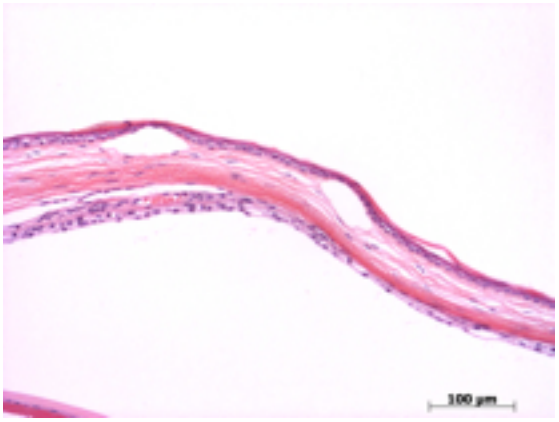
Gene: Mcph1 Genotype -/-

Sanger Colony: MBGX

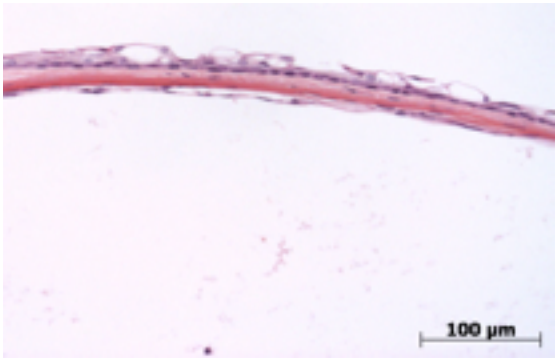
Abnormal Findings: Gross ocular abnormalities including cornea, lens, and retina. The abnormalities appear to be significantly more severe in the 4 albino eyes.

EYE Phenotype



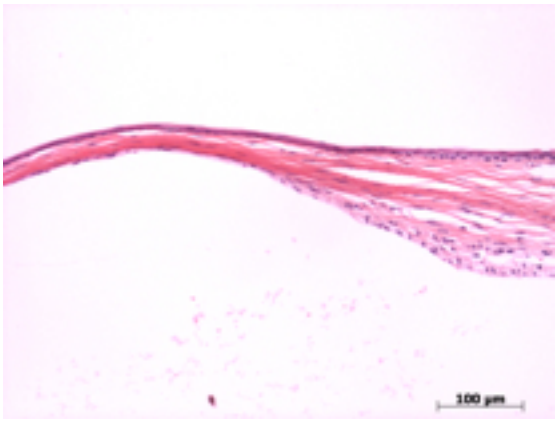
Cornea:

4/6. The corneas are thin with irregular lamellae and "vacuoles" in the stroma. An additional cellular layer (presumably iris) is attached to the endothelium, thickened, and shows large vessels.



Anterior chamber:

3/6. The anterior chamber showed cellular debris and hemorrhage in some cases. In this image, the epithelium shows "vacuoles".



Iris:

4/6. The iris (albino animal) appears fused to the cornea.

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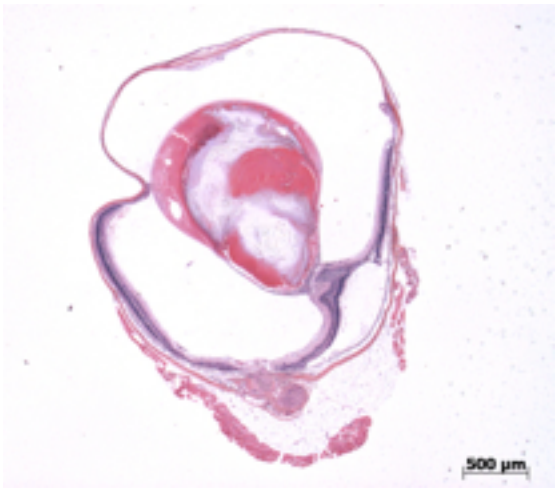
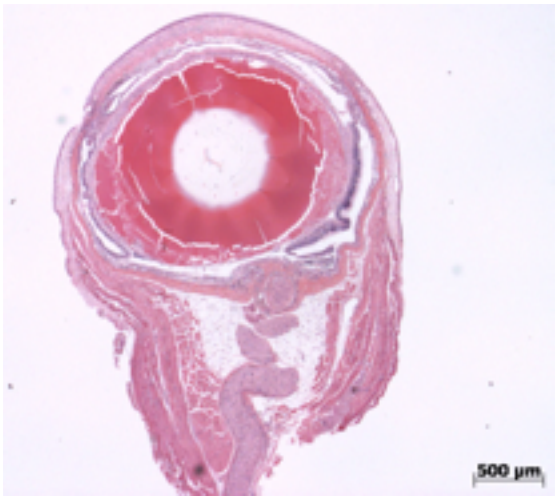
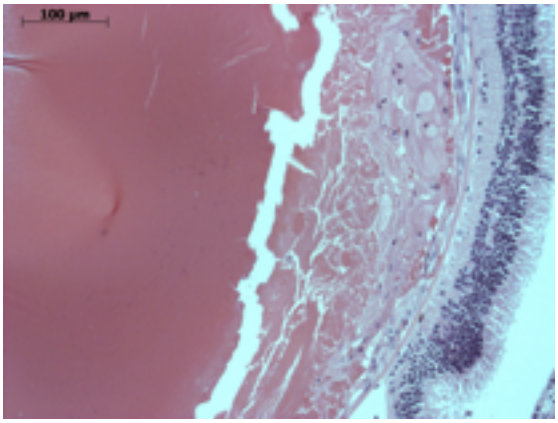


Lens:

4/6. There were cataractous lenses. The whole eye was severely malformed in 3/6 eyes.



