

SUPPLEMENTARY INFORMATION

Plin2-deficiency reduces lipophagy and results in increased lipid accumulation in the heart

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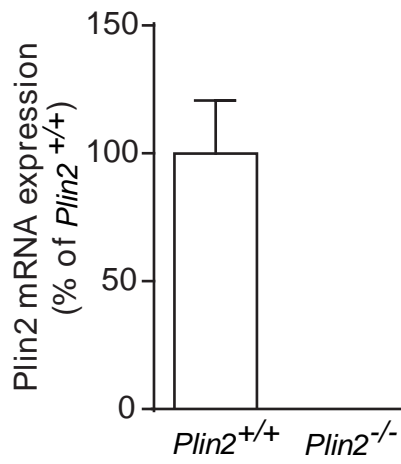
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Figure S1

A



B

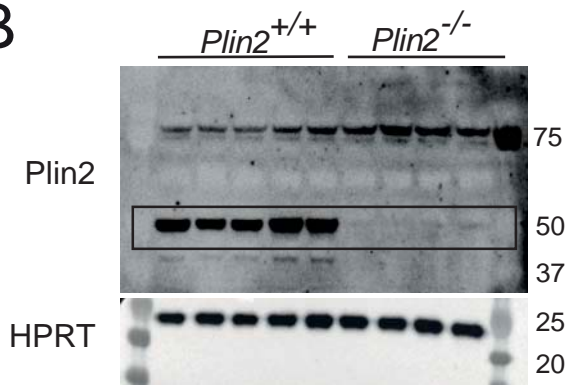


Figure S1. Characterization of *Plin2*^{-/-} mice. (A) Quantitative real-time PCR of *Plin2* mRNA in hearts of *Plin2*^{+/+} and *Plin2*^{-/-} mice (n=5). (B) Immunoblot analysis of *Plin2* protein lysates from hearts of *Plin2*^{+/+} and *Plin2*^{-/-} mice, 4 hours after fasting (n=4-5). Data presented as mean±SEM.

