Supplementary 1: ROC analysis

(1) Cutoff-value of cytoplasmic staining:

ROC Curves
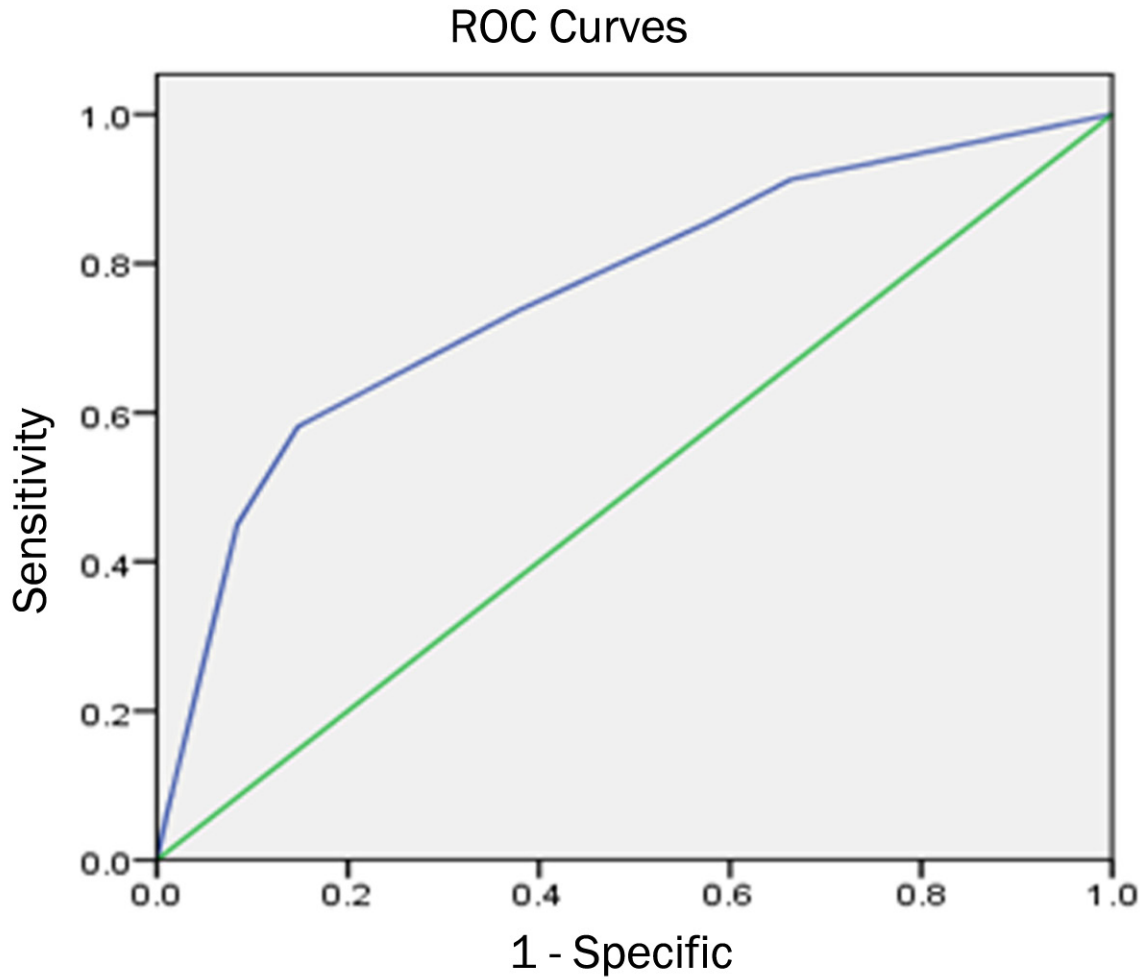
Cut-off point	Cut-off value	Sensitivity	Specificity	Youden's Index
1	0.5	0.913	0.663	0.250
2	1.5	0.856	0.579	0.277
3	2.5	0.738	0.379	0.359
4	3.5*	0.581	0.147	0.434
5	5	0.450	0.084	0.366
6	7.5	0.063	0.011	0.052

Youden's Index = true positive/(true positives + false negatives) - false positive/(false positive + true negative); *Indicates that the cut-off point corresponding the largest value of Youden's index.

