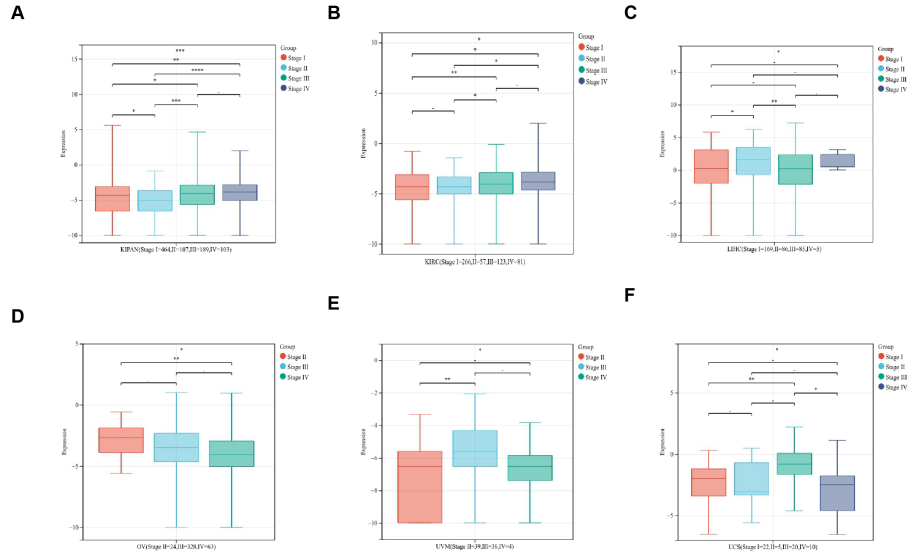


Supplemental Material

	Samples		Risk Ratio			Statistical Test					
	Treated	Reference	HR	95%CI		Likelihood ratio test		Wald test		logrank test	
				Lower	Upper	W value	p value	W value	p value	W value	p value
KIPAN	H	L	1.73	1.33	2.25	16.42	5.10E-05	16.72	4.30E-05	17.13	3.50E-05
KIRC	H	L	1.78	1.3	2.45	12.53	4.00E-04	12.68	3.70E-04	13.03	3.10E-04
SKCM	H	L	1.41	1.07	1.87	5.98	0.01	5.82	0.02	5.87	0.02
LAML-TCGA	H	L	2.16	1.49	3.12	15.33	9.00E-05	16.75	4.30E-05	17.55	2.80E-05
ALL	H	L	2.47	1.5	4.07	11.63	6.50E-04	12.54	4.00E-04	13.37	2.60E-04
UCS	H	L	2.41	1.2	4.81	5.73	0.02	6.15	0.01	6.54	0.01
LAML-TARGET	H	L	2.05	1.24	3.37	8.4	3.80E-03	7.89	5.00E-03	8.23	4.10E-03
PAAD	H	L	0.54	0.33	0.89	6.45	0.01	5.82	0.02	5.99	0.01

Table S1. Details of Kaplan–Meier OS of TGM3 in indicated tumor types from TCGA and TARGET databases with significant P-value.



