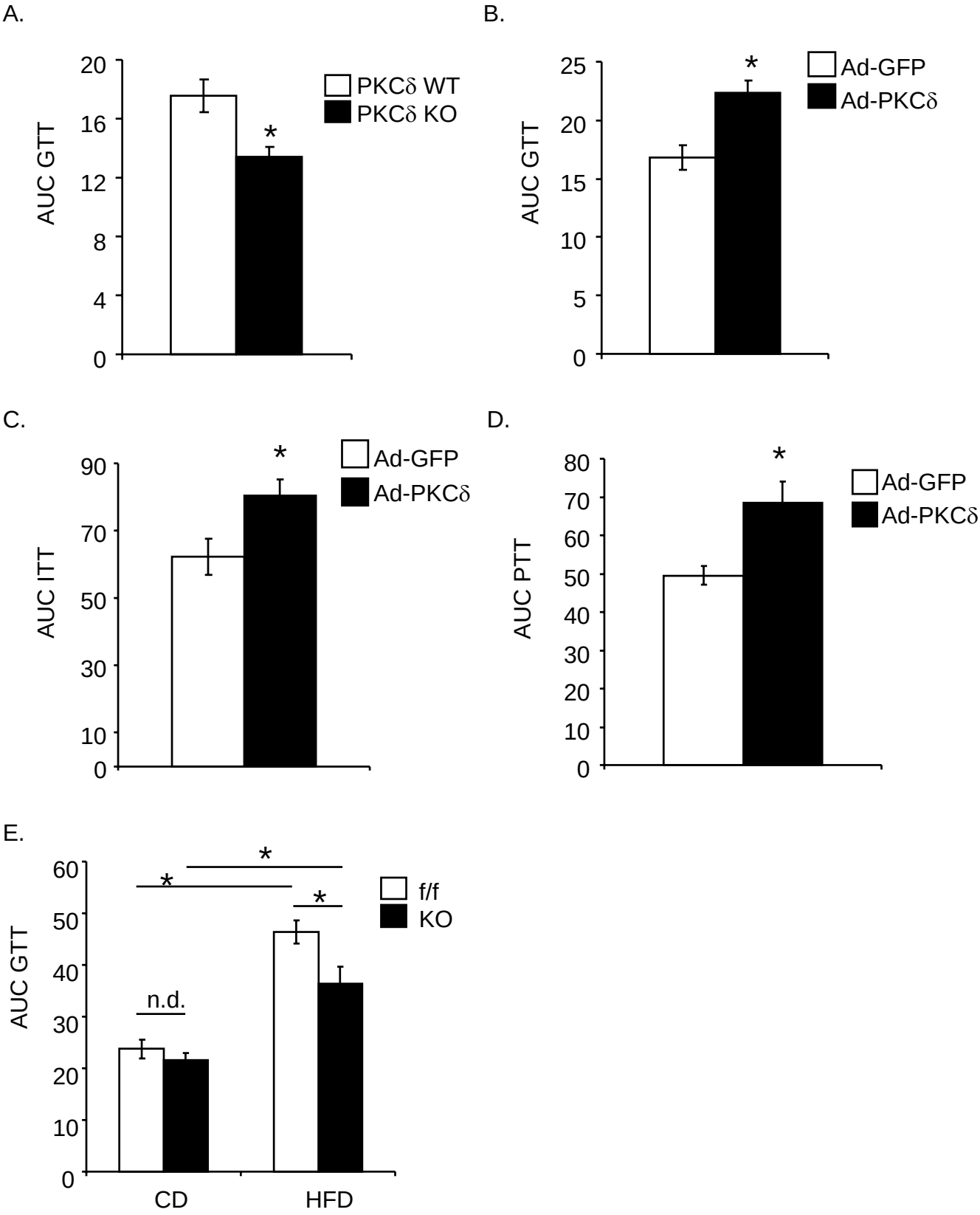
	Lean Controls	Obese	Obese DM2	Normal Range
Subjects in Group	6	7	11	
Age (years)	39.1 ± 9.8	36.4 ± 9.8	47.0 ± 11.9	
Body mass index (kg/m^2)	22.6 ± 3.5	49.1 ± 6.9 †	47.2 ± 7.0 †	18.5-29.9
Fasting Glucose (mmol/L)	4.6 ± 0.8	5.3 ± 0.4	7.7 ± 0.4 *	< 6.1
Fasting Insulin (pmol/L)	62.5 ± 38.8	166.7 ± 113.2*	345.9 ± 235.4*	60
Cholesterol (mmol/L)	4.6 ± 0.7	5.7 ± 0.3 *	4.5 ± 0.9	3-5
Triglycerides (mmol/L)	0.7 ± 0.2	2.1 ± 0.7	1.6 ± 1.0	1.1-1.7

