July 1, 2020

Xenetic Biosciences, Inc. Provides Development Update for Its Personalized CAR T Platform Technology, XCART(TM)

- ***XCART technology platform is a significantly differentiated, proprietary approach to personalized CAR T therapy for the treatment of multiple tumor types of B-cell Non-Hodgkin lymphoma (NHL)***
- ***Recently secured two academic collaborations to advance development of XCART***
- ***Company strategically well-positioned to execute on pathway to advance the XCART platform technology through preclinical development and potentially into a Phase 1 trial***

FRAMINGHAM, MA / ACCESSWIRE / July 1, 2020 /Xenetic Biosciences, Inc. (NASDAQ:XBIO) ("Xenetic" or the "Company"), a biopharmaceutical company focused on advancing XCART™, a personalized CAR T platform technology engineered to target patient- and tumor-specific neoantigens, today provided a development update for its XCART technology platform.

The Company entered into agreements with Scripps Research on May 19, 2020 and with PJSC Pharmsynthez on June 16, 2020 to advance the development of the XCART technology for B-cell malignancies. Both Scripps Research as well as Pharmsynthez and its collaborators have extensive experience with XCART, having co-invented the technology, and will have integral roles in the preclinical development activities.

"Our recently announced collaborations with Scripps Research, Pharmsynthez and multiple academic institutions in Russia and Belarus are critical components of our overall development plan for XCART. These agreements provide us access to partners that have the capability and capacity to expeditiously and cost-effectively advance XCART through preclinical development. We will also have access to patients and CART T clinical manufacturing suites which will potentially allow us to enter into a Phase 1 dosing study," commented Jeffrey Eisenberg, Chief Executive Officer of Xenetic.

The agreement with Scripps Research provides access to a team with extensive expertise in the CAR T space who will assist in the design and implementation of the preclinical development program for XCART. Xenetic will work with personnel in Dr. Richard Lerner's lab, where the XCART technology was invented and where the preclinical proof of mechanism work was done. The agreement with Pharmsynthez provides access to the team that invented XCART in collaboration with Scripps Research, and also will involve institutions with extensive expertise in anti-idiotype approaches to lymphoma as well as CAR T development and manufacturing.

In collaboration with Pharmsynthez and multiple academic institutions in Russia and Belarus, the Company will conduct an exploratory trial to define and evaluate the XCART front-end process of target identification, screening and lead characterization in a real-world clinical setting. This exploratory stage entails enrollment of NHL patients, obtaining tumor biopsies and then refining the XCART front-end methods. Subsequently, the collaboration may be expanded to include development and qualification of manufacturing processes for producing autologous XCART T-cells. If successful, the Company has the potential to expand the clinical study component to dose a number of NHL patients in a Phase 1 dosing study. The data generated under the Belarus collaboration is expected to support an Investigational New Drug (IND) filing in the United States.

Curtis Lockshin, Ph.D., Chief Scientific Officer of Xenetic added, "As we move forward with these key partners, our team is focused on process development for autologous T cell manufacturing and generation of preclinical data covering the overall XCART workflow. These strategic collaborations provide us with highly cost-effective access to CAR T manufacturing and development suites, as well as clinical expertise and capabilities in the treatment of B-cell lymphomas. By augmenting preclinical data with insights gained from conduct of the XCART workflow in a human exploratory setting, we believe that we can strengthen the data sets with which we approach discussions with the United States Food and Drug Administration and, importantly, support our IND filing to advance our U.S. development strategy for XCART."

About Xenetic Biosciences

Xenetic Biosciences, Inc. is a biopharmaceutical company focused on progressing XCART™, a personalized CAR T platform technology engineered to target patient- and tumor-specific neoantigens. The Company is initially advancing cell-based therapeutics targeting the unique B-cell receptor on the surface of an individual patient's malignant tumor cells for the treatment of B-cell lymphomas. XCART™ has the potential to fuel a robust pipeline of therapeutic assets targeting high-value oncology indications.

