

Table S1. One-way ANOVA analysis of 8 features in tumor epithelial cells in the 48-case with immunotherapy.

Feature	CMTM6	CMTM4	PD-L1	PD-1	6 ⁺ PD-L1 ⁺	4 ⁺ PD-L1 ⁺	4 ⁺ 6 ⁺	6 ⁺ 4 ⁺ *PD-L1 ⁺
significance	0.155	0.02	0.54	0.248	0.185	0.159	0.058	0.162

Table S2 Baseline Characteristics of the 48 GC patients receiving immunotherapy

	Total(N=48)	CMTM6		<i>p</i>
		Higher(>Median*)	Lower(<Median*)	
Age (yr)	61 (24-81)			0.56
>=60	28	15	13	
<60	20	9	11	
Sex				0.75
Female	13	7	6	
Male	35	17	18	
ECOG status				0.35
0	20	12	8	
1	24	11	13	
2	4	1	3	
Previous gastrectomy				0.087
Yes	21	8	13	
No	27	17	10	
Treatment naive	3			
Number of previous therapy(palliation)				0.5
1	18	8	10	

2	15	9	5	
>2	12	7	5	
Primary tumor site				0.26
Cardia/Fundus/EGJ	21	10	11	
Body	11	8	3	
Antrum	14	7	7	
GSC**	2	0	2	
Metastatic sites				0.046
1	12	3	9	
>=2	36	21	15	
EBV positivity	18.6% (8/43)			0.14
EBER+	8	6	2	
EBER-	35	16	19	
HER2 positivity	48.9% (23/47)			0.46
+	23	13	10	
- (FISH-/IHC-)	24	11	13	
pMMR	76.1% (35/46)	18	17	0.73
dMMR	23.9% (11/46)	5	6	

*, Median level, 14.8%. **, GSC, gastric stump carcinoma. Treatment naïve, first diagnose without chemo or surgery

Table S3 Efficacy outcomes in evaluable 48-case patients

	Total(N=48)
Best overall response	
Complete response	0
Partial response	15
Stable disease	12
Progressive disease	21
Time to response (weeks)	8 (6-36)
Duration of response (weeks)	34 (8-78)
Median progression-free survival (95%CI; weeks)	15.0 (8.8-21.2)
Median overall survival (95%CI; weeks)	50.1 (33.9-66.3)

Table S4. Expression patterns of CMTMs and PD-L1 in the gastric cancer tissues

MSI Expression pattern	Tumor epithelial membrane	mesenchymal	Patients	Short-term efficacy of ICB
Pattern 1 Tumor CMTM6/4+PD-L1+	1A: CMTM6+CMTM4+PD-L1+		PR149082 , PR8554, PR131788,	PR(9/12) 75% SD(2/12) 16.66% PD(1/12) 8.33% Non-PD (11/12) 91.66%
	1B: CMTM6+CMTM4+PD-L1+		PR8, PR133821 , PR8596	
	1C: CMTM6+CMTM4+PD-L1+		PD135678 ,PRG180182, SD131611, SD8690, PR123827, PR8649,	
Pattern 2 Mesenchymal CMTM6/4+PD-L1+ OR Tumor CMTM4+6+ PD-L1-		2A: CMTM6-CMTM4+PD-L1+or CMTM6+CMTM4+PD-L1+	PR171761, PR128210, SD166938 , SD185346, PD8580,PD1,PD4, PD7562, PD8498,PD184356,	PR(3/18) 16.67% SD(7/18) 38.89% PD(8/18) 44.44%
	2B: CMTM6 ^{+/lo} CMTM4 ^{+/lo} PD-L1-		PR14,PD8641, PD8626, SD13, SD5 , SD6, SD9, SD16,	
Pattern 3 Single positive	3A: CMTM6 ⁺ or CMTM4 ⁺ or PD-L1 ⁺	3A: with or without CMTM6 ⁺ or CMTM4 ⁺ or PD-L1 ⁺	PRG137485, PR86710, PRG110489, SD489641 , SD12 , SD167456, PD8632 , PD8698, PD3 , PD1174, PD8510, PD7, PD15, PD8687, PD787, PD2, PD881, PD8634	PR(3/18) 16.67% SD(3/18) 16.67% PD(12/18) 66.67% Non-PR (15/18) 83.33%