

Figure S1. Western blot analysis of Caspase-3 and Caspase-9. Liver cancer cells were treated with 5  $\mu$ M sorafenib, 5  $\mu$ M wh-4 and the combination (5  $\mu$ M sorafenib, 5  $\mu$ M wh-4, respectively) for 48 h. S, sorafenib; W, wh-4; Ctrl, control.

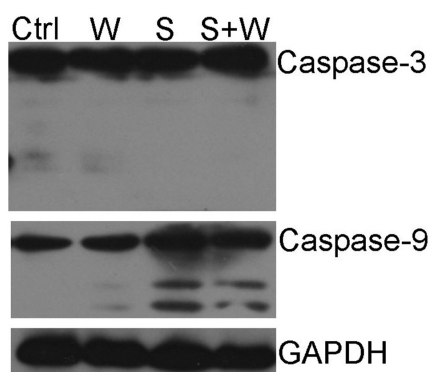


Figure S2. Silencing efficiency analysis of si-ABCB1 and ABCG2. (A) Western blotting and (B) RT-qPCR assays were used to evaluate the effect of si-ABCB1 and ABCG2 in Huh7. (C) Western blotting and (D) RT-qPCR assays were used to evaluate the effect of si-ABCB1 and ABCG2 in SK-HEP-1. Liver cancer cells were transduced with siRNA, and the cells were collected after 72 h. \* $P < 0.05$  and \*\* $P < 0.01$ . si-, small interfering RNA; Rel., relative; RT-qPCR, reverse transcription-quantitative PCR.

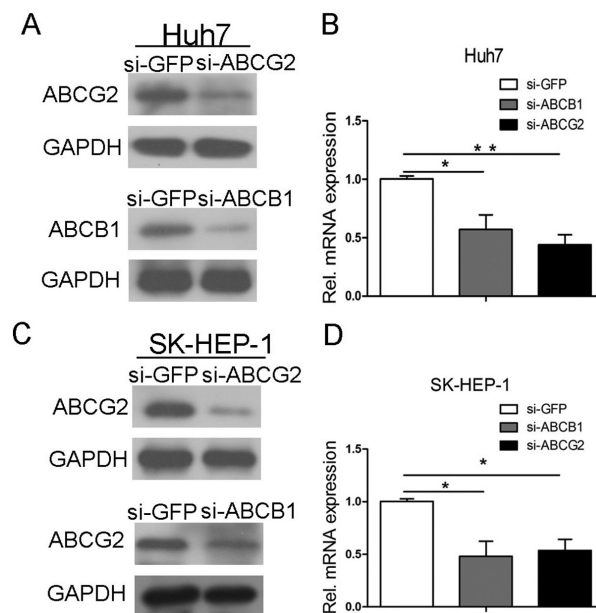


Figure S3. Western blot analysis of P-gp and BCRP. Liver cancer cells, (A) Huh7 and (B) SK-HEP-1, were treated with 5  $\mu$ M sorafenib, 5  $\mu$ M wh-4 and the combination (5  $\mu$ M sorafenib, 5  $\mu$ M wh-4, respectively) for 48 h. BCRP, breast cancer resistance protein; P-gp, p-glycoprotein; S, sorafenib; W, wh-4; Ctrl, control.

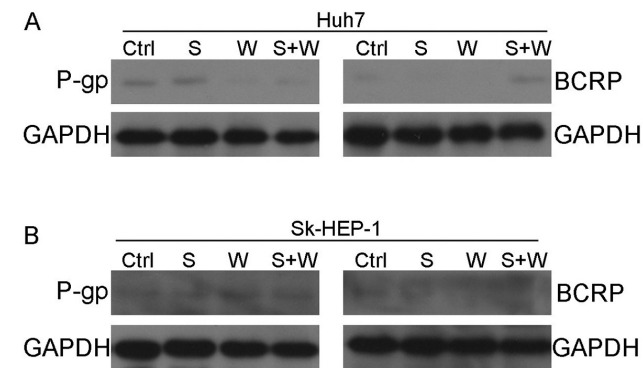


Figure S4. Western blot and reverse transcription-quantitative PCR analyses of STAT3 in liver cancer cells transduced with pcDNA3.1-STAT3 vector. Liver cancer cells were transduced with pcDNA3.1-STAT3 vector and the cells were collected after 72 h. (A) Huh7 cell protein was analyzed using western blotting and (B) RT-qPCR assay was used to evaluate the gene level. (C) Western blotting was employed to test the protein level in SK-HEP-1 and (D) RT-qPCR assay was used to evaluate the gene level in SK-HEP-1. \* $P < 0.05$ . Rel., relative; RT-qPCR reverse transcription-quantitative PCR

