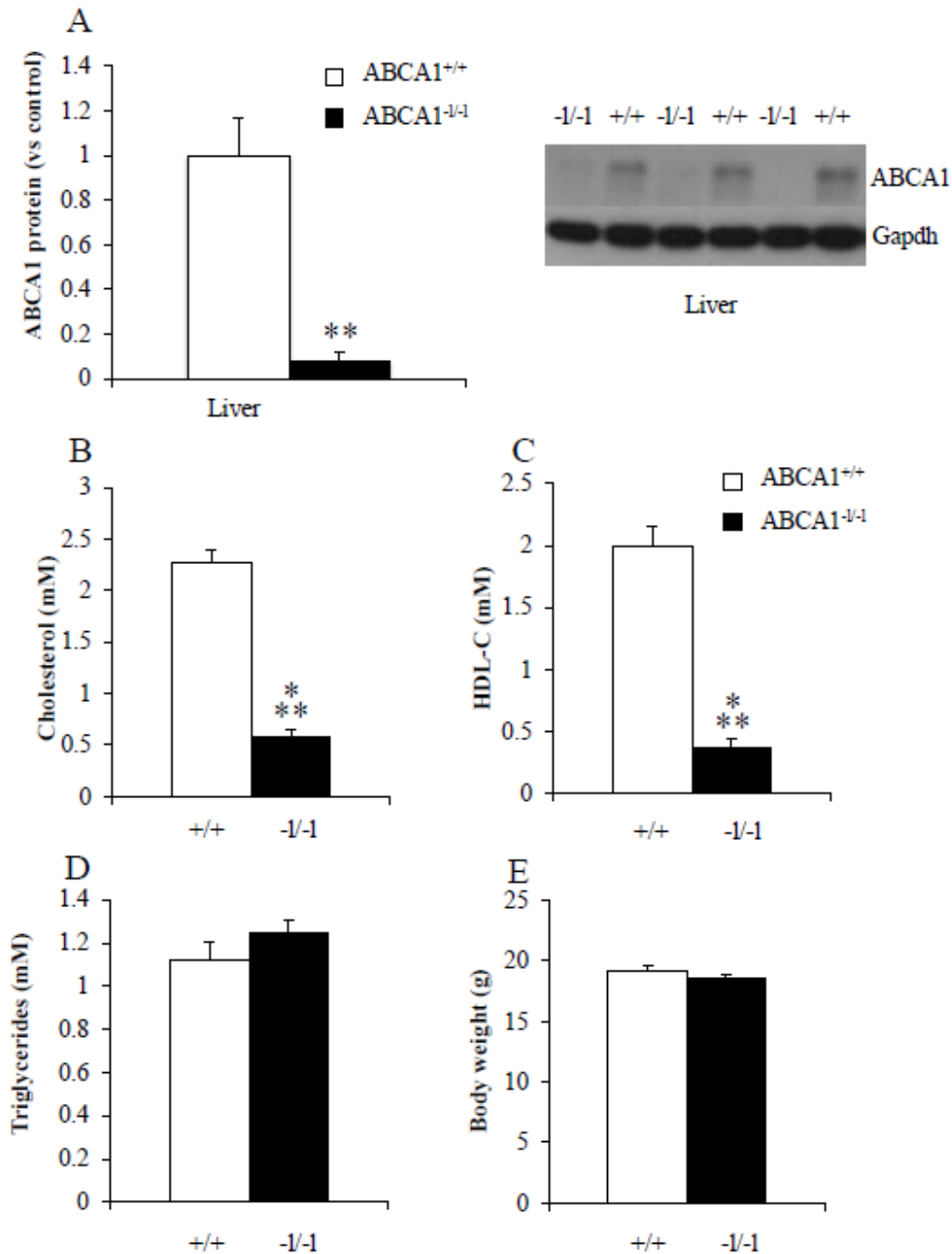


SUPPLEMENTARY DATA

**Supplementary Figure 1.** Absence of hepatic ABCA1 and low HDL in ABCA1<sup>-/-</sup> mice

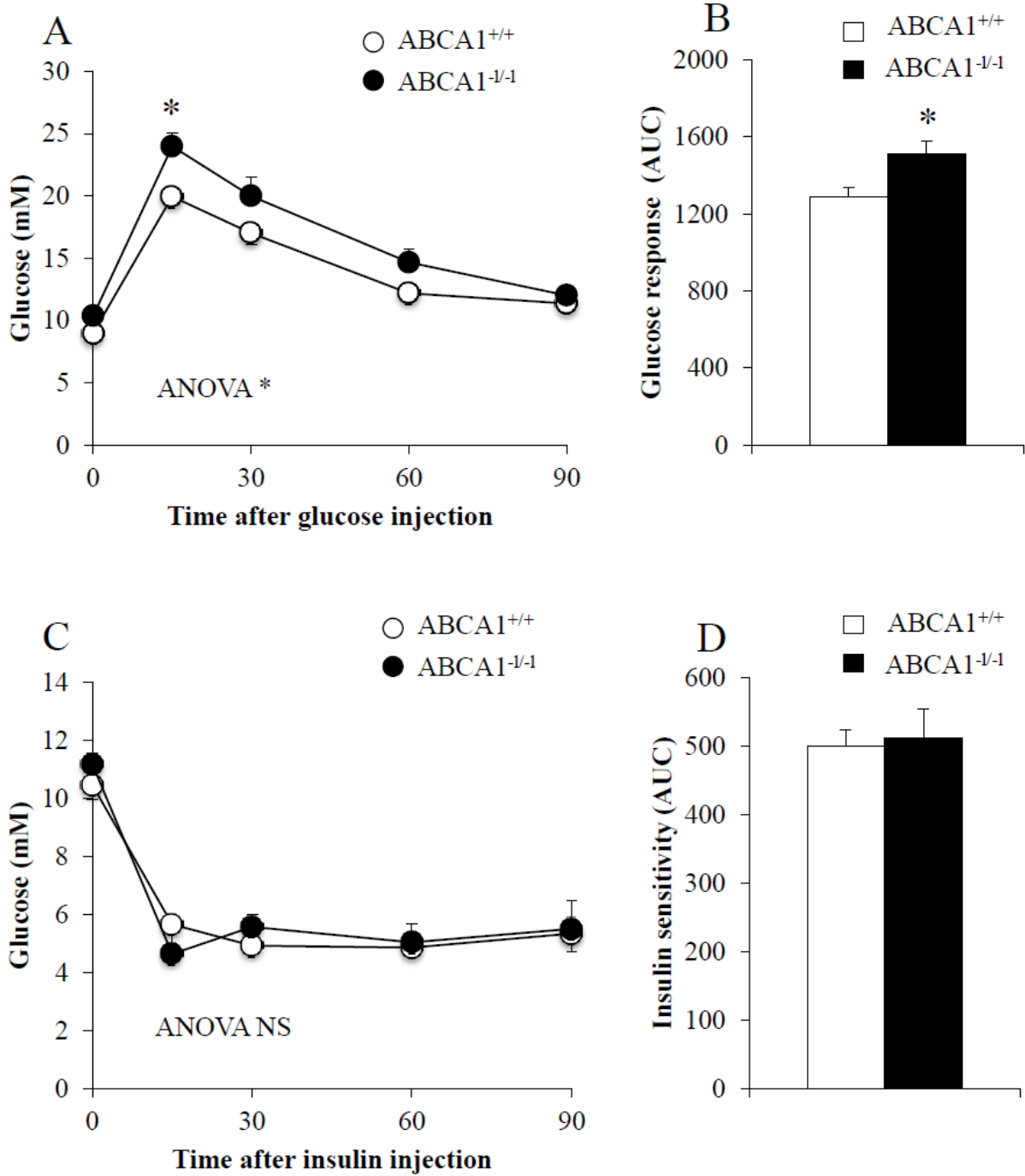
Livers were isolated from wt (white bars) and ABCA1<sup>-/-</sup> mice (black bars) and ABCA1 protein levels were measured by western blotting (A). Blood was drawn from female wt and ABCA1<sup>-/-</sup> mice after 4 hours fasting. Plasma was isolated and assessed for cholesterol (B), HDL-C (C) and triglycerides (D). Body weight was measured (E). Values are means +/- SEM, N=6, \*\*\* p<0.001



