



## **Precision BioSciences and SpringWorks Therapeutics Announce Clinical Collaboration to Evaluate PBCAR269A in Combination with Nirogacestat in Patients with Relapsed or Refractory Multiple Myeloma**

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### **Increasing BCMA Surface Expression and Reduced Soluble BCMA Levels with Gamma Secretase Inhibitor Nirogacestat May Enhance Clinical Benefit in Combination with PBCAR269A, an Allogeneic BCMA-Targeted CAR T Cell Product**

DURHAM, N.C. and STAMFORD, Conn., Sept. 21, 2020 (GLOBE NEWSWIRE) -- Precision BioSciences, Inc. (Nasdaq: DTIL), a clinical stage biotechnology developing allogeneic CAR T and *in vivo* gene correction therapies with its ARCUS® genome editing platform, and SpringWorks Therapeutics, Inc. (Nasdaq: SWTX), a clinical-stage biopharmaceutical company focused on developing life-changing medicines for patients with severe rare diseases and cancer, today announced they have entered into a clinical trial collaboration agreement. Per the agreement, PBCAR269A, Precision BioSciences' wholly-owned investigational allogeneic chimeric antigen receptor (CAR) T cell therapy candidate targeting B-cell maturation antigen (BCMA), will be evaluated in combination with nirogacestat, SpringWorks' investigational gamma secretase inhibitor (GSI), in patients with relapsed or refractory multiple myeloma.

"Based on recent clinical data using GSIs in combination with BCMA-targeted therapies, it is exciting to combine these agents in patients who have a need for better therapies," said Nina Shah, M.D., study Principal Investigator and Associate Professor in the Department of Medicine at the University of California, San Francisco. "I look forward to the data generated from this investigational study to see if PBCAR269A plus nirogacestat improves clinical outcomes in patients with multiple myeloma."

Gamma secretase inhibition has been shown preclinically to enhance the activity of BCMA-targeted therapies by preventing the cleavage and shedding of BCMA from the surface of myeloma cells, which increases the cell surface density of BCMA and reduces levels of soluble BCMA. Via this mechanism, nirogacestat may enhance the activity of BCMA-targeted therapies.<sup>1</sup> Emerging clinical data also suggest that a GSI may increase antitumor efficacy of BCMA-targeted autologous CAR T therapy in patients with relapsed or refractory multiple myeloma.<sup>2,3</sup>

"In June, we initiated our Phase 1/2a clinical trial of PBCAR269A, which targets BCMA for the treatment of relapsed or refractory multiple myeloma and has demonstrated anti-tumor activity in preclinical disease models," said Chris Heery, M.D., Chief Medical Officer at Precision BioSciences. "Preclinical data from our own program as well as others have suggested the importance of gamma secretase inhibition to unlock the full potential of BCMA targeted therapies. We look forward to further evaluating this in the clinic."

Under the terms of the agreement, Precision BioSciences will assume all development costs of the expanded Phase 1/2a study of PBCAR269A to include nirogacestat and evaluate the safety and preliminary clinical activity of the combination therapy. Precision BioSciences and SpringWorks will form a joint development committee to oversee the clinical study, which is expected to commence in the first half of 2021, pending discussions with regulators.

"Patients with multiple myeloma are in great need of treatment advances," said Saqib Islam, Chief Executive Officer of SpringWorks Therapeutics. "We continue to believe that nirogacestat has the potential to become a cornerstone of BCMA combination therapy for these patients and are pleased to work with Precision BioSciences and their leading group of scientific advisors and clinical investigators to evaluate the combination of our gamma secretase inhibitor with their 'off-the-shelf' CAR T therapy."

#### **About PBCAR269A**

PBCAR269A is an allogeneic BCMA-targeted CAR T cell therapy candidate being evaluated for the safety and preliminary clinical activity in a Phase 1/2a multicenter, nonrandomized, open-label, parallel assignment, single-dose, dose-escalation, and dose-expansion study of adults with relapsed or refractory multiple myeloma. The starting dose of PBCAR269A is  $6 \times 10^5$  CAR T cells/kg body weight with subsequent cohorts receiving escalating doses to a maximum dose of  $6 \times 10^6$  CAR T cells/kg body weight.

PBCAR269A is the company's third CAR T candidate to advance to the clinic and is part of a pipeline of cell-phenotype optimized allogeneic CAR T therapies derived from healthy donors and then modified via a simultaneous TCR knock-out and CAR T knock-in step with the Company's proprietary ARCUS® genome editing technology. Precision BioSciences optimizes its CAR T therapy candidates for immune cell expansion in the body by maintaining a high proportion of naïve and central memory CAR T cells.

