 1 (acute myeloid leukemia 1; aml1 oncogene)	5713	0.127663165	0.29706815	1.0597	No
132	CYP7A1	cytochrome P450, family 7, subfamily A, polypeptide 1	5744	0.125845075	0.29587382	1.0516	No
133	RRM2B	ribonucleotide reductase M2 B (TP53 inducible)	5811	0.121337079	0.29198068	1.0497	No
134	RNF128	ring finger protein 128	5924	0.113585584	0.28462282	1.0498	No
135	AP3B1	adaptor-related protein complex 3, beta 1 subunit	5985	0.109784447	0.28107935	1.0449	No
136	RIPK4	receptor-interacting serine-threonine kinase 4	6252	0.092476651	0.26216173	1.0389	No
137	null	null	6265	0.091635674	0.26202005	1.0373	No
138	TBX1	T-box 1	6363	0.086158373	0.25554824	1.0351	No
139	SCN11A	sodium channel, voltage-gated, type XI, alpha	6368	0.085734367	0.25595012	1.0354	No
140	JARID1A	jumonji, AT rich interactive domain 1A	6376	0.085090771	0.25612494	1.0482	No
141	TMEM23	transmembrane protein 23	6399	0.08369305	0.25517917	1.0340	No
142	MAF	v-maf musculoaponeurotic fibrosarcoma oncogene homolog (avian)	6489	0.077497661	0.24922846	1.0315	No
143	PTGFRN	prostaglandin F2 receptor negative regulator	6570	0.072287954	0.24390088	1.0293	No
144	null	null	6631	0.068182655	0.24001886	1.0297	No
145	null	null	6656	0.067026392	0.23878956	1.0272	No
146	ILF3	interleukin enhancer binding factor 3, 90kDa	6673	0.065566793	0.23813996	1.0266	No
147	USP8	ubiquitin specific peptidase 8	6986	0.044425398	0.21542968	1.0203	No
148	null	null	7076	0.039232966	0.20916757	1.0182	No
149	MRPS9	mitochondrial ribosomal protein S9	7113	0.036401536	0.20680167	1.0147	No
150	PIAS1	protein inhibitor of activated STAT, 1	7283	0.027306888	0.19452666	1.0110	No
151	null	null	7326	0.025084321	0.19162497	1.0101	No
152	ANXA7	annexin A7	7366	0.022884345	0.18892723	1.0092	No
153	MEF2C	MADS box transcription enhancer factor 2, polypeptide C (myocyte enhancer factor 2C)	7386	0.021896942	0.1877004	1.0088	No
154	SRPK2	SFRS protein kinase 2	7450	0.017906735	0.1831874	1.0072	No