SUPPLEMENTARY DATA

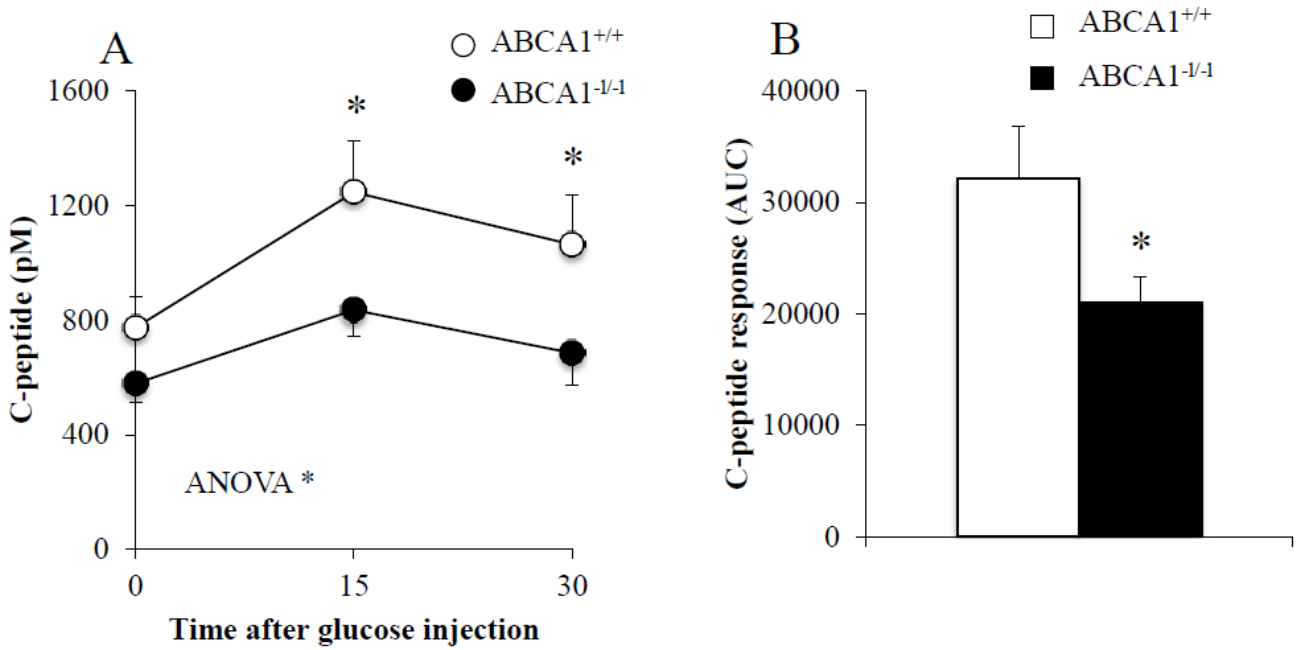
**Supplementary Figure 2.** Impaired glucose tolerance in male hepatocyte specific ABCA1 knockout mice

Male ABCA1<sup>-/-</sup> mice (black bars/circles) and control littermates (white bars/circles) received an oral gavage of 2g/kg glucose in PBS. Blood was drawn at the indicated time points and assayed for glucose (A,B). Mice received a bolus of insulin to assess insulin sensitivity and glucose was measured at the indicated time points (C,D). Values are means +/- SEM, N=6-7 (A) 6-3 (B) \* p<0.05



