

Table S1 Information of 60 ferroptosis-related genes.

Table S1. Information of 60 ferroptosis-related genes				
Iron Metabolism	Lipid Metabolism	(Anti)oxidant Metabolism	Energy Metabolism	Other
FANCD2	ACSL4	GCLC	GLS2	CD44
NCOA4	AKR1C1	SLC7A11	SLC1A5	HSPB1
TFRC	AKR1C2	KEAP1	GOT1	CRYAB
PHKG2	AKR1C3	NQO1	G6PD	RPL8
HSBP1	ALOX15	ABCC1	PGD	SAT1
ACO1	ALOX5	CHAC1	ATP5G3	TP53
FTH1	ALOX12	GSS		EMC2
STEAP3	CARS	GCLM		AIFM2
NFS1	CBS	NFE2L2		
IREB2	CISD1	NOX1		
HMOX1	CS			
MT1G	DPP4			
	HMGCR			
	GPX4			
	LPCAT3			
	FDFT1			
	ACSL3			
	PEBP1			
	ZEB1			

	SQLE			
	FADS2			
	ACSF2			
	PTGS2			
	ACACA			

Table S2 Multivariate analysis of the correlation of ferroptosis score with outcomes among LUAD and LUSCC in TCGA cohorts. *, P < 0.05. **, P < 0.01. *, P < 0.001.**

variable	Univariate Cox analysis						Multivariate Cox analysis					
	coef	HR (95%CI)	HR	95%CI	z	P-value	coef	HR (95%CI)	HR	95%CI	z	P-value
TCGA-LUAD (Over Survival)												
pathologic_N(N1 VS N0)	0.87	2.392 (1.7000-3.365)	2.39	(1.7000-3.365)	5.01	5.56E-07	1.14E-01	1.121 (0.53238-2.360)	1.12E+00	(0.53238-2.360)	0.32	0.7640
pathologic_N(N2 VS N0)	1.11	3.046 (2.0843-4.452)	3.05	(2.0843-4.452)	5.75	8.75E-09	-8.93E-02	0.9145 (0.31343-2.668)	9.15E-01	(0.31343-2.668)	-0.164	0.8701
pathologic_N(N3 VS N0)	-1.48E+01	0.0000003817 (0.0000-Inf)	3.82E-07	(0.0000-Inf)	-0.007	0.994	-1.55E+01	0.0000001811 (0.00000-Inf)	1.81E-07	(0.00000-Inf)	-0.007	0.9947
pathologic_N(NX VS N0)	3.49E-01	1.417 (0.5194-3.868)	1.42E+00	(0.5194-3.868)	0.681	0.496	3.18E-01	1.374 (0.32848-5.747)	1.37E+00	(0.32848-5.747)	0.435	0.6634
pathologic_T(T1a VS T1)	0.5432	1.7215 (0.8302-3.570)	1.721	(0.8302-3.570)	1.46	0.14432	1.03E+00	2.799 (1.20113-6.524)	2.80E+00	(1.20113-6.524)	2.384	0.0171
pathologic_T(T1b VS T1)	0.1112	1.1176 (0.5096-2.451)	1.117	(0.5096-2.451)	0.278	0.78132	4.33E-01	1.542 (0.64942-3.662)	1.54E+00	(0.64942-3.662)	0.982	0.3263
pathologic_T(T2 VS T1)	0.5989	1.8201	1.820	(1.1474-2.8	2.5	0.01095	1.01E	2.753	2.75E	(1.32726-5.	2.7	0.0065

