

Figure S1 The differential expression of 10 CuRLs between normal and tumor tissues. (A) TCGA-LUAD cohort. (B) GSE31210. Abbreviations: CuRLs, cuproptosis-related lncRNAs.

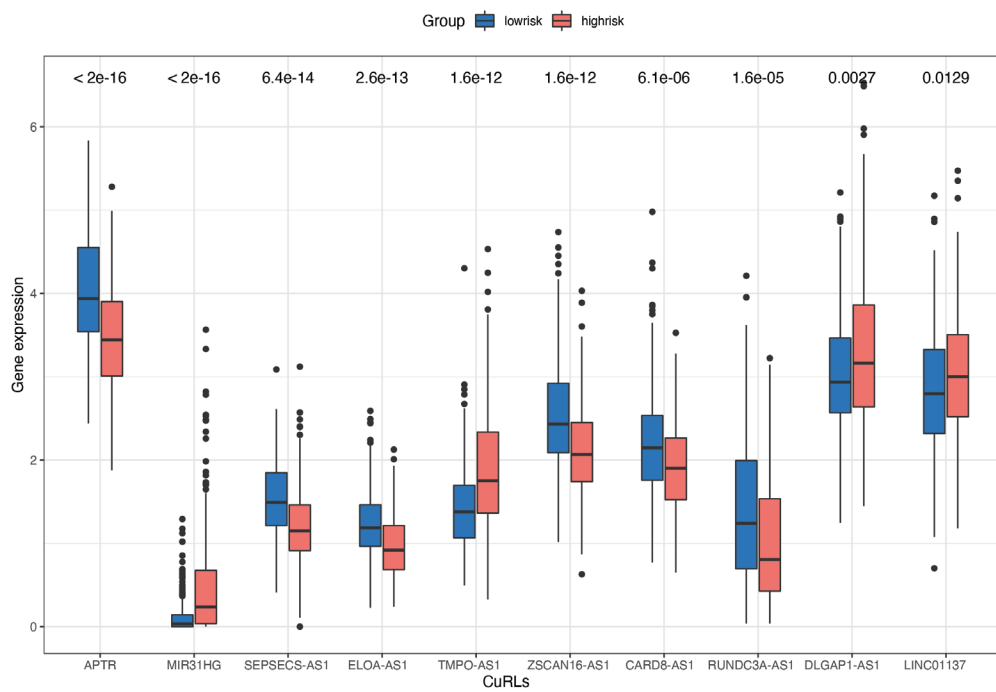


Figure S2 The differential expression of 10 CuRLs between low-risk and high-risk groups. CuRLs, cuproptosis-related lncRNAs.

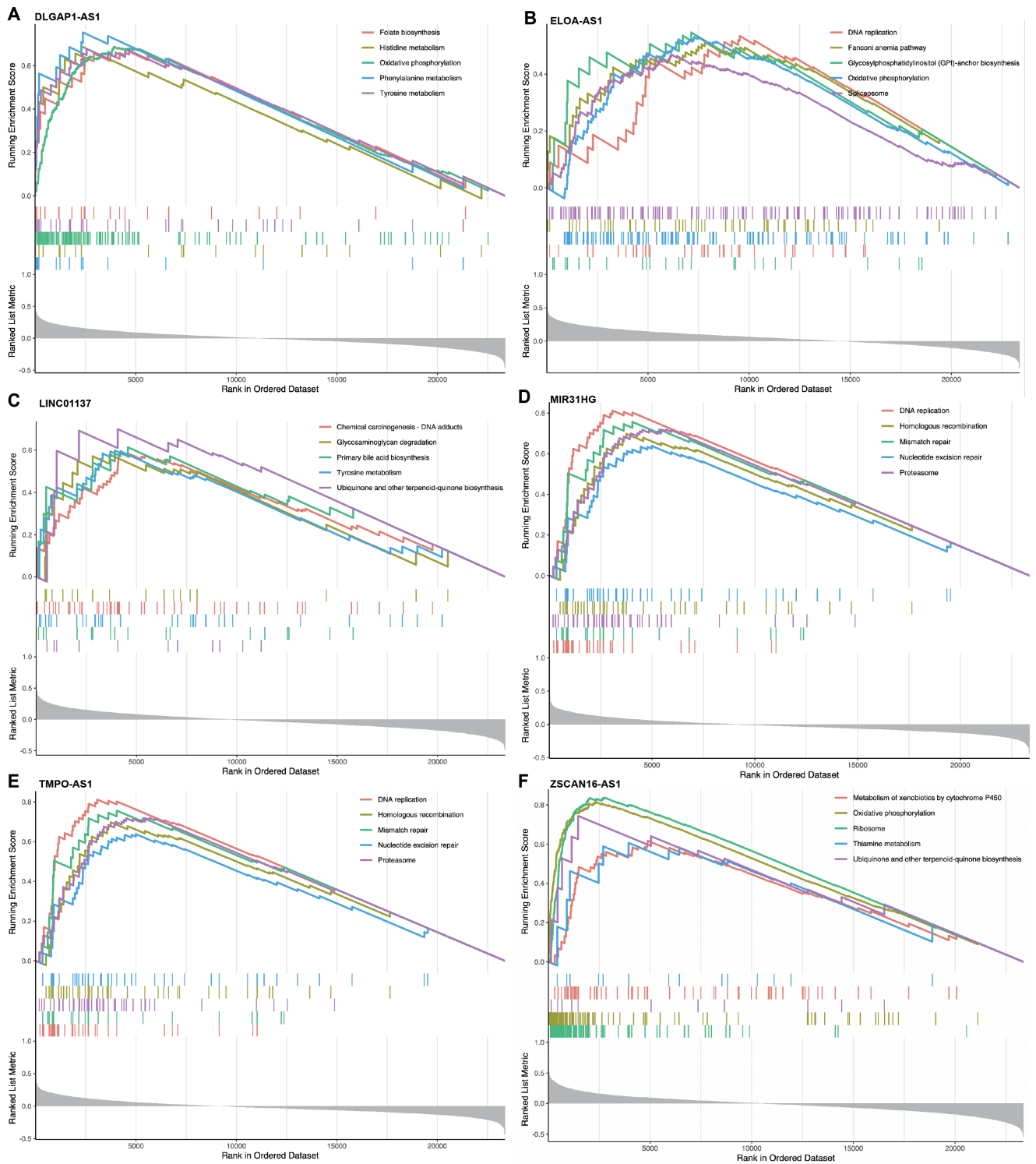


Figure S3 GSEA enrichment plots of CuRLs based on KEGG pathway database. (A) DLGAP1-AS1. (B) ELOA-AS1. (C) LINC01137. (D) MIR31HG. (E) TMPO-AS1. (F) ZSCAN16-AS1. CuRLs, cuproptosis-related lncRNAs; GSEA, gene set enrichment analysis; KEGG, Kyoto Encyclopedia of Genes and Genomes.

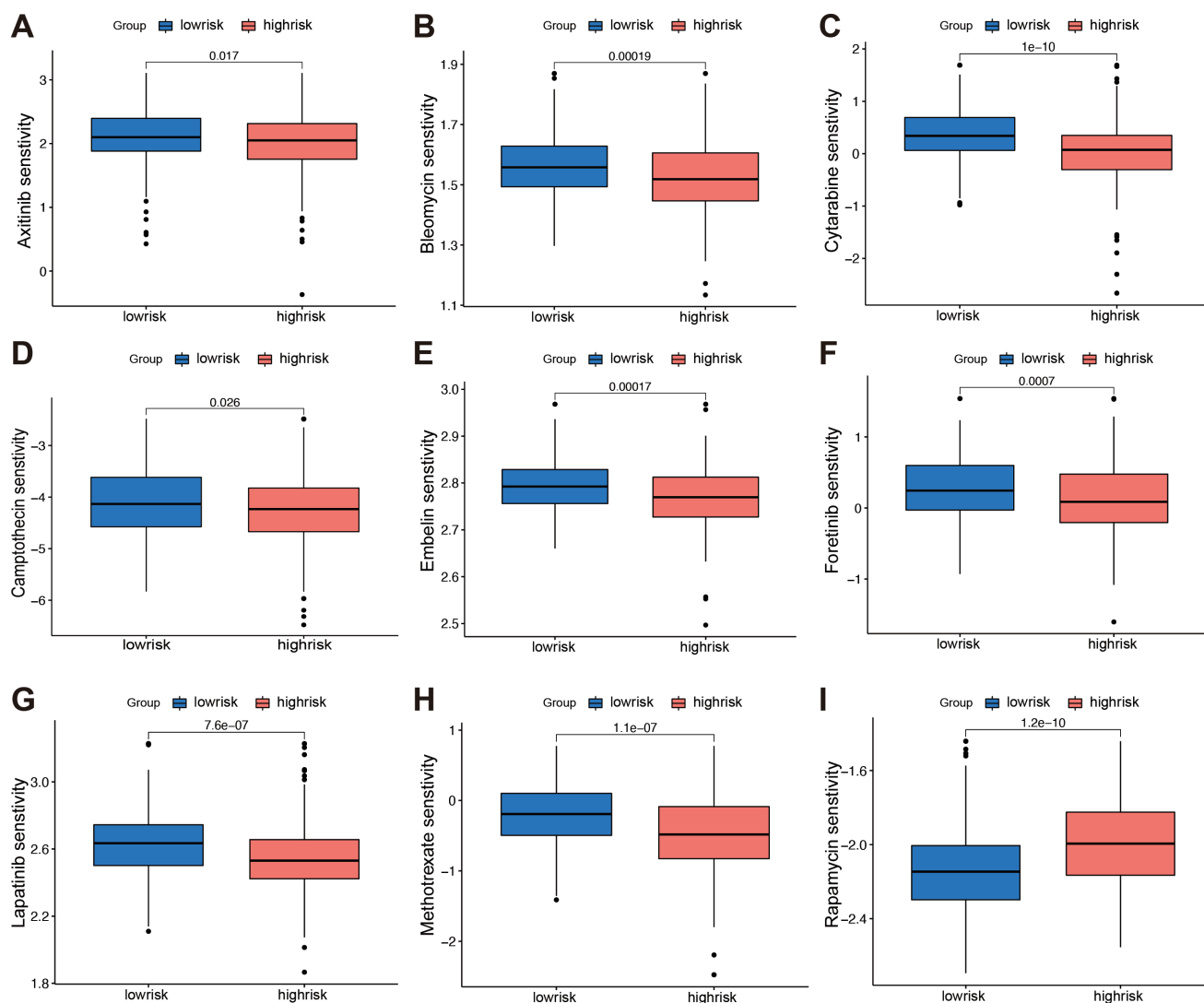


Figure S4 Predicted drug responses in low-risk and high-risk groups. (A) Axitinib, (B) Bleomycin, (C) Cytarabine, (D) Camptothecin, (E) Embelin, (F) Foretinib, (G) Lapatinib, (H) Methotrexate, (I) Rapamycin.

Table S1 Clinical characteristics of patients in training and validation datasets.

Characteristics	TCGA-LUAD (N=472)	GEO meta-cohort (N=458)
Gender (%)		
Male	217 (46.0)	215 (46.9)
Female	255 (54.0)	243 (53.1)
Age (%)		
≤65	209 (44.3)	273 (59.6)
>65	263 (55.7)	185 (40.4)
Stage (%)		
I	256 (54.2)	330 (72.1)
II	113 (23.9)	112 (24.5)
III	78 (16.5)	12 (2.6)
IV	25 (5.3)	4 (0.9)

GEO, Gene Expression Omnibus; LUAD, lung adenocarcinoma; TCGA, The Cancer Genome Atlas.

