



Figure S1 Heatmap of DElncRNAs.

Table S1 239 ferroptosis-related mRNAs in WT patients

RPL8	GLS2	EGFR	TLR4	MT1G	CA9	SLC1A4	IL33
IREB2	GOT1	MAPK3	ATF3	SLC40A1	TMBIM4	PCK2	HAMP
ATP5MC3	CARS1	MAPK1	ATM	CISD1	PLIN2	TXNIP	STEAP3
CS	ALOX5	BID	YY1AP1	FANCD2	AIFM2	VLDLR	DRD5
EMC2	KEAP1	ZEB1	EGLN2	HSPA5	LAMP2	GPT2	DRD4
ACSF2	HMOX1	DPP4	MIOX	ATF4	ZFP36	PSAT1	MAP3K5
NOX1	ATG5	CDKN2A	TAZ	HELLS	PROM2	LURAP1L	SLC2A1
CYBB	ATG7	PEBP1	MTDH	SCD	CHMP5	SLC7A5	SLC2A3
NOX3	NCOA4	SOCS1	IDH1	FADS2	CHMP6	HERPUD1	SLC2A6
NOX4	ALOX12	CDO1	SIRT1	SRC	CAV1	ZNF419	SLC2A8
NOX5	ALOX12B	MYB	FBXW7	STAT3	GCH1	KLHL24	SLC2A12
DUOX1	ALOX15	MAPK8	PANX1	PML	PTGS2	TRIB3	SLC2A14
DUOX2	ALOX15B	MAPK9	DNAJB6	MTOR	DUSP1	ZFP69B	EIF2AK4
G6PD	ALOXE3	CHAC1	BACH1	NFS1	NOS2	ATP6V1G2	TFAP2C
PGD	PHKG2	MAPK14	LONP1	TP63	NCF2	VEGFA	SP1
VDAC2	ACO1	PRKAA2	SLC7A11	CDKN1A	MT3	GDF15	HBA1
PIK3CA	ULK1	PRKAA1	GPX4	ENPP2	UBC	TUBE1	NNMT
FLT3	ATG3	ELAVL1	AKR1C1	FH	ALB	ARRDC3	PLIN4
SCP2	ATG4D	BAP1	AKR1C2	CISD2	TXNRD1	CEBPG	HIC1
TP53	BECN1	ABCC1	AKR1C3	CBS	SRXN1	RGS4	STMN1
ACSL4	MAP1LC3A	ACVR1B	RB1	ISCU	GPX2	BLOC1S5-TXNDC5	RRM2
LPCAT3	GABARAPL2	TGFBR1	HSPB1	ACSL3	BNIP3	EIF2S1	CAPG
NRAS	GABARAPL1	EPAS1	HSF1	OTUB1	OXSRI	IL6	HNF4A
KRAS	ATG16L1	HILPDA	GCLC	CD44	SELENOS	CXCL2	NGB
HRAS	WIPI1	HIF1A	NFE2L2	BRD4	ANGPTL7	RELA	YWHAE
TF	WIPI2	IFNG	SQSTM1	PRDX6	DDIT4	HSD17B11	GABPB1
TFRC	SNX4	ANO6	NQO1	SESN2	ASNS	AGPAT3	AURKA
TFR2	ATG13	LPIN1	FTH1	NF2	TSC22D3	SETD1B	RIPK1
SLC38A1	ULK2	HMGB1	MUC1	ARNTL	DDIT3	FTL	PRDX1
SLC1A5	SAT1	TNFAIP3	SLC3A2	JUN	JDP2	MAFG	

Table S2 The ferroptosis-related lncRNAs

gene	HR	95%CI	z	pvalue
NRAD1	1.037941933	0.85–1.27	0.363611612	0.716148054
LINC01983	0.894186494	0.65–1.23	–0.690984642	0.489575193
AL035661.1	0.857448445	0.72–1.03	–1.680544902	0.092851346
AP000757.2	1.042868627	0.83–1.31	0.357562785	0.720670533
LINC01320	0.988969633	0.85–1.15	–0.148000682	0.88234223
AC012593.2	0.981226356	0.61–1.59	–0.077179599	0.938480671
AL353152.1	1.067501423	0.8–1.43	0.441677568	0.658722545
AC129507.3	0.863180159	0.69–1.08	–1.283605032	0.199280188
LINC00379	0.873243737	0.67–1.14	–1.007064322	0.313903865
LINC02532	0.996944875	0.86–1.15	–0.042105883	0.96641429
AC104794.5	0.996613219	0.8–1.25	–0.029526002	0.976445082
EGOT	1.160887353	0.95–1.42	1.461198878	0.143960871
LINC00885	1.028207673	0.75–1.41	0.170843842	0.864346555
LINC01342	0.874494298	0.66–1.15	–0.957254683	0.338438722
AL358334.2	1.016415345	0.82–1.25	0.15183461	0.879317384
AC118754.1	1.065340554	0.71–1.59	0.308418396	0.757763985
RRS1–AS1	0.932460154	0.7–1.23	–0.488766111	0.625007293
LRRK2–DT	0.980929587	0.83–1.15	–0.232278619	0.816321618
COLCA1	1.042187497	0.84–1.29	0.375032226	0.7076365
C15orf56	0.994442571	0.83–1.2	–0.059019327	0.952936714
FAM245A	0.911719461	0.66–1.26	–0.557075674	0.577475727
AC025580.1	0.93843679	0.76–1.16	–0.592573218	0.553466807
AC005083.1	0.909212216	0.78–1.06	–1.235981479	0.216465448
KRT7–AS	0.835779762	0.64–1.09	–1.336502434	0.181385106
AC064807.2	0.827913394	0.65–1.05	–1.533811732	0.125075976
AL355997.1	0.722505124	0.43–1.21	–1.237613686	0.215859337
ADAMTS9–AS1	0.900080656	0.75–1.09	–1.097827546	0.272279801
AC099329.2	0.969790783	0.76–1.24	–0.243258299	0.807805306
LINC00113	0.91682942	0.73–1.16	–0.728883763	0.466072768
AC027117.1	0.906802191	0.71–1.16	–0.766762528	0.44322272
LINC02275	0.959303465	0.75–1.22	–0.339827943	0.733986104
LINC–PINT	1.119041966	0.86–1.46	0.831246235	0.405834541
MIR22HG	1.036159524	0.82–1.32	0.290589938	0.771364957
LINC02568	0.99950958	0.81–1.24	–0.004542508	0.996375616
BX322562.1	1.083472697	0.83–1.41	0.596144823	0.551078483

