SUPPLEMENTARY DATA

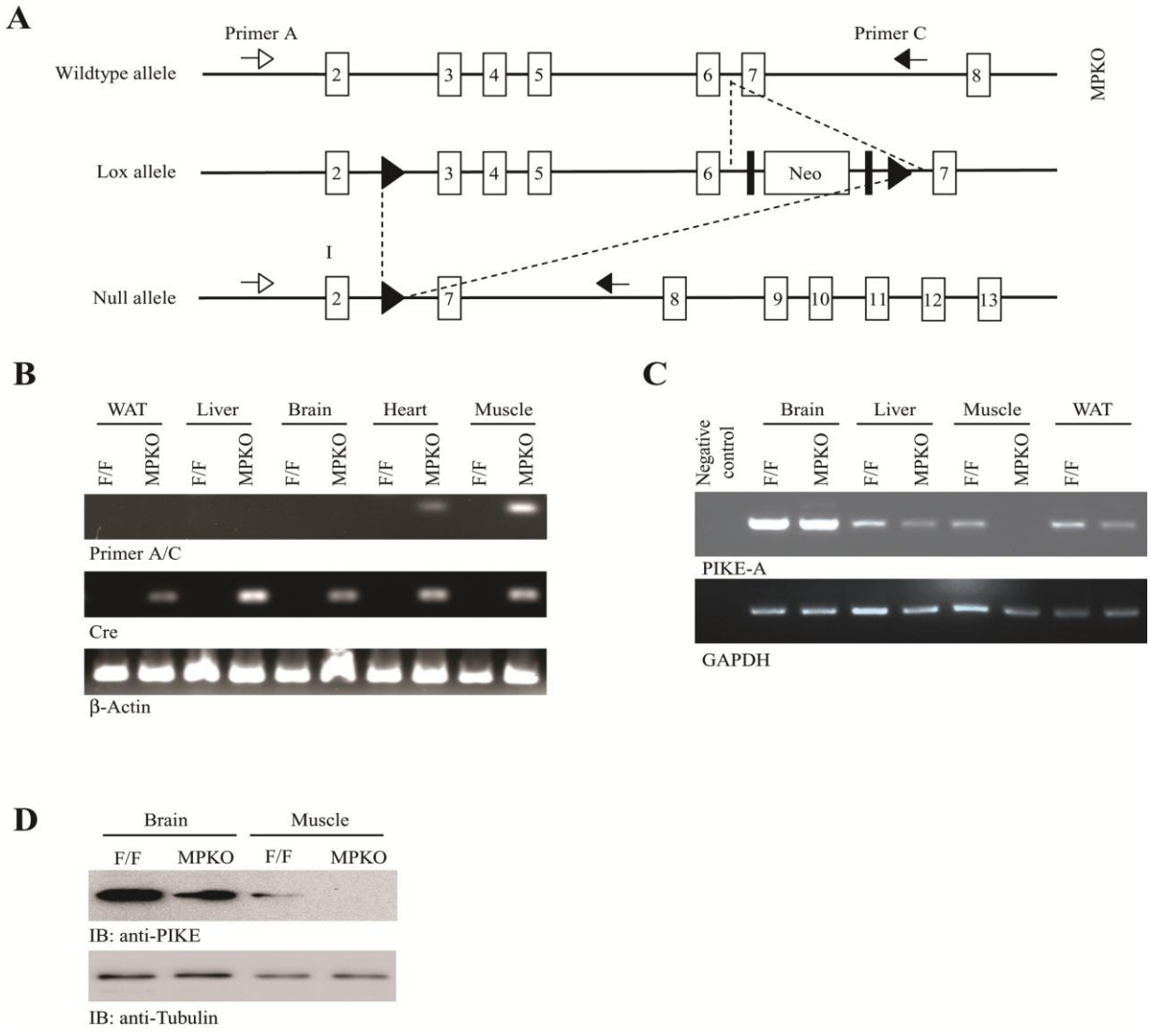
Supplementary Figure S1. Generation of MPKO mice

A. Schematic representation of mouse *PIKE* gene before and after targeted disruption. The locations of loxP sites were marked as solid triangles and the FRT sites were marked as solid rectangle. Locations of the primers used for genomic PCR were indicated by the arrows.