Table S2 Identified CuRLs using Pearson correlation analysis

	Cuproptosis genes	LncRNAs	Correlation coefficient	P value	Regulation
cor	MTF1	LINC01128	0.455	<0.001	Positive
cor1	LIPT2	LINC01770	0.309	<0.001	Positive
cor2	PDHB	TNFRSF14-AS1	-0.303	<0.001	Negative
cor3	DLAT	TNFRSF14-AS1	-0.385	<0.001	Negative
cor4	DLD	PRDM16-DT	-0.308	<0.001	Negative
cor5	LIPT2	LINC00337	0.333	<0.001	Positive
cor6	PDHB	TMEM51-AS1	-0.358	<0.001	Negative
cor7	MTF1	PINK1-AS	0.413	<0.001	Positive
cor8	LIPT1	LINC00339	0.411	<0.001	Positive
cor9	LIPT1	ELOA-AS1	0.313	<0.001	Positive
cor10	LIAS	LINC01137	0.31	<0.001	Positive
cor11	ATP7B	LINC01137	-0.31	<0.001	Negative
cor12	MTF1	SLFNL1-AS1	0.328	<0.001	Positive
cor13	MTF1	MKNK1-AS1	0.395	<0.001	Positive
cor14	MTF1	SSBP3-AS1	0.365	<0.001	Positive
cor15	DBT	LAMTOR5-AS1	0.307	<0.001	Positive
cor16	DBT	ATP1A1-AS1	0.402	<0.001	Positive
cor17	LIPT2	ZNF687-AS1	0.305	<0.001	Positive
cor18	PDHA1	RUSC1-AS1	0.31	<0.001	Positive
cor19	GLS	DNM3OS	0.305	<0.001	Positive
cor20	MTF1	GAS5	-0.466	<0.001	Negative
cor21	PDHB	GAS5	0.412	<0.001	Positive
cor22	LIAS	GAS5	0.357	<0.001	Positive
cor23	MTF1	SMG7-AS1	0.337	<0.001	Positive
cor24	LIPT2	LINC01136	0.333	<0.001	Positive
cor25	ATP7A	MIR29B2CHG	0.338	<0.001	Positive
cor26	LIAS	LINC00467	0.453	<0.001	Positive
cor27	LIPT2	LGALS8-AS1	0.348	<0.001	Positive
cor28	GCSH	RNASEH1-AS1	0.348	<0.001	Positive
cor29	LIPT2	ODC1-DT	0.301	<0.001	Positive
cor30	ATP7B	LINC00954	0.339	<0.001	Positive
cor31	FDX1	CRIM1-DT	0.328	<0.001	Positive
cor32	LIPT1	PCBP1-AS1	0.316	<0.001	Positive
cor33	LIPT2	LINC01816	0.451	<0.001	Positive
cor34	ATP7B	BOLA3-AS1	0.347	<0.001	Positive
cor35	ATP7B	LINC01943	-0.319	<0.001	Negative
cor36	LIPT2	EIF2AK3-DT	0.311	<0.001	Positive
cor37	GCSH	LINC00342	-0.322	<0.001	Negative
cor38	MTF1	STARD7-AS1	0.34	<0.001	Positive
cor39	LIPT1	NIFK-AS1	0.41	<0.001	Positive
cor40	GLS	HAGLR	0.315	<0.001	Positive
cor41	MTF1	CFLAR-AS1	0.304	<0.001	Positive
cor42	GLS	CFLAR-AS1	0.387	<0.001	Positive
cor43	ATP7A	CFLAR-AS1	0.304	<0.001	Positive
cor44	LIPT2	IDH1-AS1	0.351	<0.001	Positive
cor45	MTF1	LINC01963	0.451	<0.001	Positive
cor46	MTF1	CATIP-AS1	-0.337	<0.001	Negative
cor47	GLS	EGOT	0.327	<0.001	Positive

Table S2 (continued)

Table S2 (continued)

	Cuproptosis genes	LncRNAs	Correlation coefficient	P value	Regulation
cor48	GCSH	PRRT3-AS1	0.356	<0.001	Positive
cor49	DLD	SH3BP5-AS1	-0.302	<0.001	Negative
cor50	LIAS	EIF1B-AS1	0.395	<0.001	Positive
cor51	MTF1	ENTPD3-AS1	-0.308	<0.001	Negative
cor52	LIPT1	ENTPD3-AS1	0.313	<0.001	Positive
cor53	PDHB	ENTPD3-AS1	0.31	<0.001	Positive
cor54	LIAS	ENTPD3-AS1	0.415	<0.001	Positive
cor55	MTF1	PSMD6-AS2	0.342	<0.001	Positive
cor56	MTF1	LINC02035	0.513	<0.001	Positive
cor57	PDHB	LINC02035	-0.307	<0.001	Negative
cor58	GCSH	LINC02035	-0.313	<0.001	Negative
cor59	LIPT1	NCK1-DT	0.377	<0.001	Positive
cor60	LIPT2	WWTR1-AS1	0.34	<0.001	Positive
cor61	PDHA1	WWTR1-AS1	0.321	<0.001	Positive
cor62	GLS	LINC01214	0.369	<0.001	Positive
cor63	LIAS	TIPARP-AS1	0.307	<0.001	Positive
cor64	GLS	LINC00880	0.379	<0.001	Positive
cor65	GLS	LINC02029	0.342	<0.001	Positive
cor66	LIPT2	KCNMB2-AS1	0.323	<0.001	Positive
cor67	LIPT2	SOX2-OT	0.361	<0.001	Positive
cor68	LIPT2	LINC00884	0.33	<0.001	Positive
cor69	LIPT1	TMEM44-AS1	0.338	<0.001	Positive
cor70	LIPT2	TMEM44-AS1	0.392	<0.001	Positive
cor71	CDKN2A	MELTF-AS1	0.332	<0.001	Positive
cor72	PDHA1	MELTF-AS1	0.308	<0.001	Positive
cor73	LIAS	STX18-AS1	0.314	<0.001	Positive
cor74	LIPT2	LINC02482	0.324	<0.001	Positive
cor75	LIAS	LINC02481	0.33	<0.001	Positive
cor76	LIAS	TAPT1-AS1	0.351	<0.001	Positive
cor77	LIPT2	SEPSECS-AS1	0.305	<0.001	Positive
cor78	GLS	DANCR	-0.309	<0.001	Negative
cor79	LIPT2	DANCR	0.315	<0.001	Positive
cor80	GLS	LINC01094	0.35	<0.001	Positive
cor81	SLC31A1	LINC01094	0.335	<0.001	Positive
cor82	PDHA1	LINC01094	-0.348	<0.001	Negative
cor83	LIAS	WDFY3-AS2	0.357	<0.001	Positive
cor84	ATP7A	WDFY3-AS2	0.326	<0.001	Positive
cor85	LIAS	UBE2D3-AS1	0.38	<0.001	Positive
cor86	LIPT1	SEC24B-AS1	0.3	<0.001	Positive
cor87	MTF1	SNHG8	-0.374	<0.001	Negative
cor88	LIAS	SNHG8	0.404	<0.001	Positive
cor89	GLS	PART1	-0.302	<0.001	Negative
cor90	LIPT1	SCAMP1-AS1	0.404	<0.001	Positive
cor91	LIAS	SCAMP1-AS1	0.323	<0.001	Positive
cor92	LIAS	TMEM161B-AS1	0.314	<0.001	Positive
cor93	GLS	MEF2C-AS1	0.331	<0.001	Positive
cor94	GLS	NR2F1-AS1	0.307	<0.001	Positive

Table S2 (continued)

Table S2 (continued)

	Cuproptosis genes	LncRNAs	Correlation coefficient	P value	Regulation
cor95	PDHA1	NR2F1-AS1	-0.314	<0.001	Negative
cor96	DLD	RGMB-AS1	-0.319	<0.001	Negative
cor97	MTF1	LINC01023	-0.35	<0.001	Negative
cor98	DLAT	LINC01023	-0.307	<0.001	Negative
cor99	DLAT	IRF1-AS1	-0.305	<0.001	Negative
cor100	GCSH	IRF1-AS1	-0.316	<0.001	Negative
cor101	MTF1	TRIM52-AS1	-0.329	<0.001	Negative
cor102	MTF1	HCG11	0.384	<0.001	Positive
cor103	MTF1	ZSCAN16-AS1	-0.394	<0.001	Negative
cor104	GLS	HLA-F-AS1	0.383	<0.001	Positive
cor105	DBT	HCG18	0.329	<0.001	Positive
cor106	DLAT	HCG27	-0.301	<0.001	Negative
cor107	LIPT1	TRAM2-AS1	0.35	<0.001	Positive
cor108	LIAS	TRAM2-AS1	0.352	<0.001	Positive
cor109	GLS	WAKMAR2	0.336	<0.001	Positive
cor110	DBT	PRKAR1B-AS1	-0.301	<0.001	Negative
cor111	LIAS	SEPTIN7-DT	0.313	<0.001	Positive
cor112	ATP7A	SEPTIN7-DT	0.318	<0.001	Positive
cor113	MTF1	LINC00265	0.372	<0.001	Positive
cor114	PDHB	LINC00265	-0.339	<0.001	Negative
cor115	PDHB	POLR2J4	-0.312	<0.001	Negative
cor116	LIPT1	APTR	0.32	<0.001	Positive
cor117	PDHA1	MAGI2-AS3	-0.305	<0.001	Negative
cor118	DLD	EMSLR	0.342	<0.001	Positive
cor119	MTF1	PAXIP1-AS2	0.311	<0.001	Positive
cor120	ATP7A	PAXIP1-AS2	0.458	<0.001	Positive
cor121	GLS	LINC00689	-0.328	<0.001	Negative
cor122	MTF1	SNHG6	-0.389	<0.001	Negative
cor123	ATP7A	SNHG6	-0.347	<0.001	Negative
cor124	GLS	LACTB2-AS1	0.331	<0.001	Positive
cor125	LIPT2	STAU2-AS1	0.329	<0.001	Positive
cor126	MTF1	MINCR	-0.32	<0.001	Negative
cor127	LIAS	MINCR	0.307	<0.001	Positive
cor128	CDKN2A	MIR31HG	0.316	<0.001	Positive
cor129	CDKN2A	CDKN2B-AS1	0.645	<0.001	Positive
cor130	MTF1	GSN-AS1	0.377	<0.001	Positive
cor131	GCSH	GSN-AS1	-0.3	<0.001	Negative
cor132	ATP7B	SLC25A25-AS1	0.326	<0.001	Positive
cor133	DLAT	DBH-AS1	-0.32	<0.001	Negative
cor134	DLAT	NALT1	-0.317	<0.001	Negative
cor135	MTF1	CELF2-AS1	0.303	<0.001	Positive
cor136	ATP7A	CELF2-AS1	0.307	<0.001	Positive
cor137	LIPT2	DLG5-AS1	0.389	<0.001	Positive
cor138	MTF1	ENTPD1-AS1	0.342	<0.001	Positive
cor139	DBT	ENTPD1-AS1	0.353	<0.001	Positive
cor140	ATP7A	ENTPD1-AS1	0.345	<0.001	Positive
cor141	LIPT2	OLMALINC	0.345	<0.001	Positive

Table S2 (continued)

Table S2 (continued)