Figure S2

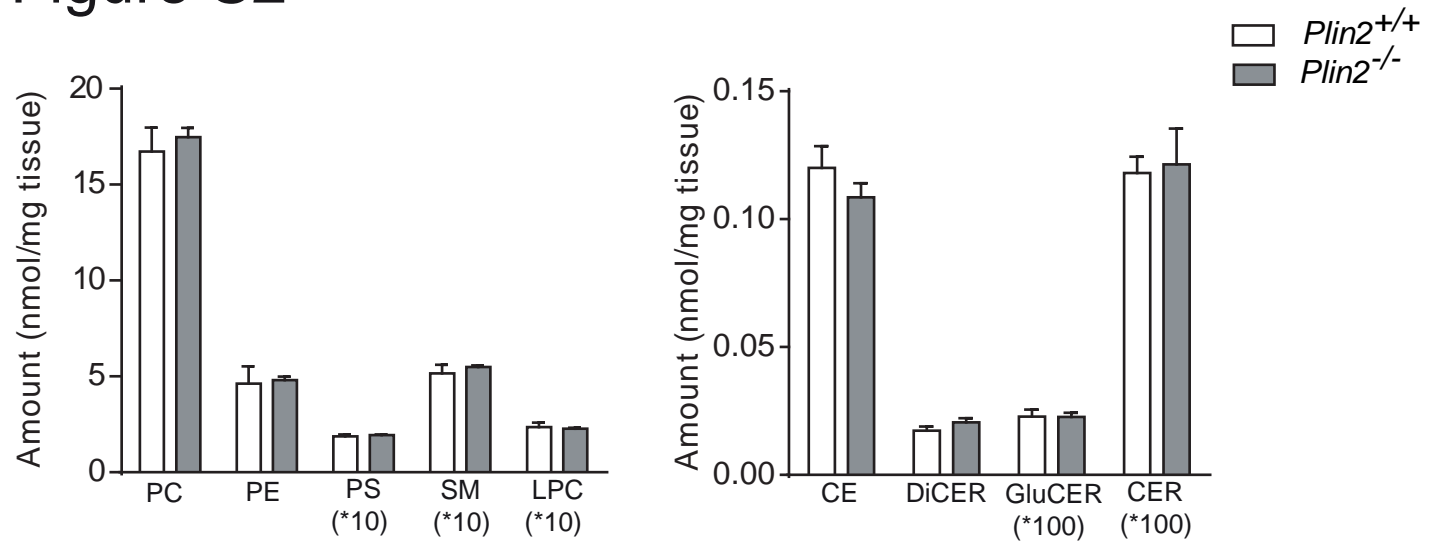


Figure S2. Lipid content in hearts of *Plin2*^{-/-} and *Plin2*^{+/+} mice. After a 4 hours fast (n=6-7), data presented as mean±SEM. PC, phosphatidylcholine; PE, phosphatidylethanolamine; PS, phosphatidylserine; SM, sphingomyelin; LPC, lysophosphatidylcholine; CE, cholesterol esters; CER, ceramide; DiCER, dihydroceramide; GluCER, glycosylceramide.

