

Supplemental materials

Supplemental Table 1. Cuproptosis-related genes.

gene_name
NFE2L2
NLRP3
ATP7B
ATP7A
SLC31A1
FDX1
LIAS
LIPT1
LIPT2
DLD
DLAT
PDHA1
PDHB
MTF1
GLS
CDKN2A
DBT
GCSH
DLST

Supplemental Table 2. Cuproptosis mRNA and lncRNA network.

Cuproptosis genes	Cuproptosis lncRNA	cor	pvalue	Regulation
ATP7A	Z68871.1	0.530836353	1.42E-28	postive
ATP7A	LINC01278	0.465992941	1.47E-21	postive
ATP7A	LINC01094	0.458908404	7.05E-21	postive
ATP7A	AP001362.2	-0.406261524	2.70E-16	negative
ATP7A	AC120114.1	0.401412848	6.52E-16	postive
ATP7A	AC108463.2	0.445174516	1.32E-19	postive
ATP7A	AC108449.2	0.406978533	2.36E-16	postive
ATP7B	NADK2-AS1	0.425194519	7.48E-18	postive
ATP7B	AC024075.1	0.402130268	5.72E-16	postive
ATP7B	AC008764.2	0.421928047	1.41E-17	postive
CDKN2A	FOXD2-AS1	0.42214681	1.35E-17	postive
CDKN2A	DDX11-AS1	0.548841709	8.33E-31	postive
CDKN2A	CDKN2A-DT	0.612689618	6.47E-40	postive
CDKN2A	C10orf91	0.455288367	1.55E-20	postive
CDKN2A	AL451069.3	0.445509102	1.23E-19	postive
CDKN2A	AL035461.2	0.439163553	4.58E-19	postive
CDKN2A	AC084033.3	0.428071456	4.25E-18	postive
CDKN2A	AC026401.3	0.594590386	3.99E-37	postive
CDKN2A	AC026333.4	0.492130071	3.30E-24	postive
CDKN2A	AC023090.1	0.490024439	5.50E-24	postive
CDKN2A	AC023043.4	0.47728914	1.12E-22	postive
CDKN2A	AC002116.2	0.480762101	5.00E-23	postive
DBT	TMEM220-AS1	0.426207661	6.14E-18	postive
DBT	SUCLG2-AS1	0.469521625	6.66E-22	postive
DBT	SNHG12	-0.422289387	1.32E-17	negative
DBT	RBM26-AS1	0.413880575	6.55E-17	postive

DBT	PAXIP1-AS2	0.448793691	6.19E-20	postive
DBT	LINC01018	0.414586927	5.73E-17	postive
DBT	LINC00261	0.476591018	1.32E-22	postive
DBT	GNG12-AS1	0.400989972	7.03E-16	postive
DBT	ELF3-AS1	-0.403998335	4.08E-16	negative
DBT	DHRS4-AS1	0.507906453	6.39E-26	postive
DBT	CPB2-AS1	0.435687736	9.29E-19	postive
DBT	AP003721.4	0.426176242	6.18E-18	postive
DBT	AL450326.1	0.526771664	4.33E-28	postive
DBT	AL359715.3	0.560285882	2.70E-32	postive
DBT	AL357055.3	0.42790487	4.40E-18	postive
DBT	AL049840.4	-0.436080707	8.58E-19	negative
DBT	AC244100.3	0.444305156	1.59E-19	postive
DBT	AC139768.1	-0.411457798	1.03E-16	negative
DBT	AC138356.1	0.4982488	7.33E-25	postive
DBT	AC108210.1	0.406004256	2.83E-16	postive
DBT	AC099508.2	0.432863049	1.64E-18	postive
DBT	AC097626.1	0.516907941	6.13E-27	postive
DBT	AC096564.1	0.47651481	1.35E-22	postive
DBT	AC079848.1	0.413967504	6.44E-17	postive
DBT	AC009163.6	0.452484971	2.82E-20	postive
DBT	AC007637.1	0.482464015	3.35E-23	postive
DBT	AC004832.5	0.46080881	4.65E-21	postive
DBT	AC004160.1	0.448176936	7.05E-20	postive
DLD	AL359921.2	-0.416590045	3.93E-17	negative
FDX1	TMEM220-AS1	0.42773351	4.55E-18	postive
FDX1	LINC02028	0.402758318	5.11E-16	postive
FDX1	LINC01588	0.400165894	8.16E-16	postive
FDX1	LINC01485	0.520395948	2.43E-27	postive

FDX1	LINC01146	0.421412778	1.56E-17	postive
FDX1	HCG18	-0.41234576	8.74E-17	negative
FDX1	AP001783.1	0.408887422	1.66E-16	postive
FDX1	AP001528.2	0.406626302	2.52E-16	postive
FDX1	AP001065.1	0.414158161	6.22E-17	postive
FDX1	AL451060.1	0.407637576	2.09E-16	postive
FDX1	AC010336.2	0.435567182	9.52E-19	postive
FDX1	AC004160.1	0.411906285	9.48E-17	postive
GCSH	LINC01909	0.407139843	2.30E-16	postive
GCSH	ENTPD3-AS1	0.444942421	1.39E-19	postive
GCSH	CDC37L1-DT	0.422193662	1.34E-17	postive
GCSH	B4GALT1-AS1	0.417997586	3.00E-17	postive
GCSH	AL121992.3	0.412092177	9.16E-17	postive
GCSH	AC115619.1	0.418396479	2.78E-17	postive
GCSH	AC040169.1	0.407649103	2.09E-16	postive
GCSH	AC025754.2	0.407772782	2.04E-16	postive
GCSH	AC009974.1	0.400857429	7.20E-16	postive
GCSH	AC004241.2	0.446208283	1.07E-19	postive
GLS	MIR4435-2HG	0.469851433	6.18E-22	postive
GLS	LINC00526	-0.423394585	1.06E-17	negative
GLS	LINC00342	0.437076354	7.01E-19	postive
GLS	LINC00265	0.420016445	2.04E-17	postive
GLS	GUSBP11	0.406424078	2.62E-16	postive
GLS	FAM111A-DT	0.404392717	3.80E-16	postive
GLS	AF131215.6	0.451138982	3.76E-20	postive
GLS	AF131215.5	0.463222243	2.73E-21	postive
GLS	AC147651.1	0.401592286	6.31E-16	postive
GLS	AC125807.2	0.408962184	1.64E-16	postive
GLS	AC116351.1	0.465665391	1.58E-21	postive