		(1.1474-2.887)	1	87)	44	3 *	+00	(1.32726-5.710)	+00	710)	21	2 **
pathologic_T(T2a VS T1)	0.3602	1.4337	1.433	(0.7472-2.7	1.0	0.27861	4.35E-	1.545	1.55E	(0.67109-3.	1.0	0.3064
		(0.7472-2.751)	7	51)	83	4	01	(0.67109-3.559)	+00	559)	23	2
pathologic_T(T2b VS T1)	0.2666	1.3056	1.305	(0.5285-3.2	0.5	0.56338	-2.05E	0.8144	8.14E	(0.23931-2.	-0.3	0.7425
		(0.5285-3.225)	6	25)	78	6	-01	(0.23931-2.772)	-01	772)	29	2
pathologic_T(T3 VS T1)	1.2252	3.4048	3.404	(1.8681-6.2	4.0	6.32e-05	1.04E	2.818	2.82E	(0.98572-8.	1.9	0.0532
		(1.8681-6.205)	8	05)	01	***	+00	(0.98572-8.057)	+00	057)	33	2 .
pathologic_T(T4 VS T1)	1.2391	3.4525	3.452	(1.6779-7.1	3.3	0.00076	1.45E	4.243	4.24E	(1.17148-15	2.2	0.0277
		(1.6779-7.104)	5	04)	66	3 ***	+00	(1.17148-15.368)	+00	.368)	01	4 *
pathologic_T(TX VS T1)	1.7036	5.4934	5.493	(1.2771-23.	2.2	0.02210	1.09E	2.981	2.98E	(0.33769-26	0.9	0.3256
		(1.2771-23.631)	4	631)	89	8 *	+00	(0.33769-26.309)	+00	.309)	83	5
radiation_therapy(YES VS NO)	0.7707	2.1613	2.161	(1.454-3.21	3.8	0.00014	5.12E-	1.669	1.67E	(1.07454-2.	2.2	0.0226
		(1.454-3.213)	3	3)	08	***	01	(1.07454-2.592)	+00	592)	8	1 *
tumor_stage.diagnoses(stage ia VS stage i)	-0.003	0.996151	0.996	(0.23670-4.	-0.0	0.9958	2.31E-	1.26	1.26E	(0.24016-6.	0.2	0.7846
	856	(0.23670-4.192)	1	192)	05		01	(0.24016-6.610)	+00	610)	73	6
tumor_stage.diagnoses(stage ib VS stage i)	0.1522	1.164425	1.164	(0.28058-4.	0.2	0.8339	-9.78E	0.9069	9.07E	(0.18123-4.	-0.1	0.9052
	27	(0.28058-4.832)	4	832)	1		-02	(0.18123-4.538)	-01	538)	19	9
tumor_stage.diagnoses(stage ii VS stage i)	2.0425	7.709902	7.709	(0.6925-85.	1.6	0.0967						
	05	(0.6925-85.836)	9	836)	61							
tumor_stage.diagnoses(stage iia VS stage i)	1.1453	3.143478	3.143	(0.7332-13.	1.5	0.123	1.38E	3.972	3.97E	(0.84724-18	1.7	0.0801
	3	(0.73324-13.477)	4	477)	42		+00	(0.84724-18.620)	+00	.620)	5	7 .
tumor_stage.diagnoses(stage iib VS stage i)	0.8682	2.382847	2.382	(0.56827-9.	1.1	0.2351	5.37E-	1.71	1.71E	(0.38265-7.	0.7	0.4823
	96	(0.56827-9.992)	8	992)	87		01	(0.38265-7.645)	+00	645)	03	3
tumor_stage.diagnoses(stage iia VS stage i)	1.3885	4.008833	4.008	(0.96237-16	1.9	0.0565	1.15E	3.149	3.15E	(0.57935-17	1.3	0.1841
		(0.96237-16.699)	8	.699)	07		+00	(0.57935-17.116)	+00	.116)	28	7
tumor_stage.diagnoses(stage	1.0211	2.776259	2.776	(0.56012-13	1.2	0.2112	1.36E-	1.014	1.01E	(0.11249-9.	0.0	0.9903