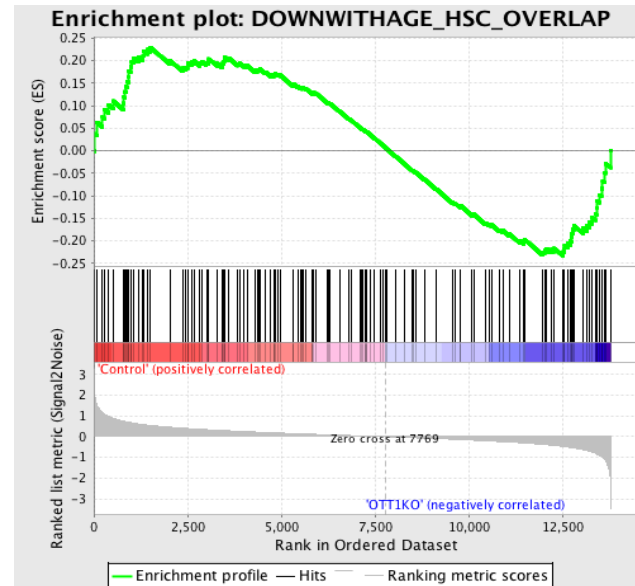
155	SOD1	superoxide dismutase 1, soluble (amyotrophic lateral sclerosis 1 (adult))	7458	0.017553134	0.18281262	1.0070	No
156	null	null	7561	0.011557085	0.17536396	1.0046	No
157	ADIPOR2	adiponectin receptor 2	7604	0.00892015	0.17233072	1.0036	No
158	CTSB	cathepsin B	7691	0.003888367	0.16600282	1.0016	No
159	GRID1	glutamate receptor, ionotropic, delta 1	7765	0.000251063	0.16060667	1.0001	No
160	TRIM24	tripartite motif-containing 24	7779	-0.000414963	0.15964872	0.9998	No
161	STX1A	syntaxin 1A (brain)	7811	-0.002517296	0.15737681	0.9980	No
162	ARID5A	AT rich interactive domain 5A (MRF1-like)	7815	-0.002808701	0.15717782	0.9988	No
163	null	null	7849	-0.005077825	0.15477885	0.9978	No
164	NTF3	neurotrophin 3	7896	-0.008338188	0.1514451	0.9967	No
165	FA2H	fatty acid 2-hydroxylase	7902	-0.008495384	0.15114449	0.9966	No
166	NPEPPS	aminopeptidase puromycin sensitive	8140	-0.022807153	0.1338044	0.9909	No
167	null	null	8177	-0.025425982	0.13134918	0.9869	No
168	ADAM19	ADAM metallopeptidase domain 19 (meltrin beta)	8274	-0.031840995	0.12450928	0.9861	No
169	SEC63	SEC63 homolog (S. cerevisiae)	8275	-0.031936128	0.12476917	0.9873	No
170	ZPBP	zona pellucida binding protein	8514	-0.049602516	0.10757318	0.9706	No
171	SEMA4F	sema domain, immunoglobulin domain (Ig), transmembrane domain (TM) and short cyto	8599	-0.055091139	0.10180987	0.9746	No
172	TMOD3	tropomodulin 3 (ubiquitous)	8603	-0.055375159	0.10203866	0.9704	No
173	LGR6	leucine-rich repeat-containing G protein-coupled receptor 6	8637	-0.05748998	0.100066215	0.9773	No
174	RCOR3	REST corepressor 3	8680	-0.060499355	0.09745273	0.9712	No
175	FMN2	formin 2	8765	-0.066288851	0.091780536	0.9724	No
176	EDG1	endothelial differentiation, sphingolipid G-protein-coupled receptor, 1	8786	-0.068000555	0.09085496	0.9732	No
177	NMT2	N-myristoyltransferase 2	8845	-0.072000317	0.08715189	0.9685	No
178	PDE8A	phosphodiesterase 8A	8935	-0.077857301	0.0812041	0.9693	No
179	TRIM44	tripartite motif-containing 44	8951	-0.078641027	0.08073485	0.9690	No
180	null	null	9085	-0.088216499	0.07161765	0.9589	No
181	PSMD11	proteasome (prosome, macropain) 26S subunit, non-ATPase, 11	9116	-0.090162039	0.070132926	0.9565	No
182	MTCH2	mitochondrial carrier homolog 2 (C. elegans)	9144	-0.092472732	0.06888886	0.9590	No
183	PCDHB16	protocadherin beta 16	9191	-0.09507481	0.06626095	0.9627	No
184	RNF32	ring finger protein 32	9265	-0.100651979	0.06168183	0.9580	No
185	NRG4	neuregulin 4	9273	-0.101098336	0.061986916	0.9348	No
186	ITGB4BP	integrin beta 4 binding protein	9306	-0.103554502	0.060463287	0.9594	No
187	null	null	9360	-0.106301978	0.057409108	0.9584	No
188	NCKIPSD	NCK interacting protein with SH3 domain	9389	-0.108426176	0.056220915	0.9456	No
189	CLCN3	chloride channel 3	9401	-0.109309651	0.05629703	0.9572	No
190	B2M	beta-2-microglobulin	9569	-0.122995548	0.04494862	0.9520	No
191	PML	promyelocytic leukemia	9628	-0.127696708	0.041698806	0.9501	No
192	RAPGEF3	Rap guanine nucleotide exchange factor (GEF) 3	9647	-0.128808796	0.041415967	0.9498	No
193	NAB1	NGFI-A binding protein 1 (EGR1 binding protein 1)	9655	-0.129191726	0.04194967	0.9496	No
194	AH11	Abelson helper integration site 1	9681	-0.130587399	0.041163668	0.9491	No
195	NDRG1	N-myc downstream regulated gene 1	9728	-0.133917853	0.038851857	0.9478	No
196	DGKQ	diacylglycerol kinase, theta 110kDa	9866	-0.145375997	0.029904017	0.9435	No
197	HSPB1	heat shock 27kDa protein 1	9966	-0.153833285	0.023835028	0.9072	No

