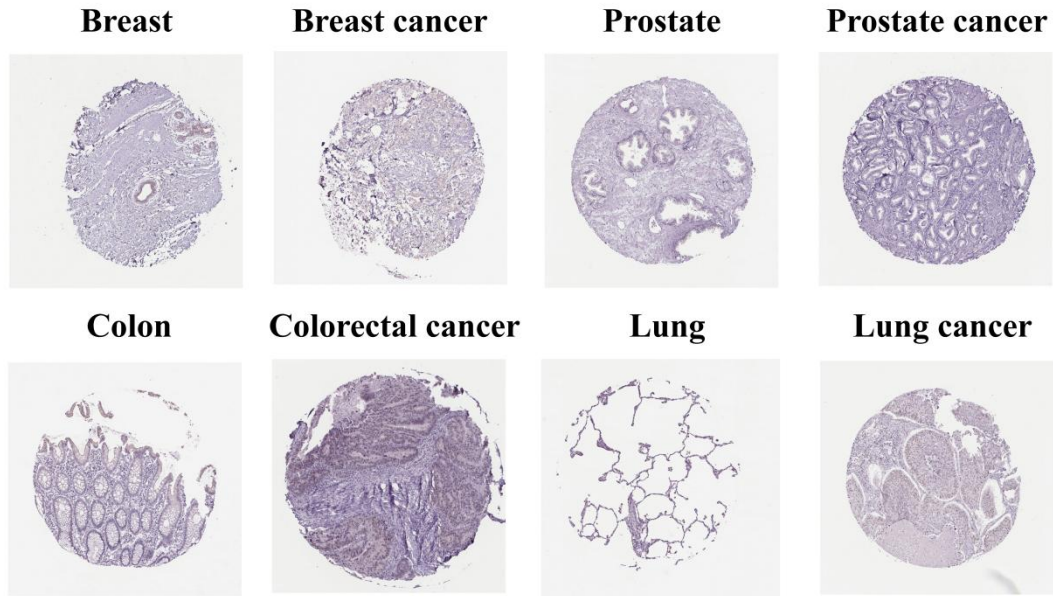
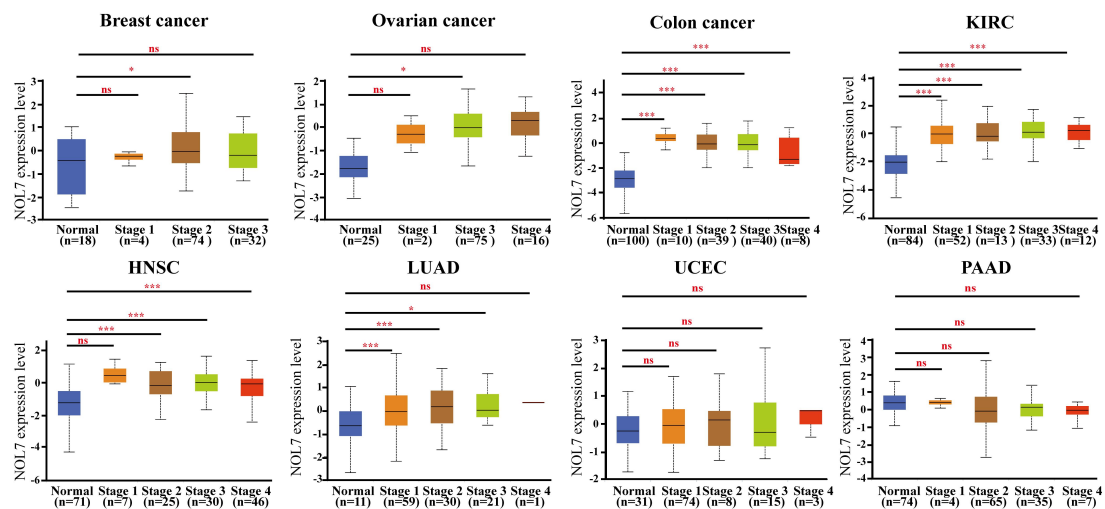


