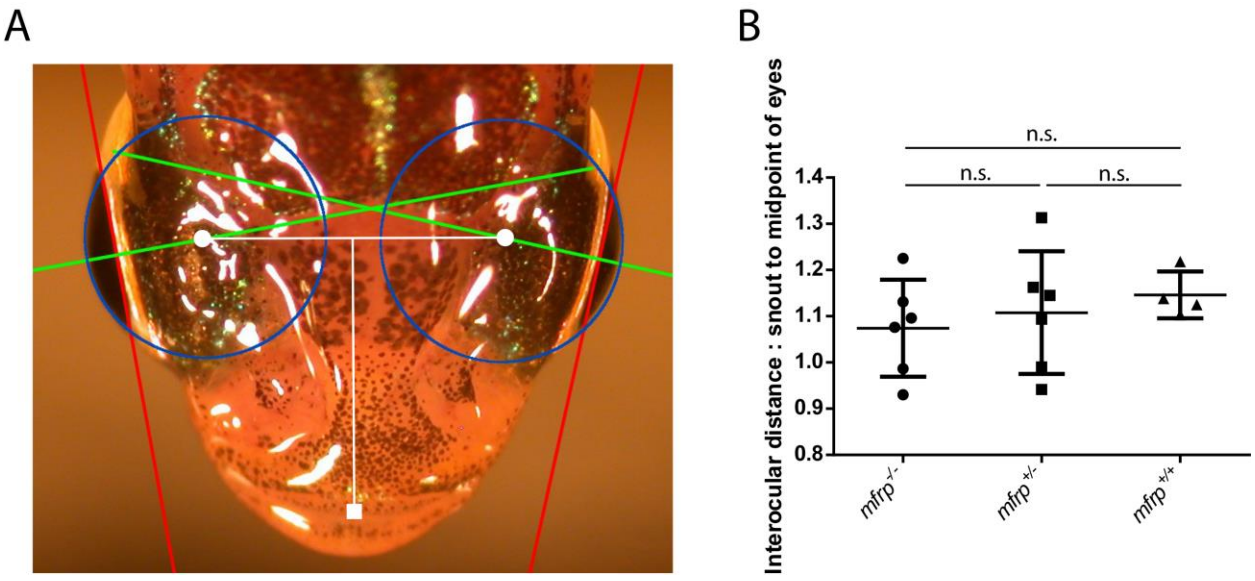
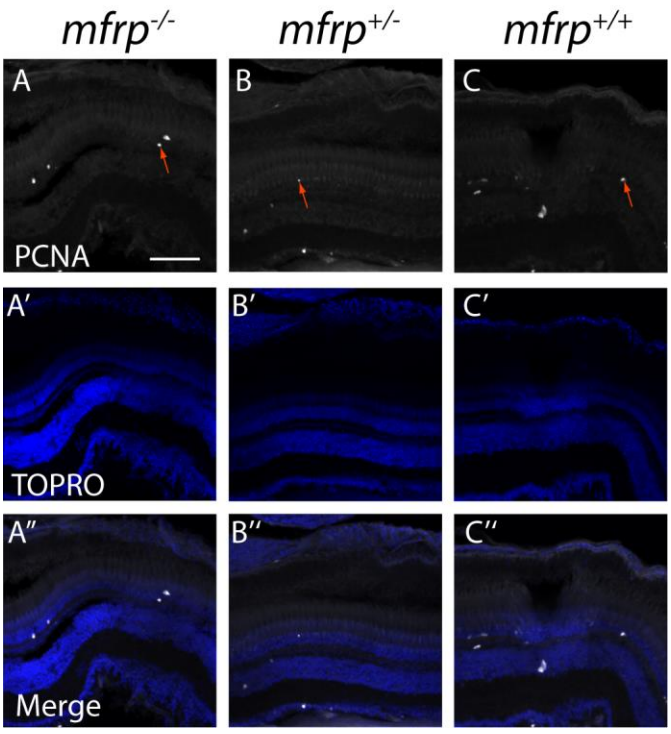
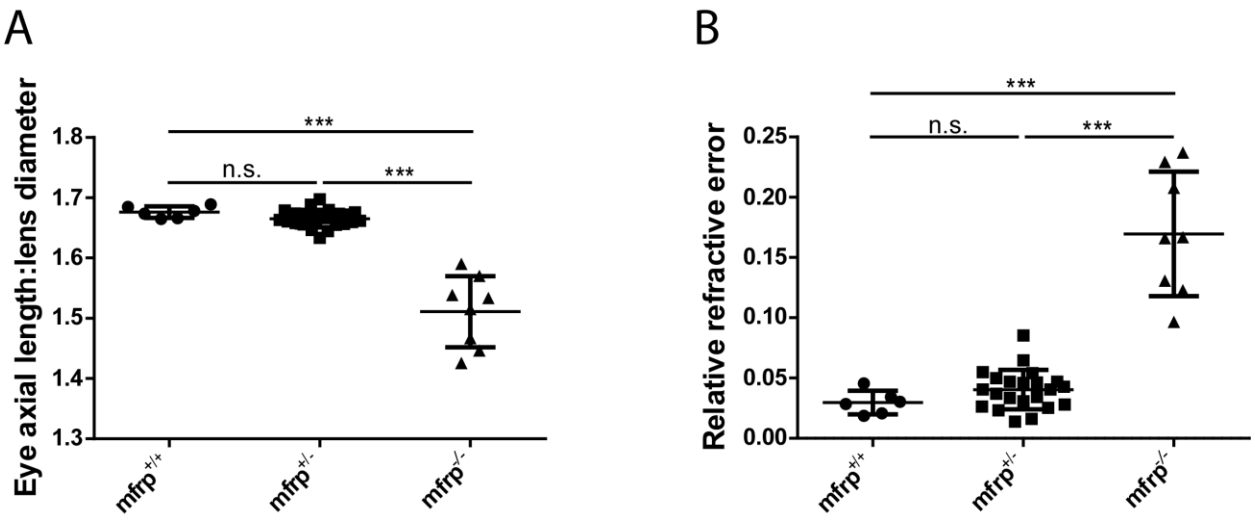