198	TRPM6	transient receptor potential cation channel, subfamily M, member 6	9981	-0.155119076	0.02406209	0.9398	No
199	PLEKHC1	pleckstrin homology domain containing, family C (with FERM domain) member 1	9999	-0.156457141	0.024078194	0.9393	No
200	ALCAM	activated leukocyte cell adhesion molecule	10054	-0.16170156	0.0214009	0.9070	No
201	GCNT2	glucosaminyl (N-acetyl) transferase 2, I-branching enzyme (I blood group)	10087	-0.1640165	0.0203693	0.9365	No
202	OXR1	oxidation resistance 1	10182	-0.172742248	0.01482393	0.9332	No
203	ENTPD2	ectonucleoside triphosphate diphosphohydrolase 2	10209	-0.175095558	0.01432618	0.9232	No
204	WASL	Wiskott-Aldrich syndrome-like	10311	-0.18493636	0.008362406	0.9287	No
205	EMP2	epithelial membrane protein 2	10317	-0.185469732	0.009501989	0.9285	No
206	RSN	restin (Reed-Steinberg cell-expressed intermediate filament-associated protein)	10324	-0.185767829	0.01057005	0.9284	No
207	EHD3	EH-domain containing 3	10356	-0.189090133	0.009816445	0.9136	No
208	SLC26A8	solute carrier family 26, member 8	10375	-0.190917209	0.010039033	0.9264	No
209	KIFAP3	kinesin-associated protein 3	10417	-0.194856063	0.00859287	0.9250	No
210	HSPA1A	heat shock 70kDa protein 1A	10512	-0.202952042	0.003293341	0.7508	No
211	HSPA1B	heat shock 70kDa protein 1B	10670	-0.217669427	-0.006545149	0.5569	No
212	ARIH2	ariadne homolog 2 (Drosophila)	10776	-0.228187606	-0.012452744	0.9127	No
213	FGFR3	fibroblast growth factor receptor 3 (achondroplasia, thanatophoric dwarfism)	10837	-0.233682245	-0.01498796	0.9107	No
214	FGFR1OP2	FGFR1 oncogene partner 2	10845	-0.234496892	-0.013597298	0.9104	No
215	null	null	10850	-0.234621182	-0.01198378	0.9104	No
216	SRRM1	serine/arginine repetitive matrix 1	10899	-0.239223346	-0.013586526	0.9087	No
217	null	null	10945	-0.243598327	-0.014931825	0.9071	No
218	IKBKB	inhibitor of kappa light polypeptide gene enhancer in B-cells, kinase beta	11006	-0.249466166	-0.017338594	0.9050	No
219	SMARCA2	SWI/SNF related, matrix associated, actin dependent regulator of chromatin, subfamily a	11085	-0.258220106	-0.02100519	0.9018	No
220	MARVELD1	MARVEL domain containing 1	11094	-0.258974433	-0.019489283	0.9015	No
221	SOAT1	sterol O-acyltransferase (acyl-Coenzyme A: cholesterol acyltransferase) 1	11255	-0.274825513	-0.029084489	0.8958	No
222	CCRN4L	CCR4 carbon catabolite repression 4-like (S. cerevisiae)	11284	-0.278987259	-0.028884681	0.8830	No
223	FOXP2	forkhead box P2	11507	-0.303153843	-0.04283414	0.8857	No
224	DNM3	dynamin 3	11538	-0.308654159	-0.042540804	0.8837	No
225	PIP5K1A	phosphatidylinositol-4-phosphate 5-kinase, type I, alpha	11567	-0.313775271	-0.042057894	0.8819	No
226	DNAJC3	DnaJ (Hsp40) homolog, subfamily C, member 3	11673	-0.325536549	-0.04717328	0.8751	No
227	LRBA	LPS-responsive vesicle trafficking, beach and anchor containing	11743	-0.335929245	-0.049541958	0.8741	No
228	STARD6	START domain containing 6	11824	-0.347052068	-0.05263355	0.8679	No
229	FMR1NB	fragile X mental retardation 1 neighbor	11833	-0.348307878	-0.05039066	0.8698	No
230	null	null	11852	-0.351404518	-0.04886205	0.7642	No
231	MMP14	matrix metalloproteinase 14 (membrane-inserted)	11971	-0.371638238	-0.054563593	0.7329	No
232	null	null	12074	-0.390717208	-0.0589267	0.8550	No
233	PRPF39	PRP39 pre-mRNA processing factor 39 homolog (S. cerevisiae)	12207	-0.413529724	-0.06532261	0.8472	No
234	TRIM34	tripartite motif-containing 34	12218	-0.414827436	-0.062686294	0.8468	No
235	KPNA4	karyopherin alpha 4 (importin alpha 3)	12306	-0.429637909	-0.06562345	0.8417	No
236	FLI1	Friend leukemia virus integration 1	12409	-0.448735625	-0.069514416	0.8112	No
237	ANKRD6	ankyrin repeat domain 6	12425	-0.452831984	-0.06693856	0.8339	No
238	ATP10A	ATPase, Class V, type 10A	12444	-0.456956714	-0.06455098	0.8325	No
239	CPEB3	cytoplasmic polyadenylation element binding protein 3	12456	-0.459990591	-0.06162108	0.8068	No
240	SORBS1	sorbin and SH3 domain containing 1	12458	-0.460699707	-0.05794593	0.8313	No

241	ABAT	4-aminobutyrate aminotransferase	12495	-0.469377518	-0.05678834	0.7700	No	
242	RPS6KA3	ribosomal protein S6 kinase, 90kDa, polypeptide 3	12625	-0.502301455	-0.062239993	0.7889	No	
243	DAPP1	dual adaptor of phosphotyrosine and 3-phosphoinositides	12649	-0.508023322	-0.059806585	0.8155	No	
244	PSCDBP	pleckstrin homology, Sec7 and coiled-coil domains, binding protein	12672	-0.512065888	-0.057266332	0.8077	No	
245	null	null	12714	-0.522526085	-0.056045968	0.8108	No	
246	IL1RAPL2	interleukin 1 receptor accessory protein-like 2	12736	-0.526428759	-0.053314883	0.7601	No	
247	AMPD3	adenosine monophosphate deaminase (isoform E)	12747	-0.530482352	-0.049737383	0.7828	No	
248	MOCOS	molybdenum cofactor sulfurase	12778	-0.537811339	-0.0475792	0.8058	No	
249	CYR61	cysteine-rich, angiogenic inducer, 61	12844	-0.555603743	-0.04786441	0.8000	No	
250	null	null	12922	-0.582569659	-0.048817553	0.7913	No	
251	KLHL5	kelch-like 5 (Drosophila)	13015	-0.61558032	-0.05061128	0.7521	No	
252	SPINT1	serine peptidase inhibitor, Kunitz type 1	13016	-0.616101146	-0.045597546	0.7298	No	
253	MPP7	membrane protein, palmitoylated 7 (MAGUK p55 subfamily member 7)	13094	-0.648020625	-0.04601806	0.7705	No	
254	null	null	13150	-0.669043899	-0.04464063	0.6780	No	
255	HIF1A	hypoxia-inducible factor 1, alpha subunit (basic helix-loop-helix transcription factor)	13156	-0.671386898	-0.03954673	0.7528	No	
256	GATM	glycine amidinotransferase (L-arginine:glycine amidinotransferase)	13158	-0.672011852	-0.034151953	0.7317	No	
257	null	null	13297	-0.750778854	-0.038247067	0.7184	No	
258	BIRC6	baculoviral IAP repeat-containing 6 (apollon)	13330	-0.773114145	-0.034321927	0.7038	No	
259	ASB13	ankyrin repeat and SOCS box-containing 13	13345	-0.781578302	-0.028996838	0.6378	No	
260	FGFR1	fibroblast growth factor receptor 1 (fms-related tyrosine kinase 2, Pfeiffer syndrome)	13368	-0.795764864	-0.024147887	0.6953	No	
261	RGNEF		0	13444	-0.862851918	-0.02267224	0.5975	No
262	PTGER3	prostaglandin E receptor 3 (subtype EP3)	13547	-0.977246821	-0.022262264	0.6625	No	
263	CLDN5	claudin 5 (transmembrane protein deleted in velocardiofacial syndrome)	13603	-1.054393292	-0.017748924	0.5565	No	
264	HIST1H1C	histone cluster 1, H1c	13669	-1.229796648	-0.012547657	0.4956	No	
265	CPEB2	cytoplasmic polyadenylation element binding protein 2	13670	-1.230865836	-0.002531065	0.5444	No	
266	IL10RA	interleukin 10 receptor, alpha	13706	-1.383275628	0.006137631	0.4076	No	

