Figure S1

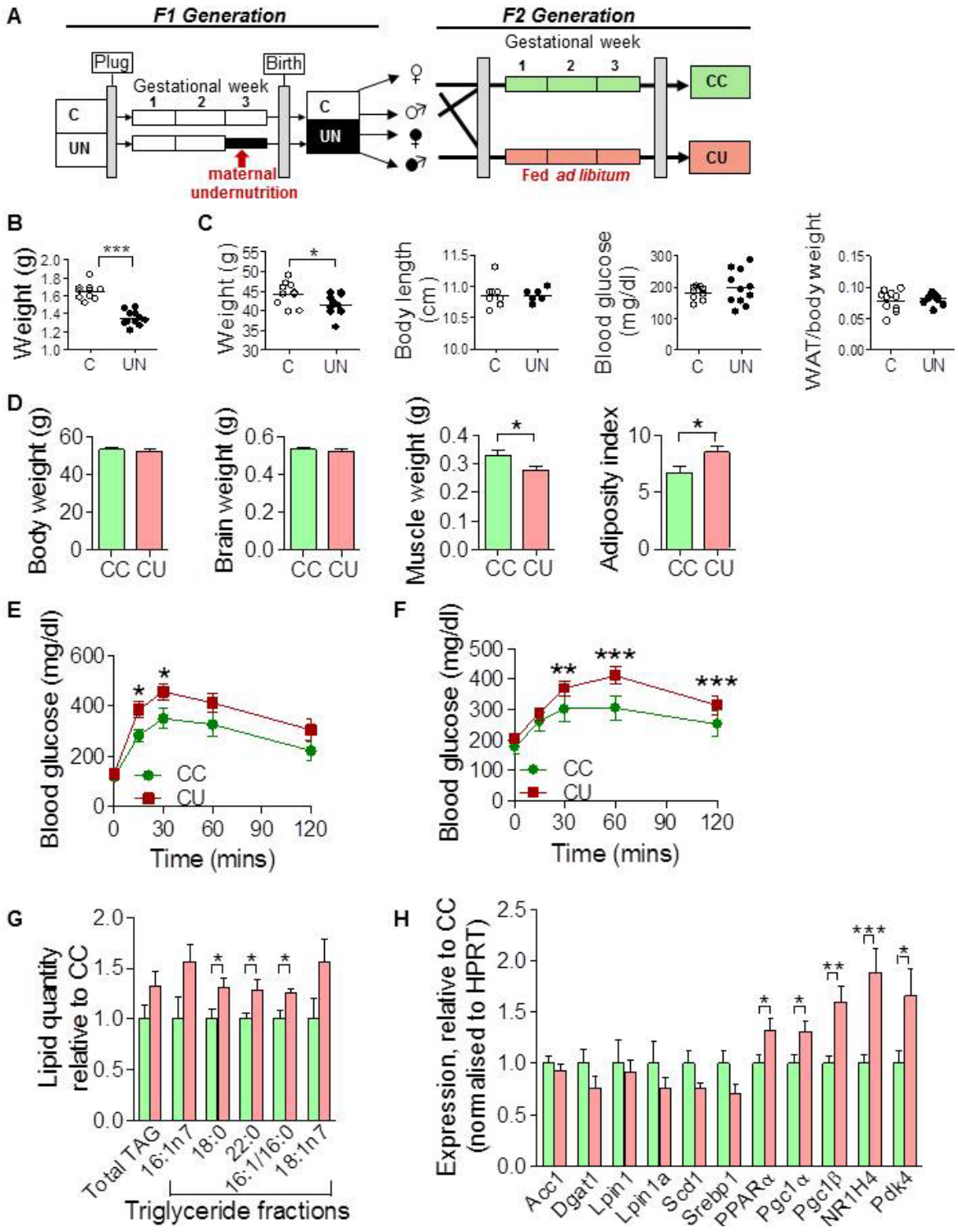

Fig.S1 Confirmation of F2 metabolic phenotype

(A) Experimental design: F1 generation: Dams were randomised on pregnancy day 12.5 to control (C) or undernutrition (UN) groups and UN food intake restricted 50%. Postnatal litters were equalised to eight pups and animals fed *ad libitum*. F2 generation: control F1 females mated at age 2 months with non-sibling control or UN males and fed *ad libitum* to produce: CC - both parents controls; CU - control dam, UN sire.

(B) F1 birth weight ***P<0.0001, unpaired two-tailed Welch's t-test.

(C) At three months of age UN individuals weigh less than controls (P = 0.04, unpaired two-tailed Welch's t-test), however, there is no difference in body length, blood glucose or white adipose tissue (WAT, combined mass of gonadal, supraclavicular and peritoneal fat pads) between control and UN males.

(D) There is no difference in total body weight or brain weight between CC and CU animals at 8 months of age, however there is a significant reduction in muscle mass (sum of gastrocnemius and soleus weight, *P=0.02), and a significant increase in the adiposity index (sum of gonadal, peri-renal, and subcutaneous flank fat pad weight, as % body weight, *P=0.03) at 8 months of age, n≥12 per group.

(E) Intraperitoneal glucose tolerance test at 8 months of age. 1g/kg intraperitoneal glucose was given at 0 minutes to fasted non-diabetic animals; blood glucose was measured at 0, 15, 30, 60 and 120 minutes. n≥12 per group. * P<0.05, repeated measures 1-way ANOVA.

(F) Intraperitoneal pyruvate tolerance test at 8 months of age. 1.5 g/kg intraperitoneal pyruvate was given at 0 minutes to fasted animals; blood glucose was measured at 0, 15, 30, 60 and 120 minutes. ** P<0.01, *** P<0.001 repeated measures 1-way ANOVA n≥12 per group.

(G) Lipidomic analysis of hepatic lipid abundance in E16.5 F2 fetuses. Total triglycerides (TAG) P=0.1; triglyceride fractions: 16:1n7 P=0.07; 18:0 P=0.04; 22:0 P=0.039; 16:1/16:0 ratio (a surrogate measure of Scd1 activity) P=0.028. Unpaired two-tailed t-test.