Supplemental Figure 1. Zebrafish *mfrp* mutants do not have shorter interocular distances than wild-type sibling controls. A. Zebrafish axial lengths were measured by SD-OCT and the same fish were imaged dorsally. Axial lengths (green) were used to calculate eye globe circumferences (blue) and geometric centers of eyes (white circles). The distance between centers of eyes was measured and normalized against the distance from the tip of the snout (white square) to the midpoint of the eyes to control for different overall sizes of fish. B. mfrp mutants did not show significantly different interocular distance:snout to midpoint of eyes ratio when compared to wild-type controls. Six fish were measured for *mfrp*$^{+/+}$ and *mfrp*$^{+/-}$ fish, while 4 fish were measured for *mfrp*$^{-/-}$.



Supplemental Figure 2. Zebrafish *mfrp* mutant eyes do not show increases in the cell proliferation marker, PCNA. *mfrp* mutant retinas (A) have similar numbers of cells that stain for proliferating cell nucleic antigen (PCNA) when compared to heterozygotes (B) or wild-type (C) controls. PCNA-positive cells are indicated by red arrows). A'-C'. TOPRO images. A"-C". Merged images. Scale bar: 100 µm.



Supplemental Figure 3. Zebrafish *mfrp*$^{7bp/23bp}$ mutants also exhibit hyperopia. Eye axial length:lens diameter ratios are significantly shorter in *mfrp*$^{7bp/23bp}$ mutants than control siblings at 2 mpf. Similarly, relative refractive error measurements of *mfrp*$^{7bp/23bp}$ mutant zebrafish show that they are significantly hyperopic compared to heterozygotes and wild-type controls. Six fish (12 eyes) were measured for *mfrp*$^{+/+}$ fish, 22 fish (44 eyes) were measured for *mfrp*$^{+/-}$ fish, and 8 fish (16 eyes) were measured for *mfrp*$^{-/-}$. ***, $p<0.0001$; n.s., not significant.