Figure S3

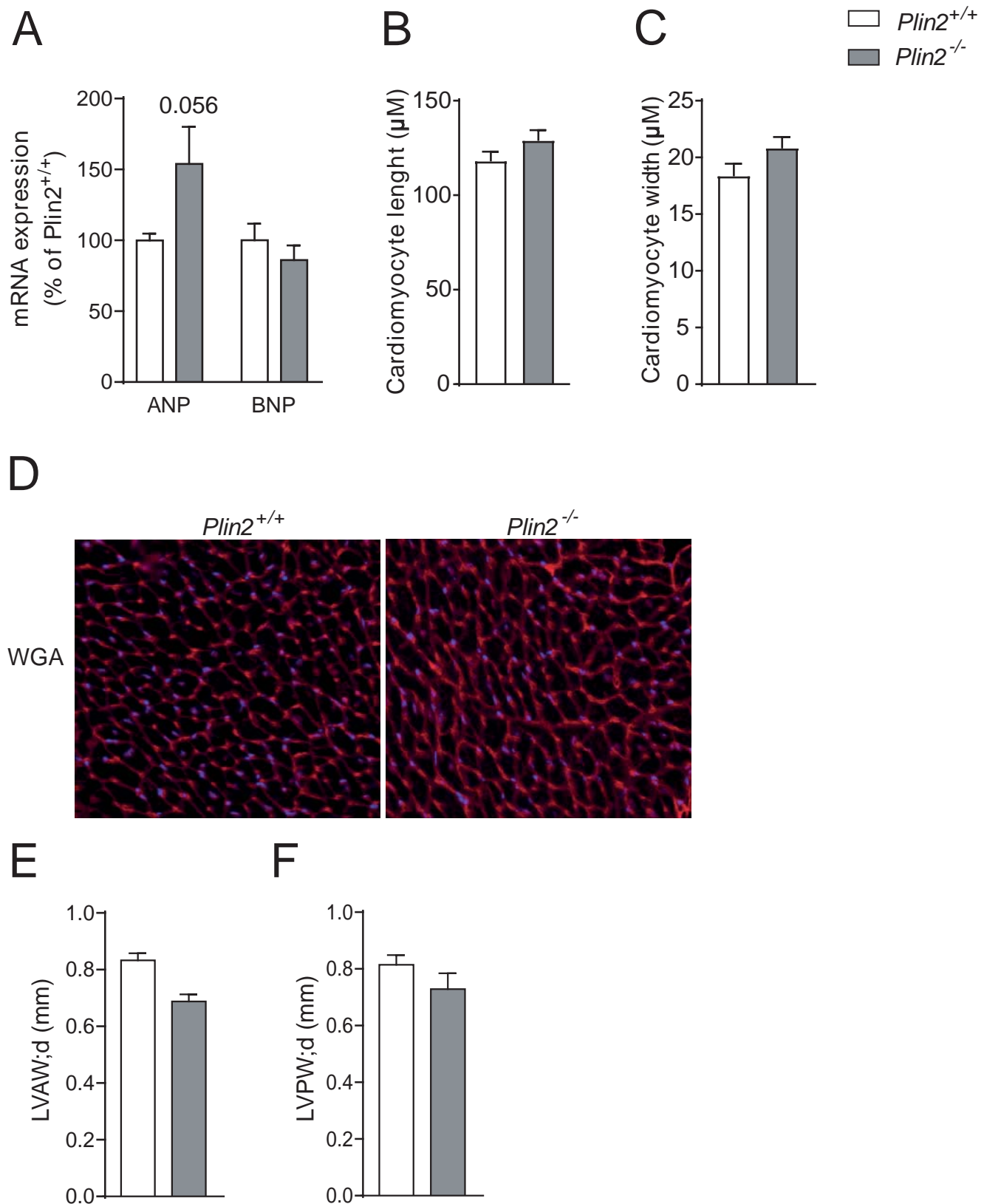


Figure S3. Natriuretic peptide expression and heart dimensions in *Plin2*^{+/+} and *Plin2*^{-/-} mice.

(A) Quantitative real-time PCR of *Plin2* mRNA in hearts of *Plin2*^{+/+} and *Plin2*^{-/-} mice (n=5).

(B-C) Cardiomyocyte length and width (μM) (n=4-5). (D) Representative WGA staining of heart sections from