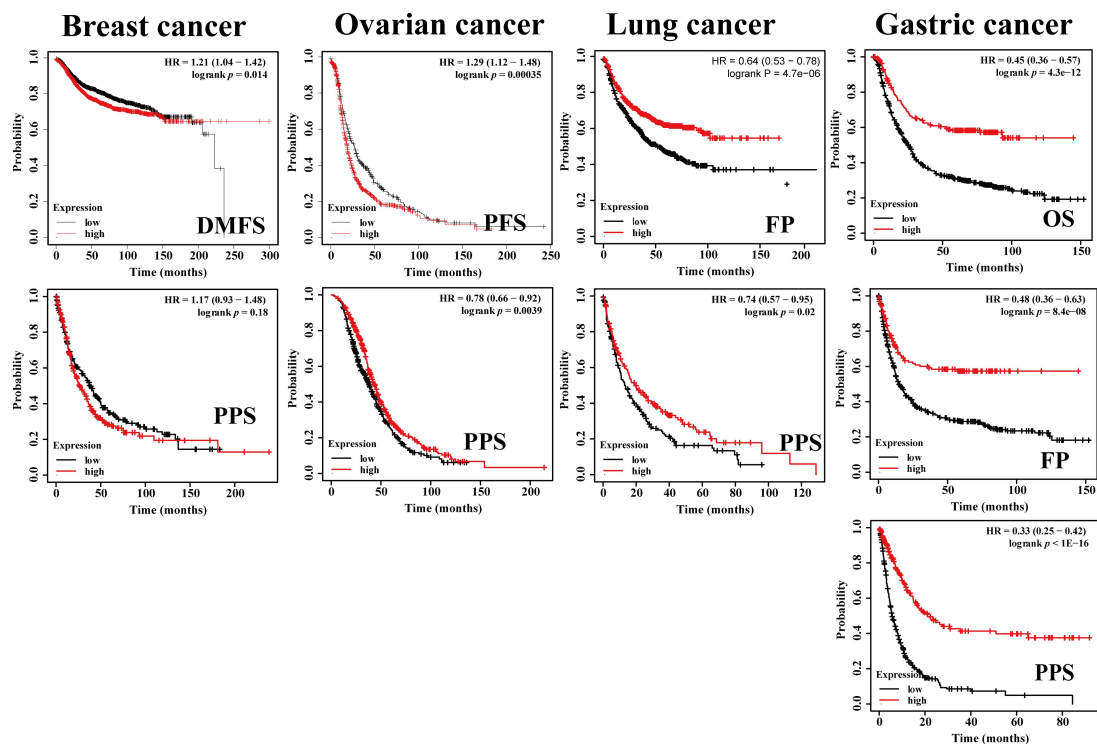
Supplementary Figure S1. Expression level of *NOL7* in different normal tissues and blood cells. **(a)** Genomic location of human *NOL7*. **(b-c)** Location of *NOL7* protein in eukaryocyte. **(d)** *NOL7* gene expression in different normal tissues using the consensus datasets of HPA, GTEx and FANTOM5. **(e)** *NOL7* gene expression in different normal blood cells using the consensus datasets of HPA, Monaco and Schmiedel.



Supplementary Figure S2. Immunohistochemistry images of *NOL7* protein in tumor tissues including breast cancer, prostate cancer, colon cancer, and lung cancer, and corresponding normal tissues, obtained from HAP dataset.