TABLE S4 Chambers DOWN WITH AGE HSC SPECIFIC

Phenotype	HSC.cls#Control_versus_OT11KO
Upregulated in class	OTT1KO
GeneSet	DOWNWITHAGE_HSC_OVERLAP
Enrichment Score (ES)	-0.2333142
Normalized Enrichment Score (NES)	-1.0445206
Nominal p-value	0.34411085
FDR q-value	0.336668
FWER p-Value	0.1826



ROW	GENE SYMB	GENE_TITLE
0	GFER	growth factor, augmenter of liver regeneration
1	RBP1	retinol binding protein 1, cellular
2	LZTS2	leucine zipper, putative tumor suppressor 2
3	CTBP2	C-terminal binding protein 2
4	NINJ1	ninjurin 1
5	FSTL1	follistatin-like 1
6	CUL7	cullin 7
7	LASS4	LAG1 homolog, ceramide synthase 4 (S. cerevisiae)
8	CSNK2A2	casein kinase 2, alpha prime polypeptide
9	null	null
10	NFIX	nuclear factor I/X (CCAAT-binding transcription factor)
11	MRPS7	mitochondrial ribosomal protein S7
12	PHF23	PHD finger protein 23
13	SOCS2	suppressor of cytokine signaling 2
14	TSPAN4	tetraspanin 4
15	ENG	endoglin (Osler-Rendu-Weber syndrome 1)
16	COG1	component of oligomeric golgi complex 1

RANK	RANK	FOLD	CORE
GENE LIST	METRIC SCORE	RUNNING ES	CHANGE ENRICH
21	2.053913355	0.03795336	2.4697 Yes
81	1.523082018	0.06291762	1.8761 Yes
227	1.156800151	0.07454168	1.6020 Yes
278	1.09431839	0.09192104	1.5604 Yes
391	0.984606445	0.10265081	1.4904 Yes
516	0.886323631	0.11061213	1.5120 Yes
783	0.751604795	0.10558482	1.3538 Yes
800	0.745243073	0.11874217	1.4325 Yes
822	0.734152317	0.13132012	1.3442 Yes
859	0.714563012	0.14242302	1.3696 Yes
894	0.701698124	0.15342501	1.5286 Yes
921	0.693055034	0.16484663	1.3218 Yes
931	0.690587103	0.17746569	1.3205 Yes
980	0.675803304	0.1869446	1.8104 Yes
1004	0.668517411	0.19811413	1.3087 Yes
1066	0.650901318	0.20616227	1.2993 Yes
1195	0.611014664	0.20853725	1.2784 Yes



