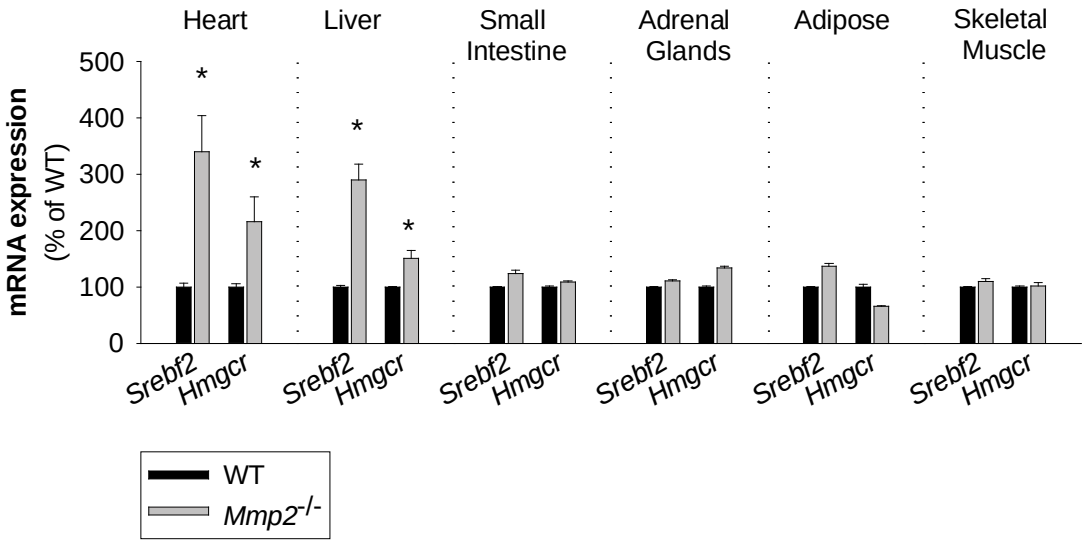
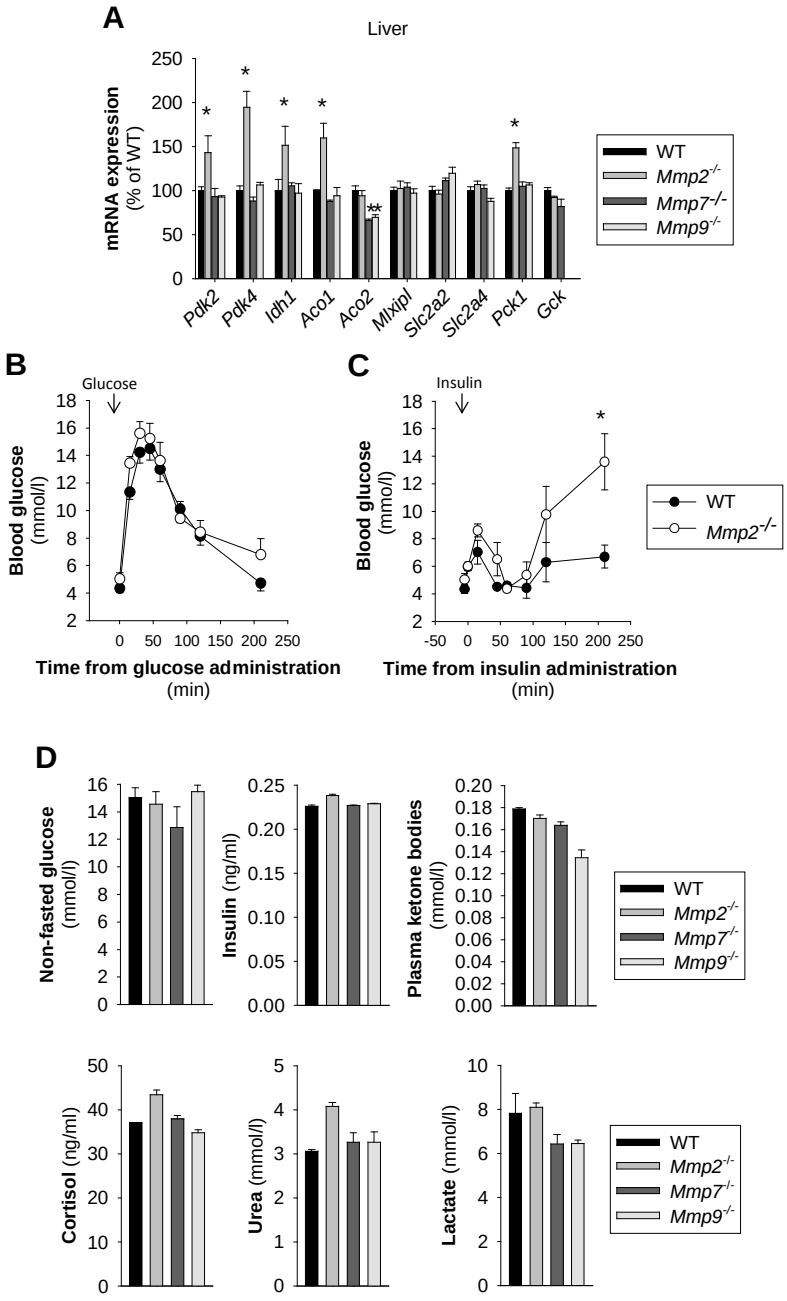
SUPPLEMENTAL MATERIAL