Table S2 (continued)

Table S2 (continued)

gene	HR	95%CI	z	pvalue
LINC01637	1.265781896	0.98–1.63	1.812140634	0.069964469
LINC01137	1.051375631	0.81–1.36	0.376419779	0.706604844
AC020659.1	1.078991648	0.87–1.34	0.684147791	0.493881846
NR4A1AS	1.044856613	0.84–1.3	0.400154446	0.689042765
AC020779.2	0.970424946	0.69–1.37	-0.172061154	0.863389452
PRR34-AS1	0.881933446	0.72–1.08	-1.189669231	0.234176424
AL023803.2	1.032589826	0.72–1.48	0.17421492	0.861696561
AC020916.1	0.913781425	0.64–1.3	-0.502137418	0.615570861
AC092894.1	0.932257667	0.77–1.13	-0.699261561	0.484388585
AC005281.1	0.903058616	0.69–1.18	-0.758984349	0.44786192
AC104695.3	0.883491214	0.73–1.07	-1.259786873	0.207746257
AP000866.2	1.041412679	0.79–1.37	0.291047001	0.771015373
AC130371.2	1.03930014	0.84–1.28	0.364437757	0.715531145
AL162424.1	1.098637706	0.85–1.42	0.709783456	0.47783843
THRB-AS1	1.047497608	0.84–1.3	0.416205177	0.677259872
AC005920.3	0.838384039	0.53–1.33	-0.751106236	0.452588723
AC105384.1	1.237195967	0.96–1.6	1.635993816	0.101840882
AL109976.1	0.998026061	0.81–1.23	-0.018186732	0.985489887
WDFY3-AS2	0.938515142	0.59–1.49	-0.269643479	0.787434548
LINC01671	0.985870915	0.85–1.15	-0.184972873	0.853250313
LINC00844	0.75285266	0.57–0.99	-2.002642914	0.04521563
LINC01186	0.962531286	0.79–1.17	-0.387317133	0.698521443
LINC01121	1.252711864	0.98–1.6	1.801031131	0.071697973
AL139147.1	0.918827778	0.71–1.19	-0.65095142	0.515077847
AC093278.2	0.930103118	0.68–1.27	-0.450331946	0.652471108
AL353751.1	0.837543594	0.64–1.09	-1.301510883	0.193083642
AC087289.5	1.006528828	0.75–1.34	0.04433309	0.964638896
AL121672.1	0.875923578	0.69–1.11	-1.088486105	0.276380567
AP001347.1	1.074579863	0.79–1.47	0.454757639	0.649283609
AC007406.1	1.387061186	1.01–1.9	2.039801956	0.041370055
AC103563.7	0.829828832	0.71–0.97	-2.297957999	0.02156418
LINC00472	0.938818844	0.77–1.15	-0.616857193	0.537328924
AL390755.1	0.777678898	0.57–1.07	-1.546178481	0.122061469
AL031666.1	1.304362018	0.94–1.81	1.589032244	0.112053113
C5orf64-AS1	1.052660952	0.72–1.54	0.262602546	0.792856937

Table S2 (continued)

Table S2 (continued)

