Supplementary Figure 1. High cholesterol diet does not differently affect body weight reduction of Cyp8b1−/− mice and pair-feeding does not affect glucose tolerance in Cyp8b1−/− mice (A) Body weight was measured in age matched control (+/+, white bars) and Cyp8b1−/− (-/-, black bars) mice, on chow diet throughout or transferred to high cholesterol diet (HCD) for 4-6 weeks at post-natal day 70-90 day n= 4 (B) Organ-wet weights were measured for control (+/+) and Cyp8b1−/− (-/-) mice, n= 9 (C) body weight in grams of pair-fed control (+/+) and Cyp8b1−/− (-/-) mice, n=4 and (D) Oral glucose tolerance of pair-fed control (+/+, white squares) and Cyp8b1−/− (-/-, black squares) mice. Mice were fasted for 4h before blood was drawn, n=4. Data are shown as mean± SEM; *p<0.05, **p<0.01 by Student’s t-test for body weight and organ wet weight and *p<0.05 by two-way ANOVA followed by the Bonferroni post-hoc test for OGTT.
**SUPPLEMENTARY DATA**

**Supplementary Figure 2.** Lithocholic acid (LCA) levels are increased in colons of Cyp8b1<sup>−/−</sup> mice but no change in oral glucose tolerance upon acute LCA treatment (A) Lithocholic acis levels expressed as µmol/g tissue in the colon of control (+/+, white bars) and Cyp8b1<sup>−/−</sup> (−/−, black bars) mice, n=4 and (B) Oral glucose tolerance test in control wild type mice treated with acute dose of lithocholic acid (15 mg/kg, ten times lower than required for acute hepatotoxicity). Data expressed as mean± SEM. * p < 0.05, Student’s t-test.

**Supplementary Figure 3.** Trend to reduced triglycerides and significantly increased HDL cholesterol levels in Cyp8b1<sup>−/−</sup> mice (A) Fasting plasma triglyceride levels from control (+/+, white bars) and Cyp8b1<sup>−/−</sup> (−/−, black bars) mice, n= 4 (B) Fasting plasma HDL cholesterol levels from control (+/+) and Cyp8b1<sup>−/−</sup> (−/−) mice, n= 9-11. Data are shown as mean± SEM; *p<0.05 by Student’s t-test.