Supplementary Table 1 Association of *FUCA1* and *MMP-9* expression with clinicopathological characteristics in esophageal squamous cell carcinoma patients from The Cancer Genome Atlas (TCGA) database

Variable	FUCA1 expression			MMP-9 expression		
	Low expression (N = 66)	High expression (N = 10)	P	Low expression (N = 58)	High expression (N = 18)	P
Age (years, mean±SD)	57.67±10.35	62.90±12.88	0.153	58.29±10.40	58.56±12.21	0.929
Female (n, %)	12 (18.2%)	0 (0.0%)	0.142	12 (20.7%)	0 (0.0%)	0.035[a]
T stage (n, %)						
T1-2	31 (47.0%)	2 (20.0%)	0.109	28 (48.3%)	5 (27.8%)	0.125
T3-4	35 (53.0%)	8 (80.0%)		30 (51.7%)	13 (72.2%)	
Lymphatic invasion (n, %)						
Negative (N0)	38 (57.6%)	6 (60.0%)	0.88	30 (51.7%)	14 (77.8%)	0.050[a]

Positive (N+)	28 (45.4%)	4 (10.0%)	5	28 (48.3%)	4 (22.2%)	
TNM stage (n, %)						
I-II	49 (74.2%)	5 (50.0%)	0.115	40 (69.0%)	14 (77.8%)	0.471
III	17 (25.8%)	5 (50.0%)		18 (31.0%)	4 (22.2%)	
FUCA1 expression level (mean±SD)	–	–	–	1.46±0.21	1.47±0.18	0.692
High FUCA1 expression (n, %)	–	–	–	8 (13.8%)	2 (11.1%)	0.769
MMP-9 expression level (mean±SD)	1.59±0.60	1.62±0.49	0.887	–	–	–
High MMP-9 expression (n, %)	16 (24.2%)	2 (20.0%)	0.769	–	–	–

[a]$P<0.05$. FUCA1: alpha-L-fucosidase-1; MMP-9: matrix metalloproteinase-9; SD: standard deviation.

Supplementary Table 2 Kaplan-Meier analysis and Cox multivariate regression analyses of overall survival in patients with esophageal squamous cell carcinoma from The Cancer Genome Atlas (TCGA) database

Variable	No.	Univariate analysis		Multivariate analysis	
		5-year overall survival rate (%)	P	Hazard ratio (95% confidence interval)	P
Age (years)					
< 60	45	16.0%	0.262		
≥ 60	31	24.3%			
Sex					
Female	12	50.0%	0.014[a]	0.185 (0.023-1.478)	0.111
Male	64	13.9%		Reference	
T stage					
T1-2	33	0.0%	0.716		
T3-4	43	39.7%			
Lymphatic invasion					

	No.	%	P	OR (95% CI)	P
Negative (N0)	44	30.2%	0.046[a]	0.483 (0.187-1.248)	0.133
Positive (N+)	32	14.8%		Reference	
TNM stage					
I-II	54	18.9%	0.236		
III	22	25.2%			
FUCA1 expression					
Low	66	24.4%	0.006[a]	0.264 (0.087-0.803)	0.019[a]
High	10	0.0%		Reference	
MMP-9 expression					
Low	58	22.9%	0.080		
High	18	34.9%			

[a]P<0.05. No.: number; FUCA1: alpha-L-fucosidase-1; MMP-9: matrix metalloproteinase-9.