gene	HR	95%CI	z	pvalue
AL133215.2	0.997539512	0.69–1.44	–0.013039643	0.989596165
AL139246.5	1.234746745	0.96–1.59	1.638616859	0.101293079
AC104695.4	0.848221138	0.68–1.05	–1.498326557	0.134048427
AC027117.2	1.095977475	0.81–1.49	0.586180497	0.557754227
AP006333.3	1.08042184	0.88–1.33	0.738793266	0.460032541
AC024560.1	0.976239002	0.75–1.26	–0.182762906	0.854984055
AC111000.4	0.96334221	0.7–1.33	–0.227708003	0.81987325
AC009271.1	0.988185125	0.85–1.15	–0.15209503	0.879111984
MYCNOS	1.510732573	1.15–1.99	2.951687764	0.003160423
AC005208.1	0.692312074	0.51–0.94	–2.337228564	0.019427303
GAS6–DT	0.997209511	0.79–1.27	–0.023016059	0.981637463
AL121839.2	1.074352715	0.87–1.33	0.66294457	0.507366055
LINC02778	1.065448344	0.73–1.56	0.324793325	0.745337497
AC022144.1	1.048337479	0.82–1.35	0.370993257	0.710642554
LINC00310	1.309911904	0.94–1.83	1.578401344	0.114473437
AC124248.1	0.7283371	0.53–1.01	–1.916515164	0.055299555
AL355102.4	0.898701033	0.7–1.15	–0.848439368	0.396193326
LINC01224	1.019314184	0.8–1.3	0.154054134	0.877567052
ZNF571–AS1	1.010291546	0.75–1.36	0.067881754	0.945879763
AL450313.1	0.69188537	0.39–1.22	–1.2810508	0.200175823
AC053503.4	0.901963541	0.7–1.16	–0.799209994	0.424168658
LINC01918	1.081359229	0.86–1.36	0.658411803	0.510273553
AL161669.3	1.021392362	0.85–1.23	0.226657631	0.820689975
AC096531.2	0.705703854	0.52–0.96	–2.193584393	0.028265301
AL353803.1	1.063608262	0.85–1.32	0.552530407	0.580585007
AC027228.2	1.032935939	0.79–1.36	0.233414894	0.815439249
HNF1A–AS1	0.896374052	0.8–1	–1.88817294	0.059002737
LINC02182	1.186825307	0.95–1.48	1.502443548	0.132982597
AL031985.3	1.018897428	0.73–1.42	0.111535599	0.911191638
AL355974.2	1.182217065	0.81–1.73	0.866448905	0.386244035
LINC02038	1.017051777	0.77–1.35	0.11826206	0.905860018
AL136234.1	1.30374129	0.91–1.87	1.443912942	0.148763466
AC008556.1	0.933943837	0.72–1.2	–0.525942316	0.598928286
LINC01127	1.11788544	0.95–1.32	1.314932337	0.188532644
LINC02471	0.93906304	0.73–1.2	–0.494504332	0.620950048

Table S2 (continued)

Table S2 (continued)

gene	HR	95%CI	z	pvalue
AL596223.1	1.052190627	0.8–1.39	0.358170172	0.720215968
AC135507.1	1.006336338	0.71–1.42	0.035609124	0.971594033
AC100861.1	1.011034631	0.81–1.26	0.097756614	0.922125559
SNHG1	1.012146123	0.7–1.47	0.063657239	0.949243154
AC074135.1	1.004394287	0.81–1.24	0.040104017	0.968010199
DSCR8	1.010994998	0.91–1.12	0.205173329	0.837436707
STARD13-AS	0.832627386	0.63–1.09	-1.313867203	0.188890897
NAV2-AS3	1.266869309	1.02–1.58	2.109190481	0.034928143
AL162586.1	1.004384817	0.71–1.41	0.025121577	0.97995799
INKA2-AS1	0.988865899	0.74–1.33	-0.07492887	0.940271306
FRY-AS1	1.119558649	0.9–1.4	0.997781332	0.318385404
SNHG6	0.708810352	0.48–1.05	-1.696618504	0.089768809
LINC01357	0.951815359	0.71–1.28	-0.330244711	0.741215066
CHL1-AS2	1.061935316	0.89–1.27	0.664029102	0.506671685
AL592424.1	0.889874171	0.65–1.22	-0.730553299	0.465052046
SNHG28	1.157523856	0.91–1.48	1.165706526	0.243733121
AL157373.2	1.001614002	0.75–1.34	0.010960102	0.991255279
LHFPL3-AS2	0.894915731	0.79–1.01	-1.786894356	0.073954565
AL590226.1	1.178970425	0.89–1.57	1.131892901	0.257679464
AL033384.1	1.051198097	0.87–1.27	0.508608004	0.611027017
AC023669.1	0.930670026	0.68–1.27	-0.450078795	0.652653626
BCAR3-AS1	0.997212067	0.79–1.26	-0.023443297	0.981296669
AL590438.1	0.905982601	0.66–1.24	-0.612460252	0.540233289
AC011611.2	1.116055315	0.94–1.32	1.267425669	0.205003126
LINC02418	0.951368816	0.83–1.09	-0.699119985	0.48447705
AC008649.2	1.117411392	0.89–1.41	0.949461276	0.342386058
SACS-AS1	0.866462944	0.7–1.08	-1.288281096	0.197648131
LINC01770	1.289014855	1.01–1.65	2.035245522	0.041826175
AC093627.7	0.903553543	0.76–1.08	-1.110095839	0.26695773
AC116563.1	1.140868467	0.98–1.33	1.685088232	0.09197155
LINC01738	1.060605235	0.89–1.27	0.646838497	0.517736474
AC022613.1	1.084733074	0.81–1.46	0.541866274	0.587910631
LINC01539	1.085846918	0.88–1.35	0.752802572	0.451568561
AC097059.1	0.998557979	0.8–1.24	-0.013026364	0.989606759
AP001363.2	1.078448332	0.87–1.34	0.674039924	0.500285932

Table S2 (continued)

Table S2 (continued)

