Table S1 A balance test between the training set and the validation set

Variables	Total (n=223)	Validation set (n=88)	Training set (n=135)	P value
TMB				>0.99
Low	127 [57]	50 [57]	77 [57]	
High	96 [43]	38 [43]	58 [43]	
Lymphatic metastasis				0.182
No	130 [58]	46 [52]	84 [62]	
Yes	93 [42]	42 [48]	51 [38]	
Sex				>0.99
Male	122 [55]	48 [55]	74 [55]	
Female	101 [45]	40 [45]	61 [45]	
Stage				0.394
I	63 [28]	29 [33]	34 [25]	
II	19 [9]	9 [10]	10 [7]	
III	35 [16]	14 [16]	21 [16]	
IV	106 [48]	36 [41]	70 [52]	
Smoking history				0.366
Nonsmoker	72 [32]	32 [36]	40 [30]	
Smoker	151 [68]	56 [64]	95 [70]	
Pathology type				0.361
SCC	38 [17]	18 [20]	20 [15]	
ADC	185 [83]	70 [80]	115 [85]	
FMTH				0.894
0	170 [76]	68 [77]	102 [76]	
1	53 [24]	20 [23]	33 [24]	
MPLC				0.871
0	180 [81]	72 [82]	108 [80]	
1	43 [19]	16 [18]	27 [20]	
CEA				0.4
Normal	118 [53]	43 [49]	75 [56]	
High	105 [47]	45 [51]	60 [44]	
CA125				0.948
Normal	168 [75]	67 [76]	101 [75]	
High	55 [25]	21 [24]	34 [25]	
Cyfra21				0.574
Normal	90 [40]	33 [38]	57 [42]	
High	133 [60]	55 [62]	78 [58]	
Age, years	63±8.94	62.47±9.83	63.35±8.33	0.488
BMI, kg/m^2	21.5 [20.2, 23.15]	21.5 [20.2, 23.02]	21.6 [20.2, 23.2]	0.963
SUV$_{max}$	7.1 [4.25, 10.7]	7.35 [3.9, 10.6]	7 [4.35, 10.7]	0.958
SUV$_{mean}$	4.5 [2.55, 6.8]	4.75 [2.45, 6.8]	4.4 [2.6, 6.9]	0.987
MTV	8.5 [4.6, 18.55]	10.8 [4.55, 18.6]	7.7 [4.8, 17.35]	0.511
TLG	35.28 [10.49, 109.65]	36.91 [11.31, 123.69]	32.16 [10.49, 99.18]	0.765
Size, cm	27 [20, 39]	29 [20, 40.25]	26 [19.5, 36.5]	0.345

Data are expressed as n [%], mean ± standard deviation or median [interquartile range]. Upper limits of normal were 5.0 ng/mL for CEA, 35.0 U/mL for CA125, 3.3 ng/mL for Cyfra21-1. SCC, squamous cell carcinoma; ADC, adenocarcinoma; BMI, body mass index; CEA, carcinoembryonic antigen; CA125, carbohydrate antigen 125; Cyfra21-1, cytokeratin 19 fragment; SUV$_{max}$, maximum standardized uptake value; SUV$_{mean}$, mean standardized uptake value; MTV, metabolic tumor volume; TLG, total lesion glycolysis; ROC, receiver operator characteristics; AUC, area under the curve.