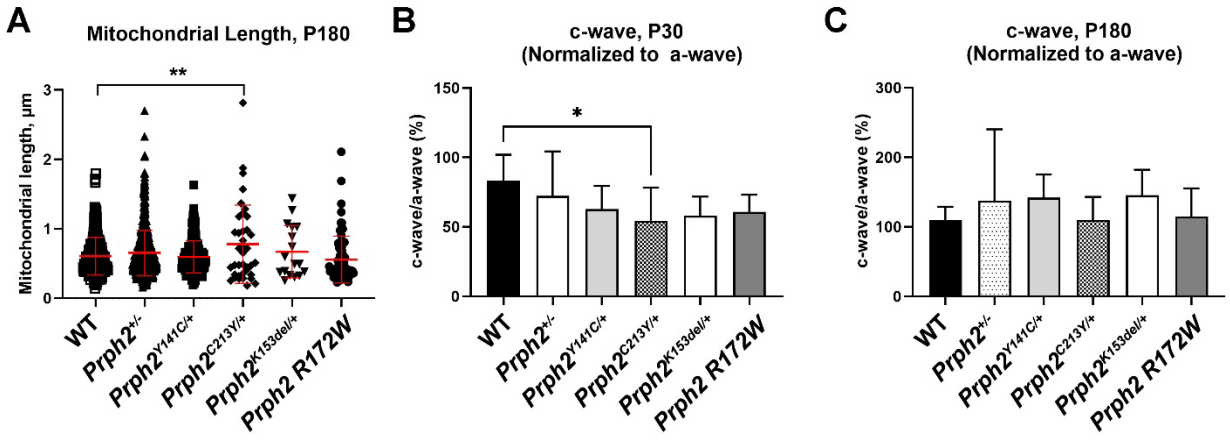
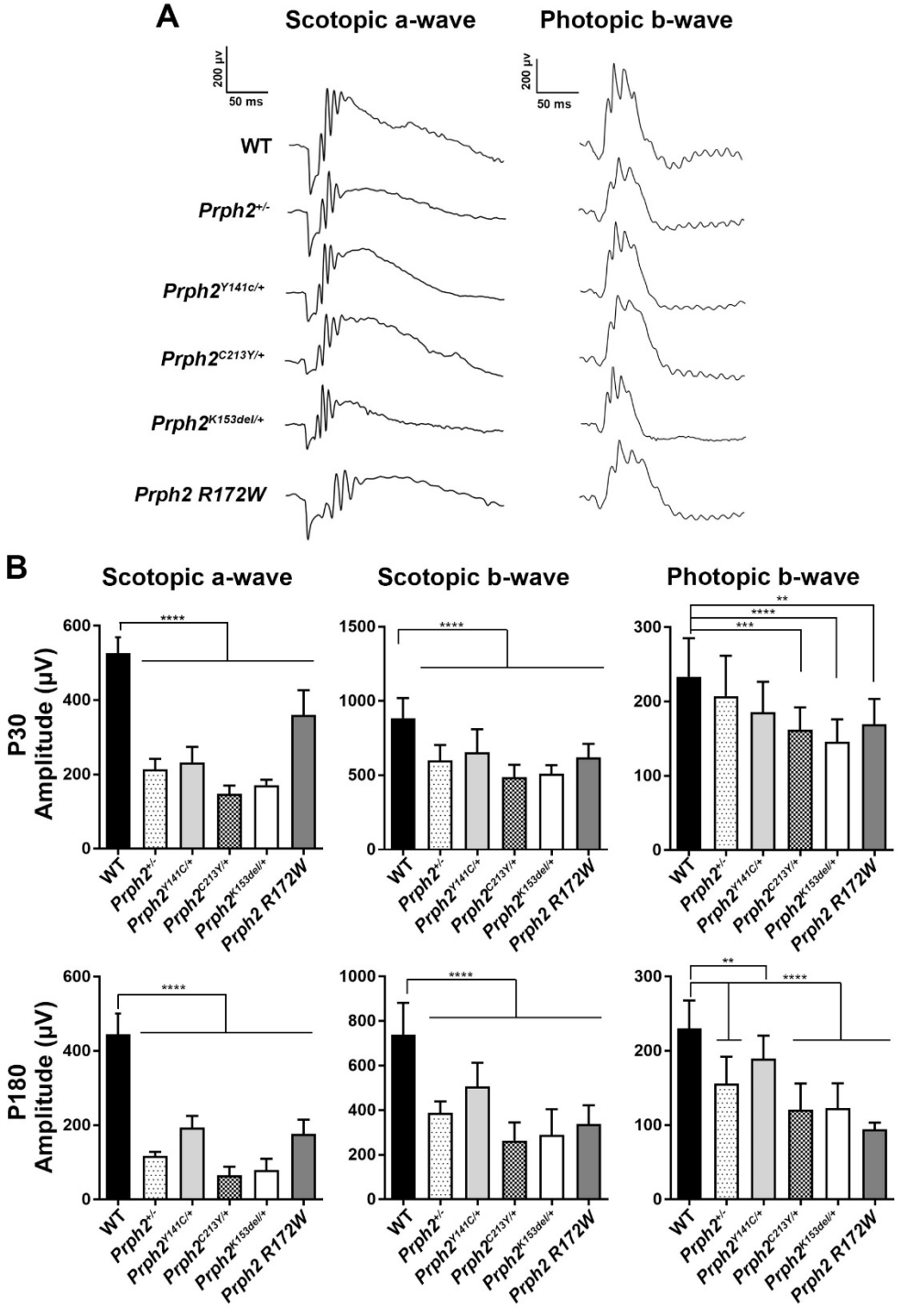
Tebbe et al., Supplemental Information

