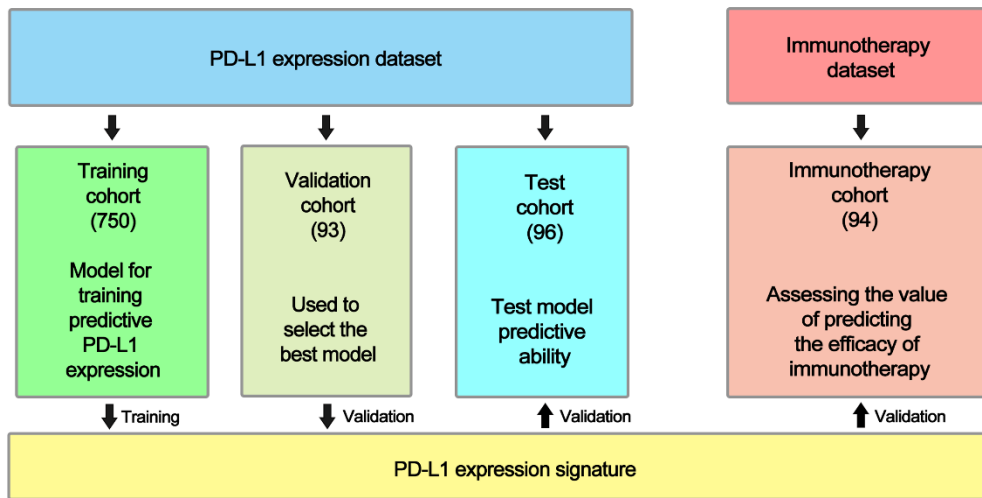
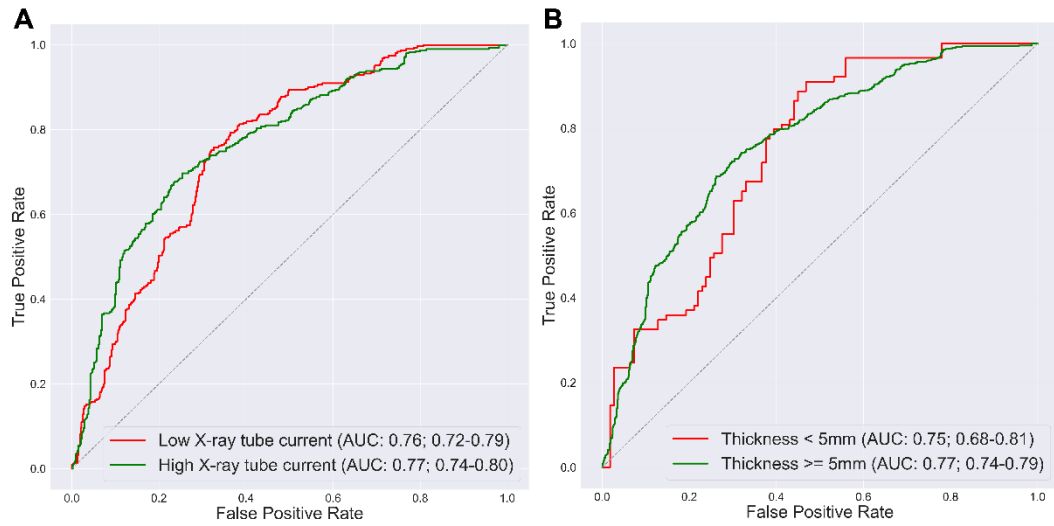