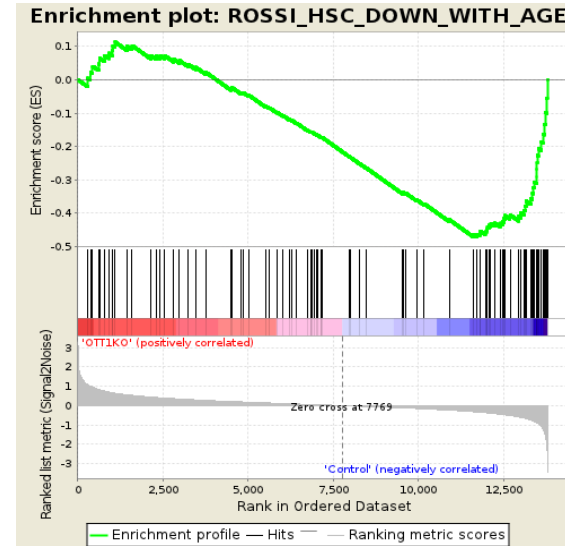
17	GLIS2	GLIS family zinc finger 2	1311	0.582726836	0.21132028	1.3165	Yes
18	ANKRD24	ankyrin repeat domain 24	1323	0.580758333	0.22168118	1.2628	Yes
19	HOXA5	homeobox A5	1427	0.559601128	0.22489831	1.2905	Yes
20	RHBDP1	rhomboid 5 homolog 1 (Drosophila)	1507	0.545040727	0.22959295	1.4210	Yes
21	null	null	2034	0.457536608	0.19987226	1.2014	No
22	GPS1	G protein pathway suppressor 1	2366	0.412994146	0.18357457	1.1801	No
23	NGFRAP1	nerve growth factor receptor (TNFRSF16) associated protein 1	2443	0.40406251	0.18577828	1.1758	No
24	TAP1	transporter 1, ATP-binding cassette, sub-family B (MDR/TAP)	2497	0.398913711	0.18956722	1.1734	No
25	CLPP	ClpP caseinolytic peptidase, ATP-dependent,	2515	0.397376508	0.19596282	1.1727	No
26	null	null	2606	0.385700315	0.19678827	1.2661	No
27	null	null	2669	0.376485646	0.19948693	1.1629	No
28	MTHFR	5,10-methylenetetrahydrofolate reductase (NADPH)	2830	0.357924521	0.19465238	1.2455	No
29	PTOV1	prostate tumor overexpressed gene 1	2876	0.354517967	0.19817354	1.1526	No
30	ZDHC9	zinc finger, DHC-type containing 9	3001	0.340472311	0.19563963	1.1461	No
31	null	null	3058	0.33407259	0.19796216	1.2435	No
32	TCEB2	transcription elongation factor B (SIII), polypeptide 2	3064	0.333681315	0.20401181	1.1430	No
33	null	null	3285	0.312632471	0.19391274	1.1334	No
34	WDR45	WD repeat domain 45	3425	0.300166517	0.18950544	1.1329	No
35	NTAN1	N-terminal asparagine amidase	3437	0.298856318	0.19444613	1.1271	No
36	GBA2	glucosidase, beta (bile acid) 2	3462	0.296016097	0.19838025	1.1259	No
37	null	null	3477	0.294604063	0.20301948	1.1598	No
38	GTF2F1	general transcription factor IIF, polypeptide 1, 74kDa	3491	0.293595344	0.20771256	1.1248	No
39	IRF3	interferon regulatory factor 3	3588	0.28510201	0.20616442	1.1209	No
40	null	null	3832	0.261664629	0.19340113	1.1104	No
41	ZSCAN21	zinc finger and SCAN domain containing 21	3888	0.257784843	0.1943301	1.1151	No
42	ARL6IP4	ADP-ribosylation-like factor 6 interacting protein 4	4009	0.247298151	0.19029762	1.1041	No
43	LXN	latexin	4083	0.242115989	0.18960722	1.1079	No
44	NOLA3	nucleolar protein family A, member 3	4289	0.226543814	0.17895132	1.0949	No
45	CSAD	cysteine sulfinic acid decarboxylase	4354	0.221394747	0.17852154	1.1636	No
46	PHKG2	phosphorylase kinase, gamma 2 (testis)	4393	0.219245404	0.17995438	1.0917	No
47	VDR	vitamin D (1,25- dihydroxyvitamin D3) receptor	4421	0.217719406	0.18216337	1.1167	No
48	CCND2	cyclin D2	4583	0.20491372	0.17431362	1.0855	No
49	PFDN5	prefoldin subunit 5	4720	0.194399402	0.1680924	1.0809	No
50	null	null	4793	0.189860016	0.16647047	1.0803	No
51	UBC	ubiquitin C	4808	0.188788474	0.16907518	1.0785	No
52	UTP11L	UTP11-like, U3 small nucleolar ribonucleoprotein, (yeast)	4827	0.187100753	0.1713545	1.0777	No
53	WDR74	WD repeat domain 74	4908	0.180946395	0.16897538	1.0751	No
54	null	null	4966	0.176533788	0.16819565	1.0732	No
55	RPS7	ribosomal protein S7	5319	0.153299049	0.14536695	1.0633	No

56	ATP5D	ATP synthase, H+ transporting, mitochondrial F1 complex, delta	5320	0.153263777	0.1483138	1.0632	No
57	null	null	5438	0.145521209	0.14254412	1.0600	No
58	IRAK1	interleukin-1 receptor-associated kinase 1	5501	0.141429558	0.14072329	1.0582	No
59	COL4A1	collagen, type IV, alpha 1	5561	0.13804704	0.13905711	1.0999	No
60	SOLH	small optic lobes homolog (Drosophila)	5588	0.136141926	0.13977082	1.0805	No
61	RHEBL1	Ras homolog enriched in brain like 1	5653	0.131394342	0.1376106	1.0540	No
62	ATAD3A	ATPase family, AAA domain containing 3A	5823	0.120581158	0.12755352	1.0494	No
63	AKAP8L	A kinase (PRKA) anchor protein 8-like	5835	0.119672604	0.129049	1.0490	No
64	TSHZ1	teashirt family zinc finger 1	5843	0.119050518	0.13082542	1.0488	No
65	WBP5	WW domain binding protein 5	5922	0.113749951	0.12730074	1.0466	No
66	RPL18	ribosomal protein L18	6235	0.093476422	0.10625094	1.0381	No
67	PTPN18	protein tyrosine phosphatase, non-receptor type 18	6264	0.091642007	0.10596259	1.0373	No
68	LAS1L	LAS1-like (S. cerevisiae)	6307	0.089033827	0.104598895	1.0363	No
69	FAU	(FBR-MuSV) ubiquitously expressed ; ribosomal protein S30	6564	0.072586797	0.0872482	1.0295	No
70	DPM2	dolichyl-phosphate mannosyltransferase polypeptide 2, subunit	6813	0.05679306	0.070179656	1.0230	No
71	ZRANB1	zinc finger, RAN-binding domain containing 1	6856	0.053776007	0.068138056	1.0217	No
72	MBD1	methyl-CpG binding domain protein 1	7087	0.038208872	0.05203029	1.0186	No
73	POLR2C	polymerase (RNA) II (DNA directed) polypeptide C, 33kDa	7148	0.034159753	0.04829342	1.0138	No
74	RABAC1	Rab acceptor 1 (prenylated)	7182	0.032664787	0.046504952	1.0156	No
75	MAP4K4	mitogen-activated protein kinase kinase kinase kinase 4	7232	0.029455407	0.043483134	1.0119	No
76	RRAD	Ras-related associated with diabetes	7243	0.028991461	0.04330828	1.0117	No
77	SIRT3	sirtuin (silent mating type information regulation 2 homolog) 3	7271	0.027919028	0.041867934	1.0112	No
78	PRPSAP1	phosphoribosyl pyrophosphate synthetase-associated protein 1	7282	0.027308259	0.04166072	1.0117	No
79	null	null	7374	0.022457447	0.035428777	1.0095	No
80	RPL37A	ribosomal protein L37a	7490	0.015788039	0.02731113	1.0063	No
81	PHC2	polyhomeotic homolog 2 (Drosophila)	7639	0.006900217	0.016606076	1.0028	No
82	ZBTB20	zinc finger and BTB domain containing 20	7715	0.002776573	0.01116737	1.0011	No
83	RPL14	ribosomal protein L14	7767	2.65e-05	0.007433258	1.0000	No
84	RPS14	ribosomal protein S14	7803	-0.001973265	0.004908222	0.9992	No
85	CHKA	choline kinase alpha	8057	-0.017062087	-0.013290376	0.9932	No
86	RCC2	regulator of chromosome condensation 2	8267	-0.031004099	-0.02799888	0.9815	No
87	AP1G2	adaptor-related protein complex 1, gamma 2 subunit	8498	-0.04845462	-0.043909643	0.9779	No
88	RPS15	ribosomal protein S15	8507	-0.048926219	-0.04355475	0.9806	No
89	RBM39	RNA binding motif protein 39	8579	-0.05384247	-0.047718685	0.9787	No
90	XAB2	XPA binding protein 2	8810	-0.069799893	-0.06321904	0.9725	No
91	RIPK3	receptor-interacting serine-threonine kinase 3	9127	-0.090998687	-0.0846094	0.9632	No
92	null	null	9565	-0.122611582	-0.11425249	0.9521	No
93	CCDC84	coiled-coil domain containing 84	9645	-0.128777727	-0.11756145	0.9498	No
94	EIF4EBP1	eukaryotic translation initiation factor 4E binding protein 1	9765	-0.13685149	-0.12364429	0.9458	No

