

Supporting Information Table S12. ROC-based cutoff analysis of TMB for prediction of 5-year OS in HPV- TCGA cases.

TMB Cut point (>)	Sensitivity%	Specificity%	Youden's Index
7.5	100	0.3876	99.3876
10	99.46	0.3876	98.8476
12	99.46	0.7752	99.2352
14	99.46	1.163	99.623
17	99.46	1.55	100.01
21.5	99.46	1.938	100.398
24.5	98.92	2.326	100.246
25.5	98.92	2.713	100.633
27	98.38	2.713	100.093
29	98.38	3.101	100.481
31.5	98.38	3.488	100.868
33.5	97.84	3.488	100.328
34.5	97.84	3.876	100.716
35.5	97.84	5.039	101.879
36.5	97.84	5.814	102.654
37.5	97.84	6.202	103.042
39.5	97.3	6.202	102.502
41.5	97.3	6.589	102.889
42.5	97.3	6.977	103.277
43.5	96.22	7.752	102.972
45	95.68	7.752	102.432
46.5	95.68	8.14	102.82
47.5	94.59	9.302	102.892
48.5	94.59	9.69	103.28
49.5	94.05	10.47	103.52
50.5	94.05	10.85	103.9
51.5	93.51	11.63	104.14
52.5	92.97	11.63	103.6
53.5	92.43	11.63	103.06
54.5	92.43	12.02	103.45
56	91.89	12.4	103.29
57.5	89.73	13.57	102.3

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TMB Cut point (>)	Sensitivity%	Specificity%	Youden's Index
58.5	88.65	13.95	101.6
59.5	88.11	13.95	101.06
60.5	87.57	14.73	101.3
61.5	87.57	15.5	102.07
62.5	87.57	16.28	102.85
63.5	87.03	16.67	102.7
65	86.49	17.05	102.54
66.5	84.86	17.83	101.69
67.5	83.78	20.16	102.94
68.5	83.24	21.71	103.95
69.5	82.16	22.87	104.03
70.5	81.08	22.87	102.95
71.5	80.54	23.26	102.8
72.5	80.54	23.64	103.18
73.5	80.54	25.19	104.73
74.5	79.46	25.97	104.43
75.5	79.46	26.36	104.82
76.5	79.46	27.52	105.98
78	78.92	27.91	105.83
79.5	78.38	28.29	105.67
80.5	78.38	29.46	106.84
81.5	77.3	30.23	106.53
82.5	76.76	30.62	106.38
83.5	76.22	31.78	107
84.5	76.22	32.56	107.78
85.5	76.22	33.72	108.94
86.5	75.68	34.5	109.18
87.5	75.14	35.27	109.41
88.5	75.14	35.66	109.8
89.5	73.51	36.43	108.94
90.5	72.43	36.43	107.86
91.5	70.81	38.37	108.18

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TMB Cut point (>)	Sensitivity%	Specificity%	Youden's Index
92.5	70.27	38.37	107.64
93.5	70.27	39.53	108.8
94.5	69.73	39.92	108.65
95.5	68.65	41.86	109.51
96.5	68.11	41.86	108.97
97.5	67.03	42.25	108.28
98.5	67.03	43.8	109.83
99.5	67.03	44.19	110.22
100.5	65.95	44.96	109.91
101.5	63.78	45.35	108.13
102.5	63.24	45.35	107.59
103.5	62.7	46.12	107.82
104.5	60	46.9	105.9
105.5	59.46	48.06	106.52
106.5	57.84	48.84	105.68
107.5	57.3	49.22	105.52
108.5	56.22	50	105.22
109.5	55.14	50	104.14
110.5	54.05	51.16	104.21
111.5	51.89	53.1	103.99
112.5	51.35	53.1	103.45
113.5	50.81	54.26	104.07
115	49.19	55.81	104
116.5	48.11	56.59	103.7
117.5	47.57	58.14	104.71
119	47.03	58.53	104.56
120.5	46.49	58.53	104.02
121.5	45.95	59.69	104.64
122.5	45.41	60.08	104.49
123.5	43.78	60.08	102.86
124.5	43.78	61.24	104.02
125.5	43.24	61.24	103.48

