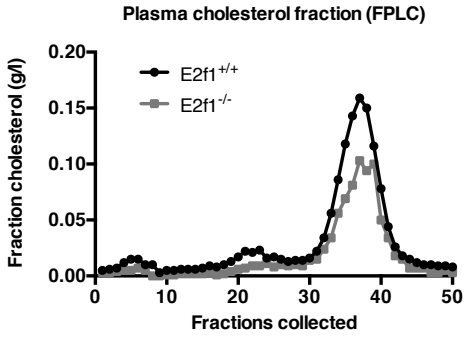
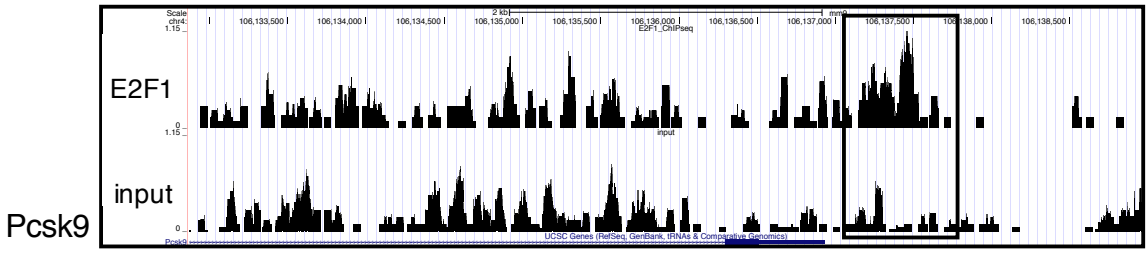
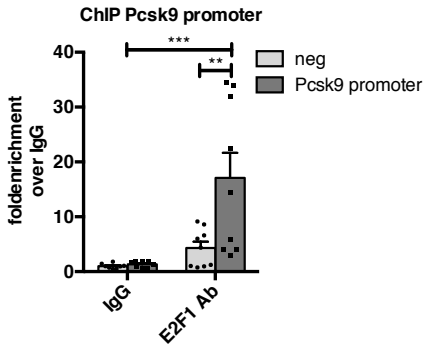


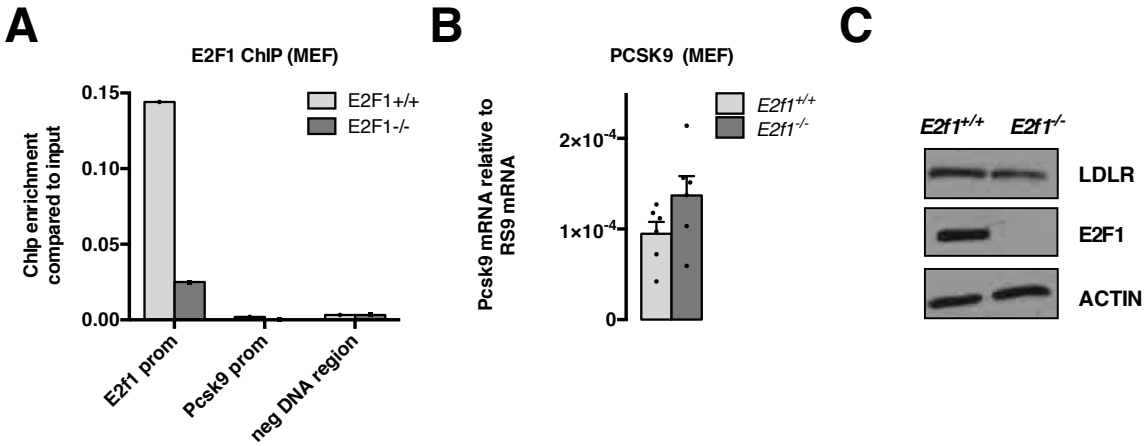
Supplemental Figure 1: FPLC separation of pooled plasma cholesterol in *E2f1*$^{+/+}$ and *E2f1*$^{-/-}$ chow-fed mice. Pool of the plasma of 5 mice.