Plin2^{+/+} and *Plin2*^{-/-} mice. (E) Left ventricle anterior wall thickness in diastole (LVAW;d) and (F) left ventricle posterior wall thickness in diastole (LVPW;d) in *Plin2*^{+/+} and *Plin2*^{-/-} mice (n=3). Data presented as mean±SEM.

Figure S4

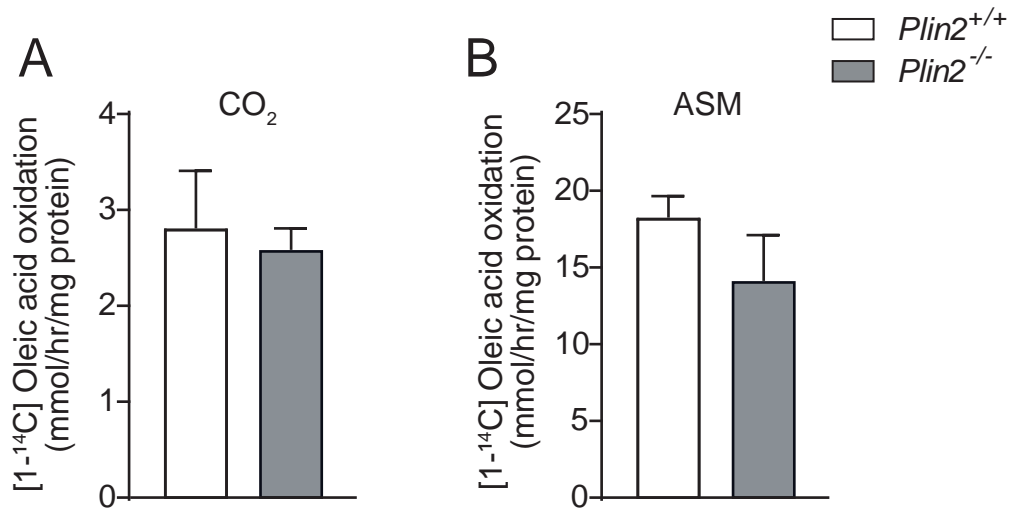
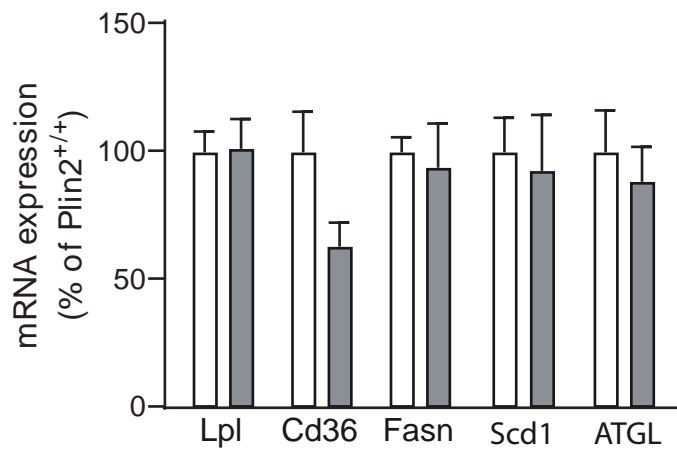


Figure S4. Fatty acid oxidation in *Plin2*^{+/+} and *Plin2*^{-/-} hearts. Produced (A) CO₂ and (B) ASM (n=3). Data presented as mean±SEM.