gene	HR	95%CI	z	pvalue
FAM13A-AS1	0.799827385	0.57-1.13	-1.267619234	0.20493396
PTENP1-AS	1.008784194	0.83-1.22	0.089360332	0.928795548
CPNE8-AS1	0.949314602	0.78-1.16	-0.518715475	0.603959169
LINC01894	0.971851618	0.83-1.14	-0.35654492	0.721432518
DLGAP1-AS2	0.670458316	0.5-0.89	-2.723727301	0.006454978
ENTPD3-AS1	1.135762024	0.75-1.71	0.610995225	0.541202742
CASC19	0.997680227	0.73-1.36	-0.014591898	0.988357763
AL645940.1	1.077050975	0.78-1.49	0.450648079	0.652243209
AC104794.2	1.03553478	0.79-1.36	0.252128945	0.800941398
LINC02600	0.99644349	0.84-1.18	-0.042242896	0.966305067
HCP5	1.103702096	0.84-1.44	0.719909357	0.471580806
LINC01606	0.903354374	0.81-1.01	-1.845192248	0.065009578
UBL7-AS1	1.001175447	0.67-1.49	0.005795146	0.995376168
LINC02586	0.982011394	0.81-1.19	-0.181404727	0.856049909
AL357873.1	1.063481615	0.77-1.47	0.37584028	0.70703564
LINC02367	1.12235297	0.88-1.43	0.932979805	0.350830396
PCDH9-AS1	0.977947756	0.88-1.08	-0.427888289	0.668732454
AC008278.2	1.144625794	0.9-1.45	1.116670126	0.264135396
TMEM161B-AS1	0.962033657	0.61-1.51	-0.169165905	0.865666147
AL645504.1	0.951409521	0.75-1.21	-0.40004408	0.68912405
AC244090.1	1.094609075	0.71-1.68	0.41556891	0.677725481
AC010997.3	1.093333626	0.91-1.31	0.972098316	0.33100164
AP002761.4	0.81640952	0.69-0.97	-2.268737329	0.023284304
AC106791.1	1.368344343	0.96-1.94	1.759397506	0.078510015
AL359513.1	1.211243637	0.84-1.75	1.014457056	0.310364711
LINC02387	0.968019874	0.82-1.14	-0.385738711	0.699690191
LINC01991	1.063015498	0.84-1.35	0.496943137	0.619229151
SPINT1-AS1	1.086722826	0.85-1.4	0.649772801	0.51583899
AL117336.1	0.898765245	0.58-1.4	-0.473886028	0.635581183
MIR181A2HG	1.015680524	0.78-1.32	0.115045742	0.908408866
AL591686.1	1.055807447	0.91-1.22	0.741141196	0.458607833
LINC00662	0.995886255	0.58-1.72	-0.014755968	0.988226868
AC133552.5	1.483672342	1.06-2.08	2.289691409	0.022039212
AL391427.1	1.187482557	0.93-1.51	1.387716021	0.165223536
AC034213.1	1.167146648	0.89-1.53	1.120321865	0.262576628

Table S2 (continued)

Table S2 (continued)

gene	HR	95%CI	z	pvalue
STPG3-AS1	1.307195458	1.01-1.7	2.015606806	0.043841108
AC106875.1	0.948383323	0.8-1.13	-0.607128044	0.543765941
BX255923.1	1.035217443	0.85-1.25	0.354119439	0.723249375
LNCOG	0.959822127	0.78-1.19	-0.380573274	0.703519916
GIHCG	1.139778884	0.73-1.79	0.567338562	0.570484183
AL359076.1	1.082645244	0.81-1.44	0.540710231	0.588707326
RASGRF2-AS1	1.130001356	0.87-1.47	0.90907719	0.363309382
AL139275.2	1.015229617	0.83-1.24	0.145750505	0.88411835
AC021517.1	0.864532431	0.66-1.14	-1.046614053	0.295277618
SLC14A2-AS1	0.917298089	0.73-1.15	-0.735900737	0.461791109
NEXN-AS1	0.717837573	0.54-0.96	-2.242771126	0.024911577
AC004466.2	0.94725853	0.71-1.26	-0.368570296	0.712448039
AP001269.2	0.94489224	0.65-1.38	-0.294514527	0.768364765
NFIA-AS2	0.920053313	0.76-1.12	-0.844568912	0.398351573
GAS5	1.02074474	0.77-1.34	0.145923358	0.883981892
AL121944.2	1.695050155	1.12-2.57	2.478939216	0.013177376
AC011447.3	0.927934496	0.72-1.19	-0.589372759	0.555611246
AC093157.1	1.294633451	0.83-2.01	1.145727379	0.251907972
SNHG29	0.825488515	0.58-1.17	-1.078291502	0.280903688
AC109309.1	1.188977465	0.97-1.46	1.636937826	0.101643461
AC005498.2	1.056759098	0.75-1.49	0.31496168	0.752790749
FOXC2-AS1	1.119533546	0.94-1.34	1.240086071	0.21494356
LINC01886	0.92382534	0.81-1.05	-1.232275706	0.217846112
AC022424.1	0.984501911	0.84-1.16	-0.188078309	0.850815265
AC008035.1	0.929416531	0.68-1.28	-0.451419863	0.65168697
AC023983.2	1.020348113	0.77-1.36	0.137498789	0.89063655
U62631.1	1.041205234	0.83-1.31	0.347893924	0.727919849
SNHG5	0.905399646	0.65-1.26	-0.589001205	0.555860465
LINC01498	1.113968783	0.91-1.37	1.024914937	0.305403326
AC003101.2	0.968329238	0.75-1.25	-0.248848705	0.803477815
LINC01558	0.871847844	0.73-1.05	-1.470436353	0.141443612
FAM78B-AS1	1.074491199	0.89-1.3	0.733396725	0.463316496
AL024507.3	1.09236897	0.73-1.64	0.427682957	0.66888196
LINC01485	1.041672569	0.82-1.32	0.335105134	0.73754578
DLEU1	0.948293293	0.64-1.41	-0.263825701	0.79191423

Table S2 (continued)

