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## **ImmunoCellular Therapeutics Achieves Key Milestone in Stem-to-T-Cell Research Immuno-Oncology Program**

### **Completes Important First Step toward Production of Unlimited Killer T Cells Designed to Attack Cancer Cells**

LOS ANGELES, Dec. 13, 2017 /PRNewswire/ -- ImmunoCellular Therapeutics, Ltd. ("ImmunoCellular" or the Company) (NYSE American: IMUC) announced today that it has achieved a key milestone in its research-stage Stem-to-T-Cell immuno-oncology program. The milestone represents an important step toward stimulating the patient's immune system to produce an unlimited supply of killer T cells that specifically target and destroy tumor cells with minimal side effects. This approach could be effective in treating many types of cancers.



The research team at ImmunoCellular successfully packaged a T cell receptor (TCR) DNA sequence into a lentiviral vector, which was then used to transfect human hematopoietic stem cells. The Company has been able to verify successful transfer of genetic material into the stem cells, and plans to continue to work toward optimizing the transfection process. The Company believes that this completed phase of the Stem-to-T-Cell development is an important component of the proof-of-concept work for this technology, and represents a critical step in advancing toward preclinical testing.

"We are excited to have achieved this critical initial milestone in our Stem-to-T-Cell program, and to have generated a body of scientific evidence of successful transfection and proof that the transfected human hematopoietic stem cells bearing the TCR were able to grow robustly for several generations," said Steven J. Swanson, PhD, Senior Vice President, Research. "We and our collaborators are on schedule to undertake next anticipated steps designed to enhance the transfection process and advance toward preclinical testing. We remain committed to our vision to develop solutions for intractable cancers, extending the lives of cancer patients, and providing hope for a potential cure. We believe that our Stem-to-T-Cell program is potentially a game-changing treatment for cancer."

Anthony J. Gringeri, PhD, President and Chief Executive Officer commented: "We are proud of the achievements of our research team and the important scientific validation of our Stem-to-T-Cell program generated to date. We believe that our stem cell technology represents a major step forward in immuno-oncology, and has the potential for meaningful advantages over other novel immuno-oncology technologies, including use in combination approaches. With our strengthened financial condition and cash reserves, we intend to continue to focus our resources on achieving additional research milestones over the next 18 months. We are also continuing to explore potential collaborations for our clinical programs and other strategic alternatives for our Company."

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

Based on the technology in-licensed from The California Institute of Technology in 2014 ImmunoCellular's Stem-to-T-Cell program is designed to harness the power of the immune system in highly directed and specific ways to engineer highly antigen-specific tumor killing. At the core of the Stem-to-T-Cell technology is harvesting stem cells from cancer patients and then cloning into them T cell receptors that are specific for cancer cells. These engineered stem cells can then be reintroduced into the patient and are pre-programed to produce daughter cells that are antigen specific killer T cells that are capable of identifying, binding to, and killing cancer cells. Because stem cells are immortal, these reengineered stem cells could provide a natural and perpetual source of T cells that can target and destroy cancer cells in the patient.

The Stem-to-T-Cell platform has the potential to address many types of cancer, including both solid and hematological tumors and has the potential to result in a potentially curative therapy for many different types of cancers. The stem cell platform represents a novel and more direct approach to generating killer T cells by using the patient's stem cells as starting material. Thus, ImmunoCellular's Stem-to-T-Cell technology shares some similarities with other immuno-oncology technologies, such as CAR-T, and could potentially be used in combination approaches. Unlike CAR-T therapies which deliver a large bolus of active T cells into the patient's circulation and have been associated with toxicity in some patients,

ImmunoCellular's approach enables a more gradual and measured release of killer T cells and has the potential for lower toxicity while also yielding a more sustained response.

#### 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. ImmunoCellular's pipeline includes: a Stem-to-T-Cell research program, which engineers hematopoietic stem cells to generate cytotoxic T cells; ICT-121, a patient-specific, dendritic cell-based immunotherapy targeting CD133 found in recurrent glioblastoma; and ICT-140, a patient-specific, dendritic cell-based immunotherapy targeting ovarian cancer. ImmunoCellular recently announced the wind down of its phase 3 trial of ICT-107 in HLA-A2 patients while it pursues a collaborative arrangement or sale of its ICT-107 program. To learn more about ImmunoCellular, please visit [www.imuc.com](http://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, ImmunoCellular's ability to advance its Stem-to-T-Cell program; ImmunoCellular's ability to finance its ongoing operations; the potential benefits and therapeutic utility of ImmunoCellular's Stem-to-T-Cell program and other product candidates; the likelihood, timing and outcome of ImmunoCellular's possible strategic alternatives; and ImmunoCellular's ability to achieve its other clinical, operational, strategic 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 and the uncertain timing of completion and success of ImmunoCellular's proof-of-concept work and preclinical trials. Additional risks and uncertainties are described under the heading "Risk Factors" in ImmunoCellular's most recently filed quarterly report on Form 10-Q for the period ended September 30, 2017. 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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