Selecta Continues to Successfully Advance Pipeline of Novel Immunotherapeutic Candidates

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Data related to Selecta's targeted antigen-specific immune therapies presented at the American Society for Nanomedicine Annual Meeting

Novel therapies apply unique immune-modulating capabilities of Selecta's Synthetic Vaccine Particle platform described in an article published in PNAS

WATERTOWN, Mass. – October 16, 2015 – Selecta Biosciences, Inc., a clinical stage biotechnology company developing a novel class of targeted antigen-specific immune therapies, announced today that its Chief Scientific Officer, Takashi Kei Kishimoto, PhD, presented new advancements related to Selecta's pipeline of novel immunotherapeutic candidates at the 5th Annual American Society for Nanomedicine Meeting in Crystal City, Virginia. In his presentation, Dr. Kishimoto detailed how Selecta was developing and advancing multiple immunotherapeutic candidates from its proprietary Synthetic Vaccine Particles (SVP) platform. Selecta is applying its SVP platform to create first-in-class antigen-specific tolerogenic immunotherapeutics that are designed to prevent undesired immune responses in auto-immune diseases, biologic therapy and allergies.The underlying mechanisms of tolerance induction using SVP were described in a peer-reviewed journal article co-authored by Dr. Kishimoto which was published recently in the Proceedings of the National Academy of Sciences (PNAS) (abstract at http://www.pnas.org/content/112/2/E156.abstract[i]).

The presentation and article describe how SVP that encapsulate a tolerogenic immunomodulator induce durable and antigen-specific immune tolerance. The novel SVP product has been validated over a number of relevant disease models in work performed in several independent laboratories. The treatment elicits antigen-specific T regulatory cells, resulting in the inhibition of both humoral and cellular immune responses. Dr. Kishimoto presented two potential applications: immune tolerance induction directed against a pathogenic autoantigen for the treatment of autoimmune disease, and tolerance induction directed against an immunogenic biologic therapy. In the first example, therapeutic administration of SVP completely inhibited disease relapse in a model for multiple sclerosis. In the second example, administration of SVP and pegsiticase, a pegylated uricase being developed for the treatment of refractory gout, prevented the antibody response against pegsiticase, resulting in normalization of serum uric acid levels in uricase deficient mice. Selecta has initiated clinical development of this application of SVP to pegsiticase. SEL-212 is designed to become the first non-immunogenic biologic therapy for gout addressing important unmet needs.

"Current treatments to control pathological or unwanted immune responses unfortunately often employ broadly immunosuppressive drugs," said Takashi Kei Kishimoto, PhD, Selecta's Chief Scientific Officer. "Selecta's proprietary SVP therapy represents a truly novel approach for the antigen-specific treatment of autoimmune diseases and for the prevention of anti-drug antibodies (ADA) which can compromise the efficacy and safety of biologic therapies used in the treatment of autoimmune and other diseases. Selecta is continuing to actively advance a number of immunotherapeutic programs, with the potential to be first-in-class therapies."

Selecta has an on-going Phase 1 clinical program for SEL-212 in subjects with hyperuricemia (elevated serum uric acid), and is planning to initiate a multi-dose ascending Phase 2 study of SEL-212 in gout patients in 2016. Additionally, the company is building a robust preclinical pipeline of antigen-specific immunotherapeutics which it is actively advancing toward clinical development. The company's pipeline currently includes candidates that are designed to prevent the formation of anti-drug antibodies (ADAs) that are a key unmet medical need in the treatment of rare diseases, such as hemophilia A and lysosomal storage diseases, and for novel therapeutic modalities, such as gene therapy. Selecta is additionally developing first-in-class therapies for a food allergy, celiac disease and type 1 diabetes in collaboration with Sanofi.

About Selecta

Selecta Biosciences, Inc. is a clinical-stage biotechnology company developing novel drugs that use immune modulating

nanomedicines to generate targeted antigen-specific immune responses to prevent and treat disease. Selecta's proprietary Synthetic Vaccine Particle (SVP) platform creates a novel paradigm in immunotherapeutics and vaccines, enabling completely new applications while offering the potential of improved efficacy and safety profiles.
Selecta's immunomodulatory SVPscan induce antigen-specific immune tolerance, enabling them to be applied in a variety of therapeutic areas with large unmet medical need. The company is focused on three key near-term applications: inhibition of immunogenicity of biologic therapies, treatment of allergies and treatment of autoimmune diseases. Immunogenicity adversely affects the safety and efficacy profile for many biological therapies, and is known to have caused the termination of a number of promising biological therapies in clinical development. Selecta's SVP is a product engine that has the potential to unlock the full therapeutic value of biologic therapies.

Selecta's immunostimulatory SVPactivate immune responses to a wide array of relevant antigens, including small molecules, peptides, oligosaccharides, and proteins. These SVP products can target humoral or cellular pathways of the immune system. Examples for immunostimulaory SVP applications include cancer and infectious diseases.
Through proprietary products and collaborations with leading pharmaceutical companies and research organizations, Selecta is building a pipeline of product candidates to address unmet medical needs in serious and chronic diseases. Selecta Biosciences, Inc. is based in Watertown, Massachusetts, USA. For more information, please visit www.selectabio.com.

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- [i] Roberto A. Maldonado, Robert A. LaMothe, Joseph D. Ferrari, Ai-Hong Zhang, Robert J. Rossi, Pallavi N. Kolte, Aaron P. Griset, Conlin O'Neil, David H. Altreuter, Erica Browning, Lloyd Johnston, Omid C. Farokhzad, Robert Langer, David W. Scott, Ulrich H. von Andrian, and Takashi Kei Kishimoto "Polymeric synthetic nanoparticles for the induction of antigen-specific immunological tolerance"**PNAS 2015 112 (2)** E156-E165; published ahead of print December 29, 2014, doi:10.1073/pnas.1408686111