

Figure S1. Expression of SSBP1 in cancer. (A) Schematic representation of the DEN-induced liver cancer model. Expression patterns of SSBP1 in TCGA were analyzed using (B) TIMER2.0 and (C) UALCAN analysis tools. ** $P < 0.01$, *** $P < 0.001$ vs. normal. SSBP1, single-stranded DNA binding protein 1; DEN, N-Nitrosodiethylamine; TCGA, The Cancer Genome Atlas; TPM, Transcripts Per Million Transcripts.

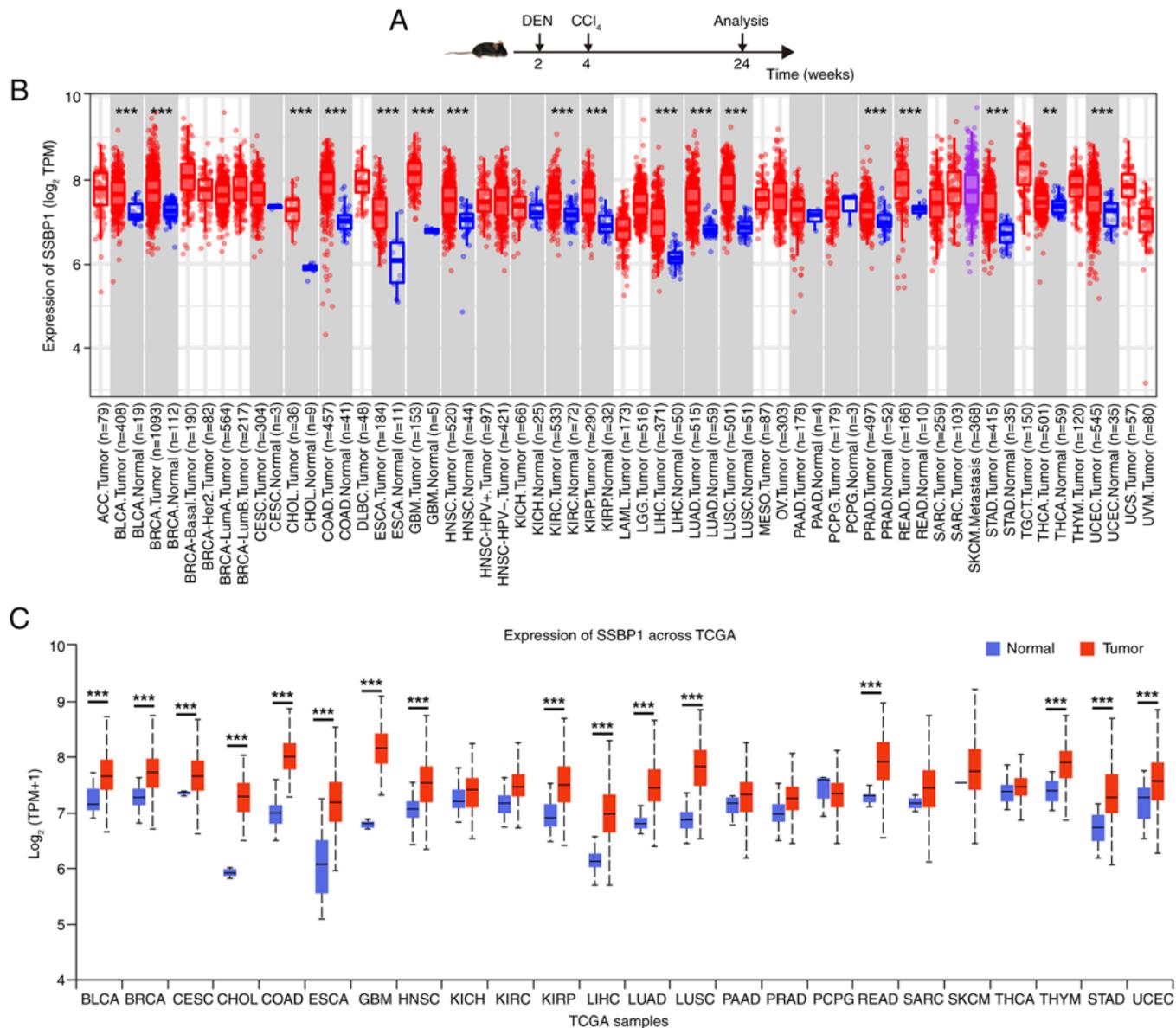


Figure S2. Knockout of SSBP1 in liver cancer cells inhibits the proliferation and migratory capacity. (A) SSBP1 expression in Control and SSBP1-KO Hepa1-6 cells. (B) MTT assay of relative viability of Control and SSBP1-KO Hepa1-6 cells (n=10). (C) Representative colony formation showing the proliferation capacity of SSBP1-KO Hepa1-6 cells. (D) Colony formation capacity (n=4). (E) Migratory capacity of Control and SSBP1-KO Hepa1-6 cells was examined by Transwell assay. (F) Wound healing assay was used to determine the migratory capacity of Hepa1-6 cells with SSBP1 deficiency. (G) SSBP1 