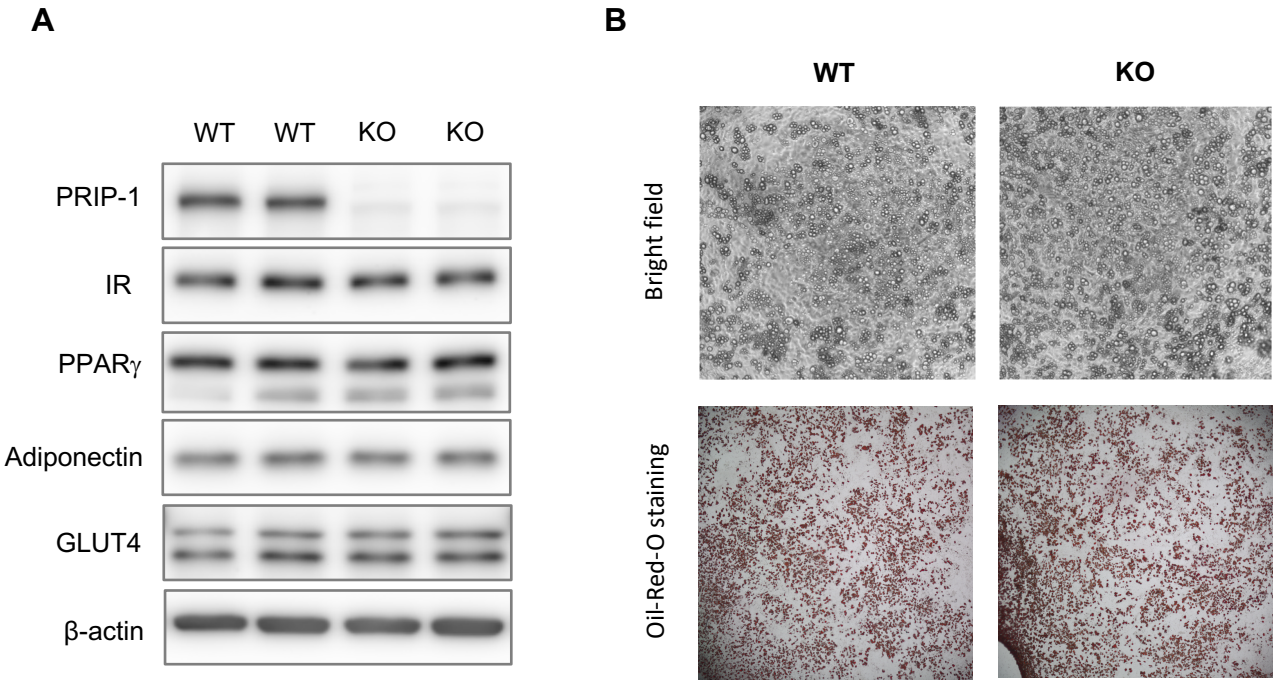

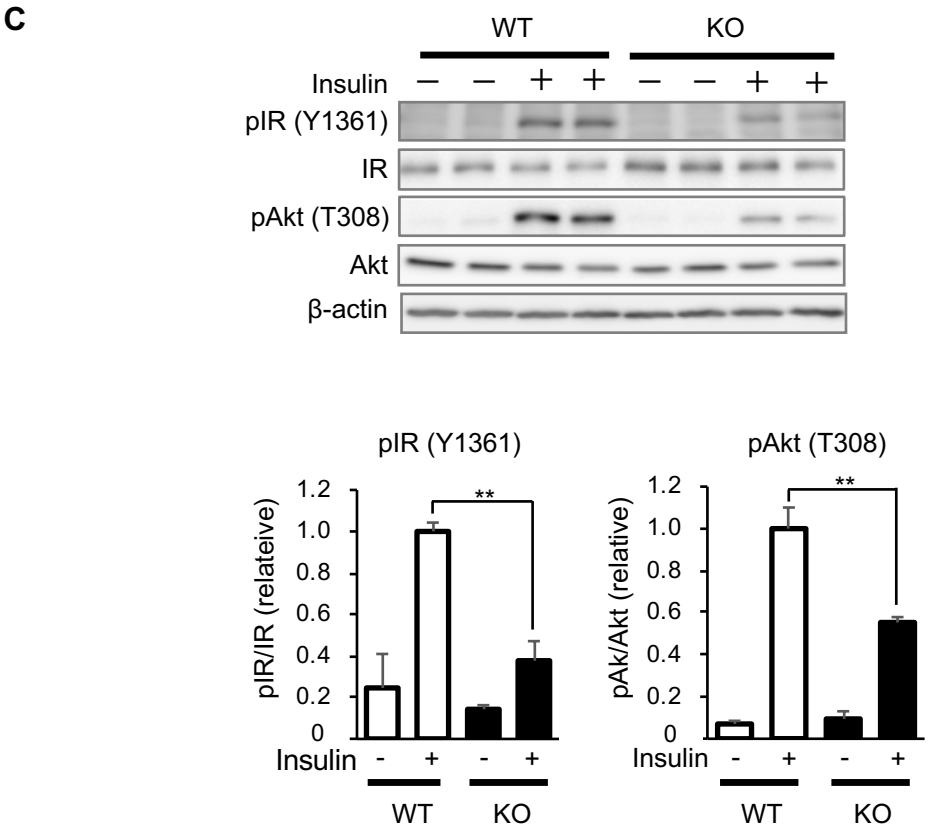

Fig. S1. (A) MEF cells isolated from WT and PRIP-KO mice were differentiated to adipocytes. The cell lysates were analyzed with SDS-PAGE and western blotting using the indicated antibodies. Representative blots are shown. **(B)** MEF cells isolated from WT and PRIP-KO mice were differentiated to adipocytes and subjected to Oil-Red-O staining. Representative mircoscopic images taken under bright field were shown. **(C)** Perigonadal white adipose tissue (pgWAT) were isolated from WT and PRIP-KO mice. The pgWAT were cut into small pieces and cultured in Medium 199 (free of serum) for 16 h, followed by stimulation with 5 nM Insulin for 15 min. The tissue lysates were prepared and 10 μg of proteins from each sample were loaded onto SDS-PAGE and analyzed by western blotting using indicated antibodies. Representative blots, as well as quantitative data are shown in the graph. Data are means ± SEM from four independent experiments. $^{**}P < 0.01$, *versus* the corresponding WT value.