GLS	AC108463.2	0.426766324	5.50E-18	postive
GLS	AC068338.2	-0.418755796	2.60E-17	negative
GLS	AC036176.1	-0.415482606	4.84E-17	negative
GLS	AC026356.2	0.436529127	7.84E-19	postive
GLS	AC016705.2	0.441268172	2.97E-19	postive
LIAS	PITPNM2-AS1	0.540905856	8.33E-30	postive
LIAS	AP001198.2	0.555821703	1.04E-31	postive
LIAS	AL450263.1	0.448123919	7.13E-20	postive
LIAS	AC026202.2	0.411843218	9.60E-17	postive
LIAS	AC010638.1	0.500612323	4.06E-25	postive
LIPT2	AP000873.2	0.432317767	1.83E-18	postive
MTF1	LINC02418	0.40451063	3.71E-16	postive
MTF1	AC005256.1	0.423630046	1.02E-17	postive
NFE2L2	TPRG1-AS1	0.439727412	4.08E-19	postive
NFE2L2	AP001505.1	-0.404181996	3.94E-16	negative
NFE2L2	AC093673.1	-0.434448661	1.19E-18	negative
NFE2L2	AC078993.1	0.466492774	1.32E-21	postive
NFE2L2	AC010969.2	-0.432479531	1.77E-18	negative
NFE2L2	AC008549.1	0.440159422	3.74E-19	postive
NLRP3	SMIM25	0.421149858	1.64E-17	postive
NLRP3	PICSAR	0.451952009	3.16E-20	postive
NLRP3	MIR503HG	0.405582327	3.05E-16	postive
NLRP3	LINC02084	0.444240668	1.61E-19	postive
NLRP3	LINC01679	0.593919239	5.03E-37	postive
NLRP3	LINC01197	0.439951404	3.90E-19	postive
NLRP3	LINC01094	0.627511753	2.44E-42	postive
NLRP3	LINC00996	0.485565863	1.61E-23	postive
NLRP3	LINC00539	0.483218241	2.80E-23	postive
NLRP3	HCG11	0.494168093	2.01E-24	postive

NLRP3	HAND2-AS1	0.515250957	9.49E-27	postive
NLRP3	DNM3OS	0.541670139	6.69E-30	postive
NLRP3	C9orf139	0.523309547	1.11E-27	postive
NLRP3	AP005019.1	0.642174444	7.21E-45	postive
NLRP3	AP002954.1	0.54143111	7.17E-30	postive
NLRP3	AP000812.1	0.426480393	5.82E-18	postive
NLRP3	AL365361.1	0.419704069	2.17E-17	postive
NLRP3	AL161935.3	0.417082834	3.57E-17	postive
NLRP3	AL049838.1	0.441119032	3.07E-19	postive
NLRP3	AL034397.3	0.463462539	2.59E-21	postive
NLRP3	AC138207.5	0.659998232	3.90E-48	postive
NLRP3	AC129507.1	0.473309753	2.81E-22	postive
NLRP3	AC110995.1	0.633302013	2.54E-43	postive
NLRP3	AC109479.1	0.433105954	1.56E-18	postive
NLRP3	AC108134.3	0.450952717	3.91E-20	postive
NLRP3	AC107959.1	0.510921658	2.94E-26	postive
NLRP3	AC090559.1	0.87518623	#####	postive
NLRP3	AC087521.1	0.481992653	3.74E-23	postive
NLRP3	AC079015.1	0.59964112	6.92E-38	postive
NLRP3	AC020658.5	0.467994454	9.40E-22	postive
NLRP3	AC018755.4	0.420903261	1.72E-17	postive
NLRP3	AC018529.1	0.42430498	8.90E-18	postive
NLRP3	AC015922.2	0.410885868	1.15E-16	postive
NLRP3	AC015911.3	0.480789691	4.97E-23	postive
NLRP3	AC010247.1	0.401437341	6.49E-16	postive
NLRP3	AC008759.3	0.452246963	2.97E-20	postive
NLRP3	AC008105.3	0.455084746	1.62E-20	postive
NLRP3	AC006059.1	0.417567148	3.26E-17	postive
NLRP3	AC006033.2	0.627687302	2.28E-42	postive

NLRP3	AC004921.1	0.486345314	1.33E-23	positive
NLRP3	AC004847.1	0.4170051	3.63E-17	positive
NLRP3	AC004585.1	0.411415203	1.04E-16	positive
NLRP3	AC002091.2	0.632880397	3.00E-43	positive
NLRP3	AC002091.1	0.68351058	8.38E-53	positive
SLC31A1	SUCLG2-AS1	0.431188839	2.29E-18	positive
SLC31A1	SNHG12	-0.446649211	9.72E-20	negative
SLC31A1	NCOA7-AS1	0.437251034	6.77E-19	positive
SLC31A1	MAPKAPK5-AS1	-0.415244169	5.06E-17	negative
SLC31A1	LINC01018	0.427405493	4.85E-18	positive
SLC31A1	LINC01011	-0.442429833	2.34E-19	negative
SLC31A1	LINC00261	0.523392488	1.09E-27	positive
SLC31A1	GAS5	-0.42139982	1.56E-17	negative
SLC31A1	DHRS4-AS1	0.436671334	7.61E-19	positive
SLC31A1	AP003352.1	-0.407243474	2.25E-16	negative
SLC31A1	AL450326.1	0.401915298	5.95E-16	positive
SLC31A1	AL355388.2	-0.427573917	4.69E-18	negative
SLC31A1	AL161740.1	0.419056173	2.45E-17	positive
SLC31A1	AL078581.1	0.459296453	6.47E-21	positive
SLC31A1	AC139768.1	-0.402005803	5.85E-16	negative
SLC31A1	AC138356.1	0.421634532	1.49E-17	positive
SLC31A1	AC137056.1	0.414207137	6.16E-17	positive
SLC31A1	AC108210.1	0.498827536	6.34E-25	positive
SLC31A1	AC103740.1	0.436637925	7.67E-19	positive
SLC31A1	AC096564.1	0.460275956	5.22E-21	positive
SLC31A1	AC048341.2	-0.406969048	2.37E-16	negative
SLC31A1	AC011462.4	-0.400083337	8.28E-16	negative
SLC31A1	AC007344.1	0.449153873	5.73E-20	positive
SLC31A1	AC004812.2	-0.416232561	4.20E-17	negative

SLC31A1	AC004160.1	0.498102753	7.60E-25	postive
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Supplemental Table 3. Differentially expressed genes and lncRNAs (n=523) among high- and low-risk hepatocellular carcinoma (HCC) groups.

gene	lowMean	highMean	logFC	pValue	fdr
KIF14	0.708162	1.41654	1.000221	1.67E-11	5.75E-10
CD109	1.522677	3.110885	1.030715	4.52E-07	3.84E-06
CENPA	1.516475	4.060921	1.421086	8.98E-19	8.80E-16
TINAG	2.469753	5.553477	1.169024	5.79E-07	4.73E-06
CEP55	1.148029	3.07193	1.419986	2.75E-19	3.59E-16
BX276092.9	1.118366	2.326281	1.056633	3.39E-05	0.000163
SKA3	1.519304	3.27555	1.108327	4.68E-14	3.55E-12
IGSF23	27.63941	12.66055	-1.12639	3.71E-12	1.54E-10
LECT2	46.61328	20.28109	-1.20061	1.49E-13	9.68E-12
SLC2A1	1.645572	3.519867	1.096932	0.000242	0.000894
AC079466.1	3.570229	9.989953	1.484461	1.12E-07	1.16E-06
OXCT1	1.329207	2.683939	1.013786	8.80E-05	0.000372
CTNNA2	2.307271	0.735543	-1.64931	2.19E-06	1.50E-05
PRSS22	0.473549	1.855582	1.970286	0.001498	0.004372
TFF1	3.164919	15.60725	2.301976	1.16E-05	6.33E-05
SELE	1.371493	0.639947	-1.09972	0.005388	0.012915
FAM133A	0.913932	2.574357	1.494054	1.01E-07	1.07E-06
SLC22A15	0.766511	1.544258	1.010535	1.29E-11	4.61E-10
CYP4A22	47.5478	21.17669	-1.1669	2.59E-10	6.09E-09
SPHK1	3.710311	12.30927	1.730134	7.79E-10	1.59E-08
MISP	3.238256	6.556511	1.017711	0.001575	0.00456
TPX2	8.813592	18.63745	1.080402	2.74E-15	3.57E-13
CHP2	0.149374	2.180113	3.867402	9.77E-05	0.000406
WFDC2	5.370955	11.55628	1.105426	0.017465	0.034696
SLC13A3	23.6783	11.43173	-1.05052	0.000309	0.001105
AC007207.2	7.42641	3.657979	-1.02162	0.000144	0.000571

