

Figure S1 | The proliferation of Hep3B, Hep3B-H cells and Huh7, Huh7 cells was measured using CCK-8 assay. * * $P < 0.01$, *** $P < 0.001$.

Figure S2 | N-cadherin and IF1 expression were examined by immunofluorescence assay in Huh7 and Huh7-H cells.

Figure S3 | Colony formation assay analysis of cell proliferation after IF1 knockdown or overexpression in HCC cells after insufficient RFA with or without sorafenib therapy. (A) IF1 was knock down or overexpressed in Huh7-H or Huh7 cells and the colony formation ability was shown. (B) The effect of sorafenib on colony formation of Hep3B, Hep3B-H, Hep3B-H-shRNA-IF1 and Hep3B, Hep3B-IF1, Hep3B-H was shown.

Figure S4 | The effect of IF1 on E-cadherin expression in Hep3B, Hep3B-H, Huh7 and Huh7-H cells was measured using western blot analysis. (A) The effect of IF1 knockdown on E-cadherin expression in HCC cells. (B) The effect of IF1 overexpression on E-cadherin expression in HCC cells. * $P < 0.01$, * * $P < 0.01$, *** $P < 0.001$, ns: no significance.

Figure S5 | The effect of IF1 on lactate production in Hep3B, Hep3B-H and Huh7, Huh7-H cells was measured.

Figure S6 | Mice weight of nude mice bearing with tumor. (A) Hep3B, Hep3B-H, and Hep3B-H-shRNA-IF1 cells were subcutaneously injected into nude mice and mice weight was measured with a scale every 4 days. (B) Hep3B, Hep3B-H, and Hep3B-H-shRNA-IF1 cells were injected into nude mice via caudal vein and mice weight was measured with a scale every 4 days.

Figure S7 | IF1 increased resistance of Huh7 cells after insufficient RFA to sorafenib *in vitro*. (A,B) The effect of sorafenib on colony formation of Huh7, Huh7-IF1, Huh7-H and Huh7, Huh7-H, Huh7-H-shRNA-IF1 was shown. (C) The effect of sorafenib on migration of Huh7, Huh7-IF1, Huh7-H was shown. (D) The effect of sorafenib on migration of Huh7, Huh7-H, Huh7-H-shRNA-IF1 was shown.

Figure S8 | Toxicity of sorafenib on nude mice bearing with tumor. (A) Mice weight was measured with a scale every 1 week. (B-F) Heart, liver, spleen, lung, and kidney sections were stained with haematoxylin and eosin (HE). Representative images were shown.

Figure S9 | The expression of p-p65 was examined in Hep3B and Hep3B-H tumors using western blot analysis. * $P < 0.01$.