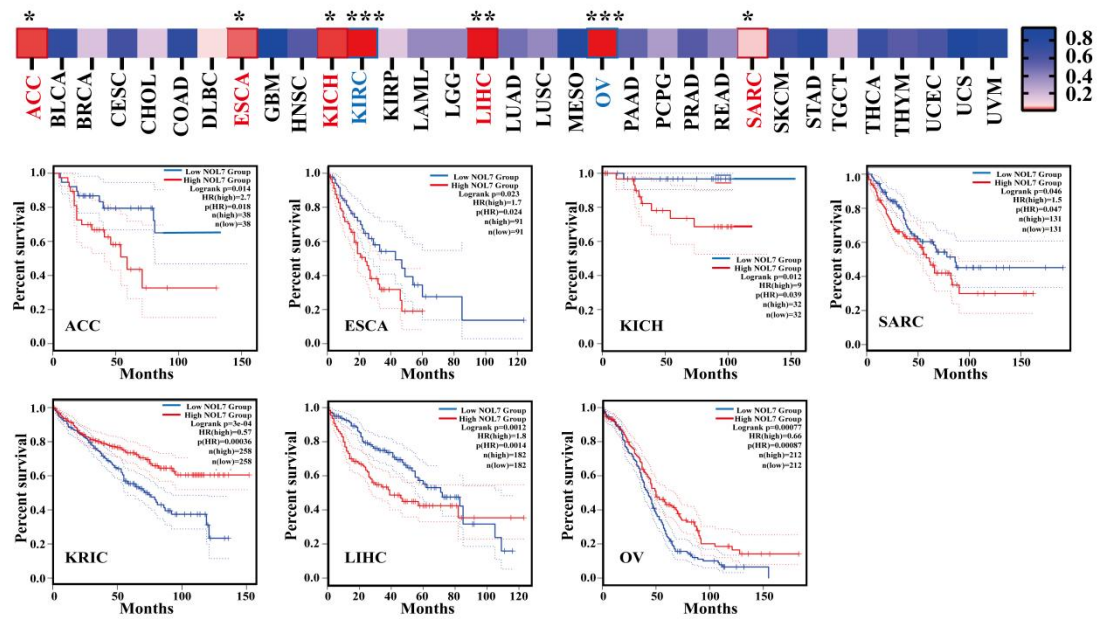


Supplementary Figure S3. Correlation between *NOL7* protein expression and clinicopathology of various cancer types including breast cancer, ovarian cancer, colon cancer, KIRC, HNSC, LUAD, UCEC, and PAAD. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

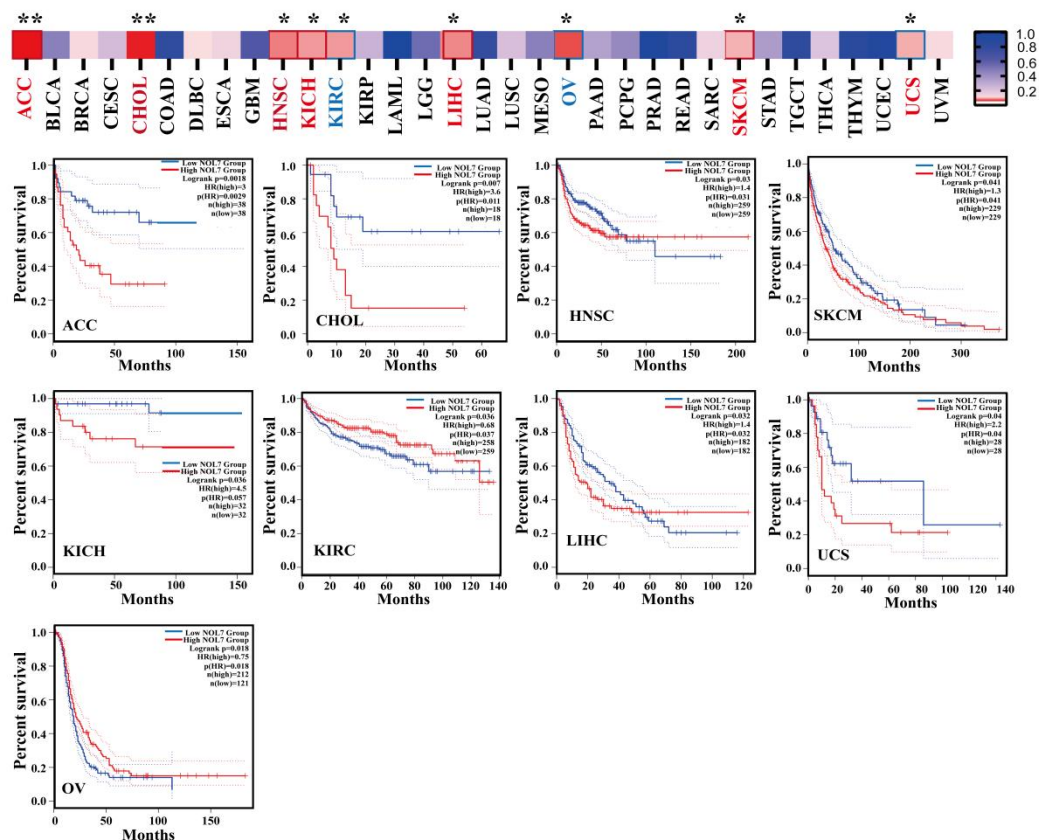


Supplementary Figure S4. Correlation between *NOL7* gene expression and survival prognosis of tumors in TCGA dataset, analyzed in Kaplan-Meier plotter. DMFS: distant metastasis free survival, PFS: progression free survival, FP: first progression, PPS: post progression survival post progression survival.

