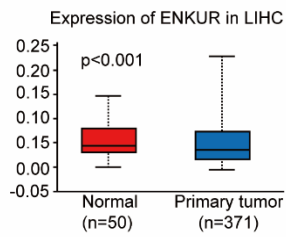**Supplementary Materials**

Figure S1. ENKUR expression levels of HCC patients in TCGA dataset.
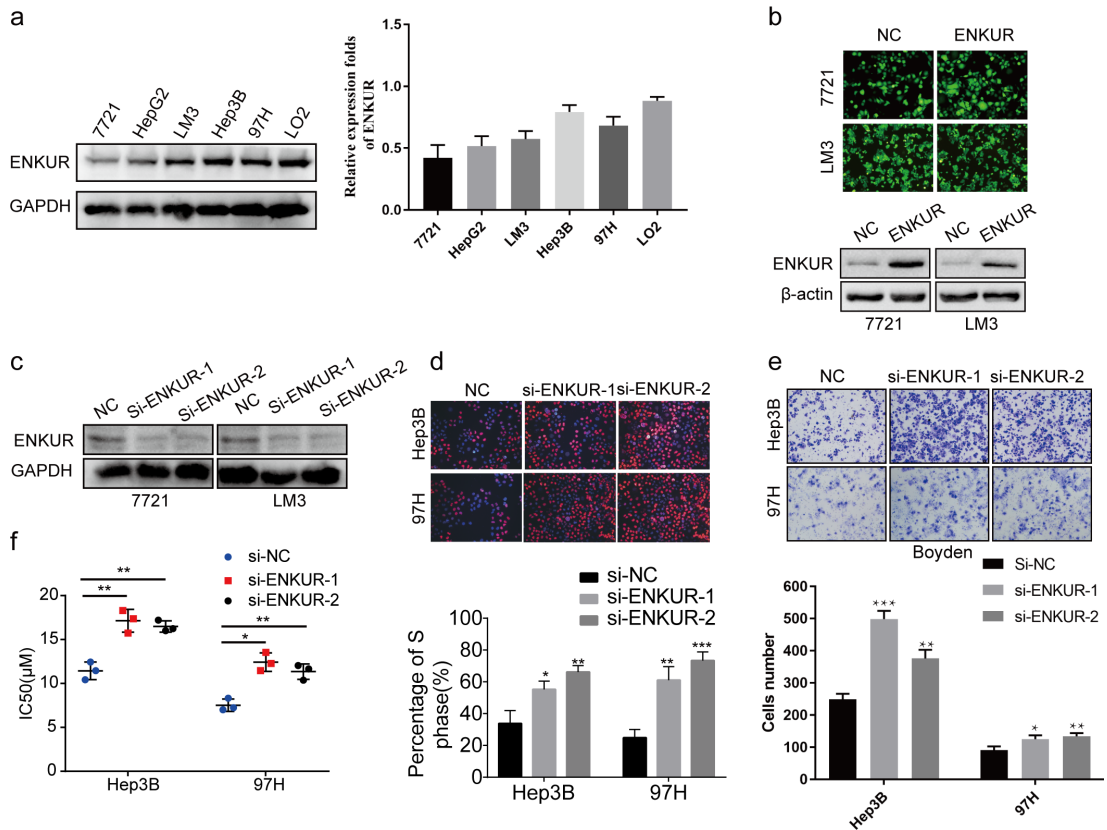
Supplementary figure 2

Figure S2. Suppression of ENKUR induces HCC proliferation, metastasis, and sorafenib resistance in HCC cells.

(a) mRNA and protein expression levels of ENKUR in HCC cell lines; (b) Stably overexpressed ENKUR in low ENKUR-expressing 7721 and LM3 cells via lentivirus;

