Supporting Figure Legends:

Figure S1. Serum alanine aminotransferase (ALT) in mice fed deoxycholic acid (DCA):

Male FVB/NJ (8-10 weeks) mice were fed chow supplemented with 0.3% (w/w) deoxycholic acid (DCA) for 1, 3 and 7 days or chow-alone (0 day) (n=5). Serum ALT level was measured using a spectrophotometric assay. ***$P < 0.001$ compared to 0 day.

Figure S2. XBP1s protein expression in Huh7-Ntcp cells treated with bile acids:

Huh7-Ntcp cells were treated for 6 hours with 0-100 μM of TDCA, TCDCA or TCA. Western blot of XBP1s protein expression in cell homogenate is shown with GAPDH used as a loading control.

Figure S3. Expression levels of XBP1s, phosphorylated-IRE1α and SHP in Huh7-Ntcp and HepG2 cells treated with FXR agonists:

Huh7-Ntcp cells (A, C) were treated with 2.5 μM 6-ECDCA, or DMSO for 0-2 hours as indicated. HepG2 cells (B, D) were treated with 2.5 μM GW4064 or DMSO for 0-2 hours as indicated. (A, B) Western blotting was performed for phosphorylated-IRE1α (p-IRE1α). Cellular p-IRE1α expression is increased in Huh7-Ntcp and HepG2 cells in response to FXR-agonist treatment. XBP1s and GAPDH protein expression are also shown. (C, D) *SHP* mRNA expression was measured by qPCR. *$P < 0.05$, ***$P < 0.001$ compared to DMSO-treated cells (time 0).

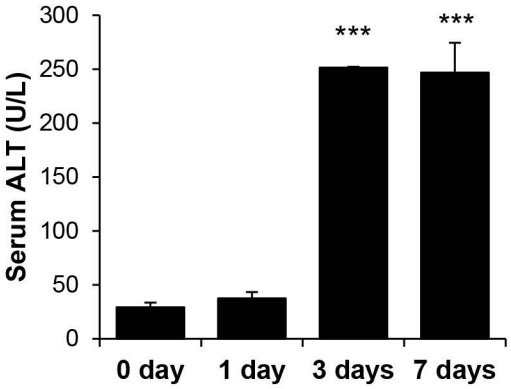
Figure S4. FXR and SHP knockdown in HepG2 cells:

HepG2 cells were transfected with FXR siRNA, SHP siRNA or scramble siRNA. *FXR* (A) and *SHP* (B) gene expression was examined using qPCR. ***$P < 0.001$ compared to scramble siRNA-transfected cells.

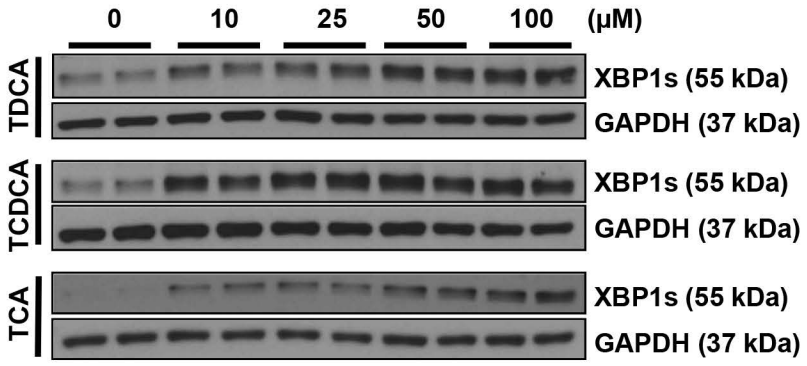
Figure S5. Hepatic Xbp1u gene expression in mice treated with GW4064:

Male C57BL/6J mice were administered with either vehicle or GW4064 (150 mg/kg) and livers harvested after 16 hours. Hepatic *Xbp1u* mRNA level was measured with qPCR in vehicle- or GW4064-treated mice.

