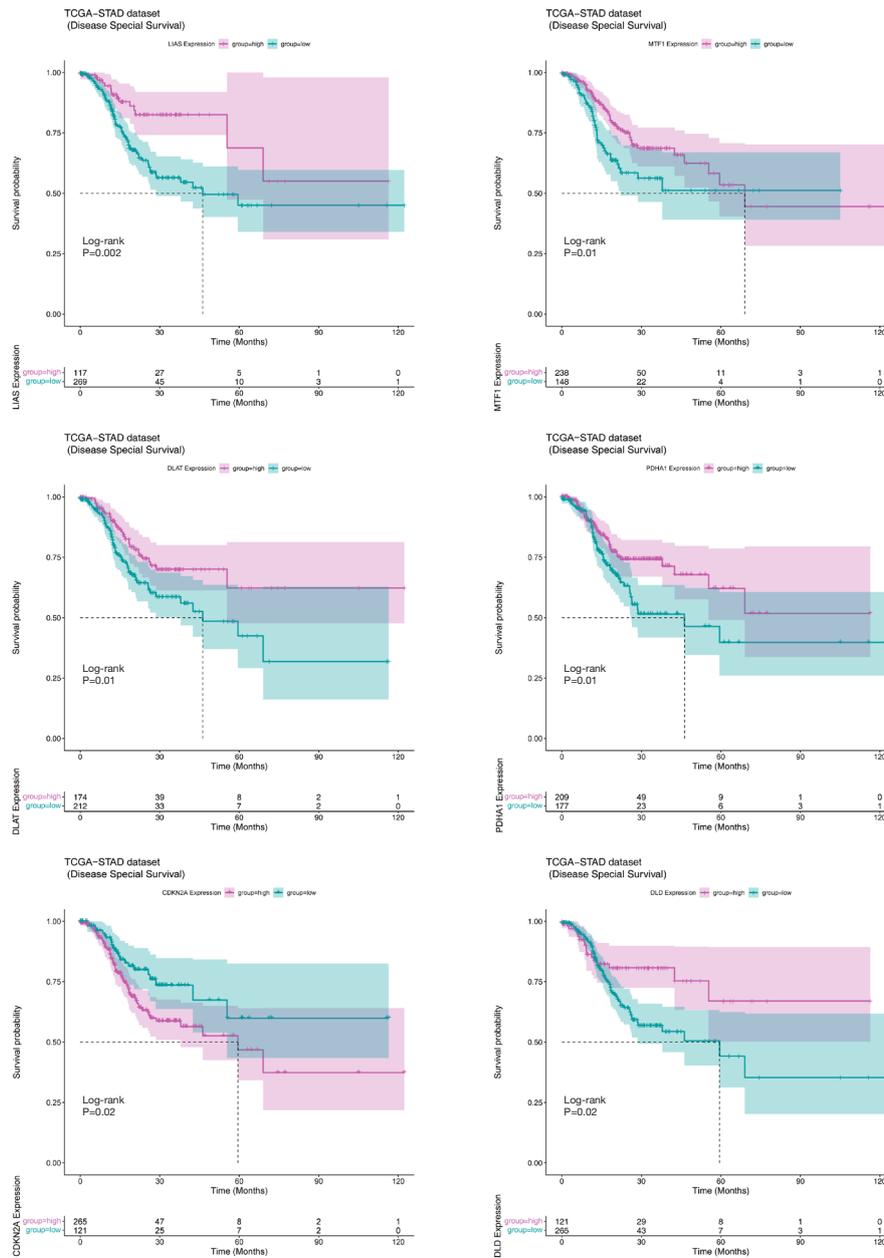