Figure S1

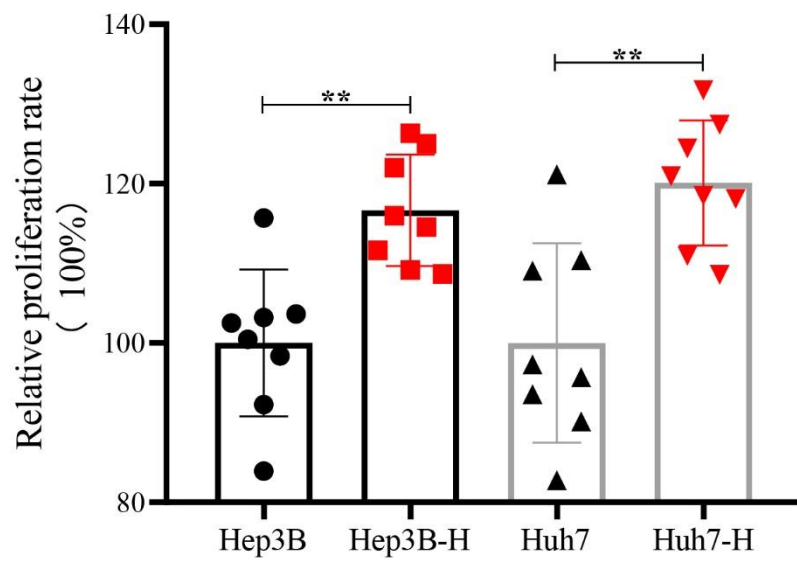


Figure S2

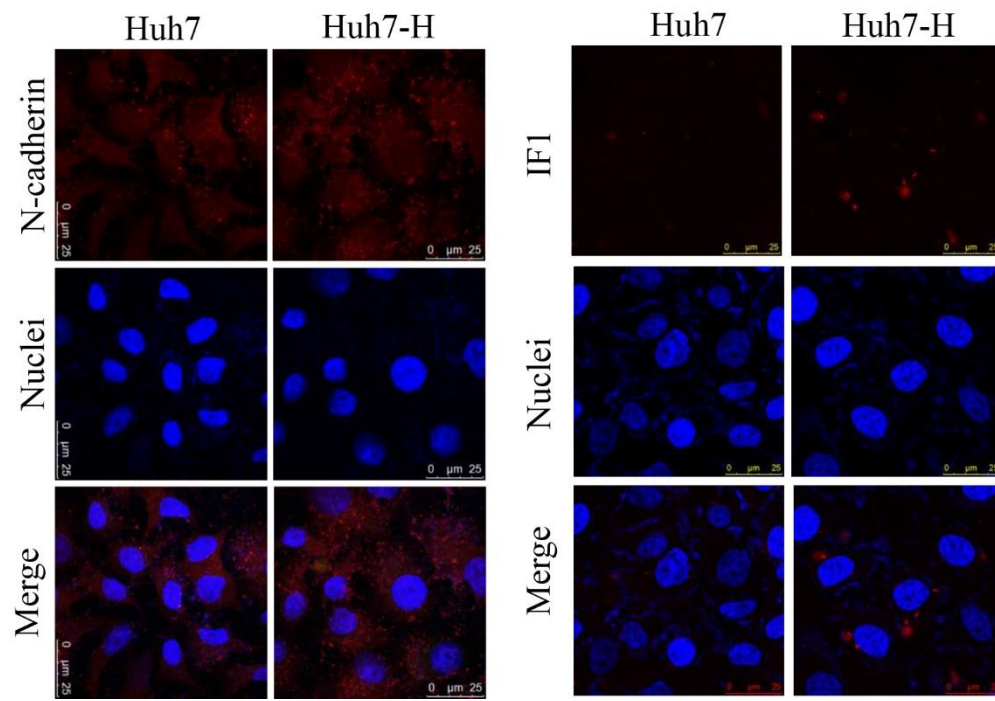


Figure S3