Figure S5

A



B

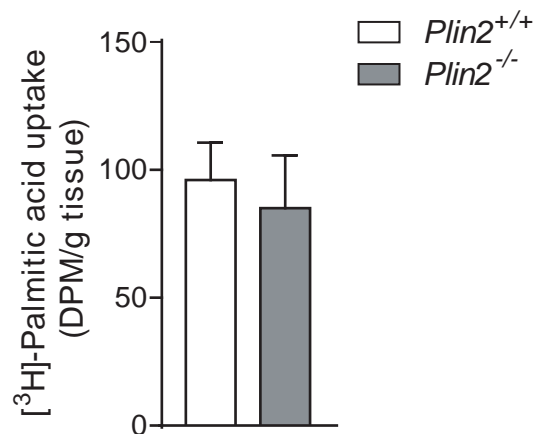


Figure S5. Markers of lipolysis and lipogenesis and lipid uptake in *Plin2*^{+/+} and *Plin2*^{-/-} hearts. (A) mRNA expression of Lpl, Cd36, Fasn, Scd1 and ATGL (n=4). (B) [³H]-Palmitic acid uptake in *Plin2*^{+/+} and *Plin2*^{-/-} hearts (n=2-4). Data presented as mean±SEM.

Figure S6

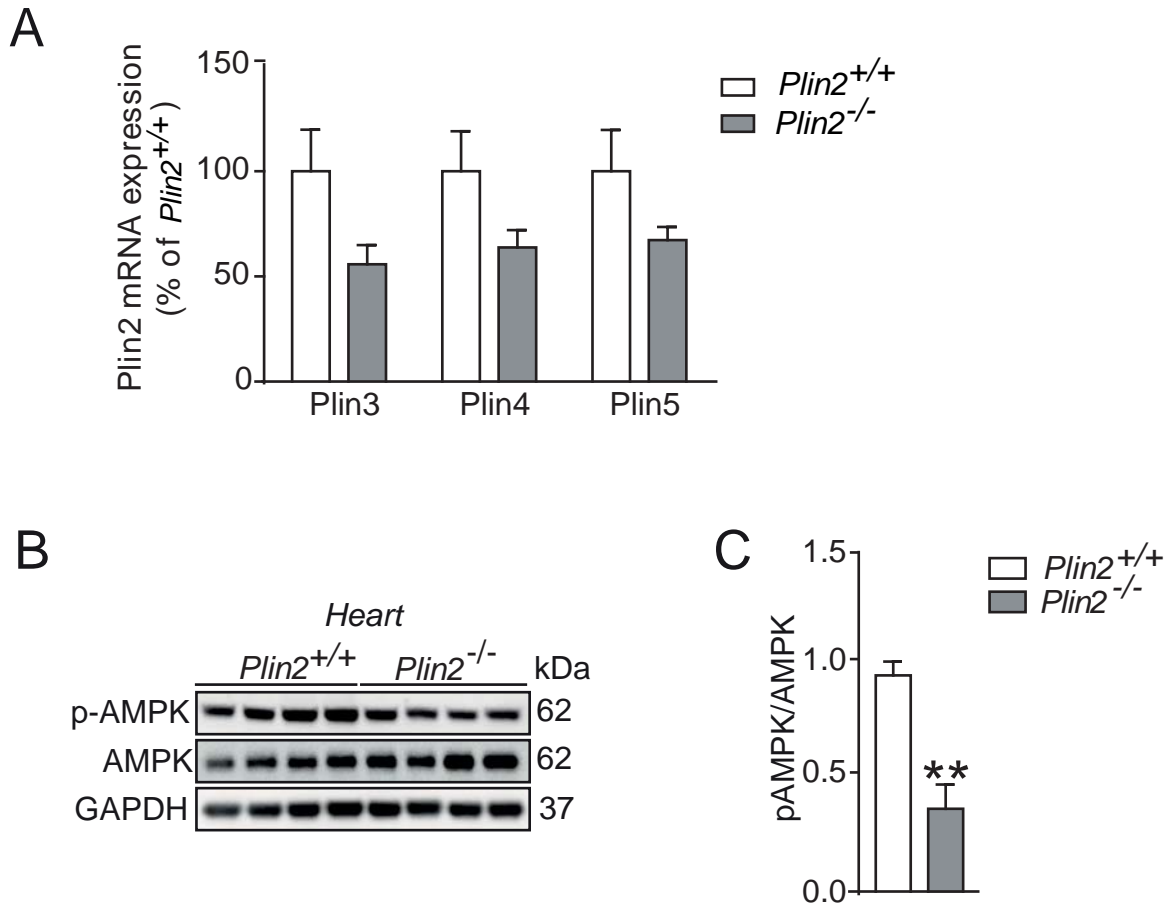


Figure S6. A) mRNA expression of Plin3, Plin4 and Plin5 in hearts of *Plin2*^{+/+} and *Plin2*^{-/-} mice. After a 4 hours fast (n=4-5). (B) Immunoblot analysis of p-AMPK and AMPK in lysates from *Plin2*^{+/+} and *Plin2*^{-/-} hearts after O/N fasting. Full-length blots are presented in Supplementary Figure S10. (C) Quantification of immunoblot analysis in C (n=4). Data presented as mean±SEM.

Figure S7

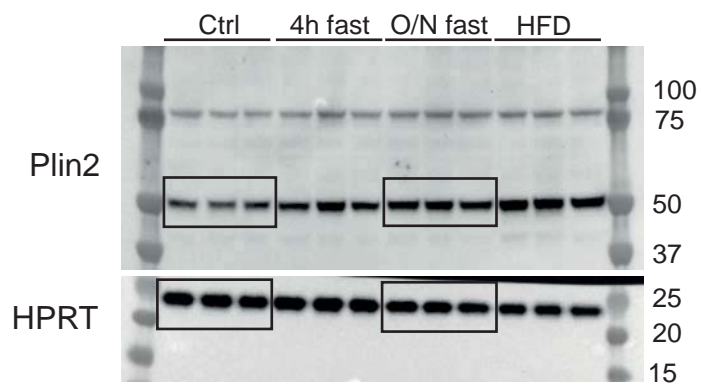


Figure S7. Full western blots of Figure 1A used for quantification.