Label	Experiment group (Mean±std)	Control Group (Mean±std)	T test	P value
KIPAN (Stage I=464,II=107,III=189,IV=103)	Stage I(-4.70±2.67)	Stage III(-4.24±2.41)	0.03	3.00E-04
	Stage I(-4.70±2.67)	Stage II(-5.37±2.51)	0.01	
	Stage I(-4.70±2.67)	Stage IV(-4.07±2.07)	9.40E-03	
	Stage III(-4.24±2.41)	Stage II(-5.37±2.51)	2.10E-04	
	Stage III(-4.24±2.41)	Stage IV(-4.07±2.07)	0.53	
	Stage II(-5.37±2.51)	Stage IV(-4.07±2.07)	6.10E-05	
KIRC (Stage I=266,II=57,III=123,IV=81)	Stage III(-4.14±1.95)	Stage II(-4.85±2.32)	0.05	0.01
	Stage III(-4.14±1.95)	Stage IV(-4.08±2.10)	0.84	
	Stage III(-4.14±1.95)	Stage I(-4.74±2.29)	7.30E-03	
	Stage II(-4.85±2.32)	Stage IV(-4.08±2.10)	0.05	
	Stage II(-4.85±2.32)	Stage I(-4.74±2.29)	0.75	
	Stage IV(-4.08±2.10)	Stage I(-4.74±2.29)	0.02	
LIHC (Stage I=169,II=86,III=85,IV=5)	Stage I(0.35±3.07)	Stage II(1.27±3.01)	0.02	0.04
	Stage I(0.35±3.07)	Stage III(-7.2e-4±3.31)	0.41	
	Stage I(0.35±3.07)	Stage IV(1.35±1.35)	0.18	
	Stage II(1.27±3.01)	Stage III(-7.2e-4±3.31)	9.50E-03	
	Stage II(1.27±3.01)	Stage IV(1.35±1.35)	0.91	
	Stage III(-7.2e-4±3.31)	Stage IV(1.35±1.35)	0.09	
OV (Stage II=24,III=328,IV=63)	Stage IV(-4.19±2.49)	Stage III(-3.55±2.11)	0.06	0.03
	Stage IV(-4.19±2.49)	Stage II(-2.97±1.49)	6.60E-03	
	Stage III(-3.55±2.11)	Stage II(-2.97±1.49)	0.08	
UVM (Stage II=39,III=36,IV=4)	Stage III(-5.64±2.07)	Stage II(-7.12±2.31)	4.40E-03	0.02
	Stage III(-5.64±2.07)	Stage IV(-6.70±2.52)	0.47	
	Stage II(-7.12±2.31)	Stage IV(-6.70±2.52)	0.77	
UCS (Stage I=22,II=5,III=20,IV=10)	Stage II(-2.42±2.38)	Stage III(-0.81±1.72)	0.21	0.02
	Stage II(-2.42±2.38)	Stage I(-2.32±1.75)	0.93	
	Stage II(-2.42±2.38)	Stage IV(-2.77±2.29)	0.8	
	Stage III(-0.81±1.72)	Stage I(-2.32±1.75)	7.40E-03	
	Stage III(-0.81±1.72)	Stage IV(-2.77±2.29)	0.03	
	Stage I(-2.32±1.75)	Stage IV(-2.77±2.29)	0.59	

Figure S1 and Table S2. Pan-cancer TGM3 expression in different clinical stages. (A–F) Pan-cancer differential expression of TGM3 in clinical stages in indicated tumor types from TCGA database. *P<0.05, **P<0.01, *P<0.001, and ****P<0.001; -, not significant.**