iiib VS stage i)	04	(0.56012-13.761)	2	.761)	5		02	(0.11249-9.135)	+00	135)	12	
tumor_stage.diagnoses(stage	1.4214	4.142964	4.142	(0.9471-18.	1.8	0.059	8.77E-	2.404	2.40E	(0.48634-11	1.0	0.2819
iV VS stage i)	12	(0.94718-18.121)	9	121)	88		01	(0.4863-11.886)	+00	.886)	76	8
Ferroptosis score	0.0876	1.09165	1.091	(1.05-1.135	4.4	1.06E-0	5.45E-	1.056	1.06E	(1.00634-1.	2.2	0.0266
	9	(1.05-1.135)	6)	06	5 ***	02	(1.0063-1.108)	+00	108)	17	2 *
TCGA-LUSC (Over Survival)												
pathologic_N(N1 VS N0)	0.0647	1.0669	1.066	(0.7795-1.4	0.4	0.686	2.80E-	1.324	1.32E	(0.65738-2.	0.7	
	5	(0.7795-1.460)	9	60)	04		01	(0.65738-2.665)	+00	665)	85	0.4323
pathologic_N(N2 VS N0)	0.2737	1.3149	1.314	(0.8285-2.0	1.1	0.245	5.33E-	1.704	1.70E	(0.46353-6.	0.8	
	6	(0.8285-2.087)	9	87)	62		01	(0.46353-6.267)	+00	267)	03	0.4222
pathologic_N(N3 VS N0)	0.9141	2.49467	2.494	(0.6139-10.	1.2	0.201	-1.41E	0.0000007243	7.24E	(0.00000-In	-0.0	
	6	(0.6139-10.138)	6	138)	78		+01	(0.00000-In	-07	f)	05	0.9958
pathologic_N(NX VS N0)	0.3548	1.42592	1.425	(0.3520-5.7	0.4	0.619	-1.54E	0.0000001964	1.96E	(0.00000-In	-0.0	
	2	(0.3520-5.776)	9	76)	97		+01	(0.00000-In	-07	f)	07	0.9942
pathologic_T(T1a VS T1)	0.3959	1.485750.6642-3.32	1.485	(0.6642-3.3	0.9	0.33513	6.19E-	1.857	1.86E	(0.71870-4.	1.2	
	2	4	5	24)	64		01	(0.71870-4.801)	+00	801)	78	0.2012
pathologic_T(T1b VS T1)	0.0727	1.07542	1.075	(0.5140-2.2	0.1	0.84695	4.46E-	1.561	1.56E	(0.70477-3.	1.0	
	1	(0.5140-2.250)	4	50)	93		01	(0.70477-3.459)	+00	459)	98	0.2723
pathologic_T(T2 VS T1)	0.2472	1.28051	1.280	(0.8155-2.0	1.0	0.28282	1.52E-	1.164	1.16E	(0.41915-3.	0.2	
	6	(0.8155-2.011)	5	11)	74		01	(0.41915-3.234)	+00	234)	92	0.7705
pathologic_T(T2a VS T1)	0.3204	1.37772	1.377	(0.8035-2.3	1.1	0.2441	2.88E-	1.334	1.33E	(0.48803-3.	0.5	
	3	(0.8035-2.362)	7	62)	65		01	(0.48803-3.646)	+00	646)	62	0.5744
pathologic_T(T2b VS T1)	0.5307	1.70014	1.700	(0.8043-3.5	1.3	0.1646	5.24E-	1.689	1.69E	(0.50755-5.	0.8	
	1	(0.8043-3.594)	1	94)	9		01	(0.50755-5.622)	+00	622)	55	0.3928
pathologic_T(T3 VS T1)	0.6757	1.96543	1.965	(1.1694-3.3	2.5	0.01076	8.11E-	2.25	2.25E	(0.60014-8.	1.2	0.2291