Figure S8

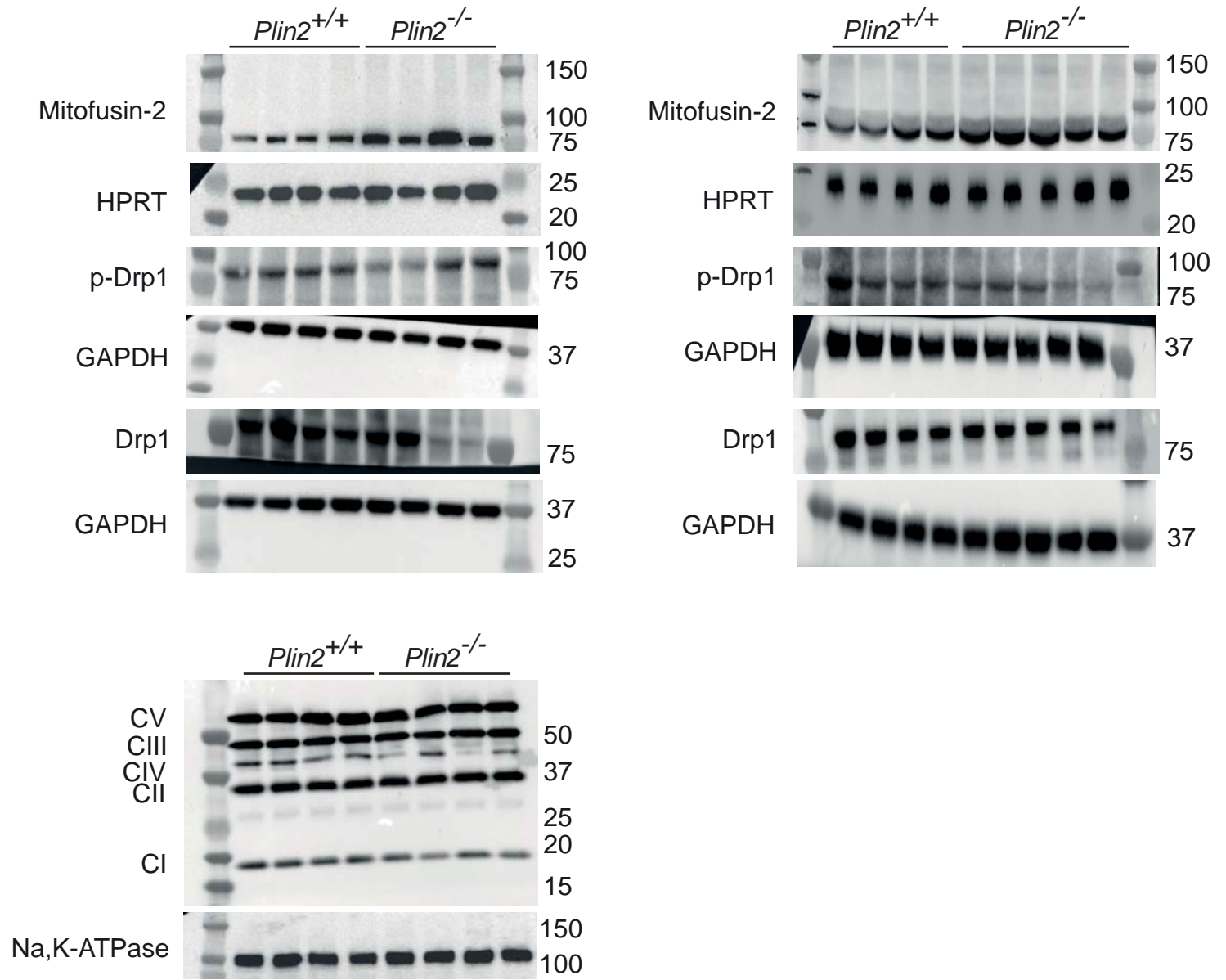


Figure S8. Full western blots of Figure 4D and F used for quantification.