	Cuproptosis genes	LncRNAs	Correlation coefficient	P value	Regulation
cor142	DLD	LMNTD2-AS1	-0.304	<0.001	Negative
cor143	LIPT2	LINC02749	0.347	<0.001	Positive
cor144	LIPT2	LINC02709	0.337	<0.001	Positive
cor145	LIPT2	SBF2-AS1	0.307	<0.001	Positive
cor146	MTF1	MALAT1	0.312	<0.001	Positive
cor147	LIPT2	RAB30-DT	0.408	<0.001	Positive
cor148	LIPT2	LINC02762	0.323	<0.001	Positive
cor149	GCSH	GSEC	0.325	<0.001	Positive
cor150	LIPT1	ZBTB44-DT	0.303	<0.001	Positive
cor151	LIAS	ZBTB44-DT	0.349	<0.001	Positive
cor152	LIPT2	LOH12CR2	0.315	<0.001	Positive
cor153	GLS	RASSF8-AS1	0.357	<0.001	Positive
cor154	CDKN2A	DDX11-AS1	0.309	<0.001	Positive
cor155	LIPT2	LINC02387	0.333	<0.001	Positive
cor156	ATP7B	LINC02387	0.345	<0.001	Positive
cor157	LIPT2	ADCY6-DT	0.413	<0.001	Positive
cor158	FDX1	LINC00592	0.348	<0.001	Positive
cor159	PDHA1	AGAP2-AS1	-0.306	<0.001	Negative
cor160	LIPT2	LINC01465	0.328	<0.001	Positive
cor161	LIPT2	TMPO-AS1	0.437	<0.001	Positive
cor162	PDHA1	TMPO-AS1	0.353	<0.001	Positive
cor163	DLD	FAM222A-AS1	0.315	<0.001	Positive
cor164	MTF1	MAPKAPK5-AS1	-0.454	<0.001	Negative
cor165	LIPT1	MAPKAPK5-AS1	0.35	<0.001	Positive
cor166	LIAS	MAPKAPK5-AS1	0.347	<0.001	Positive
cor167	LIPT2	MAPKAPK5-AS1	0.349	<0.001	Positive
cor168	GCSH	MAPKAPK5-AS1	0.356	<0.001	Positive
cor169	GCSH	TBX5-AS1	-0.317	<0.001	Negative
cor170	PDHA1	TBX5-AS1	-0.321	<0.001	Negative
cor171	MTF1	PXN-AS1	-0.392	<0.001	Negative
cor172	LIAS	PXN-AS1	0.366	<0.001	Positive
cor173	LIPT2	PXN-AS1	0.326	<0.001	Positive
cor174	LIPT2	NRAV	0.301	<0.001	Positive
cor175	GLS	LINC00944	0.324	<0.001	Positive
cor176	ATP7B	TUSC8	0.312	<0.001	Positive
cor177	PDHB	DLEU1	0.328	<0.001	Positive
cor178	LIAS	DLEU1	0.328	<0.001	Positive
cor179	ATP7B	SOX21-AS1	0.378	<0.001	Positive
cor180	MTF1	LINC00641	0.365	<0.001	Positive
cor181	DLST	DHRS4-AS1	0.347	<0.001	Positive
cor182	GLS	NKX2-1-AS1	0.303	<0.001	Positive
cor183	LIPT2	FOXN3-AS1	0.303	<0.001	Positive
cor184	DLAT	DIO3OS	-0.302	<0.001	Negative
cor185	ATP7A	LINC02256	0.302	<0.001	Positive
cor186	GLS	LINC02345	0.333	<0.001	Positive
cor187	GLS	LINC01852	0.347	<0.001	Positive
cor188	GLS	SPINT1-AS1	-0.312	<0.001	Negative

Table S2 (continued)

Table S2 (continued)

	Cuproptosis genes	LncRNAs	Correlation coefficient	P value	Regulation
cor189	DBT	OIP5-AS1	0.338	<0.001	Positive
cor190	LIAS	EIF3J-DT	0.338	<0.001	Positive
cor191	LIPT2	IQCH-AS1	0.318	<0.001	Positive
cor192	LIPT2	DRAIC	0.36	<0.001	Positive
cor193	MTF1	NPTN-IT1	0.425	<0.001	Positive
cor194	LIPT2	UBL7-AS1	0.357	<0.001	Positive
cor195	LIPT2	TMC3-AS1	0.312	<0.001	Positive
cor196	MTF1	ZNF710-AS1	0.314	<0.001	Positive
cor197	MTF1	SNHG9	-0.338	<0.001	Negative
cor198	GLS	LINC02861	0.311	<0.001	Positive
cor199	GCSH	VPS9D1-AS1	0.301	<0.001	Positive
cor200	MTF1	PITPNA-AS1	-0.37	<0.001	Negative
cor201	LIPT2	PITPNA-AS1	0.403	<0.001	Positive
cor202	GCSH	PITPNA-AS1	0.337	<0.001	Positive
cor203	DLAT	MIR497HG	-0.333	<0.001	Negative
cor204	MTF1	SNHG29	-0.39	<0.001	Negative
cor205	PDHB	SNHG29	0.454	<0.001	Positive
cor206	MTF1	LINC02693	0.435	<0.001	Positive
cor207	ATP7B	RAMP2-AS1	0.314	<0.001	Positive
cor208	GLS	RUNDC3A-AS1	0.357	<0.001	Positive
cor209	LIPT2	TOB1-AS1	0.363	<0.001	Positive
cor210	GLS	LINC02003	0.362	<0.001	Positive
cor211	DLAT	SNHG16	0.327	<0.001	Positive
cor212	MTF1	RNF213-AS1	0.363	<0.001	Positive
cor213	DLD	BAIAP2-DT	-0.336	<0.001	Negative
cor214	LIPT2	TYMSOS	0.312	<0.001	Positive
cor215	MTF1	GAPLINC	-0.369	<0.001	Negative
cor216	GLS	DLGAP1-AS1	-0.36	<0.001	Negative
cor217	LIPT2	DLGAP1-AS1	0.302	<0.001	Positive
cor218	LIPT2	LINC00668	0.336	<0.001	Positive
cor219	DLAT	GATA6-AS1	-0.336	<0.001	Negative
cor220	PDHA1	CARD8-AS1	-0.365	<0.001	Negative
cor221	MTF1	PTOV1-AS1	0.311	<0.001	Positive
cor222	LIPT2	NRSN2-AS1	0.313	<0.001	Positive
cor223	LIPT2	LINC01431	0.33	<0.001	Positive
cor224	MTF1	NORAD	0.467	<0.001	Positive
cor225	DBT	NORAD	0.302	<0.001	Positive
cor226	ATP7A	NORAD	0.354	<0.001	Positive
cor227	ATP7A	SNHG17	-0.35	<0.001	Negative
cor228	LIPT2	SNHG11	0.353	<0.001	Positive
cor229	LIPT1	OSER1-DT	0.398	<0.001	Positive
cor230	MTF1	ZFAS1	-0.444	<0.001	Negative
cor231	ATP7A	ZFAS1	-0.314	<0.001	Negative
cor232	LIPT1	URB1-AS1	0.304	<0.001	Positive
cor233	GCSH	URB1-AS1	0.307	<0.001	Positive
cor234	LIPT1	C21orf62-AS1	0.324	<0.001	Positive
cor235	ATP7A	C21orf62-AS1	0.328	<0.001	Positive

Table S2 (continued)

Table S2 (continued)

	Cuproptosis genes	LncRNAs	Correlation coefficient	P value	Regulation
cor236	GLS	IL10RB-DT	0.314	<0.001	Positive
cor237	ATP7B	B3GALT5-AS1	0.331	<0.001	Positive
cor238	LIPT2	TRPM2-AS	0.353	<0.001	Positive
cor239	DLAT	ITGB2-AS1	-0.33	<0.001	Negative
cor240	ATP7B	LINC01547	-0.312	<0.001	Negative
cor241	MTF1	MCM3AP-AS1	0.337	<0.001	Positive
cor242	LIPT2	THAP7-AS1	0.304	<0.001	Positive
cor243	MTF1	PPM1F-AS1	0.333	<0.001	Positive
cor244	PDHB	PPM1F-AS1	-0.321	<0.001	Negative
cor245	MTF1	LINC01521	0.318	<0.001	Positive
cor246	MTF1	PRR34-AS1	-0.316	<0.001	Negative
cor247	DLAT	LINC00685	-0.314	<0.001	Negative
cor248	SLC31A1	ASMTL-AS1	-0.305	<0.001	Negative
cor249	PDHA1	ASMTL-AS1	0.32	<0.001	Positive
cor250	PDHA1	ZNF674-AS1	0.355	<0.001	Positive
cor251	ATP7A	LINC01278	0.378	<0.001	Positive
cor252	ATP7A	FTX	0.475	<0.001	Positive
cor253	ATP7A	RAP2C-AS1	0.439	<0.001	Positive

CuRLs, cuproptosis-related lncRNAs.

Table S3 Univariate Cox regression analysis of CuRLs associated with OS of LUAD

LncRNAs	HR (95% CI)	P value	Risk type
LINC00592	1.671 (1.258, 2.221)	<0.001	Risk
TMPO-AS1	1.443 (1.185, 1.758)	<0.001	Risk
GSEC	1.401 (1.197, 1.640)	<0.001	Risk
NKX2-1-AS1	0.814 (0.726, 0.911)	<0.001	Protect
APTR	0.701 (0.567, 0.867)	0.001	Protect
MIR31HG	1.414 (1.139, 1.757)	0.002	Risk
PRDM16-DT	0.809 (0.701, 0.934)	0.004	Protect
PCBP1-AS1	0.662 (0.498, 0.879)	0.004	Protect
MIR497HG	0.537 (0.352, 0.820)	0.004	Protect
MIR4435-2HG	1.315 (1.088, 1.590)	0.005	Risk
ZNF674-AS1	0.695 (0.535, 0.902)	0.006	Protect
LINC01137	1.304 (1.074, 1.583)	0.007	Risk
MIR29B2CHG	0.845 (0.747, 0.956)	0.007	Protect
TBX5-AS1	0.796 (0.675, 0.938)	0.007	Protect
NIFK-AS1	0.599 (0.414, 0.867)	0.007	Protect
ZSCAN16-AS1	0.734 (0.580, 0.929)	0.010	Protect
ELOA-AS1	0.607 (0.415, 0.886)	0.010	Protect
DLGAP1-AS1	1.239 (1.051, 1.459)	0.011	Risk
IRF1-AS1	0.765 (0.619, 0.944)	0.013	Protect
LINC01852	0.618 (0.423, 0.904)	0.013	Protect
LINC02709	1.442 (1.074, 1.938)	0.015	Risk
ZNF710-AS1	0.802 (0.672, 0.958)	0.015	Protect
CARD8-AS1	0.747 (0.585, 0.954)	0.019	Protect
SEPSECS-AS1	0.702 (0.518, 0.951)	0.023	Protect
HCG18	0.693 (0.497, 0.966)	0.031	Protect
HAGLR	0.913 (0.841, 0.992)	0.032	Protect
BAIAP2-DT	0.842 (0.719, 0.986)	0.032	Protect
TYMSOS	1.309 (1.021, 1.677)	0.033	Risk
DDX11-AS1	1.409 (1.026, 1.936)	0.034	Risk
LINC02861	0.788 (0.632, 0.983)	0.035	Protect
IL10RB-DT	0.720 (0.530, 0.977)	0.035	Protect
CRIM1-DT	1.317 (1.015, 1.707)	0.038	Risk
DRAIC	0.912 (0.837, 0.995)	0.038	Protect
SCAMP1-AS1	0.759 (0.584, 0.985)	0.038	Protect
RUNDC3A-AS1	0.813 (0.669, 0.989)	0.039	Protect
PSMD6-AS2	0.687 (0.477, 0.990)	0.044	Protect

CI, confidence interval; CuRLs, cuproptosis-related lncRNAs; HR, hazard ratio; LUAD, lung adenocarcinoma; OS, overall survival.

