

Supplementary Figure 1. A. miR-19a-3p expression level in different HCC cell lines. B. CCK8 assay of miR-19a-3p role in hep3B. C. Colony formation assay of miR-19a-3p role in hep3B. D. cell cycle analysis. E. Western blot assay.

Supplementary Figure 2. Expression of various genes in miR-19a-3p KD cells and control cells.

Supplementary Figure 3. A. PIK3IP1 expression in xenograft mouse model with different miR-19a-3p expression levels. B. PIK3IP1 expression in human HCC tumor samples and peritumorous normal tissue samples.

Table 1. Correlation Between the Factors and Clinicopathologic Characteristics in HCC (n=102)

Clinicopathological indexes		Mir 19a		P
		Low	High	
Age(year)	≤50	19	12	0.828
	>50	41	30	
Sex	Female	5	9	0.08
	Male	55	33	
HBeAg	Negative	48	38	0.178
	Positive	12	4	
HBV-DNA	Negative	43	20	0.022
	Positive	17	22	
AFP (ng/ml)	≤20	38	20	0.155
	>20	22	22	
TB(umol/L)	≤20	55	40	0.697
	>20	5	2	
ALT(U/L)	≤50	49	33	0.801
	>50	11	9	
PALB(g/L)	≤0.25	49	33	0.801
	>0.25	11	9	
ALB(g/L)	≤35	8	1	0.078
	>35	52	41	
GGT (U/L)	≤60	30	25	0.421
	>60	30	7	
PT(s)	≤13	48	5	0.419
	>13	12	41	
Liver cirrhosis	No	39	23	0.311
	Yes	21	19	
Tumor size(cm)	≤5	38	18	0.046
	>5	22	24	
Tumor number	Single	37	25	0.840
	Multiple	23	17	
Microvascular invasion	Absence	44	25	0.197
	Present	16	17	
Tumor encapsulation	Complete	43	21	0.037
	None	17	21	
Tumor differentiation	I+II	33	25	0.689
	III+IV	27	17	
TNM stage	I	35	19	0.229
	II+III	25	23	

AFP, alpha-fetoprotein; GGT, gamma glutamyl transferase; TNM, tumor-node-metastasis;ALT, alanine transaminase; TB, total bilirubin; PALB,prealbumin;ALB, albumin; AKP, alkaline phosphatase; *Fisher's exact tests; chi-square tests for all other analyses.

Table 2. Univariate and Multivariate Analyses of Prognostic Factors in HCC (n =102)

Variable	TTR		OS	
	HR (95% CI)	P	HR (95% CI)	P
Univariate analysis				
Age, year (≤50 versus >50)	0.611(0.341-1.094)	0.098	1.332(0.653-2.720)	0.431
Sex (female versus male)	1.196(0.533-2.683)	0.665	1.533(0.743-3.163)	0.248
HBeAg (negative versus positive)	1.360(0.655-2.824)	0.409	0.984(0.461-2.100)	0.966
HBV-DNA(negative versus positive)	1.445(0.801-2.609)	0.221	1.994(1.080-3.684)	0.027
AFP, ng/ml (≤20 versus >20)	1.841(1.057-3.206)	0.031	1.387(0.752-2.560)	0.295
TB(umol/L) (≤20 versus >20)	1.107(0.396-3.089)	0.847	0.742(0.179-3.078)	0.681
ALB(g/L)(≤35 versus >35)	7.267(0.9984-52.900)	0.051	2.192(0.529-9.081)	0.279
ALT(U/L)(≤50 versus >50)	1.262(0.627-2.542)	0.514	1.556((0.780-3.105)	0.210
PALB(g/L) (≤0.25 versus >0.25)	0.601(0.268-1.344)	0.215	0.546(0.214-1.392)	0.205
AKP(U/L)(≤125 versus >125)	1.341(0.530-3.394)	0.536	1.558(0.611-3.530)	0.353
PT(s) (≤13 versus >13)	1.047(0.530-2.067)	0.895	0.919(0.386-2.186)	0.848
Liver cirrhosis (no versus yes)	1.472(0.818-2.649)	0.198	2.132(1.152-3.945)	0.016
Tumor size, cm (≤5 versus >5)	2.120(1.216-3.697)	0.008	2.388(1.250-4.560)	0.008
Tumor number (single versus multiple)	1.969(1.140-3.401)	0.015	2.581(1.375-4.843)	0.003
Microvascular invasion (no versus yes)	2.473(1.409-4.339)	0.002	2.016(1.086-3.471)	0.026
Tumor encapsulation (complete versus none)	0.478(0.276-0.827)	0.008	0.479(0.259-0.885)	0.019
Tumor differentiation (I + II versus III + IV)	1.203(0.676-2.139)	0.529	1.386(0.750-2.563)	0.297
TNM stage (I versus II III)	1.939(1.106-3.399)	0.021	2.408(1.246-4.656)	0.009
Mir 19a (low versus high)	1.815(1.016-3.241)	0.033	1.924(1.574-3.553)	0.028
Multivariate analysis				
HBV-DNA(negative versus positive)	NA		1.453(0.768-2.749)	0.251
AFP, ng/ml (≤20 versus >20)	1.475(0.830-2.623)	0.186	NA	
Liver cirrhosis (no versus yes)	NA		1.752(0.738-4.157)	0.204
Tumor size, cm (≤5 versus >5)	1.839(0.961-3.522)	0.066	1.584(0.763-3.292)	0.217
Tumor number (single versus multiple)	1.913(0.961-3.522)	0.063	1.940(0.836-4.503)	0.123
Microvascular invasion (no versus yes)	3.280(1.423-7.562)	0.005	1.565(0.674-3.636)	0.297
TNM stage (I versus II III)	0.578(0.212-1.572)	0.283	1.167(0.436-3.125)	0.758
Mir 19a (low versus high)	1.662(0.874-3.160)	0.121	1.964(1.018-3.793)	0.044
Tumor encapsulation (complete versus none)	0.475(0.269-0.841)	0.011	0.517(0.249-1.071)	0.076