Figure S9

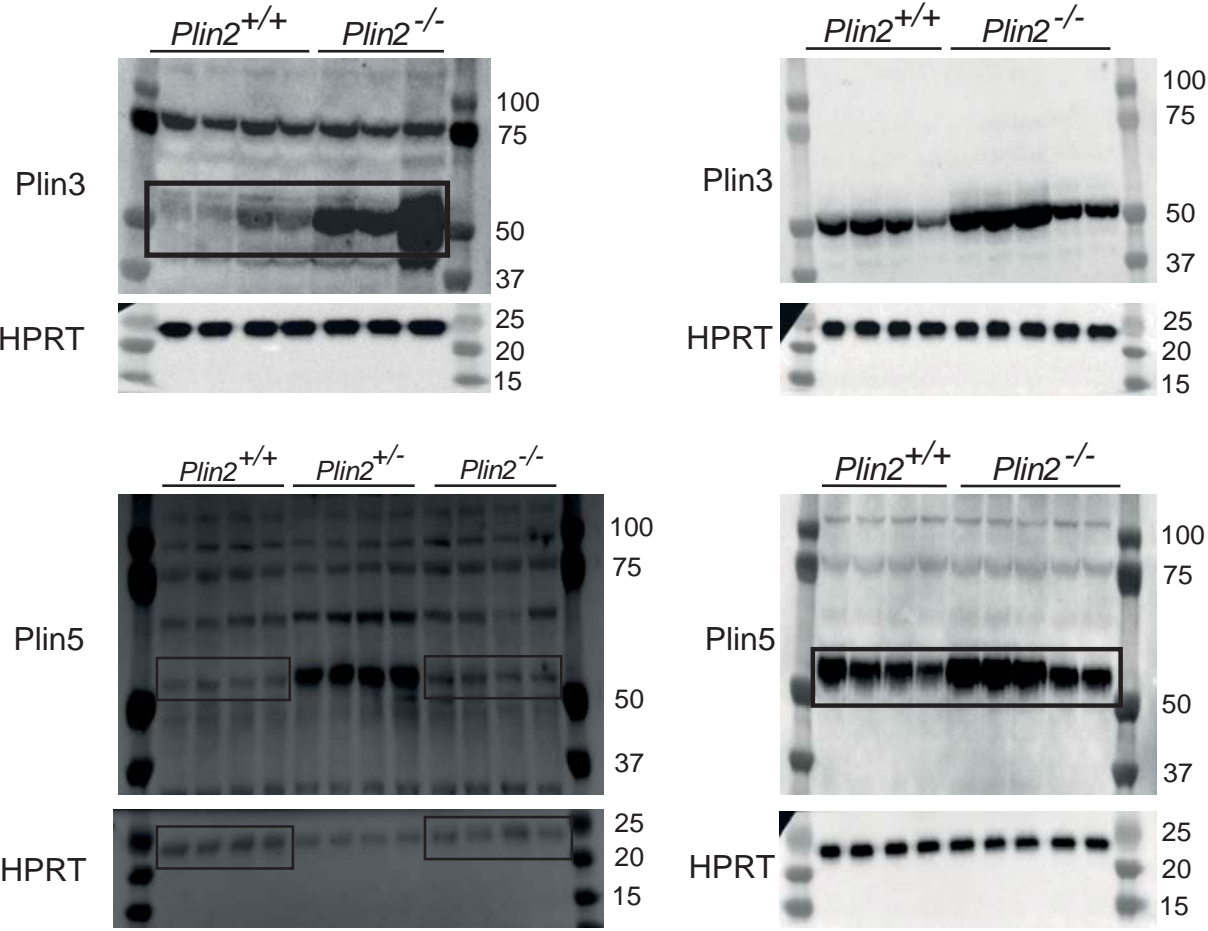


Figure S9. Full western blots of Figure 5A used for quantification.

Figure S10

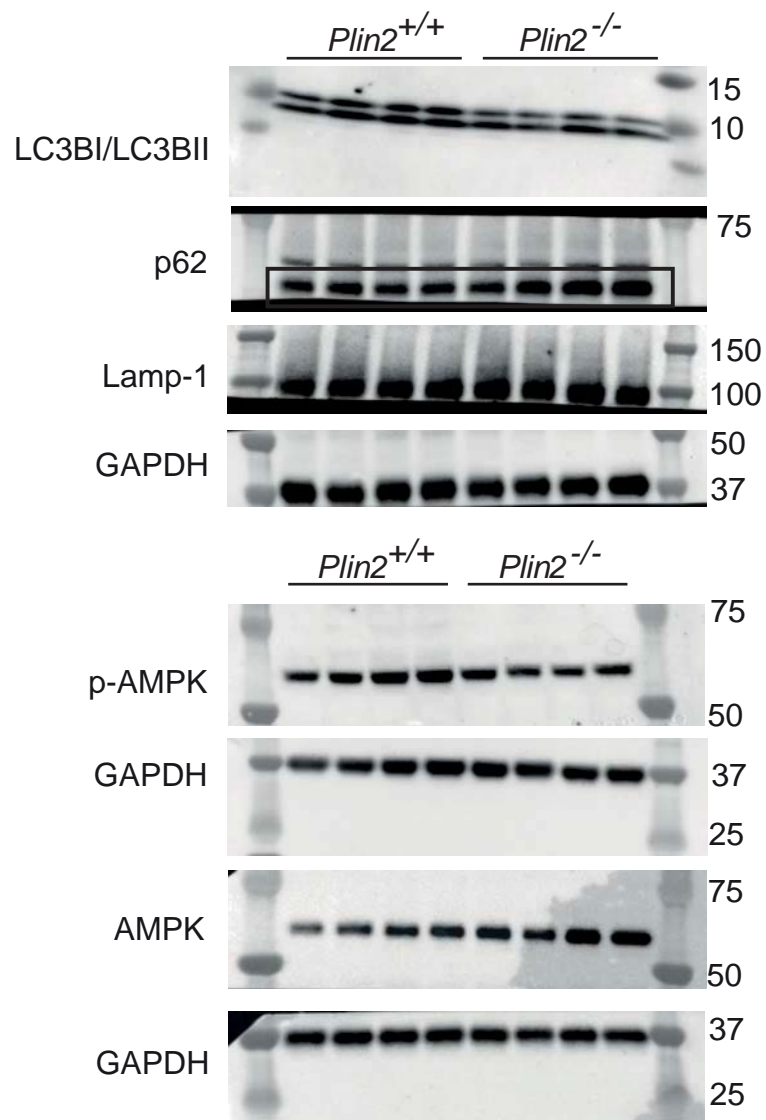


Figure S10. Full western blots of Figure 6A and F and Figure S6B used for quantification.