Table S4 Identified CuRLs-related mRNAs using Pearson correlation analysis

CuRLs	mRNA	Correlation coefficient	P value	Regulation
CARD8-AS1	TNFRSF9	0.528	<0.001	Positive
LINC01137	AGTRAP	0.541	<0.001	Positive
CARD8-AS1	NECAP2	0.620	<0.001	Positive
CARD8-AS1	PLA2G5	0.525	<0.001	Positive
CARD8-AS1	PLA2G2D	0.509	<0.001	Positive
CARD8-AS1	C1QA	0.607	<0.001	Positive
CARD8-AS1	C1QC	0.618	<0.001	Positive
CARD8-AS1	C1QB	0.615	<0.001	Positive
TMPO-AS1	E2F2	0.651	<0.001	Positive
ELOA-AS1	MTFR1L	0.524	<0.001	Positive
TMPO-AS1	AUNIP	0.587	<0.001	Positive
TMPO-AS1	STMN1	0.551	<0.001	Positive
CARD8-AS1	CD52	0.685	<0.001	Positive
CARD8-AS1	FGR	0.561	<0.001	Positive
CARD8-AS1	PTAFR	0.503	<0.001	Positive
ZSCAN16-AS1	ATP5IF1	0.544	<0.001	Positive
CARD8-AS1	LAPTM5	0.690	<0.001	Positive
ELOA-AS1	IQCC	0.518	<0.001	Positive
CARD8-AS1	LCK	0.618	<0.001	Positive
TMPO-AS1	CLSPN	0.598	<0.001	Positive
TMPO-AS1	CDCA8	0.639	<0.001	Positive
TMPO-AS1	CDC20	0.618	<0.001	Positive
TMPO-AS1	KIF2C	0.648	<0.001	Positive
TMPO-AS1	RAD54L	0.684	<0.001	Positive
TMPO-AS1	STIL	0.603	<0.001	Positive
TMPO-AS1	ORC1	0.631	<0.001	Positive
TMPO-AS1	DEPDC1	0.602	<0.001	Positive
CARD8-AS1	MCOLN2	0.563	<0.001	Positive
CARD8-AS1	GBP1	0.522	<0.001	Positive
CARD8-AS1	GBP4	0.519	<0.001	Positive
CARD8-AS1	GBP5	0.525	<0.001	Positive
CARD8-AS1	LRRC8C	0.568	<0.001	Positive
TMPO-AS1	CDC7	0.614	<0.001	Positive
CARD8-AS1	GFI1	0.503	<0.001	Positive
CARD8-AS1	VCAM1	0.503	<0.001	Positive
TMPO-AS1	PSRC1	0.624	<0.001	Positive
CARD8-AS1	CD53	0.760	<0.001	Positive
CARD8-AS1	C1orf162	0.599	<0.001	Positive
CARD8-AS1	TMIGD3	0.543	<0.001	Positive
CARD8-AS1	PTPN22	0.604	<0.001	Positive
CARD8-AS1	CD2	0.649	<0.001	Positive
CARD8-AS1	FCGR1B	0.641	<0.001	Positive
TMPO-AS1	FAM72B	0.638	<0.001	Positive
TMPO-AS1	FAM72C	0.567	<0.001	Positive
TMPO-AS1	FAM72D	0.618	<0.001	Positive
CARD8-AS1	FCGR1A	0.651	<0.001	Positive
CARD8-AS1	PLEKHO1	0.540	<0.001	Positive
CARD8-AS1	C1orf54	0.667	<0.001	Positive
CARD8-AS1	CTSS	0.605	<0.001	Positive
CARD8-AS1	CTSK	0.516	<0.001	Positive
CARD8-AS1	TNFAIP8L2	0.701	<0.001	Positive

Table S4 (continued)

Table S4 (continued)

CuRLs	mRNA	Correlation coefficient	P value	Regulation
ZSCAN16-AS1	DPM3	0.572	<0.001	Positive
CARD8-AS1	SYT11	0.504	<0.001	Positive
TMPO-AS1	IQGAP3	0.559	<0.001	Positive
CARD8-AS1	CD1D	0.634	<0.001	Positive
CARD8-AS1	MNDA	0.682	<0.001	Positive
CARD8-AS1	PYHIN1	0.590	<0.001	Positive
CARD8-AS1	SLAMF8	0.626	<0.001	Positive
CARD8-AS1	SLAMF6	0.604	<0.001	Positive
CARD8-AS1	CD84	0.638	<0.001	Positive
CARD8-AS1	SLAMF1	0.645	<0.001	Positive
CARD8-AS1	CD48	0.755	<0.001	Positive
CARD8-AS1	SLAMF7	0.615	<0.001	Positive
CARD8-AS1	LY9	0.537	<0.001	Positive
CARD8-AS1	CD244	0.628	<0.001	Positive
CARD8-AS1	ARHGAP30	0.533	<0.001	Positive
CARD8-AS1	FCER1G	0.645	<0.001	Positive
CARD8-AS1	FCGR2A	0.542	<0.001	Positive
CARD8-AS1	FCGR3A	0.607	<0.001	Positive
CARD8-AS1	FCGR2B	0.653	<0.001	Positive
CARD8-AS1	FCRLA	0.501	<0.001	Positive
TMPO-AS1	NUF2	0.617	<0.001	Positive
CARD8-AS1	CD247	0.612	<0.001	Positive
CARD8-AS1	RCSD1	0.675	<0.001	Positive
CARD8-AS1	XCL2	0.510	<0.001	Positive
TMPO-AS1	C1orf112	0.520	<0.001	Positive
CARD8-AS1	SELL	0.541	<0.001	Positive
CARD8-AS1	FMO2	0.500	<0.001	Positive
TMPO-AS1	CENPL	0.508	<0.001	Positive
CARD8-AS1	NPL	0.592	<0.001	Positive
CARD8-AS1	NCF2	0.575	<0.001	Positive
CARD8-AS1	RGS18	0.772	<0.001	Positive
CARD8-AS1	RGS13	0.578	<0.001	Positive
TMPO-AS1	ASPM	0.615	<0.001	Positive
CARD8-AS1	PTPRC	0.722	<0.001	Positive
TMPO-AS1	KIF14	0.620	<0.001	Positive
CARD8-AS1	PTPN7	0.612	<0.001	Positive
TMPO-AS1	UBE2T	0.574	<0.001	Positive
CARD8-AS1	LAX1	0.534	<0.001	Positive
TMPO-AS1	FAM72A	0.646	<0.001	Positive
CARD8-AS1	IL10	0.692	<0.001	Positive
CARD8-AS1	FCMR	0.549	<0.001	Positive
TMPO-AS1	C1orf116	-0.538	<0.001	Negative
CARD8-AS1	CR1	0.585	<0.001	Positive
CARD8-AS1	HSD11B1	0.662	<0.001	Positive
CARD8-AS1	TRAF3IP3	0.611	<0.001	Positive
TMPO-AS1	NEK2	0.611	<0.001	Positive
TMPO-AS1	DTL	0.604	<0.001	Positive
TMPO-AS1	CENPF	0.602	<0.001	Positive
CARD8-AS1	KMO	0.558	<0.001	Positive
TMPO-AS1	EXO1	0.647	<0.001	Positive
CARD8-AS1	NLRP3	0.534	<0.001	Positive

Table S4 (continued)

Table S4 (continued)

CuRLs	mRNA	Correlation coefficient	P value	Regulation
TMPO-AS1	RRM2	0.617	<0.001	Positive
CARD8-AS1	CYRIA	0.524	<0.001	Positive
TMPO-AS1	GEN1	0.567	<0.001	Positive
TMPO-AS1	CENPO	0.602	<0.001	Positive
TMPO-AS1	CENPA	0.648	<0.001	Positive
CARD8-AS1	NLRC4	0.604	<0.001	Positive
CARD8-AS1	RASGRP3	0.500	<0.001	Positive
ZSCAN16-AS1	ACYP2	0.512	<0.001	Positive
CARD8-AS1	CNRIP1	0.557	<0.001	Positive
CARD8-AS1	PLEK	0.714	<0.001	Positive
CARD8-AS1	ARHGAP25	0.607	<0.001	Positive
ZSCAN16-AS1	PRADC1	0.507	<0.001	Positive
CARD8-AS1	CD8A	0.531	<0.001	Positive
CARD8-AS1	CD8B	0.512	<0.001	Positive
TMPO-AS1	NCAPH	0.650	<0.001	Positive
CARD8-AS1	IL18RAP	0.517	<0.001	Positive
TMPO-AS1	BUB1	0.626	<0.001	Positive
TMPO-AS1	CKAP2L	0.610	<0.001	Positive
CARD8-AS1	GYPC	0.605	<0.001	Positive
TMPO-AS1	MCM6	0.571	<0.001	Positive
CARD8-AS1	CXCR4	0.522	<0.001	Positive
CARD8-AS1	ARHGAP15	0.736	<0.001	Positive
CARD8-AS1	ZEB2	0.611	<0.001	Positive
CARD8-AS1	CYTIP	0.596	<0.001	Positive
TMPO-AS1	SPC25	0.687	<0.001	Positive
CARD8-AS1	WIPF1	0.608	<0.001	Positive
CARD8-AS1	ITGA4	0.601	<0.001	Positive
CARD8-AS1	CALCRL	0.503	<0.001	Positive
TMPO-AS1	CCDC150	0.537	<0.001	Positive
CARD8-AS1	ANKRD44	0.522	<0.001	Positive
TMPO-AS1	SGO2	0.567	<0.001	Positive
CARD8-AS1	CD28	0.645	<0.001	Positive
CARD8-AS1	CTLA4	0.509	<0.001	Positive
CARD8-AS1	ICOS	0.659	<0.001	Positive
CARD8-AS1	ARPC2	0.504	<0.001	Positive
TMPO-AS1	CNOT9	0.502	<0.001	Positive
CARD8-AS1	DOCK10	0.529	<0.001	Positive
CARD8-AS1	SP140	0.527	<0.001	Positive
TMPO-AS1	HJURP	0.648	<0.001	Positive
ZSCAN16-AS1	COPS9	0.522	<0.001	Positive
TMPO-AS1	FANCD2	0.590	<0.001	Positive
CARD8-AS1	ATG7	0.503	<0.001	Positive
TMPO-AS1	SGO1	0.641	<0.001	Positive
CARD8-AS1	EOMES	0.505	<0.001	Positive
CARD8-AS1	CCR4	0.583	<0.001	Positive
CARD8-AS1	CCR8	0.509	<0.001	Positive
TMPO-AS1	KIF15	0.626	<0.001	Positive
CARD8-AS1	CXCR6	0.605	<0.001	Positive
CARD8-AS1	CCR1	0.625	<0.001	Positive
CARD8-AS1	CCR2	0.700	<0.001	Positive
CARD8-AS1	CCR5	0.613	<0.001	Positive

Table S4 (continued)

Table S4 (continued)