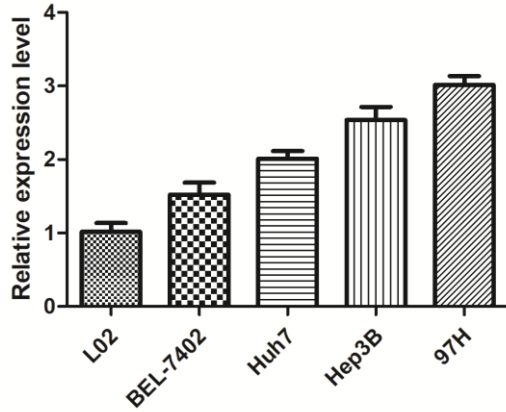
Cox proportional hazards regression model. AFP, alpha-fetoprotein; GGT, gamma glutamyl transferase;

TNM, tumor-node-metastasis;ALT, alanine transaminase; TB, total bilirubin; PALB, prealbumin; ALB, albumin;

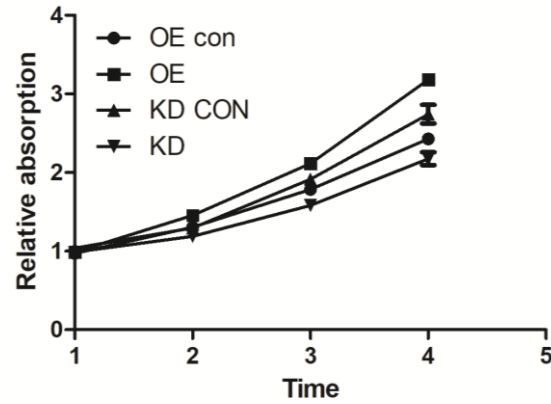
AKP, alkaline phosphatase; HR, hazard ratio; CI, confidential interval; NA, not adopted.