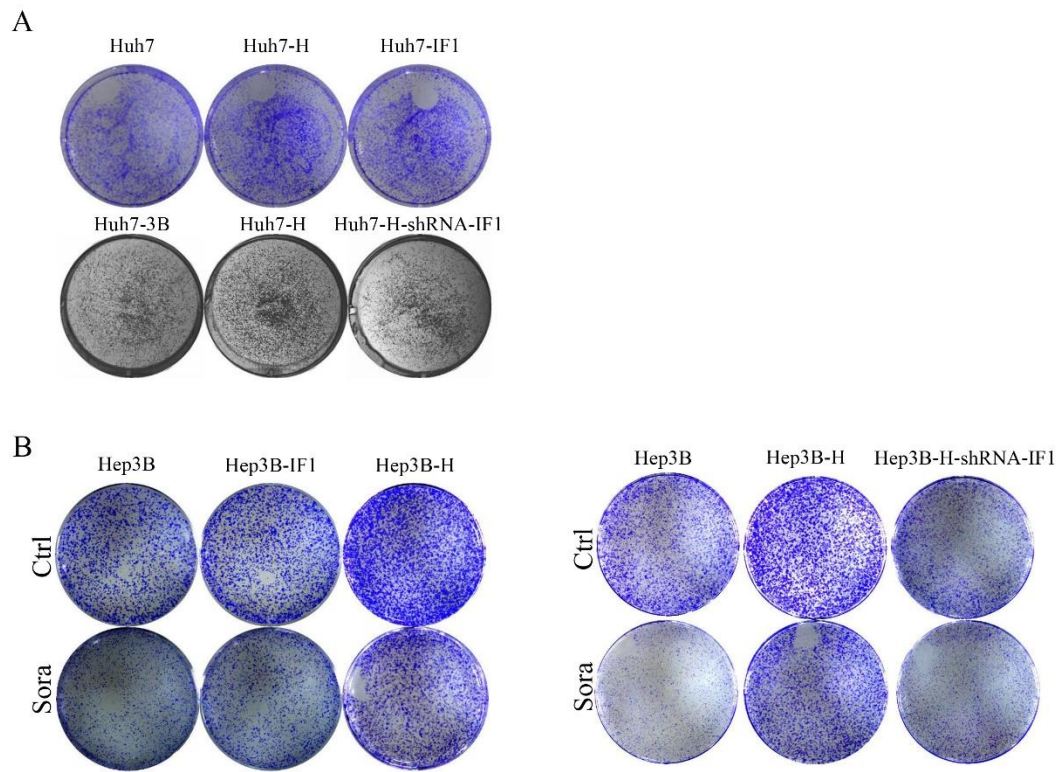


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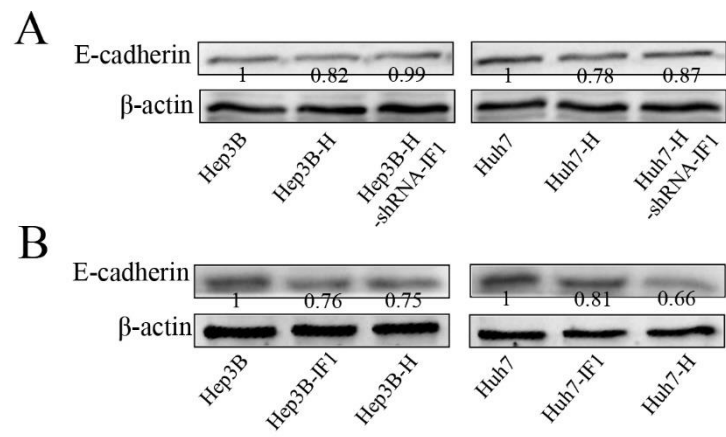


