

ACT Files European Clinical Trial Application for Phase 1/2 Study Using Embryonic Stem Cells to Treat Macular Degeneration

Proposed Trial to Use Retinal Pigment Epithelial Cells Derived from Embryonic Stem Cells to Treat Stargardt's Macular Dystrophy

MARLBOROUGH, Mass. – April 20, 2011 - Advanced Cell Technology, Inc. (“ACT”; [OTCBB: ACTC](#)), a leader in the field of regenerative medicine, announced today that it has filed a clinical trial application (CTA) with the European Medicines and Healthcare products Regulatory Agency (MHRA) seeking clearance to initiate its Phase 1/2 clinical trial using retinal pigment epithelial (RPE) cells derived from human embryonic stem cells (hESCs) to treat patients with Stargardt's Macular Dystrophy (SMD).

"With this filing, our initiatives in Europe are really starting to gain momentum," said Gary Rabin, interim chairman and CEO of ACT. "Through data from this proposed trial, and the two trials we are preparing to commence in the United States, we are eagerly anticipating beginning to assess the capabilities of our RPE cells to repair and regenerate the retina. As in the US, we also intend to file in Europe for clinical trials involving Dry Age-Related Macular Degeneration (Dry AMD) and other degenerative diseases of the retina, concurrently targeting the two largest pharmaceutical markets in the world."

The proposed clinical trial will be a prospective, open-label study that is designed to determine the safety and tolerability of the RPE cells following sub-retinal transplantation to patients with advanced SMD, similar to the FDA-cleared U.S. trial which is set to commence in the first half of this year. During the CTA review process, which requires a minimum of 60 days, the reviewers decide if an applicant is permitted to proceed with its proposed clinical trial. Additional information may be requested from the applicant, which could extend the review period.

"We are very excited about this European filing, because our preclinical data from various animal models with hESC-derived RPE cells have been tremendously encouraging," said Robert Lanza, M.D., chief scientific officer at ACT. "In rats we have seen 100 percent improvement in visual performance over untreated animals without any adverse effects. Near-normal function was also achieved in a mouse model of Stargardt's disease."

In 2010, the US Food and Drug Administration (FDA) granted Orphan Drug designation for ACT's RPE cells for treating SMD, and earlier this year the company received a positive opinion from the Committee for Orphan Medicinal Products (COMP) of the European Medicines Agency (EMA) towards designation of this product as an orphan medicinal product for the treatment of Stargardt's disease. ACT anticipates adoption of the EMA's recommendation by the European Commission in coming weeks.

About Stargardt's Macular Dystrophy and Degenerative Diseases of the Retina

Stargardt's Macular Dystrophy (SMD) is one of the most common forms of macular degeneration in the world. SMD causes progressive vision loss, usually starting in children between 10 to 20 years of age. Eventually, blindness results from photoreceptor loss associated with degeneration in the pigmented layer of the retina, called the retinal pigment epithelium or RPE cell layer.

Degenerative diseases of the retina are among the most common causes of untreatable blindness in the world. As many as thirty million people in the United States and Europe suffer from macular degeneration, which represents a \$25-30 billion worldwide market that has yet to be effectively addressed. Approximately 10% of people ages 66 to 74 will have symptoms of macular degeneration, the vast majority the "dry" form of AMD – which is currently untreatable. The prevalence increases to 30% in patients 75 to 85 years of age.

About Advanced Cell Technology, Inc.

Advanced Cell Technology, Inc. is a biotechnology company applying cellular technology in the field of regenerative medicine. For more information, visit <http://www.advancedcell.com>.

Forward-Looking Statements

Statements in this news release regarding future financial and operating results, future growth in research and development programs, potential applications of our technology, opportunities for the company and any other statements about the future expectations, beliefs, goals, plans, or prospects expressed by management constitute forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Any statements that are not statements of historical fact (including statements containing the words "will," "believes," "plans," "anticipates," "expects," "estimates," and similar expressions) should also be considered to be forward-looking statements. There are a number of important factors that could cause actual results or events to differ materially from those indicated by such forward-looking statements, including: limited operating history, need for future capital, risks inherent in the development and commercialization of potential products, protection of our intellectual property, and economic conditions generally. Additional information on potential factors that could affect our results and other risks and uncertainties are detailed from time to time in the company's periodic reports, including the report on Form 10-K for the year ended December 31, 2010. Forward-looking statements are based on the beliefs, opinions, and expectations of the company's management at the time they are made, and the company does not assume any obligation to update its forward-looking statements if those beliefs, opinions, expectations, or other circumstances should change. Forward-looking statements are based on the beliefs, opinions, and expectations of the company's management at the time they are made, and the company does not assume any obligation to update its forward-looking statements if those beliefs, opinions, expectations, or other circumstances should change. There can be no assurance that the Company's clinical trials will be successful.

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