Supplementary Figure 1

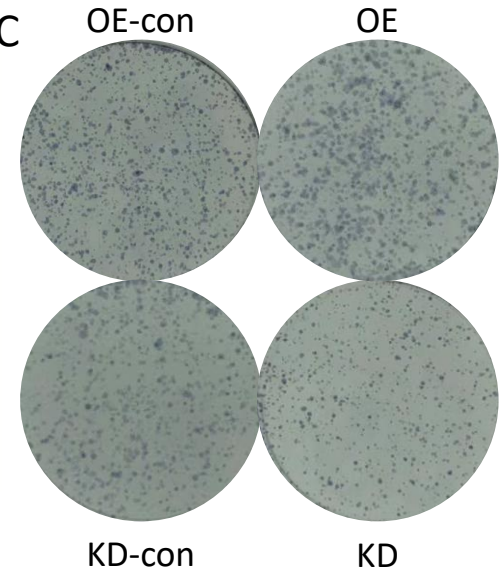
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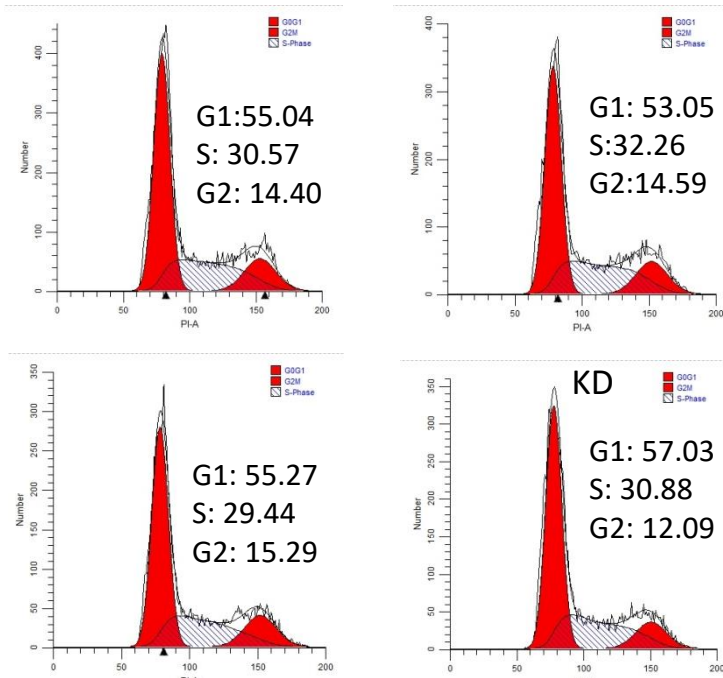
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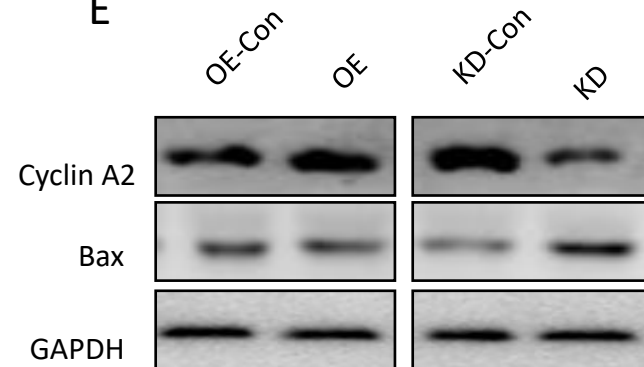
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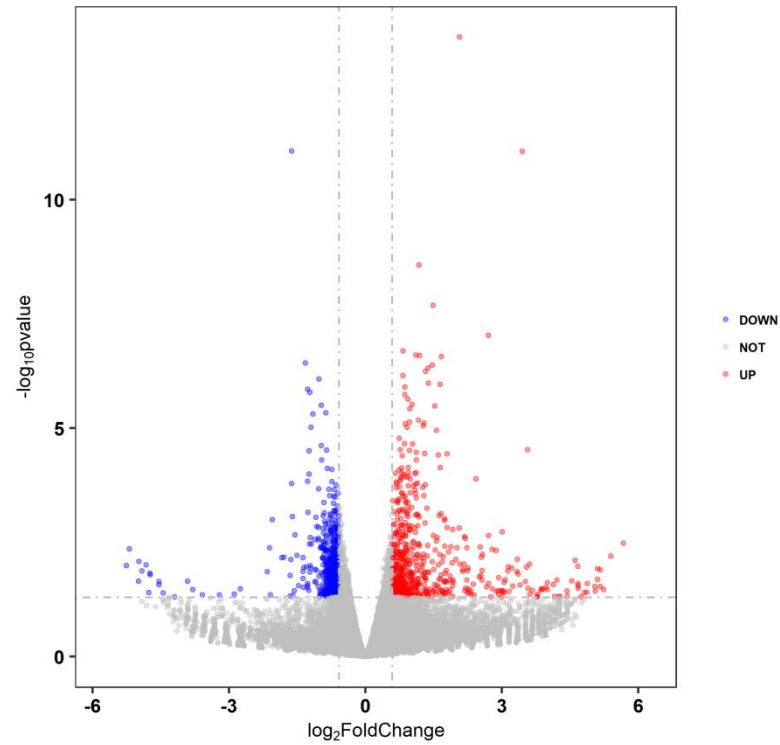