Table S2 (continued)

gene	HR	95%CI	z	pvalue
AC021851.1	1.009348828	0.63–1.61	0.039087502	0.968820625
AC023043.4	0.958984277	0.75–1.22	–0.337738708	0.735560102
AC005674.2	1.169715306	0.93–1.48	1.321018515	0.186495191
STARD7–AS1	0.99638617	0.68–1.46	–0.018679725	0.985096602
LINC00315	1.106819878	0.83–1.47	0.69710015	0.48574012
MAPKAPK5–AS1	0.702725281	0.42–1.18	–1.342908411	0.179301633
ZFAS1	0.94859326	0.68–1.32	–0.316604288	0.751543882
PLCG1–AS1	1.534674843	1.05–2.25	2.189463204	0.02856319
LINC01111	1.032070526	0.85–1.26	0.309398897	0.75701811
AC018521.5	0.995571973	0.66–1.51	–0.020880071	0.983341324
B4GALT1–AS1	0.794430333	0.54–1.17	–1.168911855	0.242439147
CCNT2–AS1	1.04843346	0.71–1.54	0.241501888	0.809166153
NALCN–AS1	1.069647919	0.89–1.29	0.715481155	0.474311782
MTUS2–AS1	1.062389912	0.88–1.28	0.637759656	0.523630146
AC073046.1	1.044827433	0.88–1.24	0.49313456	0.621917513
LINC00861	1.048248888	0.81–1.36	0.357227883	0.720921213
AC023043.1	0.966278972	0.78–1.19	–0.317638805	0.750758936
AC068492.1	1.148300853	0.9–1.46	1.122202788	0.261776228
AC005746.2	0.939512785	0.75–1.17	–0.547902722	0.583758699
AC076968.1	1.012985406	0.82–1.25	0.12165121	0.903175255
AL158071.1	1.048131984	0.83–1.32	0.403711201	0.686425102
Z97989.1	1.029665769	0.78–1.36	0.204700504	0.837806127
UBE2E1–AS1	1.154992358	0.82–1.62	0.838735512	0.401617746
MIR29B2CHG	1.039944106	0.86–1.26	0.402396498	0.687392247
AL035461.3	1.133990522	0.82–1.57	0.750347559	0.453045406
TM4SF1–AS1	0.933680712	0.72–1.21	–0.525541856	0.599206564
AC129507.1	0.825402951	0.68–1	–2.010555867	0.04437239
TRAF3IP2–AS1	1.018863665	0.68–1.52	0.09162078	0.926999341
AC097478.1	0.940075198	0.79–1.11	–0.715324017	0.474408851
AC234772.2	1.246357782	1.02–1.52	2.149084618	0.031627693
PCAT19	1.025514371	0.8–1.32	0.194492155	0.845790538
KAZN–AS1	1.162953972	0.87–1.56	1.004909973	0.314940202
AC090403.1	1.139624265	0.93–1.4	1.251918002	0.210599744
AC007780.1	1.01791835	0.75–1.37	0.116064311	0.907601573
AL391832.2	1.066864399	0.85–1.34	0.553637949	0.579826649

Table S2 (continued)

Table S2 (continued)

gene	HR	95%CI	z	pvalue
AC006019.1	1.040430527	0.87–1.25	0.427249026	0.669197956
RMST	0.840062027	0.72–0.97	–2.316501767	0.020530888
AC124067.2	1.26556667	1.05–1.53	2.427411272	0.015207006
AL392048.1	1.06992646	0.85–1.35	0.568589055	0.569635054
ZNF793–AS1	0.847012227	0.58–1.24	–0.859623814	0.389996444
AP000432.1	0.971564361	0.84–1.12	–0.398435308	0.690309336
AC092296.2	1.166055548	0.85–1.6	0.951848111	0.341174018
AC005550.2	0.940034184	0.84–1.05	–1.058341419	0.289899816
AC016394.2	1.226711029	0.82–1.83	1.007654527	0.313620342
LINC01535	0.977853613	0.77–1.25	–0.180122105	0.857056709
LINC02673	0.995299581	0.73–1.35	–0.030458264	0.975701578
AC005562.1	0.764662212	0.55–1.07	–1.565175921	0.117541666
FLRT1	0.959218695	0.81–1.14	–0.479020584	0.631923985
VPS33B–DT	1.086945678	0.79–1.5	0.502774137	0.615123079
MIR1–1HG–AS1	0.957947152	0.85–1.08	–0.686221891	0.492573195
RNF144A–AS1	0.921365848	0.71–1.2	–0.610460081	0.541557079
AL596223.2	1.038401492	0.74–1.46	0.21715187	0.828089992
AC131212.1	1.014998068	0.81–1.27	0.128110482	0.898061541
AL590226.2	1.006144508	0.82–1.24	0.058242832	0.953555204
AC106738.2	0.694580106	0.44–1.09	–1.598906136	0.10984146
AL731577.2	1.064139038	0.9–1.26	0.721355549	0.470690788
AC245128.3	1.032036088	0.83–1.28	0.283159047	0.77705492
LINC02447	1.333347047	1.04–1.71	2.272694997	0.023044566
AL023284.4	1.040769509	0.87–1.24	0.451385251	0.651711911
AC002456.1	1.012309364	0.81–1.26	0.107720665	0.914217276
AC084782.3	1.094961209	0.8–1.5	0.565188121	0.571945816
PXN–AS1	1.369202807	0.9–2.08	1.471423707	0.141176566
AC026689.1	0.903839232	0.67–1.22	–0.655921147	0.511874861
AC011095.1	1.011478635	0.84–1.22	0.119139379	0.905164933
AL118508.1	0.862869594	0.67–1.1	–1.173373407	0.240646097
AC005393.1	0.994196491	0.77–1.28	–0.045722767	0.963531217
AC115837.2	1.035189682	0.92–1.16	0.576117681	0.564535641
AC253576.2	1.092304493	0.9–1.33	0.892890305	0.371915919
SNHG7	0.869671097	0.6–1.27	–0.723879311	0.469139833
MEG3	0.972568557	0.87–1.09	–0.47075722	0.637814118

