Supplemental figure legend

Fig. 1. Hypoinsulinemia and metabolic defects of *Adipoq*$^{-/-}$ mice. WT and *Adipoq*$^{-/-}$ mice were cross-mated to avoid any fetal effect. Tissue samples were collected at G15.5 (a,b,d&h) or G12.5 (c,e,f&g) of fed dams. A significant reduction in blood insulin concentrations (a), β-cell areas (b), and Ki67-positive β-cell percentages (h) were observed in *Adipoq*$^{-/-}$ dams at E15.5. There was no difference in pancreatic tissue weights between WT and *Adipoq*$^{-/-}$ dams (c&d). Remarkably increased blood glucose levels (e) but not blood TG (f) and FFA (g) concentrations were detected in *Adipoq*$^{-/-}$ dams at G12.5. Blood glucose concentrations were measured by glucose oxidase. Blood TG and FFA concentrations were measured by the Walco kit. Data are presented as mean ± SEM.

Fig. 2. Adiponectin receptor knockout in β-cell exhibited no significant effect on insulin production and glucose metabolism in non-pregnant mice. a, CT values of AdipoR1 and AdipoR2 mRNA in maternal tissues of pregnant C57 mice (E18.5). Non-pregnant ibR1ko, ibR2ko, and Cons mice were gavaged with tamoxifen (1 mg in 100 µl corn oil) for 5 days. b-e, GTT was performed after 6h fasting, 1 day after finishing of tamoxifen treatment. Blood samples were collected through the tail vein. Glucose concentrations were determined by using glucose oxidase. Insulin concentrations were determined by using ELISA kit. f&g, after 5 days of tamoxifen treatment, pancreatic islets were isolated. The same size islets were handpicked and incubated overnight in DMEM. The islets were treated with glucose (2.8 or 20 mM) for 1 hour in the Krebs-Ringer medium. Insulin left in islets was extracted after glucose stimulation. Insulin in medium and extract buffer was measured using an ELISA kit. Insulin secretion was calculated as the percentage of insulin in the medium over the total. Data are presented as mean ± SEM.

Fig. 3. Expression of AdipoR1 and AdipoR2 in human placentas and JEG3 trophoblast cells. Total mRNA was extracted from healthy term placentas and confluent JEG3 trophoblast cells. Expression levels of AdipoR1 and AdipoR2 mRNA were determined by real-time PCR. n= 6, Data are presented as mean ± SEM.

Fig. 4. Systemic AdipoR1 gene knockout dams exhibited no significant change in blood insulin concentrations. Ten-twelve weeks old *AdipoR1*$^{-/-}$, *AdipoR1*$^{-/+}$, and wild-type (WT) mice were mated with WT sires. Blood samples were collected at G18.5 from fed dams. Insulin concentrations were determined using an ELISA kit. n=6-8, Data are presented as mean ± SEM.