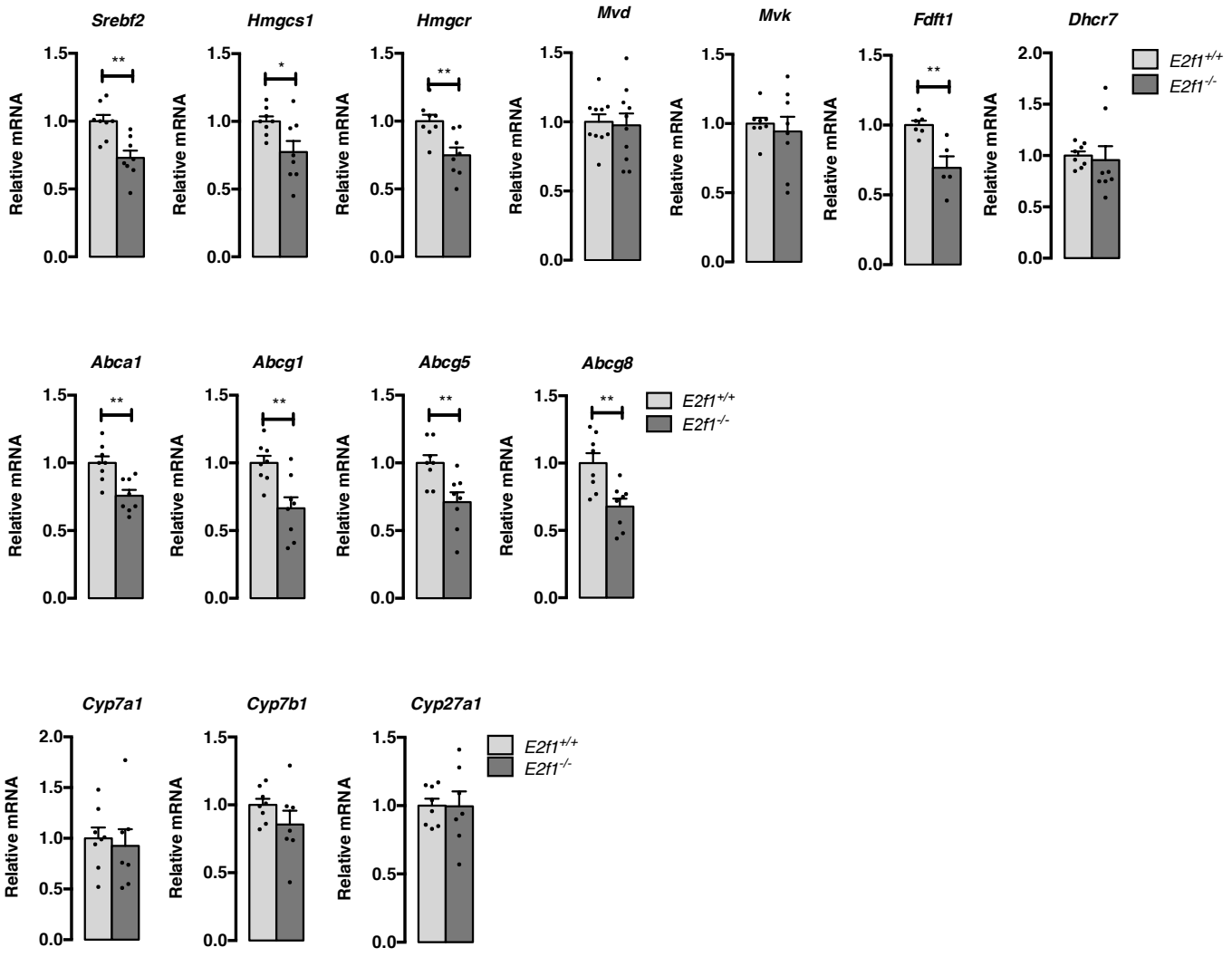
Supplemental Figure 2. E2F1 ChIP-seq browser shot performed in primary culture of hepatocytesAd-E2F1
Browser shots from the UCSC genome browser website: http://genome.ucsc.edu/. Input and E2F1 ChIP alignements are shown on Mouse genome (NCBL37/mm9) with USCC genes predictions. E2F1 peak from *Pcsk9* promoter is highlighted



