Supplementary Figure 1

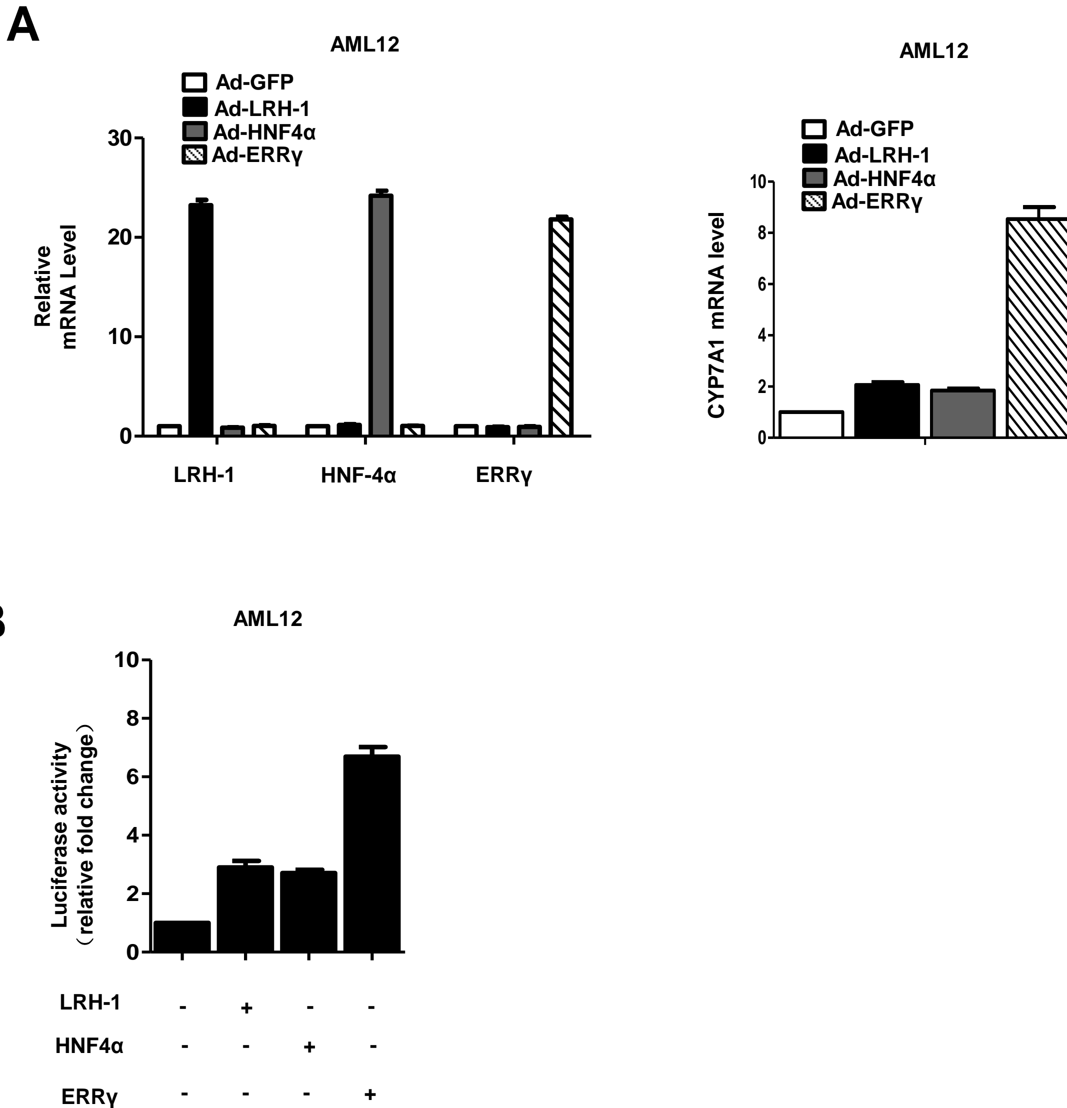

Fig. S1. ERRγ is a major contributor to the regulation of *CYP7A1* gene expression
(A) AML12 cells were infected with Ad-GFP (control), Ad-LRH-1, Ad-HNF4α and Ad-ERRγ. Total RNA was isolated and used for qPCR analysis. Left panel shows *LRH-1*, *HNF-4α* and *ERRγ* mRNA levels. Right panel shows CYP7A1 mRNA levels. **(B)** AML12 cells were transfected with m*CYP7A1*-luc (-3.2 kb to +234 bp) and cotransfected with LRH-1, HNF4α or ERRγ expression vectors. Cell lysates were utilized for luciferase and β-galactosidase assays.

