**Supplementary Figure 1 Protein-protein interaction networks of cyclin-dependent kinase 9.** CDK9: Cyclin-dependent kinase 9.
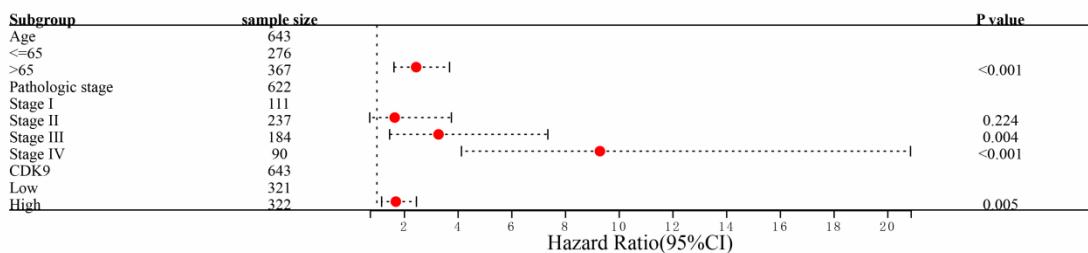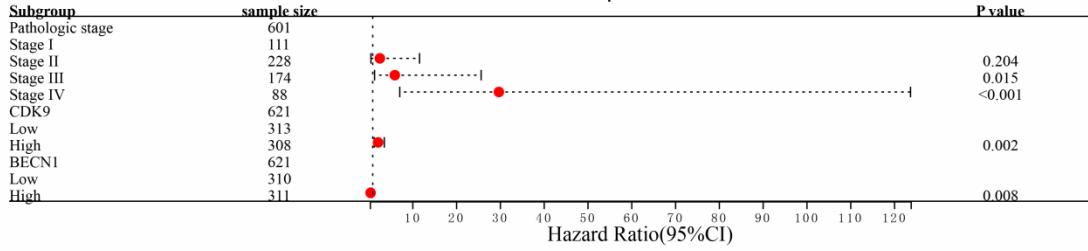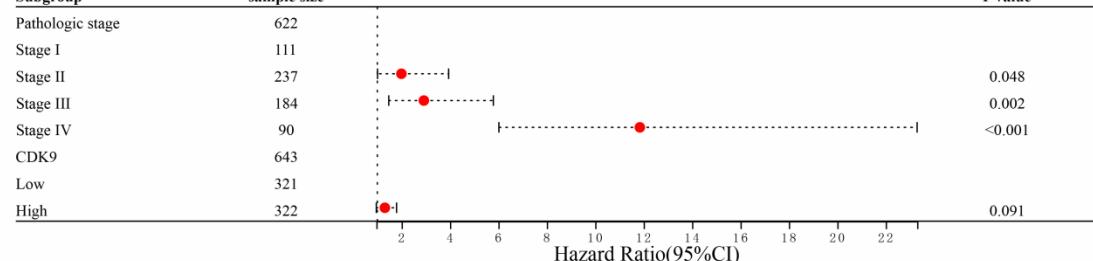
Supplementary Figure 2 Multivariate analysis of overall survival, disease-specific survival, and progression-free interval. A: Overall survival (OS); B: Forest map of disease-specific survival (DSS); C: Forest map of progression-free interval (PFI). CI: Confidence interval; CDK9: Cyclin-dependent kinase 9.

Supplementary Table 1 Clinicopathological characteristics of the sample group from the public database

Characteristic	Category	Samples from TCGA, *n* = 644	Paired samples from TCGA, *n* = 50
n		644	50
Age in yr		68.36 (58.667,76.249)	73.367 (61.441,80.462)
T stage	T1	20 (3.12)	2 (4)
	T2	111 (17.32)	7 (14)
	T3	436 (68.02)	35 (70)
	T4	74 (11.54)	6 (12)
N stage	N0	368 (57.5)	34 (68)
	N1	153 (23.91)	8 (16)
	N2	119 (18.59)	8 (16)
M stage	M0	475 (84.22)	35 (81.395)
	M1	89 (15.78)	8 (18.605)
Sex	Female	301 (46.74)	27 (54)
	Male	343 (53.26)	23 (46)
Tumor tissue site	Colon adenocarcinoma	477 (74.07)	39 (79.592)
	Rectum adenocarcinoma	163 (25.31)	7 (14.286)
	Colon mucinous adenocarcinoma	Not Application	2 (4.082)
	Rectal mucinous adenocarcinoma	Not Application	1 (2.04)
Vital status	Dead	129 (20.03)	14 (28)
	Alive	515 (79.97)	36 (72)

Data are *n* (%). TGCA: The Cancer Genome Atlas.

