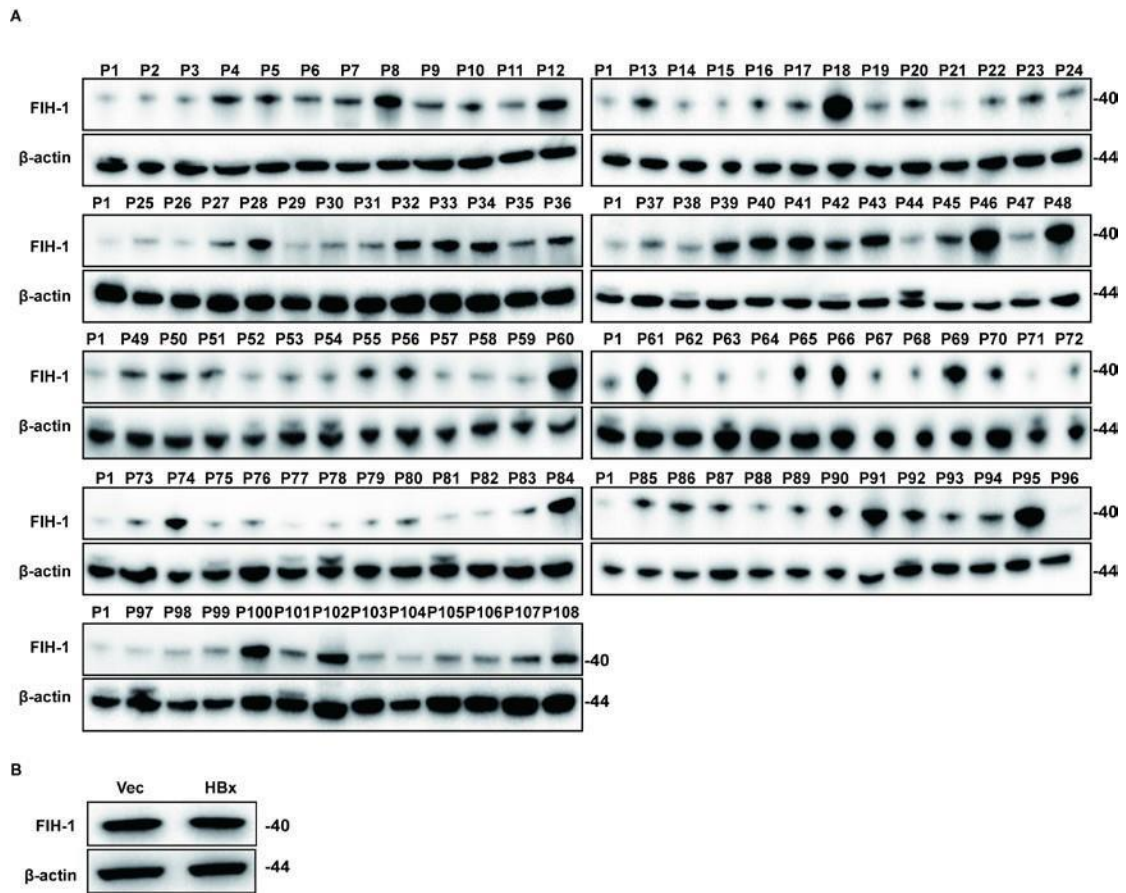
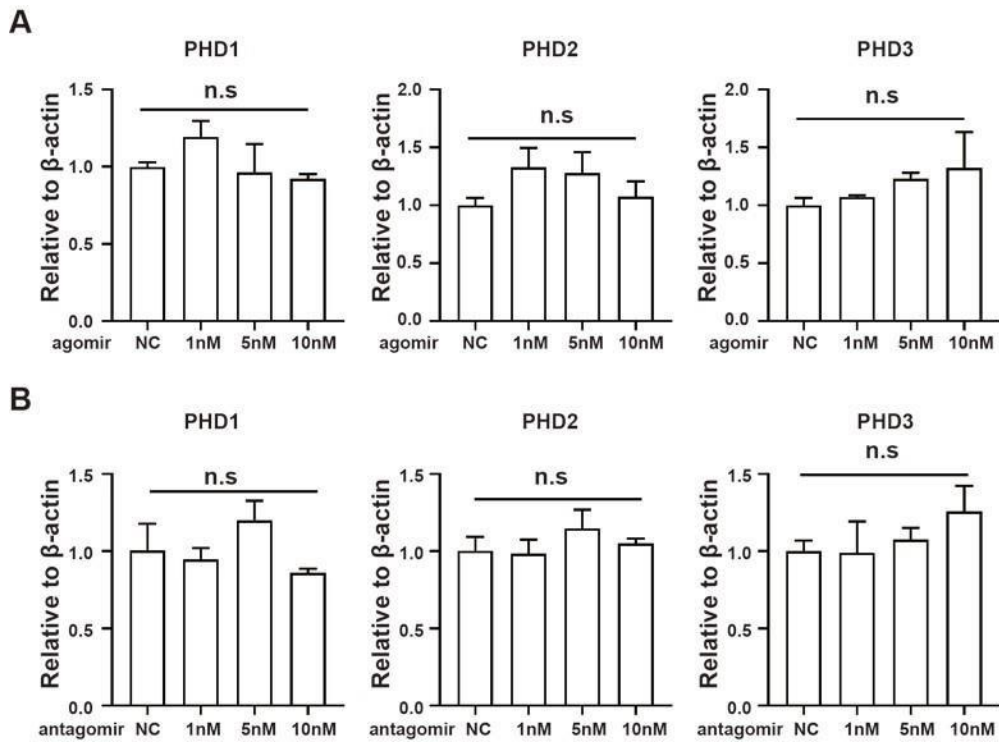


