

S3 Table. Logistic regression analysis for response to immune checkpoint inhibitors

Variable	Objective response rate				Disease control rate			
	Univariate analysis		Multivariate analysis ^{a)}		Univariate analysis		Multivariate analysis ^{a)}	
	OR (95% CI)	p-value	OR (95% CI)	p-value	OR (95% CI)	p-value	OR (95% CI)	p-value
Age (< 65 yr vs. ≥ 65 yr)	0.38 (0.08-1.76)	0.217	-	-	0.36 (0.11-1.18)	0.092	0.24 (0.06-0.98)	0.047
Sex (male vs. female)	0.55 (0.05-6.11)	0.629	-	-	0.61 (0.08-4.72)	0.633	-	-
Treatment line (≥ 3rd vs. 2nd)	0.69 (0.14-3.35)	0.645	-	-	0.42 (0.12-1.45)	0.170	-	-
Number of metastatic organs (≥ 2 vs. 1)	1.24 (0.22-7.04)	0.807	-	-	0.52 (0.15-1.84)	0.311	-	-
ECOG PS (≥ 2 vs. 0-1)	2.50 (0.52-11.96)	0.251	-	-	1.82 (0.56-5.87)	0.317	-	-
Site of metastasis			-	-			-	-
Liver (yes vs. no)	Not calculated ^{b)}	0.999	-	-	0.20 (0.04-1.05)	0.057	-	-
Lung (yes vs. no)	0.96 (0.20-4.60)	0.961	-	-	0.48 (0.15-1.57)	0.222	-	-
Peritoneum (yes vs. no)	Not calculated ^{b)}	0.999	-	-	0.50 (0.05-5.19)	0.562	-	-
Bone (yes vs. no)	3.50 (0.66-18.65)	0.142	-	-	1.33 (0.31-5.76)	0.700	-	-
Lymph node (yes vs. no)	0.62 (0.10-3.72)	0.599	-	-	2.59 (0.48-14.05)	0.271	-	-
Recent use of antibiotics within the past month (yes vs. no)	Not calculated ^{b)}	0.999	-	-	0.18 (0.04-0.92)	0.040	0.17 (0.03-1.11)	0.064

Baseline Hb (< 12 g/dL vs. ≥ 12 g/dL)	0.29 (0.06-1.51)	0.142	-	-	0.41 (0.10-1.64)	0.206	-	-
Baseline absolute neutrophil (≥ 4,000 /μL vs. < 4,000 /μL)	0.15 (0.02-1.31)	0.086	-	-	0.39 (0.13-1.19)	0.098	-	-
Baseline absolute lymphocyte (≥ 1,000 /μL vs. < 1,000 /μL)	2.04 (0.37-11.18)	0.413	-	-	1.28 (0.42-3.89)	0.660	-	-
Baseline NLR (≥ 2.71 vs. < 2.71)	0.17 (0.03-0.95)	0.046	-	-	0.30 (0.10-0.93)	0.037	-	-
Baseline PLR (≥ 216.35 vs. < 216.35)	0.18 (0.02-1.55)	0.118	-	-	0.50 (0.16-1.53)	0.223	-	-
Baseline CRP (> 0.6 mg/dL vs. ≤ 0.6 mg/dL)	0.05 (0.01-0.52)	0.008	-	-	0.39 (0.11-1.39)	0.147	-	-
Baseline LDH (≥ 250 IU/L vs. < 250 UI/L)	0.91 (0.16-5.20)	0.915	-	-	0.96 (0.25-3.68)	0.950	-	-
Baseline albumin (< 3.5 g/dL vs. ≥ 3.5 g/dL)	0.49 (0.09-2.70)	0.413	-	-	0.56 (0.18-1.74)	0.318	-	-
Baseline sodium (< 135 mmol/L vs. ≥ 135 mmol/L)	Not calculated ^{b)}	0.999	-	-	0.24 (0.05-1.26)	0.092	-	-

Baseline GPS

(1-2 vs. 0)	0.19 (0.03-1.20)	0.078	0.19 (0.03-1.20)	0.078	0.26 (0.07-0.92)	0.036	0.20 (0.05-0.84)	0.027
Baseline PNI (<35.93 vs. ≥35.93)	Not calculated ^{b)}	0.999	-	-	0.16 (0.02-1.43)	0.101	-	-
1.4-fold increase of NLR at post-cycle 1 (yes vs. no)	0.24 (0.03-2.14)	0.202	-	-	0.42 (0.12-1.44)	0.167	-	-
1.15-fold increase of PLR at post-cycle 1 (yes vs. no)	0.87 (0.18-4.09)	0.857	-	-	1.04 (0.34-3.19)	0.947	-	-
Tissue PD-L1 TPS (≥1% vs. <1%) ^{c)}	0.68 (0.09-5.39)	0.716	-	-	0.86 (0.24-3.06)	0.812	-	-
Tissue PD-L1 CPS (≥1 vs. <1) ^{c)}	Not calculated ^{b)}	0.999	-	-	4.74 (0.51-43.73)	0.170	-	-

CI, confidence interval; CPS, combined positive score; CRP, C-reactive protein; ECOG PS, Eastern Cooperative Oncology Group performance status; GPS, Glasgow prognosis score; LDH, lactate dehydrogenase; NLR, neutrophil-lymphocyte ratio; OR, odd ratio; PD-L1, programmed death-ligand 1; PLR, platelet-to-lymphocyte ratio; PNI, prognostic nutritional index; TPS, tumor proportion score. ^{a)}Multivariate analysis included significant factors in univariate analysis ($P<0.1$), and NLR was used instead of absolute neutrophil or lymphocyte counts, and GPS and PNI were used instead of CRP or albumin in multivariate analysis, ^{b)}OR could not be calculated when the objective response rate was 0% in patients with poor factors, ^{c)}Tissue PD-L1 TPS or CPS was evaluated in 41 available tissues.