95	GBA	glucosidase, beta; acid (includes glucosylceramidase)	9779	-0.137760833	-0.12194749	0.9464	No
96	GCNT2	glucosaminyl (N-acetyl) transferase 2, I-branching enzyme	10087	-0.1640165	-0.14127485	0.9365	No
97	GRAMD1A	GRAM domain containing 1A	10124	-0.167744458	-0.1406858	0.9294	No
98	USP19	ubiquitin specific peptidase 19	10449	-0.197956309	-0.16060548	0.9238	No
99	null	null	10539	-0.206092745	-0.16316016	0.9177	No
100	UPP1	uridine phosphorylase 1	10609	-0.211913824	-0.16413835	0.9182	No
101	SFRS12	splicing factor, arginine/serine-rich 12	10823	-0.2327829	-0.17526011	0.9110	No
102	MMP2	matrix metalloproteinase 2	10901	-0.239376426	-0.1762961	0.7629	No
103	PTPRS	protein tyrosine phosphatase, receptor type, S	11074	-0.256884933	-0.18395211	0.9023	No
104	null	null	11363	-0.286473572	-0.19953364	0.8885	No
105	RAG1AP1	recombination activating gene 1 activating protein 1	11464	-0.298635185	-0.20111449	0.8873	No
106	null	null	11483	-0.300563455	-0.19665357	0.8866	No
107	null	null	11958	-0.368380368	-0.22428064	0.8628	No
108	ABHD6	abhydrolase domain containing 6	12017	-0.379977673	-0.22122192	0.8587	No
109	TRIM39	tripartite motif-containing 39	12070	-0.390130192	-0.21752864	0.8552	No
110	CCL27	chemokine (C-C motif) ligand 27	12197	-0.411149472	-0.21885008	0.8480	No
111	ZC3H11A	zinc finger CCCH-type containing 11A	12275	-0.424568295	-0.21632533	0.8435	No
112	E4F1	E4F transcription factor 1	12508	-0.471449494	-0.22424951	0.7712	No
113	LATS2	LATS, large tumor suppressor, homolog 2 (Drosophila)	12544	-0.480247647	-0.21757863	0.8203	No
114	DNMT3B	DNA (cytosine-5)-methyltransferase 3 beta	12552	-0.481605113	-0.20883128	0.8243	No
115	MAN2C1	mannosidase, alpha, class 2C, member 1	12635	-0.504177928	-0.205142	0.7884	No
116	RAB6B	RAB6B, member RAS oncogene family	12702	-0.519797802	-0.19998075	0.7231	No
117	null	null	12732	-0.525663674	-0.19199729	0.7413	No
118	null	null	12748	-0.530488074	-0.18289587	0.8082	No
119	GADD45B	growth arrest and DNA-damage-inducible, beta	12765	-0.534516692	-0.17379022	0.7791	No
120	DDB2	damage-specific DNA binding protein 2, 48kDa	12796	-0.54305774	-0.16554554	0.8041	No
121	PURA	purine-rich element binding protein A	13043	-0.628503442	-0.1714752	0.7767	No
122	MYST2	MYST histone acetyltransferase 2	13146	-0.668242633	-0.16609596	0.7642	No
123	SERPINF1	serpin peptidase inhibitor, clade F, member 1	13216	-0.704171419	-0.15760939	0.6784	No
124	null	null	13282	-0.741151631	-0.14811888	0.6775	No
125	null	null	13370	-0.796090245	-0.13918307	0.7253	No
126	null	null	13405	-0.827620625	-0.12575993	0.7113	No
127	GALNT3	UDP-N-acetyl-alpha-D-galactosamine:polypeptide N-acetylgalactosaminyl	13414	-0.835492492	-0.11028152	0.6530	No
128	CD86	CD86 molecule	13486	-0.905796707	-0.098064706	0.5894	No
129	PITPNM1	phosphatidylinositol transfer protein, membrane-associated 1	13538	-0.961303771	-0.08331608	0.6775	No
130	FLT3	fms-related tyrosine kinase 3	13565	-0.994784653	-0.06609301	0.5194	No
131	GPSP1	G-protein signalling modulator 1 (AGS3-like, C. elegans)	13625	-1.108088017	-0.049107954	0.5087	No
132	null	null	13644	-1.159191728	-0.028137965	0.4918	No
133	PHB	prohibitin	13774	-2.011862993	0.001098266	0.4262	No