Figure S1: FIH-1 protein levels in HBV-related HCC patients and HepG2.



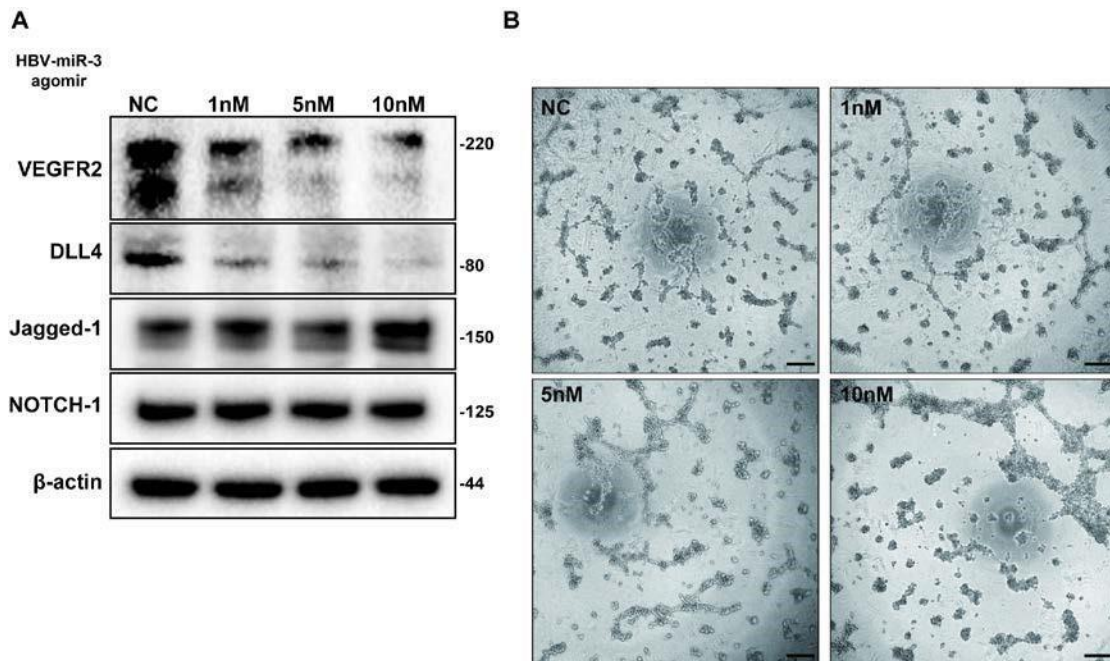
(A) Western blot analysis of FIH-1 expression in 108 patient samples. (B) Western blot analysis of FIH-1 expression in HepG2 cells. Cells were transfected with pcDNA3.1(+)-CMV-HBX-flag-P2A-EGFP or vector.

