



Advanced Cell Technology's Studies to Support Phase I Multicenter Trial of Patients with Stargardt's Macular Dystrophy Demonstrate Excellent Safety Profile

WORCESTER, MA – (BUSINESS WIRE) Advanced Cell Technology, Inc. ("ACT"; OTCBB: [ACTC](#)) announced today that it has completed key animal studies in connection with its Phase I multicenter study using embryonic stem cell derived Retinal Pigment Epithelium (RPE) cells to treat patients with Stargardt's Macular Dystrophy (SMD), for which it filed an Investigational New Drug Application (IND) with the US Food and Drug Administration (FDA) in November. The studies demonstrated an excellent safety profile with no safety signals such as tumors or ectopic tissues. The studies were designed to address the FDA's request for additional data on tumorigenicity and biodistribution. The Company believes that the data will support the FDA granting clearance for the Company to commence the SMD study in humans later this year. The studies were completed in conjunction with Sinclair Research, based in Columbia, Missouri, Charles River Labs, MPI and Althea Labs, which have been the company's outside independent collaborators on both studies.

"We believe these animal studies demonstrate an excellent safety profile for our RPE cell therapy," said William M. Caldwell IV, ACT's Chairman & CEO. "We look forward to concluding our discussions with the FDA so that we can commence our study later this year."

The Phase I trial will be a prospective, open-label study that is designed to determine the safety and tolerability of the retinal pigment epithelium (RPE) cells following sub-retinal transplantation to advanced patients with SMD. A total of twelve patients will be enrolled into the study at three clinical sites, to include the Casey Eye Institute, Portland, Oregon (headed by Dr. Peter Francis of the Oregon Health & Sciences University); the University of Massachusetts Memorial Medical Center, Worcester, Massachusetts (headed by Dr. Shalesh Kaushal, Chair of the Department of Ophthalmology); and the UMDNJ – New Jersey Medical School, Newark, New Jersey (headed by Dr. Marco Zarbin, Chair, Institute of Ophthalmology and Visual Science).

Degenerative diseases of the retina are among the most common causes of untreatable blindness in the world. As many as ten million people in the United States have photoreceptor degenerative disease. While most of these patients have Age-Related Macular Degeneration (AMD), a smaller number of patients have Stargardt's Macular Dystrophy, a disease indication for which ACT was granted "Orphan Status" for its proposed clinical trial by the US Department of Health and Human Services earlier this year. ACT's treatment for eye disease is sourced with human Pluripotent stem cells that are differentiated into RPE

cells used to augment the patient's existing, deteriorating RPE layer. The RPE cells are often the first to die off in SMD and AMD, which is a contributor to the patient's loss of vision.

Several years ago ACT scientists successfully derived RPE cells from human embryonic stem cells. Later, they were able to derive them from cells developed from the Company's proprietary "blastomere" technology that does not destroy the embryo. Subsequent studies found that the cells could restore vision in animal models of macular degeneration. In the Royal College of Surgeon (RCS) rat model, implantation of RPE cells resulted in 100% improvement in visual performance over untreated controls, without any adverse effects. The cells survived for more than 220 days and sustained extensive photoreceptor rescue. Functional rescue was also achieved in the "Stargardt's" mouse with near-normal functional measurements recorded at more than 70 days.

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, 2009.

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.

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