



Novel Treatments For "Dry" Age-Related Macular Degeneration

The Technology

Age-related Macular Degeneration (AMD) affects millions of people, progressively robbing them of their central vision and significantly reducing their quality of life. Without central vision, they are unable to read, recognize faces, drive, or perform countless daily activities. The vast majority of AMD cases consist of the "dry" form of the disease, in which the retinal pigment epithelium (RPE) atrophies, leading to the loss of the associated photoreceptor cells. There are no currently approved treatments to halt or reverse the loss of vision once dry AMD is recognized.

Researchers in the Department of Ophthalmology at the University of Tennessee Health Science Center have previously demonstrated that the presence of certain sugars will permit outer segment assembly and promote photoreceptor cell survival, even in the complete absence of an RPE. This activity is unrelated to the metabolic value of these sugars, as non-metabolizable sugars showed more potent activity. Most potent of all were certain multivalent oligosaccharides, which were effective at extremely low doses (as low as 10^{-9} M). US utility and a PCT patent applications have been filed on the use of these glycan in the treatment of AMD and other retinal diseases.

Related Publications:

- [Neuron Glia Biol. 2005 Jan;1:1-6;](#)
- [Mol Vis. 2003 Dec 16;9:701-9](#)

Benefits

- Be first to market with a treatment for dry AMD, which has no FDA-approved treatment options.
- Treatment market expected to be early and late cases of dry AMD.
- Bypass formulation difficulties by developing these compounds which have high aqueous solubility.
- Decreased safety risks due to expected absence of toxic metabolites.

The Inventor

Dr. Monica Jablonski is an Associate Professor of Ophthalmology at the University of Tennessee Health Science Center. Her research interests are mechanisms that regulate photoreceptor outer segment assembly, mouse models of eye disease, proteomics, retinal cell biology, and mutagenesis.

Patents

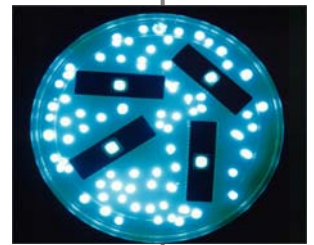
- One US and one PCT application filed.

Identifying, managing and licensing intellectual property from The University of Tennessee

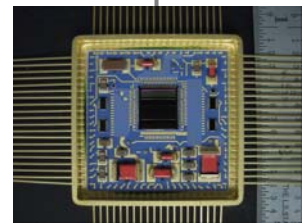
AGRICULTURE



BIOTECHNOLOGY



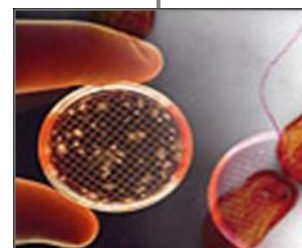
ENGINEERING



MATERIALS



MEDICINE





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Contact

The University of Tennessee Research Foundation (UTRF) is a non-profit corporation responsible for commercializing University of Tennessee technologies and for supporting University research. UTRF is presently seeking parties interested in learning more about this technology and in exploring possible research and/or commercialization arrangements.

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