expression in Control and SSBP1-KO HepG2 cells. (H) MTT assay of relative viability of Control and SSBP1-KO HepG2 cells. (I) Migratory capacity of Control and SSBP1-KO HepG2 cells was examined by Transwell assay. (J) SSBP1 expression in Control and SSBP1-KO Huh7 cells. (K) MTT assay showed the relative viability of Control and SSBP1-KO Huh7 cells (n=10). (L) Migratory capacity of Control and SSBP1-KO Huh7 cells was examined by Transwell assay. Scale bar, 200 μ m. Magnification, x40. SSBP1-KO, single-stranded DNA binding protein 1 knockout.

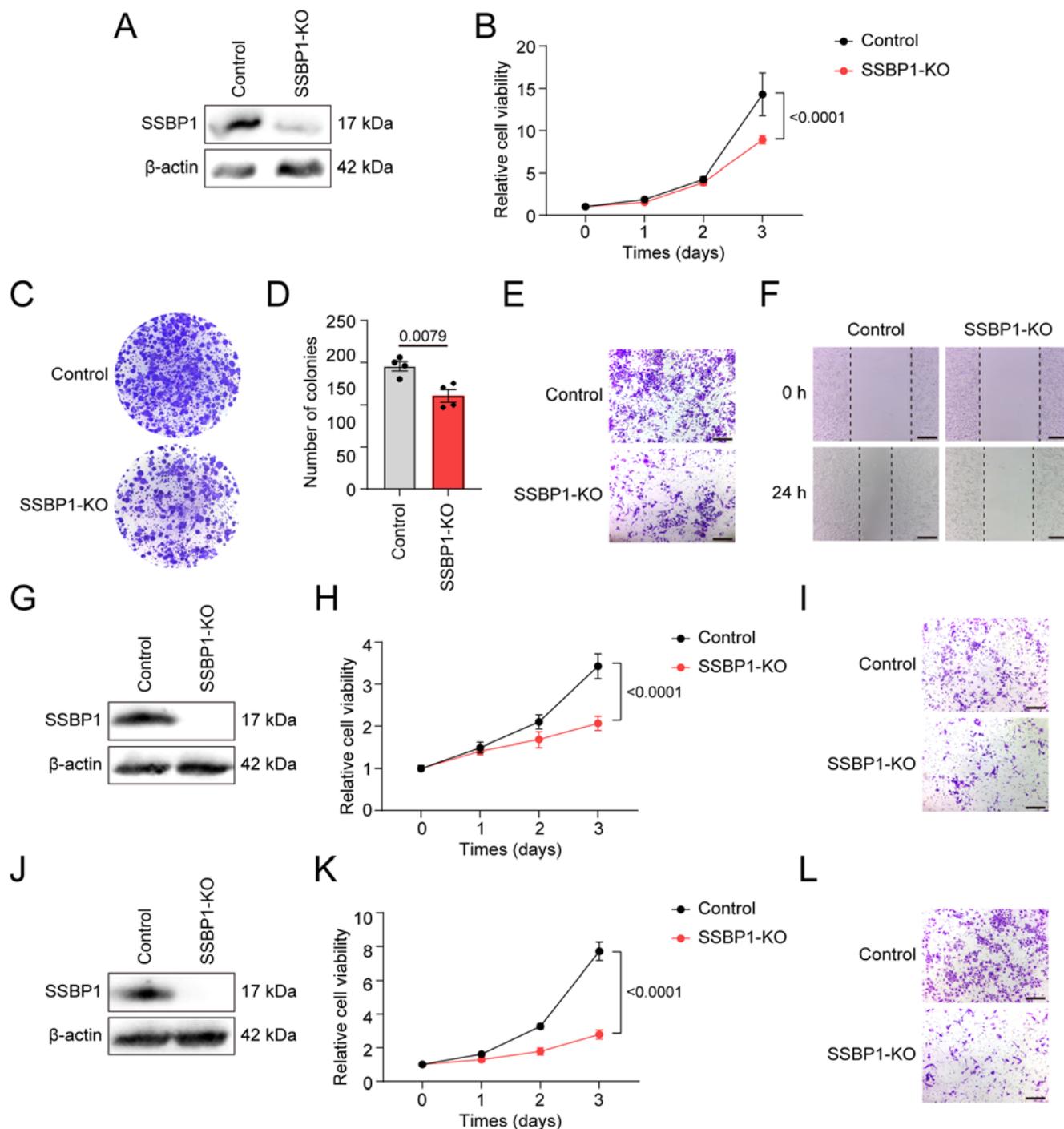


Figure S3. Overexpression of SSBP1 promotes proliferative and migratory phenotypes in liver cancer cells. (A) Representative bands of Control and SSBP1-OE HepG2 cells. (B) MTT showed the relative viability of Control and SSBP1-OE HepG2 cells (n=10). (C) Migratory capacity of Control and SSBP1-OE HepG2 cells was examined by Transwell assay. Scale bar, 200 μ m. Magnification, x40. SSBP1-OE, SSBP1 (single-stranded DNA binding protein 1) overexpression.