POF1B	0.731312	2.470909	1.756483	1.49E-09	2.77E-08
GPT2	67.0648	30.70595	-1.12704	3.26E-14	2.59E-12
PAGE2	1.778275	21.44178	3.591874	3.74E-06	2.38E-05
PI3	6.651106	14.26666	1.100982	0.005713	0.013586
RIPPLY1	2.820366	1.088277	-1.37384	7.04E-11	1.96E-09
BUB1	1.328816	2.935538	1.143484	1.01E-15	1.61E-13
UGT1A2P	7.159843	1.89314	-1.91915	3.90E-09	6.44E-08
LINC01702	15.39812	7.213081	-1.09407	3.11E-06	2.02E-05
AC079360.1	2.299256	0.999139	-1.20241	1.31E-08	1.80E-07
GAPLINC	2.197097	0.77883	-1.49622	0.013039	0.027226
ADH6	103.7519	51.69404	-1.00507	2.21E-09	3.86E-08
SLC7A10	0.49457	1.924467	1.960212	0.000991	0.003057
FABP3	5.088789	14.46115	1.506788	0.010799	0.023244
CENPU	3.090966	6.345436	1.037661	2.23E-14	1.87E-12
BACE2	2.90024	9.142408	1.656402	0.000486	0.00164
TGFBR3L	2.297129	1.068307	-1.10451	7.47E-11	2.06E-09
SSTR2	0.671623	1.852005	1.463364	0.006967	0.016013
DUOX2	1.417873	9.69369	2.773318	0.014104	0.029107
MMP12	1.540095	3.919767	1.347748	3.74E-08	4.51E-07
NOTUM	73.26994	32.48729	-1.17335	1.46E-05	7.82E-05
AL162413.1	4.709775	9.680444	1.039415	0.019186	0.037582
CHAF1B	1.256064	2.795117	1.153999	1.87E-17	9.55E-15
APOC3	9808.313	4854.347	-1.01473	4.90E-13	2.75E-11
ABCC1	1.781066	4.108784	1.20597	8.34E-10	1.67E-08
AR	13.69958	6.368987	-1.105	1.70E-13	1.07E-11
AC087379.2	3.037255	0.674552	-2.17077	0.001033	0.003166
RNASE2	0.539513	2.075323	1.943608	1.08E-07	1.13E-06
MUC6	1.249599	7.1897	2.524466	0.020586	0.039861
SULT4A1	2.217154	0.834987	-1.40888	0.000342	0.001208

MAGEA12	2.084556	6.411385	1.620896	0.000118	0.00048
NDRG1	20.99564	45.30176	1.109478	1.91E-05	9.85E-05
AC090150.1	4.358417	1.833792	-1.24897	1.23E-06	9.15E-06
ZNF239	0.561721	1.534733	1.450064	4.69E-12	1.90E-10
HJURP	2.283806	4.831364	1.080991	1.51E-15	2.16E-13
FCN3	11.35348	3.472419	-1.70912	0.002703	0.007209
ENPP5	0.741785	1.686157	1.184665	0.000413	0.001427
SLCO4C1	0.693063	2.123482	1.615373	8.20E-09	1.20E-07
MAEL	0.26818	3.225227	3.588128	7.10E-10	1.46E-08
MAFA-AS1	1.923542	4.160096	1.112852	3.58E-05	0.000171
NEIL3	0.559699	1.586012	1.502681	9.70E-18	6.01E-15
GTSF1	1.94335	5.535848	1.510259	4.00E-06	2.51E-05
NUF2	1.922084	4.652952	1.275475	5.11E-16	1.06E-13
FZD1	1.294641	2.836555	1.131588	4.90E-07	4.10E-06
ADH1B	327.4161	130.2835	-1.32947	3.88E-12	1.59E-10
KBTBD11	1.634013	0.734661	-1.15327	3.78E-09	6.25E-08
RAP1GAP	9.45163	20.15875	1.092771	2.00E-09	3.55E-08
ECT2	2.344823	5.491057	1.227605	4.78E-18	3.51E-15
KIF23	0.917628	2.381966	1.376171	2.19E-19	3.22E-16
APOA5	262.7477	110.3092	-1.25212	2.26E-16	5.90E-14
BICC1	3.079843	7.190991	1.223334	3.90E-05	0.000184
PRODH	3.974248	1.864648	-1.09178	0.003137	0.008204
ABHD1	1.443086	0.714584	-1.01398	0.003154	0.00824
FOXJ1	1.20681	2.719745	1.172273	1.34E-05	7.21E-05
SCTR	0.886615	6.78022	2.934952	0.000389	0.001352
PAGE1	1.325825	33.67158	4.66657	1.76E-07	1.71E-06
CAPN6	1.359509	2.799648	1.042159	0.001166	0.003515
PTGFR	1.437252	3.37409	1.231185	0.000151	0.000596
FNDC5	23.42503	11.27138	-1.05539	1.06E-06	8.07E-06

CENPF	2.220973	4.71818	1.087039	1.06E-14	1.01E-12
TOP2A	6.685479	16.41292	1.295729	4.78E-16	1.02E-13
SFRP5	3.671524	15.27629	2.056843	0.022667	0.043293
RHBG	30.071	13.7884	-1.12492	0.007645	0.017321
TRIM54	0.408979	1.69875	2.054377	0.00019	0.000727
RAD51AP1	1.71908	3.470597	1.013547	2.35E-12	1.04E-10
AC136601.2	3.440177	1.501431	-1.19614	2.17E-08	2.80E-07
CYP2C9	221.1405	93.28279	-1.24528	1.23E-13	8.33E-12
MT1X	55.2941	25.4184	-1.12125	0.001526	0.00444
AC138207.3	0.729608	1.534468	1.072545	1.10E-07	1.15E-06
GIN51	2.26972	4.844637	1.093874	4.65E-16	1.01E-13
SLC2A5	1.536531	3.295854	1.100976	7.09E-05	0.000308
SLC25A25	33.50029	16.2551	-1.04328	5.83E-11	1.69E-09
LYPD1	0.69365	1.416413	1.029961	1.18E-06	8.79E-06
HLF	28.9115	13.19665	-1.13147	1.20E-08	1.68E-07
ADORA1	0.718243	1.771663	1.302561	0.002493	0.006732
CYP1A2	71.76968	24.35605	-1.55909	1.48E-08	2.01E-07
NDC80	2.3286	5.080695	1.125563	6.48E-16	1.22E-13
SEL1L3	4.79794	11.34671	1.241786	3.04E-06	1.99E-05
AURKB	4.136055	8.690849	1.071242	3.88E-12	1.59E-10
RHOV	0.548087	3.316458	2.597167	8.40E-07	6.56E-06
PROM1	0.488333	1.900649	1.960554	0.011679	0.024822
MYBL2	7.419667	20.46972	1.464065	7.68E-17	2.91E-14
PLAU	2.937004	6.224903	1.083706	0.002153	0.005954
E2F8	0.865582	1.751192	1.016594	7.77E-12	2.96E-10
DLG3	0.932802	2.092945	1.165892	1.86E-07	1.79E-06
CLDN10	1.184118	3.682793	1.636988	0.014465	0.029726
CYP2A6	709.9766	342.4994	-1.05167	1.95E-07	1.86E-06
AC137723.2	2.729907	1.307645	-1.06188	4.22E-06	2.64E-05