Figure S5

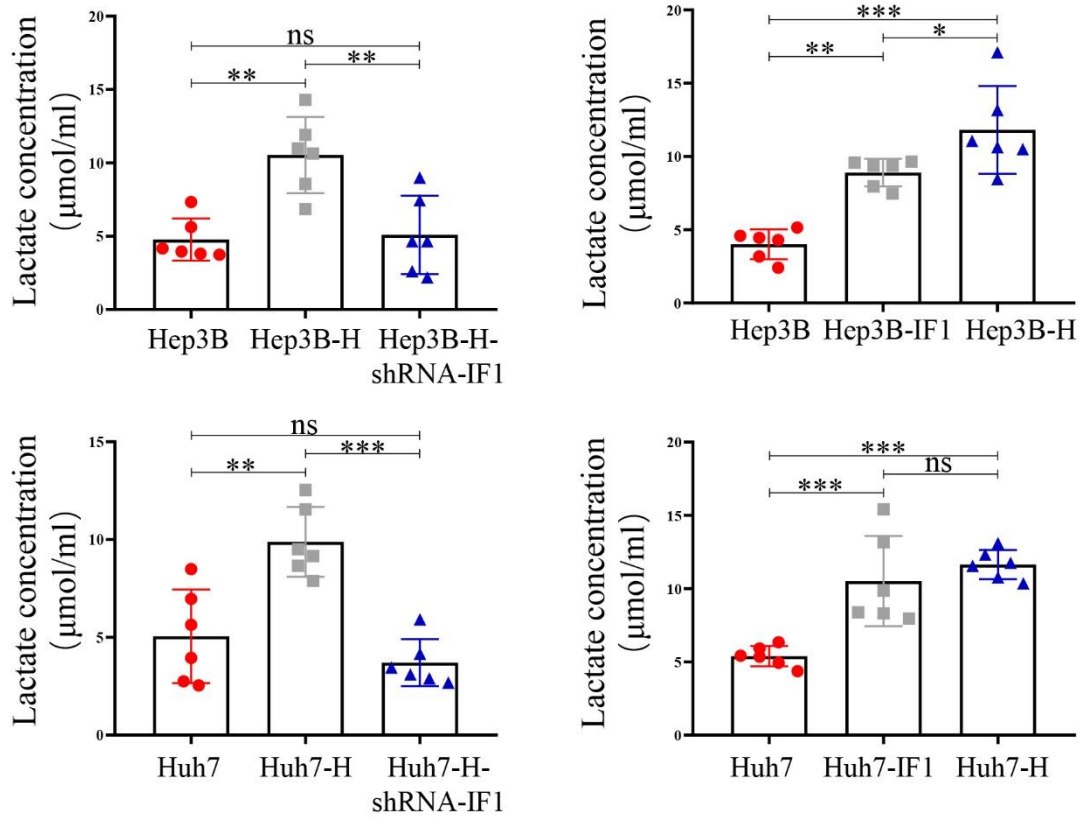
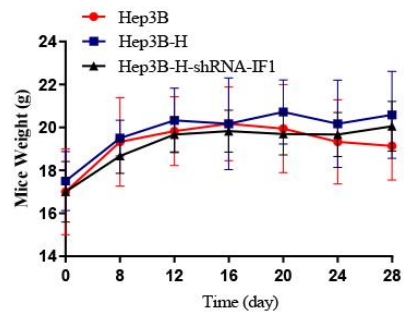


