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Inventors

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Methods for Treating and Limiting the Development of Macular Degeneration

AzTE Case # M09-009

Invention Description

Age-related macular degeneration is the most frequent cause of blindness in the elderly. The disease is characterized by progressive apoptosis of retinal pigment epithelia (RPE) cells, inflammation, changes in the extracellular matrix and neovascularization of the tissue. Present research suggests that the disease may ultimately result from accumulation of lipofuscin, a highly heterogeneous mixture of compounds that accumulate, over time, in RPE cells.

Current treatment for macular degeneration can only suppress symptoms or slow disease progression. Researchers at Arizona State University's Biodesign Institute in collaboration with researchers at the Methuselah Foundation have discovered an enzyme that is capable of breaking down a major component of lipofuscin, pyridinium bisretinoid A2E. This discovery presents a novel treatment for macular degeneration, attacking the cause as opposed to symptoms alone.

Potential Applications

• Treatment of the cause of juvenile and age-related macular degeneration

Intellectual Property Status: Patent Pending

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Benefits and Advantages

- Enzyme breaks down A2E, a major component of lipofuscin, the buildup of which is thought be responsible for macular degeneration
- Superior to present treatment methods which target symptoms or slow disease progression