Supplemental Figure S1.
qRT-PCR analysis of *Srebf2* and *Hmgcr* in various tissues from WT and *Mmp2*$^{-/-}$ mice. *n*=4 *per* genotype. *:*P*<0.05 *vs*. WT.



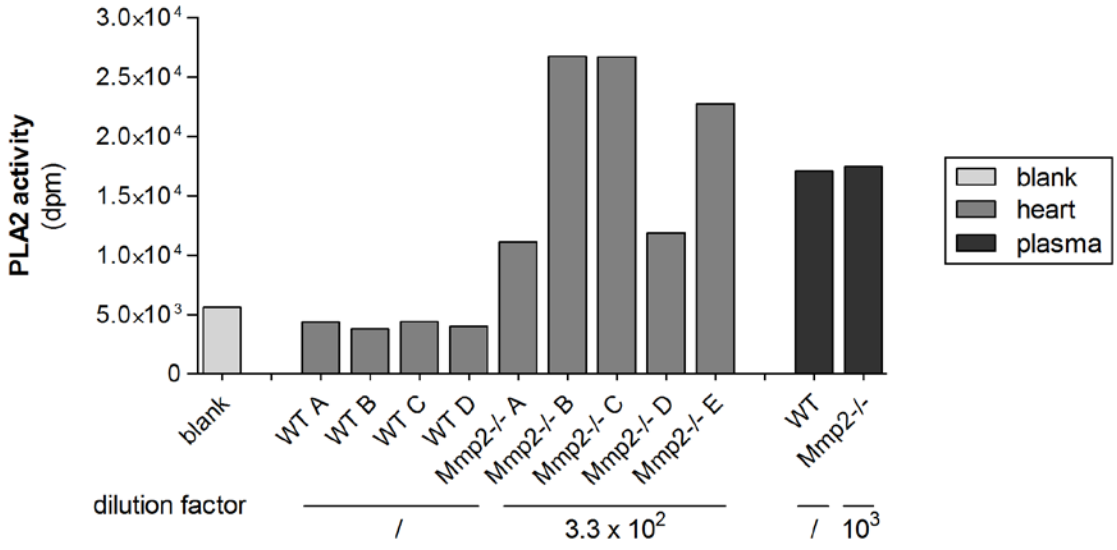
Supplemental Figure S2.

(A) Quantitative analysis of mRNA levels for genes involved in glucose metabolism (related to regular Figure 2A, C). *n*=4 individual mice *per* genotype. *: *P*<0.05 *vs*. WT.

