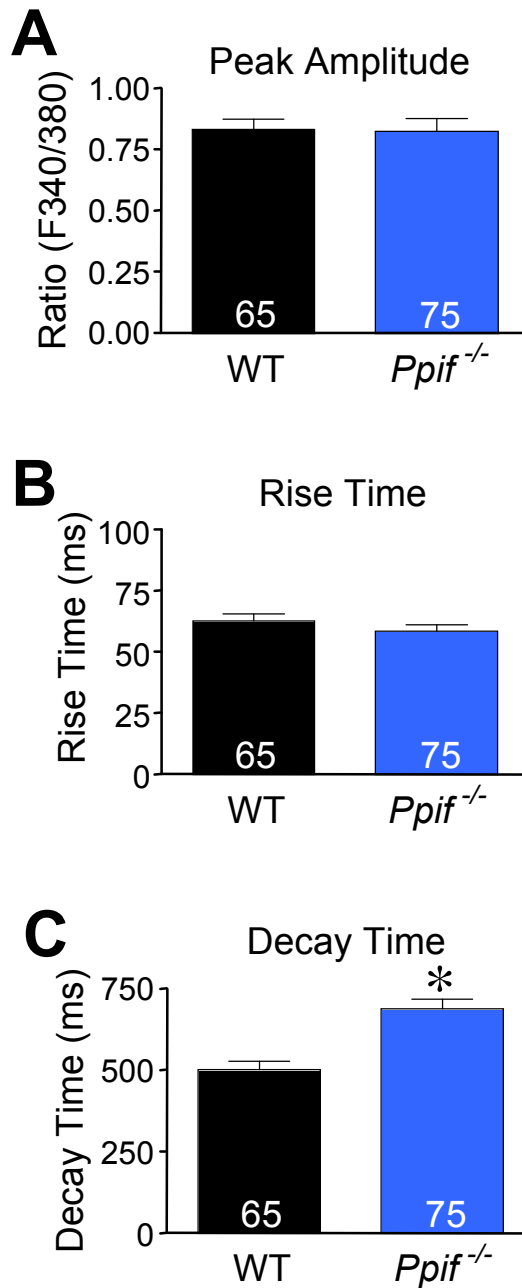
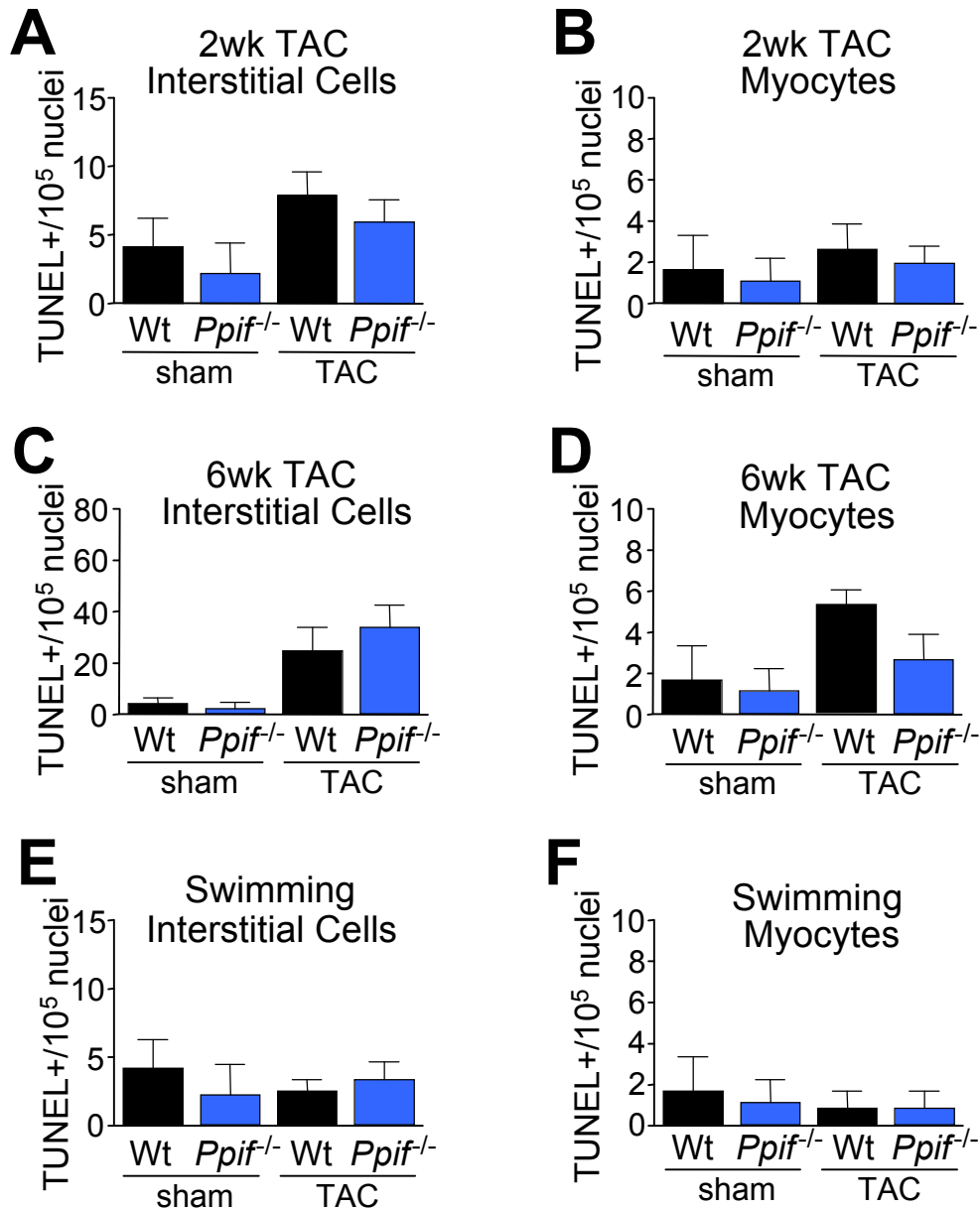