Table S2 (continued)

Table S2 (continued)

gene	HR	95%CI	z	pvalue
AC002116.2	1.17848161	0.86–1.62	1.005583974	0.314615736
AC055822.1	0.969914627	0.72–1.3	-0.202918049	0.839199086
JPX	0.841037341	0.52–1.36	-0.702991019	0.482061346
PRKAR1B-AS2	0.991805375	0.87–1.13	-0.122644542	0.902388581
MIR762HG	1.192855947	0.77–1.84	0.801128706	0.423057139
AC037198.1	1.01962393	0.81–1.28	0.164679033	0.869196621
MEG8	0.944214811	0.82–1.09	-0.772987885	0.43952955
AC012085.2	0.821377666	0.64–1.05	-1.570536704	0.116290302
AF038458.2	0.863126	0.65–1.14	-1.036844929	0.299808133
MTUS2-AS2	0.985064313	0.82–1.18	-0.160696493	0.872332452
AC087627.1	1.014139203	0.87–1.18	0.178031317	0.858698381
AC107953.2	0.916471993	0.66–1.28	-0.509992068	0.610057018
AL358473.2	0.946490427	0.8–1.12	-0.626571115	0.530940408
AC145285.6	1.116202864	0.81–1.55	0.659556755	0.509538313
AC012636.1	0.872435215	0.72–1.06	-1.351482434	0.176540943
PIK3CD-AS2	1.111220548	0.8–1.54	0.637740111	0.523642871
LINC01697	0.92682289	0.8–1.07	-1.040733848	0.297999089
AC023403.1	0.948087262	0.77–1.17	-0.491341558	0.623184891
AC011468.1	0.778469316	0.54–1.12	-1.357597886	0.174591314
CACNA1G-AS1	0.881002529	0.73–1.06	-1.337618673	0.181020774
LINC01013	0.851118176	0.68–1.06	-1.413467068	0.157518438
SNHG15	1.36680311	0.94–1.99	1.638610765	0.101294349
LINC00460	0.848127561	0.69–1.04	-1.561395424	0.118430481
OSER1-DT	0.873973513	0.57–1.35	-0.609028839	0.542505323
LINC02041	1.033918759	0.9–1.19	0.460034488	0.645491466
AL080317.1	0.876383261	0.59–1.31	-0.64395371	0.519605451
AF279873.3	1.017460216	0.84–1.24	0.174443626	0.861516832
AC092354.1	0.985948247	0.71–1.37	-0.084985882	0.932272615
DNAH10OS	1.095647602	0.87–1.37	0.789394938	0.429881213
SMG7-AS1	1.20470336	0.94–1.55	1.448320077	0.147527555
KIRREL3-AS3	0.811120556	0.66–0.99	-2.031136083	0.042241192
AC025811.1	0.93158073	0.8–1.09	-0.890437572	0.373230976
AC018529.2	0.94616987	0.76–1.18	-0.485223849	0.627517566
AL109804.1	0.770718129	0.53–1.11	-1.394735816	0.16309552
PCED1B-AS1	0.981822939	0.76–1.27	-0.138673042	0.889708521

Table S2 (continued)

Table S2 (continued)

gene	HR	95%CI	z	pvalue
AP000785.1	0.767267978	0.56–1.04	-1.685342036	0.0919226
AC110772.2	0.913412929	0.78–1.08	-1.083178893	0.278729027
AC134312.5	0.977458627	0.79–1.2	-0.214356946	0.830268713
SNHG3	1.342231007	0.94–1.91	1.625392928	0.104078862
LINC01619	0.88156665	0.7–1.12	-1.040598361	0.298061992
AL390728.6	1.025959374	0.7–1.5	0.131337048	0.895508685
AC039056.2	0.930466815	0.74–1.17	-0.607128429	0.543765685
LINC01675	1.112659954	0.85–1.45	0.780352416	0.435183468
AL355336.2	0.878553897	0.68–1.13	-0.992995247	0.320712271
RMRP	0.985757168	0.79–1.24	-0.123501151	0.901710263
AC007250.1	1.072319061	0.82–1.4	0.520166413	0.602947593
AL391261.2	1.017748316	0.82–1.27	0.158010003	0.874448916
AC023669.2	1.183382145	0.86–1.63	1.0311697	0.302461247
LINC02674	1.065443133	0.8–1.43	0.42521096	0.670682895
AC010425.1	0.886255006	0.74–1.06	-1.349588427	0.177148038
AP001993.1	0.847261127	0.68–1.06	-1.441197176	0.149528986
AC123912.4	0.882439842	0.76–1.03	-1.579798728	0.114152967
AL357054.4	0.99579142	0.79–1.25	-0.036510406	0.970875382
AC243585.1	0.907433795	0.66–1.24	-0.608781311	0.542669403
HCG18	0.796733707	0.56–1.13	-1.26537311	0.20573761
AC009570.1	1.732821073	1.21–2.47	3.035087934	0.002404656
AC087623.3	1.034178493	0.79–1.36	0.242135539	0.808675141
AL359399.1	1.024490442	0.74–1.42	0.145777586	0.884096971
AP003393.1	1.024539603	0.8–1.3	0.196704026	0.84405916
AC010967.1	1.118954039	0.97–1.29	1.552849076	0.120459195
Z82214.2	0.997199017	0.81–1.22	-0.027029006	0.978436599
AC127029.2	0.878185968	0.7–1.11	-1.099812219	0.271413947
LINC02677	0.953341613	0.7–1.3	-0.300393826	0.763876773
MAP3K5-AS1	1.081024879	0.85–1.37	0.637024222	0.524109066
AL021807.1	0.971228413	0.76–1.24	-0.233012898	0.81575139
AC005224.3	0.923839209	0.82–1.05	-1.240252142	0.214882148
AC011500.3	1.15893732	0.93–1.45	1.286938809	0.198115617
LINC00944	1.001098788	0.89–1.13	0.017727376	0.985856341
AC073525.1	0.907817948	0.76–1.09	-1.0382816	0.299138973
AC022079.1	1.166118838	0.86–1.58	0.986361082	0.323955956