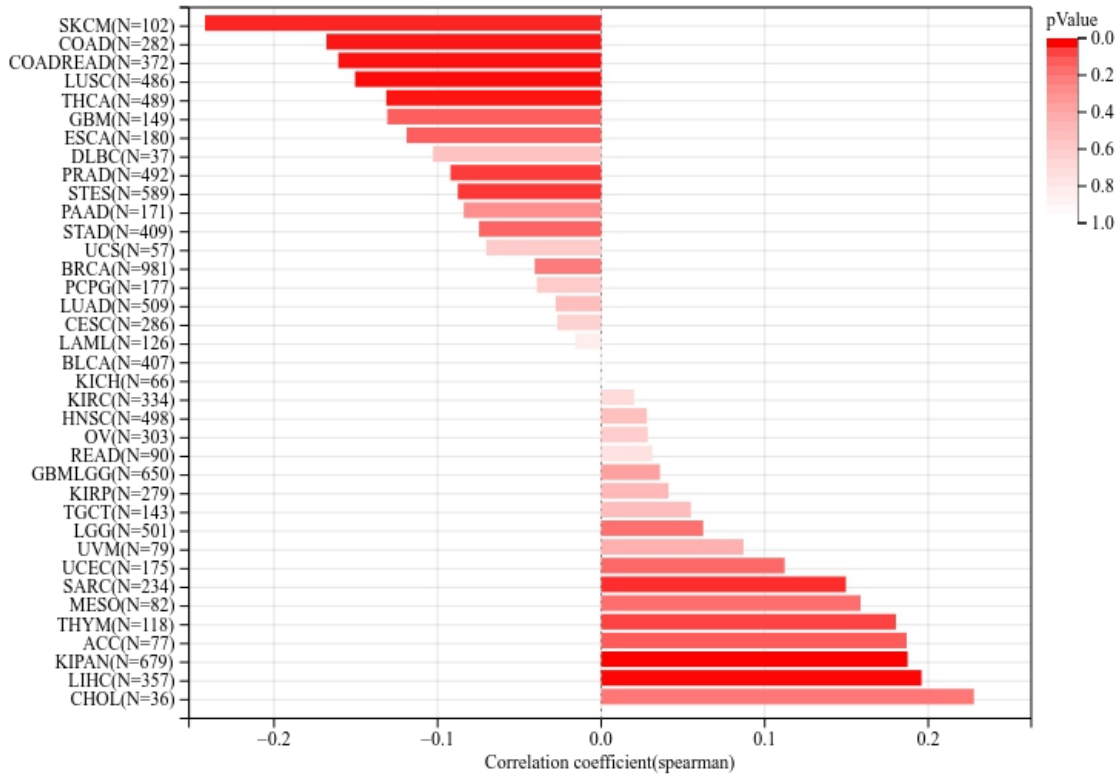


Figure S2. Relation between TMB and TGM3 mRNA expression levels in various tumors.