Table S5 Rossi DOWN WITH AGE

GeneSet	ROSSI_HSC_DOWN_WITH_AGE
Enrichment Score (ES)	-0.4716309
Normalized Enrichment Score (NES)	-1.4607257
Nominal p-value	0
FDR q-value	0.054341406
FWER p-Value	0



ROV	GENE	GENE_TITLE
0	UAP1	UDP-N-acteylglucosamine pyrophosphorylase 1
1	WDFY3	WD repeat and FYVE domain containing 3
2	C1QB	complement component 1, q subcomponent, B chain
3	ITGA4	integrin, alpha 4 (antigen CD49D, alpha 4 subunit of VLA-4 receptor)
4	MKL1	megakaryoblastic leukemia (translocation) 1
5	ATP6V0A2	ATPase, H+ transporting, lysosomal V0 subunit a2
6	null	null
7	MRPS11	mitochondrial ribosomal protein S11
8	SERPINI1	serpin peptidase inhibitor, clade I (neuroserpin), member 1
9	PPP1R14B	protein phosphatase 1, regulatory (inhibitor) subunit 14B
10	CABLES2	Cdk5 and Abl enzyme substrate 2
11	ATBF1	AT-binding transcription factor 1
12	null	null
13	null	null
14	FABP4	fatty acid binding protein 4, adipocyte
15	TEX261	testis expressed sequence 261
16	CYBA	cytochrome b-245, alpha polypeptide
17	PPP2R3A	protein phosphatase 2 (formerly 2A), regulatory subunit B'', alpha

RANK	RANK	FOLD	CORE
GENE LIST	METRIC SCORE	RUNNING ES	CHANGE ENRICH
283	1.083922863	0.005069842	1.8722 No
366	1.003477335	0.022899935	1.5022 No
430	0.948919237	0.040821906	2.4644 No
606	0.832452178	0.047805883	1.3995 No
631	0.81768167	0.06545962	1.3910 No
773	0.753856838	0.07305975	1.3551 No
902	0.698218286	0.08028823	1.3381 No
1005	0.667275727	0.08867992	1.3080 No
1025	0.661586642	0.10299409	1.3050 No
1093	0.640198469	0.113297544	1.2937 No
1450	0.555465758	0.100498304	1.2500 No
1590	0.527976155	0.102883786	1.4532 No
2146	0.442839176	0.07288825	1.1943 No
2298	0.42086345	0.07185593	1.1838 No
2416	0.407205492	0.07298087	1.4125 No
2549	0.392816603	0.0726696	1.1867 No
2812	0.35968408	0.062084366	1.1550 No
2982	0.342542589	0.057879653	1.1471 No

18	ICOS	inducible T-cell co-stimulator		3237	0.317606598	0.046879686	1.1358	No
19	HIST2H2BB	histone cluster 2, H2bb		3459	0.296364397	0.037784003	1.1260	No
20	null	null		3753	0.268605232	0.022774827	1.1135	No
21	LGALS1	lectin, galactoside-binding, soluble, 1 (galectin 1)		4497	0.211627111	-0.026428478	1.0884	No
22	TMC4	transmembrane channel-like 4		4510	0.21008493	-0.022318507	1.1038	No
23	CRYL1	crystallin, lambda 1		4801	0.189248875	-0.03899203	1.0787	No
24	TYROBP	TYRO protein tyrosine kinase binding protein		4860	0.184477612	-0.038846947	1.0766	No
25	UCP2	uncoupling protein 2 (mitochondrial, proton carrier)		5004	0.174283445	-0.045147266	1.0722	No
26	IRAK1	interleukin-1 receptor-associated kinase 1		5501	0.141429558	-0.07798994	1.0582	No
27	PPP2R4	protein phosphatase 2A, regulatory subunit B' (PR 53)		5621	0.134218961	-0.08348951	1.0552	No
28	null	null		5849	0.118515462	-0.09724381	1.0486	No
29	MAPK8	mitogen-activated protein kinase 8		6021	0.107686751	-0.10716811	1.0440	No
30	HN1	hematological and neurological expressed 1		6209	0.095605716	-0.11854683	1.0390	No
31	DDX52	DEAD (Asp-Glu-Ala-Asp) box polypeptide 52		6295	0.089999199	-0.12261443	1.0367	No
32	TSLP		0	6427	0.081446663	-0.13024218	1.0428	No
33	ELMO1	engulfment and cell motility 1		6746	0.060199145	-0.15202183	1.0244	No
34	null	null		6832	0.055521879	-0.15690765	1.0230	No
35	MTCP1	mature T-cell proliferation 1		6842	0.054868754	-0.15626232	1.0222	No
36	CNDP2	CNDP dipeptidase 2 (metallopeptidase M20 family)		6872	0.052774265	-0.15712637	1.0213	No
37	ARHGAP9	Rho GTPase activating protein 9		6956	0.046747811	-0.16207445	1.0236	No
38	SNAPC2	small nuclear RNA activating complex, polypeptide 2, 45kDa		7004	0.043062527	-0.16448264	1.0201	No
39	TOR1B	torsin family 1, member B (torsin B)		7053	0.040198103	-0.1670318	1.0162	No
40	VPREB1	pre-B lymphocyte gene 1		7138	0.034869537	-0.17233476	1.0237	No
41	BCL11B	B-cell CLL/lymphoma 11B (zinc finger protein)		7153	0.033949811	-0.17255081	1.0137	No
42	TIA1	TIA1 cytotoxic granule-associated RNA binding protein		7175	0.033153452	-0.17329663	1.0133	No
43	TMSB10	thymosin, beta 10		7976	-0.012741283	-0.2313799	0.9949	No
44	SEH1L	SEH1-like ( <i>S. cerevisiae</i> )		8005	-0.014211753	-0.23308611	0.9943	No
45	PSMA1	proteasome (prosome, macropain) subunit, alpha type, 1		8279	-0.032202013	-0.252246	0.9872	No
46	LMNA	lamin A/C		8468	-0.046448123	-0.2648643	0.9737	No
47	EVI2B	ecotropic viral integration site 2B		9541	-0.120689869	-0.34023684	0.9481	No
48	EBI3	Epstein-Barr virus induced gene 3		9546	-0.120814771	-0.33766156	0.9465	No
49	HTF9C		0	9640	-0.12847124	-0.34140003	0.9499	No
50	FKBP2	FK506 binding protein 2, 13kDa		9943	-0.151837945	-0.35983714	0.9345	No
51	PPP3CA	protein phosphatase 3 (formerly 2B), catalytic subunit, alpha isoform (calci		10169	-0.171237558	-0.3721943	0.9338	No
52	MMP2	matrix metallopeptidase 2 (gelatinase A, 72kDa gelatinase, 72kDa type IV		10901	-0.239376426	-0.41986325	0.7629	No
53	CAMK1D	calcium/calmodulin-dependent protein kinase ID		11610	-0.318840593	-0.4639678	0.8246	Yes
54	SDC1	syndecan 1		11716	-0.331531137	-0.46376297	0.8068	Yes
55	SLC16A7	solute carrier family 16, member 7 (monocarboxylic acid transporter 2)		11799	-0.34292677	-0.46160913	0.8601	Yes
56	CD47	CD47 molecule		11821	-0.346952528	-0.45490786	0.8702	Yes