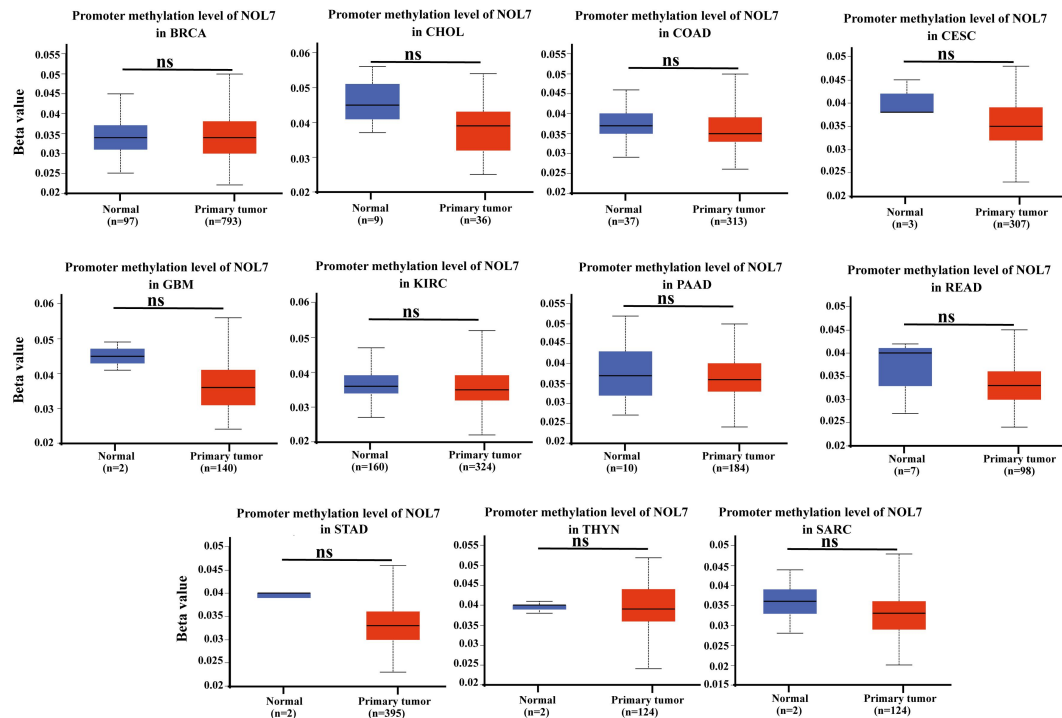
a Overall survival



b Disease free survival



Supplementary Figure S5. Association between the *NOL7* expression and the OS (a) and DFS (b) of patients in different cancer types, as examined using GEPIA2. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.



Supplementary Figure S6. No significant difference of promoter methylation level of NOL7 between primary tumors and normal tissues was observed in BRCA, CHOL, COAD, CESC, GBM, KIRC, PAAD, READ, STAD, and THYN. ns, No significance.