SUPPLEMENTARY DATA

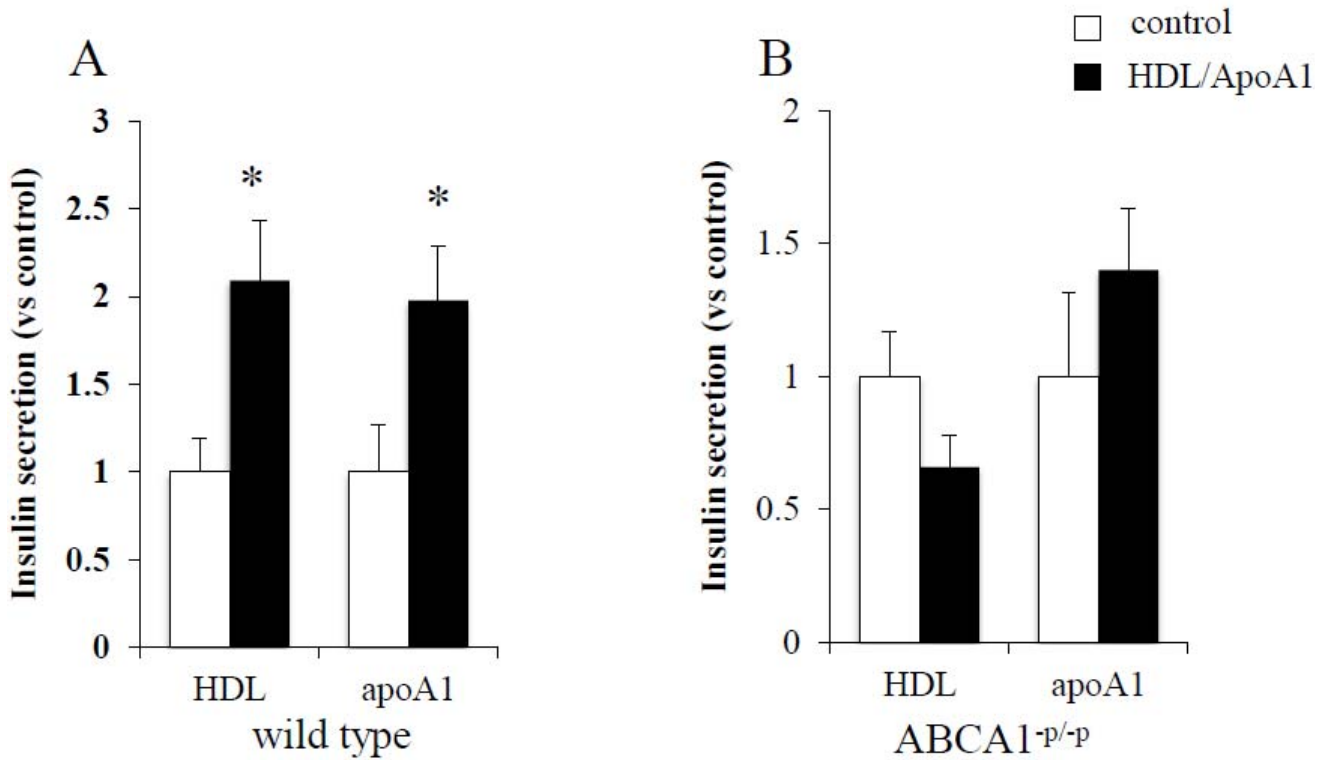
**Supplementary Figure 3.** Plasma c-peptide is reduced in ABCA1<sup>-/-</sup> mice after glucose gavage. ABCA1<sup>-/-</sup> mice (black bars/circles) and control littermates (white bars/circles) received an oral gavage of glucose. Blood was drawn and assessed for c-peptide (A) and the area under the curve was calculated (B). Values are means  $\pm$  SEM, N=7-9, \* p<0.05



SUPPLEMENTARY DATA

**Supplementary Figure 4.** HDL and apoAI stimulate insulin secretion dependent of ABCA1

Islets were isolated from wt (A) and ABCA1<sup>-P/-P</sup> (B) mice and insulin secretion was assessed in the presence of HDL (0.2 mM cholesterol,) apoAI (20ug/mL)(black bars), dialysis buffer or PBS (control, white bars). Values are means +/- SEM, N=6-9, data are pooled from 2-3 independent experiments \* p<0.05



SUPPLEMENTARY DATA

**Supplementary Figure 5.** HDL is reduced in ABCA1<sup>-/-</sup> mice on HFHC diet

ABCA1<sup>-/-</sup> mice (black bars/circles) and control littermates (white bars/circles) on HFHC diet were weighed (A). Blood was drawn and assessed for total cholesterol (B), HDL cholesterol (C) and triglycerides (D). Values are means  $\pm$  SEM, N=6-7, \*  $p < 0.05$