Figure S2: HBV-miR-3 does not have effect on PHDs.



(A) qPCR analysis of PHD1, PHD2 and PHD3 expression in HepG2 cells transfected with different concentrations of HBV-miR-3 agomir. (B) qPCR analysis of PHD1, PHD2 and PHD3 expression in HepG2.2.15 cells transfected with different concentrations of HBV-miR-3 agomir.

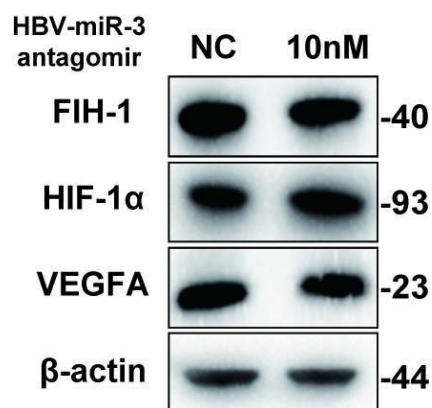
Figure S3: HBV-miR-3 does not have direct angiogenic effect on HUEVCs.



(A) Western blot analysis of VEGFR2, DLL4, Jagged-1, and NOTCH-1 expression in HUVECs transfected with different concentrations of HBV-miR-3 agomir. (B)

Representative pictures of lumen formation assay. Scale bar=200 μ m

Figure S4: HBV-miR-3 antagomir does not have effect on non-HBV-related HCC.



Western blot analysis of FIH-1, HIF-1 α , and VEGFA expression in Huh7 cells transfected with 10nM antagomir NC and HBV-miR-3 agomir.

Table S1. Primers Used for RT-qPCR and HBV-miR-3 regulation

Primer Name	Sequence (5'-3')
HBV-miR-3 RT	GTCGTATCCAGTGCAGGGTCCGAGGTGCACTGGATACGACAGAAGAAC
HBV-miR-3 Forward	TGCGGATCTTCTTGTGGTT
U6 RT	GTCGTATCCAGTGCAGGGTCCGAGGTGCACTGGATACGACAAAATATGG
U6 Forward	CTCGCTTCGGCAGCACA
miRNA Reverse prim	AACGCTTCACGAATTTGCGT
HBV-miR-3 agomir	CUGGAUGUGUCUGCGGCGUUU
HBV-miR-3 agomir_Mut	CCUCCUCGUCUGCGGCGUUU
HBV-miR-3 agomir NC	UUCUCCGAACGUGUCACGUUU
HBV-miR-3 antagomir	AAACGCCGCAGACACAUCCAG
HBV-miR-3 antagomir NC	CAGUACUUUUGUGUAGUACAA
β -actin Forward	GATTACTGCCCTTGCTCCTA
β -actin Reverse	TCATCGTACTCCTGCTTGCT
VEGFA Forward	TTGCCTTGCTGCTCTACCTCCA
VEGFA Reverse	GATGGCAGTAGCTGCGCTGATA
VEGFR2 Forward	GTGACCAACATGGAGTCGTG
VEGFR2 Reverse	CCAGAGATTCCATGCCACTT
FIH-1 Forward	TCATTGGCATGGAAGGAAATGTG
FIH-1 Reverse	GGTAGAGGCACTCGAACTGA
HIF-1 α Forward	TATGAGCCAGAAGAACTTTTAGGC
HIF-1 α Reverse	CACCTCTTTTGGCAAGCATCCTG

