SUPPLEMENTARY TABLE S1: Continuous variable Cox regression analysis and bootstrap internal validation.

Part A. Continuous variable Cox regression analysis

Marker	Endpoint	HR per 1 SD (95% CI)	p-value
NLR	OS	0.98 (0.71-1.36)	0.915
NLR	DFS	1.13 (0.87-1.46)	0.362
PLR	OS	0.94 (0.64-1.38)	0.768
PLR	DFS	1.06 (0.79-1.41)	0.692
SII	OS	0.97 (0.69-1.38)	0.873
SII	DFS	1.08 (0.82-1.43)	0.579

Part B. Bootstrap internal validation of ROC-derived cut-offs

Marker	Endpoint	Original cut-off	Median bootstrap cut-off	Cut-off 95% PI	Median bootstrap HR	HR 95% PI	HR >1 (%)	p<0.05 (%)
NLR	OS	1.78	1.78	1.29-2.41	2.25	1.04-8.24	98.1	47.7
PLR	OS	138.08	138.08	78.00-146.96	1.80	0.94-4.94	95.7	25.9
SII	OS	449.55	449.55	352.70-1113.81	1.64	0.74-8.13	87.3	16.4
NLR	DFS	1.95	1.95	1.29-2.30	2.15	1.28-5.99	100.0	62.9
PLR	DFS	117.50	118.26	81.47-146.96	2.01	1.17-6.07	99.4	52.8
SII	DFS	352.70	404.62	282.00-1113.81	2.26	1.18-7.27×10^{7}	99.6	48.1

In each of the 1000 bootstrap resamples, patients were resampled with replacement (n=190; random seed 42) and the entire analytic pipeline was repeated, including re-derivation of the optimal Youden cut-off, dichotomization at that cut-off, and the Kaplan-Meier (log-rank) and Cox proportional hazards analyses. All 1000 resamples were estimable for every marker-endpoint combination. Percentile intervals correspond to the 2.5th and 97.5th percentiles of the bootstrap distribution. Bootstrap hazard ratios are derived and evaluated within the same resample and therefore describe the sampling distribution of the complete cut-off selection procedure rather than providing corrected effect estimates. For SII/DFS, the upper hazard ratio percentile is influenced by 42 resamples (4.2%) in which one group contained no events and the Cox coefficient did not converge to a finite value; excluding these resamples, the corresponding interval is 1.18-8.56.

PI: Percentile interval; HR: Hazard ratio; OS: Overall survival; DFS: Disease-free survival; NLR: Neutrophil-to-lymphocyte ratio; PLR: Platelet-to-lymphocyte ratio; SII: Systemic immune-inflammation index; SD: Standard deviation; ROC: Receiver operating characteristic; CI: Confidence interval.