This is another example of a grossly malformed eye. In this case the lens is large, but the surrounding structures are collapsed.



Lens:

There is a cataract with abnormal cells in the germinative zone. The retina is pressed against the posterior lens capsule.

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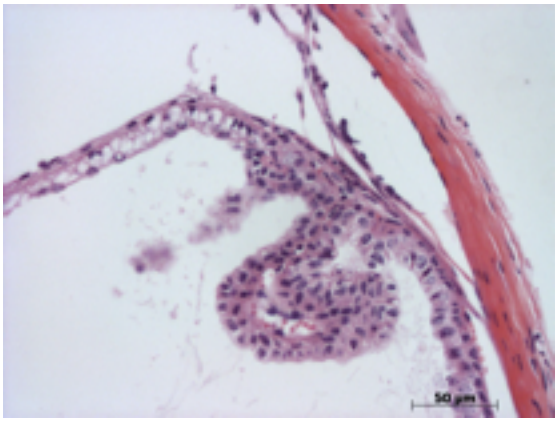
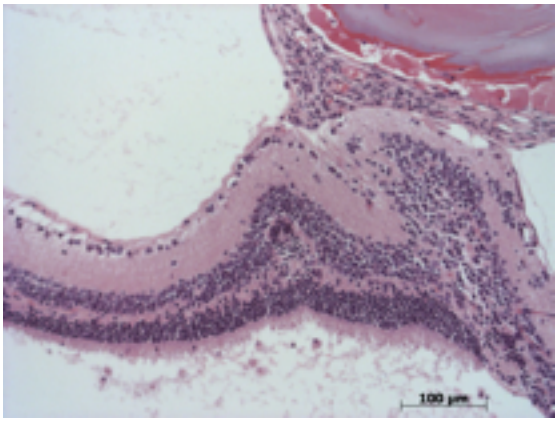


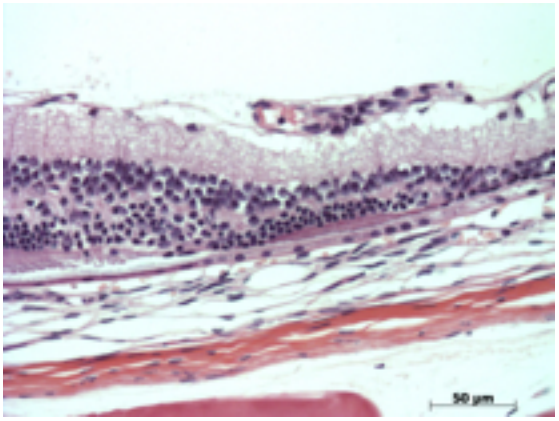
Ciliary body:

5/6. The ciliary body appeared relatively normal in both the albino and normal pigmented animals.



Vitreous:

4/6. There is debris in the vitreous. In this case, there are blood vessels and a cellular layer just posterior to the lens, and attached to a disorganized, folded retina. this image is the most severe.



Retina:

4/6. In this section, there is degeneration of the retinal cell layers..

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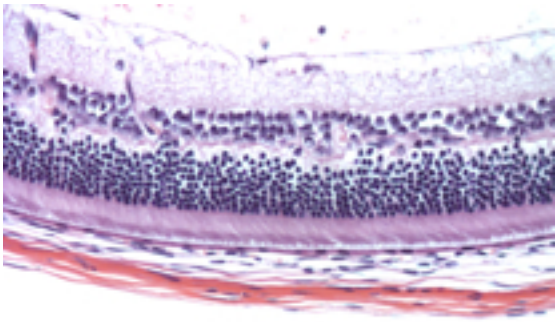
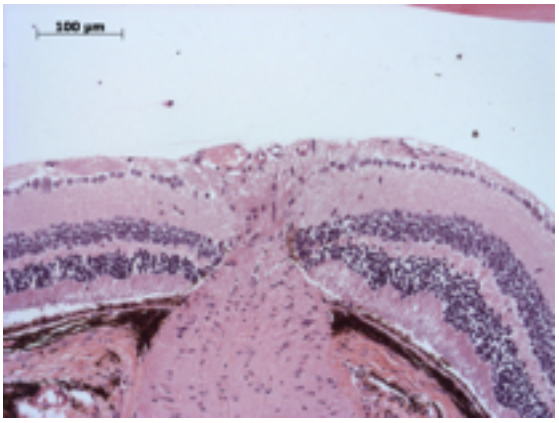


Retinal pigment epithelium and Choroid:

6/6. In this section, the RPE (and overlying photoreceptors) appears normal for an albino animal. The outer plexiform layer is thin. Bruch's membrane is intact. No neovascular membranes were noted.



Optic Nerve:

6/6. The nerve is normal.

Methods. 6 eyes from 3 male mice were enucleated by blunt dissection and fixed. Pupil-optic nerve sections were processed with hematoxylin and eosin, and standard images were captured under light microscopy for review.