Aston University
Business Partnership Unit

Commercial Opportunity

Chronotherapeutic Drug Management for Glaucoma

Researchers at Aston University have developed a novel chronotherapeutic drug delivery system for the treatment of primary open-angle glaucoma. Aston's Business Partnership Unit is now actively seeking to commercialise this innovative treatment.

Highlights

- Dual-action, chronotherapeutic drug delivery system
- Controls intraocular pressure over 24 hours, reducing nocturnal pressure spikes
- Increases patient compliance by easy, once-a-day insertion

Background

Glaucoma remains a leading cause of permanent vision loss and blindness. Although no cure exists, early diagnosis and treatment can delay the disease's progression and significantly improve the patient's quality of life. Treatment aims to achieve a target intraocular pressure (IOP) and prevent further damage to the optic nerve. To minimize side-effects, only a minimal dose of medication is administered. Drug therapy for glaucoma has been further limited by poor patient compliance as medication, in most cases, requires administration 2-3 times per day. These factors have resulted in a high rate of disease progression and an increased requirement for surgical intervention. Although more recent therapies require only once-a-day administration, unwanted IOP spikes can still occur, especially during the early morning. During this time, these patients are susceptible to additional risk factors, including poor ocular perfusion that can further exacerbate progression of the disease.

The Technology

Aston's scientists have devised a laminate ophthalmic insert that is administered once-a-day, at night, improving patient compliance. The insert is produced from materials suitable for ophthalmic use, and is capable of releasing two drugs at different rates. The first drug is released at a slow, continuous rate. The second has a delayed onset and rapid release, to prevent possible IOP spikes during the early morning. This innovative treatment represents the first chronotherapeutic approach to glaucoma management.

The system delivers 24 hour IOP control together with improved ocular perfusion. This improves on currently available medication, particularly in those cases when the occurrence or progression of the disease is due to multiple risk factors.

Intellectual Property Protection

This technology has been granted a European Patent and is the subject of a US patent application:

Title	*Patents Granted*	*Patent Applications*	*Priority Claimed*	*Our Ref*
Chronotherapeutic Delivery System for Glaucoma	EP 1928407	US 11/992,272	September 21, 2005	PAT-2004-095

Further Information

Further information can be made available and commercial discussions commenced on entering into a non-disclosure agreement.

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