CuRLs	mRNA	Correlation coefficient	P value	Regulation
CARD8-AS1	CCRL2	0.510	<0.001	Positive
TMPO-AS1	CDC25A	0.644	<0.001	Positive
ZSCAN16-AS1	TMA7	0.503	<0.001	Positive
TMPO-AS1	TRAIP	0.589	<0.001	Positive
TMPO-AS1	POC1A	0.527	<0.001	Positive
CARD8-AS1	PPM1M	0.538	<0.001	Positive
ZSCAN16-AS1	SMIM4	0.520	<0.001	Positive
CARD8-AS1	KBTBD8	0.734	<0.001	Positive
TMPO-AS1	GIP2A	0.607	<0.001	Positive
CARD8-AS1	TRAT1	0.646	<0.001	Positive
CARD8-AS1	CD96	0.565	<0.001	Positive
CARD8-AS1	CD200	0.525	<0.001	Positive
CARD8-AS1	BTLA	0.622	<0.001	Positive
CARD8-AS1	CD200R1	0.699	<0.001	Positive
CARD8-AS1	CD80	0.666	<0.001	Positive
TMPO-AS1	POLQ	0.662	<0.001	Positive
CARD8-AS1	CD86	0.722	<0.001	Positive
TMPO-AS1	MCM2	0.625	<0.001	Positive
TMPO-AS1	TOPBP1	0.585	<0.001	Positive
CARD8-AS1	SLC9A9	0.591	<0.001	Positive
CARD8-AS1	P2RY14	0.618	<0.001	Positive
CARD8-AS1	P2RY13	0.679	<0.001	Positive
CARD8-AS1	P2RY12	0.649	<0.001	Positive
CARD8-AS1	SUCNR1	0.511	<0.001	Positive
TMPO-AS1	GMPS	0.554	<0.001	Positive
CARD8-AS1	LXN	0.522	<0.001	Positive
CARD8-AS1	MFSD1	0.509	<0.001	Positive
TMPO-AS1	ECT2	0.546	<0.001	Positive
CARD8-AS1	GNB4	0.501	<0.001	Positive
CARD8-AS1	KLHL6	0.577	<0.001	Positive
TMPO-AS1	TRA2B	0.500	<0.001	Positive
TMPO-AS1	RFC4	0.645	<0.001	Positive
CARD8-AS1	NRROS	0.513	<0.001	Positive
TMPO-AS1	TACC3	0.611	<0.001	Positive
TMPO-AS1	NSD2	0.512	<0.001	Positive
CARD8-AS1	SLC2A9	0.567	<0.001	Positive
CARD8-AS1	BST1	0.530	<0.001	Positive
CARD8-AS1	LAP3	0.518	<0.001	Positive
TMPO-AS1	NCAPG	0.645	<0.001	Positive
CARD8-AS1	TLR10	0.598	<0.001	Positive
CARD8-AS1	TLR1	0.584	<0.001	Positive
CARD8-AS1	RHOH	0.545	<0.001	Positive
TMPO-AS1	HOPX	-0.542	<0.001	Negative
CARD8-AS1	IGFBP7	0.511	<0.001	Positive
CARD8-AS1	STAP1	0.573	<0.001	Positive
CARD8-AS1	JCHAIN	0.534	<0.001	Positive
CARD8-AS1	CXCL10	0.549	<0.001	Positive
CARD8-AS1	CXCL13	0.529	<0.001	Positive
TMPO-AS1	H2AZ1	0.536	<0.001	Positive
TMPO-AS1	CENPE	0.612	<0.001	Positive
CARD8-AS1	MCUB	0.501	<0.001	Positive

Table S4 (continued)

Table S4 (continued)

CuRLs	mRNA	Correlation coefficient	P value	Regulation
TMPO-AS1	MAD2L1	0.547	<0.001	Positive
TMPO-AS1	CCNA2	0.598	<0.001	Positive
TMPO-AS1	PLK4	0.610	<0.001	Positive
CARD8-AS1	IL15	0.515	<0.001	Positive
TMPO-AS1	MND1	0.540	<0.001	Positive
CARD8-AS1	MARCHF1	0.738	<0.001	Positive
TMPO-AS1	HMGB2	0.564	<0.001	Positive
TMPO-AS1	CENPU	0.588	<0.001	Positive
TMPO-AS1	TRIP13	0.532	<0.001	Positive
CARD8-AS1	IL7R	0.595	<0.001	Positive
TMPO-AS1	SKP2	0.520	<0.001	Positive
CARD8-AS1	SLC1A3	0.566	<0.001	Positive
CARD8-AS1	FYB1	0.593	<0.001	Positive
CARD8-AS1	PTGER4	0.577	<0.001	Positive
TMPO-AS1	C5orf34	0.544	<0.001	Positive
CARD8-AS1	GZMK	0.629	<0.001	Positive
CARD8-AS1	GZMA	0.569	<0.001	Positive
CARD8-AS1	GAPT	0.613	<0.001	Positive
TMPO-AS1	DEPDC1B	0.578	<0.001	Positive
TMPO-AS1	CENPK	0.581	<0.001	Positive
CARD8-AS1	SGTB	0.545	<0.001	Positive
CARD8-AS1	CD180	0.662	<0.001	Positive
TMPO-AS1	CCNB1	0.596	<0.001	Positive
TMPO-AS1	CENPH	0.610	<0.001	Positive
CARD8-AS1	NAIP	0.595	<0.001	Positive
CARD8-AS1	CAMK4	0.526	<0.001	Positive
CARD8-AS1	TNFAIP8	0.577	<0.001	Positive
TMPO-AS1	LMNB1	0.634	<0.001	Positive
CARD8-AS1	TIFAB	0.606	<0.001	Positive
TMPO-AS1	KIF20A	0.615	<0.001	Positive
TMPO-AS1	CDC25C	0.638	<0.001	Positive
CARD8-AS1	CD14	0.565	<0.001	Positive
ZSCAN16-AS1	NDUFA2	0.596	<0.001	Positive
CARD8-AS1	CSF1R	0.569	<0.001	Positive
CARD8-AS1	CDX1	0.520	<0.001	Positive
CARD8-AS1	HAVCR2	0.699	<0.001	Positive
CARD8-AS1	ITK	0.577	<0.001	Positive
TMPO-AS1	PTTG1	0.544	<0.001	Positive
TMPO-AS1	HMMR	0.585	<0.001	Positive
CARD8-AS1	MAT2B	0.516	<0.001	Positive
TMPO-AS1	SPDL1	0.538	<0.001	Positive
CARD8-AS1	DOCK2	0.608	<0.001	Positive
CARD8-AS1	LCP2	0.680	<0.001	Positive
CARD8-AS1	HK3	0.506	<0.001	Positive
CARD8-AS1	LY86	0.676	<0.001	Positive
TMPO-AS1	GMNN	0.534	<0.001	Positive
CARD8-AS1	BTN3A1	0.512	<0.001	Positive
CARD8-AS1	BTN3A3	0.512	<0.001	Positive
TMPO-AS1	TCF19	0.579	<0.001	Positive
CARD8-AS1	LTA	0.589	<0.001	Positive
CARD8-AS1	LST1	0.706	<0.001	Positive

Table S4 (continued)

Table S4 (continued)

CuRLs	mRNA	Correlation coefficient	P value	Regulation
CARD8-AS1	NCR3	0.589	<0.001	Positive
CARD8-AS1	AIF1	0.721	<0.001	Positive
CARD8-AS1	HLA-DRA	0.641	<0.001	Positive
CARD8-AS1	HLA-DRB1	0.514	<0.001	Positive
CARD8-AS1	HLA-DQA1	0.583	<0.001	Positive
CARD8-AS1	HLA-DOB	0.512	<0.001	Positive
CARD8-AS1	PSMB9	0.502	<0.001	Positive
CARD8-AS1	HLA-DMB	0.670	<0.001	Positive
CARD8-AS1	AL645941.2	0.522	<0.001	Positive
CARD8-AS1	HLA-DOA	0.536	<0.001	Positive
CARD8-AS1	HLA-DPA1	0.567	<0.001	Positive
CARD8-AS1	HLA-DPB1	0.562	<0.001	Positive
TMPO-AS1	KIFC1	0.671	<0.001	Positive
ZSCAN16-AS1	CUTA	0.580	<0.001	Positive
CARD8-AS1	FGD2	0.616	<0.001	Positive
CARD8-AS1	TREM2	0.553	<0.001	Positive
CARD8-AS1	TDRD6	0.512	<0.001	Positive
CARD8-AS1	PLA2G7	0.508	<0.001	Positive
TMPO-AS1	MCM3	0.554	<0.001	Positive
TMPO-AS1	TTK	0.640	<0.001	Positive
CARD8-AS1	CYB5R4	0.532	<0.001	Positive
TMPO-AS1	MMS22L	0.532	<0.001	Positive
CARD8-AS1	OSTM1	0.617	<0.001	Positive
CARD8-AS1	SNX3	0.501	<0.001	Positive
CARD8-AS1	DSE	0.511	<0.001	Positive
CARD8-AS1	CALHM6	0.612	<0.001	Positive
TMPO-AS1	CENPW	0.615	<0.001	Positive
CARD8-AS1	THEMIS	0.673	<0.001	Positive
CARD8-AS1	ARHGAP18	0.589	<0.001	Positive
CARD8-AS1	SAMD3	0.648	<0.001	Positive
CARD8-AS1	VNN2	0.583	<0.001	Positive
TMPO-AS1	MTFR2	0.598	<0.001	Positive
CARD8-AS1	IFNGR1	0.524	<0.001	Positive
CARD8-AS1	STX11	0.604	<0.001	Positive
CARD8-AS1	RAB32	0.558	<0.001	Positive
TMPO-AS1	FBXO5	0.610	<0.001	Positive
CARD8-AS1	TAGAP	0.680	<0.001	Positive
CARD8-AS1	CCR6	0.508	<0.001	Positive
CARD8-AS1	GPNMB	0.506	<0.001	Positive
CARD8-AS1	SNX10	0.547	<0.001	Positive
CARD8-AS1	CPVL	0.576	<0.001	Positive
TMPO-AS1	ANLN	0.535	<0.001	Positive
CARD8-AS1	AOAH	0.690	<0.001	Positive
CARD8-AS1	GPR141	0.579	<0.001	Positive
CARD8-AS1	IKZF1	0.617	<0.001	Positive
CARD8-AS1	LAT2	0.626	<0.001	Positive
CARD8-AS1	NCF1	0.617	<0.001	Positive
CARD8-AS1	FGL2	0.694	<0.001	Positive
APTR	RSBN1L	0.581	<0.001	Positive
TMPO-AS1	MCM7	0.518	<0.001	Positive
ZSCAN16-AS1	LAMTOR4	0.509	<0.001	Positive

Table S4 (continued)

Table S4 (continued)