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TMB Cut point (>)	Sensitivity%	Specificity%	Youden's Index
126.5	42.7	61.63	103.33
128	42.7	62.4	104.1
129.5	42.16	62.79	103.95
131	41.62	63.18	103.8
132.5	41.08	63.18	103.26
133.5	40.54	64.34	103.88
134.5	40.54	64.73	104.27
135.5	40	65.5	104.5
136.5	40	66.28	105.28
137.5	39.46	67.05	105.51
139.5	37.84	68.22	105.06
141.5	37.84	68.6	105.44
142.5	37.3	70.16	106.46
143.5	37.3	70.93	107.23
144.5	36.22	72.09	107.31
145.5	35.68	72.87	107.55
146.5	35.14	73.26	107.4
147.5	35.14	74.03	108.17
148.5	34.05	74.03	107.08
150	32.97	74.81	106.78
151.5	32.43	74.81	106.24
152.5	32.43	75.58	107.01
154	31.89	75.97	106.86
155.5	31.89	76.36	107.25
156.5	31.35	76.74	107.09
157.5	30.81	77.13	106.94
158.5	30.81	77.52	107.33
159.5	30.81	77.91	107.72
160.5	30.81	78.29	108.1
162	29.73	78.68	107.41
163.5	29.19	79.07	107.26
164.5	28.65	79.07	106.72

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TMB Cut point (>)	Sensitivity%	Specificity%	Youden's Index
166	28.11	79.07	106.18
167.5	27.57	79.07	105.64
168.5	27.03	79.07	105.1
169.5	26.49	79.07	104.56
171.5	25.95	79.07	104.02
173.5	25.95	79.46	104.41
174.5	25.95	79.84	104.79
175.5	24.32	79.84	103.16
176.5	23.78	80.62	103.4
177.5	23.24	81.01	103.25
178.5	22.7	81.01	102.71
179.5	21.62	81.01	101.63
180.5	21.08	81.4	101.48
181.5	20.54	81.4	100.94
182.5	20	81.4	100.4
184	18.92	81.78	99.7
185.5	17.84	81.78	98.62
187.5	17.3	81.78	98.08
191	16.76	81.78	97.54
195	16.76	82.17	97.93
197.5	16.22	82.17	97.39
199.5	15.14	82.17	96.31
203	15.14	82.56	96.7
205.5	15.14	82.95	97.09
206.5	14.59	82.95	96.54
208	14.05	82.95	96
210	13.51	82.95	95.46
211.5	12.97	83.33	95.3
212.5	12.43	83.33	94.76
214	12.43	83.72	95.15
215.5	11.89	83.72	94.61
217	11.89	84.11	95

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TMB Cut point (>)	Sensitivity%	Specificity%	Youden's Index
223	11.89	84.5	95.39
228.5	11.35	84.88	95.23
229.5	11.35	85.27	95.62
231.5	11.35	85.66	96.01
233.5	10.81	85.66	95.47
238.5	10.27	85.66	94.93
244	9.73	85.66	94.39
246	9.73	86.05	94.78
248	9.73	86.43	95.16
252.5	9.73	86.82	95.55
256.5	9.73	87.21	95.94
259	8.649	87.21	94.859
261.5	8.108	87.21	94.318
269.5	7.027	87.21	93.237
279.5	7.027	87.6	93.627
285	6.486	87.98	93.466
291	6.486	88.37	93.856
296	6.486	88.76	94.246
301.5	6.486	89.15	94.636
307.5	6.486	89.53	95.016
312.5	5.946	89.53	94.476
318	5.946	89.92	94.866
323.5	5.946	90.31	95.256
328	5.946	90.7	95.646
330.5	5.946	91.09	96.036
336	5.946	91.47	96.416
342.5	5.946	91.86	96.806
348.5	5.405	91.86	96.265
355.5	5.405	92.25	96.655
368	4.865	92.25	96.115
383	4.865	92.64	96.505
391	4.865	93.02	96.885

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TMB Cut point (>)	Sensitivity%	Specificity%	Youden's Index
398	4.324	93.02	96.344
405.5	4.324	93.8	97.124
413.5	4.324	94.19	97.514
426.5	4.324	94.57	97.894
436	3.784	94.57	97.354
441.5	3.784	94.96	97.744
447.5	3.784	95.35	98.134
452	3.784	95.74	98.524
455.5	3.243	95.74	97.983
459	3.243	96.12	98.363
462.5	3.243	96.51	98.753
467.5	3.243	96.9	99.143
484.5	3.243	97.29	99.533
509.5	3.243	97.67	99.913
527.5	2.703	97.67	99.373
549	2.703	98.06	99.763
582	2.162	98.06	99.222
607	1.622	98.06	98.682
625	1.622	98.45	99.072
641	1.081	98.45	98.531
718.5	0.5405	98.45	97.9905
825.5	0.5405	98.84	98.3805
1193	0.5405	99.22	98.7605
1716	0.5405	99.61	99.1505
2545	0	99.61	98.61