

Supporting Information

Table S1. Baseline characteristics of included patients.

Table S2. Baseline characteristics of a randomly selected imputed data set and determined cut-off values of continuous variables.

Figure S1. Hazard ratio by the risk score and pairwise comparisons using log-rank test (training set).

Figure S2. Kaplan-meier survival curve by the risk score of training dataset.

Figure S3. A calibration plot of the risk scores: Between predicted and observed survival probability at one-year.

Figure S4. Receiver operating characteristic curve for predicting death based on the hazard function calculated at one-year.

Table S1. Baseline characteristics

	Training set (N=1156) Mean ± SD	Validation set (N=577) Mean ± SD	P-value
AGE	57.3 ± 12.3	56.3 ± 12.3	0.109
Gender			0.965
- Female	418 (36.2%)	210 (36.4%)	
- Male	738 (63.8%)	367 (63.6%)	
HER2			0.093
- NEGATIVE	1020 (88.2%)	492 (85.3%)	
- POSITIVE	136 (11.8%)	85 (14.7%)	
White blood cell	6.2 ± 2.9	6.1 ± 3.1	0.492
- Data missing	115 (9.9%)	59 (10.2%)	
Hemoglobin	11.3 ± 1.8	11.4 ± 1.8	0.370
- Data missing	121 (10.5%)	61 (10.6%)	
Platelet	236.0 ± 96.9	236.6 ± 104.5	0.910
- Data missing	115 (9.9%)	59 (10.2%)	
Absolute neutrophil count	3.7 ± 2.7	3.7 ± 3.0	0.799
- Data missing	118 (10.2%)	60 (10.4%)	
Absolute lymphocyte count	1.7 ± 0.7	1.7 ± 0.6	0.233
- Data missing	92 (8.0%)	46 (8.0%)	
Neutrophil-lymphocyte ratio	2.7 ± 3.0	2.8 ± 4.0	0.514
- Data missing	131 (11.3%)	65 (11.3%)	
Histologic differentiation			0.542
- Data missing	136 (11.8%)	75 (13.0%)	
- Poor/Signet ring cell/Others	799 (69.1%)	401 (69.5%)	
- Well/Moderately	221 (19.1%)	101 (17.5%)	
Peritoneal carcinomatosis			0.464
- No	566 (49.0%)	271 (47.0%)	
- Yes	590 (51.0%)	306 (53.0%)	
Performance status			0.992
- Good (0/1)	984 (85.1%)	492 (85.3%)	
- Poor (2/3)	172 (14.9%)	85 (14.7%)	
Previous gastrectomy			0.368
- No	909 (78.6%)	442 (76.6%)	
- Yes	247 (21.4%)	135 (23.4%)	
Blood urea nitrogen	14.3 ± 5.8	14.3 ± 5.6	0.866
- Data missing	79 (6.8%)	34 (5.9%)	
Creatinine	0.8 ± 0.2	0.8 ± 0.2	0.662
- Data missing	88 (7.6%)	40 (6.9%)	
Uric acid	4.5 ± 1.5	4.5 ± 1.4	0.859
- Data missing	124 (10.7%)	57 (9.9%)	
Protein	6.7 ± 0.7	6.7 ± 0.7	0.462
- Data missing	84 (7.3%)	37 (6.4%)	
Albumin	3.9 ± 0.5	4.0 ± 0.5	0.417
- Data missing	81 (7.0%)	35 (6.1%)	

Total bilirubin	0.6 ± 0.5	0.6 ± 0.5	0.587
- Data missing	88 (7.6%)	38 (6.6%)	
ALT	21.6 ± 20.8	22.8 ± 26.9	0.355
- Data missing	78 (6.7%)	33 (5.7%)	
ALP	131.8 ± 285.9	123.3 ± 205.0	0.496
- Data missing	82 (7.1%)	40 (6.9%)	
Creatinine clearance	94.4 ± 25.4	93.5 ± 22.8	0.468
- Data missing	79 (6.8%)	35 (6.1%)	
Regimen			0.118
- FOLFOX	107 (9.3%)	48 (8.3%)	
- Trastuzumab+capecitabine+cisplatin	82 (7.1%)	60 (10.4%)	
- capecitabine+oxaliplatin	672 (58.1%)	320 (55.5%)	
- capecitabine or TS-1+cisplatin	295 (25.5%)	149 (25.8%)	
Best Response			0.503
- Data missing	158 (13.6%)	90 (15.6%)	
- complete remission	27 (2.4%)	17 (2.9%)	
- partial response	344 (29.9%)	151 (26.2%)	
- stable disease	438 (37.8%)	224 (38.8%)	
- progressive disease	189 (16.3%)	95 (16.5%)	

SD, standard deviation; HER2, human epidermal growth factor receptor 2; ALT, alanine aminotransferase; ALP, alkaline phosphatase; FOLFOX, 5-fluorouracil plus leucovorin plus oxaliplatin

Table S2. Baseline characteristics of a randomly selected imputed data set and determined cut-off values of continuous variables.