PCSK1N	4.243124	9.066375	1.095399	0.013048	0.027239
C9	234.8332	91.1606	-1.36515	0.011457	0.024446
IGSF3	2.237397	4.733226	1.081002	4.13E-09	6.76E-08
CDC6	2.661993	5.719283	1.103327	2.08E-16	5.83E-14
NAT2	12.77305	4.612349	-1.46953	4.69E-07	3.95E-06
CYP2E1	627.3047	224.9659	-1.47946	2.86E-08	3.56E-07
BIRC5	6.378627	15.11833	1.244981	7.23E-15	7.66E-13
MKI67	2.552937	5.701769	1.159252	9.93E-16	1.60E-13
MCM10	0.704033	1.671814	1.2477	1.17E-16	4.03E-14
GLUL	582.7516	207.3528	-1.49079	0.000335	0.001185
DNER	0.631753	2.70017	2.095619	0.00625	0.014634
TMEM252	1.822116	0.314771	-2.53324	0.006172	0.014481
VTCN1	0.716434	6.458914	3.172387	0.001395	0.004112
SPC25	1.912769	3.896873	1.026654	6.53E-16	1.22E-13
VSIG1	0.811111	2.486004	1.615856	0.005933	0.014032
HAMP	55.93572	11.20248	-2.31995	0.000246	0.000907
CRISP3	0.61589	4.397719	2.83601	0.012223	0.025795
GLYATL1	32.79894	15.666	-1.06601	3.20E-13	1.83E-11
HPD	1139.996	467.7941	-1.28508	3.70E-14	2.88E-12
MMP10	0.362785	2.073727	2.515038	9.07E-10	1.80E-08
MOGAT2	15.35197	7.229818	-1.08639	2.89E-06	1.90E-05
GRAMD1B	0.706938	1.42943	1.015783	4.20E-05	0.000195
SEC14L2	51.76177	22.05453	-1.23081	6.16E-12	2.44E-10
PAGE4	31.68013	9.167831	-1.78893	0.000647	0.002102
MCM2	3.003397	6.50629	1.11524	9.36E-12	3.48E-10
FMO1	1.230312	3.56073	1.533149	1.71E-06	1.21E-05
ITPR3	0.998445	2.876247	1.526433	4.48E-08	5.30E-07
LARP6	0.821829	1.823708	1.149965	9.34E-06	5.27E-05
BCYRN1	1.343671	7.290299	2.439798	4.81E-05	0.00022

IGHV3-43	2.276932	4.850398	1.091012	0.003071	0.008063
CDKN2A	3.470499	7.556173	1.122513	2.07E-09	3.65E-08
FAM163B	1.457763	0.526366	-1.46962	0.000591	0.001943
KIF20A	2.801702	6.133025	1.130296	6.28E-16	1.21E-13
AZGP1P2	1.544181	0.729326	-1.08221	1.68E-09	3.07E-08
PCLAF	1.135756	2.357908	1.053855	5.06E-14	3.79E-12
NXPH4	2.706361	6.72553	1.313293	5.58E-09	8.61E-08
GUCY2C	0.775673	2.114335	1.446684	1.70E-06	1.21E-05
AOX1	288.0837	120.1292	-1.2619	3.88E-13	2.21E-11
P2RY6	0.790094	1.730711	1.131268	2.49E-05	0.000124
C4BPA	983.9363	441.3371	-1.15668	2.02E-14	1.72E-12
AC010547.2	0.822148	2.098053	1.351581	5.41E-05	0.000243
RDH5	2.742271	1.304217	-1.07219	1.81E-11	6.09E-10
SORD	28.88613	14.15998	-1.02856	5.82E-16	1.16E-13
BHLHE41	0.865312	2.095828	1.276228	5.39E-05	0.000243
KIF18B	1.331212	3.219737	1.274202	3.55E-17	1.60E-14
DNASE1L3	13.16957	4.774819	-1.46369	1.86E-15	2.51E-13
HSD11B1	468.0404	183.3142	-1.35231	7.73E-08	8.50E-07
LAMC2	0.742431	2.811378	1.920948	0.000792	0.002511
ECM2	10.88386	5.314386	-1.03422	1.41E-12	6.80E-11
MIR210HG	1.304645	3.066234	1.232811	1.85E-09	3.31E-08
OPRPN	15.38808	1.338263	-3.52338	0.006511	0.015144
S100A9	26.87792	132.1383	2.297556	2.18E-06	1.50E-05
SLC25A47	140.4634	59.19808	-1.24657	8.97E-06	5.09E-05
PKIB	2.09478	5.920604	1.498946	4.91E-07	4.11E-06
APOC1P1	157.5024	72.66678	-1.11601	6.88E-06	4.04E-05
PNCK	0.394419	2.744927	2.798967	5.82E-06	3.48E-05
SULT1B1	6.14209	2.74904	-1.1598	1.12E-07	1.16E-06
MROH2A	3.321967	0.976556	-1.76626	0.007301	0.016681

