

Supplementary Table S1. Univariate and multivariable analyses for progression-free survival

Characteristics	Univariate analysis		Multivariable analysis	
	HR (95% CI)	<i>P</i> value	HR (95% CI)	<i>P</i> value
Baseline brain metastasis (yes vs. no)	1.18 (0.63-2.21)	.60	2.44 (1.16-5.14)	.01
ECOG PS (1 vs. 0)	1.27 (0.62-2.62)	.51	2.43 (1.09-5.39)	.02
Baseline bone metastasis (yes vs. no)	2.44 (1.39-4.29)	.002	2.67 (1.38-5.18)	.003
Immune-related adverse events (IRAEs) (yes vs. no)	0.36 (0.19-0.67)	.001	0.33 (0.16-0.65)	.001
Elevated LDH (yes vs. no)	2.45 (1.32-4.53)	.004	2.30 (1.18-4.47)	.01

ECOG Eastern Cooperative Oncology Group, *PS* performance status, *HR* hazard ratio, *CI* confidence interval, *LDH* lactate dehydrogenase

Supplementary Table S2. Univariate and multivariable analyses for overall survival

Characteristics	Univariate analysis		Multivariable analysis	
	HR (95% CI)	<i>P</i> value	HR (95% CI)	<i>P</i> value
ECOG performance status (1 vs. 0)	3.16 (0.75-13.34)	.11	4.51 (1.04-19.55)	.04
Baseline bone metastasis (yes vs. no)	2.89 (1.38-6.03)	.005	2.18 (1.00-4.80)	.05
Immune-related adverse events (IRAEs) (yes vs. no)	0.35 (0.15-0.81)	.01	0.33 (0.12-0.87)	.02
Elevated LDH (yes vs. no)	4.71 (1.76-12.58)	.002	4.64 (1.66-12.95)	.003

ECOG Eastern Cooperative Oncology Group, *HR* hazard ratio, *CI* confidence interval, *LDH* lactate dehydrogenase

Supplementary Table S3. Multivariable analysis for overall survival with progressed patients (N=42)

Characteristics	Univariate analysis		Multivariable analysis	
	HR (95% CI)	<i>P</i> value	HR (95% CI)	<i>P</i> value
Liver metastasis progression (yes vs. no)	1.28 (0.51-3.20)	.58	2.47 (0.51-11.79)	.25
Baseline bone metastasis (yes vs. no)	1.92 (0.77-4.74)	.15	1.97 (0.59-6.54)	.26
Immune-related adverse events (IRAEs) (yes vs. no)	0.54 (0.20-1.40)	.20	0.35 (0.09-1.25)	.10
Elevated LDH (yes vs. no)	2.99 (1.05-8.52)	.04	2.24 (0.58-8.69)	.24

HR hazard ratio, *CI* confidence interval, *LDH* lactate dehydrogenase