**Supplemental Material**

**Figure S1.** Representative SD-OCT scans of the anterior Em/J mouse eye at 7 months of age.

**Figure S2.** Allele-specific PCR amplification and gel-electrophoresis of exon-6 from *Fktn* with 3 primers (Table S1), indicated by arrows in the schematic below, confirming that the low-coverage p.S245T variant was a sequencing artefact.

**Table S1.** Gene-specific primers used for PCR-amplification and Sanger sequencing of novel variants in *Prx*, *Adamts10*, and *Abhd12*.

**Table S2.** Exome sequencing metrics for *Em*/J and CFW mice.

**Table S3.** *Em*/J and CFW mouse exome variants filtered against RefSeq Genes 59, dbSNP 146, and Ensembl 106 databases.