TMB was counted by total mutation incidences per million base pairs in each tumor.

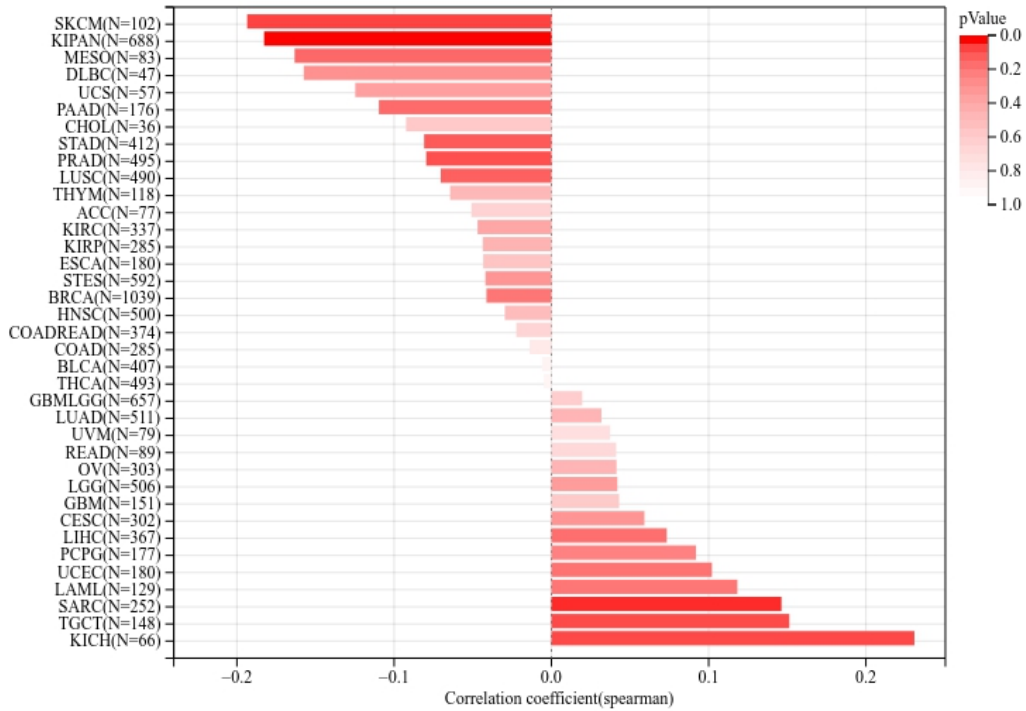
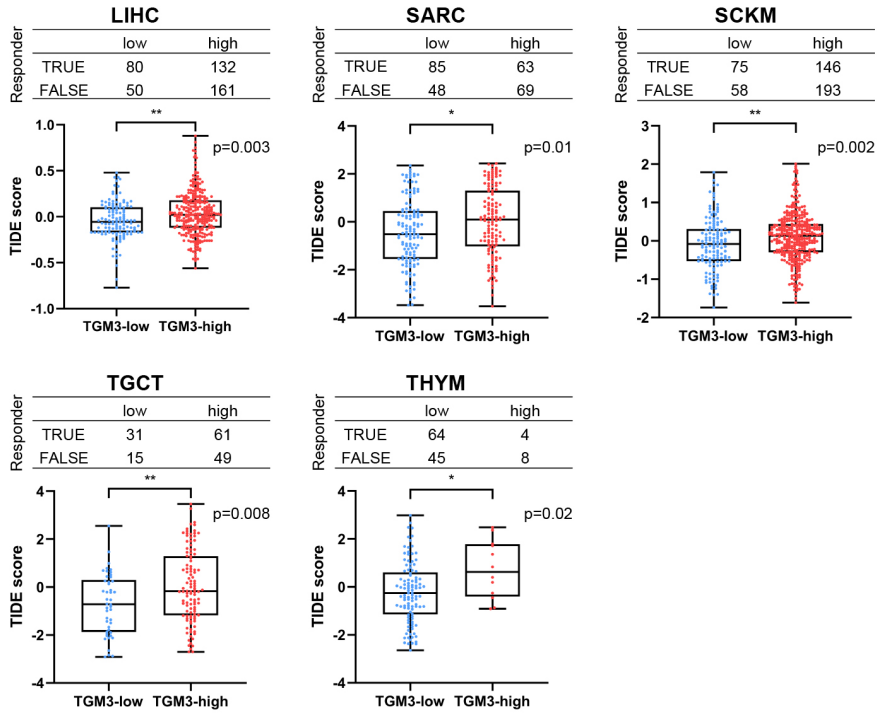