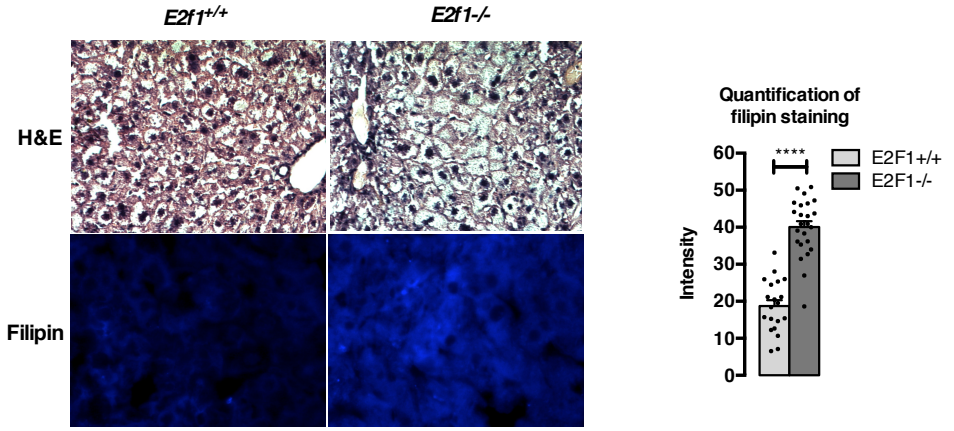
Supplemental Figure 3. E2F1 ChIP analysis
Endogenous E2F1 ChIP on *Pcsk9* promoter in HepG2 cells. Results are represented as chromatin enrichment compared to IgG. E2F1 binding to a negative DNA region is represented as control. 4 independent experiments perfomed in duplicate or triplicate. Differences between conditions were determined by 2-way ANOVA. **P<0,01, ***P<0.001.



