Supplementary Figures

Figure S1. **Generation of *iPLA$_2$γ$^{-/-}$* mice and comparison of body weights and lengths of WT and KO littermates over 4 months.** *A*, Diagram of the gene targeting of iPLA$_2$γ. Details are described in Experimental Procedures. *B*, Q-PCR analysis of iPLA$_2$γ (left), iPLA$_2$β (middle) and cPLA$_2$α (right) mRNA in skeletal muscle of wild-type (WT) and iPLA$_2$γ$^{-/-}$ (KO) mice. Results are means ± S. E. (n = 7). **, $p<0.05$ *vs.* WT. *C*, Western blotting of skeletal muscle with an anti-iPLA$_2$γ antibody (α-tubulin was used as the loading control). The band indicated by an asterisk is nonspecific. *D*, time courses of the changes in body weight among male (*a*) and female (*b*) WT (male n = 14, female n = 7; closed triangles), iPLA$_2$γ heterozygous (male n = 3, female n = 6; open squares), and iPLA$_2$γ-KO (male n = 17, female n = 9; open circles) mice. *E*, time course of the changes in body lengths of male (*a*) and female (*b*) WT (male n = 8, female n = 6; closed triangles) and iPLA$_2$γ-KO (male n = 10, female n = 9; open circles) mice. Results are means ± S. E. *, $p<0.005$ *vs.* WT.

Figure S2. **Histological analysis of thigh muscle from iPLA$_2$γ-WT and -KO mice at the 1-month of age.** *A (a* and *b)*, cross sections of thigh muscle from WT (*a*) and KO (*b*) mice were stained with hematoxylin and eosin. *B (a* to *d)*, Electron microscopy of iPLA$_2$γ-WT *(a* and *b)* and -KO skeletal muscle *(c* and *d)*. Scale bar, 1 μm (*a* and *c*) and 500 nm (*b* and *d*).

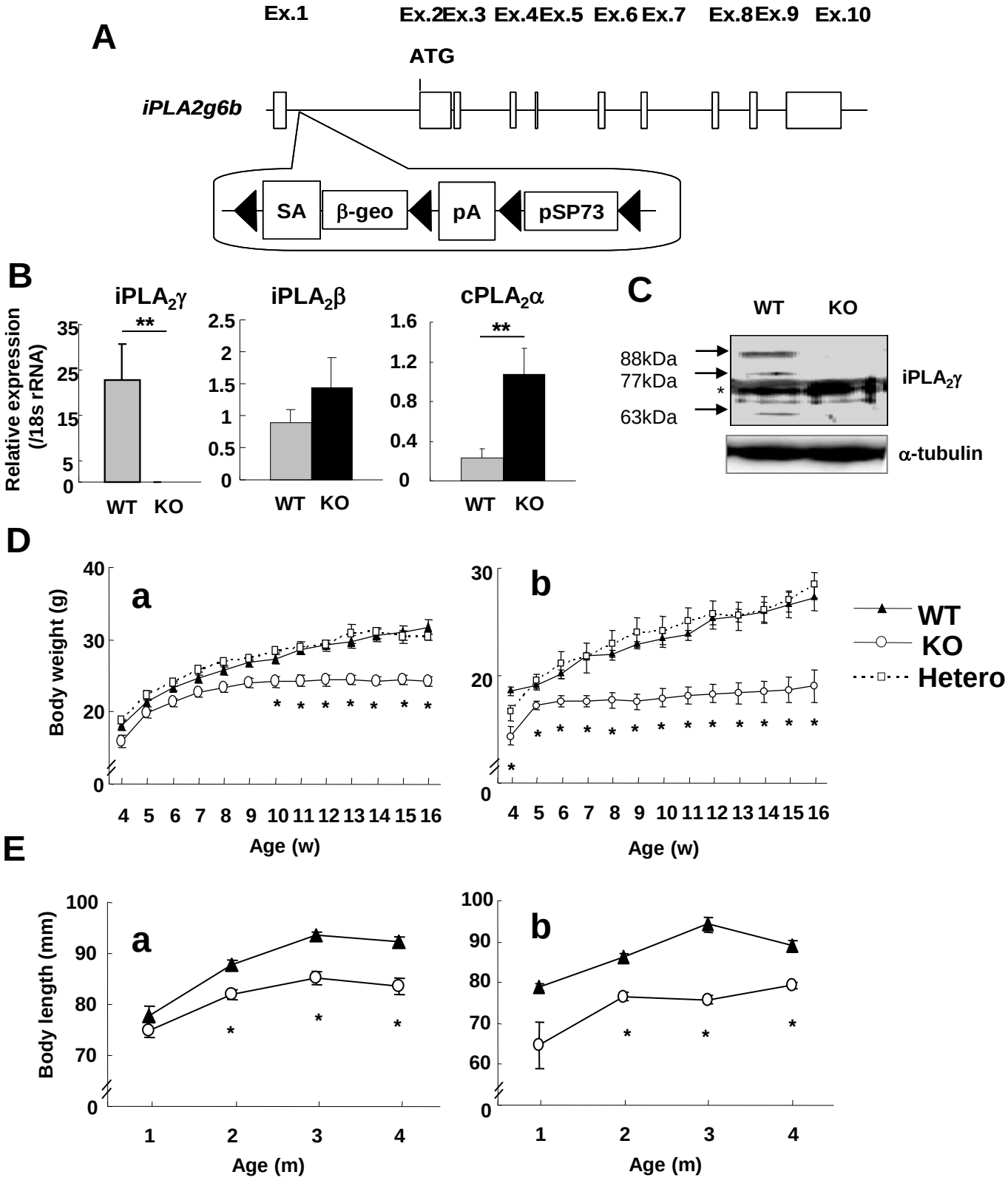
Figure S3. **Expression of inflammatory cytokines in WT and iPLA$_2$γ-KO muscle.** Q-PCR analysis of the mRNA expression for IL-1β, IL-6, and TNF-α in skeletal muscles from WT and KO mice (n = 7). Quantitative data are means ± S. E.

