

INTEFERON GAMMA AS A THERAPEUTIC TO TREAT OCULAR DISEASES

SUMMARY

The National Eye Institute's Section on Epithelial and Retinal Physiology and Disease (SERPD) is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize therapeutics for ocular diseases caused by accumulation of sub-retinal fluid.

REFERENCE NUMBER

E-169-2008

PRODUCT TYPE

- Therapeutics

KEYWORDS

- ocular disease, accumulation, sub-retinal fluid
- retinal injury

COLLABORATION OPPORTUNITY

This invention is available for licensing and co-development.

CONTACT

Alan Hubbs

NEI - The National Eye Institute

240-276-5532

Alan.Hubbs@nih.gov

DESCRIPTION OF TECHNOLOGY

The National Eye Institute's Section on Epithelial and Retinal Physiology and Disease (SERPD) is seeking statements of capability or interest from parties interested in collaborative research to further develop, evaluate, or commercialize therapeutics for ocular diseases caused by accumulation of sub-retinal fluid.

The accumulation of subretinal fluid is associated with retinal injury, post-surgical complications, and numerous adverse ocular conditions, including chronic macular edema, age related macular degeneration, and diabetic retinopathy. Aberrant proliferation and migration of retinal pigment epithelial (RPE) cells is also associated with these conditions. Interferon gamma (IFN-gamma) has been implicated in the pathogenesis of a number of intraocular inflammatory or infectious diseases.

NIH inventors have shown that interferon-gamma (IFN-gamma) can significantly inhibit abnormal RPE proliferation and migration and can be used to remove subretinal fluid. The application of IFN-gamma may be by external application (e.g. eye drops or ointments) or by subretinal injection. This invention

may be used to treat the debilitating complications of age-related macular degeneration, chronic macular edema, diabetic retinopathy, retinal detachment, glaucoma, or other diseases that are associated with abnormal fluid accumulation in the subretinal space. Additionally, the invention describes methods for treating decreases in visual acuity associated with this type of fluid accumulation.

Further R&D Needed

- Preclinical Trials: Animal studies in a model system most appropriate to the proposed application
- Phase I clinical trials

R&D Status: Preclinical in vitro and animal model studies are in progress.

COMPETITIVE ADVANTAGES

- Novel method to remove subretinal fluid to inhibit abnormal RPE proliferation and migration
- Potential to treat numerous ocular diseases and decreases in visual acuity by either external application or injection
- Ability to reduce retinal injury and post-surgical complications associated with accumulation of subretinal fluid

INVENTOR(S)

Rong Li, [Sheldon Miller \(NEI\)](#), and [Arvydas Maminishkis \(NEI\)](#)

DEVELOPMENT STAGE

- Discovery (Lead Identification)

PATENT STATUS

- **U.S. Filed:** PCT/US2009/053808 (14 Aug 2009)

THERAPEUTIC AREA

- Eye and Ear