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ImmunoCellular Therapeutics Provides Update on ICT-107 Phase 3 Glioblastoma Trial and Announces Advances in Stem-to-T-Cell Research Program

- ICT-107 Protocol Amendment Being Implemented in US Clinical Sites; Amended Protocol Submissions Underway in Europe and Canada.
- Successful Sequencing of Target T Cell Receptor Gene is Key Step in Advancing toward Identification of Potential Clinical Candidate in Stem-to-T-Cell Program.

LOS ANGELES, March 6, 2017 /PRNewswire/ -- ImmunoCellular Therapeutics, Ltd. ("ImmunoCellular") (NYSE MKT:IMUC) today provided an update on the Company's ICT-107 phase 3 registration trial in newly diagnosed glioblastoma, and announced advances in its Stem-to-T-cell Research program.

ICT-107 Phase 3 Trial in Newly Diagnosed Glioblastoma Update

As previously disclosed, ImmunoCellular submitted an amendment of the ICT-107 phase 3 protocol to the US FDA. The key change in this amendment will enable patients to be randomized 30 days after commencing screening procedures, accelerating the time to randomization by approximately 2 months.

"We are pleased to announce that the amendment is currently being implemented at US clinical sites and that amended protocol submissions are underway in Europe and Canada," said Anthony Gringeri, PhD, ImmunoCellular President and Chief Executive Officer. "As anticipated, as a result of the protocol change, the Special Protocol Assessment (SPA) which was based on the original protocol, is no longer applicable. We will engage in further discussions with the FDA concerning the SPA in the future. The change in the status of the SPA will not materially impact the execution of the phase 3 trial, and data generated from this phase 3 study can still be used as primary evidence to support a marketing application."

Advances in the Stem-to-T-Cell Research Program

ImmunoCellular today announced successful completion of the first milestone for the Company's Stem-to-T-cell program, the sequencing of a selected T cell receptor (TCR) gene. When inserted into a blood stem cell, this TCR gene is expected to enhance patients' immune systems to produce killer T cells programmed to attack tumors. This Stem-to-T-cell therapeutic strategy has the potential to provide a safer, sustainable and more specific immune treatment for cancer.

"We are excited that our Stem-to-T-cell program is advancing well and look forward to working with our collaborators at The University of Texas MD Anderson Cancer Center to develop antigen-specific killer T cells. This approach potentially represents a major advance in cancer immunotherapy and may overcome the challenge of short-lived T cell responses seen with the present forms of T cell and CAR-T therapies," said Steven J. Swanson, PhD, ImmunoCellular's Senior Vice President, Research.

Achieving this milestone required completion of several critical steps: the collection and analysis of multiple clones of cells containing the target TCR genes, harvesting the plasmids with the TCR gene, and then sequencing that gene. Next, ImmunoCellular Therapeutics will initiate development of the gene therapy component. This phase entails loading the TCR gene sequence into a viral vector (such as a lentivirus) for delivery into the patient's hematopoietic stem cells which could become, in essence, an internal factory producing antigen-specific killer T cells. Once these fundamental elements are in place, a product candidate for testing in cell lines and suitable preclinical models may be generated. Successful testing would potentially lead to human clinical trials.

In November 2015, ImmunoCellular entered into a sponsored research agreement with MD Anderson, with Dr. Cassian Yee as principal investigator, which focused on identifying T cells that find and kill tumor cells expressing a target antigen. The ultimate goal of this work is to establish a clinical program based on hematopoietic stem cells that are isolated from the

patient, modified with the TCR gene sequence, and then returned to the patient. These modified stem cells would continually produce antigen-specific killer T cells that target and kill the tumor.

ImmunoCellular plans to provide a more detailed update on the ICT-107 phase 3 trial and the Stem-to-T-cell program when it reports fourth quarter and full year 2016 financial results in March.

About ImmunoCellular's Stem-to-T-Cell Program

ImmunoCellular's Stem-to-T-cell program seeks to create antigen-specific cytotoxic or "killer" T cells that attack tumors in patients. Autologous hematopoietic stem cells (HSCs) are collected from cancer patients and transfected using a T cell receptor sequence that recognizes the patient's tumor. After transfection, the HSCs would be administered to the patient. These transfected HSCs, now containing the T cell receptor gene, would migrate to the patient's bone marrow and re-establish residence. In addition to replicating transformed HSCs, these cells would begin producing cytotoxic T cells specifically targeting the patient's tumor. These cytotoxic T cells would migrate to the tumor location and begin the process of tumor destruction. This renewable population of killer T cells provides ongoing surveillance to prevent disease recurrence.

ImmunoCellular's collaboration with the University of Maryland, established in January 2016, is designed to enhance the Company's dendritic cell (DC) and stem cell technology platforms. It is comprised of three projects currently underway. In the first project, collaborators have screened and identified FDA approved small molecule drugs that behave effectively like checkpoint inhibitors, and potentially preventing cancer cells from evading the immune system. These small molecules appear to down-regulate important tumor features, such as the PD-1 ligand on the surface of the tumor cells, and also up-regulate the display of tumor specific antigens. If successfully developed, they could be used in combination with ImmunoCellular's DC or Stem-to-T-cell therapies, augmenting their ability to recognize and kill tumors cells.

A second project represents new ways to engineer T cells for combination with DC immunotherapy by amplifying T cell properties directed toward tumor antigens. A third project focuses on modifying antigens for enhanced DC immunotherapy, including novel peptide configurations for use in DC-based products to induce enhanced T cell responses.

About ImmunoCellular Therapeutics, Ltd.

ImmunoCellular Therapeutics, Ltd. is a Los Angeles-based clinical-stage company that is developing immune-based therapies for the treatment of brain and other cancers. The Company's lead product candidate, ICT-107, is a patient-specific, dendritic cell-based immunotherapy targeting glioblastoma and is currently being studied in an international phase 3 trial. ImmunoCellular's pipeline also includes: ICT-121, a patient-specific, dendritic cell-based immunotherapy targeting CD133 found in recurrent glioblastoma; ICT-140, a patient-specific, dendritic cell-based immunotherapy targeting ovarian cancer; and the Stem-to-T-cell research program which engineers hematopoietic stem cells to generate cytotoxic T cells. To learn more about ImmunoCellular, please visit www.imuc.com.

Forward-Looking Statements for ImmunoCellular Therapeutics

This press release contains certain forward-looking statements, including statements regarding ImmunoCellular's intentions and current expectations concerning, among other things, the development of the preclinical Stem-to-T-cell program and whether any early stage research programs can lead to successful development of product candidates for human clinical trials; timing for enrollment and randomization of patients in ongoing clinical trials and the receipt and announcement of clinical data; the development and commercialization of ICT-107; and ImmunoCellular's ability to achieve its other clinical, operational and financial goals. Forward-looking statements are not guarantees of future performance and are subject to a number of risks and uncertainties, including the availability of resources to continue to develop ImmunoCellular's product candidates, the uncertain timing of completion and success of clinical trials, and the risk that ICT-107 can be further successfully developed or commercialized. Additional risks and uncertainties are described under the heading "Risk Factors" in ImmunoCellular's most recently filed quarterly report on Form 10-Q and annual report on Form 10-K. Except as required by law, ImmunoCellular undertakes no obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

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