



Accelerate Ophthalmic Therapeutic Development with Integrated Preclinical Solutions

At **Protheragen**, we provide end-to-end preclinical services for the discovery and development of innovative treatments for rare and complex ophthalmic diseases. Our expertise spans from early diagnostic development to IND-enabling studies for advanced modalities such as gene and cell therapy.

How We Support Your Program

Development Phase	Our Services
Target & Biomarker Discovery	Retinal tissue profiling, biofluid biomarker screening
Modeling & Evaluation	Subretinal/intravitreal models, organoids, retinal explants
Therapeutic Development	Gene therapy (AAV), cell therapy (RPE/retinal cells), small molecules
Preclinical Research	Safety, PK/PD, biodistribution, histology & functional assessments
Sample & Assay Support	Retina/cornea samples, cell lines, ELISA kits, qPCR panels

Disease We Focus On

- ▶ **Hereditary Retinal Disorders:** RP, LCA, Stargardt disease
- ▶ **Congenital/Vascular Diseases:** ROP, AMD, diabetic retinopathy
- ▶ **Autoimmune & Inflammatory:** Uveitis, scleritis
- ▶ **Ocular Tumors:** Retinoblastoma, uveal melanoma
- ▶ **Infectious & Degenerative:** AK, keratitis, dry eye



Ophthalmic Disease Models & Assays

In Vitro Systems

- ✓ Human corneal/retinal epithelial cell lines
- ✓ iPSC-derived RPE, retinal organoids
- ✓ Oxidative stress/inflammatory damage assays
- ✓ Neuroretinal co-culture platforms

In Vivo Models

- ✓ Rodent and large-animal subretinal/intravitreal injection
- ✓ Light-induced retinal degeneration
- ✓ Genetic models (rd1, rd10, Abca4^{-/-})
- ✓ Customizable for rare or tissue-specific pathology

Sample Resources & Analytical Tools

- ✓ **Tissues:** Human retina, cornea, choroid (FFPE/frozen)
- ✓ **Biofluids:** Aqueous humor, vitreous, plasma/serum (disease-matched)
- ✓ **Cell Products:** RPE cells, Müller glia, iPSC lines
- ✓ **Assays:** Biomarker ELISA, imaging analysis, qPCR, electroretinography (ERG)

All biospecimens collected under IRB-approved protocols with optional matched controls

We collaborate closely with researchers, biotech companies, and pharmaceutical developers to deliver tailored, efficient, and science-driven solutions.

Whether you're starting early discovery or preparing for IND, Protheragen is ready to support your goals. Let's explore how we can work together.

Please note that we are a research service provider and do not provide diagnostic or treatment services to individuals.