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**CONTACT**

Emily Robinson

206-441-7168

Emily.Robinson@hillandknowlton.com

Dan Boyle

310-633-9413

Daniel.Boyle@hillandknowlton.com

**ACUCELA HIGHLIGHTS DATA TO BE PRESENTED AT ARVO**

**-- Data from ACU-4429 Demonstrates Potential for Treatment of Dry Age-related Macular Degeneration (AMD), a Leading Cause of Vision Loss in People Over 50 --**

BOTHELL, Wash. (April 28, 2009) – Acucela today announced it will present new data on ACU-4429, an investigational therapy for dry age-related macular degeneration (AMD), at the 2009 Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting held in Fort Lauderdale, Florida from May 3 to May 7, 2009.

Data will be presented on the safety, tolerability and effectiveness of ACU-4429, a single-dose daily oral treatment for dry AMD, the most common form of the disease. All forms (wet and dry) of age-related macular degeneration affect more than 1.75 million people in the United States and are expected to increase to almost 3 million by 2020<sup>1</sup>. Currently, there is no approved medicinal therapeutic treatment for dry AMD. ACU-4429 is currently in Phase I trials, and a Phase II trial is expected to begin later this year.

“Though many companies have worked diligently to find a treatment for dry AMD, success has been elusive. Based on our early studies, our data has shown that ACU-4429 has the potential to be one of the first breakthroughs in the treatment of this devastating disease,” said Ryo Kubota, M.D., Founder and CEO of Acucela.

**Abstracts of Interest**

Abstracts are available and can be viewed on the ARVO website at [www.arvo.org](http://www.arvo.org). Identified below are abstracts of interest in Acucela research. Updated data will be presented at the meeting.

**ACU-4429**

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<sup>1</sup> Archives of Ophthalmology 2004; 122:564-572

- **Results from data demonstrating ACU-4429 as a potent inhibitor of isomerization activity *in vitro* and *in vivo* for the treatment of non-exudative AMD in a genetic animal model.**  
Lead author: Bavik C  
Abstract No. 1217 (Monday, May 4, 2009, 8:30am-10:15am)
- **An analysis of safety profile of ACU-4429 as an oral treatment of non-exudative AMD, conducted in multiple species**  
Lead author: McGee DH  
Abstract No. 1460 – A350 (Monday, May 4, 2009, 8:30am-10:15am)
- **Dose-escalating study of the safety, tolerability and pharmacokinetics of ACU-4429 in healthy volunteers**  
Lead author: Kubota R  
Abstract No. 5009 – A610 (Wednesday, May 6, 2009, 3:45pm-5:30pm)

#### **OcuScreen™**

- **An analysis of the effectiveness of OcuScreen™ to identify neuroprotective compounds that work *in vitro* and *in vivo*, through the screening of primary retinal compounds from mice**  
Lead author: Hayes S  
Abstract No. 678 0 D732 (Sunday, May 3, 2009, 11:15am-1pm)

ACU-4429 is a new therapeutic class of drugs known as “Visual Cycle Modulators,” which are designed to prevent or inhibit generation of by-products that can lead to degenerative eye conditions such as dry-type age-related macular degeneration and Stargardt’s Disease. Data to be presented will demonstrate the safety profile of ACU-4429 among healthy volunteers and also that ACU-4429 protects photoreceptors from acute light damage and reduces A2E/lipofuscin (considered a major contributor to retinal degenerative conditions) in a genetic animal model.

Acucela has developed assays that utilize long-lived, fully-differentiated primary retinal neurons for *in vivo* screening. The screens are referred to as OcuScreen™, which has been developed for drug discovery and detection of retinal toxins.

#### **About Acucela**

Acucela Inc. is a clinical-stage biotechnology company focused on developing new drug therapies for blinding eye diseases such as age-related macular degeneration (AMD), Stargardt disease, diabetic retinopathy and retinopathy of prematurity, as well as dry eye. Founded in 2002, Acucela works with proprietary disease-specific assays and technologies to identify and develop compounds that may safely and effectively treat retinal diseases. For more information, please visit [www.acucela.com](http://www.acucela.com).