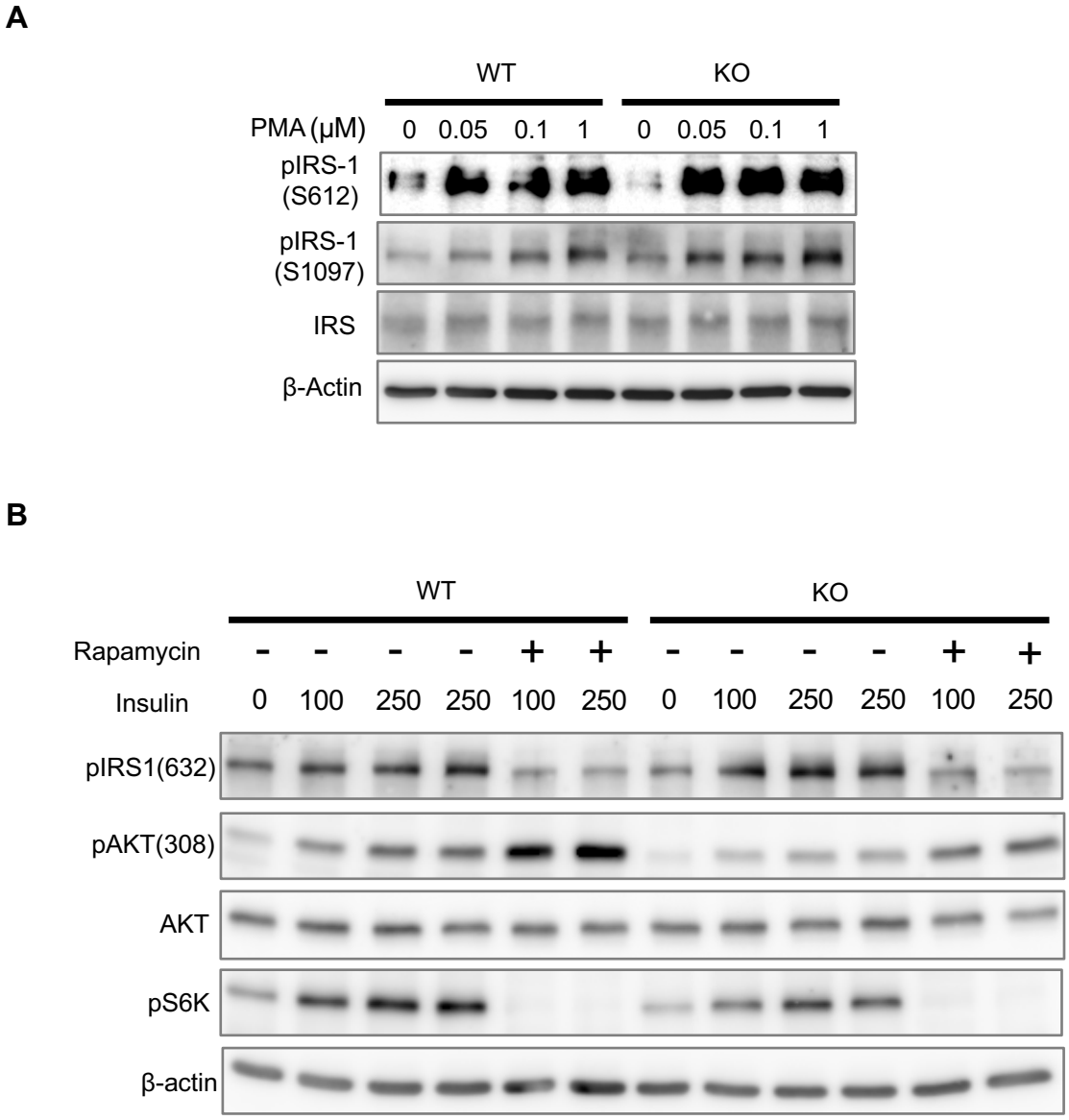

Fig. S2. (A) MEF cells isolated from WT and PRIP-KO mice were seeded on 12-well plate at $8x10^4$ cells/well and cultured for 24 h. After serum-starvation for 3 h, cells were stimulated with PMA at the indicated concentration for 30 min. **(B)** After serum starvation for 14 h and pretreatment with or without rapamycin (200 nM) for 1h, MEF cells on 12-well plate were stimulated with insulin at the indicated concentration for 30 min. The cell lysates were analyzed with SDS-PAGE and western blotting using the indicated antibodies. Representative blots are shown.

