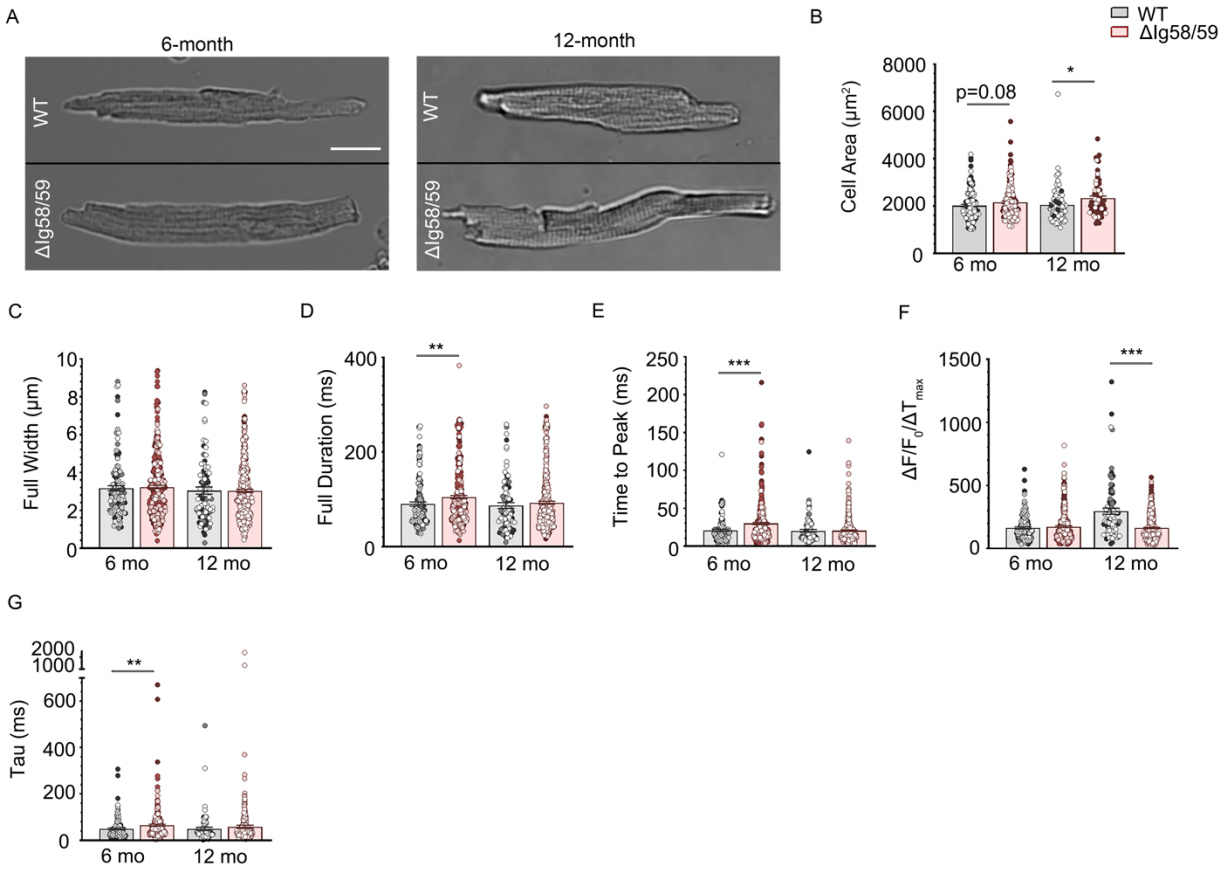
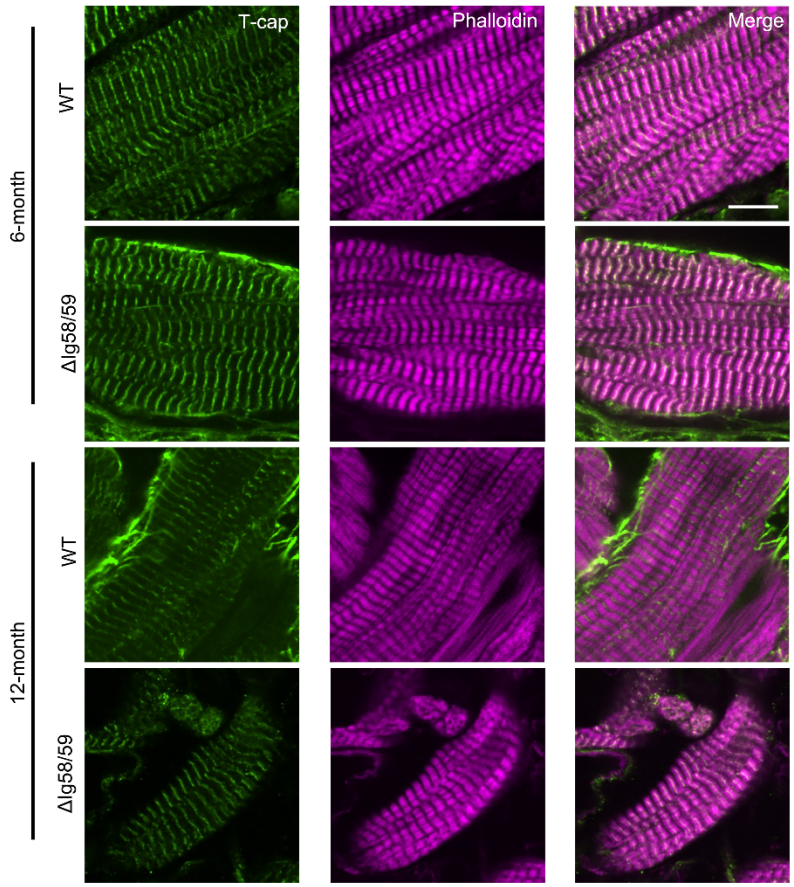