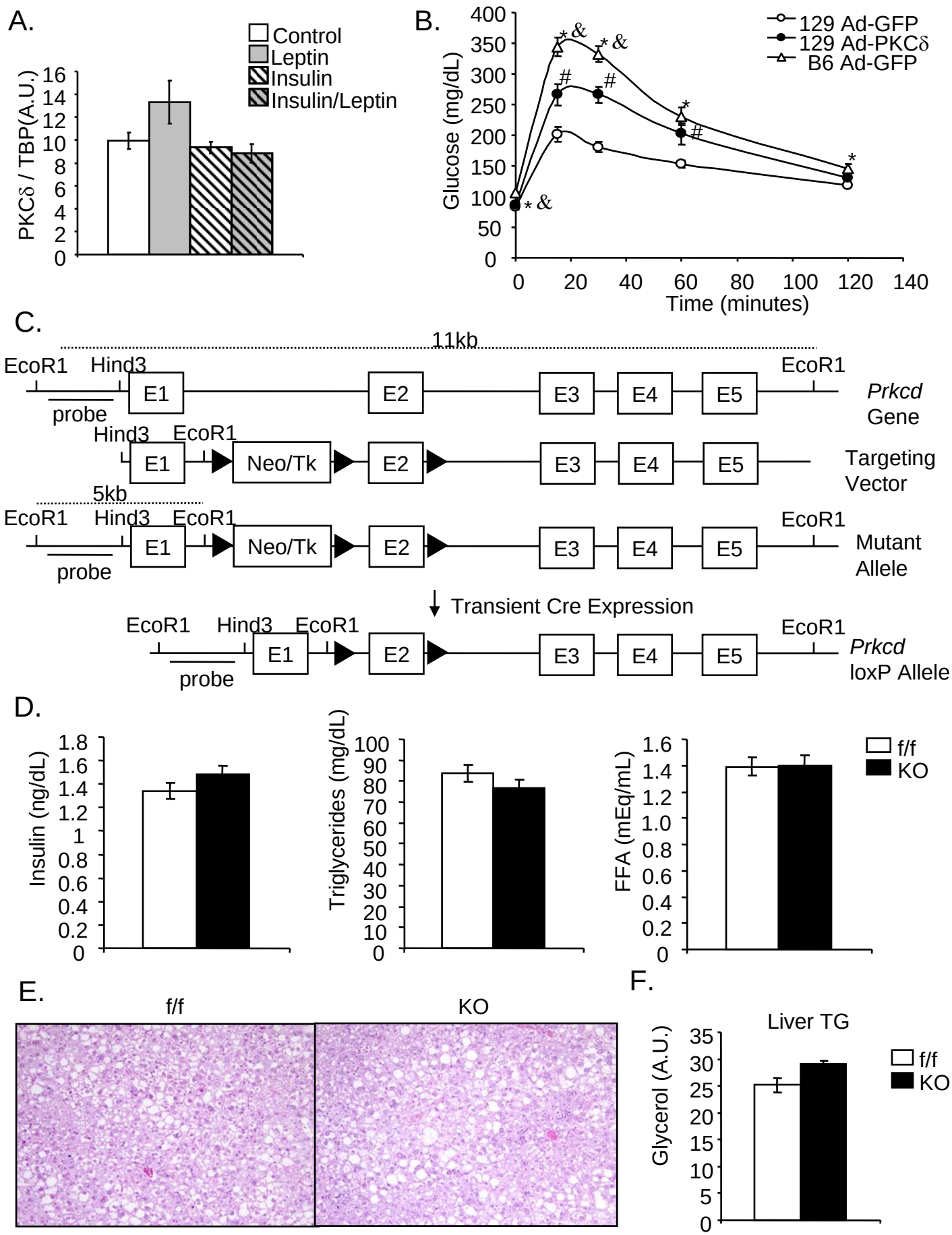
Supplementary Table 1. Characteristics of study subjects