Table S2. Relative Expression of HBV-miR-3, VEGFR2 and FIH-1 of Patients

Patient	HBV-miR-3	VEGFR2	FIH-1	Patient	HBV-miR-3	VEGFR2	FIH-1	Patient	HBV-miR-3	VEGFR2	FIH-1
P1	1.000	1.000	1.000	P37	0.000	0.289	1.604	3-72	0.000	0.156	1.213
P2	0.470	0.841	1.631	P38	0.863	1.028	1.553	3-99	0.000	0.130	4.356
P3	0.000	0.000	1.963	P39	1.158	0.559	4.622	3-100	1.286	0.616	1.006
P4	0.278	0.363	8.625	P40	0.801	0.200	5.932	3-69	0.000	0.275	1.091
P5	0.000	0.052	6.551	P41	1.000	0.034	6.383	3-86	0.000	0.633	0.546
P6	0.129	0.042	4.729	P42	0.984	0.555	3.656	3-5	0.000	0.747	1.026
P7	0.316	0.139	5.826	P43	0.000	0.000	5.287	3-1	0.000	0.121	0.855
P8	0.000	0.000	13.979	P44	1.192	0.895	1.075	3-24	0.000	0.395	1.521
P9	0.000	0.195	4.829	P45	1.049	0.172	4.182	3-89	0.000	0.563	0.715
P10	1.930	0.616	4.111	P46	0.000	0.035	17.334	4-34	0.000	0.361	0.726
P11	2.265	0.325	3.621	P47	0.686	0.566	1.908	4-15	0.000	0.398	1.473
P12	0.000	0.048	9.298	P48	0.000	0.091	10.029	4-24	0.000	0.448	3.657
P13	0.000	0.238	3.588	P49	1.076	0.112	3.033	4-31	0.001	0.287	4.491
P14	1.294	0.196	1.037	P50	0.000	0.678	4.624	4-78	0.001	0.514	5.513
P15	1.386	0.620	1.110	P51	0.036	0.503	3.707	4-99	0.001	0.206	2.741
P16	0.000	0.139	2.516	P52	0.000	0.000	1.488	4-18	0.001	0.212	1.686
P17	0.000	0.210	2.831	P53	0.048	0.293	1.789	4-59	0.000	0.079	2.864
P18	0.000	0.033	15.625	P54	0.000	0.000	1.526	4-73	0.001	0.134	5.048
P19	1.543	0.287	2.060	P55	0.045	0.097	5.478	5-97	0.000	0.000	9.496
P20	0.000	0.095	2.572	P56	0.077	0.068	5.168	5-98	0.001	0.651	2.914
P21	0.000	0.049	0.496	P57	0.066	0.000	2.048	5-41	0.000	0.933	2.011
P22	1.106	0.476	1.680	P58	0.000	1.079	1.747	5-47	0.007	0.382	2.983
P23	0.000	0.245	2.448	P59	0.045	0.401	2.001	5-86	0.000	0.308	11.795
P24	1.597	1.157	1.734	P60	0.000	0.199	16.398	5-9	0.003	0.390	0.237
P25	1.682	0.344	2.301	P61	0.000	0.189	2.678	5-67	0.002	0.013	1.279
P26	1.456	1.021	1.378	P62	0.000	0.008	0.308	5-30	0.005	0.042	3.792
P27	1.164	0.235	1.456	P63	0.000	0.171	0.399	5-77	0.002	0.042	3.610
P28	1.423	0.460	2.263	P64	2.830	0.319	0.174	5-16	0.003	0.002	7.646
P29	2.015	0.566	1.685	P65	0.830	0.140	1.146	6-1	0.000	0.009	2.514
P30	1.275	0.361	1.775	P66	0.000	0.387	1.677	6-25	0.000	0.025	4.856
P31	1.570	0.418	1.398	P67	1.300	0.390	0.920	6-17	0.000	0.004	2.682
P32	1.556	0.068	1.513	P68	0.000	0.049	0.947	6-68	0.001	0.028	1.675

P33	1.354	0.207	1.763	P69	2.260	0.057	3.066	6-44	0.006	0.003	3.065
P34	1.431	0.067	1.616	P70	0.000	0.173	1.022	6-95	0.000	0.013	2.972
P35	1.304	0.146	1.647	P71	2.310	0.243	0.318	6-59	0.000	0.014	2.310
P36	1.234	0.043	1.884	P72	1.660	0.285	1.186	6-11	0.000	0.004	3.495