Supplemental Figures

Supplemental Figure 1

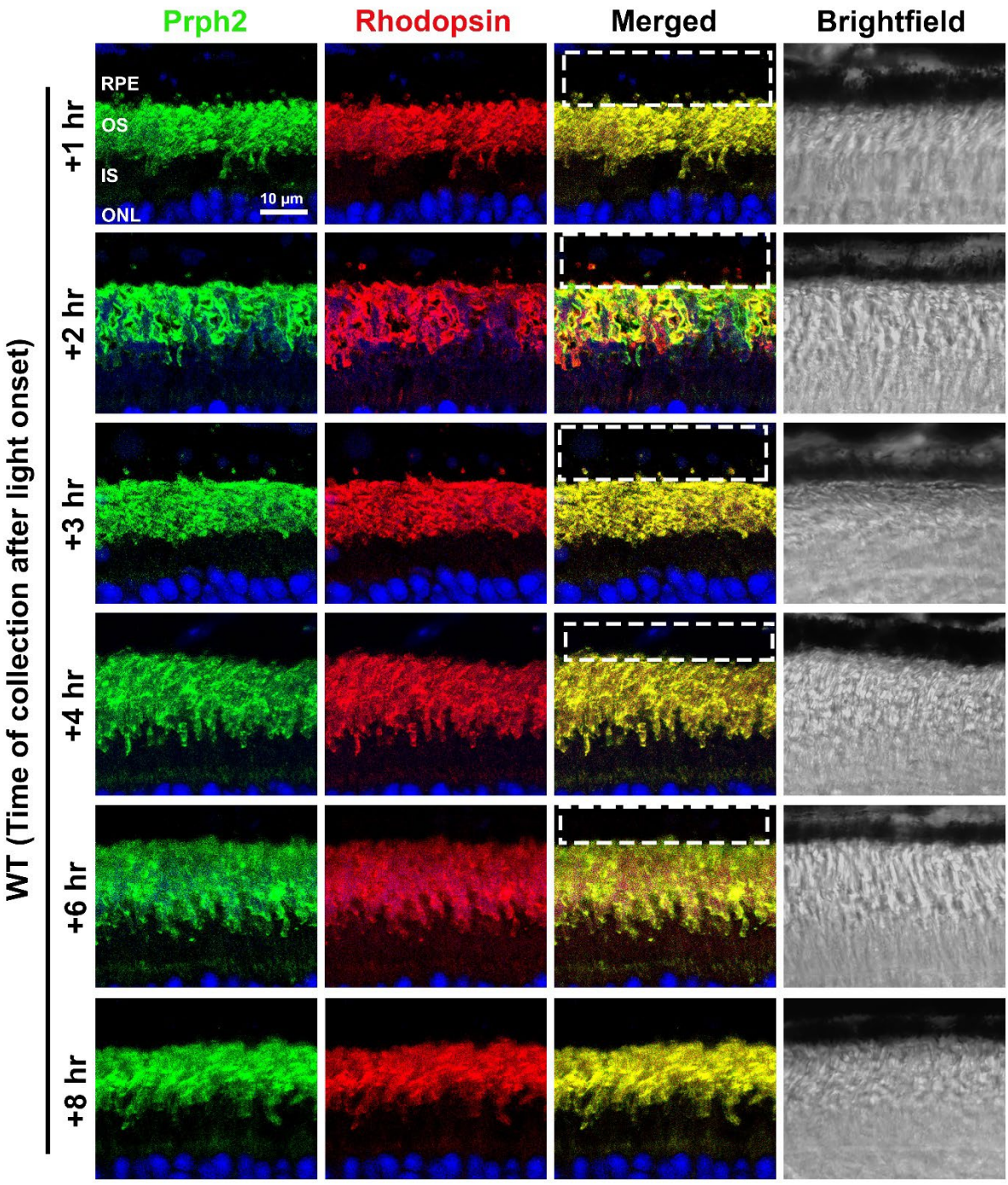


Supplemental Figure 1. Structural and functional quantification of *Prph2* disease models. **A.** Mitochondrial length was measured across multiple electron micrographs as shown in Figure 1. ** $p<0.01$ by one-way ANOVA with Tukey's post-hoc test. N **B-C.** ERG C-waves (from Figure 3) were normalized to their respective ERG A-wave values and are plotted. *$p<0.05$ by one-way ANOVA with Tukey's post-hot test.



Supplemental Figure 2. *Prph2* disease models decreased rod and cone function. A-B. Full field ERGs were performed under scotopic and photopic conditions. **A.** Representative ERG waveforms from each genotype at P30 are shown. **B.** Plotted is maximum a- or b-wave amplitude measured from disease models at P30 (top) and P180 (bottom). (**Scotopic a-wave P30:** WT N=16;

Prph2$^{+/-}$ N=19; *Prph2*$^{Y141C/+}$ N=10; *Prph2*$^{C213Y/+}$ N=15; *Prph2*$^{k153del/+}$ N=15; *Prph2 R172W* N=13. **Scotopic a-wave P180:** WT N=18; *Prph2*$^{+/-}$ N=16; *Prph2*$^{Y141C/+}$ N=21; *Prph2*$^{C213Y/+}$ N=28; *Prph2*$^{k153del/+}$ N=26; *Prph2 R172W* N=5. **Scotopic b-wave P30:** WT