Table S2 (continued)

Table S2 (continued)

gene	HR	95%CI	z	pvalue
AC012146.1	0.946516424	0.67–1.33	–0.314239939	0.753338811
AC022509.3	1.027984819	0.86–1.23	0.297370272	0.766183837
LAMP5–AS1	0.865429136	0.73–1.02	–1.68831296	0.091351169
AL596087.3	1.045459389	0.85–1.28	0.433140023	0.664913048
AC068987.2	1.095733455	0.86–1.4	0.723226078	0.469541
AC092813.2	1.043568273	0.86–1.27	0.429950771	0.667231452
ZBTB20–AS1	0.761155487	0.61–0.96	–2.334187942	0.019585883
AC096631.1	0.921928873	0.73–1.17	–0.665062817	0.506010316
AC016876.3	0.978915953	0.71–1.36	–0.128370105	0.897856088
MIR17HG	1.25265391	1–1.57	1.940006019	0.052378958
AC025171.5	1.116593311	0.84–1.48	0.774284368	0.438762645
AC063944.3	0.877126114	0.67–1.15	–0.946888653	0.343695521
AC129492.1	1.052250789	0.87–1.28	0.514962997	0.606578878
LURAP1L–AS1	1.069696074	0.89–1.29	0.71304992	0.475814867
AL121827.1	0.947843212	0.8–1.12	–0.639465887	0.522519899
AC087623.1	0.788493004	0.6–1.04	–1.669435159	0.095031171
AC100814.2	0.771792617	0.56–1.06	–1.599837175	0.109634709
Z68871.1	1.04034562	0.82–1.32	0.32689734	0.743745533
AL139021.2	1.009355478	0.69–1.48	0.047749623	0.961915786
AL158163.2	0.855375915	0.62–1.19	–0.93560279	0.349477737
AP001505.1	0.89385051	0.62–1.29	–0.598211115	0.549699076
KC877982.1	1.039043841	0.94–1.14	0.783892813	0.433103007
AC009654.1	1.041398583	0.87–1.25	0.43134701	0.666216073
LINC00930	0.873178636	0.72–1.06	–1.358457724	0.174318489
MIR133A1HG	0.837520034	0.67–1.05	–1.550283982	0.12107337
AC009159.2	0.998452156	0.83–1.21	–0.016060041	0.987186492
LINC00882	0.870712006	0.66–1.15	–0.978154558	0.327997888
AC012511.1	0.932799872	0.73–1.19	–0.55310588	0.580190911
FAM181A–AS1	0.930763749	0.78–1.11	–0.796336739	0.425836337
AC097478.2	0.951758382	0.8–1.14	–0.549242728	0.582838886
AC005288.1	0.839268839	0.65–1.09	–1.335808968	0.181611721
AL356056.1	0.925839052	0.72–1.18	–0.61596329	0.537918749
LINC01063	1.239044621	0.9–1.71	1.315064253	0.188488309
AF121898.1	0.918297561	0.76–1.11	–0.892320295	0.372221279
AC018953.1	1.00612598	0.86–1.17	0.078450447	0.937469746

Table S2 (continued)

Table S2 (continued)

gene	HR	95%CI	z	pvalue
AP001001.1	0.793283171	0.6–1.05	–1.597984296	0.110046472
LINC00607	0.877199757	0.69–1.12	–1.048132688	0.294577478
LINC00639	1.244124431	0.99–1.56	1.884227343	0.05953423
LUCAT1	0.935656601	0.73–1.19	–0.537480617	0.59093567
AC012467.1	0.866353245	0.66–1.14	–1.040893097	0.297925166
AC063944.1	0.810982987	0.58–1.12	–1.256920297	0.208782498
AL109955.1	1.24875652	0.96–1.62	1.67810502	0.093326599
SNHG10	1.58613933	1.11–2.27	2.522418864	0.011655083
LINC02370	0.843776876	0.68–1.05	–1.543839915	0.122627119
AC130415.1	1.120630831	0.88–1.42	0.937928193	0.348281313
AL445072.1	0.938549833	0.78–1.12	–0.68629031	0.492530058
AL158850.1	0.955187083	0.77–1.19	–0.413100033	0.679533325
AC017076.1	0.895607654	0.7–1.14	–0.888037932	0.374520348
AL583785.1	1.030961356	0.9–1.19	0.428166271	0.668530071
RBM15–AS1	1.359737927	0.95–1.94	1.696052618	0.089875916
AL137246.1	0.802438185	0.6–1.08	–1.449031341	0.14732883
LINC01310	1.099328036	0.92–1.32	1.019148495	0.308132474
AC008060.4	0.890851319	0.73–1.09	–1.123890441	0.261059507
LINC01354	0.995949601	0.83–1.19	–0.04507706	0.964045886
AC093821.1	0.859369002	0.69–1.06	–1.38915875	0.164784482
LINC01752	0.897027418	0.73–1.11	–1.018329905	0.308521201
AC009171.2	1.163327384	0.91–1.48	1.233515151	0.217383627
LINC01179	0.780603208	0.65–0.94	–2.566381304	0.010276579
AC004223.4	1.023213733	0.79–1.33	0.170705805	0.864455098
AL049870.3	1.099504395	0.86–1.41	0.756998113	0.449050993
ERVH–1	1.01251419	0.86–1.19	0.151501417	0.879580193
AC004908.3	0.811823565	0.6–1.09	–1.382971934	0.166673472
AC093627.1	0.940142823	0.78–1.13	–0.654630023	0.512705989
LRRC52–AS1	0.888300036	0.76–1.04	–1.462824061	0.143515527
AL021368.1	0.863576948	0.66–1.14	–1.041822438	0.297494009
ABALON	1.148502153	0.89–1.49	1.050213607	0.293619915
USP2–AS1	1.010151932	0.79–1.29	0.080382549	0.935933006
MEG9	1.009028028	0.86–1.18	0.112913154	0.910099407
AC092818.1	0.98963092	0.72–1.35	–0.065049803	0.948134347
AC110772.1	1.035347313	0.76–1.42	0.216663684	0.828470452