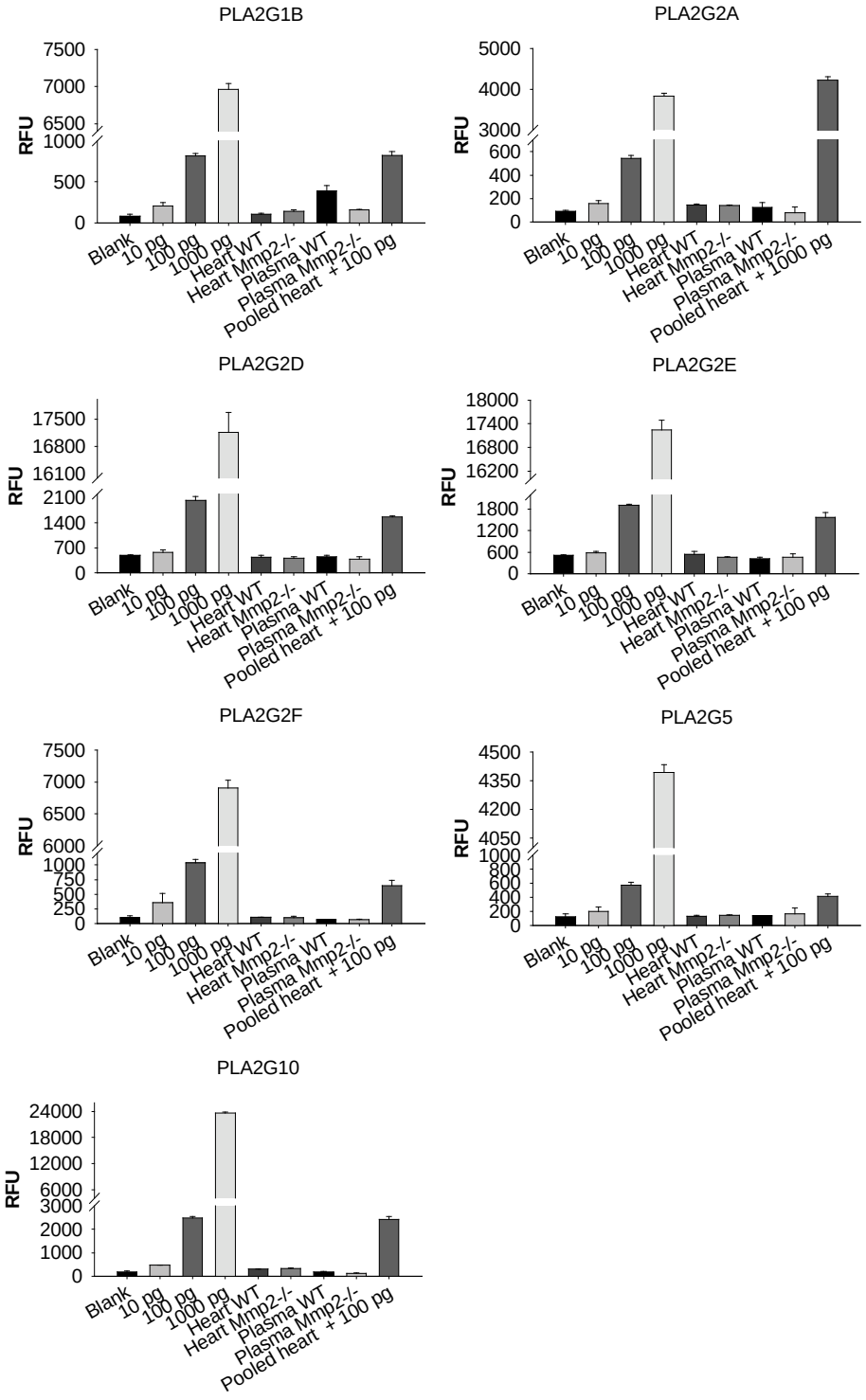
(B) Glucose tolerance test. *n*=4 individual mice *per* genotype. No difference between genotypes.

(C) Insulin tolerance test. *:*P*<0.05 *vs*. WT.

(D) Quantitative analysis of metabolites. Pools of *n*=4 *per* genotype. No difference was observed between genotypes.