57	RRM2	ribonucleotide reductase M2 polypeptide	11963	-0.370289207	-0.4564106	0.8621	Yes
58	SNX2	sorting nexin 2	11996	-0.376019388	-0.44982228	0.8601	Yes
59	ADFP	adipose differentiation-related protein	12026	-0.381293953	-0.44288984	0.8583	Yes
60	CASP7	caspase 7, apoptosis-related cysteine peptidase	12069	-0.390120953	-0.4366967	0.8485	Yes
61	GRIA3	glutamate receptor, ionotropic, AMPA 3	12126	-0.397057265	-0.4313607	0.7994	Yes
62	null	null	12248	-0.419777155	-0.43022934	0.8451	Yes
63	KIF23	kinesin family member 23	12397	-0.445254505	-0.43046385	0.8365	Yes
64	FGF11	fibroblast growth factor 11	12482	-0.466315895	-0.4255277	0.8265	Yes
65	KCNAB1	potassium voltage-gated channel, shaker-related subfamily, beta member	12516	-0.473352671	-0.41670245	0.8053	Yes
66	TOMM20	translocase of outer mitochondrial membrane 20 homolog (yeast)	12545	-0.480531216	-0.40734193	0.8246	Yes
67	null	null	12690	-0.517711282	-0.40556496	0.8123	Yes
68	S100A9	S100 calcium binding protein A9	12947	-0.590144754	-0.410243	0.7889	Yes
69	CD52	CD52 molecule	13009	-0.613560796	-0.40013382	0.7577	Yes
70	BLNK	B-cell linker	13101	-0.650014281	-0.391349	0.5695	Yes
71	PRKCB1	protein kinase C, beta 1	13141	-0.666671395	-0.37837377	0.7593	Yes
72	PHLDB2	pleckstrin homology-like domain, family B, member 2	13164	-0.675870359	-0.36393958	0.6340	Yes
73	ITGB5	integrin, beta 5	13301	-0.752704263	-0.35600188	0.6170	Yes
74	IL7R	interleukin 7 receptor	13349	-0.78348285	-0.34083834	0.2601	Yes
75	DUSP22	dual specificity phosphatase 22	13371	-0.796138048	-0.32347694	0.6625	Yes
76	null	null	13403	-0.827320159	-0.30610535	0.6726	Yes
77	SATB1	special AT-rich sequence binding protein 1 (binds to nuclear matrix/scaffol	13481	-0.901102901	-0.2903399	0.6468	Yes
78	ABLIM1	actin binding LIM protein 1	13482	-0.902385652	-0.2689244	0.6942	Yes
79	IVD	isovaleryl Coenzyme A dehydrogenase	13484	-0.905420661	-0.24750985	0.6934	Yes
80	null	null	13490	-0.909979403	-0.22627904	0.6921	Yes
81	EVL	Enah/Vasp-like	13523	-0.944912553	-0.2061897	0.6440	Yes
82	EPHA7	EPH receptor A7	13611	-1.066987753	-0.1872173	0.6483	Yes
83	CTSS	cathepsin S	13657	-1.190072179	-0.16225858	0.5089	Yes
84	DNTT	deoxynucleotidyltransferase, terminal	13702	-1.368427753	-0.13299413	0.3642	Yes
85	SCPEP1	serine carboxypeptidase 1	13729	-1.550550699	-0.098093845	0.5266	Yes
86	null	null	13768	-1.89031136	-0.056006107	0.4513	Yes
87	CNN3	calponin 3, acidic	13785	-2.421434641	0.000291899	0.2186	Yes