Table S2 (continued)

Table S2 (continued)

gene	HR	95%CI	z	pvalue
LANCL1-AS1	0.904102472	0.74-1.1	-1.003157586	0.315784834
AC016590.1	1.062322618	0.82-1.38	0.448385453	0.653875038
AC090116.1	0.923376703	0.8-1.07	-1.068009819	0.285516083
AC126118.1	1.176245003	0.88-1.58	1.088258601	0.276480961
AP000755.2	0.96242065	0.74-1.25	-0.287051961	0.774072534
YEATS2-AS1	0.97324311	0.73-1.29	-0.186370088	0.852154548
LINC00488	0.928891987	0.84-1.03	-1.417216657	0.156419593
AL512622.1	1.084718519	0.83-1.42	0.587104218	0.557133715
AL355802.3	1.095736594	0.84-1.42	0.685812267	0.4928315
MRV11-AS1	1.179825465	0.9-1.54	1.213021127	0.225121743
AC124016.3	0.933734184	0.71-1.23	-0.494117449	0.621223236
LINC02535	0.884076503	0.67-1.16	-0.891269713	0.372784493
AC087857.1	0.969340666	0.8-1.18	-0.311940882	0.755085452
LINC01076	0.910131824	0.71-1.17	-0.727764486	0.466757768
CDK6-AS1	1.017863777	0.89-1.16	0.258450001	0.796059631
DNM3OS	0.944101051	0.83-1.07	-0.885387883	0.375947465
AL591368.1	0.635422274	0.46-0.89	-2.667451527	0.007642891
AC007091.1	0.838270508	0.67-1.05	-1.555558034	0.119813224
MIR663AHG	1.07005574	0.95-1.21	1.069364342	0.284905529
CALML3-AS1	0.846529011	0.67-1.07	-1.395747196	0.162790637
AC008747.1	1.171265707	0.86-1.6	0.996853324	0.318835711
AC021087.4	0.961463079	0.83-1.12	-0.512048664	0.608616951
AC112491.1	0.894035335	0.7-1.14	-0.888281878	0.374389145

Table S3 Information of 12-lncRNA signature.

ID	coef	HR	Z-score	P value
AC007406.1	0.3218	1.3797	1.737	0.0824
AC005208.1	-0.2534	0.7762	-1.406	0.1598
LINC01770	0.3987	1.4899	2.471	0.0135
DLGAP1-AS2	-0.5637	0.5691	-2.911	0.0036
AP002761.4	-0.2012	0.8178	-1.723	0.0849
STPG3-AS1	0.3081	1.3609	2.104	0.0354
AC129507.1	-0.1872	0.8293	-1.772	0.0764
AC234772.2	0.2002	1.2216	1.556	0.1197
LINC02447	0.3068	1.3591	1.813	0.0699
AC009570.1	0.44	1.5528	2.094	0.0363
ZBTB20-AS1	-0.3948	0.6738	-2.418	0.0156
LINC01179	-0.2656	0.7667	-2.319	0.0204

Table S4 Univariate Cox regression analysis of clinical characteristics and the signature-based risk score

ID	HR	HR.95L	HR.95H	pvalue
age	0.983615242	0.889051437	1.088237308	0.748713173
gender	1.751037265	1.003521121	3.055373165	0.048570908
race	1.214454169	0.654454756	2.253630089	0.537926351
stage	1.536873711	1.114254481	2.119785778	0.00880939
histologic	1.118336134	0.622792782	2.008173095	0.708057547
riskScore	1.095083879	1.06638845	1.124551472	2.0216E-11

Table S5 Multivariate Cox regression analysis of clinical characteristics and the signature-based risk score

ID	HR	HR.95L	HR.95H	pvalue
age	0.987944604	0.879397266	1.109890352	0.838164267
gender	1.801824255	0.974675179	3.330925746	0.060361629
race	1.181834081	0.609020138	2.293408228	0.621371753
stage	1.56060184	1.09353305	2.227164603	0.014178586
histologic	1.498859176	0.800614987	2.806066419	0.205899698
riskScore	1.08560966	1.053582128	1.118610787	7.60727E-08