(2) Cutoff-value of membrane staining:

ROC Curves
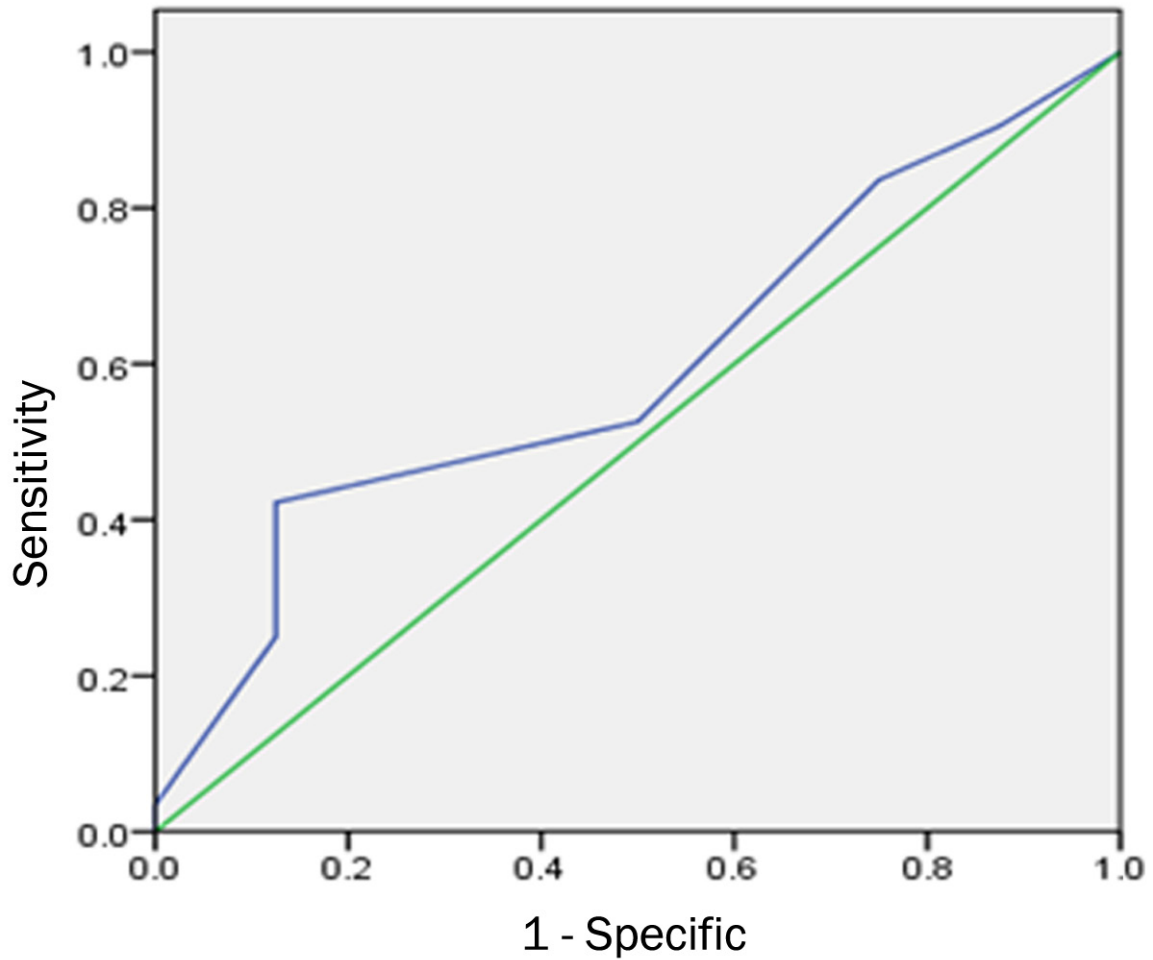
Cut-off point	Cut-off value	Sensitivity	Specificity	Youden's Index
1	0.5	0.905	0.875	0.030
2	1.5	0.836	0.750	0.086
3	2.5	0.526	0.500	0.026
4	3.5*	0.422	0.125	0.297
5	5	0.250	0.000	0.250
6	7.5	0.034	0.011	0.023

Youden's Index = true positive/(true positives + false negatives) - false positive/(false positive + true negative); *Indicates that the cut-off point corresponding the largest value of Youden's index.

