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Sangamo and Pfizer Announce Updated Phase 1/2 Results for SB-525 Investigational Hemophilia A Gene Therapy Showing Sustained Increased Factor VIII Levels

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- The first two patients treated at the 3e13 vg/kg dose level rapidly achieved normal, sustained Factor VIII (FVIII) levels with no reported bleeding events and no factor usage for as long as 24 weeks of follow-up
- The two patients more recently treated at the 3e13 vg/kg dose level demonstrated FVIII activity kinetics that appear consistent with the first two patients in this dose cohort at similar early time points
- SB-525 showed dose-dependent increases in FVIII activity levels across all dose cohorts evaluated
- FDA recently granted regenerative medicine advanced therapy (RMAT) designation for SB-525 gene therapy to treat severe hemophilia A

Brisbane, CA and New York, NY – July 5, 2019 – Sangamo Therapeutics, Inc. (NASDAQ: SGMO), a genomic medicine company, and Pfizer, Inc. (NYSE: PFE) today announced updated results from the Phase 1/2 Alta study evaluating investigational SB-525 gene therapy for severe hemophilia A. The data showed that SB-525 was generally well-tolerated and demonstrated a dose-dependent increase in Factor VIII (FVIII) activity levels. The first two patients treated at the 3e13 vg/kg dose rapidly achieved normal levels of FVIII activity as measured using a chromogenic assay, with no reported bleeding events, and the response continues to be durable for as long as 24 weeks, the extent of follow-up. The two patients more recently treated at the 3e13 vg/kg dose level are demonstrating FVIII activity kinetics that appear consistent with the first two patients treated in this dose cohort at similar early time points. Data from 10 patients treated with SB-525 were presented during an oral presentation on July 6 at the XXVII Congress of the International Society on Thrombosis and Haemostasis (ISTH), in Melbourne, Australia. The SB-525 ISTH presentation slides, which include the full data set, are available on Sangamo's website in the Investors and Media section under Events and Presentations.

"The initial results with SB-525 gene therapy for patients with severe hemophilia A continue to look very promising," said Barbara Konkle, M.D., Bloodworks Northwest, Professor of Medicine at University of Washington and a Principal Investigator of the Alta study. "It is encouraging that patients in the 3e13 vg/kg cohort have attained normal Factor VIII levels within 5-7 weeks of treatment with SB-525 gene therapy and have sustained Factor VIII activity with no bleeding episodes. It will be important to continue to follow these patients to understand the potential long-term durability of this gene therapy."

Alta study data presented at ISTH included 10 patients treated across four ascending dose cohorts: 9e11 vg/kg (2 patients), 2e12 vg/kg (2 patients), 1e13 vg/kg (2 patients) and 3e13 vg/kg (4 patients). Factor VIII activity data presented at ISTH included results through June 18, 2019. All other data presented at ISTH were as of May 30, 2019.

Across the dose cohorts, patients demonstrated a dose-dependent increase in FVIII levels and a dose-dependent reduction in the use of FVIII replacement therapy. In the two patients treated with the 1e13 vg/kg dose, FVIII activity levels have been durable through weeks 52 and 32. For the four patients in the 3e13 vg/kg cohort, FVIII activity data were available through 24, 19, 6, and 4 weeks of follow-up, respectively. The first two patients treated in the 3e13 vg/kg cohort (Patients 7 and 8) remained in the normal range, as measured using a chromogenic assay, through 24 and 19 weeks of follow-up, respectively. The next two patients in the 3e13 vg/kg cohort (Patients 9 and 10), with 6 and 4 weeks of follow-up, respectively, demonstrated rapid FVIII activity kinetics that appear consistent with Patients 7 and 8 at similar early time points. Also noted in the presentation at ISTH, Patient 9 attained normal FVIII activity levels at week 7, subsequent to the data transfer for the conference. No patient in the 3e13 vg/kg dose cohort has experienced bleeding events as of the data cut-off date, nor have patients in this dose cohort required factor replacement following initial use of prophylactic factor.

SB-525 was generally well tolerated. Patients in the Alta study were not treated with prophylactic steroids. One treatment-related serious adverse event (SAE) was reported. This patient experienced hypotension and fever six hours after completion of SB-525 infusion; this fully resolved with treatment and the patient was discharged as planned within 24 hours. No similar hypotension event was observed in the three subsequent patients dosed. Adverse events observed in 10% (n=1) or more patients included: increased alanine aminotransferase (30%) and aspartate aminotransferase (10%), pyrexia (30%), fatigue (10%), hypotension (10%), myalgia (10%), and tachycardia (10%). No patients treated with SB-525 have experienced an alanine aminotransferase (ALT) elevation associated with a loss of Factor VIII expression. In the 3e13 vg/kg cohort, two subjects experienced a transient grade 1 ALT elevation (>1.5 x baseline) managed with a tapering course of oral steroids.

