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Retrieving Sight: WSU Spinoff, RetroSense, Aims to Use Algae Gene to Aid Blind

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Retrieving sight

WSU spinoff, RetroSense, aims to use algae gene to aid blind

Gene-therapy, the technique of inserting genes into cells to treat disease, holds promise for many areas of medicine. For Zhuo-Hua Pan, Ph.D., professor of anatomy and cell biology in the School of Medicine, and Sean Ainsworth, founder of RetroSense Therapeutics LLC, the breakthrough therapy means restoring vision to millions of people suffering with incurable blindness.

Pan, along with colleagues at Salus University, has developed a novel gene-therapy approach for treating blindness caused by age-related macular degeneration (AMD) and retinitis pigmentosa (RP) – disorders that are currently incurable. The treatment delivers a photoreceptor gene from blue-green algae, which converts previously non-photosensitive retinal cells to photosensitive cells. The result is restored light responses in the retina.

AMD is the leading cause of blindness in people over 60, affecting more than 8 million people in the U.S. alone. Worldwide, 500,000 individuals lose their eyesight annually due to AMD, which is the result of progressive deterioration of the macula, the central portion of the retina.

RP is a genetically-determined eye disease caused by any of 100 different genes. An estimated 100,000 people in the U.S. have RP, which typically manifests as night blindness and progresses to tunnel vision and sometimes complete blindness.

Other technologies being developed to restore vision in patients with AMD and RP include implanted devices and stem cell technologies. However, stem cells can cause damage to surrounding cells and implanted devices are highly invasive and suffer from poor resolution. Pan's

technology holds the potential to restore vision while avoiding these negative side effects.

Ainsworth licensed the technology from Wayne State University in an effort to eventually test the technology in humans. While there is at least six years of research and testing needed before anything can be brought to the market, FDA Phase I tests should begin in early 2012.

With this technology, combined the business expertise of Ainsworth, a seasoned life sciences consultant and entrepreneur, Pan is hopeful his breakthrough treatment is on the fast track to restoring a vital part of the human experience for millions of people worldwide.

To learn more about RetroSense, visit:

<http://www.retro-sense.com/>



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