	1	(1.1694-3.303)	4	03)	5	*	01	(0.60014-8.437)	+00	437)	03	
pathologic_T(T4 VS T1)	0.9226	2.51597	2.515	(1.2829-4.9	2.6	0.00725	1.23E	3.415	3.42E	(0.61303-19	1.4	
	6	(1.2829-4.934)	9	34)	85	**	+00	(0.61303-19.028)	+00	.028)	02	0.161
radiation_therapy(YES VS NO)	0.168	1.183	1.183	(0.7469-1.8	0.7	0.474	2.37E-	1.268	1.27E	(0.75498-2.	0.8	
		(0.7469-1.874)		74)	16		01	(0.75498-2.130)	+00	130)	98	0.3694
tumor_stage.diagnoses(stage ia VS stage i)	-0.716	0.4885	0.488	(0.1169-2.0	-0.9	0.3262	-3.38E	0.7134	7.13E	(0.09883-5.	-0.3	
	4	(0.1169-2.042)	5	42)	82		-01	(0.09883-5.150)	-01	150)	35	0.7378
tumor_stage.diagnoses(stage ib VS stage i)	-0.477	0.6202	0.620	(0.1514-2.5	-0.6	0.5066	-1.03E	0.9022	9.02E	(0.16713-4.	-0.1	
	8	(0.1514-2.540)	2	40)	64		-01	(0.16713-4.871)	-01	871)	2	0.9048
tumor_stage.diagnoses(stage ii VS stage i)	0.2744	1.3158	1.315	(0.1850-9.3	0.2	0.784	-1.50E	0.0000003007	3.01E	(0.00000-In	-0.0	
		(0.1850-9.357)	8	57)	74		+01	(0.00000-In	-07	f)	04	0.9965
tumor_stage.diagnoses(stage iia VS stage i)	-0.471	0.6239	0.623	(0.1461-2.6	-0.6	0.5243	-3.20E	0.7263	7.26E	(0.13796-3.	-0.3	
	7	(0.1461-2.665)	9	65)	37		-01	(0.13796-3.823)	-01	823)	77	0.7059
tumor_stage.diagnoses(stage iib VS stage i)	-0.405	0.6664	0.666	(0.1606-2.7	-0.5	0.5761	-1.80E	0.8349	8.35E	(0.18812-3.	-0.2	
	9	(0.1606-2.765)	4	65)	59		-01	(0.18812-3.706)	-01	706)	37	0.8125
tumor_stage.diagnoses(stage iii VS stage i)	1.6102	5.004	5.004	(0.8281-30.	1.7	0.0794						
		(0.8281-30.238)		238)	54							
tumor_stage.diagnoses(stage iiia VS stage i)	-0.222	0.8009	0.800	(0.1917-3.3	-0.3	0.7608	6.14E-	0.5412	5.41E	(0.12128-2.	-0.8	
	1	(0.1917-3.346)	9	46)	04		01	(0.12128-2.415)	-01	415)	05	0.421
tumor_stage.diagnoses(stage iiib VS stage i)	0.114	1.1207	1.120	(0.2417-5.1	0.1	0.8842	-1.19E	0.3038	3.04E	(0.03094-2.	-1.0	
		(0.2417-5.197)	7	97)	46		+00	(0.03094-2.984)	-01	984)	22	0.3067
tumor_stage.diagnoses(stage iV VS stage i)	0.6685	1.9513	1.951	(0.3775-10.	0.7	0.4251	4.49E-	1.566	1.57E	(0.25045-9.	0.4	
		(0.3775-10.087)	3	087)	98		01	(0.25045-9.794)	+00	794)	8	0.6314
Ferroptosis score	-0.024	0.97596	0.975	(0.9331-1.0	-1.0	1.28E-0	-5.59E	0.9457	9.46E	(0.89263-1.	-1.8	0.0377
	33	(0.9331-1.021)	9	21)	61	5 ***	-02	(0.89263-1.002)	-01	002)	98	*

Table S3 86 differentially expressed genes list

86 differentially expressed genes list
AKR1C3
AKR1C1
GPX2
NQO1
AKR1B10
ALDH3A1
GSTA1
ADH1C
TSPAN8
MSMB
LCN2
NTS
SCGB1A1
MT1E
AQP5
MMP28
SLC34A2
PIGR
HPGD
C7
C4BPA

DMBT1
CYP4B1
MMP13
TXNRD1
PGD
G6PD
OSGIN1
TALDO1
GCLM
SLC7A11
CYP4F11
TRIM16
GCLC
ME1
GSR
CABYR
TXN
CYP4F3
UCHL1
NR0B1
CBR3
UGDH
PIR
TSKU
CBR1

MAP2
TSPAN7
KIAA0319
ABCC2
PFN2
ODC1
SPP1
ICAM1
CST6
CDH3
DPP4
TFPI2
CRABP2
ABCB6
PRDX1
RIT1
TKT
ABCC1
ALDH3A2
MEGF9
AKR1C4
TPD52L1
EPHX1
ADH7
ADAM23

HGD
GSTM3
SCN9A
ALDH1A1
ANXA10
FZD10
ABCC3
SERPINB5
CA12
FXVD3
CLDN8
PI3
PKP1
S100P
KRT6A