The U.S. Food and Drug Administration (FDA) recently granted Fast Track Designation to PBCAR269A for the treatment of relapsed or refractory multiple myeloma for which the FDA previously granted Orphan Drug Designation. The PBCAR269A clinical trial will be conducted at multiple U.S. sites. For more information, visit [www.clinicaltrials.gov](http://www.clinicaltrials.gov), study identifier number NCT04171843.

#### **About Nirogacestat**

Nirogacestat is an investigational, oral, selective, small molecule, gamma secretase inhibitor in Phase 3 clinical development for desmoid tumors, which are rare and often debilitating and disfiguring soft-tissue tumors. Gamma secretase cleaves multiple transmembrane protein complexes, including Notch, which is believed to play a role in activating pathways that contribute to desmoid tumor growth.

In addition, gamma secretase has been shown to directly cleave membrane-bound BCMA, resulting in the release of the BCMA extracellular domain, or ECD, from the cell surface. By inhibiting gamma secretase, membrane-bound BCMA can be preserved, increasing target density while reducing levels of soluble BCMA ECD, which may serve as decoy receptors for BCMA-directed therapies. Nirogacestat's ability to enhance the activity of BCMA-directed therapies has been observed in preclinical models of multiple myeloma. SpringWorks is evaluating nirogacestat as a BCMA potentiator and has four collaborations with industry-leading BCMA developers to evaluate nirogacestat in combinations across modalities, including with an antibody-drug conjugate, two CAR T cell therapies and a bispecific antibody. In addition, SpringWorks and Fred Hutchinson Cancer Research Center have entered into a sponsored research agreement to further characterize the ability of nirogacestat to modulate BCMA and potentiate BCMA directed therapies using a variety of preclinical and patient-derived multiple myeloma models developed by researchers at Fred Hutch.

Nirogacestat has received Orphan Drug Designation from the U.S. Food and Drug Administration (FDA) for the treatment of desmoid tumors (June 2018) and from the European Commission for the treatment of soft tissue sarcoma (September 2019). The FDA also granted Fast Track and Breakthrough Therapy Designations for the treatment of adult patients with progressive, unresectable, recurrent or refractory desmoid tumors or deep fibromatosis (November 2018 and August 2019).

#### **About Precision BioSciences, Inc.**

Precision BioSciences, Inc. is a clinical stage biotechnology company dedicated to improving life (DTIL) with its novel and proprietary ARCUS<sup>®</sup> genome editing platform. ARCUS is a highly specific and versatile genome editing platform that was designed with therapeutic safety, delivery, and control in mind. Using ARCUS, the Company's pipeline consists of multiple "off-the-shelf" CAR T immunotherapy clinical candidates and several *in vivo* gene correction therapy candidates to cure genetic and infectious diseases where no adequate treatments exist. For more information about Precision BioSciences please visit [www.precisionbiosciences.com](http://www.precisionbiosciences.com).

#### **About SpringWorks Therapeutics**

SpringWorks is a clinical-stage biopharmaceutical company applying a precision medicine approach to acquiring, developing and commercializing life-changing medicines for underserved patient populations suffering from devastating rare diseases and cancer. SpringWorks has a differentiated portfolio of small molecule targeted oncology product candidates and is advancing two potentially registrational clinical trials in rare tumor types, as well as several other programs addressing highly prevalent, genetically defined cancers. SpringWorks' strategic approach and operational excellence in clinical development have enabled it to rapidly advance its two lead product candidates into late-stage clinical trials while simultaneously entering into multiple shared-value partnerships with industry leaders to expand its portfolio. For more information, visit [www.springworkstx.com](http://www.springworkstx.com) and follow @SpringWorksTx on [Twitter](#) and [LinkedIn](#).

#### **Precision Forward-Looking Statements**

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements contained in this press release that do not relate to matters of historical fact should be considered forward-looking statements, including, without limitation, statements regarding the Company's timing of clinical trials and results therefrom involving PBCAR269A and the expected benefits of producing clinical trial material at the Company's in-house manufacturing facility. In some cases, you can identify forward-looking statements by terms such as "anticipate," "believe," "could," "expect," "should," "plan," "intend," "estimate," "target," "mission," "may," "will," "would," "should," "could," "target," "project," "predict," "contemplate," "potential," or the negative thereof and similar words and expressions.