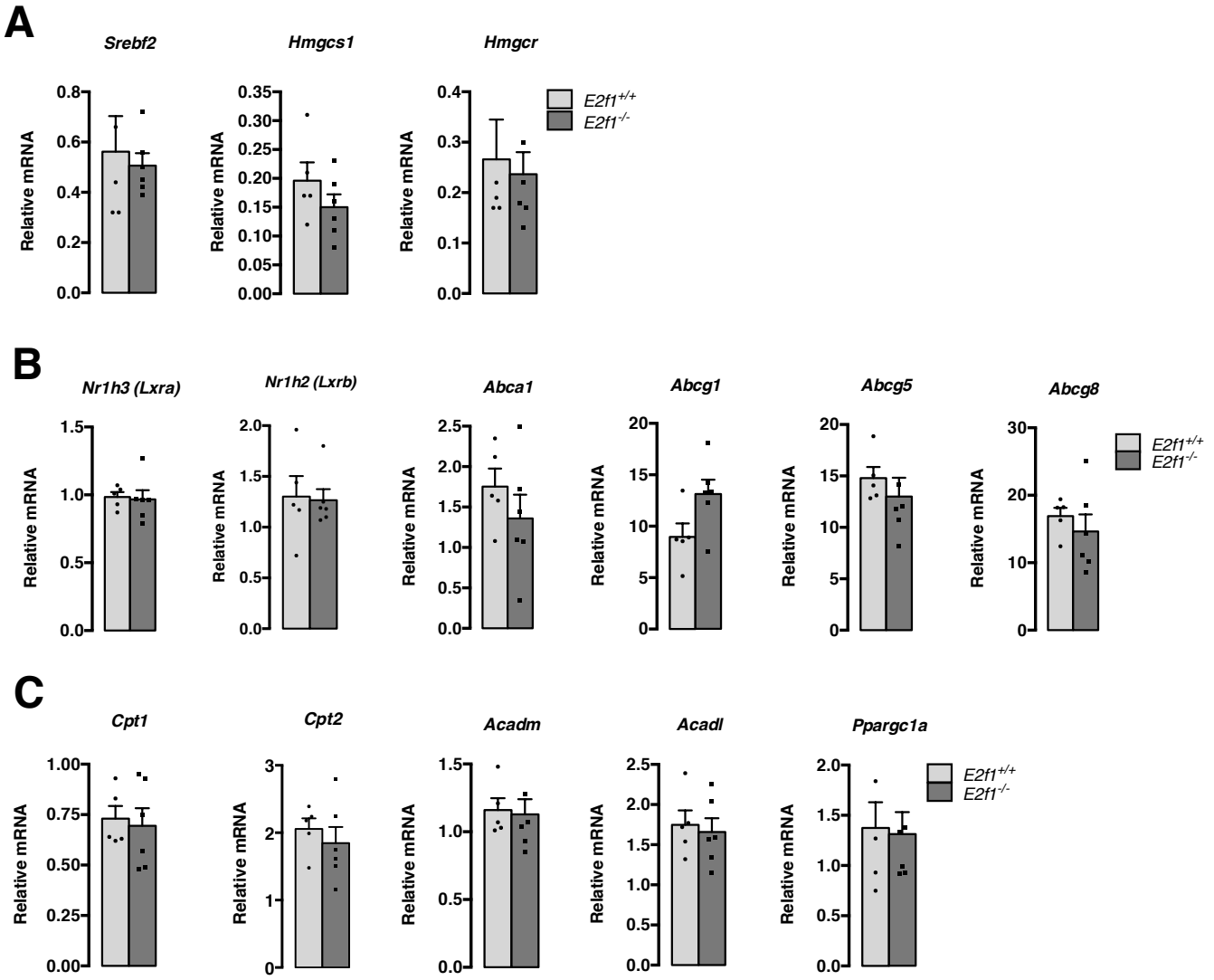
Supplemental Figure 4. E2F1 ChIP analysis
(A) Representative E2F1 ChIP experiment performed in *E2f1*$^{+/+}$ and *E2f1*$^{-/-}$ Mouse Embryonic fibroblates (MEF).
(B) PCSK9 expression in *E2f1*$^{+/+}$ and *E2f1*$^{-/-}$ MEFs. n=3 experiments in duplicate.
(C) Images of LDLR, E2F1 and ACTIN western blots from *E2f1*$^{+/+}$ and *E2f1*$^{-/-}$ MEFs.



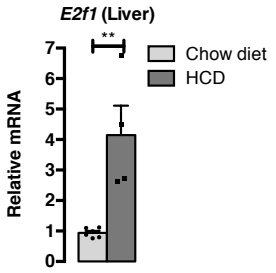
Supplemental Figure 5: Relative mRNA expression of cholesterol synthesis related genes, cholesterol /BA transporters genes, and bile acid (BA) synthesis related genes in primary culture of hepatocytes (n=3-4 cultures in duplicate). Differences between *E2f1*$^{+/+}$ and *E2f1*$^{-/-}$ were determined by 2-tailed unpaired t-test. *P<0.05, **P<0.01.



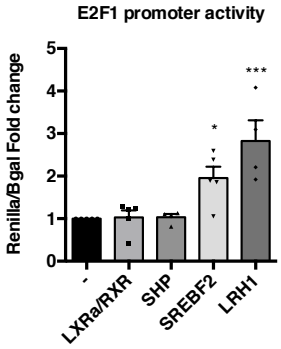
Supplemental Figure 6: H&E and filipin staining of *E2f1*$^{+/+}$ and *E2f1*$^{-/-}$ liver sections (Original magnification 100X). Quantification of the intensity of filipin staining is represented. Differences between *E2f1*$^{+/+}$ and *E2f1*$^{-/-}$ were determined by 2-tailed unpaired t-test. ****P<0,0001.