NDUFA4L2	10.90247	22.35647	1.036037	0.001392	0.004105
ALAS1	229.6634	106.5384	-1.10815	1.94E-15	2.60E-13
NEB	0.560114	1.661666	1.568837	8.59E-09	1.25E-07
SDS	419.552	182.6206	-1.2	0.000442	0.001517
SLC6A13	4.158297	1.848879	-1.16934	3.61E-10	8.11E-09
GGT6	0.616794	1.409903	1.192737	0.010145	0.022047
BCAT1	0.660851	1.455788	1.139403	0.00013	0.000523
PLK4	0.666123	1.39942	1.070968	5.62E-14	4.10E-12
AC016885.3	1.003672	2.741343	1.449594	1.45E-06	1.05E-05
SFN	24.94394	58.3948	1.227151	7.18E-08	7.99E-07
IL20RB	0.864919	1.902909	1.13757	2.41E-08	3.08E-07
AL445493.3	1.475862	0.734195	-1.00732	2.85E-13	1.65E-11
CHGA	1.415515	5.6816	2.004971	0.024005	0.045469
SLC10A1	166.8239	63.70033	-1.38895	1.32E-13	8.79E-12
PLCD3	1.154128	2.380436	1.044423	0.001159	0.0035
SFRP2	0.882833	2.126972	1.268588	0.013497	0.028037
LINC00942	1.756851	5.931543	1.755416	0.002532	0.006823
CTSV	0.751164	2.849702	1.923611	3.02E-05	0.000147
C6	113.1071	54.84685	-1.04421	2.83E-09	4.79E-08
CBX2	0.924252	2.217807	1.262775	1.56E-10	3.91E-09
PPP1R3G	14.06671	6.92406	-1.0226	5.29E-07	4.37E-06
DCXR	740.5747	365.115	-1.02029	5.06E-09	7.97E-08
MAGEA6	3.81558	9.900102	1.375541	2.02E-06	1.40E-05
G6PD	8.224232	30.3121	1.881941	6.11E-20	1.03E-16
CA9	3.895085	24.85973	2.674083	2.92E-13	1.69E-11
S100A11	111.8108	238.5992	1.093529	1.05E-05	5.83E-05
TAT	291.1033	137.2524	-1.0847	4.51E-11	1.36E-09
FRG1GP	1.164521	3.274942	1.491732	1.26E-06	9.34E-06
SKA1	1.886187	4.334887	1.200521	1.74E-15	2.38E-13

KRT17	1.034379	3.868444	1.902989	3.17E-05	0.000153
C2CD4A	1.755519	3.578303	1.027378	0.000429	0.001476
IGFBPL1	1.293892	3.154346	1.285623	0.0056	0.013364
LRRC3	10.4288	5.125695	-1.02475	9.50E-16	1.57E-13
DEFB132	2.072441	0.559759	-1.88845	9.18E-07	7.09E-06
NCAPG	1.636781	3.733622	1.189715	3.17E-15	3.97E-13
LIF	1.501151	3.772135	1.329312	3.09E-08	3.80E-07
FCGBP	0.757282	2.681753	1.824273	1.23E-11	4.40E-10
CYP39A1	10.41434	5.108462	-1.02761	0.001074	0.003279
AC092868.1	0.956627	2.339281	1.290037	3.79E-06	2.41E-05
RIBC2	0.629184	1.746312	1.472757	1.84E-11	6.17E-10
ANO9	0.865646	1.845352	1.092048	5.74E-08	6.58E-07
CDCA3	1.628289	3.386314	1.056359	5.03E-15	5.74E-13
FZD7	1.07897	2.23954	1.053548	0.000422	0.001455
PPP1R14D	1.000377	2.761492	1.464904	8.75E-06	5.00E-05
AP000769.1	1.435603	3.175854	1.145488	1.42E-09	2.67E-08
AQP9	289.7909	112.6601	-1.36304	2.10E-13	1.27E-11
SGO1	0.63436	1.414739	1.157162	3.08E-15	3.93E-13
EXO1	1.259154	2.587364	1.039028	1.03E-14	9.96E-13
PCK1	233.2059	106.2238	-1.1345	6.30E-15	6.86E-13
NEURL3	2.158172	5.933223	1.459006	1.18E-06	8.77E-06
C1orf116	0.941483	2.243876	1.252985	0.002071	0.005764
PFN2	3.414601	8.434862	1.304647	1.35E-05	7.26E-05
SLC44A5	0.80162	1.856846	1.211865	2.75E-08	3.45E-07
MEP1A	2.414226	7.643078	1.662593	7.17E-05	0.000311
MT2P1	13.61263	5.451355	-1.32026	0.016277	0.032803
KIF3C	0.611024	1.507248	1.302617	0.000251	0.000921
PNMA5	0.552228	3.382959	2.61495	0.000457	0.001558
COLEC10	2.43602	0.704809	-1.78922	2.47E-05	0.000123

KIRREL2	0.056526	3.904844	6.110207	0.004046	0.01013
ARHGAP11A	1.093669	2.295883	1.069873	2.20E-16	5.90E-14
CDCP1	0.724506	1.601279	1.144154	6.32E-07	5.11E-06
PLAUR	1.658811	3.586501	1.112427	3.15E-07	2.80E-06
CTNND2	1.487281	3.076451	1.04859	0.000146	0.000577
SLFN13	0.671842	2.002277	1.575447	9.00E-05	0.000379
ASPDH	57.48721	26.66201	-1.10846	2.26E-12	1.01E-10
CDC7	1.319278	2.697366	1.031803	3.26E-17	1.53E-14
SNAP25	1.499741	3.562598	1.248216	0.009327	0.020525
LAMP5	0.254655	3.615339	3.827514	0.000129	0.000517
AC015912.3	1.570352	3.396429	1.112931	0.012207	0.025766
TNFRSF11B	3.240273	7.14627	1.141075	0.000721	0.002308
UHRF1	1.215696	2.909014	1.258747	7.62E-15	8.00E-13
C6orf223	0.895345	2.47044	1.464253	9.50E-10	1.88E-08
THBS4	5.853009	2.221251	-1.39781	0.001424	0.004185
PTHLH	0.344642	2.231641	2.694935	4.43E-07	3.79E-06
MLLT11	1.71005	3.451244	1.013078	4.62E-06	2.86E-05
FOLR1	0.665043	2.400605	1.851878	5.74E-05	0.000256
GLRB	0.743066	1.851847	1.317402	1.45E-06	1.05E-05
EGLN3	1.117569	3.544892	1.665379	1.30E-08	1.79E-07
FOLH1B	2.568526	0.967873	-1.40805	4.77E-07	4.01E-06
UNC13D	1.301918	2.726224	1.066266	7.75E-05	0.000333
CTSE	0.982008	2.032984	1.049792	0.000458	0.001563
GAS2L3	0.874616	1.849877	1.080708	1.46E-17	8.56E-15
WDHD1	0.725904	1.54384	1.088672	5.46E-17	2.27E-14
FOXD2-AS1	1.306265	3.625668	1.472799	9.55E-29	5.61E-25
OLFML2B	3.330366	7.009732	1.073679	0.000101	0.000418
ZIC2	1.805222	3.891945	1.108315	1.72E-08	2.29E-07
STIL	0.674274	1.381924	1.035271	1.61E-16	4.97E-14