Forward-looking statements are based on management's current expectations, beliefs and assumptions and on information currently available to us. Such statements are subject to a number of known and unknown risks, uncertainties and assumptions, and actual results may differ materially from those expressed or implied in the forward-looking statements due to various important factors, including, but not limited to: our ability to become profitable; our ability to procure sufficient funding and requirements under our current debt instruments; our operating expenses and our ability to predict what those expenses will be; our limited operating history; the success of our programs and product candidates in which we expend our resources; our dependence on our ARCUS technology; the initiation, cost, timing, progress, achievement of milestones and results of research and development activities, preclinical or greenhouse studies and clinical or field trials; public perception about genome editing technology and its applications; competition in the genome editing, biopharmaceutical, biotechnology and agricultural biotechnology fields; our or our collaborators' ability to identify, develop and commercialize product candidates; pending and potential liability lawsuits and penalties against us or our collaborators related to our technology and our product candidates; the U.S. and foreign regulatory landscape applicable to our and our collaborators' development of product candidates; our or our collaborators' ability to obtain and maintain regulatory approval of our product candidates, and any related restrictions, limitations and/or warnings in the label of an approved product candidate; our or our collaborators' ability to advance product candidates into, and successfully design, implement and complete, clinical or field trials; potential manufacturing problems associated with the development or commercialization of any of our product candidates; our ability to achieve our anticipated operating efficiencies at our manufacturing facility; delays or difficulties in our and our collaborators' ability to enroll patients; if our product candidates do not work as intended or cause undesirable side effects; risks associated with applicable healthcare, data privacy and security regulations and our compliance therewith; the rate and degree of market acceptance of any of our product candidates; the success of our existing collaboration agreements, and our ability to enter into new collaboration arrangements; our current and future relationships with third parties including suppliers and manufacturers; our ability to obtain and maintain intellectual property protection for our technology and any of our product candidates; potential litigation relating to infringement or misappropriation of intellectual property rights; our ability to effectively manage the growth of our operations; our ability to attract, retain, and motivate key scientific and management personnel; market and economic conditions; effects of natural and manmade disasters, public health emergencies and other natural catastrophic events effects of the outbreak of COVID-19, or any pandemic, epidemic or outbreak of an infectious disease; insurance expenses and exposure to uninsured liabilities; and other important factors discussed under the caption "Risk Factors" in our Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2020, as any such factors may be updated from time to time in our other filings with the SEC, which are accessible on the SEC's website at [www.sec.gov](http://www.sec.gov) and the Investors & Media page of our website at [investor.precisionbiosciences.com](http://investor.precisionbiosciences.com).

All forward-looking statements speak only as of the date of this press release and, except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise.

#### **SpringWorks Forward-Looking Statements**

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including, without limitation, statements regarding SpringWorks' clinical trials and its strategy, business plans and focus. The words "may," "will," "could," "would," "should," "expect," "plan," "anticipate," "intend," "believe," "estimate," "predict," "project," "potential," "continue," "target" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Any

forward-looking statements in this press release are based on management's current expectations and beliefs and are subject to a number of risks, uncertainties and important factors that may cause actual events or results to differ materially from those expressed or implied by any forward-looking statements contained in this press release, including, without limitation, those related to SpringWorks' financial results, the timing for completion of SpringWorks' clinical trials of its product candidates, whether and when, if at all, SpringWorks' product candidates will receive approval from the U.S. Food and Drug Administration, or FDA, or other foreign regulatory authorities, uncertainties and assumptions regarding the impact of the COVID-19 pandemic on SpringWorks' business, operations, clinical trials, supply chain, strategy, goals and anticipated timelines, competition from other biopharmaceutical companies, and other risks identified in the section entitled "Risk Factors" in Item 1A of Part II of SpringWorks' Quarterly Report on Form 10-Q for the quarter ended June 30, 2020, as well as discussions of potential risks, uncertainties and other important factors in SpringWorks' subsequent filings with the Securities and Exchange Commission. SpringWorks cautions you not to place undue reliance on any forward-looking statements, which speak only as of the date they are made. SpringWorks disclaims any obligation to publicly update or revise any such statements to reflect any change in expectations or in events, conditions or circumstances on which any such statements may be based, or that may affect the likelihood that actual results will differ from those set forth in the forward-looking statements. Any forward-looking statements contained in this press release represent SpringWorks' views only as of the date hereof and should not be relied upon as representing its views as of any subsequent date.

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**References**

<sup>1</sup> Eastman S, Shelton C, Gupta I, Krueger J, Blackwell C, Bojczuk. Synergistic activity of belantamab mafodotin (anti-BCMA immuno-conjugate) with PF-03084014 (gamma-secretase inhibitor) in Bcma-expressing cancer cell lines. *Blood*. 2019;134(supplement\_1):4401. doi.org/10.1182/blood-2019-123705.

<sup>2</sup> Cowan AJ, Pont M, Sather BD, et al. Efficacy and safety of fully human Bcma CAR T cells in combination with a gamma secretase inhibitor to increase Bcma surface expression in patients with relapsed or refractory multiple myeloma. *Blood*. 2019;134(supplement\_1):204. doi.org/10.1182/blood-2019-129405.

<sup>3</sup> Pont MJ, Hill T, Cole GO, et al.  $\gamma$ -Secretase inhibition increases efficacy of BCMA-specific chimeric antigen receptor T cells in multiple myeloma. *Blood*. 2019;134(19):1585-1597. doi:10.1182/blood.2019000050