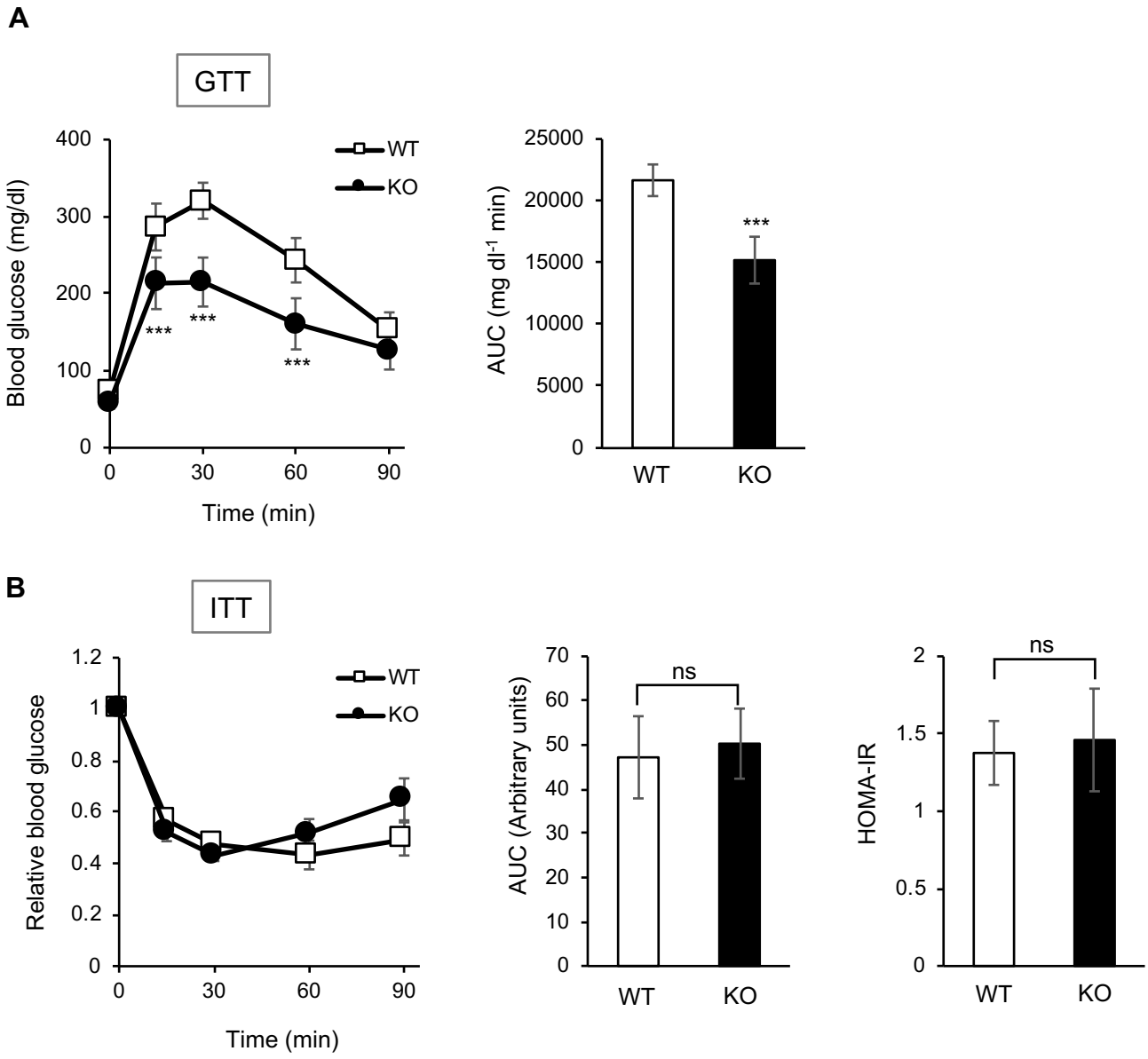

Fig. S3. (A) WT and PRIP-KO mice were subjected to an intraperitoneal glucose tolerance test at 10 weeks of age. The area under the curve (AUC) is shown on the right. The data represents means ± SD for 8 to 10 mice per group. ***p<0.0001 vs. the corresponding value for WT mice. Two-way ANOVA followed by Tukey's HSD for GTT, Student's t test for AUC. **(B)** WT and PRIP-KO mice were subjected to an intraperitoneal insulin tolerance test at 11 weeks of age. Graph on the left shows the relative blood glucose levels, and the area under the curve (AUC) is shown on the right. The data represents means ± SD for 8 to 10 mice per group. HOMA-IR was calculated using online-based calculator on the Diabetes Trials Unit of the University of Oxford website (https://www.dtu.ox.ac.uk/homacalculator/).

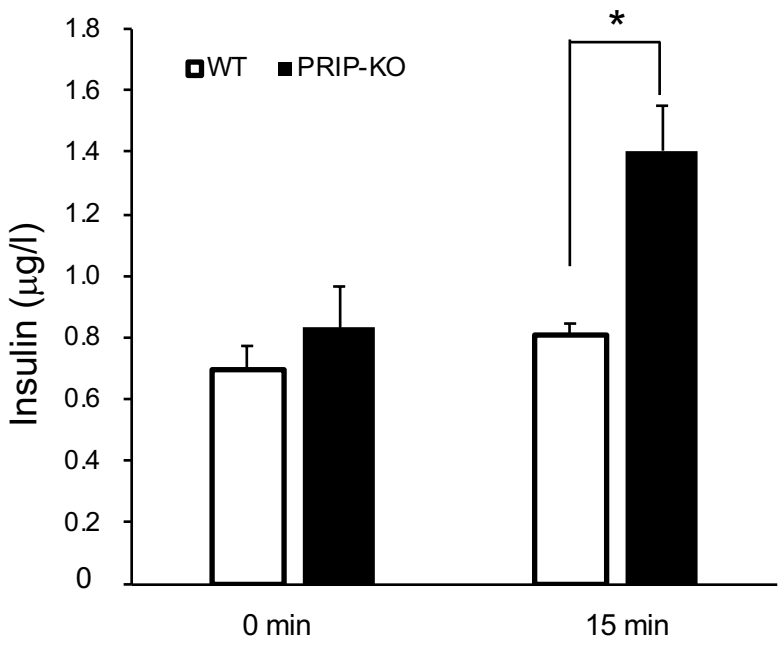

Fig. S4. Male mice of 12 weeks of age were fasted for 18 h and injected with 1g/kg glucose intraperitoneally. Serum insulin were collected at time 0 and 15 min after glucose injection. All data are means ± SEM (WT n=7, PRIP-KO n=8). WT, open bar and PRIP-KO, closed bar. *$P < 0.05$, *versus* WT value.