Factor	Subgroup	Sample size	OS		RFS		DMFS		PSS	
			HR	<i>p</i>	HR	<i>p</i>	HR	<i>p</i>	HR	<i>p</i>
ER status-IHC	ER positive	3499	1.52	0.0082	1.35	0.00011	1.43	0.0094	1.51	0.028
	ER negative	2168	0.71	0.05	0.97	0.8	0.86	0.27	1.11	0.68
ER status-array	ER positive	5526	1.2	0.12	1.46	9.1e-10	1.21	0.046	1.12	0.42
	ER negative	2009	0.7	0.031	0.96	0.71	0.84	0.2	0.93	0.74
TP53 status	mutated	272	0.7	0.32	0.68	0.12	0.51	0.083	0.99	0.98
	Wild type	388	0.84	0.59	1.07	0.76	1.44	0.32	0.83	0.59
PR status	PR positive	1559	2.53	0.022	1.2	0.006	1.31	0.24	1.85	0.25
	PR negative	1989	0.81	0.39	1.13	0.29	0.87	0.36	0.55	0.25
HER2 status	HER2 positive	1273	1.27	0.19	1.26	0.037	1.1	0.59	1.16	0.51
	HER2 negative	6262	1.19	0.12	1.49	6.1e-12	1.24	0.016	1.13	0.38
Subtype-StGallen	basal	1494	0.57	0.0044	0.97	0.81	0.86	0.36	0.66	0.15
	Luminal A	3511	1.28	0.12	1.61	1.3e-08	1.22	0.13	1.17	0.38
	Luminal B	2015	1.23	0.25	1.42	8.9e-05	1.25	0.12	0.93	0.76
	HER2+	515	1.06	0.84	1.03	0.86	0.83	0.47	1.25	0.56
Subtype - PAM50	basal	1671	0.79	0.23	1.19	0.11	0.96	0.77	0.6	0.072
	Luminal A	2470	1.38	0.13	1.43	0.00078	1.23	0.21	1.13	0.61
	Luminal B	2005	0.88	0.46	1.19	0.049	0.97	0.86	1.04	0.87
	HER2+	1080	0.93	0.73	1.1	0.45	1	1	1.16	0.55
	normal	309	0.83	0.71	1.29	0.46	0.8	0.64	NA	NA
Lymph node status	Lymph node positive	2153	1.02	0.92	1.22	0.023	0.99	0.92	1.06	0.78
	Lymph node negative	2829	1.33	0.096	1.32	0.00069	1.44	0.0033	1.43	0.083
Grade	Grade 1	576	1.48	0.37	1.52	0.1	2.49	0.035	1.35	0.55
	Grade 2	1795	1.2	0.37	1.38	0.004	1.41	0.02	1.12	0.64
	Grade 3	2058	0.86	0.32	1.02	0.81	0.81	0.12	1.04	0.85
Pletenpol subtype	Basal-like 1	418	0.44	0.045	1.18	0.45	0.88	0.65	0.4	0.17
	Basal-like 2	165	0.42	0.1	0.93	0.82	0.92	0.82	NA	NA
	immunomodulatory	462	0.58	0.21	0.93	0.74	0.92	0.76	0.98	0.98
	mesenchymal	382	0.94	0.86	1.03	0.9	0.75	0.35	0.75	0.52
	Mesenchymal stem-like	201	0.82	0.71	0.57	0.12	0.47	0.16	NA	NA
	Luminal androgen receptor	413	0.95	0.87	0.98	0.91	0.82	0.51	0.75	1.15

Table S1. Subgroup analysis on the correlation of NOL7 expression and prognosis of breast cancer cases.

HR, hazard ratio; OS, overall survival; RFS,relapse free survival; DMFS, distant metastasis free survival;

ER, Estrogen receptor; PR, Progesterone receptor; HER2, human epidermal growth factor receptor-2

TP53,Tumor Protein P53; NA, not available data; *p* value less than 0.05 is shown in red.

Factor	Subgroup	Sample size	OS		FP		PPS	
			HR	<i>p</i>	HR	<i>p</i>	HR	<i>p</i>
Histology	adenocarcinoma	865	0.64	0.00015	0.78	0.11	0.64	0.058
	Squamous cell carcinoma	675	1.13	0.33	0.88	0.64	0.66	0.43
gender	female	817	0.82	0.1	0.64	0.0022	0.76	0.15
	male	1387	0.9	0.21	0.64	7e-04	0.7	0.0412
Smoking history	Exclude those never smoked	970	0.81	0.045	0.81	0.093	0.75	0.054
	Only those never smoked	247	0.33	0.00029	0.52	0.008	0.51	0.035
Stage	Stage I	652	0.84	0.22	0.86	0.49	0.69	0.22
	Stage II	320	0.69	0.044	0.98	0.94	0.46	0.019
	Stage III	70	1.49	0.15	NA	NA	NA	NA
grade	Grade I	202	0.81	0.27	0.88	0.55	0.98	0.93
	Grade II	310	0.9	0.5	1.34	0.17	1.16	0.54
	Grade III	77	1.15	0.68	1.42	0.39	0.8	0.68
AJCC stage t	T1	475	1.1	0.5	1.57	0.085	1.01	0.97
	T2	686	0.98	0.89	0.8	0.15	0.96	0.8
	T3	99	0.96	0.88	1.13	0.8	NA	NA
	T4	48	1.29	0.44	NA	NA	NA	NA
AJCC stage n	N0	863	1.1	0.39	1.15	0.39	0.99	0.95
	N1	296	1.05	0.75	0.86	0.53	0.98	0.93
	N2	113	0.97	0.89	1.88	0.065	1.13	0.74
AJCC stage m	N0	818	1.17	0.13	0.8	0.39	0.78	0.43
surgery	Only surgical margins negative	730	0.59	1e-05	0.46	1.8e-09	0.83	0.22
radiotherapy	NO	276	0.98	0.92	1.35	0.12	1.11	0.65
	YES	73	0.83	0.5	1.03	0.92	0.83	0.53
chemotherapy	NO	317	0.93	0.67	1.39	0.1	1.1	0.68
	YES	178	0.7	0.099	0.93	0.74	0.66	0.087

Table S2. Subgroup analysis on the correlation of NOL7 expression and prognosis of lung cancer cases.