“The initial results of the Alta study presented at ISTH demonstrate that SB-525 has the potential to be a predictable and reliable treatment that may bring clinical benefit to patients with hemophilia A,” said Adrian Woolfson, M.D., Ph.D., Executive Vice President of Research and Development, Sangamo. “The results show that SB-525 is well tolerated, that Factor VIII levels in the first two patients in the 3e13 vg/kg cohort reached normal, sustained levels as measured using a chromogenic assay, and that variability of Factor VIII activity is low, both within each patient and within each dose cohort. We look forward to continuing to follow these patients to further understand the durability of response to SB-525 gene therapy and to working with Pfizer to potentially advance a registrational study.”

Based on the accumulating results from the Alta study, the U.S. Food and Drug Administration (FDA) has granted regenerative medicine advanced therapy (RMAT) designation for SB-525 gene therapy to treat severe hemophilia A. RMAT designation is granted to regenerative medicine therapies intended to treat, modify, reverse, or cure a serious condition, for which preliminary clinical evidence indicates that the medicine has the potential to address an unmet medical need. The RMAT designation includes all the benefits of the fast track and breakthrough therapy designation programs, including early interactions with FDA.

“We are encouraged by the initial clinical data suggesting safety, tolerability, and efficacy of SB-525 and are beginning preparations, including manufacturing, to potentially advance into a registrational study. We are also encouraged by our interactions with regulators and by the FDA’s recent RMAT designation,” said Seng Cheng, Senior Vice President and Chief Scientific Officer of Pfizer’s Rare Diseases Research Unit. “If FVIII levels are sustained, and patients continue to have no bleeding episodes and remain off factor replacement therapy, we believe that this gene therapy may potentially represent a transformative treatment paradigm for severe hemophilia A.”

The fifth patient in the 3e13 vg/kg cohort (Patient 11) is expected to be treated soon. Sangamo and Pfizer are working on plans to advance SB-525 to a registrational study. Pfizer will assume responsibility for SB-525 late-stage development and manufacturing. Transfer of the SB-525 manufacturing process from Sangamo to Pfizer

has been initiated.

In addition to the collaboration for the development and commercialization of gene therapies for hemophilia A, Sangamo and Pfizer are also working together on the development of gene therapies for amyotrophic lateral sclerosis (ALS) and frontotemporal lobar degeneration (FTLD) using Sangamo's proprietary zinc finger protein transcription-factor technology (ZFP-TF).

About the Alta study

The Phase 1/2 Alta study is an open-label, dose-ranging clinical trial designed to assess the safety and tolerability of SB-525 in patients with severe hemophilia A. The mean age of the ten patients assessed is 31 years (range 18-47 years). All ten patients are male. The U.S. Food and Drug Administration has granted Orphan Drug, Fast Track, and regenerative medicine advanced therapy (RMAT) designations to SB-525, which also received Orphan Medicinal Product designation from the European Medicines Agency. SB-525 is being developed as part of a global collaboration between Sangamo and Pfizer.

About SB-525 Gene Therapy

SB-525 comprises a recombinant adeno-associated virus serotype 6 vector (AAV6) encoding the complementary deoxyribonucleic acid for B domain deleted human FVIII. The SB-525 vector cassette was designed to optimize both the vector manufacturing yield and liver-specific FVIII protein expression. The SB-525 transcriptional cassette incorporates multi-factorial modifications to the liver-specific promoter module, FVIII transgene, synthetic polyadenylation signal and vector backbone sequence.

About Sangamo Therapeutics

Sangamo Therapeutics, Inc. is focused on translating ground-breaking science into genomic medicines with the potential to transform patients' lives. Our capabilities in gene therapy, cell therapy, genome editing, and gene regulation allow us to apply the appropriate therapeutic approach to the underlying genetic cause of the disease. For more information about Sangamo, visit www.sangamo.com.

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At Pfizer, we apply science and our global resources to bring therapies to people that extend and significantly improve their lives. We strive to set the standard for quality, safety and value in the discovery, development and manufacture of health care products. Our global portfolio includes medicines and vaccines as well as many of the world's best-known consumer health care products. Every day, Pfizer colleagues work across developed and emerging markets to advance wellness, prevention, treatments and cures that challenge the most feared diseases of our time. Consistent with our responsibility as one of the world's premier innovative biopharmaceutical companies, we collaborate with health care providers, governments and local communities to support and expand access to reliable, affordable health care around the world. For more than 150 years, we have worked to make a difference for all who rely on us. We routinely post information that may be important to investors on our website at www.pfizer.com. In addition, to learn more, please visit us on www.pfizer.com and follow us on

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Pfizer Disclosure Notice

The information contained in this release is as of July 5, 2019. Pfizer assumes no obligation to update forward-looking statements contained in this release as the result of new information or future events or developments.

