



## VistaGen Therapeutics Presents CardioSafe 3D(TM) and LiverSafe 3D(TM) Developments at International Society of Stem Cell Research's 11th Annual Meeting

June 17, 2013

SOUTH SAN FRANCISCO, CA -- (Marketwired) -- 06/17/13 -- VistaGen Therapeutics, Inc. (OTCQB: VSTA), a biotechnology company applying stem cell technology for drug rescue, predictive toxicology and drug metabolism assays, presented key developments involving its *CardioSafe 3D™* and *LiverSafe 3D™* bioassay systems in poster presentations at the 11th Annual Meeting of the International Society of Stem Cell Research (ISSCR), the largest forum for stem cell and regenerative medicine professionals from around the world, held June 12 to 15, 2013, in Boston, Massachusetts.

Dr. Hai-Qing Xian, Senior Scientist, presented VistaGen's poster entitled "*Cardiotoxicity Assessment of Anti-Cancer Kinase Inhibitors using Human Pluripotent Stem Cell-Derived Cardiomyocyte Based Assays*," which detailed important developments demonstrating that *CardioSafe 3D™*, VistaGen's high throughput, human heart cell-based bioassay, is a clinically predictive system for preclinical cardiac safety screening of anti-cancer drug candidates, including small molecule kinase inhibitors (KIs), a new category of drugs that have revolutionized cancer therapy due to decreased systemic toxicity and increased target cell efficacy compared to classic cancer drugs, as well as other therapeutic compounds. VistaGen demonstrated the utility of *CardioSafe 3D™* to detect cardiac toxicities of well-known anti-cancer KIs, including imatinib, dasatinib, sunitinib, erlotinib and temsirolimus, which have been associated with adverse clinical cardiac events that were not detected during the drug development process. As demonstrated in the poster presentation, *CardioSafe 3D™* successfully detected cardiotoxicity induced by representative compounds from different KI categories. Additionally, the bioassay system provided clues to the major mechanisms of cardiac cytotoxicity induced by each compound, thus enabling not only the identification of toxicities early in the drug development process, but also discovery of potential mechanisms of action.

Dr. Kristina Bonham, Senior Scientist, Hepatocyte Biology Project Leader, presented VistaGen's poster entitled "*Semi-quantitative assay of CYP3A4 allows the identification and selection of mature human stem cell derived hepatocytes*," which detailed developments indicating that *LiverSafe 3D™*, VistaGen's human liver cell-based bioassay, can monitor the induction of the key metabolic enzyme, CYP3A4, and its expression level over time. Using an optimized protocol for the differentiation of hepatocyte-like cells, VistaGen demonstrated levels of CYP3A4 mRNA approaching that in human adult liver on a per cell basis. The reported data suggest that VistaGen's liver cells have many of the functional properties of mature adult liver cells, enabling multiple functional analyses and providing a powerful system to evaluate the effects of drug candidates on CYP3A4 expression and liver function, offering a valuable aid for assessing potential drug candidates for toxicity and adverse drug-drug interactions.

H. Ralph Snodgrass, PhD, VistaGen's President and Chief Scientific Officer, stated, "For the first time, our technology has caught up with the dreams and visions we had 15 years ago when we founded VistaGen. We now have the type and quality of human cell-based biological assay systems that provide real insight into both the therapeutic and toxic effects of new drug candidates long before they are ever tested in humans. Next-generation biological assays can now provide important preclinical human data that will increase the probability of selecting safer and effective therapeutics for clinical development."

"It is evident from the mood, tone and scientific discussions throughout the ISSCR conference that this is the most exciting time in the history of stem cell research," continued Dr. Snodgrass. "We anticipate that we will see an explosion over the next ten years in the contribution of human pluripotent stem cell-based biological assays to drug development, in parallel with phenomenal advancements in the therapeutic uses of mature cells and tissues derived from human pluripotent stem cells to treat some of the most intractable human diseases and conditions. Our team is truly fortunate and excited about being a part of this transformational process."

### *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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