SSTR5-AS1	1.25615	2.775916	1.143956	0.016535	0.033238
SPARCL1	96.85709	41.73916	-1.21446	1.80E-06	1.26E-05
MAFA	1.217664	2.475984	1.023885	0.00203	0.005675
CDCA7	1.10724	2.387363	1.10845	3.69E-05	0.000175
CDC20	7.697373	24.32545	1.660028	3.09E-20	7.26E-17
SLC13A5	49.17249	23.1907	-1.08431	1.15E-13	8.02E-12
LINC01549	2.188218	0.781444	-1.48554	0.000116	0.000472
EPO	1.851189	5.648535	1.609425	1.12E-06	8.43E-06
SLC27A5	109.1428	39.28333	-1.47423	3.86E-19	4.54E-16
MUC1	0.611082	3.528973	2.52981	0.000588	0.001933
PIF1	0.648097	1.389206	1.09998	2.47E-15	3.27E-13
ELFN1	11.5808	4.477226	-1.37106	1.47E-12	7.04E-11
MUC5B	1.390157	10.04302	2.852873	0.000402	0.001394
ELF4	1.334315	2.672726	1.002212	8.74E-06	5.00E-05
CXCL6	3.641344	10.40848	1.515217	0.004704	0.011529
TTC36	9.9226	2.716606	-1.86891	4.63E-10	1.01E-08
TNNT1	0.684424	1.807908	1.40136	0.000102	0.000421
ZG16	8.295783	4.020525	-1.04499	1.06E-07	1.11E-06
ZG16B	0.53806	1.950641	1.85811	4.77E-06	2.93E-05
CA14	4.999103	2.463752	-1.02081	3.04E-07	2.71E-06
PF4V1	0.594862	1.656006	1.47708	0.014883	0.030453
CUX2	11.90304	5.523385	-1.10771	5.40E-10	1.16E-08
PLBD1	3.026156	7.559236	1.320754	1.48E-09	2.76E-08
C5orf30	0.978509	2.44289	1.319932	1.46E-10	3.69E-09
PACRG	1.849132	0.599631	-1.6247	1.22E-12	5.95E-11
SEMA6A	1.391433	3.436825	1.304505	0.003314	0.008575
CTAG2	2.645684	14.0648	2.410376	1.56E-07	1.55E-06
GCNT3	0.797271	2.944165	1.884717	9.66E-10	1.90E-08
HAGLR	1.299223	2.894992	1.15591	0.002056	0.005733

ACSS1	2.282815	4.662118	1.030171	1.18E-08	1.65E-07
DEPDC1	0.727931	1.953911	1.42449	1.31E-15	1.97E-13
NCAPH	1.045925	2.306945	1.141204	5.78E-15	6.47E-13
SPIB	0.355695	1.846421	2.376017	0.000672	0.00217
FCN2	5.591473	1.693475	-1.72324	1.13E-07	1.17E-06
HPR	386.8704	162.3727	-1.25254	6.64E-14	4.70E-12
ADH1C	620.0807	298.5151	-1.05465	3.18E-10	7.30E-09
SHCBP1	0.629003	1.635097	1.378237	4.95E-15	5.70E-13
UROC1	29.09774	12.54661	-1.21361	4.57E-08	5.39E-07
TREH	3.136985	1.291565	-1.28026	2.29E-05	0.000116
PITX1	1.621223	3.461837	1.094455	5.59E-05	0.000251
AC011591.1	3.614692	1.432728	-1.33511	4.50E-06	2.80E-05
NCEH1	2.214618	5.387764	1.282629	5.04E-07	4.20E-06
UGT1A3	3.144145	0.922054	-1.76974	4.45E-08	5.28E-07
F9	117.5821	54.71656	-1.10362	5.75E-11	1.67E-09
MAGEA3	5.241945	12.01001	1.196063	2.24E-06	1.53E-05
UCHL1	1.3919	22.79444	4.033554	0.008195	0.018372
MMP9	5.735297	12.78698	1.156735	1.89E-07	1.82E-06
TMC5	1.445381	2.939798	1.024267	1.60E-05	8.46E-05
SLC6A2	4.328506	1.213273	-1.83496	0.019198	0.0376
ENO2	1.014159	3.504996	1.789129	2.96E-08	3.66E-07
COL9A2	0.7881	2.831223	1.844975	6.59E-12	2.60E-10
B3GNT7	1.130993	2.588067	1.194285	9.42E-05	0.000394
CFTR	0.689491	3.952227	2.519062	0.011463	0.024455
ANLN	1.895837	4.617595	1.284307	3.09E-16	7.56E-14
MAGEB2	1.25193	5.513864	2.138909	8.46E-06	4.86E-05
SSX1	6.290177	19.43352	1.627375	0.000542	0.001801
CRHBP	4.278425	1.036401	-2.0455	3.41E-10	7.71E-09
STEAP4	1.946029	0.949064	-1.03596	2.34E-08	2.99E-07

ABCG2	10.7481	4.620519	-1.21795	3.20E-10	7.34E-09
AL139161.1	3.163568	1.481127	-1.09486	8.02E-10	1.63E-08
TTK	1.197089	2.626648	1.133692	5.00E-14	3.77E-12
AC004862.1	4.111654	1.499987	-1.45477	1.02E-07	1.08E-06
MMP7	7.010526	14.22087	1.020415	0.002058	0.005735
SLC25A24	0.860954	1.982836	1.203556	1.00E-06	7.69E-06
CCNA2	3.917493	9.778664	1.319707	2.40E-14	1.97E-12
PKMYT1	1.113246	2.228636	1.001388	1.32E-13	8.79E-12
MELK	2.321775	5.171755	1.155426	1.36E-15	2.00E-13
AC008549.1	15.14334	5.523	-1.45516	2.71E-09	4.61E-08
OLR1	0.590762	1.8139	1.618447	0.012027	0.02546
PSORS1C3	0.935064	1.968739	1.074135	0.00019	0.000729
C15orf48	1.469242	3.432571	1.224218	6.48E-07	5.23E-06
C16orf89	0.273237	6.179839	4.499342	0.005655	0.013477
TUBA3C	0.616195	7.234069	3.553347	6.95E-09	1.05E-07
EPHB6	1.357068	2.930327	1.110569	1.82E-05	9.44E-05
MMP14	21.1455	44.7113	1.080288	2.90E-05	0.000142
CYP1A1	39.86342	17.95197	-1.15092	1.35E-07	1.37E-06
LINC02041	0.86866	2.18388	1.330031	4.54E-05	0.000209
DEPDC1B	1.398514	3.256582	1.219464	9.09E-16	1.53E-13
GNMT	160.9384	77.6024	-1.05234	2.55E-08	3.23E-07
CHST4	1.26845	2.985368	1.234842	4.70E-07	3.96E-06
RBPJL	0.026112	3.901657	7.223238	0.018988	0.03725
AC004832.5	2.693609	1.268989	-1.08586	6.42E-10	1.34E-08
CKAP2L	0.894542	1.83407	1.035828	1.37E-13	9.03E-12
ZFPM2-AS1	0.991301	2.823118	1.509894	8.09E-05	0.000346
KIFC1	5.254329	11.53361	1.134265	8.31E-16	1.46E-13
TMEM100	2.875519	1.028517	-1.48326	1.64E-07	1.61E-06
SULF1	1.972043	4.29234	1.122073	1.12E-05	6.19E-05

