

Table S1. Distribution of clinical test characteristics for different cut-off values for CEA and CA19-9.

	Number of patients (% of total)	Patients who underwent resection (resection rate [%])	Sensitivity (%)	Specificity (%)	PPV (%)	NPV (%)
CEA (N=217)						
>3.0	139 (64.1)	50 (36.0)	70.1	44.4	64.0	51.3
>5.0	85 (39.2)	19 (22.3)	52.0	78.9	77.6	53.8
>7.0	66 (30.4)	11 (16.7)	43.3	87.8	83.3	52.3
>10.0	47 (21.7)	8 (17.0)	30.7	91.1	83.0	48.2
>15.0	35 (16.1)	6 (17.1)	22.8	93.3	82.9	46.2
>20.0	31 (14.3)	4 (12.9)	21.3	95.6	87.1	46.2
>25.0	26 (12.0)	3 (11.5)	18.1	96.7	88.5	45.6
>30.0	20 (9.2)	3 (15.0)	13.4	96.7	85.0	44.2
>50.0	10 (4.6)	0 (0.0)	7.9	100.0	100.0	43.5
CA19-9 (N=301)						
>30.0	247 (82.1)	91 (36.8)	86.7	24.8	63.2	55.6
>150.0	188 (62.5)	61 (32.4)	70.6	49.6	67.6	53.1
>305.0	140 (46.5)	37 (26.4)	57.2	69.4	73.6	52.2
>500.0	108 (35.9)	31 (28.7)	42.8	74.4	71.3	46.4
>600.0	100 (33.2)	26 (26.0)	41.1	78.5	74.0	47.3
>750.0	90 (29.9)	24 (26.7)	36.7	80.2	73.3	46.0
>1000.0	78 (25.9)	19 (24.4)	32.8	84.3	75.6	45.7
>2000.0	48 (15.9)	10 (20.8)	21.0	91.7	79.2	43.9
>5000.0	23 (7.6)	3 (13.0)	11.1	97.5	87.0	42.5
>10,000.0	13 (4.3)	2 (15.4)	6.1	98.4	84.6	41.3
Combined CEA and CA19-9 (N=214)						
CEA >3.0 & CA19-9 >30.0	111 (51.9)	37 (33.3)	59.2	58.4	66.7	50.5
CEA >5.0 & CA19-9 >150.0	57 (26.6)	11 (19.3)	36.8	87.6	80.7	49.7
CEA >7.0 & CA19-9 >305.0	38 (17.8)	3 (7.9)	28.0	96.6	92.1	48.9
CEA >10.0 & CA19-9 >500.0	21 (9.8)	2 (9.5)	15.2	97.8	90.5	45.1
CEA >15.0 & CA19-9 >600.0	17 (7.9)	1 (5.9)	12.8	98.9	94.1	44.7
CEA >20.0 & CA19-9 >750.0	14 (6.5)	1 (7.1)	10.4	98.9	92.9	44.0
CEA >25.0 & CA19-9 >1000.0	11 (5.1)	0 (0.0)	8.8	100.0	100.0	43.8

CEA: carcinoembryonic antigen; CA19-9: carbohydrate antigen 19-9; PPV: positive predictive value; NPV: negative predictive value.