(c) Protein of ENKUR in HCC cells with Si-RNA transfected; Edu assays (d, scale bar: 10 μm), Transwell assays (e, scale bar: 10 μm), and dose-dependent growth curves and time-dependent growth curves (f) of 7721 and LM3 cells treated with sorafenib.
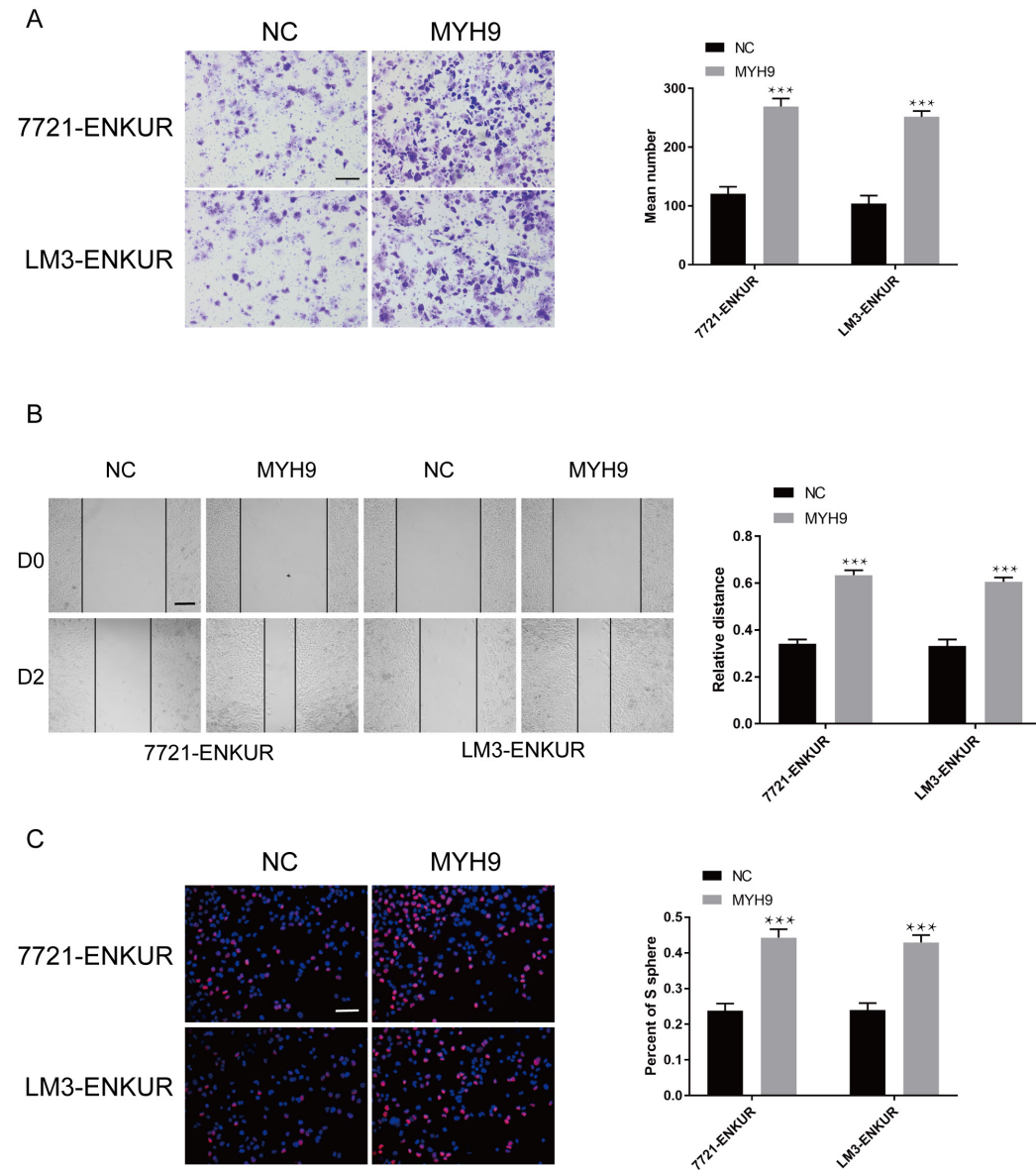
Supplementary figure 3

Figure S3. MYH9 reverses the inhibition of ENKUR.