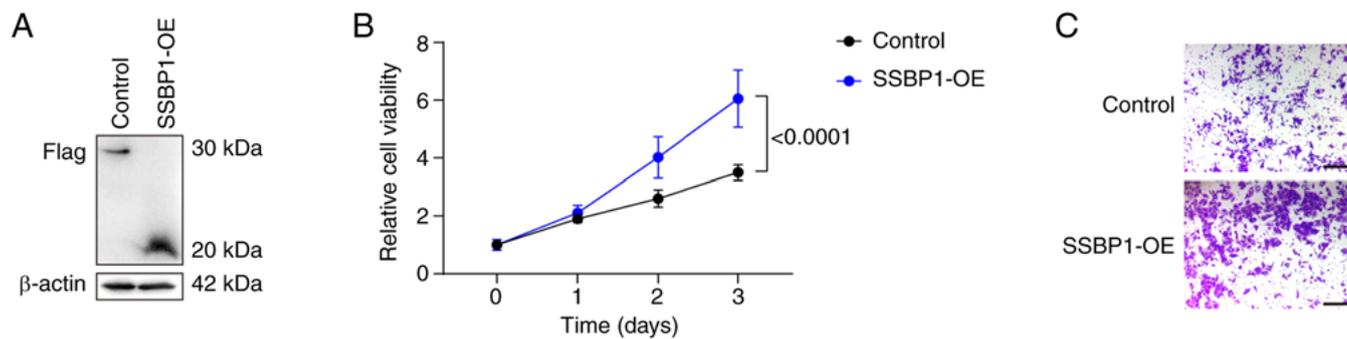


Figure S4. SSBP1 deficiency triggers ferroptosis in liver cancer cells. Ferroptosis-associated (A) protein and mRNA expression in Control and SSBP1-KO (B) HepG2 (n=6) and (C) Hepa1-6 cells (n=5). SSBP1, single-stranded DNA binding protein 1; SSBP1-KO, SSBP1 (single-stranded DNA binding protein 1) knockout.

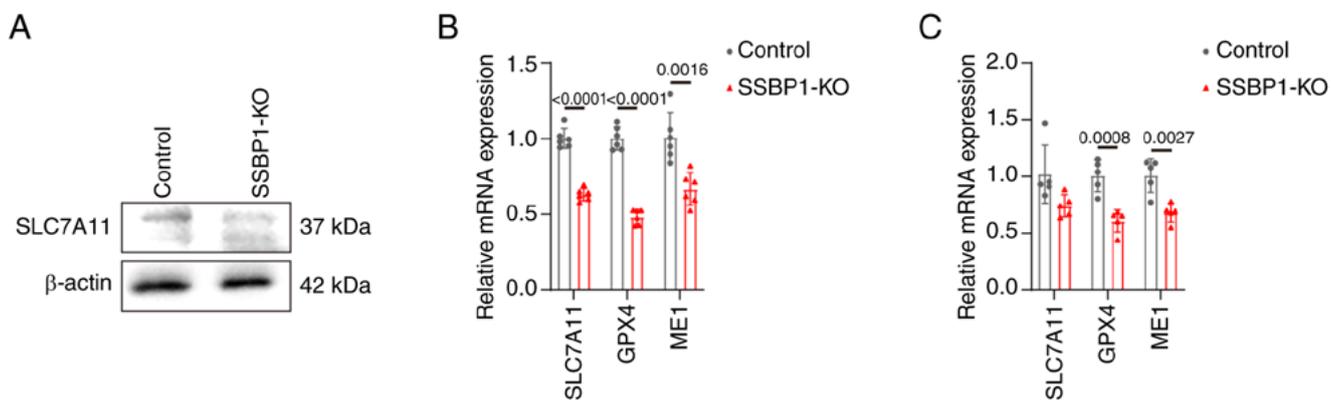


Figure S5. Association between the expression of SSBP1 and sorafenib treatment in liver cancer. (A) Expression of SSBP1 in the Hep3b and Huh7 cell lines with or without sorafenib treatment from the GSE151412 datasets. (n=8-9). (B) Expression of SSBP1 in SS (n=3) or SR (n=4) HepG2 cell lines from the GSE62813 datasets. (C) Association between SSBP1 expression and the prognosis of the liver cancer population with sorafenib treatment (n=29) using the Kaplan Meier Plotter online survival analysis tool. SSBP1, single-stranded DNA binding protein 1; SS, sorafenib-sensitive; SR, sorafenib-resistant.

