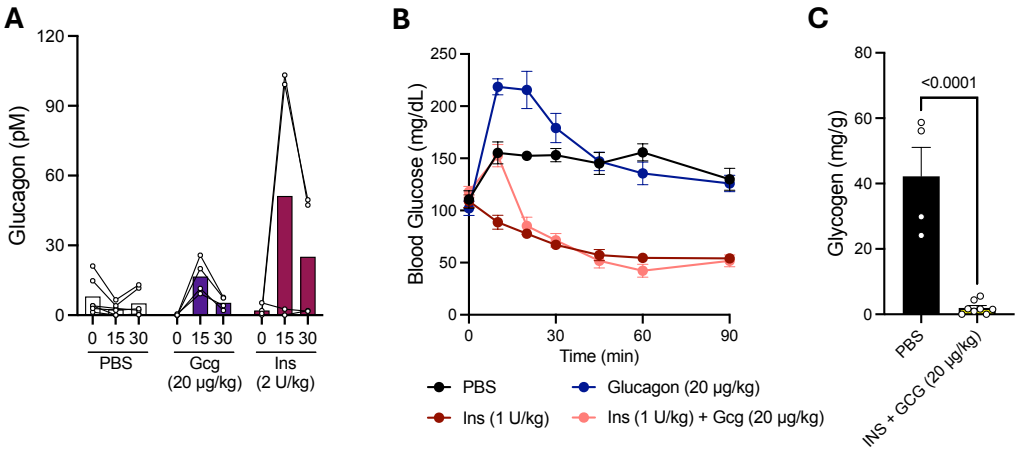
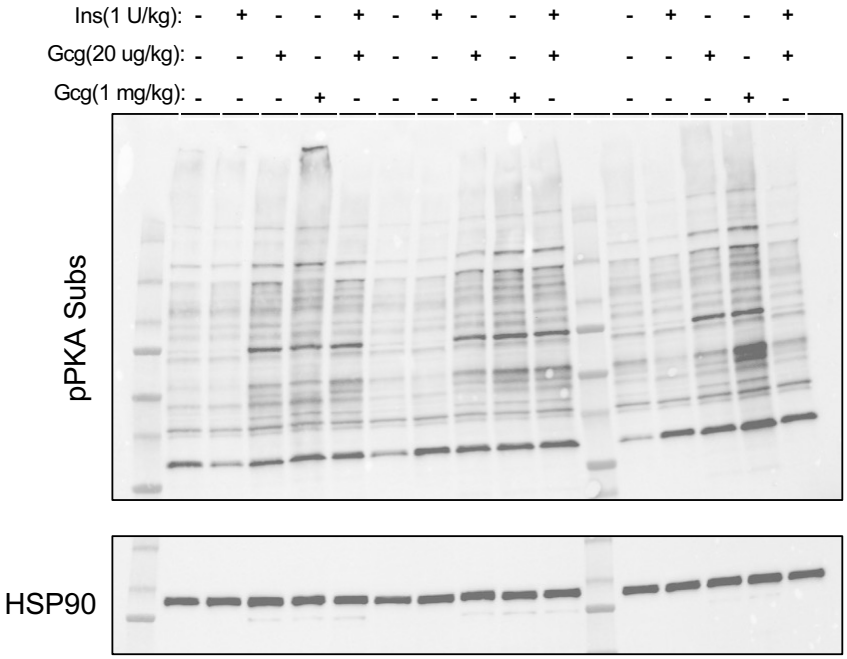
Supplementary Figure 1



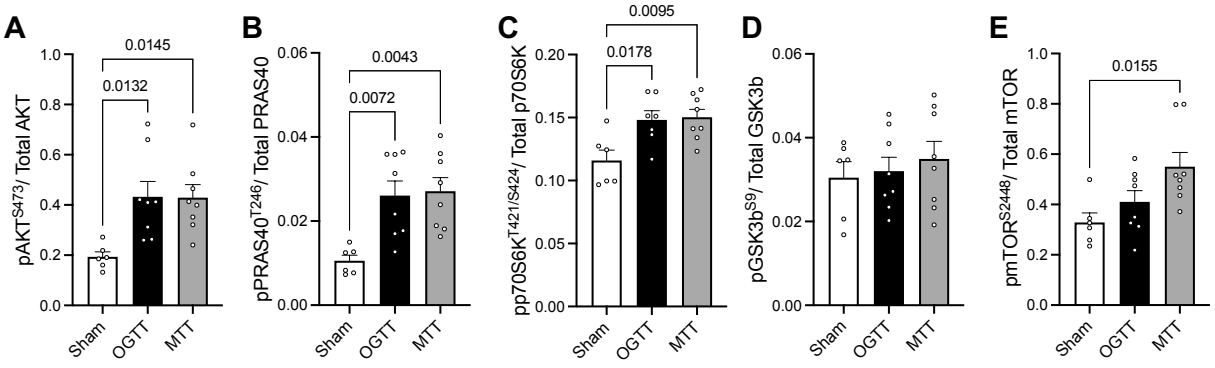
Supplementary Figure 1. (A) Circulating glucagon levels at baseline, 15 min, and 30 min following i.p. injection of PBS, glucagon (20 µg/kg), and insulin (2 U/kg). (B) Blood glucose levels after challenge with PBS, insulin (1 U/kg), glucagon (20 µg/kg), and insulin (1 U/kg) + glucagon (20 µg/kg). (C) Hepatic glycogen in WT female mice 30 minutes after i.p. injection of PBS or insulin (1 U/kg) + low-dose glucagon (20 µg/kg).

Supplementary Figure 2



Supplementary Figure 2. Full, unedited western blot of pPKA substrates after ip injection of insulin (1 U/kg), low dose glucagon (20 µg/kg), high dose glucagon (1 mg/kg) or combined insulin and low dose glucagon. HSP90 was used as the loading control.

Supplementary Figure 3



Supplementary Figure 3. Insulin signaling intermediates (F) pAKT^{S473} (G) pPRAS40^{T246} (H) pp70S6K$^{T421/S424}$ (I) pGSK3b^{S9} (J) pmTOR^{S2448} from liver 15 minutes after Sham (n = 6), OGTT (n = 8), or MTT gavage (n = 8), quantified by Luminex-based Procarta Plex assay. One-way ANOVA with Tukey's posthoc was used to determine significance, defined as $p<0.05$.