	Training set (N=1156)	Validation set (N=577)	P-value
White blood cell			0.387
- High White blood cell ($>6.6 \times 10^3$ /uL)	392 (33.9%)	183 (31.7%)	
- Low White blood cell ($\leq 6.6 \times 10^3$ /uL)	764 (66.1%)	394 (68.3%)	
Hemoglobin			0.953
- High Hemoglobin (>10.0 g/dL)	865 (74.8%)	431 (74.7%)	
- Low Hemoglobin (≤ 10.0 g/dL)	291 (25.2%)	146 (25.3%)	
Platelet			0.238
- High Platelet ($>210 \times 10^3$ /uL)	658 (56.9%)	311 (53.9%)	
- Low Platelet ($\leq 210 \times 10^3$ /uL)	498 (43.1%)	266 (46.1%)	
Absolute neutrophil count			0.702
- High Absolute neutrophil count ($>5.2 \times 10^3$ /uL)	234 (20.2%)	112 (19.4%)	
- Low Absolute neutrophil count ($\leq 5.2 \times 10^3$ /uL)	922 (79.8%)	465 (80.6%)	
Absolute lymphocyte count			0.756
- High Absolute lymphocyte count ($>1.2 \times 10^3$ /uL)	913 (79.0%)	452 (78.3%)	
- Low Absolute lymphocyte count ($\leq 1.2 \times 10^3$ /uL)	243 (21.0%)	125 (21.7%)	
Neutrophil-lymphocyte ratio			0.351
- High Neutrophil-lymphocyte ratio (>3.0)	288 (24.9%)	156 (27.0%)	
- Low Neutrophil-lymphocyte ratio (≤ 3.0)	868 (75.1%)	421 (73.0%)	
Histologic differentiation			0.542
- Poor/Signet ring cell/Others	889 (76.9%)	452 (78.3%)	
- Well/Moderately	267 (23.1%)	125 (21.7%)	
Blood urea nitrogen			1.000
- High Blood urea nitrogen (>20.0 mg/dL)	141 (12.2%)	70 (12.1%)	
- Low Blood urea nitrogen (≤ 20.0 mg/dL)	1015 (87.8%)	507 (87.9%)	
Creatinine			0.661
- High Creatinine (>0.7 mg/dL)	794 (68.7%)	390 (67.6%)	
- Low Creatinine (≤ 0.7 mg/dL)	362 (31.3%)	187 (32.4%)	
Uric acid			0.396
- High Uric acid (>3.0 mg/dL)	973 (84.2%)	495 (85.8%)	

- Low Uric acid (≤ 3.0 mg/dL)	183 (15.8%)	82 (14.2%)	
Protein			0.744
- High Protein (> 6.0 g/dL)	968 (83.7%)	478 (82.8%)	
- Low Protein (≤ 6.0 g/dL)	188 (16.3%)	99 (17.2%)	
Albumin			0.654
- High Albumin (> 3.5 g/dL)	924 (79.9%)	467 (80.9%)	
- Low Albumin (≤ 3.5 g/dL)	232 (20.1%)	110 (19.1%)	
Total bilirubin			0.423
- High Total bilirubin (> 0.5 mg/dL)	396 (34.3%)	209 (36.2%)	
- Low Total bilirubin (≤ 0.5 mg/dL)	760 (65.7%)	368 (63.8%)	
ALT			0.294
- High ALT (> 34 U/L)	147 (12.7%)	84 (14.6%)	
- Low ALT (≤ 34 U/L)	1009 (87.3%)	493 (85.4%)	
ALP			1.000
- High ALP (> 140 U/L)	176 (15.2%)	87 (15.1%)	
- Low ALP (≤ 140 U/L)	980 (84.8%)	490 (84.9%)	
Creatinine clearance			0.565
- High Creatinine clearance (> 105 mL/min/1.73m ²)	300 (26.0%)	148 (25.6%)	
- Low Creatinine clearance (≤ 105 mL/min/1.73m ²)	856 (74.0%)	429 (74.4%)	

ALT, alanine aminotransferase; ALP, alkaline phosphatase.

Figure S1. Hazard ratio by the risk score and pairwise comparisons using log-rank test (training set).

