



## VistaGen's Collaborators Identify Definitive Precursor for Adult Blood and the Immune System

February 7, 2013

### Latest Developments Enable Advanced Tools for Drug Rescue and Potential Cell Therapies Based on Human Definitive Hematopoietic Precursor Cells

SOUTH SAN FRANCISCO, CA -- (Marketwire) -- 02/07/13 -- VistaGen Therapeutics, Inc. (OTCQB: VSTA), a biotechnology company applying stem cell technology for drug rescue, predictive toxicology and drug metabolism assays, today announced significant advancements in its stem cell technology licensed from the University Health Network (UHN) in Toronto, Canada. The advancements, which improve VistaGen's ability to develop new stem cell-based bioassay systems and potentially improved cell therapies for human blood system disorders, were reported in the December 2012 edition of *Cell Reports*, an open-access journal from Cell Press.

The exclusively licensed stem cell technology from UHN, which applies equally to both embryonic stem cells and induced pluripotent stem cells (iPS cells), enables the efficient production of mature hematopoietic (blood) precursor cells. These blood cell precursors give rise to red cells, granulocytes and immune cells (lymphocytes), which represent the majority of the blood cells found in the body.

"In collaboration with our long-term strategic partners at UHN, we continue to pioneer stem cell technology that promises to change the way we develop medicine and apply treatment," stated Shawn K. Singh, CEO of VistaGen. "In addition to creating new capabilities and in vitro assays for drug rescue and predictive toxicology, these advancements open the door to development of new treatments for bone marrow failure, anemia, viral diseases and other conditions that compromise the immune system."

"Due to only partial understanding of the timing and control of the development of definitive hematopoiesis in humans, scientists were previously limited in their ability to identify and produce, from human pluripotent stem cells, the important precursor for mature red and white cells of the blood," said H. Ralph Snodgrass, PhD, VistaGen's President and Chief Scientific Officer. "The identification and characterization of this important precursor provides a readily accessible pluripotent stem cell-derived target cell population that can be expanded and matured into the types of cells needed for novel in vitro assays and our drug rescue efforts, and enables improved technologies and approaches for future cell therapy collaborations."

Dr. Gordon Keller, Chairman of UHN's McEwen Centre for Regenerative Medicine in Toronto and co-founder of VistaGen, stated, "We've been working for many years studying in vitro differentiation of pluripotent stem cells trying to identify, and then expand, the first human cell capable of producing the adult blood and immune system. I believe that we now have a better understanding of this important transition from embryonic to adult hematopoiesis, and have the tools to develop improved methods to expand this cell in large numbers for both drug development and cell therapy applications."

#### *About VistaGen Therapeutics*

VistaGen is a biotechnology company applying human pluripotent stem cell technology for drug rescue, predictive toxicology and drug metabolism screening. VistaGen's drug rescue activities combine its human pluripotent stem cell technology platform, Human Clinical Trials in a Test Tube™, with modern medicinal chemistry to generate novel, safer chemical variants (Drug Rescue Variants) of once-promising small molecule drug candidates. These are drug candidates discontinued by pharmaceutical companies, the U.S. National Institutes of Health (NIH) or university laboratories, after substantial investment in discovery and development, due to heart or liver toxicity or metabolism issues. VistaGen uses its pluripotent stem cell technology to generate early indications, or predictions, of how humans will ultimately respond to new drug candidates before they are ever tested in humans, bringing human biology to the front end of the drug development process.

VistaGen's small molecule prodrug candidate, AV-101, has completed Phase 1 development for treatment of neuropathic pain. Neuropathic pain, a serious and chronic condition causing pain after an injury or disease of the peripheral or central nervous system, affects millions of people worldwide.

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#### *Cautionary Statement Regarding Forward Looking Statements*

The statements in this press release that are not historical facts may constitute forward-looking statements that are based on current expectations and are subject to risks and uncertainties that could cause actual future results to differ materially from those expressed or implied by such statements. Those risks and uncertainties include, but are not limited to, risks related to the success of VistaGen's stem cell technology-based drug rescue, predictive toxicology and metabolism screening activities, further development of stem cell-based bioassay systems, and potentially improved cell therapies, for human blood system disorders or other diseases or conditions, clinical development and commercialization of AV-101 for neuropathic pain or any other disease or condition, its ability to enter into strategic predictive toxicology, metabolism screening, drug rescue and/or drug discovery, development and commercialization collaborations and/or licensing arrangements with respect to one or more drug rescue variants, cell therapies or AV-101, risks and uncertainties relating to the availability of substantial additional capital to support its research, drug rescue, development and commercialization activities, and the success of its research and development plans and strategies, including those plans and strategies related to any drug rescue variant or cell therapy identified and developed by VistaGen, or AV-101. These and other risks and uncertainties are identified and described in more detail in VistaGen's filings with the Securities and Exchange Commission (SEC). These filings are available on the SEC's website at [www.sec.gov](http://www.sec.gov). VistaGen undertakes no obligation to publicly update or revise any forward-looking statements.

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Source: VistaGen Therapeutics, Inc.

Released February 7, 2013