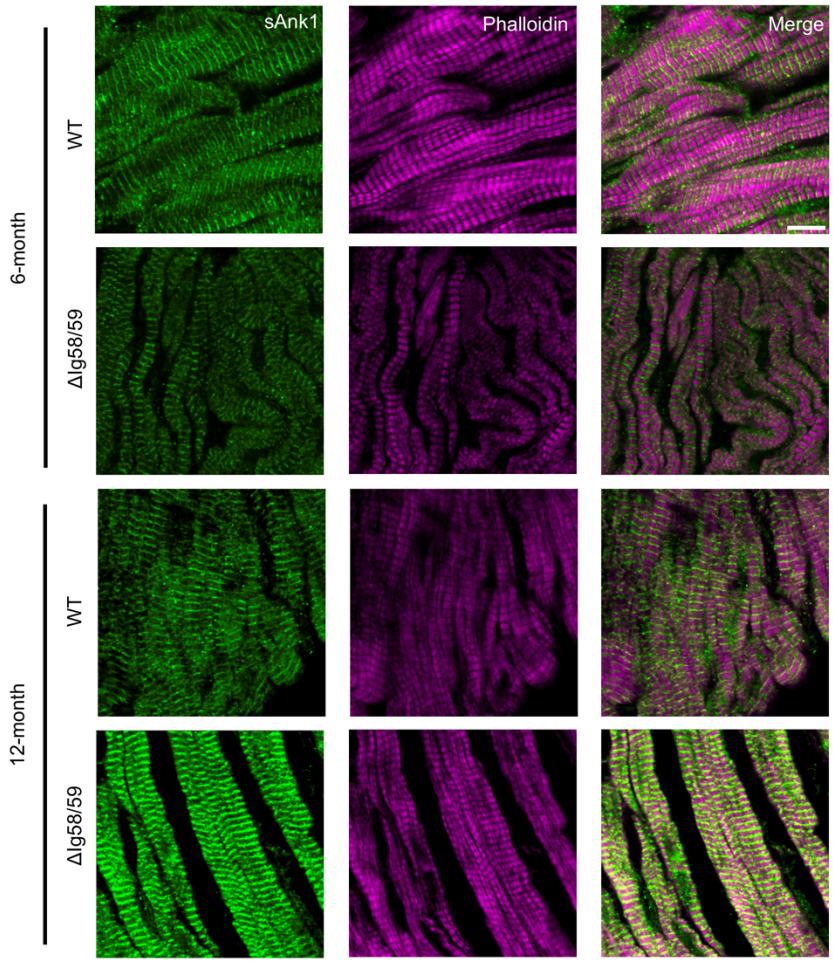