B. Recombination of *PIKE* gene in various tissues was determined by PCR using the primers A and C as indicated in (A). The presence of amplicon represents the excision of introns 3 to 6 because the long fragment size flanked by primers A/C in *Fl/Fl* genome could not be amplified using the specific PCR protocol.

C. Expression of PIKE in various tissues of MPKO mice were determined by real-time PCR using the primers as stated in the Research design and methods Section. Expression of GAPDH was used as the positive control.

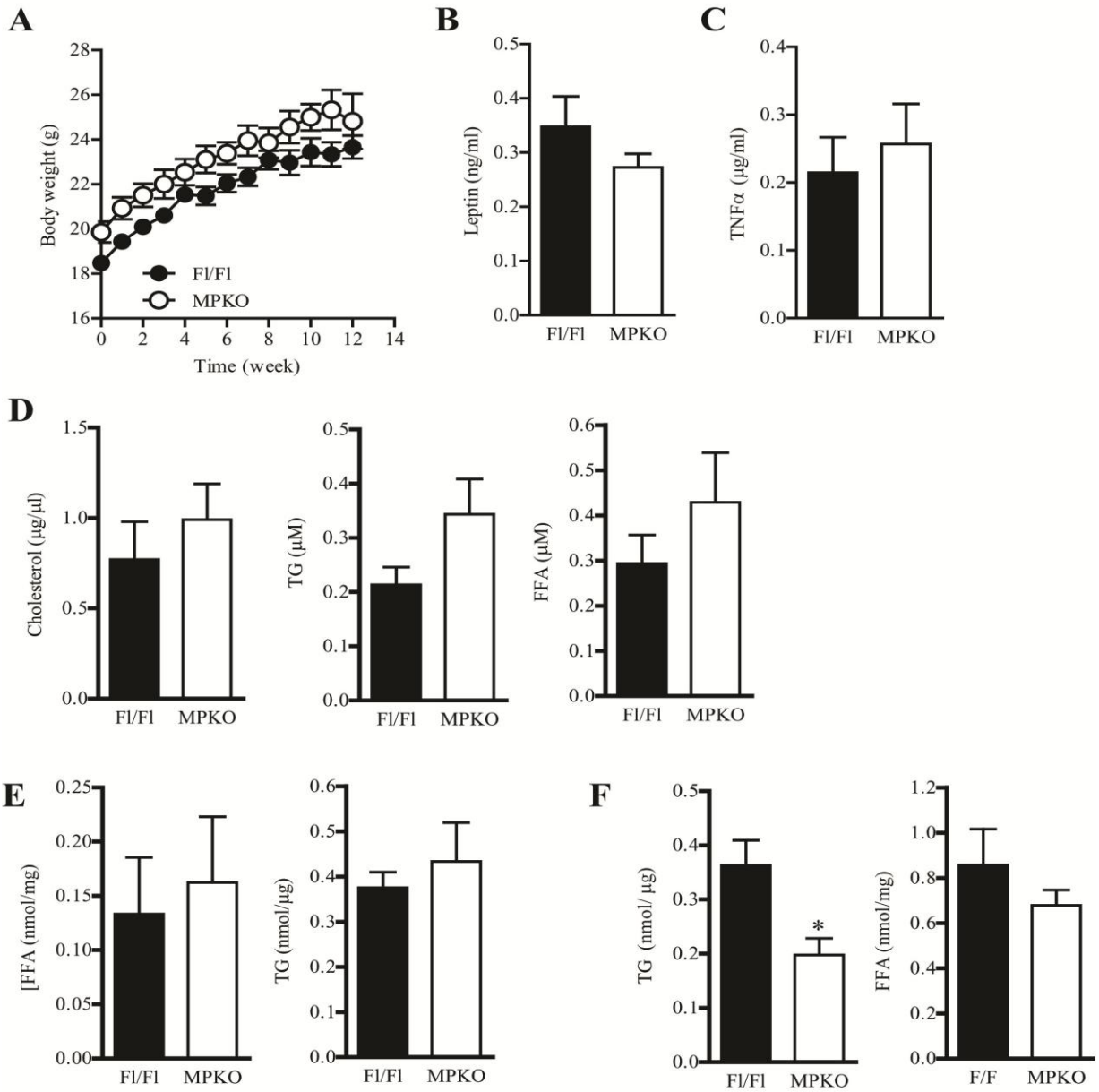
D. The PIKE-A protein in the hind limb skeletal muscle (mixed fiber type) and brain were determined by immunoblotting.