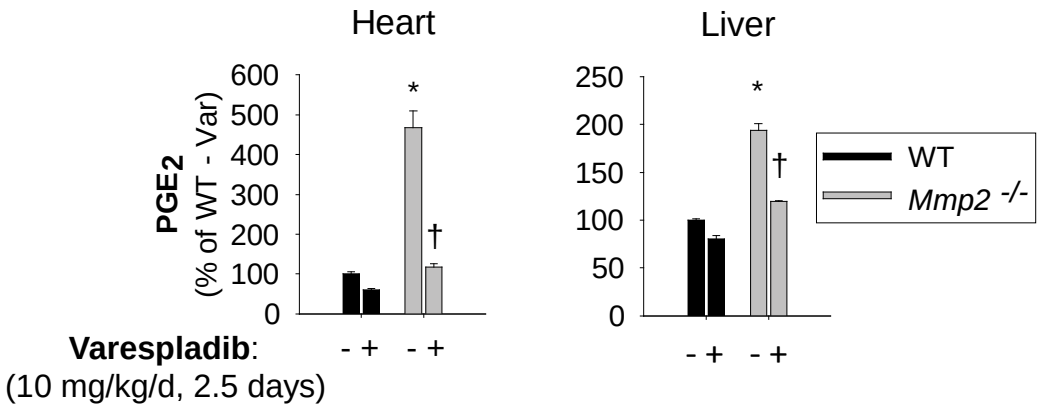


Supplemental Figure S3.
PLA_2 activity of individual WT and *Mmp2*$^{-/-}$ hearts and pooled plasma samples determined using the *in vitro* [^{3}H]-oleic acid radiolabelled *E.coli* membrane assay. *n*=4 (WT) and *n*=5 (*Mmp2*$^{-/-}$).

