Supplementary Table 1 The relationship of the expression of *FDX1* and clinical characteristics of the gastric cancer patients, *n* (%)

Characteristic	Low expression of *FDX1*	High expression of *FDX1*	*P*-value
Age			0.634
≤ 65	85 (22.9%)	79 (21.3%)	
> 65	101 (27.2%)	106 (28.6%)	
Gender			0.173
Female	60 (16%)	74 (19.7%)	
Male	127 (33.9%)	114 (30.4%)	
T stage			0.743
T1	8 (2.2%)	11 (3%)	
T2	39 (10.6%)	41 (11.2%)	
T3	88 (24%)	80 (21.8%)	
T4	47 (12.8%)	53 (14.4%)	
N stage			0.118
N0	57 (16%)	54 (15.1%)	
N1	43 (12%)	54 (15.1%)	
N2	33 (9.2%)	42 (11.8%)	
N3	45 (12.6%)	29 (8.1%)	
M stage			1.000
M0	164 (46.2%)	166 (46.8%)	
M1	12 (3.4%)	13 (3.7%)	
Pathologic stage			0.514
Stage I	26 (7.4%)	27 (7.7%)	
Stage II	48 (13.6%)	63 (17.9%)	
Stage III	79 (22.4%)	71 (20.2%)	
Stage IV	19 (5.4%)	19 (5.4%)	

Characteristic	Low expression of *FDX1*	High expression of *FDX1*	*P*-value
Helicobacter pylori infection			1.000
No	70 (42.9%)	75 (46%)	
Yes	9 (5.5%)	9 (5.5%)	

Supplementary Table 2 The relationship of the expression of *LIAS* and clinical characteristics of the gastric cancer patients, *n* (%)

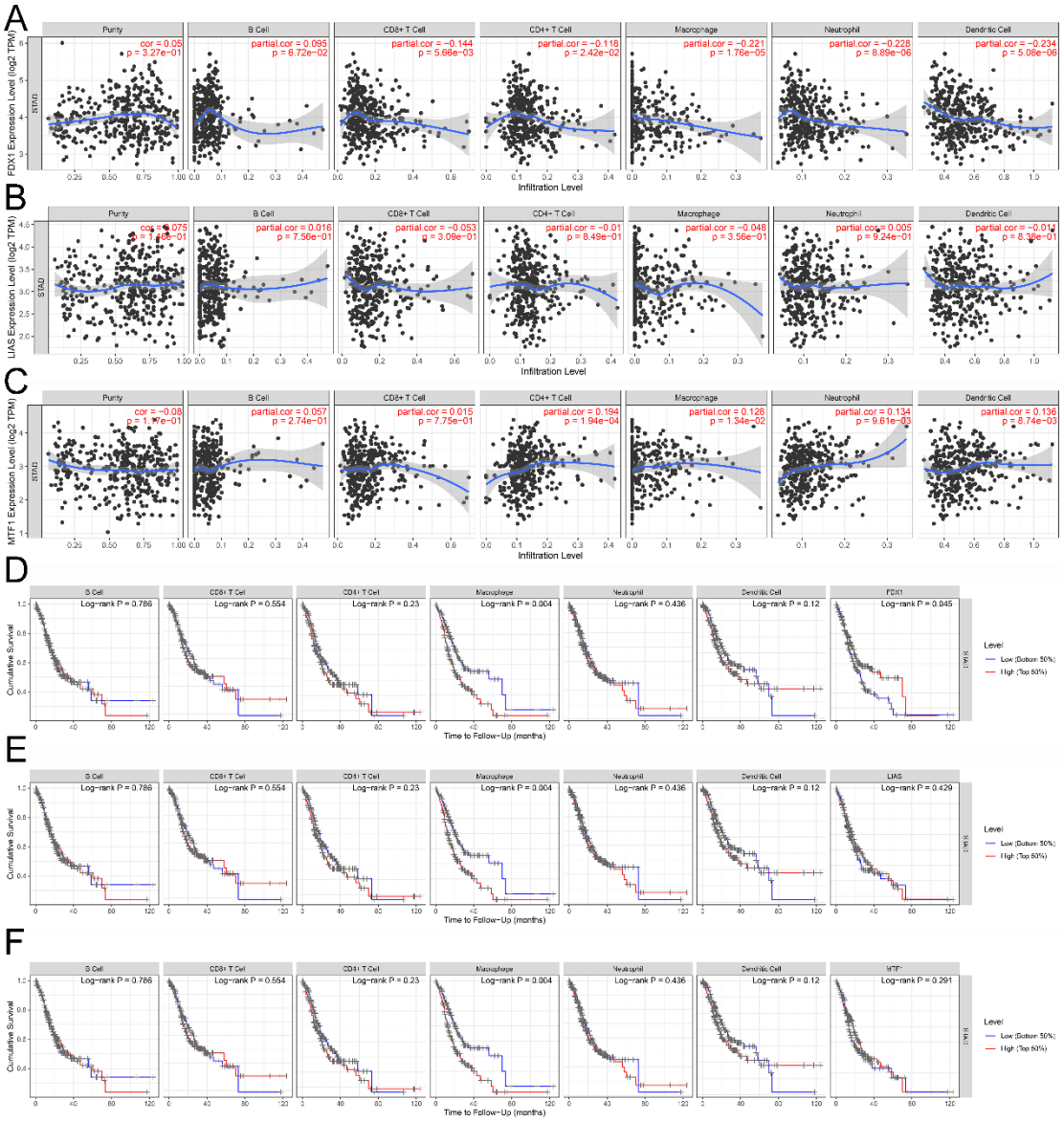
Characteristic	Low expression of *LIAS*	High expression of *LIAS*	*P*-value
Age			0.042
≤ 65	92 (24.8%)	72 (19.4%)	
> 65	93 (25.1%)	114 (30.7%)	
Gender			0.251
Female	61 (16.3%)	73 (19.5%)	
Male	126 (33.6%)	115 (30.7%)	
T stage			0.076
T1	6 (1.6%)	13 (3.5%)	
T2	40 (10.9%)	40 (10.9%)	
T3	95 (25.9%)	73 (19.9%)	
T4	44 (12%)	56 (15.3%)	
N stage			0.966
N0	54 (15.1%)	57 (16%)	
N1	50 (14%)	47 (13.2%)	
N2	39 (10.9%)	36 (10.1%)	
N3	37 (10.4%)	37 (10.4%)	
M stage			0.668