HR, hazard ratio; OS, overall survival; RFS, relapse free survival; AJCC, American Joint Committee on Cancer; FP, first progression; PPS, post progression survival; NA, not available data; *p* value less than 0.05 is shown in red.

Factor	Subgroup	Sample size	OS		PFS		PPS	
			HR	<i>p</i>	HR	<i>p</i>	HR	<i>p</i>
Histology	Endometrioid	62	5.77	0.076	5.77	0.00068	NA	NA
	Serous	1232	0.88	0.12	0.69	7.1e-07	0.77	0.0039
Stage	Stage 1	107	5.17	0.0018	4.49	0.012	NA	NA
	Stage 2	72	2.74	0.081	1.83	0.087	2.88	0.1
	Stage 3	1079	1.14	0.13	0.65	5.3e-08	0.79	0.012
	Stage 4	189	0.73	0.093	0.55	0.017	0.39	0.00017
Grade	Grade 1	56	1.59	0.32	2.79	0.055	NA	NA
	Grade 2	325	1.15	0.4	0.64	0.0078	0.72	0.085
	Grade 3	1024	0.88	0.14	0.73	0.00022	0.71	0.00074
	Grade 4	21	0.6	0.31	NA	NA	NA	NA
TP53 mutation	Mutated	516	0.68	0.0011	0.59	4.7e-06	0.61	0.00017
	Wild type	102	0.72	0.25	0.7	0.17	0.64	0.14
Debulk	optimal	802	1.55	2.4e-05	1.62	4.9e-06	0.78	0.0039
	suboptimal	536	0.84	0.096	1.3	0.021	0.66	0.002
Chemotherapy	Contains platin	1438	0.91	0.22	1.28	0.00062	0.75	0.0013
	Contains Taxol	821	1.14	0.22	0.72	0.00039	0.84	0.12
	Contains	804	1.14	0.22	0.73	0.00057	0.83	0.11
	Taxol+platin							
	Contains	50	2.6	0.039	0.44	0.024	2.58	0.044
	Avastin							
	Contains	108	0.55	0.08	0.78	0.41	1.19	0.56
	Docetaxel							
	Contains	135	1.36	0.17	0.61	0.021	0.81	0.34
	Gemcitabine							
	Contains	248	0.71	0.13	0.81	0.22	0.66	0.15
	Paclitaxel							
	Contains	119	1.57	0.034	0.78	0.29	1.39	0.11
	Topotecan							

Table S3. Subgroup analysis on the correlation of NOL7 expression and prognosis of ovarian cancer cases.

HR, hazard ratio; OS, overall survival; PFS, progress free survival; PPS, post progression survival; TP53, Tumor Protein P53; NA, not available data; *p* value less than 0.05 is shown in red.