## Supplemental Figure 1



**Supplemental Figure 1.** Analysis of cytosolic calcium transients in Wildtype (Wt) and *Ppif*<sup>-/-</sup> adult cardiomyocytes. (A) Peak amplitude of fura-2 loaded isolated adult cardiomyocytes (B) Rise time (t-10%-t-90%) of isolated adult cardiomyocytes (C) Decay time (t-90%-t-10%) of isolated adult cardiomyocytes. All values reported as mean  $\pm$  sem. Sample value for each group is indicated inside their respective bar. \*p < 0.05 vs. Wt.

## Supplemental Figure 2



**Supplemental Figure 2.** Histological analysis of cell death rates in *Ppif*<sup>-/-</sup> mice following pressure-overload and sustained exercise (swimming). (A) Wildtype (Wt) and *Ppif*<sup>-/-</sup> hearts were examined 2 weeks following transaortic constriction (TAC) for interstitial cell TUNEL staining. (B) TUNEL positive cardiomyocyte nuclei in hearts 2 weeks following TAC. (C) TUNEL positive interstitial cell nuclei in hearts 6 weeks following TAC. (D) TUNEL positive cardiomyocyte nuclei in hearts 6 weeks following TAC. (E) TUNEL positive interstitial cell nuclei in hearts of mice subjected to sustained exercise (swimming) (F) TUNEL positive cardiomyocyte nuclei in hearts of mice subjected to sustained exercise (swimming). All values reported as mean  $\pm$  sem. (n=4-5/group). No significant differences were identified in any of the comparison groups.

**Supplemental Table 1. Left ventricular dimensions following pressure overload.**

Base	Strain	n	LVEDD (mm)	LVESD (mm)	IVS-d (mm)	IVS-s (mm)	FW-d (mm)	FW-s (mm)
	Wild-Type	9	3.49 ± .08	2.02 ± .12	0.80 ± .03	1.12 ± .04	0.84 ± .03	1.24 ± .03
<i>Ppif</i> <sup>-/-</sup>	20	3.48 ± .06	2.15 ± .05	0.79 ± .02	1.10 ± .05	0.89 ± .02	1.22 ± .02	
6wk TAC	Wild-Type	9	3.67 ± .04	2.63 ± .04	1.09 ± .01	1.37 ± .01	1.19 ± .02	1.49 ± .01
	<i>Ppif</i> <sup>-/-</sup>	20	4.37 ± .05 *	3.67 ± .20 *	0.95 ± .05	1.15 ± .06 *	1.16 ± .04	1.36 ± .04 *

*Ppif*<sup>-/-</sup> mice display an increase in ventricular chamber dimensions and wall thickness 6 weeks following transaortic constriction (TAC). M-mode echocardiography was acquired and measurements were made for left ventricular end-diastolic dimension (LVEDD), left ventricular end-systolic dimension (LVESD), intraventricular septum (IVS) and free-wall (FW) thickness during diastole (-d) and systole (-s). \*p < 0.05 vs. Wild-Type TAC