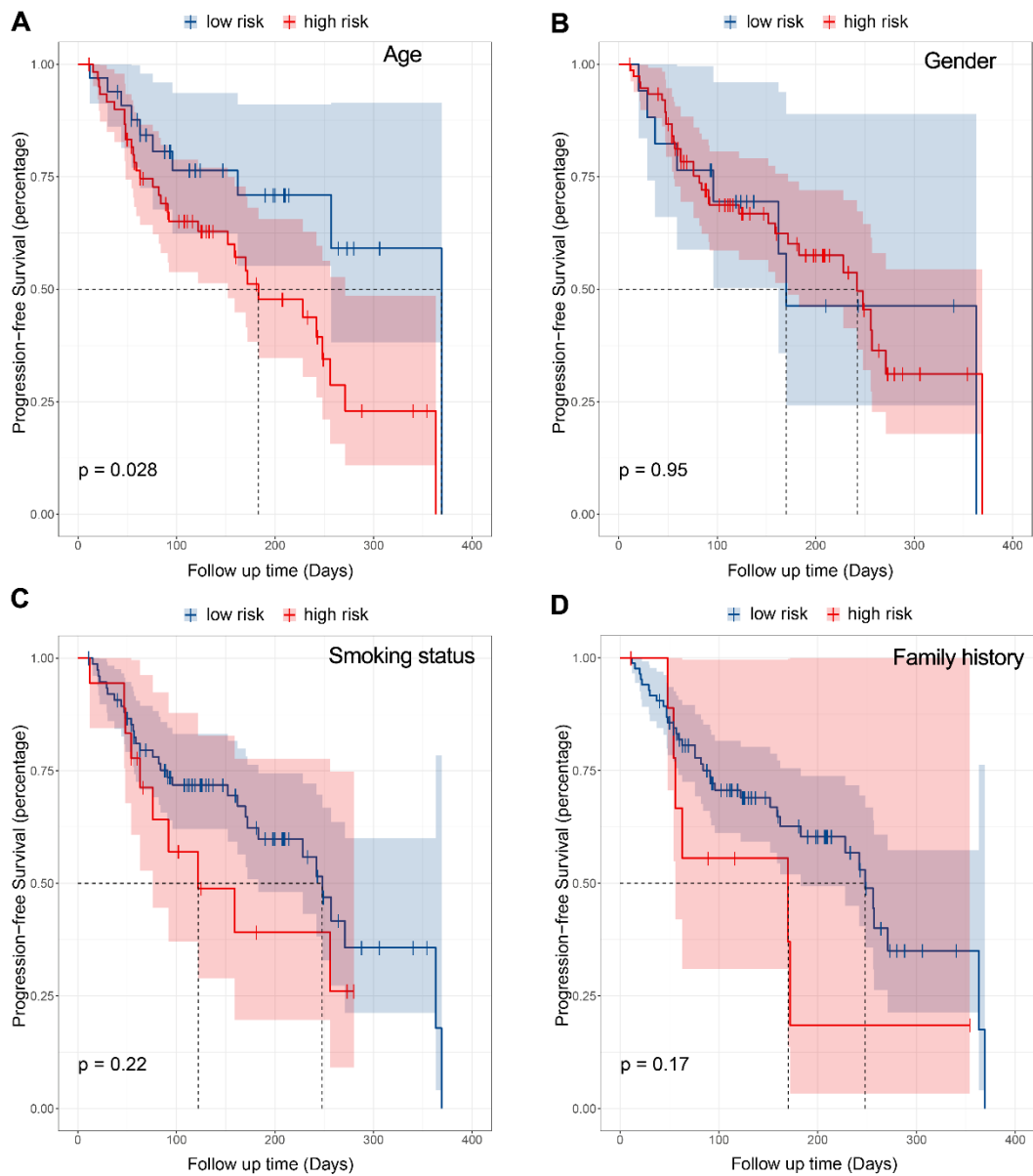
Supplementary tables and figures



**Supplementary Figure 1.** Datasets and experimental flow chart in this study. A total of four datasets were included in this study, including the PD-L1 expression dataset (including training set, validation set and test set) related to obtaining PD-L1 expression signature and the immunotherapy dataset related to validated efficacy.



**Supplementary Figure 2.** Stratified analysis of high and low expression evaluation of PD-L1 expression signature based on CT scanning parameters. **(A)** and **(B)** were the ROC curves of stratified analysis which used PD-L1 expression signature based on X-ray tube current and slice thickness, respectively.



**Supplementary Figure 3.** Progression-free survival of patients according to different clinical characteristics models. **(A)**, **(B)**, **(C)** and **(D)** demonstrated the prognostic performance of different clinical characteristics models including age, gender, smoking status, and family history of tumor, respectively.

**Supplementary Table 1. Clinical characteristics of the immunotherapy dataset**

<b>Characteristics</b>	<b>Total (n = 94)</b>	<b>High risk group (n = 60)</b>	<b>Low risk group (n = 34)</b>	<b>P Value</b>
<b>Age, year, mean ± SD</b>	60.7 ± 11.1	59.9 ± 9.3	61.1 ± 12.0	0.614
<b>Gender, n (%)</b>				0.845
<b>Male</b>	77 (81.9)	28 (82.4)	49 (81.7)	
<b>Female</b>	17 (18.1)	6 (17.6)	11 (18.3)	
<b>Smoking status, n (%)</b>				0.952
<b>Never</b>	21 (22.3)	13 (21.7)	8 (23.5)	
<b>Occasionally</b>	55 (58.5)	35 (58.3)	20 (58.8)	
<b>Constantly</b>	18 (19.1)	12 (20.0)	6 (17.6)	
<b>Family history of cancer, n (%)</b>				0.935
<b>Yes</b>	10 (10.6)	6 (10.0)	4 (11.8)	
<b>No</b>	84 (89.4)	54 (90.0)	30 (88.2)	
<b>Therapy method, n (%)</b>				0.376
<b>Immunotherapy + Chemotherapy</b>	43 (45.7)	30 (50.0)	13 (38.2)	
<b>Immunotherapy</b>	51 (54.3)	30 (50.0)	21 (61.8)	
<b>PD-L1 expression value by IHC</b>				< 0.001
<b>Mean</b>	0.68 ± 0.18	0.79 ± 0.08	0.48 ± 0.14	
<b>Range</b>	0.17, 1.00	0.66, 1	0.17, 0.69	

Categorical data are shown as numbers (%) and continuous data as mean ± SD;

**Supplementary table 2.** Statistics on radiomic features

<b>Filter</b>	<b>Category</b>	<b>n</b>	<b>Filter</b>	<b>Category</b>	<b>n</b>
original	shape	14	lbp-2D	firstorder	18
original	firstorder	18	lbp-2D	texture	75
original	texture	75	lbp-3D-m1	firstorder	18
wavelet-LH	firstorder	18	lbp-3D-m1	texture	75
wavelet-LH	texture	75	lbp-3D-m2	firstorder	18
wavelet-HL	firstorder	18	lbp-3D-m2	texture	75
wavelet-HL	texture	75	lbp-3D-k	firstorder	18
wavelet-HH	firstorder	18	lbp-3D-k	texture	75
wavelet-HH	texture	75	logarithm	firstorder	18
wavelet-LL	firstorder	18	logarithm	texture	75
wavelet-LL	texture	75	square	firstorder	18
exponential	firstorder	18	square	texture	75
exponential	texture	75	squareroot	firstorder	18
gradient	firstorder	18	squareroot	texture	75
gradient	texture	75			