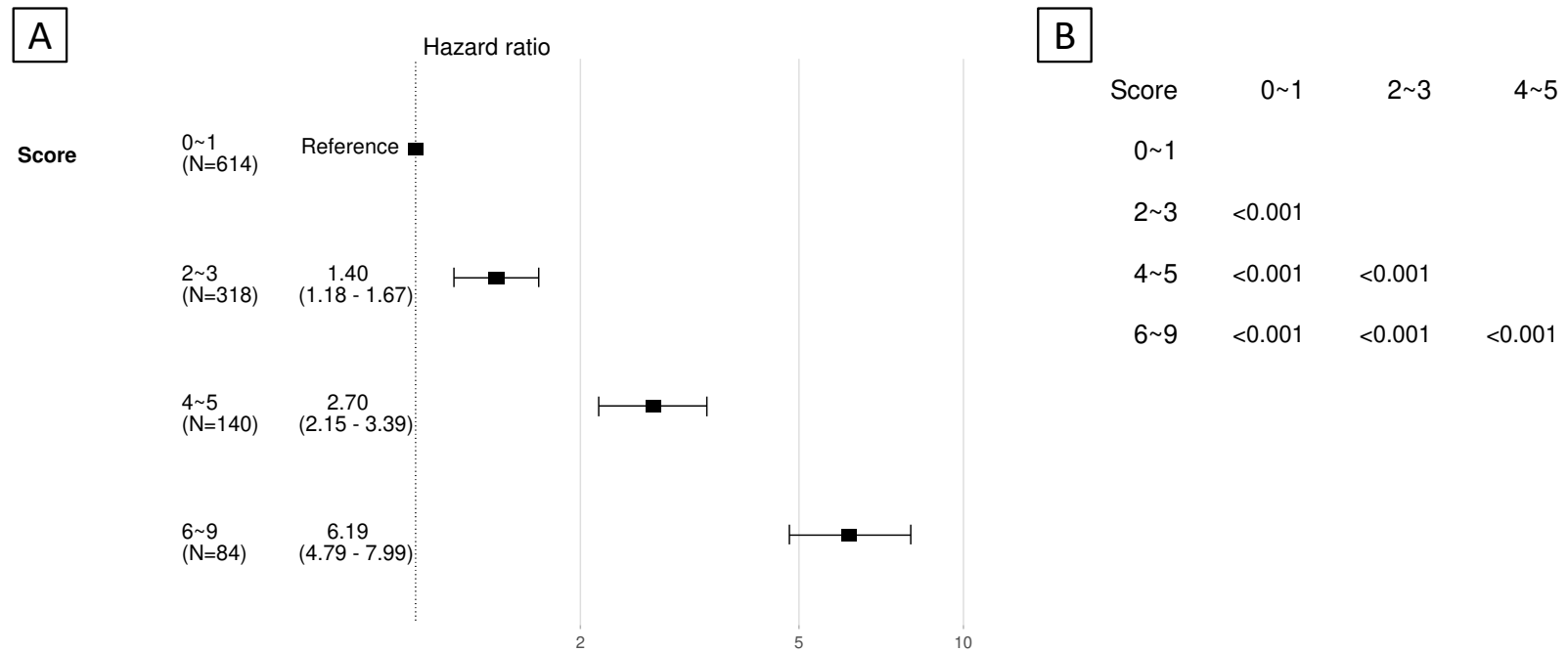


Figure S2. Kaplan-meier survival curve by the risk score of training dataset

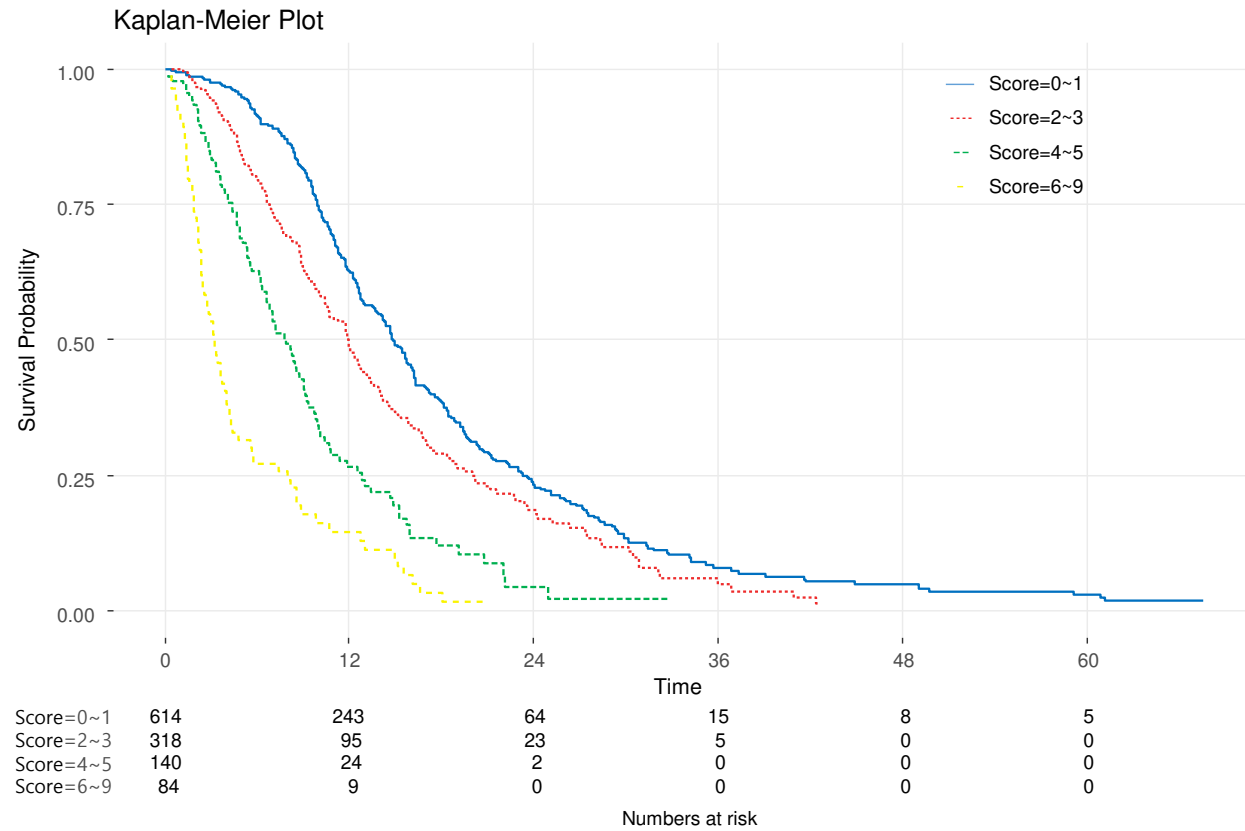


Figure S3. A calibration plot of the risk scores: Between