959

960 **SFigure 1. Evaluation of Ca^{2+} spark morphology and Ca^{2+} in *Obscn-ΔIg5859* atria at 6- and**
961 **12- months. (A-B)** Cardiomyocytes isolated from *Obscn-ΔIg58/59* atria were significantly
962 enlarged at 12-months of age compared to age-matched wild-type; scale bar: 20 μm; t-test,
963 *p<0.05; n=2 animals per group, 60-101 cells per heart (6-months), 7-83 cells per heart (12-
964 months); data points represent individual cells and are color-coded by biological replicate. **(C-G)**
965 Analysis of Ca^{2+} spark morphology revealed no significant differences in full width (C), and age-
966 specific alterations in full duration (D), time to peak (E), the maximum steepness of spark upstroke
967 calculated as $\Delta F/F_0/\Delta T_{max}$ (F), and the exponential time constant of decay, Tau (G) in *Obscn-*
968 *ΔIg5859* atria at 6- and 12- months; t-test, **p<0.01***p<0.001, n= 5 animals per group (6-
969 months), n=3 animals per group (12-months); 9-20 cells per heart (6-months), 7-17 cells per heart
970 (12-months); data points represent individual sparks and are color-coded by biological replicate.



SFigure 2. The localization of T-cap is unchanged in *Obscn-ΔIg58/59* atria. Immunostained cryosections of wild-type and *Obscn-ΔIg5859* atrial tissues indicated that T-cap is properly localized to the Z-disk at both 6- and 12-months as determined by co-staining with the actin marker, phalloidin; scale bar: 10 μm.



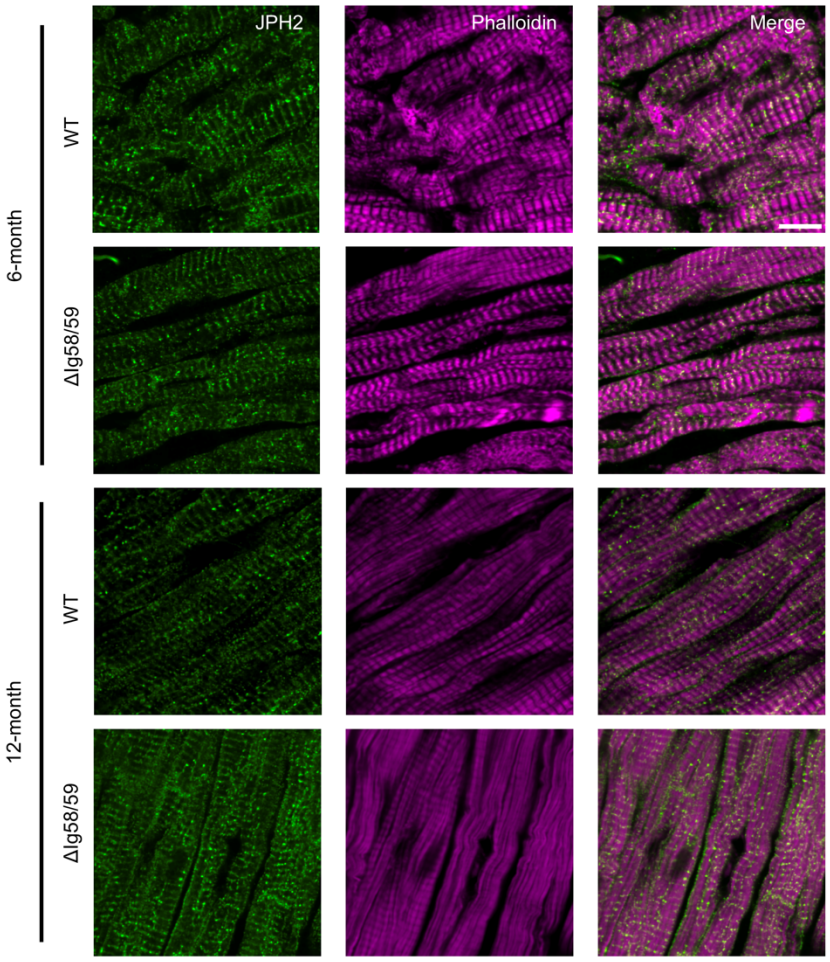
977

978 **SFigure 3. The localization of sAnk1 is unchanged in *Obscn-ΔIg58/59* atria.** Immunostained

979 cryosections of wild-type and *Obscn-ΔIg5859* atrial tissues do not indicate alterations in sAnk1

980 localization at 6- or 12-months as determined by co-staining with the actin marker, phalloidin,

981 suggesting the structure of the SR is unaffected in *Obscn-ΔIg5859* atria; scale bar: 10 μm.



SFigure 4. The localization of JPH2 is unchanged in *Obscn-ΔIg58/59* atria. Immunostained cryosections of wild-type and *Obscn-ΔIg5859* atrial tissues do not indicate alterations in JPH2 localization at 6- or 12-months as determined by co-staining with the actin marker, phalloidin, suggesting that the junctional SR is unaffected in *Obscn-ΔIg5859* atria; scale bar: 10 µm.