N=16; *Prph2*$^{+/-}$ N=19; *Prph2*$^{Y141C/+}$ N=10; *Prph2*$^{C213Y/+}$ N=15; *Prph2*$^{k153del/+}$ N=15; *Prph2 R172W* N=12. **Scotopic b-wave P180:** WT N=20; *Prph2*$^{+/-}$ N=21; *Prph2*$^{Y141C/+}$ N=21; *Prph2*$^{C213Y/+}$ N=28; *Prph2*$^{k153del/+}$ N=28; *Prph2 R172W* N=5. **Photopic b-wave P30:** WT N=16; *Prph2*$^{+/-}$ N=19; *Prph2*$^{Y141C/+}$ N=10; *Prph2*$^{C213Y/+}$ N=13; *Prph2*$^{k153del/+}$ N=15; *Prph2 R172W* N=13. **Photopic a-wave P180:** WT N=16; *Prph2*$^{+/-}$ N=17; *Prph2*$^{Y141C/+}$ N=21; *Prph2*$^{C213Y/+}$ N=29; *Prph2*$^{k153del/+}$ N=28; *Prph2 R172W* N=4). Shown is mean ± SD, ** $p<0.01$, *** $p<0.001$, and **** $p<0.0001$ determined by two-way ANOVA, with Sidak's post-hoc test.



Supplemental Figure 3. Time course of disc shedding, phagocytosis and degradation of the shed discs in WT mice. P30 WT eyes were collected at 1-8 hours after light onset as indicated. Retinal cross sections were co-stained with Prph2 (RDS-CT, green) and rhodopsin (red) and counterstained with DAPI. Dashed boxes highlight the RPE layer. Magnification 63x. Scale

bars: 10 μm. RPE: retinal pigment epithelium, OS: outer segments, IS: inner segments, ONL: outer nuclear layer.