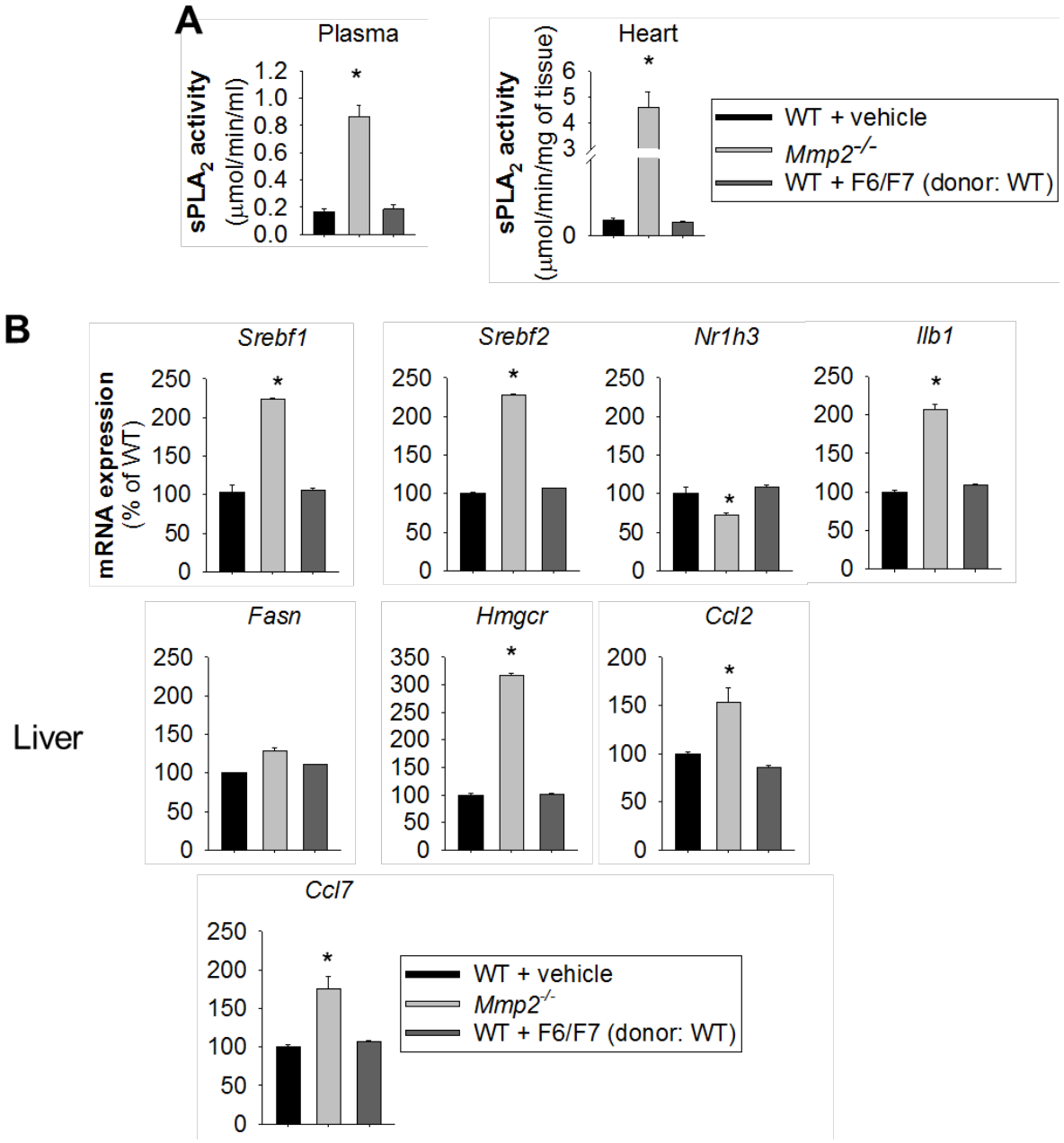


Supplemental Figure S4. Time-resolved fluorescence immunoassay of mouse sPLA$_2$ isoforms.

The analysis with highly specific antibodies against mouse sPLA$_2$ isoforms excludes PLA2G1B, PLA2G2A, PLA2G2D, PLA2G2E, PLA2G2F, PLA2G5 and PLA2G10 as major components of cardiac or plasma sPLA$_2$ in MMP-2-deficiency.



Supplemental Figure S5. The inhibition of systemic $sPLA_2$ by varespladib lowered cardiac as well as hepatic PGE_2 levels. Data are related to our earlier study[1]. The PGE_2 levels of pools of n=4 mice *per* genotype were analyzed in duplicate. *:$P \leq 0.05$ *vs*. WT (-). †:$P \leq 0.05$ *vs*. *Mmp2*$^{-/-}$ (-).

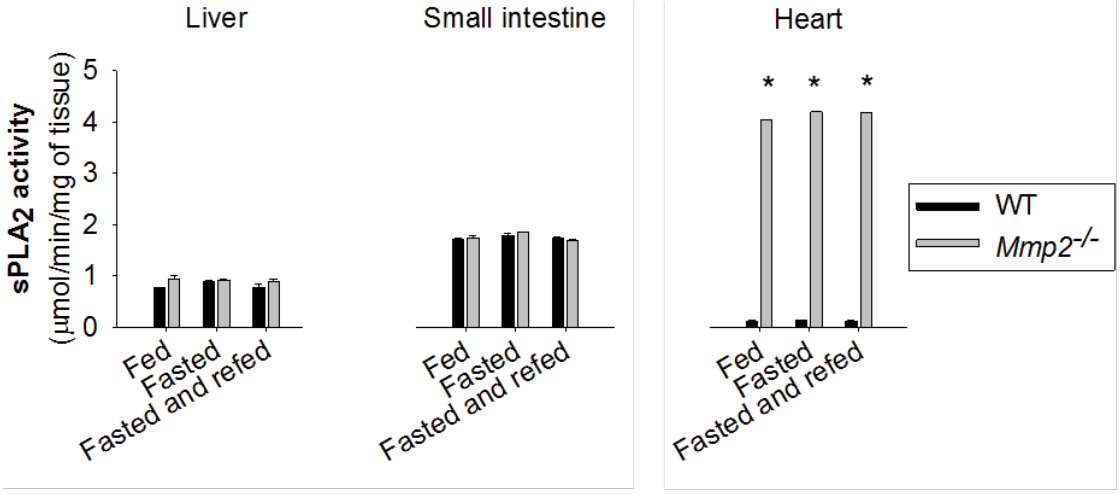


Supplemental Figure S6. Phenotype induced by HPLC-fractions F6/F7 from WT donors in recipient WT mice.