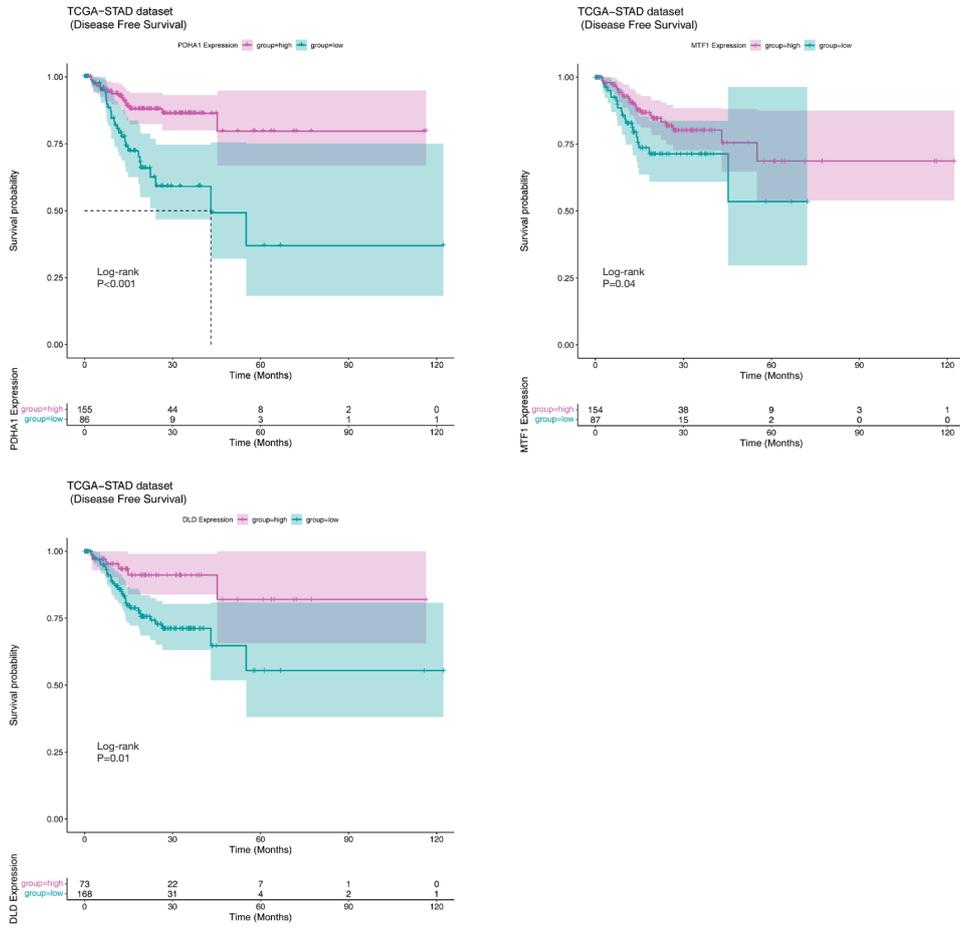