ETNPPL	53.204	25.42839	-1.06509	1.41E-07	1.42E-06
TMEM132A	1.823805	4.799363	1.395892	0.001564	0.004532
DUSP4	0.791071	1.674711	1.082033	0.009704	0.021199
UGT1A4	48.61733	17.67971	-1.45938	1.08E-10	2.85E-09
MMP1	0.521968	2.218455	2.087521	1.40E-09	2.63E-08
NEK2	2.874563	5.901321	1.037695	2.10E-13	1.27E-11
AL035446.1	1.011378	2.215656	1.131412	0.016822	0.033693
SGPP2	0.779808	3.238281	2.054038	8.82E-08	9.52E-07
PTGS1	0.947924	1.903245	1.005618	9.19E-05	0.000386
CDCA8	3.355191	8.379569	1.320481	8.37E-21	2.46E-17
G6PC	279.4219	123.5044	-1.17788	1.14E-14	1.05E-12
PFKFB4	0.693389	1.613601	1.218547	2.95E-11	9.32E-10
SPP2	157.6088	71.10393	-1.14835	7.27E-10	1.50E-08
C3orf85	1.538342	0.745783	-1.04455	1.10E-05	6.07E-05
GLYAT	54.23303	21.71043	-1.32078	3.40E-11	1.06E-09
AP003555.3	1.538374	0.686626	-1.16381	0.016934	0.033866
CXCL5	1.324496	6.585424	2.313833	5.72E-05	0.000256
PFKFB3	5.723364	11.92417	1.058953	2.76E-05	0.000136
CSAG1	3.144991	10.12806	1.68723	6.15E-05	0.000271
SLC1A2	7.074274	2.513961	-1.49262	6.44E-10	1.35E-08
CLDN2	52.41498	25.15317	-1.05924	2.20E-06	1.51E-05
KIF15	0.661252	1.685891	1.350239	6.28E-16	1.21E-13
FRMD3	1.859298	0.780222	-1.2528	0.004457	0.011015
PFKP	2.216862	4.544919	1.035736	0.004755	0.011634
CIP2A	0.706323	1.734312	1.295964	5.78E-19	6.18E-16
FDCSP	8.053263	31.86495	1.984325	0.000564	0.001863
KIF4A	2.408914	5.736991	1.251912	1.28E-16	4.31E-14
PRSS3	5.073415	12.15435	1.260444	0.012023	0.025455
TROAP	2.094083	4.519008	1.109687	3.97E-16	8.81E-14

RGS2	9.460341	20.45901	1.112773	5.65E-07	4.62E-06
ALOX15B	1.652648	3.936749	1.252225	0.00012	0.000486
TRIP13	1.7131	3.979792	1.216083	1.67E-14	1.50E-12
AL162582.1	4.36954	2.144867	-1.02659	0.000131	0.000524
AC010247.2	0.57091	1.920744	1.750329	0.000285	0.001032
HP	3197.012	1491.732	-1.09974	2.00E-09	3.55E-08
PDIA2	0.746692	4.193804	2.489674	3.57E-06	2.28E-05
AP001065.1	7.479377	2.072785	-1.85135	1.09E-30	1.28E-26
TMEM158	0.638458	2.233189	1.806441	0.002156	0.005961
ORC6	0.818576	1.705396	1.058918	7.64E-16	1.38E-13
DNM1	0.595133	1.650203	1.471359	4.76E-05	0.000218
CDH17	0.125794	1.939857	3.94682	0.000648	0.002104
TRIM45	0.990599	2.169202	1.130792	3.32E-14	2.62E-12
WDR62	0.769316	1.616412	1.071147	3.26E-16	7.70E-14
TRAV30	1.085602	2.511101	1.209826	0.001655	0.004748
SLC6A12	19.25963	9.069098	-1.08655	1.19E-13	8.16E-12
CYP3A4	897.1367	152.3632	-2.55781	6.14E-11	1.74E-09
VAV3	0.717765	1.585314	1.143186	0.008234	0.018444
PLK1	1.887628	4.537823	1.265426	1.69E-17	9.27E-15
DSG1	3.386324	1.247027	-1.44123	1.63E-13	1.04E-11
GTSE1	1.323149	3.003072	1.182464	5.95E-18	4.00E-15
TSC22D3	44.58863	22.08854	-1.01338	7.32E-08	8.12E-07
PAGE2B	0.885415	14.27323	4.010814	0.00023	0.000856
KIF11	1.690324	3.587622	1.085728	1.41E-16	4.60E-14
CRYBB1	0.257459	3.597528	3.804589	0.005839	0.013853
LINC00844	4.386134	1.074714	-2.029	9.83E-08	1.05E-06
MAGEC1	0.852064	2.423029	1.507779	0.001642	0.004723
ITGB4	2.927074	6.811586	1.218532	0.00222	0.006098
MTHFD1	27.64342	13.77248	-1.00515	2.22E-13	1.33E-11

CTH	75.26676	30.54076	-1.30128	1.01E-10	2.70E-09
CYP2C8	245.558	109.1992	-1.1691	4.13E-11	1.25E-09
KRT20	3.305549	8.468111	1.35715	0.001169	0.003522
NFE2L3	1.181136	2.528245	1.097961	1.16E-07	1.20E-06
ADH4	588.8193	220.287	-1.41844	1.62E-09	2.98E-08
DMGDH	34.84574	17.38501	-1.00314	1.86E-13	1.15E-11
CYP2A13	5.988708	2.309808	-1.37447	1.76E-05	9.18E-05
C12orf75	4.481637	12.2414	1.44967	6.93E-08	7.76E-07
CA12	3.394723	8.005371	1.237675	0.000257	0.000941
PAPLN	1.297262	3.420889	1.398901	3.09E-06	2.02E-05
CDCA7L	1.201688	2.694946	1.165194	2.89E-09	4.88E-08
ADORA2BP1	4.650129	2.269773	-1.03472	1.54E-07	1.53E-06
MCUB	1.246406	2.510648	1.010286	2.87E-07	2.58E-06
PAQR5	1.543062	3.321697	1.106124	1.23E-08	1.70E-07
CENPM	4.171865	9.237199	1.146763	3.52E-16	7.96E-14
PRAME	2.675566	6.111071	1.191581	0.000112	0.000459
ASS1	605.4547	291.2584	-1.05572	5.34E-11	1.57E-09
ARL14	0.798914	4.248473	2.410832	7.75E-06	4.49E-05
APLP1	0.957096	3.420609	1.837517	0.00118	0.003548
GADD45G	114.63	54.41142	-1.075	6.61E-09	9.99E-08
ADRA1A	2.091759	0.907722	-1.20439	5.03E-07	4.19E-06
OLFM4	0.063003	7.694475	6.932263	0.002259	0.006191
DUSP9	9.740651	23.89424	1.294573	0.008025	0.018043
KCNU1	2.238914	0.459272	-2.28538	0.000982	0.003029
BUB1B	1.023112	2.391778	1.225119	2.79E-16	7.02E-14
SYT1	0.693041	1.543536	1.155227	3.91E-05	0.000184
CDK1	4.115612	8.679847	1.076563	1.60E-14	1.45E-12
PRSS2	0.125402	24.66281	7.61963	0.007905	0.017796
PDK4	75.30532	29.78688	-1.33807	2.36E-11	7.59E-10