CuRLs	mRNA	Correlation coefficient	P value	Regulation
CARD8-AS1	PILRA	0.610	<0.001	Positive
CARD8-AS1	PIK3CG	0.664	<0.001	Positive
CARD8-AS1	TFEC	0.775	<0.001	Positive
CARD8-AS1	CPED1	0.588	<0.001	Positive
ZSCAN16-AS1	FMC1	0.580	<0.001	Positive
CARD8-AS1	TPK1	0.514	<0.001	Positive
TMPO-AS1	EZH2	0.600	<0.001	Positive
CARD8-AS1	GIMAP8	0.518	<0.001	Positive
CARD8-AS1	GIMAP7	0.690	<0.001	Positive
CARD8-AS1	GIMAP4	0.721	<0.001	Positive
CARD8-AS1	GIMAP6	0.709	<0.001	Positive
CARD8-AS1	GIMAP2	0.690	<0.001	Positive
CARD8-AS1	GIMAP1	0.544	<0.001	Positive
CARD8-AS1	GIMAP5	0.597	<0.001	Positive
TMPO-AS1	XRCC2	0.556	<0.001	Positive
TMPO-AS1	NCAPG2	0.595	<0.001	Positive
CARD8-AS1	MSR1	0.628	<0.001	Positive
CARD8-AS1	ATP6V1B2	0.523	<0.001	Positive
CARD8-AS1	DOK2	0.637	<0.001	Positive
CARD8-AS1	ADAMDEC1	0.507	<0.001	Positive
TMPO-AS1	CDCA2	0.661	<0.001	Positive
TMPO-AS1	ESCO2	0.620	<0.001	Positive
TMPO-AS1	PBK	0.638	<0.001	Positive
TMPO-AS1	GINS4	0.552	<0.001	Positive
TMPO-AS1	MCM4	0.569	<0.001	Positive
CARD8-AS1	DNAJC5B	0.623	<0.001	Positive
CARD8-AS1	LY96	0.501	<0.001	Positive
CARD8-AS1	IL7	0.503	<0.001	Positive
TMPO-AS1	RAD54B	0.550	<0.001	Positive
TMPO-AS1	CCNE2	0.514	<0.001	Positive
TMPO-AS1	FBXO43	0.535	<0.001	Positive
TMPO-AS1	DSCC1	0.555	<0.001	Positive
TMPO-AS1	TBC1D31	0.518	<0.001	Positive
TMPO-AS1	ATAD2	0.543	<0.001	Positive
CARD8-AS1	SLA	0.623	<0.001	Positive
CARD8-AS1	FAM83H	-0.524	<0.001	Negative
CARD8-AS1	DOCK8	0.531	<0.001	Positive
CARD8-AS1	JAK2	0.600	<0.001	Positive
CARD8-AS1	PDCD1LG2	0.700	<0.001	Positive
MIR31HG	IFNE	0.774	<0.001	Positive
CARD8-AS1	C9orf72	0.502	<0.001	Positive
TMPO-AS1	KIF24	0.516	<0.001	Positive
CARD8-AS1	CCL19	0.543	<0.001	Positive
TMPO-AS1	FANCG	0.580	<0.001	Positive
CARD8-AS1	CD72	0.597	<0.001	Positive
CARD8-AS1	SIT1	0.678	<0.001	Positive
TMPO-AS1	ARHGEF39	0.661	<0.001	Positive
CARD8-AS1	GLIPR2	0.626	<0.001	Positive
TMPO-AS1	MELK	0.612	<0.001	Positive
CARD8-AS1	SUSD3	0.555	<0.001	Positive
TMPO-AS1	ZNF367	0.613	<0.001	Positive

Table S4 (continued)

Table S4 (continued)

CuRLs	mRNA	Correlation coefficient	P value	Regulation
TMPO-AS1	SMC2	0.519	<0.001	Positive
CARD8-AS1	SLC31A2	0.652	<0.001	Positive
CARD8-AS1	TNFSF8	0.675	<0.001	Positive
CARD8-AS1	TLR4	0.729	<0.001	Positive
CARD8-AS1	FAM78A	0.552	<0.001	Positive
CARD8-AS1	FCN1	0.507	<0.001	Positive
CARD8-AS1	IL2RA	0.559	<0.001	Positive
TMPO-AS1	MCM10	0.585	<0.001	Positive
CARD8-AS1	APBB1IP	0.546	<0.001	Positive
TMPO-AS1	MASTL	0.571	<0.001	Positive
CARD8-AS1	TMEM273	0.774	<0.001	Positive
TMPO-AS1	ZWINT	0.679	<0.001	Positive
TMPO-AS1	CDK1	0.607	<0.001	Positive
TMPO-AS1	DNA2	0.561	<0.001	Positive
CARD8-AS1	SRGN	0.630	<0.001	Positive
TMPO-AS1	DNAJC9	0.520	<0.001	Positive
CARD8-AS1	LIPA	0.571	<0.001	Positive
TMPO-AS1	KIF20B	0.524	<0.001	Positive
TMPO-AS1	KIF11	0.658	<0.001	Positive
TMPO-AS1	CEP55	0.574	<0.001	Positive
TMPO-AS1	HELLS	0.651	<0.001	Positive
CARD8-AS1	ENTPD1	0.616	<0.001	Positive
CARD8-AS1	PIK3AP1	0.681	<0.001	Positive
CARD8-AS1	CALHM2	0.510	<0.001	Positive
ZSCAN16-AS1	SLK	-0.522	<0.001	Negative
TMPO-AS1	MKI67	0.615	<0.001	Positive
CARD8-AS1	TRIM22	0.524	<0.001	Positive
TMPO-AS1	E2F8	0.572	<0.001	Positive
TMPO-AS1	CCDC34	0.543	<0.001	Positive
TMPO-AS1	KIF18A	0.551	<0.001	Positive
CARD8-AS1	SPI1	0.574	<0.001	Positive
ZSCAN16-AS1	CTNND1	-0.509	<0.001	Negative
CARD8-AS1	LPXN	0.691	<0.001	Positive
TMPO-AS1	FAM111B	0.574	<0.001	Positive
CARD8-AS1	MPEG1	0.638	<0.001	Positive
CARD8-AS1	MS4A6A	0.748	<0.001	Positive
CARD8-AS1	MS4A4A	0.683	<0.001	Positive
CARD8-AS1	MS4A7	0.630	<0.001	Positive
TMPO-AS1	FEN1	0.638	<0.001	Positive
TMPO-AS1	INCENP	0.566	<0.001	Positive
CARD8-AS1	FERMT3	0.630	<0.001	Positive
CARD8-AS1	NAALADL1	0.622	<0.001	Positive
TMPO-AS1	CDCA5	0.654	<0.001	Positive
TMPO-AS1	POLA2	0.649	<0.001	Positive
TMPO-AS1	CNIH2	0.503	<0.001	Positive
LINC01137	RHOD	0.501	<0.001	Positive
ZSCAN16-AS1	KDM2A	-0.511	<0.001	Negative
CARD8-AS1	TBC1D10C	0.567	<0.001	Positive
TMPO-AS1	TESMIN	0.571	<0.001	Positive
CARD8-AS1	FOLR2	0.609	<0.001	Positive
CARD8-AS1	SLCO2B1	0.588	<0.001	Positive

Table S4 (continued)

Table S4 (continued)

CuRLs	mRNA	Correlation coefficient	P value	Regulation
TMPO-AS1	DDIAS	0.561	<0.001	Positive
CARD8-AS1	CASP5	0.503	<0.001	Positive
CARD8-AS1	CASP1	0.643	<0.001	Positive
CARD8-AS1	CARD16	0.553	<0.001	Positive
CARD8-AS1	IL10RA	0.659	<0.001	Positive
CARD8-AS1	JAML	0.599	<0.001	Positive
CARD8-AS1	CD3E	0.557	<0.001	Positive
CARD8-AS1	CD3D	0.618	<0.001	Positive
CARD8-AS1	CD3G	0.611	<0.001	Positive
ZSCAN16-AS1	BCL9L	-0.544	<0.001	Negative
TMPO-AS1	H2AX	0.513	<0.001	Positive
CARD8-AS1	CRTAM	0.642	<0.001	Positive
CARD8-AS1	SLC37A2	0.542	<0.001	Positive
TMPO-AS1	CHEK1	0.650	<0.001	Positive
TMPO-AS1	ACRV1	0.589	<0.001	Positive
TMPO-AS1	HYLS1	0.501	<0.001	Positive
CARD8-AS1	FLI1	0.580	<0.001	Positive
TMPO-AS1	NCAPD3	0.514	<0.001	Positive
TMPO-AS1	FOXM1	0.664	<0.001	Positive
TMPO-AS1	RAD51AP1	0.614	<0.001	Positive
CARD8-AS1	CD27	0.516	<0.001	Positive
TMPO-AS1	NCAPD2	0.568	<0.001	Positive
CARD8-AS1	CD4	0.631	<0.001	Positive
TMPO-AS1	CDCA3	0.686	<0.001	Positive
CARD8-AS1	CD163	0.537	<0.001	Positive
CARD8-AS1	C3AR1	0.651	<0.001	Positive
CARD8-AS1	CLEC4A	0.776	<0.001	Positive
CARD8-AS1	CLEC6A	0.619	<0.001	Positive
CARD8-AS1	CLEC4D	0.526	<0.001	Positive
CARD8-AS1	KLRG1	0.595	<0.001	Positive
CARD8-AS1	KLRB1	0.628	<0.001	Positive
CARD8-AS1	CLECL1	0.662	<0.001	Positive
CARD8-AS1	CD69	0.671	<0.001	Positive
CARD8-AS1	CLEC2B	0.526	<0.001	Positive
CARD8-AS1	CLEC12A	0.587	<0.001	Positive
CARD8-AS1	CLEC7A	0.563	<0.001	Positive
TMPO-AS1	GPR19	0.600	<0.001	Positive
CARD8-AS1	PTPRO	0.675	<0.001	Positive
CARD8-AS1	LRMP	0.587	<0.001	Positive
CARD8-AS1	ABCD2	0.637	<0.001	Positive
TMPO-AS1	SENP1	0.527	<0.001	Positive
TMPO-AS1	TUBA1B	0.501	<0.001	Positive
TMPO-AS1	TROAP	0.706	<0.001	Positive
TMPO-AS1	SPATS2	0.540	<0.001	Positive
CARD8-AS1	FMNL3	0.502	<0.001	Positive
TMPO-AS1	RACGAP1	0.666	<0.001	Positive
CARD8-AS1	BIN2	0.609	<0.001	Positive
CARD8-AS1	ITGB7	0.556	<0.001	Positive
TMPO-AS1	ESPL1	0.698	<0.001	Positive
ZSCAN16-AS1	PFDN5	0.537	<0.001	Positive
CARD8-AS1	NCKAP1L	0.673	<0.001	Positive

Table S4 (continued)

Table S4 (continued)

CuRLs	mRNA	Correlation coefficient	P value	Regulation
CARD8-AS1	TESPA1	0.573	<0.001	Positive
TMPO-AS1	CDK2	0.659	<0.001	Positive
TMPO-AS1	PA2G4	0.507	<0.001	Positive
TMPO-AS1	TIMELESS	0.665	<0.001	Positive
TMPO-AS1	PRIM1	0.602	<0.001	Positive
TMPO-AS1	NEMP1	0.543	<0.001	Positive
CARD8-AS1	ARHGAP9	0.596	<0.001	Positive
TMPO-AS1	NUP107	0.511	<0.001	Positive
CARD8-AS1	LYZ	0.606	<0.001	Positive
CARD8-AS1	GLIPR1	0.672	<0.001	Positive
TMPO-AS1	E2F7	0.636	<0.001	Positive
CARD8-AS1	LUM	0.520	<0.001	Positive
CARD8-AS1	DCN	0.576	<0.001	Positive
CARD8-AS1	PLXNC1	0.634	<0.001	Positive
TMPO-AS1	SNRPF	0.569	<0.001	Positive
TMPO-AS1	TMPO	0.705	<0.001	Positive
TMPO-AS1	NUP37	0.534	<0.001	Positive
TMPO-AS1	PARPBP	0.619	<0.001	Positive
TMPO-AS1	TDG	0.560	<0.001	Positive
CARD8-AS1	CMKLR1	0.602	<0.001	Positive
CARD8-AS1	SELPLG	0.607	<0.001	Positive
TMPO-AS1	UNG	0.610	<0.001	Positive
TMPO-AS1	ANAPC7	0.563	<0.001	Positive
CARD8-AS1	HVCN1	0.579	<0.001	Positive
TMPO-AS1	RFC5	0.691	<0.001	Positive
TMPO-AS1	SRSF9	0.527	<0.001	Positive
TMPO-AS1	C12orf43	0.517	<0.001	Positive
CARD8-AS1	P2RX7	0.600	<0.001	Positive
ZSCAN16-AS1	CLIP1	-0.502	<0.001	Negative
TMPO-AS1	KNTC1	0.656	<0.001	Positive
TMPO-AS1	DENR	0.518	<0.001	Positive
TMPO-AS1	KMT5A	0.509	<0.001	Positive
TMPO-AS1	DDX55	0.557	<0.001	Positive
TMPO-AS1	EIF2B1	0.513	<0.001	Positive
TMPO-AS1	BRI3BP	0.573	<0.001	Positive
TMPO-AS1	POLE	0.606	<0.001	Positive
TMPO-AS1	SKA3	0.649	<0.001	Positive
CARD8-AS1	MTMR6	0.511	<0.001	Positive
CARD8-AS1	FLT3	0.511	<0.001	Positive
CARD8-AS1	ALOX5AP	0.566	<0.001	Positive
TMPO-AS1	BRCA2	0.550	<0.001	Positive
CARD8-AS1	N4BP2L1	0.561	<0.001	Positive
TMPO-AS1	RFC3	0.571	<0.001	Positive
CARD8-AS1	EPSTI1	0.508	<0.001	Positive
CARD8-AS1	LCP1	0.629	<0.001	Positive
CARD8-AS1	RUBCNL	0.603	<0.001	Positive
CARD8-AS1	LPAR6	0.640	<0.001	Positive
CARD8-AS1	RCBTB2	0.572	<0.001	Positive
CARD8-AS1	CYSLTR2	0.521	<0.001	Positive
TMPO-AS1	CKAP2	0.535	<0.001	Positive
TMPO-AS1	DIAPH3	0.557	<0.001	Positive