Supplementary Table 2 Clinicopathological characteristics of the sample group from our hospital

Characteristic	Category	Number of paired samples with liver metastasis, n = 19	Number of paired samples with stage IV colon cancer, n = 24
Age in yr		65 (53, 73)	67 (57, 75)
T stage	T1	0 (0)	2 (8.33)
	T2	0 (0)	3 (12.50)
	T3	14 (73.68)	7 (29.17)
	T4	5 (26.32)	12 (50.00)
N stage	N0	11 (57.89)	0 (0)
	N1	5 (26.32)	9 (37.50)
	N2	3 (15.79)	15 (62.50)
M stage	M0	0 (0)	0 (0)
	M1	19 (100)	24 (100)
Sex	Female	11 (57.89)	13 (54.17)
	Male	8 (42.11)	11 (45.83)
Tumor tissue site	Right CRC	7 (36.84)	9 (37.50)
	Left CRC	12 (63.16)	15 (62.50)

Data are n (%) or median [interquartile range (IQR)]. CRC: Colorectal cancer.

Supplementary Table 3 Univariate and multivariate analysis of overall survival, disease-specific survival, and disease-free survival for cyclin-dependent kinase 9, *ABCG2*, and *BECN1* expression

Characteristics	Total, n	Overall Survival Univariate analysis Hazard ratio (95%CI)	*P* value	Multivariate analysis Hazard ratio (95%CI)	*P* value	Total, n	Disease-Specific Survival Univariate analysis Hazard ratio (95%CI)	*P* value	Multivariate analysis Hazard ratio (95%CI)	*P* value	Total, n	Disease Free Survival Univariate analysis Hazard ratio (95%CI)	*P* value	Multivariate analysis Hazard ratio (95%CI)	*P* value
	643					621					643				
Age in yr															
£ 65	276	Reference				273	Reference				276	Reference			
> 65	367	1.939 (1.320-2.849)	< 0.001	2.462 (1.635-3.705)	< 0.001	348	1.421 (0.894-2.257)	0.137			367	1.006 (0.737-1.371)	0.972		
Pathologic	622					601					622				

stage

	N	HR (95% CI)	P	HR (95% CI)	P	N	HR (95% CI)	P	HR (95% CI)	P	N	HR (95% CI)	P	HR (95% CI)	P
I	111	Reference				111	Reference				111	Reference			
II	237	1.735 (0.765-3.933)	0.187	1.663 (0.733-3.774)	0.224	228	2.741 (0.618-12.165)	0.185	2.631 (0.592-11.682)	0.204	237	2.009 (1.015-3.974)	0.045	1.994 (1.007-3.945)	0.048
III	184	3.263 (1.462-7.283)	0.004	3.295 (1.474-7.366)	0.004	174	6.688 (1.571-28.477)	0.01	6.042 (1.418-25.751)	0.015	184	3.028 (1.529-5.998)	0.001	2.921 (1.473-5.792)	0.002
IV	90	8.065 (3.605-18.043)	<0.001	9.305 (4.149-20.871)	<0.001	88	27.388 (6.598-113.686)	<0.001	29.800 (7.173-123.801)	<0.001	90	11.749 (5.973-23.108)	<0.001	11.844 (6.022-23.298)	<0.001
Sex	643					621					643				
Female	301	Reference				290	Reference				301	Reference			
Male	342	1.054 (0.744-1.9)	0.769				331	1.207 (0.769-1.2)	0.412				342	1.217 (0.892-1.6)	0.216

		491)					895)					660)			
CDK9	643					621					643				
Low	321	Reference				313	Reference				321	Reference			
High	322	1.525 (1.073-2.168)	0.018	1.705 (1.176-2.472)	0.005	308	2.336 (1.451-3.760)	<0.001	2.213 (1.346-3.638)	0.002	322	1.313 (0.965-1.786)	0.083	1.311 (0.958-1.795)	0.091
ABCG2	643					621					643				
Low	321	Reference				307	Reference				321	Reference			
High	322	1.068 (0.756-1.510)	0.709			314	1.006 (0.645-1.570)	0.979			322	1.171 (0.862-1.590)	0.314		
BECN1	643					621					643				

Low	322	Reference		310	Reference				322	Reference
High	321	0.783 (0.554-1.108)	0.168	311	0.497 (0.312-0.793)	0.003	0.513 (0.313-0.842)	0.008	321	0.989 (0.729-1.342)	0.943

CDK9: Cyclin-dependent kinase 9; CI: Confidence interval.