Figure S3. Relation between MSI and TGM3 mRNA expression levels in various tumors. MSI was counted by total incidence of deletion or insertion in repeating sequences per million base pairs.

A



B

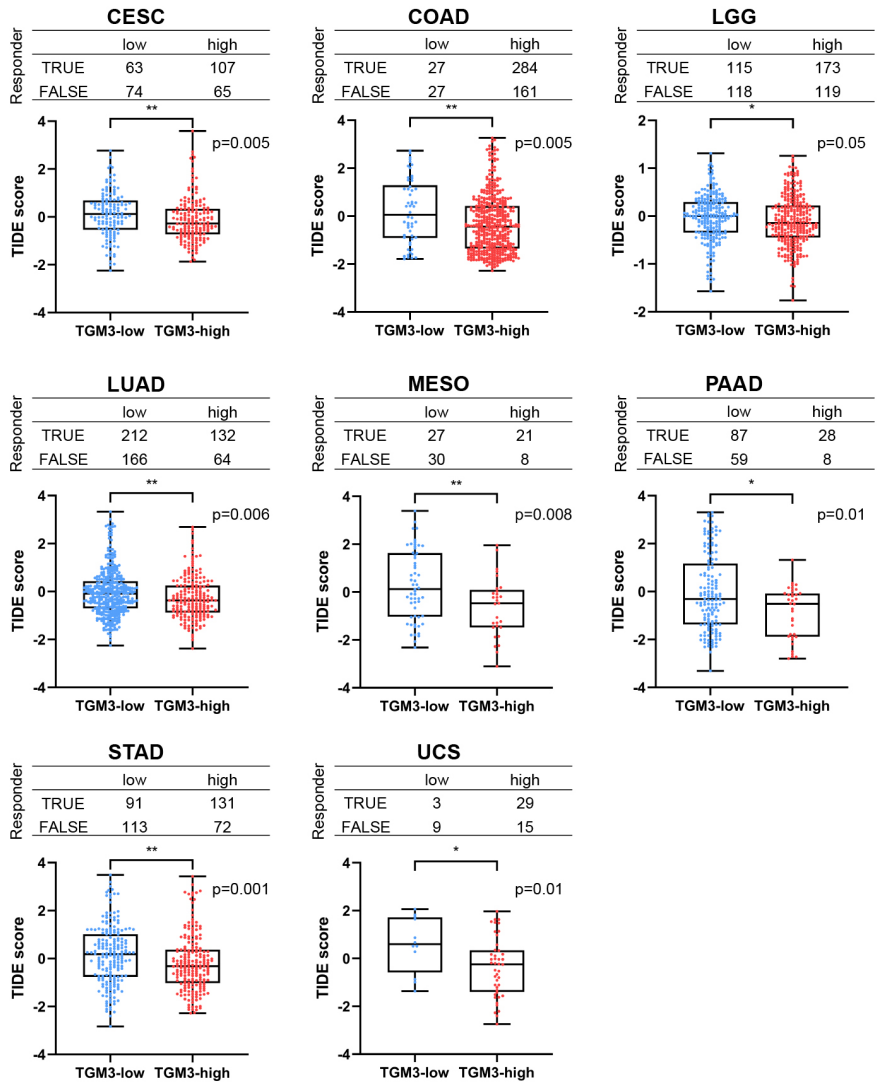


Figure S4. The relationship between TGM3 and patient response to ICI therapy in other cancer types with statistical significance. (A) Low expression of TGM3 group had a better therapeutic ICI response in LIHC, SARC, SKCM, TGCT, and THYM. (B) High TGM3 expression group had a better therapeutic ICI response in CESC, COAD, LGG, LUAD, MESO, PAAD, STAD, and UCS.

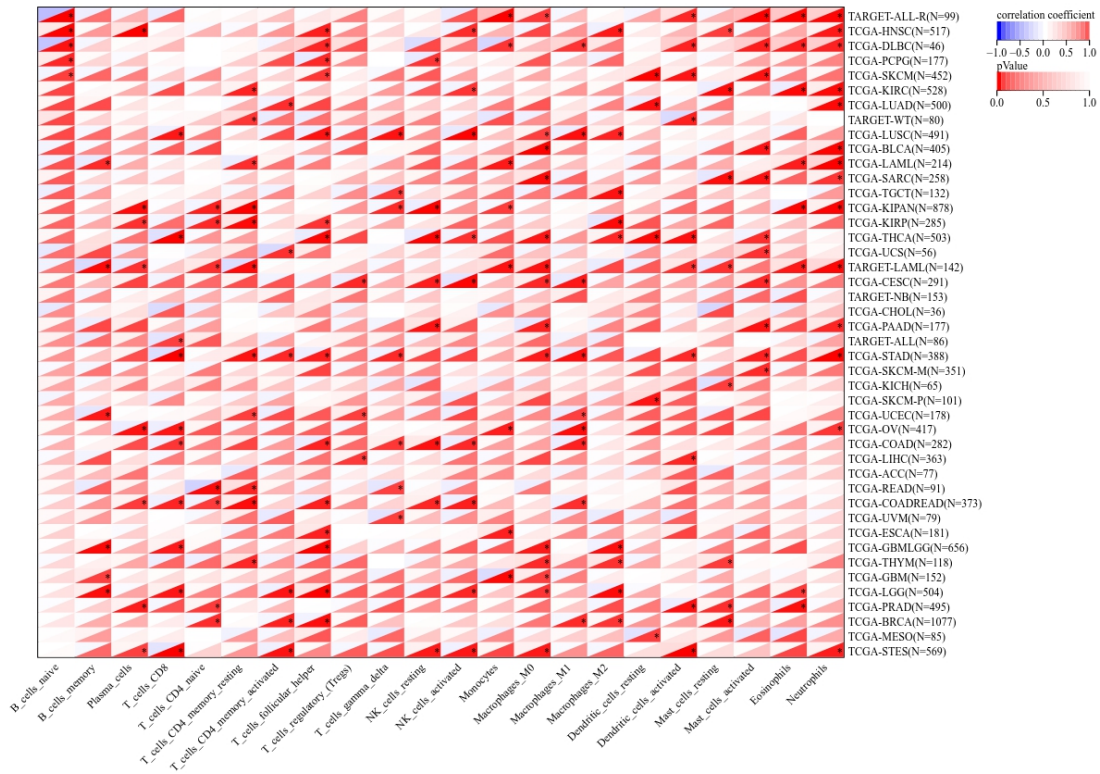


Figure S5. Correlation between TGM3 expression and tumor-infiltrating immune cells as calculated by CIBERSOFT database. The upper triangle in each tile indicates coefficients calculated by Spearman's correlation test, and the lower triangle indicates the P-value. *P<0.05