Table S4 (continued)

Table S4 (continued)

CuRLs	mRNA	Correlation coefficient	P value	Regulation
TMPO-AS1	BORA	0.534	<0.001	Positive
CARD8-AS1	GPR18	0.625	<0.001	Positive
CARD8-AS1	GPR183	0.565	<0.001	Positive
CARD8-AS1	TNFSF13B	0.732	<0.001	Positive
CARD8-AS1	RNASE6	0.701	<0.001	Positive
CARD8-AS1	SLC7A7	0.660	<0.001	Positive
TMPO-AS1	POLE2	0.606	<0.001	Positive
CARD8-AS1	GNG2	0.637	<0.001	Positive
TMPO-AS1	CDKN3	0.595	<0.001	Positive
TMPO-AS1	WDHD1	0.520	<0.001	Positive
TMPO-AS1	DLGAP5	0.625	<0.001	Positive
CARD8-AS1	RTN1	0.530	<0.001	Positive
RUNDC3A-AS1	TMEM63C	0.511	<0.001	Positive
CARD8-AS1	GPR65	0.807	<0.001	Positive
ZSCAN16-AS1	NDUFB1	0.577	<0.001	Positive
ZSCAN16-AS1	GON7	0.522	<0.001	Positive
CARD8-AS1	ASB2	0.549	<0.001	Positive
TMPO-AS1	VRK1	0.548	<0.001	Positive
TMPO-AS1	ARHGAP11A	0.655	<0.001	Positive
TMPO-AS1	BUB1B	0.671	<0.001	Positive
TMPO-AS1	KNSTRN	0.588	<0.001	Positive
TMPO-AS1	KNL1	0.662	<0.001	Positive
TMPO-AS1	RAD51	0.617	<0.001	Positive
TMPO-AS1	OIP5	0.677	<0.001	Positive
TMPO-AS1	NUSAP1	0.697	<0.001	Positive
TMPO-AS1	WDR76	0.620	<0.001	Positive
CARD8-AS1	B2M	0.663	<0.001	Positive
TMPO-AS1	CEP152	0.518	<0.001	Positive
CARD8-AS1	ATP8B4	0.611	<0.001	Positive
CARD8-AS1	LYSMD2	0.529	<0.001	Positive
TMPO-AS1	CCNB2	0.647	<0.001	Positive
CARD8-AS1	LACTB	0.528	<0.001	Positive
CARD8-AS1	RAB8B	0.637	<0.001	Positive
TMPO-AS1	PCLAF	0.604	<0.001	Positive
TMPO-AS1	PIF1	0.634	<0.001	Positive
CARD8-AS1	PLEKHO2	0.667	<0.001	Positive
TMPO-AS1	TIPIN	0.540	<0.001	Positive
TMPO-AS1	ZWILCH	0.594	<0.001	Positive
TMPO-AS1	KIF23	0.674	<0.001	Positive
CARD8-AS1	PSTPIP1	0.570	<0.001	Positive
CARD8-AS1	BCL2A1	0.662	<0.001	Positive
CARD8-AS1	IL16	0.659	<0.001	Positive
CARD8-AS1	TM6SF1	0.634	<0.001	Positive
TMPO-AS1	FANCI	0.735	<0.001	Positive
TMPO-AS1	TICRR	0.709	<0.001	Positive
TMPO-AS1	BLM	0.667	<0.001	Positive
TMPO-AS1	RCCD1	0.544	<0.001	Positive
TMPO-AS1	PRC1	0.719	<0.001	Positive
TMPO-AS1	SNRPA1	0.596	<0.001	Positive
TMPO-AS1	CCNF	0.513	<0.001	Positive
TMPO-AS1	TEDC2	0.556	<0.001	Positive

Table S4 (continued)

Table S4 (continued)

CuRLs	mRNA	Correlation coefficient	P value	Regulation
TMPO-AS1	PKMYT1	0.585	<0.001	Positive
TMPO-AS1	C16orf89	-0.501	<0.001	Negative
TMPO-AS1	RM12	0.527	<0.001	Positive
CARD8-AS1	TNFRSF17	0.505	<0.001	Positive
ZSCAN16-AS1	ITPRIPL2	-0.504	<0.001	Negative
TMPO-AS1	REXO5	0.533	<0.001	Positive
CARD8-AS1	IGSF6	0.730	<0.001	Positive
TMPO-AS1	PLK1	0.642	<0.001	Positive
CARD8-AS1	PRKCB	0.553	<0.001	Positive
CARD8-AS1	IL21R	0.586	<0.001	Positive
CARD8-AS1	SPN	0.544	<0.001	Positive
CARD8-AS1	C16orf54	0.545	<0.001	Positive
TMPO-AS1	KIF22	0.507	<0.001	Positive
CARD8-AS1	CORO1A	0.564	<0.001	Positive
CARD8-AS1	ITGAL	0.548	<0.001	Positive
CARD8-AS1	ZNF267	0.519	<0.001	Positive
TMPO-AS1	SHCBP1	0.525	<0.001	Positive
TMPO-AS1	ORC6	0.629	<0.001	Positive
CARD8-AS1	SNX20	0.629	<0.001	Positive
TMPO-AS1	GINS3	0.529	<0.001	Positive
CARD8-AS1	DPEP2	0.565	<0.001	Positive
CARD8-AS1	MAF	0.509	<0.001	Positive
TMPO-AS1	CENPN	0.581	<0.001	Positive
CARD8-AS1	COTL1	0.502	<0.001	Positive
TMPO-AS1	GINS2	0.593	<0.001	Positive
CARD8-AS1	IRF8	0.726	<0.001	Positive
TMPO-AS1	CDT1	0.640	<0.001	Positive
TMPO-AS1	FANCA	0.616	<0.001	Positive
TMPO-AS1	HASPIN	0.613	<0.001	Positive
CARD8-AS1	PELP1	-0.536	<0.001	Negative
CARD8-AS1	SCIMP	0.698	<0.001	Positive
TMPO-AS1	PIMREG	0.606	<0.001	Positive
CARD8-AS1	CLEC10A	0.669	<0.001	Positive
CARD8-AS1	ACAP1	0.501	<0.001	Positive
TMPO-AS1	AURKB	0.615	<0.001	Positive
CARD8-AS1	PIK3R5	0.557	<0.001	Positive
CARD8-AS1	PMP22	0.520	<0.001	Positive
CARD8-AS1	TRPV2	0.598	<0.001	Positive
TMPO-AS1	SPAG5	0.661	<0.001	Positive
ZSCAN16-AS1	NUFIP2	-0.519	<0.001	Negative
TMPO-AS1	ATAD5	0.565	<0.001	Positive
CARD8-AS1	ADAP2	0.509	<0.001	Positive
CARD8-AS1	EVI2B	0.717	<0.001	Positive
CARD8-AS1	EVI2A	0.833	<0.001	Positive
CARD8-AS1	SLFN12L	0.505	<0.001	Positive
CARD8-AS1	CCL5	0.510	<0.001	Positive
TMPO-AS1	RDM1	0.551	<0.001	Positive
CARD8-AS1	CCL23	0.516	<0.001	Positive
CARD8-AS1	CCL3	0.546	<0.001	Positive
CARD8-AS1	CCL4	0.559	<0.001	Positive
TMPO-AS1	CDC6	0.610	<0.001	Positive

Table S4 (continued)

Table S4 (continued)

CuRLs	mRNA	Correlation coefficient	P value	Regulation
TMPO-AS1	TOP2A	0.595	<0.001	Positive
TMPO-AS1	PSMC3IP	0.581	<0.001	Positive
TMPO-AS1	BRCA1	0.595	<0.001	Positive
TMPO-AS1	HROB	0.568	<0.001	Positive
TMPO-AS1	DBF4B	0.576	<0.001	Positive
TMPO-AS1	KIF18B	0.681	<0.001	Positive
CARD8-AS1	GNGT2	0.631	<0.001	Positive
CARD8-AS1	ABI3	0.648	<0.001	Positive
TMPO-AS1	EME1	0.591	<0.001	Positive
TMPO-AS1	PRR11	0.577	<0.001	Positive
TMPO-AS1	BRIP1	0.564	<0.001	Positive
CARD8-AS1	CD79B	0.596	<0.001	Positive
CARD8-AS1	MILR1	0.521	<0.001	Positive
TMPO-AS1	KPNA2	0.516	<0.001	Positive
CARD8-AS1	ABCA6	0.534	<0.001	Positive
CARD8-AS1	CD300A	0.665	<0.001	Positive
CARD8-AS1	CD300C	0.604	<0.001	Positive
CARD8-AS1	CD300LF	0.653	<0.001	Positive
TMPO-AS1	TK1	0.503	<0.001	Positive
TMPO-AS1	BIRC5	0.606	<0.001	Positive
TMPO-AS1	TYMS	0.609	<0.001	Positive
TMPO-AS1	NDC80	0.656	<0.001	Positive
DLGAP1-AS1	TGIF1	0.635	<0.001	Positive
TMPO-AS1	SKA1	0.658	<0.001	Positive
TMPO-AS1	C18orf54	0.508	<0.001	Positive
CARD8-AS1	CD226	0.623	<0.001	Positive
CARD8-AS1	EBI3	0.513	<0.001	Positive
TMPO-AS1	CHAF1A	0.549	<0.001	Positive
TMPO-AS1	UHRF1	0.556	<0.001	Positive
ZSCAN16-AS1	PET100	0.504	<0.001	Positive
CARD8-AS1	MYO1F	0.540	<0.001	Positive
CARD8-AS1	ICAM3	0.656	<0.001	Positive
CARD8-AS1	C19orf38	0.522	<0.001	Positive
TMPO-AS1	SPC24	0.645	<0.001	Positive
TMPO-AS1	RNASEH2A	0.545	<0.001	Positive
CARD8-AS1	LYL1	0.502	<0.001	Positive
TMPO-AS1	ASF1B	0.626	<0.001	Positive
CARD8-AS1	CLEC17A	0.537	<0.001	Positive
CARD8-AS1	IL12RB1	0.599	<0.001	Positive
CARD8-AS1	LRRC25	0.611	<0.001	Positive
CARD8-AS1	ZNF101	0.540	<0.001	Positive
TMPO-AS1	CCNE1	0.514	<0.001	Positive
TMPO-AS1	FAAP24	0.514	<0.001	Positive
CARD8-AS1	HCST	0.592	<0.001	Positive
CARD8-AS1	TYROBP	0.654	<0.001	Positive
TMPO-AS1	WDR62	0.511	<0.001	Positive
CARD8-AS1	MAP4K1	0.515	<0.001	Positive
CARD8-AS1	GMFG	0.771	<0.001	Positive
CARD8-AS1	CEACAM21	0.580	<0.001	Positive
CARD8-AS1	APOC1	0.534	<0.001	Positive
CARD8-AS1	PLA2G4C	0.521	<0.001	Positive