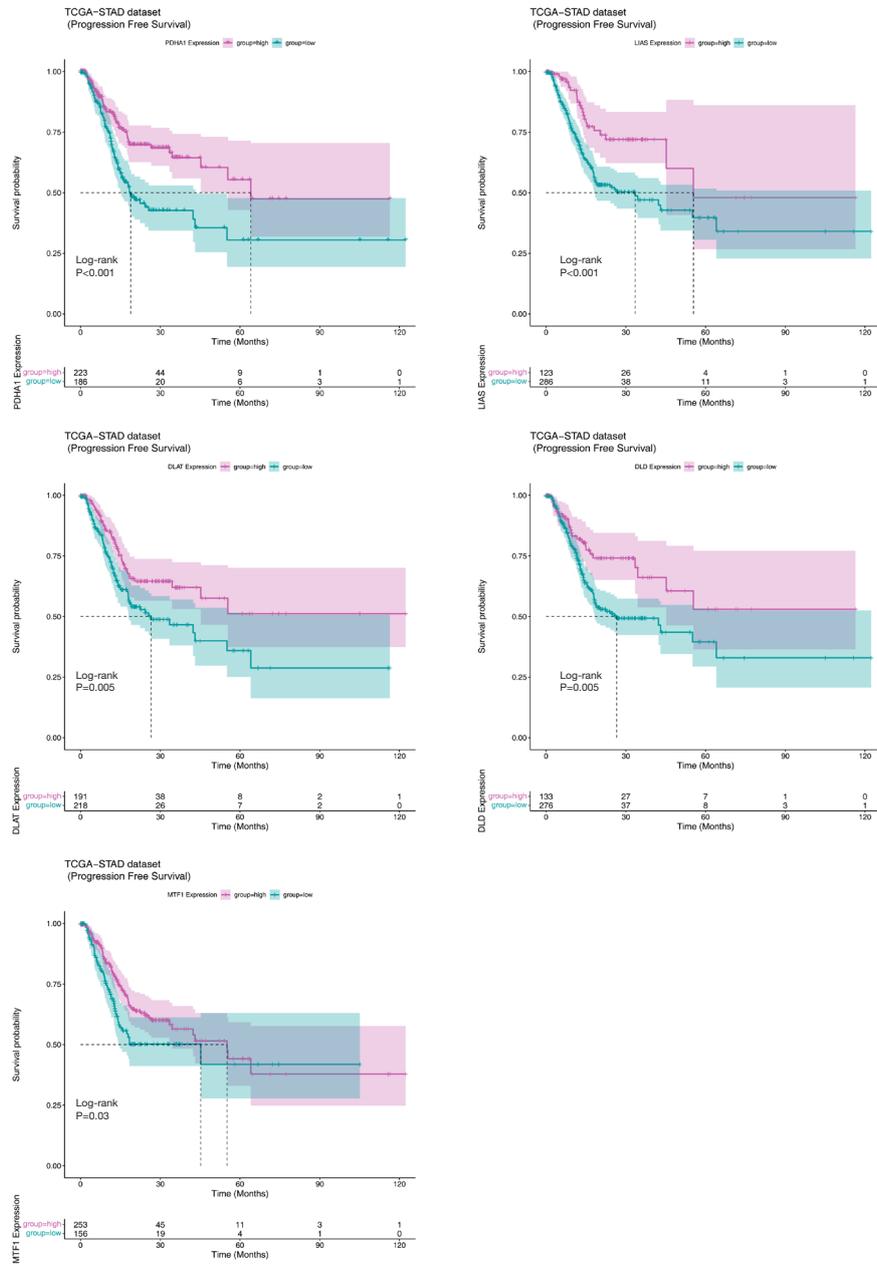
**Figure S1** Kaplan-Meier curves for the OS grouped by expression level of MTF1, GLS, DLAT and LIAS. TCGA, The Cancer Genome Atlas; STAD, stomach adenocarcinoma; OS, overall survival.