Figure S6

A



B

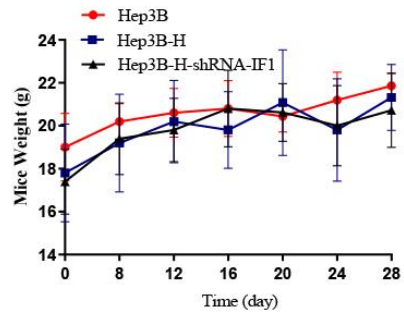


Figure S7

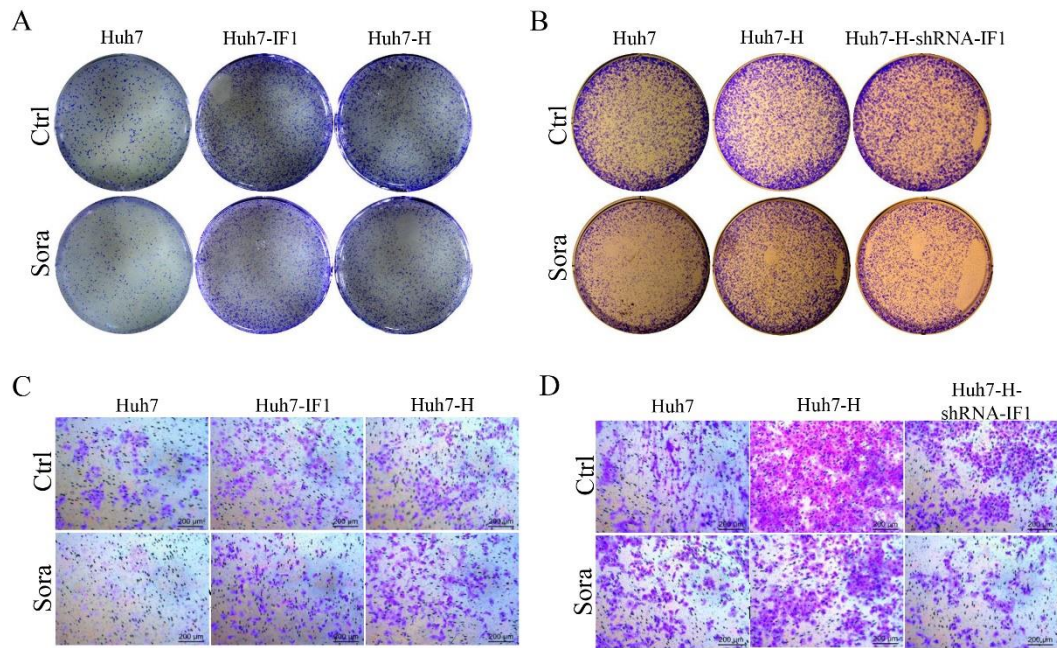
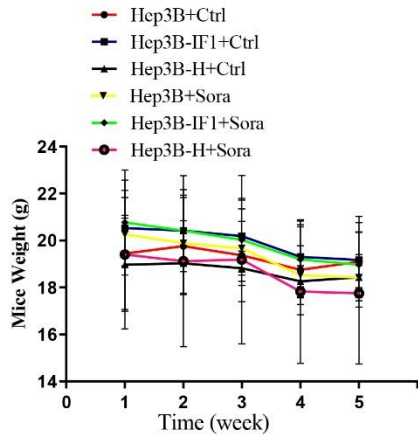
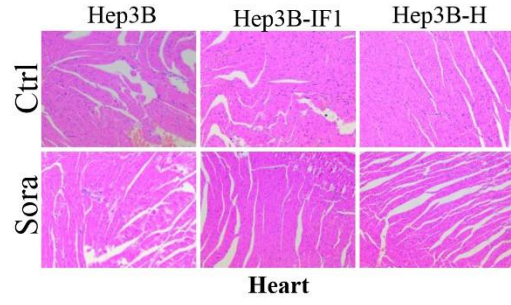


Figure S8

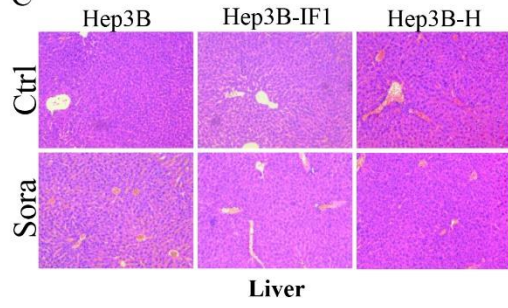
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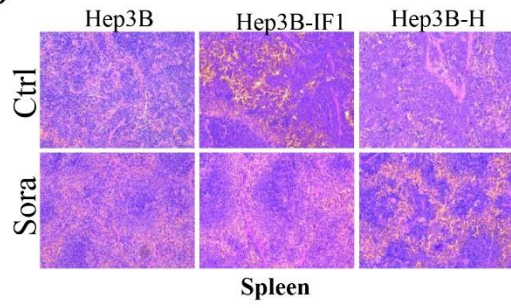
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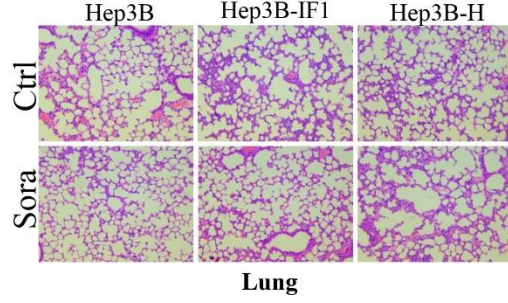
C



D



E



F

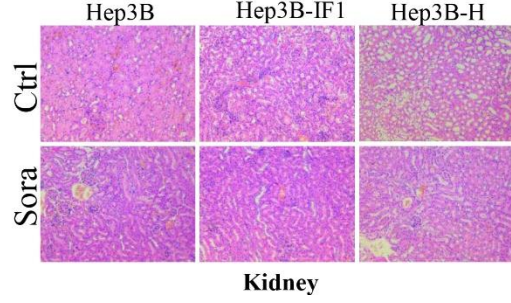


Figure S9