Figure S4. **Primary cultures of myoblasts from iPLA$_2$γ-WT and -KO mice.** *A*, cell morphology of myoblast cells from iPLA$_2$γ-WT (*a* and *b*) and KO mice (*c* and *d*) after culture for 3 days under high-FCS (*a* and *c*) and low-HS (*b* and *d*) conditions. *B*, the number of myotubes after culture for 3 days under low-HS conditions. Quantitative data are means ± S. E. (n = 3). *C*, Western blot analysis with α-actinin- and iPLA$_2$γ-specific antibodies. An antibody against cPGES was used as a control of equal loading of the samples to each lane.

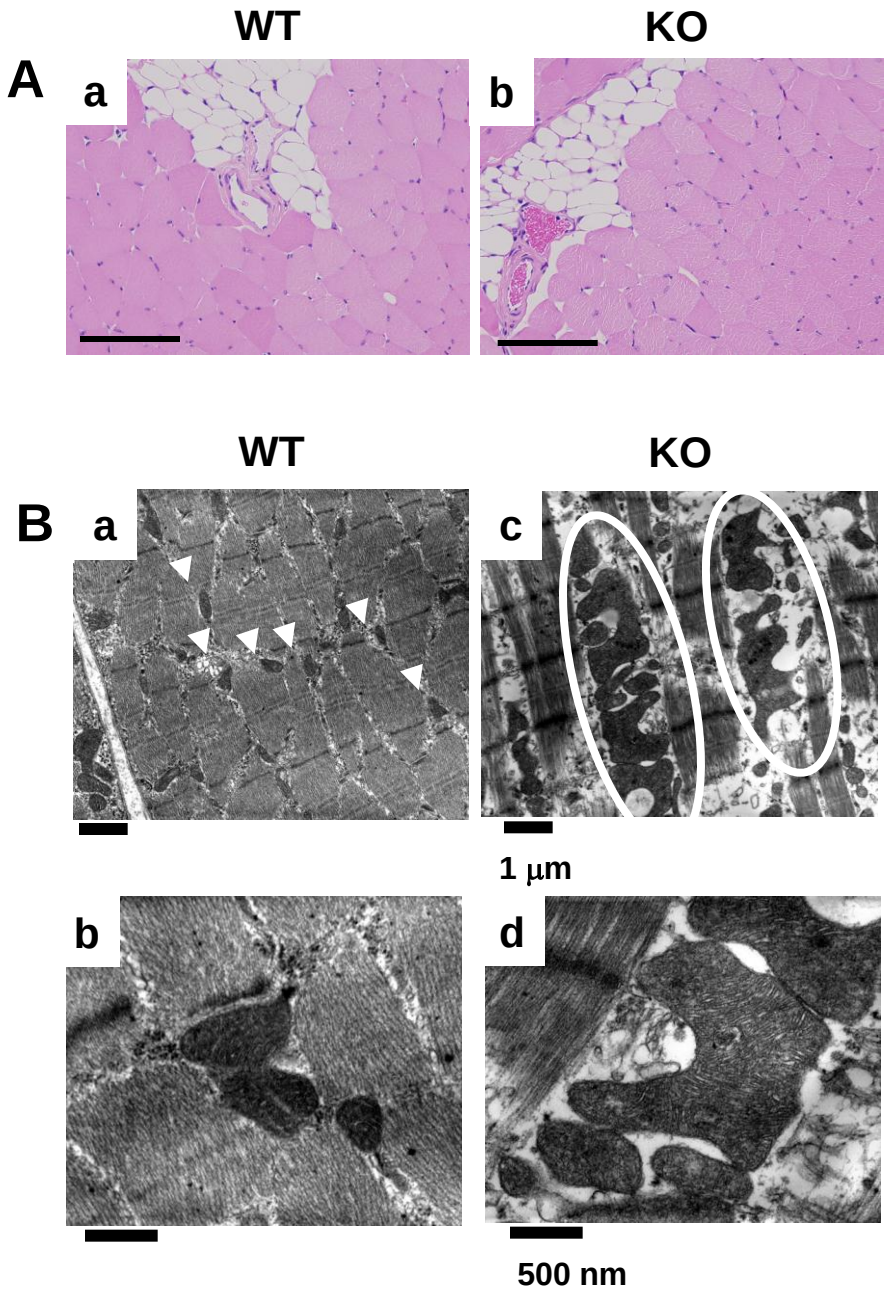
Video 1. **Muscle weakness in iPLA$_2$γ-KO mice (1).** A WT or KO mouse at 4 months was placed on an upside-down beaker.

Video 2. **Muscle weakness in iPLA$_2$γ-KO mice (2).** A WT or KO mouse at 4 months was placed on a wire net that was then turned upside

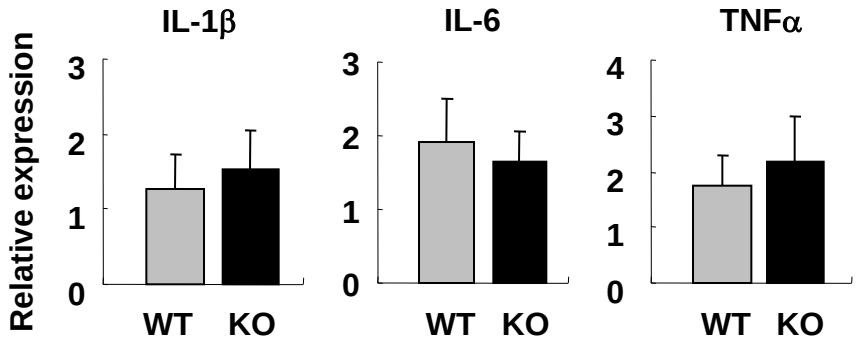
Supplemental fig. 1



Supplemental fig. 2



Supplemental fig. 3



Supplemental fig. 4