Mean ± SD; * p<0.05 , † p<0.005 vs. lean controls. To convert to mg/dL divide: glucose by 0.0555, cholesterol by 0.0259 and triglycerides by 0.0113. To convert insulin to mU/L divide by 6.945.

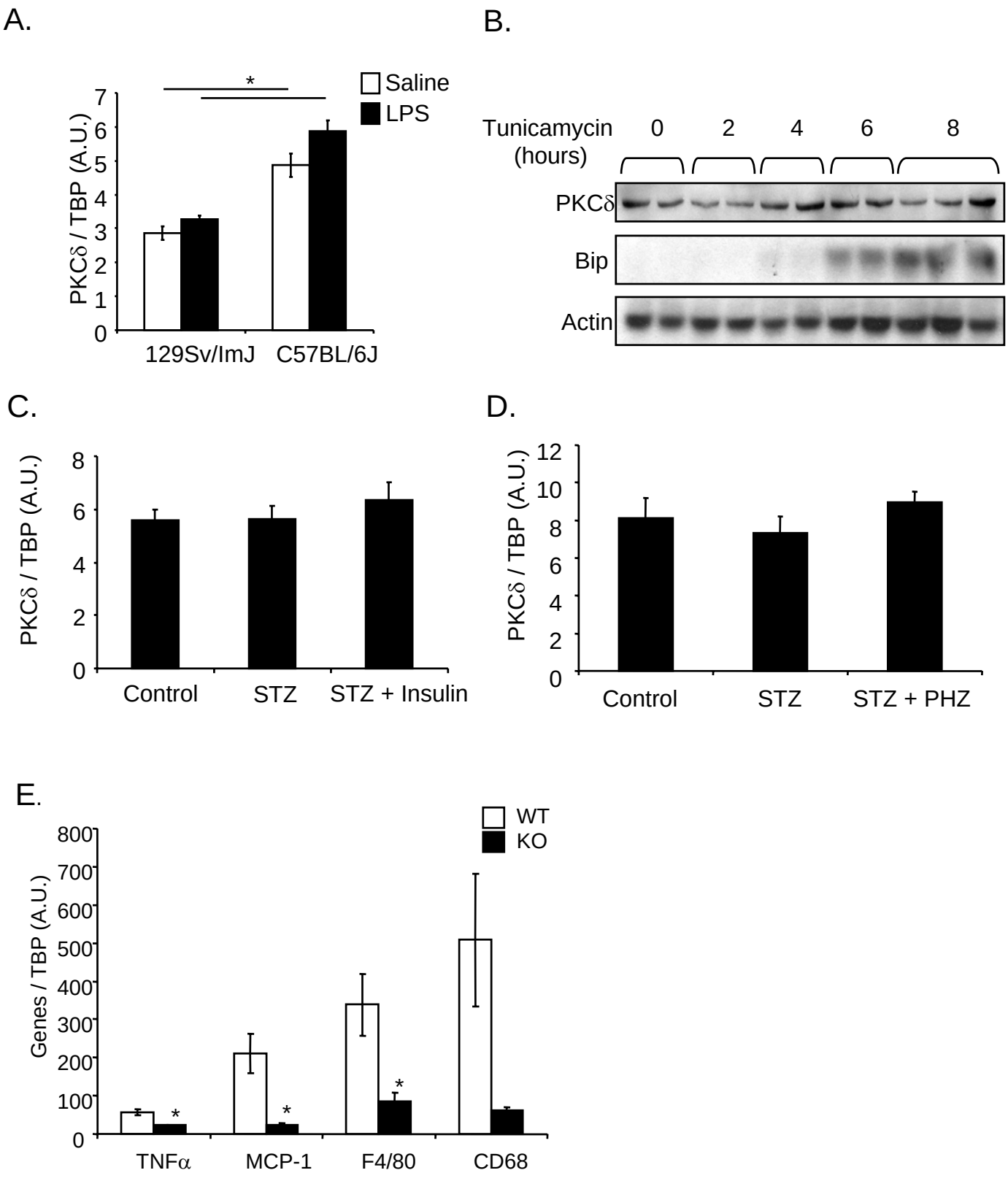
Supplemental Figure 1



Supplemental Figure 2



Supplemental Figure 3



Supplemental figures legend

Supplemental Figure 1

A) Area under curve for glucose tolerance test of wild type vs. PKCδ KO mice (n=5 per group, *: $p<0.05$). **B)** Glucose tolerance tests (GTT) in mice overexpressing GFP (white bars) or PKCδ (black bars) in the liver (n=13 per group, *: $p<0.05$). **C)** Insulin tolerance tests (ITT) in mice overexpressing GFP (white bars) or PKCδ (black bars) in the liver (n=9 per group, *: $p<0.05$). **D)** Pyruvate tolerance tests (PTT) in mice overexpressing GFP (white bars) or PKCδ (black bars) in the liver (n=19 per group, *: $p<0.05$). **E)** Glucose tolerance test of PKCδ-floxed mice injected with empty (white bars) or Cre recombinase expressing adenovirus (black bars) following 10 weeks of CD or HFD (n=6 per group, *: $p<0.05$).

Supplemental Figure 2

A) Expression of PKCδ mRNA was measured by qPCR using extracts of liver from leptin and/or insulin treated ob/ob mice (n=6 per group) **B)** Glucose tolerance tests (GTT) in 129 (circles) or B6 mice (triangles) overexpressing GFP (white) or PKCδ (black) in the liver (n= 4-5 per group). Significance tests between groups were as follows: &: 129AdPKC vs B6AdGFP $P<0.01$, *: 129AdGFP vs B6AdGFP $P<0.02$, #: 129AdGFP vs 129AdPKC $P<0.03$. **C)** Targeting strategy used to generate PKCδ conditional knock-out mice. **D)** Serum metabolites from 2 hour fasted PKCδ-floxed mice injected with empty (white bars) or Cre recombinase expressing adenovirus (black bars) following 10 weeks of HFD (n=6 per group). **E)** Histological pictures of hematoxylin and eosin liver sections

from PKCδ-floxed mice injected with empty (left panel) or Cre recombinase expressing adenovirus (right panel) following 10 weeks of HFD (n=6 per group). **F)** Hepatic triglyceride content from PKCδ-floxed mice injected with empty (white bars) or Cre recombinase expressing adenovirus (black bars) following 10 weeks of HFD (n=6 per group).

Supplemental Figure 3

A) Expression of PKCδ mRNA in liver was measured by qPCR for vehicle or LPS-treated C57BL/6J and 129SvEv mice (n=5 per group). **B)** Western-blot analysis of PKCδ, Bip and actin expression in liver of tunicamycin-treated animals. qPCR analysis of mRNA expression of PKCδ in **C)** control, streptozotocin and insulin rescued mice (n=13/11/14 per group) and **D)** control, streptozotocin and phlorizin-rescued mice (n=5/6/5 per group). **E)** Expression of inflammatory markers TNFa, MCP1, F4/80 and CD68 mRNA was measured by qPCR in visceral fat depot of WT and PKCδKO mice (n=4 per group). All gene expression results are normalized to TBP or 18S.