Supplementary Figure 2

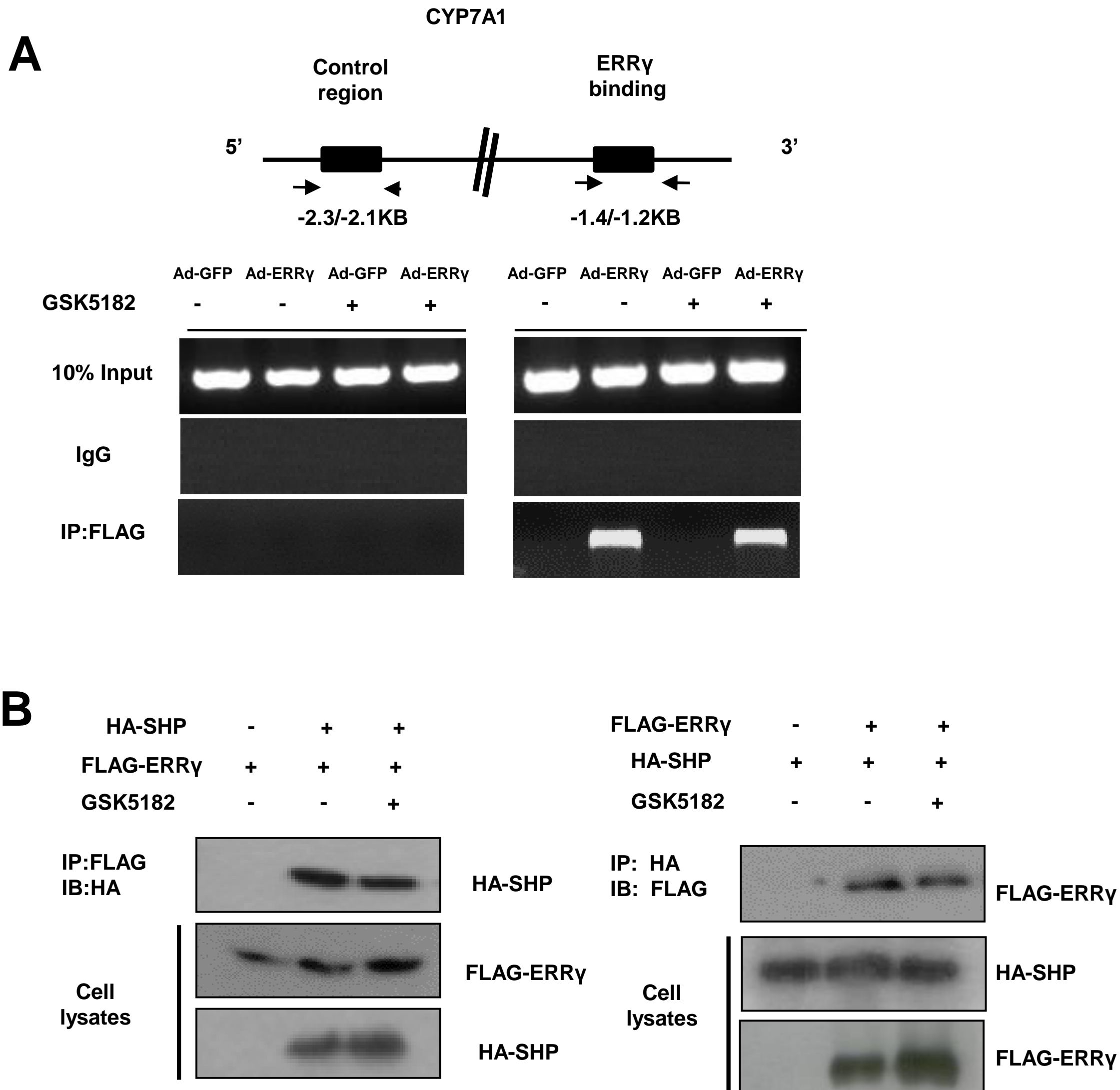

Fig. S2. GSK5182 does not affect the recruitment of ERRγ to the CYP7A1 promoter and the interaction between ERRγ and SHP

(A) Chromatin immunoprecipitation assay. AML12 cells were infected with Ad-GFP or Ad-ERRγ for 48 h then treated with GSK5182 (10 μM) for 24 h. Input represents 10 % of purified DNA in each sample. Cell extracts were immunoprecipitated with anti-FLAG antibody, and purified DNA samples were employed for PCR with primers binding to ERRE1 (-1.4 kb to -1.2 kb) and distal site (-2.3 kb to -2.1 kb) on the *CYP7A1* gene promoter. **(B)** AML12 cells were transfected for 24h with expression vectors encoding Flag-ERRγ and HA-SHP, then treated with GSK5182 (10 μM) for 12 h, as indicated. After transfection, the cytoplasmic fractions of cell lysates were subjected to immunoprecipitation with anti-FLAG antibody or anti-HA antibody. The immunoprecipitates were then immunoblotted with anti-HA antibody or anti-FLAG antibody. Cell lysates were also immunoblotted with anti-Flag and anti-HA antibodies.

Supplementary Figure 3

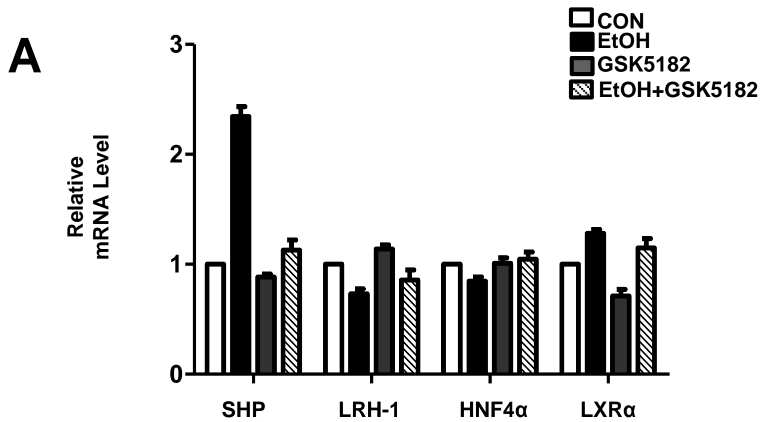

Fig S3. Gene expression of SHP, LRH-1, HNF4-α, and LXRα by alcohol and GSK5182.

(A) Mice (*n* = 3-4) were treated with alcohol for 1 day in the presence of GSK5182. Total RNA was used for qPCR analyses.