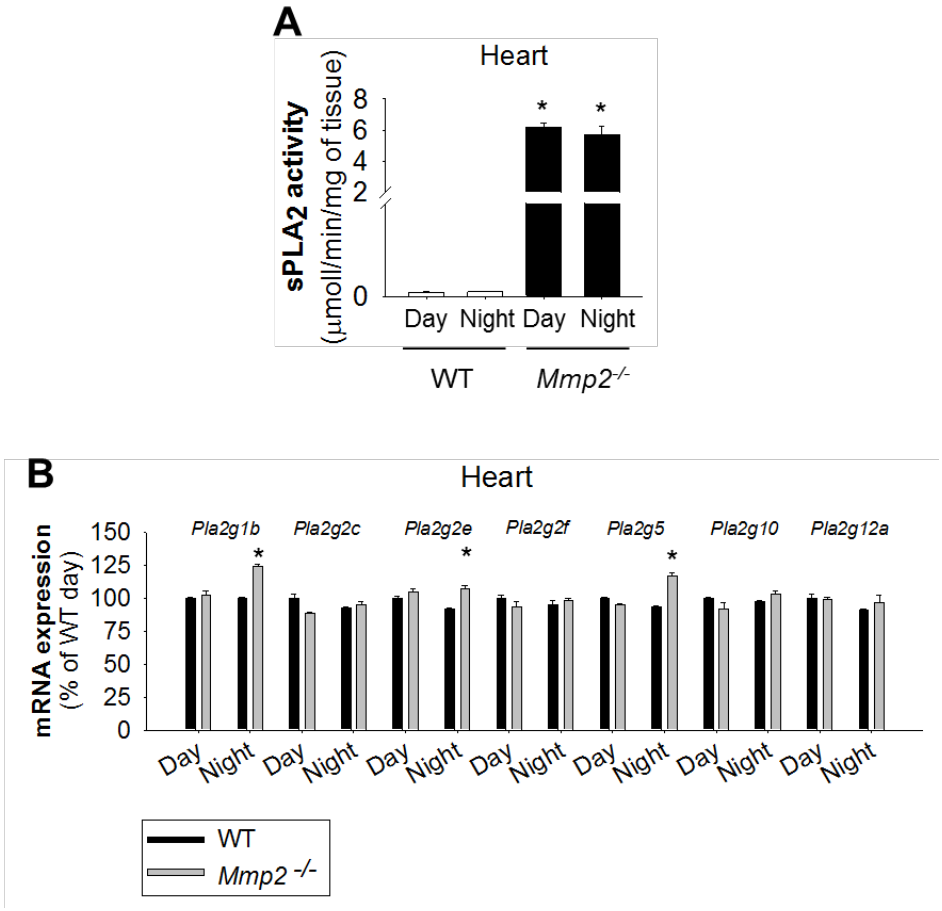
(A) Injection of the HPLC-fractions F6/F7 had no impact on plasma or cardiac sPLA$_2$ of WT recipient mice.

(B) Lack of effect of the HPLC-fractions F6/F7 from WT donors on the hepatic gene expression profile of recipient WT mice.

Activity of plasma and cardiac sPLA$_2$ and gene expression profiles in recipient WT mice after 5 consecutive injection-days of vehicle (control sterile PBS, 10 mmol/l $CaCl_2$) or HPLC-isolated fractions F6/F7 from WT donors. *:$P \leq 0.05$ *vs*. WT + vehicle. n=4 mice *per* treatment.



Supplemental Figure S7. Effect of feeding on cardiac sPLA$_2$ activity.
Neither overnight fasting alone nor overnight fasting followed by re-feeding a high carbohydrate diet for 5 hours did alter systemic sPLA$_2$ activity in WT or *Mmp2*$^{-/-}$ mice. Pools of n=4 *per* genotype. *:P<0.05 *vs*. WT.



Supplemental Figure S8. Effect of circadian rhythm on cardiac sPLA$_2$ activity.

(A) Comparison of diurnal and nocturnal sPLA$_2$ activity for WT and *Mmp2*$^{-/-}$ hearts. *n*=4 mice *per* genotype. *:*P*≤0.05 *vs.* WT (Day).

(B) qRT-PCR analysis for a panel of individual mouse sPLA$_2$ isoforms at day (11:30 AM ± 0.5 hr) and night (9:30 PM ± 0.5 hr). *n*=3 for WT and *n*=4 for *Mmp2*$^{-/-}$. *:*P*≤0.05 *vs.* Day.

REFERENCE

1. Berry E, Hernandez-Anzaldo S, Ghomashchi F, Lehner R, Murakami M, Gelb MH, Kassiri Z, Wang X, Fernandez-Patron C. Matrix metalloproteinase-2 negatively regulates cardiac secreted phospholipase a2 to modulate inflammation and fever. *J Am Heart Assoc*. 2015;4: e001868 doi: 10.1161/JAHA.115.001868