**Figure S2** Kaplan-Meier curves for the DSS grouped by expression level of LIAS, MTF1, DLAT, PDHA1, CDKN2A and DLD. TCGA, The Cancer Genome Atlas; STAD, stomach adenocarcinoma; DSS, disease-special survival.



**Figure S3** Kaplan-Meier curves for the DFS grouped by expression level of PDHA1, MTF1 and DLD. TCGA, The Cancer Genome Atlas; STAD, stomach adenocarcinoma; DFS, disease-free survival.



**Figure S4** Kaplan-Meier curves for the PFS grouped by expression level of PDHA1, LIAS, DLAT, DLD and MTF1. TCGA, The Cancer Genome Atlas; STAD, stomach adenocarcinoma; PFS, progression-free survival.

**Table S1** Clinical data of patients grouped by GLS expression

Characteristics	Total	Expression		P value
		High	Low	
Age (years)	65.6±10.7	65.8±10.4	65.3±11.1	0.64
Gender				
Female	146 (35.7)	94 (36.0)	52 (35.1)	0.91
Male	263 (64.3)	167 (64.0)	96 (64.9)	
Vital				
Alive	252 (61.6)	154 (59.0)	98 (66.2)	0.17
Dead	157 (38.4)	107 (41.0)	50 (33.8)	
Stage				
Stage I	54 (14.1)	33 (13.5)	21 (15.0)	0.85
Stage II	122 (31.8)	75 (30.7)	47 (33.6)	
Stage III	167 (43.5)	110 (45.1)	57 (40.7)	
Stage IV	41 (10.7)	26 (10.7)	15 (10.7)	
Grade				
G1	12 (2.9)	9 (3.4)	3 (2.0)	0.50
G2	144 (35.2)	86 (33.0)	58 (39.2)	
G3	244 (59.7)	159 (60.9)	85 (57.4)	
GX	9 (2.2)	7 (2.7)	2 (1.4)	
T stage				
T1	21 (5.2)	8 (3.1)	13 (8.9)	0.01
T2	86 (21.1)	51 (19.5)	35 (24.0)	
T3	179 (44.0)	112 (42.9)	67 (45.9)	
T4	112 (27.5)	83 (31.8)	29 (19.9)	
TX	9 (2.2)	7 (2.7)	2 (1.4)	
N stage				
N0	119 (29.3)	70 (26.9)	49 (33.6)	0.39
N1	110 (27.1)	70 (26.9)	40 (27.4)	
N2	78 (19.2)	51 (19.6)	27 (18.5)	
N3	82 (20.2)	55 (21.2)	27 (18.5)	
NX	17 (4.2)	14 (5.4)	3 (2.1)	
M stage				
M0	363 (89.2)	231 (88.5)	132 (90.4)	0.77
M1	25 (6.1)	18 (6.9)	7 (4.8)	
MX	19 (4.7)	12 (4.6)	7 (4.8)	

Data are shown as mean ± SD or n (%). SD, standard deviation.

**Table S2** Clinical data of patients grouped by LIAS expression

Characteristics	Total	Expression		P value
		High	Low	
Age (years)	65.6±10.7	65.8±10.7	65.4±10.6	0.52
Gender				
Female	146 (35.7)	94 (37.3)	52 (33.1)	0.40
Male	263 (64.3)	158 (62.7)	105 (66.9)	
Vital				
Alive	252 (61.6)	169 (67.1)	83 (52.9)	0.005
Dead	157 (38.4)	83 (32.9)	74 (47.1)	
Stage				
Stage I	54 (14.1)	33 (14.0)	21 (14.2)	0.77
Stage II	122 (31.8)	79 (33.5)	43 (29.1)	
Stage III	167 (43.5)	101 (42.8)	66 (44.6)	
Stage IV	41 (10.7)	23 (9.7)	18 (12.2)	
Grade				
G1	12 (2.9)	8 (3.2)	4 (2.5)	0.30
G2	144 (35.2)	82 (32.5)	62 (39.5)	
G3	244 (59.7)	158 (62.7)	86 (54.8)	
GX	9 (2.2)	4 (1.6)	5 (3.2)	
T stage				
T1	21 (5.2)	19 (7.6)	2 (1.3)	0.006
T2	86 (21.1)	48 (19.1)	38 (24.4)	
T3	179 (44.0)	101 (40.2)	78 (50.0)	
T4	112 (27.5)	76 (30.3)	36 (23.1)	
TX	9 (2.2)	7 (2.8)	2 (1.3)	
N stage				
N0	119 (29.3)	76 (30.4)	43 (27.6)	0.34
N1	110 (27.1)	65 (26.0)	45 (28.8)	
N2	78 (19.2)	44 (17.6)	34 (21.8)	
N3	82 (20.2)	51 (20.4)	31 (19.9)	
NX	17 (4.2)	14 (5.6)	3 (1.9)	
M stage				
M0	363 (89.2)	225 (89.6)	138 (88.5)	0.83
M1	25 (6.1)	14 (5.6)	11 (7.1)	
MX	19 (4.7)	12 (4.8)	7 (4.5)	

Data are shown as mean ± SD or n (%). SD, standard deviation.

