

October 14, 2014



ACT Announces Positive Results from Two Clinical Trials Published in The Lancet Using Differentiated Stem Cell-Derived Retinal Pigment Epithelium (RPE) Cells for the Treatment of Macular Degeneration

Phase 1/2 Clinical Trials of RPE Cells for the Treatment of Dry Age-Related Macular Degeneration and Stargardt's Macular Degeneration Show Positive Long Term Safety Results and Signs of Visual Improvement

*ACT to Host a Conference Call on Wednesday, October 15, 2014 at 4:30 PM Eastern Time. Interested Parties may access the call live by dialing (888) 264-3177 and using Conference ID **18428590**. A Webcast is available at*

<http://engage.vevent.com/rt/act~advancedcelltechnology101514>

MARLBOROUGH, Mass.-- Advanced Cell Technology, Inc. ("ACT"; OTCBB: ACTC), a leader in the field of regenerative ophthalmology, announced today that Phase 1/2 clinical data published online in *The Lancet* demonstrate positive long-term safety results using ACT's proprietary Retinal Pigment Epithelium (RPE) cells for the treatment of Stargardt's macular degeneration (SMD) and dry age-related macular degeneration (AMD). The publication features data from 18 U.S.-based patients with at least six months of post-transplant follow-up.

"These study results represent an important milestone and strengthen our leadership position in regenerative ophthalmology," said Paul K. Wotton, Ph.D., President and Chief Executive Officer. "We would like to thank the patients for their willingness to participate in these studies. Our findings underscore the potential to repair or replace tissues damaged from diseases. We plan to initiate comprehensive Phase 2 clinical trials for the treatment of both AMD and SMD, two disease states where there is currently no effective treatment."

These two studies provide the first evidence of the mid- to long-term safety, survival, and potential biologic activity of pluripotent stem cell progeny into humans with any disease. In

addition to showing no adverse safety issues related to the transplanted tissue, anatomic evidence confirmed successful engraftment of the RPE cells, which included increased pigmentation at the level of the RPE layer after transplantation in 13 of 18 patients.

Robert Lanza, M.D., Chief Scientific Officer of ACT and co-senior author of the paper, commented, “Diseases affecting the eye are attractive first-in-man applications for this type of investigational therapy due to the immune-privileged nature of the eye. Despite the degenerative nature of these diseases, the vision of 10 of 18 patients showed measurable improvement at the six month follow up, after transplantation of the RPE cells. Furthermore, the cells have been well tolerated for a median period of 22 months with two of the patients treated more than three years ago. We are pleased that there have been no serious safety issues attributable to the cells observed in any of the patients.”

Vision was measured using the widely accepted standard for visual acuity testing, the Early Treatment Diabetic Retinopathy Study (ETDRS) visual acuity exam.

Steven Schwartz, M.D., Ahmanson Professor of Ophthalmology at the David Geffen School of Medicine at UCLA and retina division chief at UCLA’s Jules Stein Eye Institute, principal investigator and lead author of the publication said “The data published in *The Lancet* support the potential safety and biological activity of stem cell-derived retinal tissue. Once again, surgical access to the subretinal space has proven safe. However, for the first time in humans, terminally differentiated stem cell progeny seem to survive, and do so without safety signals. Combined with the functional signals observed, these data suggest that this regenerative strategy should move forward. This is a hopeful and exciting time for ophthalmology and regenerative medicine.”

About the Trials

The SMD and dry AMD trials are prospective, open-label studies designed to evaluate the safety and tolerability of human embryonic stem cell (hESC)-derived RPE cells following sub-retinal transplantation into patients at 12 months, the studies’ primary endpoint. Three dose cohorts were treated for each condition in an ascending dosage format (50,000 cells, 100,000 cells, and 150,000 cells). Both the SMD and dry AMD patients had subretinal transplantation of fully-differentiated RPE cells derived from hESCs. In addition to the two clinical trials in the U.S., ACT is carrying out a Phase 1/2 clinical trial of hESC-derived stem cells for the treatment of SMD in the United Kingdom.

About Age-related Macular Degeneration

Age-related macular degeneration is the leading cause of vision loss in people over the age of 50, with late stage AMD affecting about 30 million people worldwide. Dry AMD, accounts for 90 percent of all AMD and occurs when light-sensitive cells in the macula, located in the center of the retina, slowly break down, causing vision loss. As the disease progresses, patients may have difficulty reading and recognizing faces. There is currently no proven medical therapy for dry AMD. Including the earlier stages of disease, the

projected number of people worldwide with age-related macular degeneration in 2020 is 196 million, increasing to 288 million in 2040 underscoring the urgent need for new treatments.

About Stargardt's Disease

Stargardt's macular degeneration is a form of juvenile macular degeneration that affects vision in children and young adults between the ages of six and 20, with a prevalence of approximately one in 10,000 people. Loss of vision is an inevitable aspect of SMD, with more than half of patients experiencing vision loss in the range of 20/200-20/400. Like dry AMD, there are no treatments currently approved to prevent or slow the vision loss associated with SMD.

About Advanced Cell Technology, Inc.

Advanced Cell Technology, Inc., (ACT) is a clinical stage biotechnology company focused on the development and commercialization of regenerative medicine and cell therapy technology. ACT's most advanced products are in clinical trials for the treatment of dry age-related macular degeneration, Stargardt's macular degeneration and myopic macular degeneration. ACT's preclinical programs involve cell therapies for the treatment of other ocular disorders and for diseases outside the field of ophthalmology, including autoimmune, inflammatory and wound healing-related disorders. ACT's intellectual property portfolio includes pluripotent stem cell platforms – hESC and induced pluripotent stem cell (iPSC) – and other cell therapy research programs. For more information, visit www.advancedcell.com

Forward-Looking Statements

All statements, other than historical facts, contained in this news release, including statements regarding the relevance and applicability of clinical trials, potential new applications of and expanded indications covering ACT's technology, the effect of ACT's products on the medical needs and quality of life of study subjects or other patients, ACT's potential product pipeline and development efforts, and any other statements about ACT's future expectations, beliefs, goals, plans, results 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: the fact that ACT has no product revenue and no products approved for marketing; ACT's limited operating history; the need for and limited sources of future capital; potential failures or delays in obtaining regulatory approval of products; risks inherent in the development and commercialization of potential products; reliance on new and unproven technology in the development of products; the need to protect ACT's

intellectual property; the challenges associated with conducting and enrolling clinical trials; the risk that the results of clinical trials may not support the Company's drug candidate claims; even if approved, the risk that physicians and patients may not accept or use ACT's products; ACT's reliance on third parties to conduct its clinical trials and to formulate and manufacture its product candidates; 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 ACT's periodic reports, including the Quarterly Report on Form 10-Q for the three and six months ended June 30, 2014. Forward-looking statements are based on the beliefs, opinions, and expectations of ACT's management at the time they are made, and ACT 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 ACT's management at the time they are made, and ACT 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 ACT's future clinical trials will be successful or that the results of previous clinical studies will lead to commercialization or products or therapies .

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Source: Advanced Cell Technology, Inc.