AP001783.1	22.58374	9.651073	-1.22652	3.69E-05	0.000175
HEPACAM	4.704121	1.12781	-2.0604	1.57E-06	1.12E-05
LPAR2	1.74907	3.63819	1.056633	5.60E-08	6.47E-07
IL4I1	1.390528	4.454255	1.679551	1.79E-11	6.04E-10
AMACR	3.738425	1.851609	-1.01365	2.29E-07	2.12E-06
KRT80	0.674995	2.786789	2.045655	4.20E-06	2.63E-05
TMIE	1.07878	2.196198	1.025607	0.001295	0.003847
DPT	2.394489	1.180265	-1.02061	0.021125	0.040756
ACSL5	52.5853	24.82796	-1.08269	2.19E-11	7.15E-10
TMEM156	2.237961	4.504161	1.009074	0.00086	0.002701
PKM	16.43722	53.81862	1.711139	2.88E-15	3.73E-13
PIK3CD-AS2	0.591239	1.542026	1.383015	3.18E-05	0.000154
SLC16A3	1.82711	4.202661	1.20174	4.18E-09	6.81E-08
TFF2	2.182935	14.8711	2.76817	5.32E-07	4.38E-06
PIMREG	0.624791	1.499245	1.26279	7.42E-10	1.52E-08
CCNB2	3.893001	8.35836	1.102337	9.84E-16	1.60E-13
INAVA	1.275932	3.153236	1.305282	1.83E-10	4.47E-09
SPINT1	9.890221	20.46144	1.048833	1.15E-05	6.33E-05
MYH3	1.662616	0.793762	-1.06668	0.000769	0.002447
LEPR	31.17519	12.8712	-1.27625	1.79E-11	6.04E-10
MSC	3.574884	21.0899	2.560584	9.10E-06	5.16E-05
AC105118.1	0.775173	4.211483	2.441737	0.000504	0.00169
MFAP2	0.74834	1.57603	1.07453	0.002592	0.006958
PGM5	1.770382	0.688711	-1.36209	1.27E-10	3.28E-09
HPX	1416.574	627.1195	-1.17559	1.72E-16	5.19E-14
CDC45	2.196694	4.553397	1.051609	5.53E-15	6.26E-13
AC016735.1	2.158698	4.369521	1.017314	0.000654	0.002119
ANXA13	8.016841	16.44399	1.036455	0.000319	0.001136
TACC3	3.892539	8.019973	1.042886	5.51E-17	2.27E-14

CFHR4	34.86308	16.20135	-1.10559	9.66E-13	4.92E-11
ABCA8	4.880196	1.988861	-1.295	2.52E-13	1.47E-11
CDT1	4.792282	10.45132	1.1249	1.11E-15	1.72E-13
SORD2P	9.505579	3.961136	-1.26286	5.63E-08	6.49E-07
C8A	206.4811	86.91417	-1.24835	1.99E-16	5.70E-14
DLGAP5	1.616181	4.015765	1.313086	1.73E-17	9.27E-15
WFDC21P	0.919892	2.231682	1.278595	0.000112	0.000457
ORC1	1.275939	2.924199	1.196482	5.59E-17	2.27E-14
CYP8B1	175.1497	80.58937	-1.11993	7.02E-10	1.45E-08
DCAF4L2	3.424867	7.129222	1.057697	0.000498	0.001675
DUOXA2	1.00542	4.586228	2.18951	0.017592	0.034884
SGO2	0.724887	1.547919	1.094501	7.92E-16	1.41E-13
SLC1A5	6.353261	17.52764	1.464062	7.20E-12	2.80E-10
CXCL1	7.263707	17.68424	1.283687	0.00016	0.000626
ZNF385B	3.671949	1.79312	-1.03407	1.01E-05	5.66E-05
IGFBP1	884.8421	417.0329	-1.08526	1.29E-09	2.44E-08
HGD	307.8025	144.101	-1.09493	2.19E-18	1.84E-15
ZNF888	0.787003	1.77962	1.177129	1.09E-07	1.14E-06
TM4SF20	2.124045	12.38563	2.543781	5.62E-06	3.38E-05
CDCA2	0.663793	1.538854	1.213052	1.12E-14	1.05E-12
ABCB11	22.02191	10.96773	-1.00568	6.60E-10	1.38E-08
HTR2B	1.52496	0.649364	-1.23167	0.004388	0.010858
SLC7A1	1.311776	2.717673	1.05085	4.52E-07	3.84E-06
CPA2	0.965251	11.22861	3.54013	0.001147	0.003465
KEL	0.941653	2.651115	1.493333	0.002717	0.007242
FRG1FP	0.865593	3.215338	1.893209	9.85E-08	1.05E-06
GBP5	1.344269	3.463498	1.365408	0.007948	0.017886
LINC00665	0.815398	1.65927	1.024972	4.76E-06	2.92E-05
TM6SF2	8.994084	3.923215	-1.19694	7.06E-12	2.76E-10

SPP1	281.5839	656.0205	1.220176	2.67E-08	3.37E-07
SLC16A11	24.06078	10.32768	-1.22017	0.000104	0.000427
ASF1B	4.860467	10.66723	1.134019	1.72E-15	2.38E-13
S100A8	3.976043	17.20111	2.113096	0.006503	0.015126
AGR2	1.166751	25.42992	4.445958	0.000266	0.000969
ITGA3	1.624906	5.457722	1.747943	0.003349	0.008637
LINC01287	0.846063	2.396889	1.502326	2.17E-07	2.03E-06
SCRN1	1.840873	4.080513	1.148361	0.008012	0.018024
ASRGL1	0.91222	2.184315	1.259727	3.75E-09	6.22E-08
TESC	15.21257	33.1846	1.12525	0.013986	0.028899
COX7B2	6.341277	16.15671	1.349288	8.34E-07	6.53E-06
PRR11	1.302393	3.016628	1.211772	2.23E-16	5.90E-14
DDR1	4.784118	9.67942	1.016668	3.89E-05	0.000183
SAA1	3721.686	1376.17	-1.4353	0.021906	0.042056
CTSK	1.882918	3.835095	1.026292	0.006944	0.015977
MAGEC2	3.663342	10.17029	1.473128	0.002104	0.005835
LINC01436	0.700146	4.352589	2.636145	0.001087	0.003311
KIF2C	2.217301	6.336605	1.514905	4.56E-20	8.94E-17
MT2A	1323.164	611.3507	-1.11392	0.002669	0.007128
TTC39A	1.275548	2.94268	1.206014	4.26E-08	5.08E-07
FAM83A-AS1	11.10578	3.614719	-1.61935	5.78E-05	0.000258
CYP3A5	69.0606	34.05402	-1.02004	3.34E-10	7.61E-09
AC009686.2	0.733677	1.569895	1.097452	0.000498	0.001675
ARNT2	0.532981	1.548345	1.53857	6.23E-05	0.000275
UBE2C	12.88919	28.17187	1.128094	1.01E-12	5.07E-11
SYT13	0.915531	3.920398	2.09832	0.000145	0.000573
AC013275.1	0.44282	1.614788	1.866554	1.47E-06	1.06E-05
PHLDA2	8.742898	19.01685	1.121095	1.13E-06	8.51E-06
SULT1C2	2.380471	4.912311	1.045155	1.60E-07	1.57E-06

AL355102.4	1.560889	3.587114	1.200456	3.57E-07	3.11E-06
LINC02506	1.109625	2.603029	1.230118	3.38E-06	2.18E-05
TPBG	0.602734	1.972497	1.710429	1.10E-05	6.06E-05
VNN2	6.266256	13.57881	1.115682	1.95E-09	3.48E-08