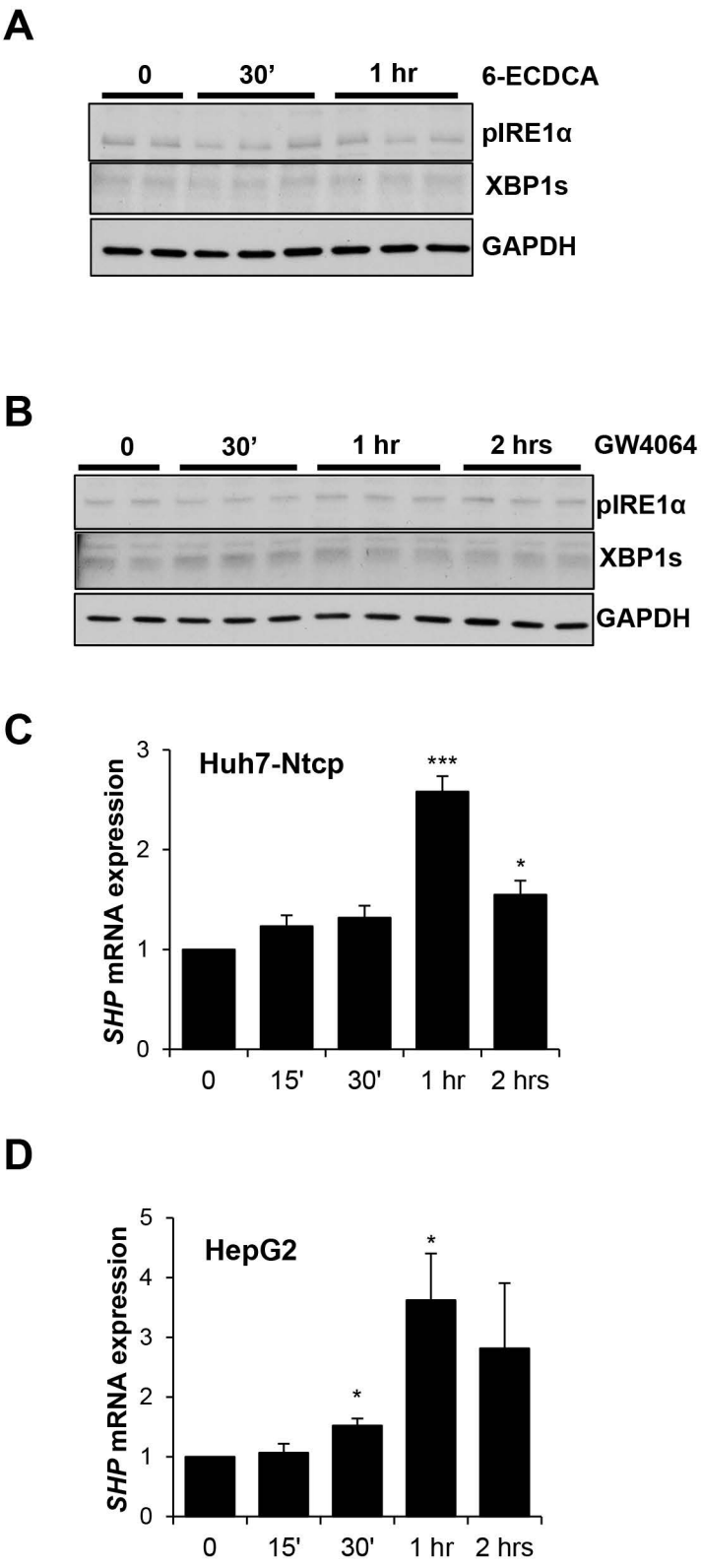
Supporting Figure S1



Supporting Figure S2

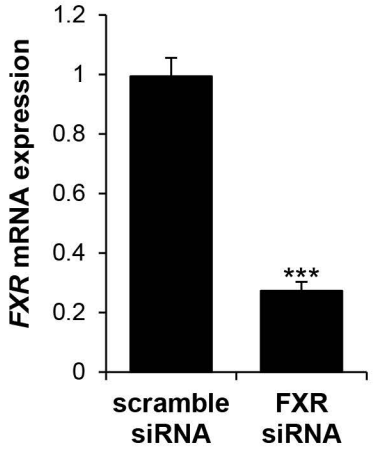


Supporting Figure S3



Supporting Figure S4

A



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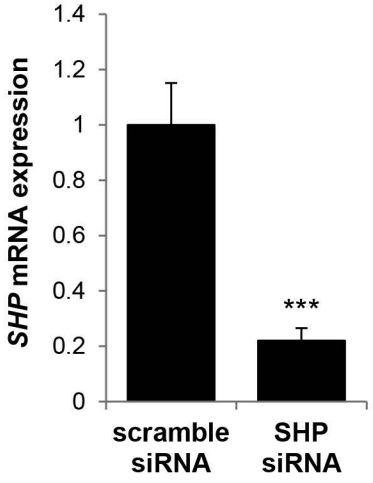

Supporting Figure S5