Figure S11

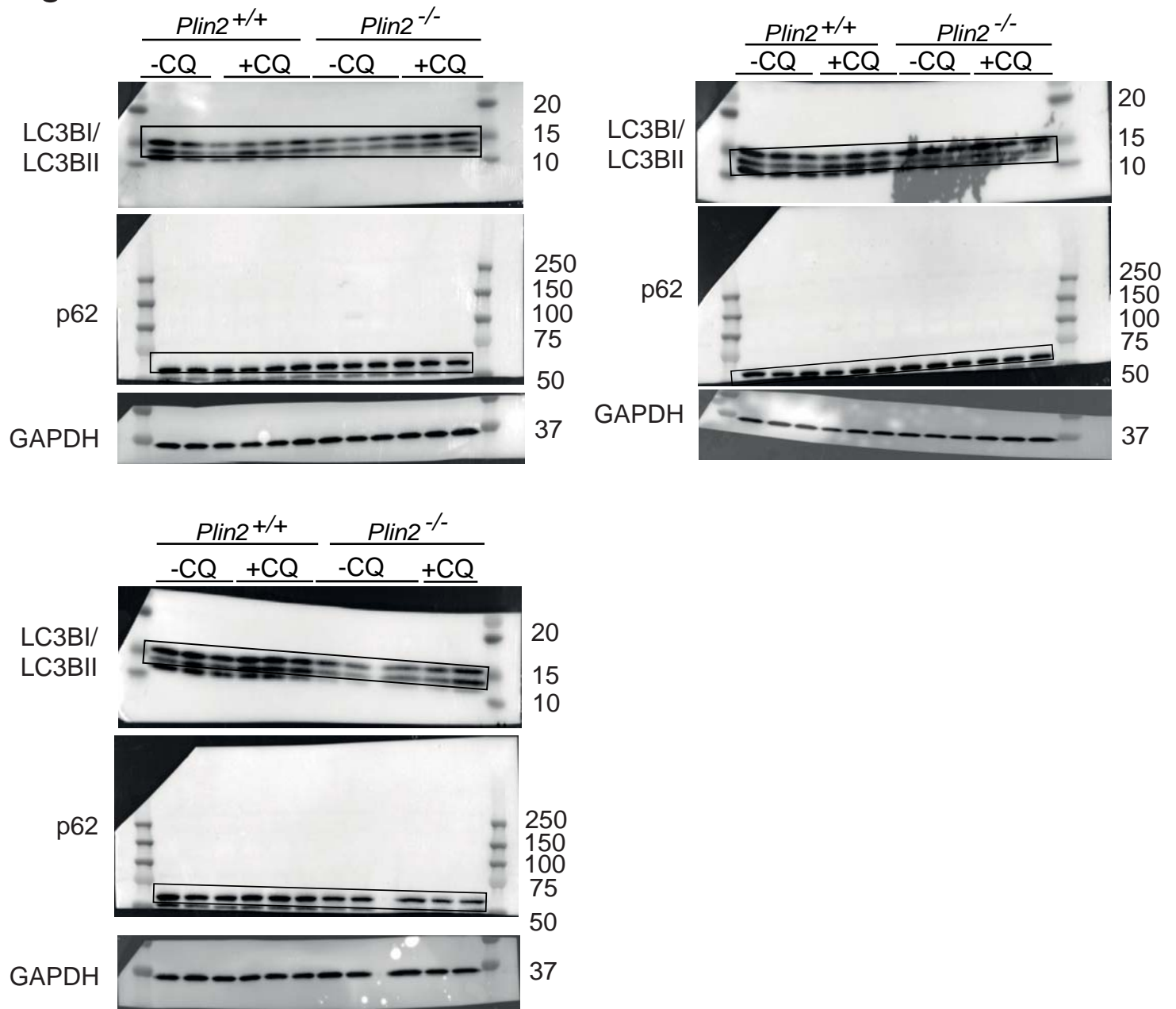


Figure S11. Full western blots of Figure 6C used for quantification.