Characteristic	Low expression of *LIAS*	High expression of *LIAS*	*P*-value
M0	163 (45.9%)	167 (47%)	
M1	14 (3.9%)	11 (3.1%)	
Pathologic stage			0.911
Stage I	26 (7.4%)	27 (7.7%)	
Stage II	54 (15.3%)	57 (16.2%)	
Stage III	76 (21.6%)	74 (21%)	
Stage IV	21 (6%)	17 (4.8%)	
Helicobacter pylori infection			0.739
No	70 (42.9%)	75 (46%)	
Yes	10 (6.1%)	8 (4.9%)	

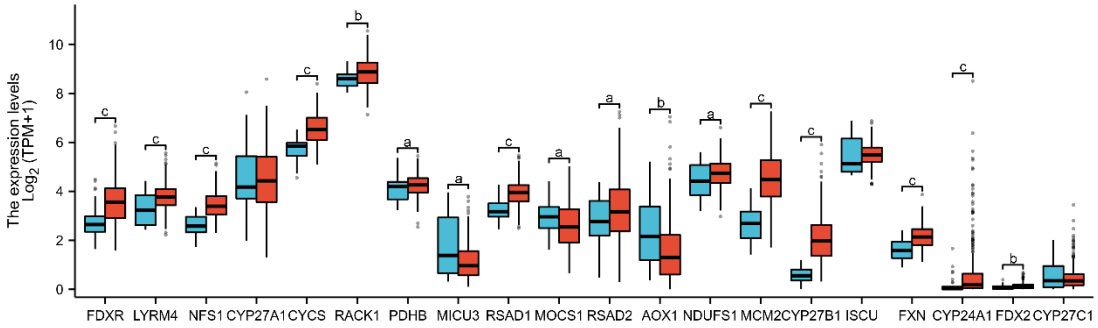
Supplementary Table 3 The relationship of the expression of *MTF1* and clinical characteristics of the gastric cancer patients, *n* (%)

