SAB Biotherapeutics Presents Overview of DiversitAb™ Platform and Data Showing Benefits of Fully-Human Polyclonal Antibodies Derived from Cows vs. Human-Derived Plasma, at 2022 Plasma Product Biotechnology Conference

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SAB highlights data on SAB-176 for seasonal and pandemic influenza and SAB-185 for COVID-19, showing broad efficacy against highly mutating viruses associated with respiratory disease

SIOUX FALLS, S.D., Nov. 03, 2022 (GLOBE NEWSWIRE) -- SAB Biotherapeutics (Nasdaq: SABS), ("SAB"), a clinical-stage biopharmaceutical company with a novel immunotherapy platform that produces specifically targeted, high-potency, fully-human polyclonal antibodies without the need for human donors, today announced that the Company presented an overview of its DiversitAb ™ polyclonal platform and data on SAB-176 and SAB-185 showing the benefits of fully-human polyclonal antibodies derived from SAB's Transchromosomic (Tc) Bovine ™ over plasma derived antibodies from humans, at the 2022 Plasma Product Biotechnology Conference in Limassol, Cyprus, which concluded on Nov. 3.

SAB's Chief Operating Officer Christoph Bausch, Ph.D., led two presentations at the conference on Tuesday, Nov. 1.

In a presentation titled, "*Plasma fractionation and downstream processing of human polyclonal antibodies from the DiversitAb™ platform*," Dr. Bausch presented an overview of SAB's novel immunotherapy platform utilizing a specialized manufacturing process to enable a scalable and reliable production of targeted, higher-potency neutralizing antibody products than has been previously possible. The platform can reliably and rapidly produce large quantities of fully-human immunoglobulins against a variety of disease targets, such as viruses, bacteria, toxins, and cancers, without the need for convalescent plasma from human donors with a significantly simplified and controlled process. Tc Bovine, SAB's genetically engineered cows, mount the same immune response as humans, only with a much higher concentration of targeted neutralizing antibodies. In addition, by eliminating the need to identify, screen, and draw blood from recovering volunteers, SAB's approach opens the door to polyclonal antibody therapeutics that are potentially more potent, safer, and longer-lasting than current antibody therapies.

"SAB's platform is a major advancement in plasma science and allows for a large supply of neutralizing, fully-human antibodies that can be targeted to treat a number of challenging diseases," Dr. Bausch said. "Our novel approach to creating high-potency, high-avidity antibodies that naturally activate cellular immunity using our transchromosomic cows has the potential to profoundly change how we approach and treat a wide range of diseases."

Titled "*Phase 2 efficacy and safety of two novel SAB immunotherapies against respiratory disease indications associated with highly mutating viruses*," Dr. Bausch's second presentation outlined data on SAB-185 for COVID-19 and SAB-176 for seasonal and pandemic influenza. The data show that SAB-185 and SAB-176 are highly effective against variants of several highly mutating viruses associated with the diseases, a major challenge in currently available treatments for COVID-19 and influenza.

Data from the *in vitro* neutralizing capacity of SAB-185 was tested against 10 variant SARS-CoV-2 strains, including several Omicron variants. SAB-185 exhibited equivalent neutralization of the Munich, Alpha, Beta, Gamma variants and a variant isolated from an immunocompromised patient (D144-146) and retained neutralization of the Delta variant AY.1 and multiple Omicron variants from BA.1 through BA.5, with only modest losses of neutralization activity. For *in vivo* protection studies, SAB used a human ACE2 (hACE2) transgenic Syrian hamster model that exhibits rapid lethality after intratracheal SARS-CoV-2 challenge with the Munich, Alpha, Beta, Delta, and D144-146 variants; the Omicron B.1.1529 variant resulted in a delayed, less severe, and non-lethal disease. Prophylactic SAB-185 treatment protected the hamsters from death and minimized clinical signs of infection when challenged with the variant viruses tested.