(3) Cutoff-value of nuclear staining:

ROC Curves
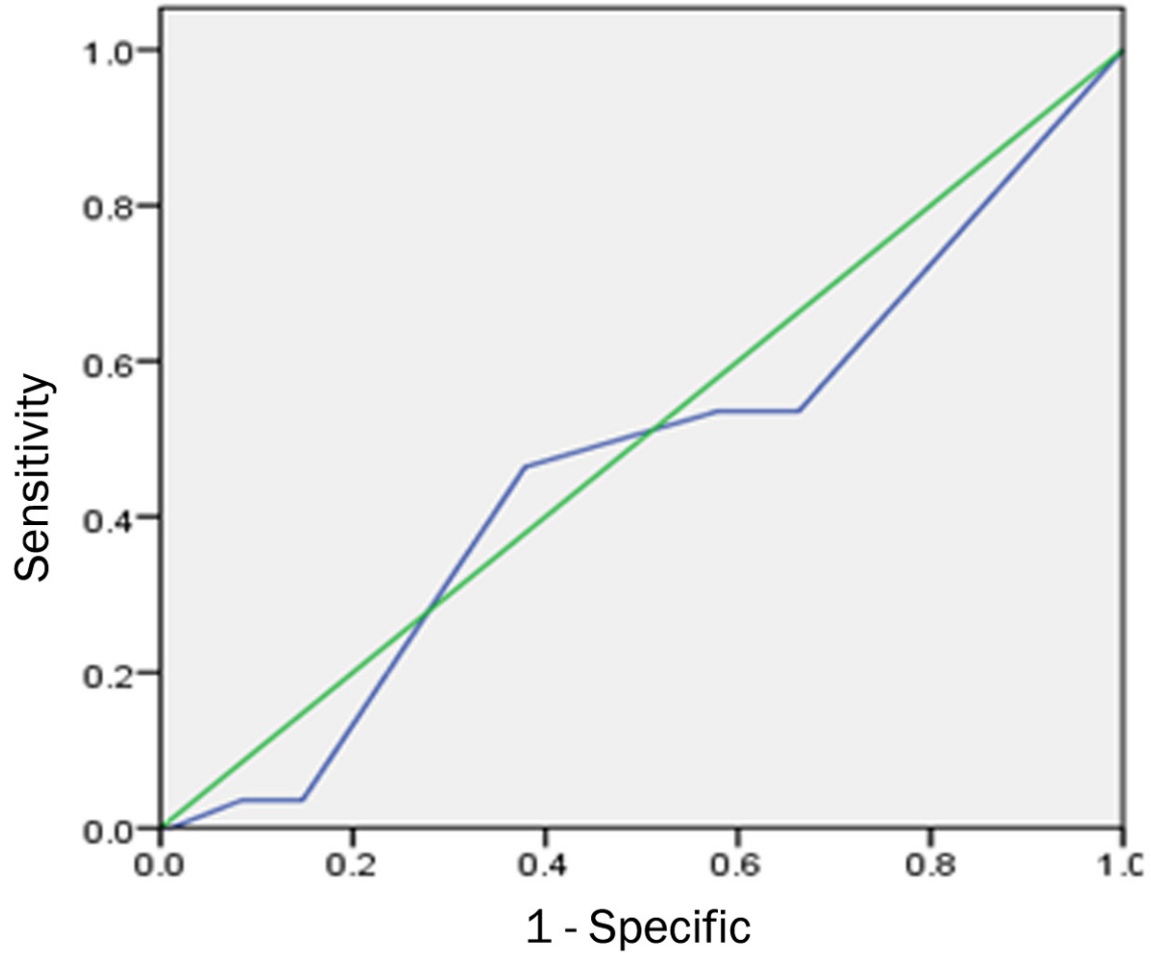
Cut-off point	Cut-off value	Sensitivity	Specificity	Youden's Index
1	0.5	0.536	0.663	-0.127
2	1.5	0.536	0.579	-0.043
3	2.5*	0.464	0.379	0.085
4	3.5	0.036	0.147	-0.111
5	5	0.036	0.084	-0.048
6	7.5	0.000	0.011	-0.011

Youden's Index = true positive/(true positives + false negatives) - false positive/(false positive + true negative); *Indicates that the cut-off point corresponding the largest value of Youden's index.

Supplementary 2: Multivariate Survival Analysis (Cox Regression Model)

Variants	HR	95% CI	P value
Lymph Node Invasion	9.709	1.805-52.632	*0.008[a]*
Clinical Stage	1.217	0.399-3.704	0.730
Membrane expression	3.774	2.374-6.061	*< 0.001[a]*

HR, hazard ratio; CI, confidence interval; [a]Statistically significant.