Table S4 (continued)

Table S4 (continued)

CuRLs	mRNA	Correlation coefficient	P value	Regulation
TMPO-AS1	LIG1	0.506	<0.001	Positive
CARD8-AS1	EMP3	0.533	<0.001	Positive
CARD8-AS1	CD37	0.583	<0.001	Positive
TMPO-AS1	NAPSA	-0.530	<0.001	Negative
CARD8-AS1	SIGLEC9	0.611	<0.001	Positive
CARD8-AS1	SIGLEC7	0.654	<0.001	Positive
CARD8-AS1	CD33	0.665	<0.001	Positive
CARD8-AS1	SIGLEC10	0.582	<0.001	Positive
CARD8-AS1	SIGLEC14	0.529	<0.001	Positive
CARD8-AS1	FPR1	0.591	<0.001	Positive
CARD8-AS1	FPR3	0.640	<0.001	Positive
CARD8-AS1	OSCAR	0.503	<0.001	Positive
CARD8-AS1	LILRB2	0.573	<0.001	Positive
CARD8-AS1	LILRA5	0.594	<0.001	Positive
CARD8-AS1	LILRA4	0.568	<0.001	Positive
CARD8-AS1	LAIR1	0.656	<0.001	Positive
CARD8-AS1	LILRA1	0.561	<0.001	Positive
CARD8-AS1	LILRB1	0.616	<0.001	Positive
CARD8-AS1	LILRB4	0.567	<0.001	Positive
CARD8-AS1	TMEM150B	0.549	<0.001	Positive
TMPO-AS1	UBE2S	0.549	<0.001	Positive
CARD8-AS1	SIRPB2	0.553	<0.001	Positive
CARD8-AS1	SIRPG	0.536	<0.001	Positive
CARD8-AS1	SIRPA	0.552	<0.001	Positive
CARD8-AS1	RASSF2	0.545	<0.001	Positive
TMPO-AS1	PCNA	0.556	<0.001	Positive
TMPO-AS1	MCM8	0.559	<0.001	Positive
TMPO-AS1	GIN51	0.594	<0.001	Positive
TMPO-AS1	TPX2	0.655	<0.001	Positive
CARD8-AS1	HCK	0.647	<0.001	Positive
TMPO-AS1	E2F1	0.619	<0.001	Positive
CARD8-AS1	SLA2	0.507	<0.001	Positive
TMPO-AS1	DSN1	0.540	<0.001	Positive
CARD8-AS1	SAMHD1	0.587	<0.001	Positive
TMPO-AS1	FAM83D	0.564	<0.001	Positive
CARD8-AS1	MAFB	0.527	<0.001	Positive
TMPO-AS1	MYBL2	0.620	<0.001	Positive
TMPO-AS1	UBE2C	0.536	<0.001	Positive
CARD8-AS1	CD40	0.545	<0.001	Positive
TMPO-AS1	AURKA	0.623	<0.001	Positive
CARD8-AS1	CASS4	0.518	<0.001	Positive
CARD8-AS1	SAMSN1	0.704	<0.001	Positive
TMPO-AS1	MIS18A	0.598	<0.001	Positive
TMPO-AS1	DONSON	0.557	<0.001	Positive
TMPO-AS1	CHAF1B	0.604	<0.001	Positive
CARD8-AS1	UBASH3A	0.527	<0.001	Positive
CARD8-AS1	ITGB2	0.534	<0.001	Positive
TMPO-AS1	CDC45	0.632	<0.001	Positive
TMPO-AS1	RANBP1	0.522	<0.001	Positive
CARD8-AS1	CRYBB1	0.588	<0.001	Positive
TMPO-AS1	MCM5	0.505	<0.001	Positive

Table S4 (continued)

Table S4 (continued)

CuRLs	mRNA	Correlation coefficient	P value	Regulation
CARD8-AS1	APOL3	0.506	<0.001	Positive
CARD8-AS1	APOL4	0.539	<0.001	Positive
CARD8-AS1	NCF4	0.645	<0.001	Positive
CARD8-AS1	CSF2RB	0.658	<0.001	Positive
CARD8-AS1	RAC2	0.556	<0.001	Positive
CARD8-AS1	CYTH4	0.670	<0.001	Positive
CARD8-AS1	MFNG	0.567	<0.001	Positive
CARD8-AS1	APOBEC3G	0.646	<0.001	Positive
CARD8-AS1	GRAP2	0.519	<0.001	Positive
CARD8-AS1	MEI1	0.513	<0.001	Positive
TMPO-AS1	CENPM	0.600	<0.001	Positive
ZSCAN16-AS1	SMDT1	0.564	<0.001	Positive
CARD8-AS1	NFAM1	0.554	<0.001	Positive
CARD8-AS1	PARVG	0.581	<0.001	Positive
TMPO-AS1	GTSE1	0.688	<0.001	Positive
CARD8-AS1	CSF2RA	0.512	<0.001	Positive
CARD8-AS1	TLR7	0.650	<0.001	Positive
CARD8-AS1	TLR8	0.693	<0.001	Positive
TMPO-AS1	FANCB	0.565	<0.001	Positive
CARD8-AS1	AP1S2	0.643	<0.001	Positive
TMPO-AS1	SCML2	0.519	<0.001	Positive
CARD8-AS1	CXorf21	0.690	<0.001	Positive
CARD8-AS1	CYBB	0.668	<0.001	Positive
CARD8-AS1	GPR34	0.706	<0.001	Positive
CARD8-AS1	GPR82	0.576	<0.001	Positive
CARD8-AS1	WAS	0.597	<0.001	Positive
TMPO-AS1	SUV39H1	0.566	<0.001	Positive
CARD8-AS1	VSIG4	0.620	<0.001	Positive
TMPO-AS1	KIF4A	0.640	<0.001	Positive
CARD8-AS1	IL2RG	0.553	<0.001	Positive
TMPO-AS1	ERCC6L	0.596	<0.001	Positive
CARD8-AS1	CYSLTR1	0.511	<0.001	Positive
CARD8-AS1	P2RY10	0.669	<0.001	Positive
CARD8-AS1	GPR174	0.598	<0.001	Positive
CARD8-AS1	ITM2A	0.553	<0.001	Positive
CARD8-AS1	SH3BGRL	0.519	<0.001	Positive
TMPO-AS1	CENPI	0.607	<0.001	Positive
CARD8-AS1	BTK	0.762	<0.001	Positive
CARD8-AS1	DOCK11	0.523	<0.001	Positive
ZSCAN16-AS1	NDUFA1	0.518	<0.001	Positive
CARD8-AS1	SH2D1A	0.695	<0.001	Positive
CARD8-AS1	SASH3	0.735	<0.001	Positive
CARD8-AS1	RAB33A	0.648	<0.001	Positive
CARD8-AS1	CD40LG	0.524	<0.001	Positive
CARD8-AS1	ARHGEF6	0.653	<0.001	Positive
CARD8-AS1	GAB3	0.585	<0.001	Positive
CARD8-AS1	MPP1	0.512	<0.001	Positive

CuRLs, cuproptosis-related lncRNAs.

Table S5 Comparisons of infiltrated immune cells between low-risk and high-risk groups

Algorithms	Immune cells	P value
TIMER	B cell_TIMER	<0.001
	T cell CD4+_TIMER	0.032
	T cell CD8+_TIMER	0.029
CIBERSORT	B cell memory_CIBERSORT	<0.001
	B cell plasma_CIBERSORT	0.042
	T cell CD4+ memory resting_CIBERSORT	0.001
	T cell CD4+ memory activated_CIBERSORT	0.02
	T cell gamma delta_CIBERSORT	0.031
	NK cell resting_CIBERSORT	0.017
	Macrophage M0_CIBERSORT	<0.001
	Macrophage M1_CIBERSORT	0.021
	Myeloid dendritic cell resting_CIBERSORT	<0.001
	Mast cell activated_CIBERSORT	<0.001
	Mast cell resting_CIBERSORT	0.001
	Neutrophil_CIBERSORT	0.002
QUANTISEQ	B cell_QUANTISEQ	0.003
	Macrophage M2_QUANTISEQ	<0.001
	NK cell_QUANTISEQ	<0.001
	T cell CD4+ (non-regulatory)_QUANTISEQ	<0.001
	T cell regulatory (Tregs)_QUANTISEQ	<0.001
	uncharacterized cell_QUANTISEQ	<0.001
MCPCOUNTER	T cell_MCPCOUNTER	<0.001
	B cell_MCPCOUNTER	<0.001
	Monocyte_MCPCOUNTER	0.01
	Macrophage/Monocyte_MCPCOUNTER	0.01
	Myeloid dendritic cell_MCPCOUNTER	<0.001
	Neutrophil_MCPCOUNTER	<0.001
	Endothelial cell_MCPCOUNTER	<0.001
	Cancer associated fibroblast_MCPCOUNTER	0.044
XCELL	Myeloid dendritic cell activated_XCELL	0.008
	B cell_XCELL	0.001
	T cell CD4+ naive_XCELL	0.001
	T cell CD4+ central memory_XCELL	<0.001
	T cell CD4+ effector memory_XCELL	0.004
	T cell CD8+ naive_XCELL	<0.001
	T cell CD8+_XCELL	<0.001
	T cell CD8+ central memory_XCELL	0.013
	Class-switched memory B cell_XCELL	<0.001
	Common lymphoid progenitor_XCELL	0.045
	Common myeloid progenitor_XCELL	<0.001
	Myeloid dendritic cell_XCELL	<0.001
	Eosinophil_XCELL	0.049
	Cancer associated fibroblast_XCELL	<0.001
	Granulocyte-monocyte progenitor_XCELL	<0.001
	Hematopoietic stem cell_XCELL	<0.001
	Macrophage M1_XCELL	0.018
	Macrophage M2_XCELL	<0.001
	Mast cell_XCELL	<0.001
	B cell memory_XCELL	0.036
	Monocyte_XCELL	0.008
	T cell NK_XCELL	0.001
	B cell plasma_XCELL	0.002
	T cell CD4+ Th1_XCELL	0.047
	T cell CD4+ Th2_XCELL	<0.001
	immune score_XCELL	<0.001
	stroma score_XCELL	<0.001
	microenvironment score_XCELL	<0.001

Table S5 (continued)

Table S5 (*continued*)

Algorithms	Immune cells	P value
EPIC	B cell_EPIC	<0.001
	Cancer associated fibroblast_EPIC	0.008
	T cell CD8+_EPIC	0.001
	Endothelial cell_EPIC	0.025

MCPOUNTER, microenvironment cell populations-counter; TIMER, tumor immune estimation resource.