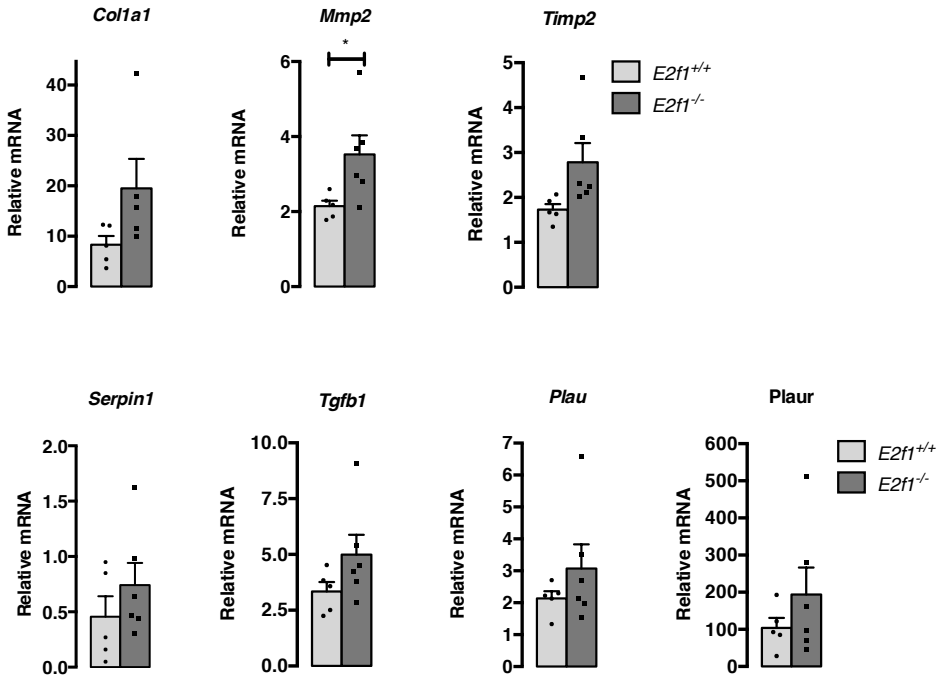
Supplemental Figure 7: Liver gene expression of *E2f1*$^{+/+}$ and *E2f1*$^{-/-}$ mice after 5 weeks of HCD. **(A)** cholesterol related genes expression, **(B)** LXR target genes expression and **(C)** β-oxydation related genes expression are represented. n=5-6 mice per group. Differences between *E2f1*$^{+/+}$ and *E2f1*$^{-/-}$ were determined by 2-tailed unpaired t-test.



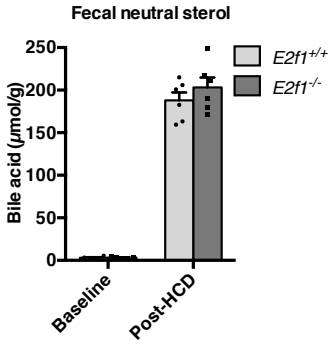
Supplemental Figure 8: Relative expression of *E2f1* mRNA in the livers of E2F1+/+ and E2F1-/- mice that were fed with either standard chow or high cholesterol diet (HCD) for five weeks. All data are presented as the mean ± SEM. n=4-6 mice per group. Differences between chow diet and HCD were determined by 2-tailed unpaired t-test. **P<0,005.



Supplemental Figure 9: Human *E2F1* promoter activity in HepG2 cells transfected with empty vector (-), NR1H3/ RXRA (LXRα/RXR), NR0B2 (SHP), SREBF2 or NR5A2 (LRH1). Cells were co-transfected with cmv-βgal plasmid for normalization. Differences with the empty vector condition were determined by one-way ANOVA. *P<0.05, ***P<0.0005.



Supplemental Figure 10: Liver gene expression of *E2f1*$^{+/+}$ and *E2f1*$^{-/-}$ mice after 5 weeks of HCD. Differences between *E2f1*$^{+/+}$ and *E2f1*$^{-/-}$ were determined by 2-tailed unpaired t-test. *P>0.05.



Supplemental Figure 11: Fecal neutral sterol quantification of *E2f1*$^{+/+}$ and *E2f1*$^{-/-}$ mice before and after five weeks of HCD. n=4-6 samples per group. Differences between *E2f1*$^{+/+}$ and *E2f1*$^{-/-}$ were determined by 2-way ANOVA. **P<0.01.