predicted and observed survival probability at one-year

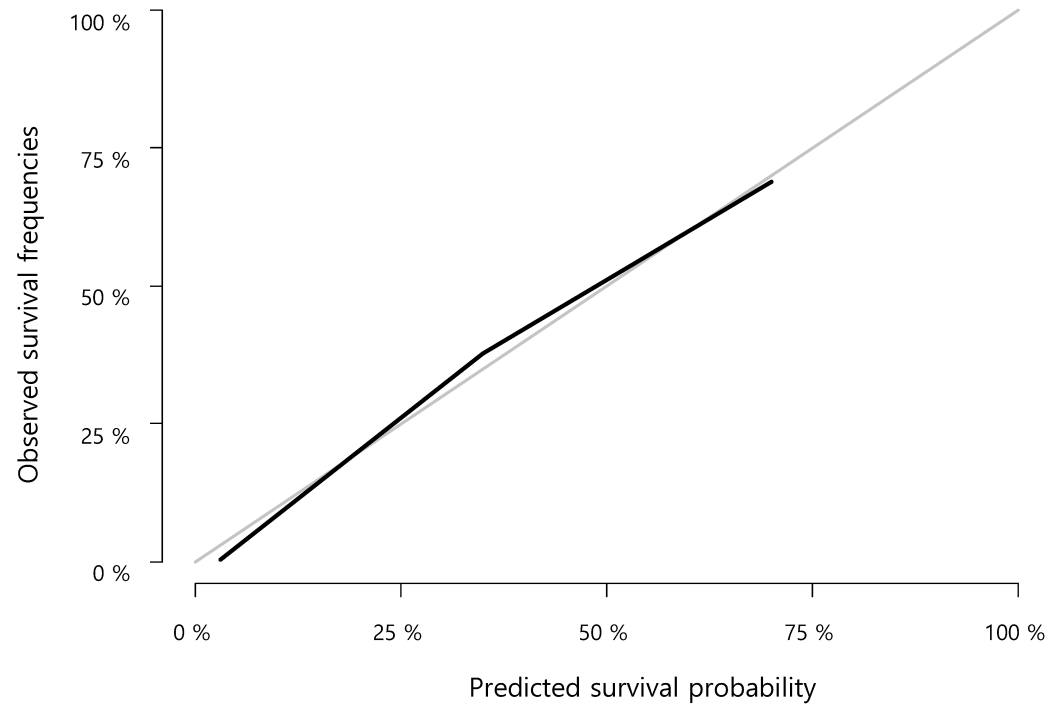


Figure S4. Receiver operating characteristic curve for predicting death based on the hazard function calculated at one-year

