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**Acucela Files Investigational New Drug Application
---- Orally-available Small Molecule for Dry Form of AMD ----**

BOTHELL – May 7, 2008 Acucela Inc., a clinical-stage biotechnology company focused on developing therapies for blinding eye diseases, announced today that it has filed an investigational new drug (IND) application to conduct a Phase 1 clinical trial for its lead compound ACU-02 with the U.S. Food and Drug Administration (FDA). The filing follows a successful pre-IND meeting in Washington D.C. where the company reviewed its current pre-clinical efficacy and safety data as well as development plans with FDA.

ACU-02 is an orally available small molecule modulator of the visual cycle, which is thought to play a key role in the pathophysiology of the dry form of age-related macular degeneration (AMD), a disease which afflicts over 29 million patients worldwide. In preclinical testing ACU-02 was found to be a potent modulator of the visual cycle with desirable pharmacokinetic profile, which significantly decreased the accumulation of the retinal related toxic by-product A2E that is believed to damage retinal cells, leading to the decrease or loss of vision in AMD patients. Acucela plans to initiate dosing of healthy normal volunteers in a double-masked, placebo-controlled, single ascending-dose study to evaluate the safety, tolerability, and pharmacokinetics of ACU-02 before the end of the second quarter of this year.

“We believe ACU-02 is a unique, first-in-class, potent, small molecule which holds significant promise for the millions of patients suffering the debilitating effects of dry AMD,” said Ryo Kubota, MD, Ph.D., Acucela’s chief executive officer. “Given the fact that this is a non-retinoid compound, we believe that it will have a better side effect profile, and additionally, this product candidate is delivered orally—an administration method which we believe would be popular with patients given that current AMD treatments are delivered by injection.”

About Dry Age-Related Macular Degeneration

Age-related macular degeneration afflicts over 29 millions people worldwide and is segmented into “dry” and “wet” forms of the disease. Dry AMD accounts for approximately 90 percent of the total AMD population, and unlike wet AMD, there are no approved therapies for the disease, which is currently the leading cause of vision loss in people over the age of 50.

About Acucela

Acucela Inc. is focused on developing new drug therapies for eye diseases, and particularly neurodegenerative retinal diseases such as macular degeneration. The company has proprietary disease-specific assays and technologies to identify and develop compounds that may safely and effectively treat retinal diseases and injuries. The company’s novel approaches have significant therapeutic potential to treat retinal diseases such as Age-related Macular Degeneration (AMD) and Stargardt disease, which affect 50 million people worldwide. The Bothell-based, privately-held, biotechnology company was founded in 2002. For more information, please visit <http://www.acucela.com>

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