Also outlined was a Phase 2a, Randomized, Double-Blind Trial in H1N1 Challenged Adults, which showed that SAB-176 met its primary endpoint of reducing the nasopharyngeal viral load in subjects challenged with H1N1 A/California/2009-like virus. SAB-176 also met secondary endpoints of reducing symptoms by Day 4 and shortened the timeframe of the ability to culture virus *in vitro*, suggesting reduced viral shedding, and was safe and well tolerated. Further, while SAB-176 was developed against recent seasonal influenza A and B strains, it also demonstrated efficacy against the 2009 pandemic H1N1 strain in this clinical trial. These clinical results were anticipated as SAB-176 showed significant preclinical HAI titers to multiple current and previous seasonal Type A and Type B influenza strains.

"SAB's data on SAB-176 and SAB-185 validated that our platform delivers on its promise and can create fully-human antibodies that offer much broader efficacy in highly mutating pathogens," Dr. Bausch said. "The data show the antibodies cross react to

mutating strains, preventing additional mutations, and shorten the time of infectious viral shedding to reduce the spread of disease. These components are critical in developing effective innovative future treatments."

About SAB Biotherapeutics, Inc.

SAB Biotherapeutics, Inc. (SAB) We are a clinical-stage biopharmaceutical company focused on the development of powerful and proprietary immunotherapeutic polyclonal human antibodies to treat and prevent infectious diseases and immune and autoimmune disorders. Our development programs include infectious diseases resulting from outbreaks and pandemics, as well as immunological, gastroenterological, and respiratory diseases that have significant mortality and health impacts on immune compromised patients. SAB has applied advanced genetic engineering and antibody science to develop Transchromosomic (Tc) Bovine™. Our versatile DiversitAb™ platform is applicable to a wide range of serious unmet needs in human diseases. I produces natural, specifically targeted, high-potency, fully-human polyclonal immunotherapies without the need for human donors. SAB currently has multiple drug development programs underway and collaborations with the US government and global pharmaceutical companies. For more information on SAB, visit: https://www.SAb.bio/ and follow SAB on Twitter and LinkedIn.

Forward-Looking Statements

Certain statements made herein that are not historical facts are forward-looking statements for purposes of the safe harbor provisions under The Private Securities Litigation Reform Act of 1995. Forward-looking statements generally are accompanied by words such as "believe," "may," "will," "estimate," "continue," "anticipate," "intend," "expect," "should," "would," "plan," "predict," "potential," "seem," "seek," "future," "outlook" and similar expressions that predict or indicate future events or trends or that are not statements of historical matters. These forward-looking statements include, but are not limited to, statements regarding future events, including the development and efficacy of our influenza program, C. diff. program, Type 1 Diabetes program, and other discovery programs, the likelihood that a patent will issue from any patent application, the results, including timing, of the development of SAB-176, SAB-185, and SAB-195 (including any IND filing or proposed clinical trials), financial projections and future financial and operating results (including estimated cost savings and cash runway), the outcome of and potential future government and other third-party collaborations or funded programs (including negotiations with the DoD). These statements are based on the current expectations of SAB and are not predictions of actual performance, and are not intended to serve as, and must not be relied on, by any investor as a guarantee, prediction, definitive statement, or an assurance, of fact or probability. These statements are only current predictions or expectations, and are subject to known and unknown risks, uncertainties and other factors which may be beyond our control. Actual events and circumstances are difficult or impossible to predict, and these risks and uncertainties may cause our or our industry's results, performance, or achievements to be materially different from those anticipated by these forward-looking statements. A further description of risks and uncertainties can be found in the sections captioned "Risk Factors" in our most recent annual report on Form 10-K, subsequent quarterly reports on Form 10-Q, and other filings with or submissions to, the U.S. Securities and Exchange Commission, which are available at https://www.sec.gov/ Except as otherwise required by law, SAB disclaims any intention or obligation to update or revise any forward-looking statements, which speak only as of the date they were made, whether as a result of new information, future events or circumstances or otherwise.

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