SUPPLEMENTARY DATA

Supplementary Figure S2. Characterization of chow-fed MPKO mice

A. Body weight of MPKO and Fl/Fl mice (8-week-old) under chow fed diet feeding (n=6).
B. Circulating leptin concentration in mice that have been fed with chow diet for 12 weeks (n=6).
C. Circulating TNFα concentration in mice that have been fed with chow diet for 12 weeks (n=6).
D. Circulating lipid contents in mice that have been fed with chow diet for 12 weeks (n=6).
E. Hepatic lipid contents in mice that have been fed with chow for 12 weeks (n=6).
F. Lipid content in the hind limb skeletal muscle (mix fiber type) of mice that have been fed with chow diet for 14 weeks (*: P<0.05, Student's t-test, n=6).

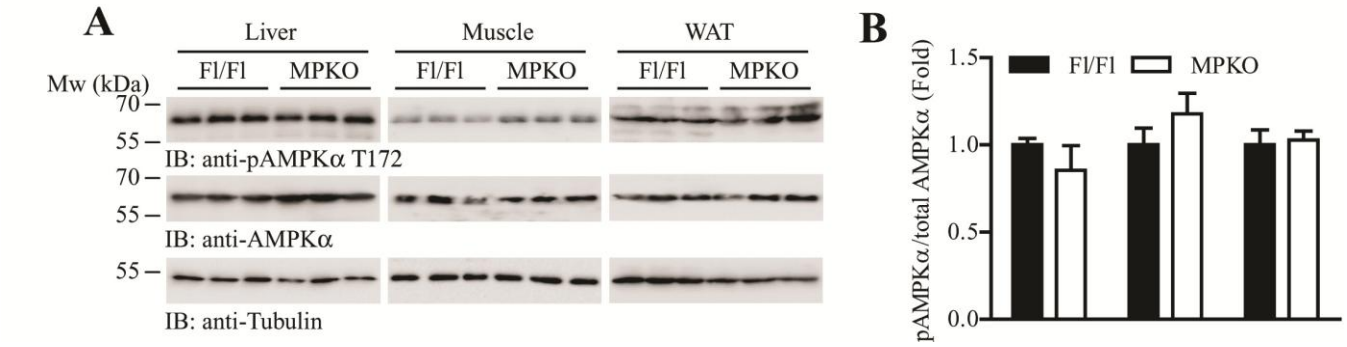


SUPPLEMENTARY DATA

Supplementary Figure S3. AMPK/ACC signaling in chow fed MPKO mice

A. Immunoblot analysis of various tissues isolated from mice that have been fed with chow diet for 12 weeks.

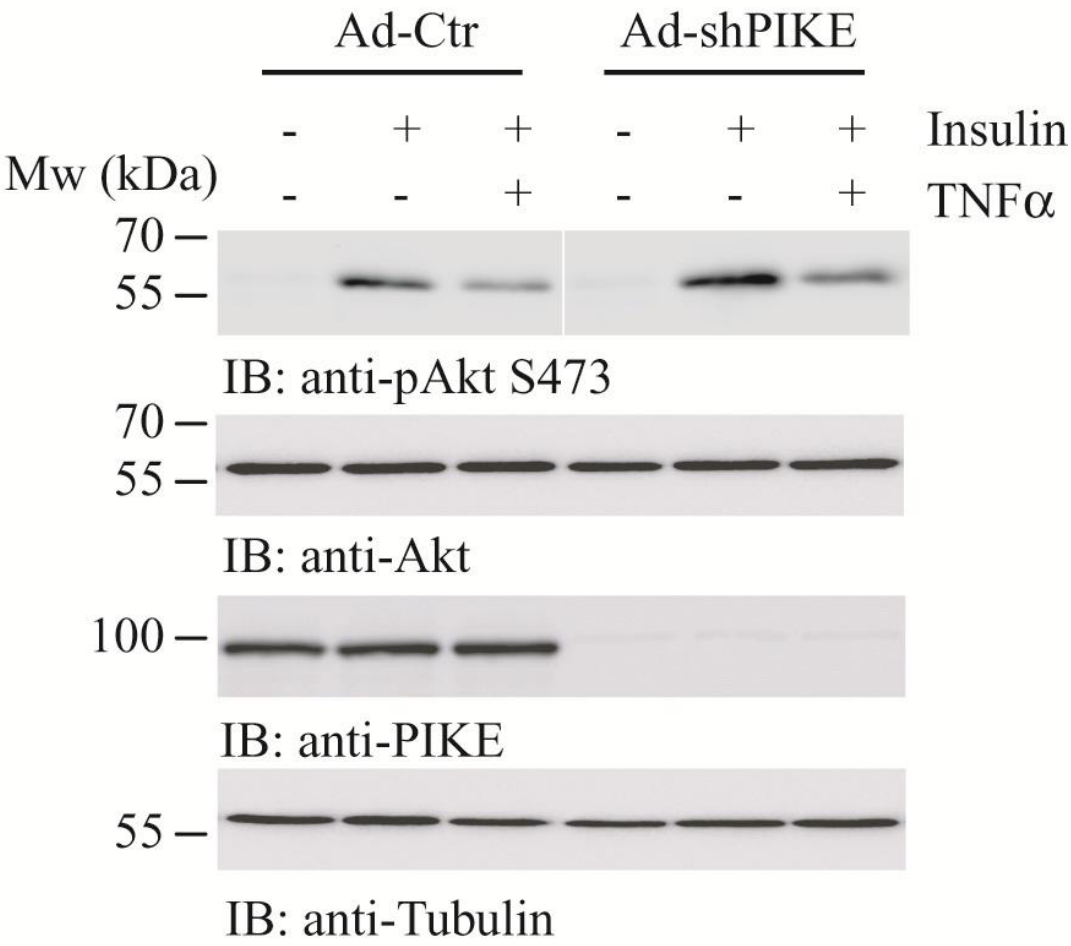
B. Quantification of the immunoblots shown in (A) (*: P<0.05, Student's t-test, n=3).



SUPPLEMENTARY DATA

Supplementary Figure S4. TNFα-modulated insulin signaling in PIKE-A expression manipulated C2C12 myotubes

Ad-Ctr or Ad-shPIKE-infected C2C12 myotubes were pre-incubated with TNFα for 1 h, followed by insulin (100 nM) stimulation for 30 mins. The cells were then lysed and the S473 phosphorylation of Akt was determined by immunoblotting. Expression of PIKE, total Akt and tubulin were also verified.



SUPPLEMENTARY DATA

Supplementary Figure S5. Glycolysis in PIKE-A expression manipulated C2C12 myotubes.
A. Extracellular acidification rate (ECAR) of C2C12 myotubes that have been infected with control adenovirus (Ad-Ctr) or adenovirus that overexpresses PIKE-A (Ad-PIKE-A) for 48 h. The time of oligomycin (100 μM) addition was indicated by the arrow (n=4-6).
B. Extracellular acidification rate (ECAR) of C2C12 myotubes that have been infected with control adenovirus (Ad-Ctr) or adenovirus that overexpresses shRNA against PIKE-A (Ad-shPIKE) for 48 h. The time of oligomycin (100 μM) addition was indicated by the arrow (n=4-6).