Factor	Subgroup	Sample size	OS		FP		PPS	
			HR	<i>p</i>	HR	<i>p</i>	HR	<i>p</i>
Gender	Female	244	0.41	8.8e-05	0.51	0.0032	0.31	8.5e-07
	Male	566	0.48	2e-09	0.43	2.4e-07	0.36	8.2e-14
Stage	Stage 1	69	0	0.0035	0	0.0085	0.08	0.00022
	Stage 2	145	0.67	0.2	1.34	0.34	0.42	0.011
	Stage 3	319	0.49	6e-05	0.6	0.0082	0.32	1.1e-05
	Stage 4	152	0.56	0.013	0.51	0.0072	0.48	0.002
Stage t	t2	253	0.63	0.035	0.66	0.067	0.41	6.5e-05
	t3	208	0.68	0.034	0.75	0.12	0.44	0.00037
	t4	39	0.33	0.017	0.32	0.011	0.44	0.11
Stage n	n0	76	0	0.0015	0	0.0014	0.12	0.00022
	n1	232	0.41	0.00014	0.53	0.0017	0.27	4e-08
	n2	129	0.48	0.0041	0.65	0.05	0.38	2e-04
	n3	76	0.57	0.065	0.52	0.024	0.64	0.13
Stage m	m0	459	0.53	3.3e-05	0.53	4e-04	0.35	1.6e-11
	m1	58	0.39	0.0021	0.49	0.039	0.35	0.012
HER2	negative	641	0.48	1.3e-09	0.56	1.1e-05	0.33	1.1e-13
	positive	424	0.84	0.19	0.65	0.0082	0.43	8.7e-05
Lauren classification	Intestinal	336	0.45	7e-07	0.51	0.0012	0.31	3.3e-08
	Diffuse	248	0.61	0.0054	0.65	0.016	0.48	0.00041
	Mixed	33	0.34	0.052	0.31	0.038	NA	NA
Differentiation	Poorly	166	1.31	0.24	1.73	0.03	1.33	0.38
	Moderately	67	0.5	0.034	0.48	0.02	2.21	0.12
	Well	32	0.49	0.1	NA	NA	NA	NA
Treatment	Surgery alone	393	0.65	0.0078	0.73	0.08	0.4	8.2e-09
	5-Fu based adjuvant	157	1.72	0.0038	1.99	0.00019	1.28	0.19
Perforation	No	169	0.7	0.08	0.65	0.027	1.9	0.03

Table S4. Subgroup analysis on the correlation of NOL7 expression and prognosis of gastric cancer cases.

HR, hazard ratio; OS, overall survival; FP, first progression; PPS, post progression survival;

HER2, human epidermal growth factor receptor-2; NA, not available data; *p* value less than 0.05 is shown in red.

Factor	Subgroup	Sample size	OS		PFS		RFS		DSS	
			HR	<i>P</i>	HR	<i>P</i>	HR	<i>P</i>	HR	<i>P</i>
Stage	Stage 1	171	1.72	0.084	0.77	0.31	0.78	0.39	2.33	0.059
	Stage 2	86	0.62	0.24	0.69	0.29	1.19	0.6	2.01	0.24
	Stage 3	85	1.49	0.23	2.11	0.013	2.22	0.021	1.73	0.14
Grade	Grade 1	55	2.2	0.21	3.13	0.0029	3.3	0.012	0.55	0.34
	Grade 2	177	0.71	0.2	1.39	0.21	1.25	0.45	1.83	0.067
	Grade 3	122	1.79	0.065	0.6	0.06	0.54	0.037	2.04	0.14
AJCC_T	T1	181	1.83	0.043	0.85	0.51	1.25	0.41	2.49	0.026
	T2	94	0.56	0.12	0.78	0.39	1.2	0.56	0.62	0.39
	T3	80	1.73	0.1	1.83	0.054	1.94	0.065	1.78	0.15
Gender	Female	121	1.7	0.076	1.69	0.043	2.07	0.014	2.03	0.066
	Male	250	1.34	0.27	1.27	0.22	0.81	0.34	1.5	0.16
Vascular invasion	None	205	1.34	0.29	1.25	0.35	1.27	0.35	1.88	0.092
	micro	93	0.45	0.038	1.88	0.12	2.23	0.087	2.39	0.11
Race	White	184	1.92	0.027	1.88	0.0018	1.98	0.0035	1.95	0.026
	Asian	158	1.41	0.26	0.68	0.13	0.62	0.084	1.65	0.21
Sorafenib treatment	treated	30	3.22	0.036	2.18	0.05	1.74	0.24	3.22	0.036
Alcohol consumption	Yes	117	1.75	0.1	1.43	0.25	0.77	0.45	1.78	0.12
	none	205	1.39	0.18	1.49	0.87	1.6	0.066	1.87	0.044
Hepatitis virus	Yes	153	1.42	0.3	0.59	0.025	0.59	0.036	0.7	0.4
	none	169	1.57	0.051	1.92	0.0067	2.05	0.0048	2.41	0.0017

Table S5. Subgroup analysis on the correlation of NOL7 expression and prognosis of liver cancer cases.

HR, hazard ratio; AJCC, American Joint Committee on Cancer; OS, overall survival; PFS, progress free survival; RFS, relapse free survival; DSS, disease specific survival; NA, not available data; *p* value less than 0.05 is shown in red.