(a-c) Boyden assay, wound healing assay and EDU assay showing the malignant
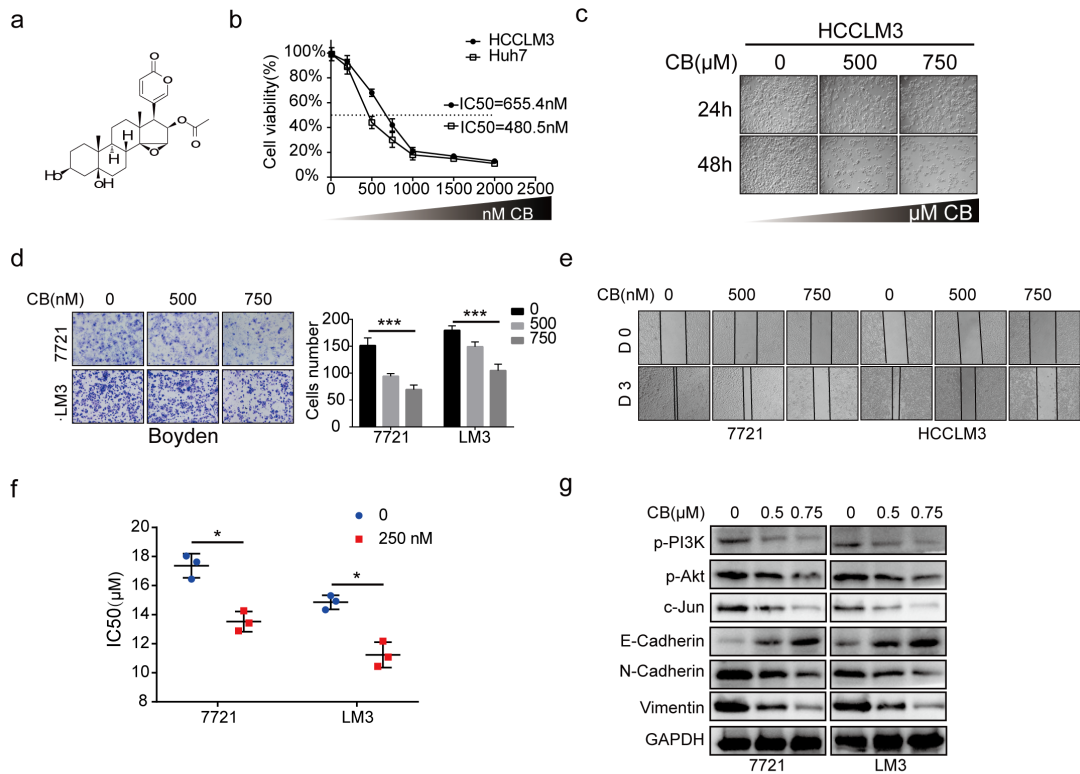
behaviors after MYH9 treatment.

Figure S4. CB inhibits tumor proliferation, metastasis, and sorafenib resistance in HCC cells.

(a)Chemical structure formula of CB; (b) MTT assays showing the IC50 of CB in HCC cells; (c) MTT assays showing the proliferation of HCC cells after CB treatment; Transwell (d) and wound healing (e) assays showing tumor invasion and migration of HCC cells after CB treatment; (f) IC50 of sorafenib in HCC cells after CB treatment; (g) Western blot assays showing pPI3K, p-AKT, c-Jun, N-cadherin, E-cadherin, and vimentin expressions

Supplementary Table1: The sequences used in this study.

Name	Sequence
ENKUR-1	GGACTAGTTCCAAAGTACA
ENKUR-2	ACACGACATTGGCATAATT

Supplementary Table2: The primers used in this study.

Primers name		Sequence (5'-3')
ENKUR	Forward	CCAGTTCAACCTCCCCCAAT
	Reverse	GGGGCCAGACCACATCAAAT
MYH9	Forward	AGTTTGTCTCGGAGCTGTGG
	Reverse	GGTTCGTGTTCCTCAGCGTA
GAPDH	Forward	GCACCGTCAAGGCTGAGAAC
	Reverse	TGGTGAAGACGCCAGTGGA
Chip-c-Jun-A	Forward	GGCTGAGGCAAGAGGATTT
	Reverse	GCCACTGTGTCTGGTCTTT
Chip-c-Jun-B	Forward	TAACACGTTCCTCCGAACAC
	Reverse	GGCTGATGGCACCTCTG

Supplementary Table 3: The sequences used in Electrophoretic mobility shift assay.

Gene	Type		Sequence(5'-3')
c-Jun	probes	wild type	ACACGCACGGTGGCTGAGGAAATCAGCT
			ACTTGAGCTATGATGATGCCACTACACT
	competitors	wild type	ACACGCACGGTGGCTGAGGAAATCAGCT
			ACTTGAGCTATGATGATGCCACTACACT
		Mutant 1	ACACGCACGGcttagtcttgggaCAGCTACTTGA
			GCTATGATGATGCCACTACACT
		Mutant 2	ACACGCACGGTGGCTGAGGAAATCAGCT
			ACTTGAGCTgctgctgctaagaTACACT
		Mutant 1+2	ACACGCACGGcttagtcttgggaCAGCTACTTGA
			GCTgctgctgctaagaTACACT