Characteristic	Low expression of *MTF1*	High expression of *MTF1*	*P*-value
Age			0.861
≤ 65	84 (22.6%)	80 (21.6%)	
> 65	103 (27.8%)	104 (28%)	
Gender			0.776
Female	65 (17.3%)	69 (18.4%)	
Male	122 (32.5%)	119 (31.7%)	
T stage			0.007
T1	5 (1.4%)	14 (3.8%)	
T2	45 (12.3%)	35 (9.5%)	
T3	96 (26.2%)	72 (19.6%)	
T4	41 (11.2%)	59 (16.1%)	
N stage			0.612
N0	59 (16.5%)	52 (14.6%)	
N1	46 (12.9%)	51 (14.3%)	
N2	41 (11.5%)	34 (9.5%)	
N3	34 (9.5%)	40 (11.2%)	
M stage			0.988
M0	166 (46.8%)	164 (46.2%)	
M1	12 (3.4%)	13 (3.7%)	
Pathologic stage			0.311
Stage I	26 (7.4%)	27 (7.7%)	
Stage II	60 (17%)	51 (14.5%)	
Stage III	78 (22.2%)	72 (20.5%)	
Stage IV	14 (4%)	24 (6.8%)	

Characteristic	Low expression of *MTF1*	High expression of *MTF1*	*P*-value
Helicobacter pylori infection			0.405
No	69 (42.3%)	76 (46.6%)	
Yes	11 (6.7%)	7 (4.3%)	


A
Purity
B Cell
CD8+ T Cell
CD4+ T Cell
Macrophage
Neutrophil
Dendritic Cell
FDX1 Expression Level (log2 TPM)
STAD
cor = 0.05
p = 3.27e−01
partial.cor = 0.095
p = 6.72e−02
partial.cor = −0.144
p = 5.66e−03
partial.cor = −0.118
p = 2.42e−02
partial.cor = −0.221
p = 1.76e−05
partial.cor = −0.228
p = 8.89e−06
partial.cor = −0.234
p = 5.08e−06
Infiltration Level
B
LIAS Expression Level (log2 TPM)
partial.cor = 0.016
p = 7.56e−01
partial.cor = −0.053
p = 3.09e−01
partial.cor = −0.01
p = 8.49e−01
partial.cor = −0.048
p = 3.56e−01
partial.cor = 0.005
p = 9.24e−01
partial.cor = −0.012
p = 8.38e−01
C
MTF1 Expression Level (log2 TPM)
partial.cor = 0.057
p = 2.74e−01
partial.cor = 0.015
p = 7.75e−01
partial.cor = 0.194
p = 1.94e−04
partial.cor = 0.128
p = 1.34e−02
partial.cor = 0.134
p = 9.61e−03
partial.cor = 0.136
p = 8.74e−03
D
B Cell
CD8+ T Cell
CD4+ T Cell
Macrophage
Neutrophil
Dendritic Cell
FDX1
Log−rank P = 0.786
Log−rank P = 0.554
Log−rank P = 0.23
Log−rank P = 0.004
Log−rank P = 0.436
Log−rank P = 0.12
Log−rank P = 0.045
Cumulative Survival
Time to Follow−Up (months)
Level
Low (Bottom 50%)
High (Top 50%)
E
LIAS
Log−rank P = 0.429
F
MTF1
Log−rank P = 0.291

Supplementary Figure 1 The analysis of the expression of cuproptosis-related genes and immune cells infiltration via TIMER. A-C: The correlation of different immune cell infiltration levels and the expression of *FDX1* (A), *LIAS* (B), and *MTF1* (C) via TIMER; D-F: Kaplan−Meier curves between the expression of *FDX1* (D), *LIAS* (E), *MTF1* (F) and immune cell infiltration level groups from TIMER.



Supplementary Figure 2 Comparation of the expression levels of 20 genes in protein-protein interaction network between gastric cancer tissue and normal tissues in the The Cancer Genome Atlas and Genotype-Tissue Expression cohorts. (Red: Tumour, Blue: Normal, $^{a}P<0.05$, $^{b}P<0.01$, $^{c}P<0.001$).