

Slice Thickness	No. of Studies	AUC
< 2 mm	D ₂ = 35	AUC = .87
	D ₃ = 11	AUC = .84
2 - 5 mm	D ₂ = 27	AUC = .85
	D ₃ = 16	AUC = .80

Table S1. Model performance (in terms of AUC) as a function of slice thickness in the validation sets.

Covariate (Feature)	Hazard Ratio (HR)	95% CI	p-value
<i>Laws (per heterogeneity increase)</i>	0.87	0.66 1.15	0.35
<i>Haralick (per texture correlation increase)</i>	1.56	1.16 2.08	0.0027
<i>Gabor (per density of lesion increase)</i>	0.85	0.66 1.09	0.22
<i>Haralick (per entropy increase)</i>	1.65	1.19 2.27	0.0023
<i>Gabor (per density of lesion increase)</i>	0.85	0.63 1.1	0.21
<i>CoLIAGe (per entropy increase)</i>	0.85	0.67 1.2	0.23
<i>Gabor (per density of lesion increase)</i>	1.15	0.85 1.57	0.35
<i>Laws (per heterogeneity increase)</i>	1.38	1.23 1.82	0.024
<i>Sex (male vs. female)</i>	1.47	0.75 2.45	0.18
<i>Race (White or Black)</i>	1.14	0.53 2.46	0.72
<i>Histology (adeno vs. SCC)</i>	1.04	0.58 1.85	0.8
<i>EGFR mutation (yes vs. no)</i>	0.93	0.45 2.11	0.81
<i>Smoking (smoker vs. non-smoker)</i>	1.37	0.64 2.82	0.42

Table S2. Univariable Cox regression analysis for top eight selected texture features and six clinicopathologic variables in the discovery cohort D_1 .

Variable	HR (95% Confidential Interval), p-value		
	D ₁	D ₂	D ₃
Gender	1.34 (0.68 - 2.64), .39	1.1 (0.47 – 2.14), .52	.95 (0.55 – 2.34), .64
Smoking	1.22 (0.52 - 2.84), .64	1.73 (0.71 – 2.33), .22	1.81 (0.63 – 2.02), .37
DRS	1.6 (1.17 – 2.16), .0027	1.66 (1.25 – 2.24), .01	1.95 (1.48 – 2.28), .022

Table S3. Multivariable Cox regression analysis for OS in D₁, D₂ and D₃.

Cut off criteria	Low PDL-1 score	High PDL-1 score
1	0 – 1 %	> 1%
2	0 – 10 %	> 10%
3	0 – 50%	> 50%

Table S4. *Cut-off criteria for PD-L1 expression grouping*

Patients with different cycles of therapy in validation set	Correct decision by classifier in validation set	Incorrect decision by classifier in validation set
N1 = 62	55	7
N2 = 15	11	4

Table S5. The number of correct and incorrect decisions made by the classifier in predicting response treatment after 2 or 3 cycles of ICI.