This release contains forward-looking information about an investigational hemophilia A agent, SB-525, including its potential benefits, that involves substantial risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statements. Risks and uncertainties include, among other things, the uncertainties inherent in research and development, including the ability to meet anticipated clinical endpoints, commencement and/or completion dates for our clinical trials, regulatory submission dates, regulatory approval dates and/or launch dates, as well as the possibility of unfavorable new clinical data and further analyses of existing clinical data; risks associated with interim data; the risk that clinical trial data are subject to differing interpretations and assessments by regulatory authorities; whether regulatory authorities will be satisfied with the design of and results from our clinical studies; whether and when drug applications for any potential indications for SB-525 may be filed in any jurisdictions; whether and when regulatory authorities in any jurisdictions may approve any such applications, which will depend on myriad factors, including making a determination as to whether the product's benefits outweigh its known risks and determination of the product's efficacy and, if approved, whether SB-525 will be commercially successful; decisions by regulatory authorities impacting labeling, manufacturing processes, safety and/or other matters that could affect the availability or commercial potential of SB-525; and competitive developments.

A further description of risks and uncertainties can be found in Pfizer's Annual Report on Form 10-K for the fiscal year ended December 31, 2018 and in its subsequent reports on Form 10-Q, including in the sections thereof captioned "Risk Factors" and "Forward-Looking Information and Factors That May Affect Future Results", as well as in its subsequent reports on Form 8-K, all of which are filed with the U.S. Securities and Exchange Commission and available at www.sec.gov and www.pfizer.com.

Sangamo Disclosure Notice

This press release contains forward-looking statements based on Sangamo's current expectations. These forward-looking statements include, without limitation, statements relating to the investigational hemophilia A gene therapy, SB-525, including its potential therapeutic benefits; the potential long-term durability of SB-525 gene therapy; SB-525 having the potential to be a predictable and reliable treatment that may bring clinical benefit to patients with hemophilia A and to potentially represent a transformative treatment paradigm; plans to advance SB-525 into a potential registrational study; the potential benefits of the RMAT designation for SB-525; and other statements that are not historical fact. These statements are not guarantees of future performance and are subject to certain risks, uncertainties and assumptions that are difficult to predict. Factors that could cause actual results to differ include, but are not limited to, risks and uncertainties related to: the costly and inherently uncertain research and development process; preliminary or initial data, including the risk that the initial data reported from the Alta study to date may not be indicative of the final results from the Alta study and that such final results may not validate and support the safety and efficacy of SB-525; the completion of the Alta study; the possibility of unfavorable new clinical data from the Alta study and further analyses of existing clinical data from the study that may material change clinical outcomes; the risk that clinical trial data are subject to differing interpretations and assessments by regulatory authorities; whether regulatory authorities will be

satisfied with the design of and results from the Alta study, any potential registrational studies or any other clinical studies of SB-525; Sangamo's limited experience in conducting later stage clinical trials and the potential inability of Pfizer and Sangamo to advance SB-525 into a registrational study; whether Sangamo will be able to maintain or receive the benefits associated with RMAT, Orphan Drug, Fast Track and Orphan Medicinal Product designations for SB-525; the fact that RMAT, Orphan Drug, Fast Track and Orphan Medicinal Product designations may not lead to a faster development, regulatory review or approval process, and do not increase the likelihood that SB-525 will receive any marketing approvals; Sangamo's reliance on Pfizer and other third-parties to meet their clinical and manufacturing obligations; Sangamo's ability to maintain strategic partnerships; and the potential for technological developments by Sangamo's competitors that will obviate Sangamo's gene therapy technology. Further, there can be no assurance that the necessary regulatory approvals will be obtained for SB-525 or that Sangamo and its partners will be able to develop commercially viable product candidates. Actual results may differ from those projected in forward-looking statements due to these and other risks and uncertainties that exist in Sangamo's operations and business environments. These risks and uncertainties are described more fully in Sangamo's Quarterly Report on Form 10-Q for the quarter ended March 31, 2019 as filed with the Securities and Exchange Commission. Forward-looking statements contained in this press release are made as of this date, and Sangamo undertakes no duty to update such information except as required under applicable law.

Contact

Investor Relations – United States
McDavid Stilwell
510-970-6000, x219
mstilwell@sangamo.com

Media Inquiries – United States
Aron Feingold
510-970-6000, x421
afeingold@sangamo.com

Investor Relations and Media Inquiries – European Union
Caroline Courme
33 4 97 21 27 27
ccourme@sangamo.com