Method for Treating or Preventing Steroid-Induced Glaucoma

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a method of using integrin antagonists to increase the outflow of fluid from the trabecular meshwork in the eye.

OVERVIEW

Glaucoma, the second leading cause of blindness worldwide, is characterized by elevated pressure in the eye, damage to the optic nerve head and progressive loss of vision. Following steroid treatment, 40 percent of patients exhibit increased intraocular pressure, a risk factor for glaucoma. Steroid responses in the eye are associated with changes in the actin cytoskeleton known as cross-linked actin networks (CLANs). The cross-linking and subsequent change in cell shape are likely to reduce the normal outflow of fluid from the trabecular meshwork in the eye, leading to increased intraocular pressure.

THE INVENTION

UW-Madison researchers have developed a method of using integrin antagonists to reduce the incidence of CLAN structures in trabecular meshwork cells, thereby increasing the outflow of fluid. CLAN formation is regulated by signaling mechanisms mediated by integrin receptors. Integrin inhibitors may be administered to a patient undergoing steroid treatment to disrupt those signaling mechanisms. The inhibitors interfere with the binding of a steroid-induced activator to an integrin or with signal transduction to the trabecular meshwork cells, reducing CLAN formation and decreasing the risk of glaucoma.

APPLICATIONS

• Preventing or treating steroid-induced glaucoma

KEY BENEFITS

• May be administered as a prophylactic to patients receiving steroid therapy
• Enables the continued use of steroids as a therapeutic
• May be administered as eye drops

THE WARF ADVANTAGE

WARF: A Leader in Technology Transfer Since 1925
Since its founding as a private, nonprofit affiliate of the University of Wisconsin–Madison, WARF has provided patent and licensing services to UW–Madison and worked with commercial partners to transform university research into products that benefit society. WARF intellectual property managers and licensing staff members are leaders in the field of university-based technology transfer. They are familiar with the intricacies of patenting, have worked with researchers in relevant disciplines, understand industries and markets, and have negotiated innovative licensing strategies to meet the individual needs of business clients.

The University of Wisconsin and WARF – A Single Location to Accelerate Translational Development of New Drugs
UW–Madison has the integrative capabilities to complete many key components of the drug development cycle, from discovery through clinical trials. As one of the top research universities in the world, and one of the two best-funded universities for research in the country, UW–Madison offers state-of-the-art facilities unmatched by most public universities.

These include the Small Molecule Screening Facility at the UW Comprehensive Cancer Center; the Zeeh Pharmaceutical Experiment Station, which provides consulting and laboratory services for developing formulations and studying solubility, stability and more; the Waisman Clinical Biomanufacturing Facility; the Wisconsin Institute for Medical Research, which provides UW–Madison with a complete translational research facility; and the innovative, interdisciplinary Wisconsin Institutes for Discovery, home to the private, nonprofit Morgridge Institute for Research and its public twin, WID, part of the university’s graduate school. The highly qualified experts at these facilities are ready to work with you to create a library of candidates for drug development.
ADDITIONAL INFORMATION

Tech Fields
Pharmaceuticals & Vitamin D - Ocular

CONTACT INFORMATION

For current licensing status, please contact John Nagel at jnagel@warf.org or 608-960-9848.