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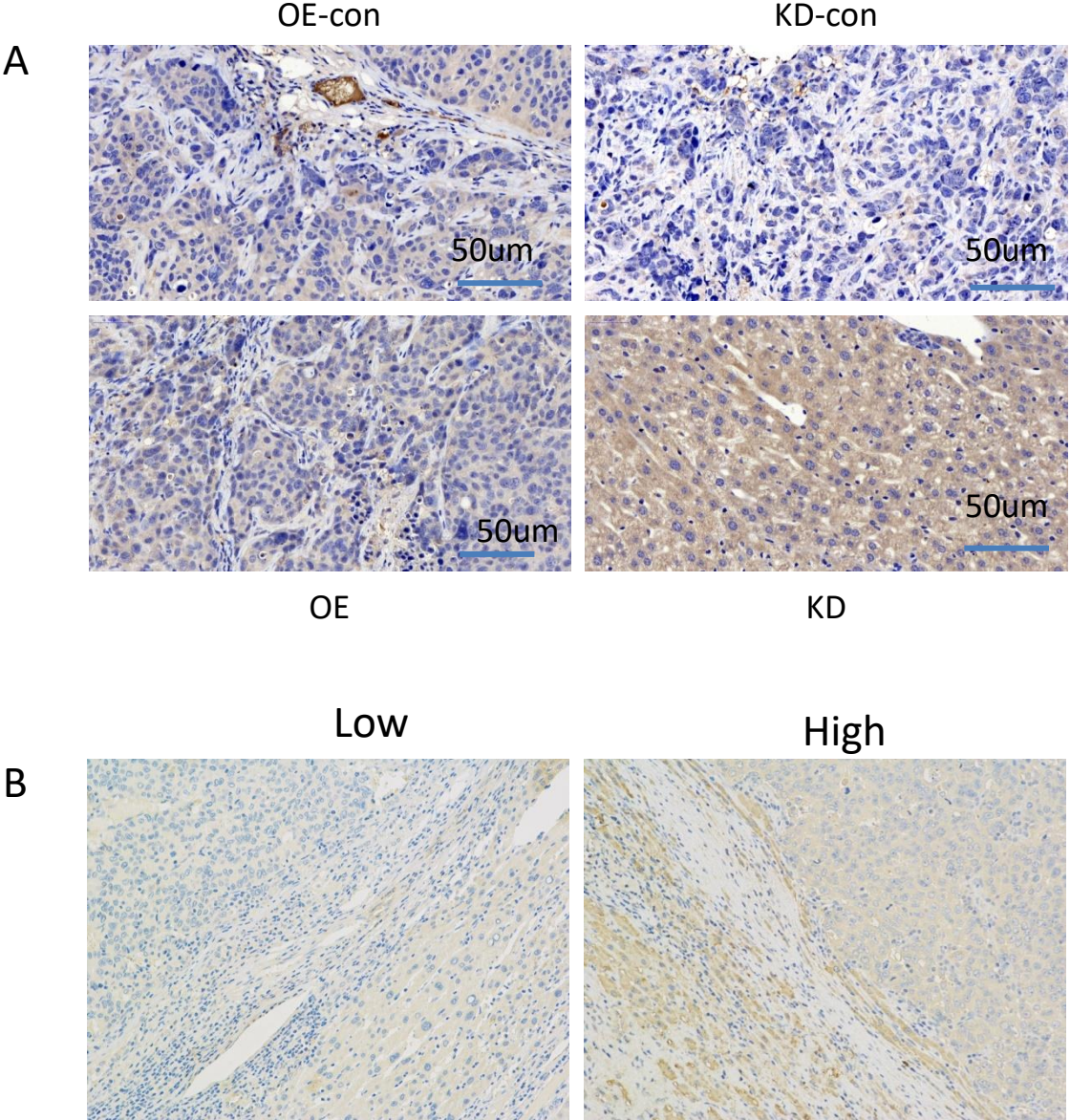


Supplementary Figure 2



Expression of various genes in miR-19a-3p KD cells and control cells.

Supplementary Figure 3



PIK3IP1 expression in HCC tissue. A. xenograft mouse model B. Human HCC