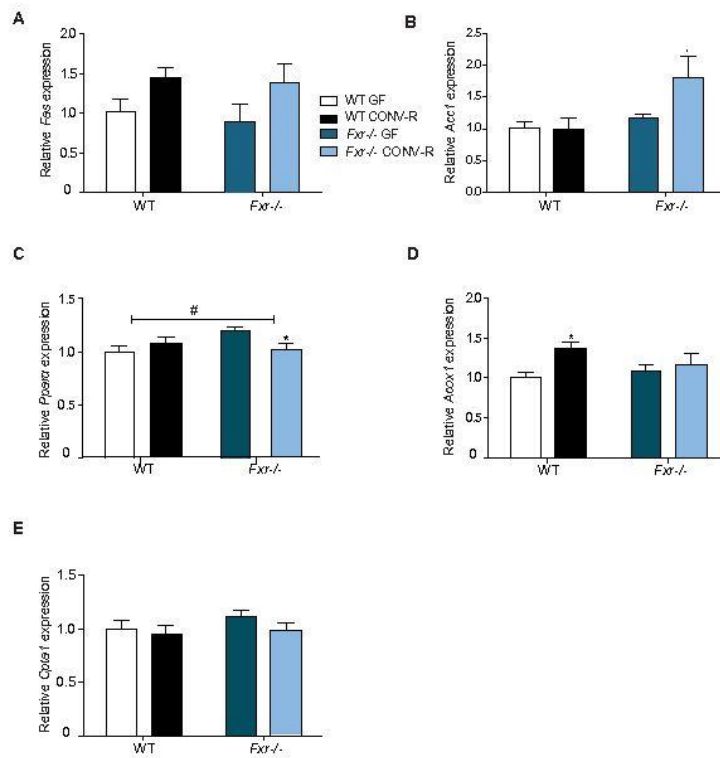
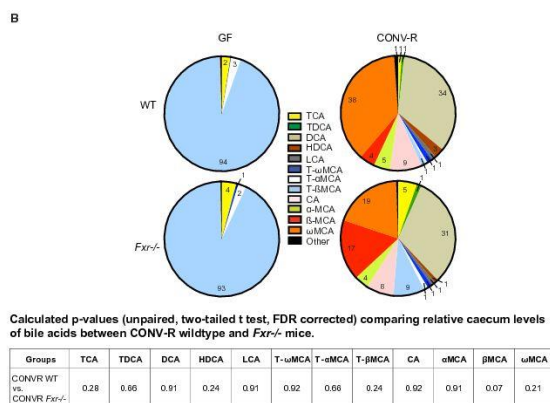
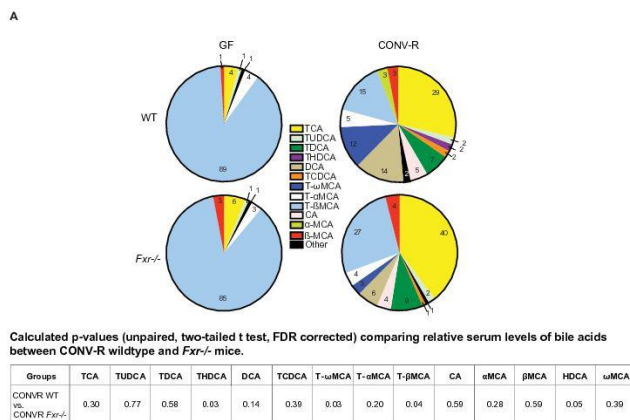


**Figure S1. FXR does not contribute to increased lipogenesis in the liver.** qPCR analysis of **A) *Fas***, **B) *Accl***, **C) *Ppara***, **D) *Acox1*** and **E) *Cpt1*** expression in livers from mice after 10 weeks on a HFD (n=4-9 mice per group). Mean values  $\pm$  SEM are plotted; \*p<0.05, \*\*p<0.01, \*\*\*p<0.001 versus GF of same genotype; #significant for genotype-colonisation interaction.



**Figure S2.** Bile acid profiles in serum from **A**) the vena cava (n=5-9 mice per group) and **B**) the caecum (n=4-9 mice per group) after 10 weeks on HFD. Mean values are plotted and p values determined by *t* test between CONV-R wild-type and *Fxr*<sup>-/-</sup> are listed. The following bile acids were analysed: TCA, taurocholic acid; TUDCA, tauroursodeoxycholic; TDCA, taurodeoxycholic acid; THDCA, taurohydoxycholic acid; DCA, deoxycholic acid; CA, cholic acid; TCDCA tauroconjugated chenodeoxycholic acid; T- $\omega$ MCA, tauroconjugated omega murocholic acid; T- $\alpha$ MCA, tauroconjugated alpha murocholic acid; T- $\beta$ MCA, tauroconjugated beta murocholic acid;  $\omega$ MCA, omega murocholic acid;  $\alpha$ MCA, alpha murocholic acid;  $\beta$ MCA, beta murocholic acid; TLCA, taurolitocholic acid; UDCA, ursodeoxycholic acid and HDCA, hydoxycholic acid. Not all bile acids were detected and those undetected or at low levels (>1%) are combined as other.



**Figure S3.** qRT-PCR analysis of **A)** *Cyp7a1* and **B)** *Cyp8b1* expression in livers from GF and CONV-R wild-type and *Fxr*<sup>-/-</sup> mice after 10 weeks on HFD (n=4-9 mice per group). Mean values ± SEM are plotted; \*p<0.05, \*\*p<0.01, \*\*\*p<0.001 versus GF of same genotype; #significant for genotype-colonisation interaction.