**Table S3** Clinical data of patients grouped by CDKN2A expression

Characteristics	Total	Expression		P value
		High	Low	
Age (years)	65.6±10.7	66.0±10.2	64.7±11.6	0.34
Gender				
Female	146 (35.7)	97 (34.6)	49 (38.0)	0.58
Male	263 (64.3)	183 (65.4)	80 (62.0)	
Vital				
Alive	252 (61.6)	170 (60.7)	82 (63.6)	0.66
Dead	157 (38.4)	110 (39.3)	47 (36.4)	
Stage				
Stage I	54 (14.1)	33 (12.6)	21 (17.2)	0.07
Stage II	122 (31.8)	94 (35.9)	28 (23.0)	
Stage III	167 (43.5)	107 (40.8)	60 (49.2)	
Stage IV	41 (10.7)	28 (10.7)	13 (10.7)	
Grade				
G1	12 (2.9)	9 (3.2)	3 (2.3)	0.20
G2	144 (35.2)	107 (38.2)	37 (28.7)	
G3	244 (59.7)	157 (56.1)	87 (67.4)	
GX	9 (2.2)	7 (2.5)	2 (1.6)	
T stage				
T1	21 (5.2)	12 (4.3)	9 (7.0)	0.54
T2	86 (21.1)	62 (22.3)	24 (18.6)	
T3	179 (44.0)	126 (45.3)	53 (41.1)	
T4	112 (27.5)	72 (25.9)	40 (31.0)	
TX	9 (2.2)	6 (2.2)	3 (2.3)	
N stage				
N0	119 (29.3)	80 (28.8)	39 (30.5)	0.92
N1	110 (27.1)	79 (28.4)	31 (24.2)	
N2	78 (19.2)	53 (19.1)	25 (19.5)	
N3	82 (20.2)	54 (19.4)	28 (21.9)	
NX	17 (4.2)	12 (4.3)	5 (3.9)	
M stage				
M0	363 (89.2)	252 (90.6)	111 (86.0)	0.32
M1	25 (6.1)	14 (5.0)	11 (8.5)	
MX	19 (4.7)	12 (4.3)	7 (5.4)	

Data are shown as mean ± SD or n (%). SD, standard deviation.

**Table S4** Correlation between key genes and their methylation sites

Gene	CpG	Correlation	P value
<i>GLS</i>	cg05607461	-0.207728209	<0.001
<i>GLS</i>	cg25350416	-0.220900376	<0.001
<i>GLS</i>	cg06552369	-0.165285076	0.001
<i>GLS</i>	cg10241462	-0.16652762	0.001
<i>GLS</i>	cg03962451	-0.233484758	<0.001
<i>GLS</i>	cg15522719	-0.211898752	<0.001
<i>GLS</i>	cg17300307	-0.256729842	<0.001
<i>GLS</i>	cg16975027	-0.211163504	<0.001
<i>GLS</i>	cg26332715	-0.181557926	<0.001
<i>LIAS</i>	cg07253264	-0.251498182	<0.001
<i>LIAS</i>	cg12315997	-0.242807483	<0.001
<i>LIAS</i>	cg07027075	-0.255170488	<0.001
<i>LIAS</i>	cg05996984	-0.161548687	0.002
<i>LIAS</i>	cg15128470	-0.205870141	<0.001
<i>LIAS</i>	cg02393156	-0.206052523	<0.001
<i>LIAS</i>	cg09390371	-0.233332425	<0.001
<i>LIAS</i>	cg09503927	-0.129199765	0.01
<i>LIAS</i>	cg12401738	-0.117947785	0.02
<i>CDKN2A</i>	cg13601799	-0.192038315	<0.001
<i>CDKN2A</i>	cg07562918	-0.358237466	<0.001