Additionally, Xenetic is leveraging PolyXen®, its proprietary drug delivery platform, by partnering with biotechnology and pharmaceutical companies. PolyXen® has demonstrated its ability to improve the half-life and other pharmacological properties of next-generation biologic drugs. The Company has an exclusive license agreement with Takeda Pharmaceuticals Co. Ltd. in the field of coagulation disorders and receives royalty payments under this agreement.

For more information, please visit the Company's website atwww.xeneticbio.com and connect on Twitter, LinkedIn, and Facebook.

Forward-Looking Statements

This press release contains forward-looking statements for purposes of the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. All statements contained in this press release other than statements of historical facts may constitute forward-looking statements within the meaning of the federal securities laws. These statements can be identified by words such as "expects," "plans," "projects," "will," "may," "anticipates," "believes," "should," "intends," "estimates," and other words of similar meaning, including, but not limited to, statements regarding: the Company belief that it is strategically well-

positioned to execute on pathway to advance the XCART platform technology through preclinical development and potentially into a Phase 1 trial; the Company's collaborations with Scripps Research and Pharmsynthez and the multiple academic institutions in Russia and Belarus, including the Company's belief that such collaborations are critical components of the Company's overall development plan for XCART, the Company's expectations that such collaborations provide the Company access to partners that have the capability and capacity to expeditiously and cost-effectively advance XCART through preclinical development, and the Company's expectations that such collaborations will provide access to patients and CART T clinical manufacturing suites which will potentially allow the Company to enter into a Phase 1 dosing study; the Company's belief that the agreement with Scripps Research will provide access to a team with extensive expertise in the CAR T space who will assist in the design and implementation of the pre-clinical development program for XCART; the Company's plans to work with personnel in Dr. Richard Lerner's lab; expectations that the agreement with Pharmsynthez will involve institutions with extensive expertise in anti-idiotype approaches to lymphoma as well as CAR T development and manufacturing; the Company's plans to, in collaboration with Pharmsynthez and the Belarus Institutions, conduct an exploratory trial to define and evaluate the XCART front-end process of target identification, screening and lead characterization, in a real-world clinical setting; expectations that the collaborations may be expanded to include development and qualification of manufacturing processes for producing autologous XCART T-cells; statements that if successful, the Company has the potential to expand the clinical study component to dose a number of NHL patients in a Phase 1 dosing study; expectations that the data generated under the Belarus collaboration may support an IND filing in the United States; statements that the Company is focused on process development for autologous T cell manufacturing and generation of preclinical data covering the overall XCART workflow; the Company's belief that by augmenting preclinical data with insights gained from conduct of the XCART workflow in a human exploratory setting, the Company can strengthen the data sets with which it approaches discussions with the FDA and support its IND filing to advance its U.S. development strategy for XCART; the Company's plans to initially apply the XCART technology to advance cell-based therapeutics by targeting the unique B-cell receptor on the surface of an individual patient's malignant tumor cells for the treatment of B-cell lymphomas, the Company's expectations that XCART has the potential to fuel a robust pipeline of therapeutic assets targeting high-value oncology indications, the Company's plans to leverage PolyXen® by partnering with biotechnology and pharmaceutical companies, and the Company's expectation regarding receipt of royalty payments under the exclusive license agreement with Takeda Pharmaceuticals Co. Ltd. Any forward-looking statements contained herein are based on current expectations, and are subject to a number of risks and uncertainties. Many factors could cause our actual activities, performance, achievements, or results to differ materially from the activities and results anticipated in forward-looking statements. Important factors that could cause actual activities, performance, achievements, or results to differ materially from such plans, estimates or expectations include, among others, (1) unexpected costs, charges or expenses resulting from the acquisition of XCART; (2) uncertainty of the expected financial performance of the Company following completion of the acquisition of XCART; (3) failure to realize the anticipated potential of the XCART technology; (4) the ability of the Company to implement its business strategy; (5) failure of Scripps Research and/or Pharmsynthez or the other academic institutions in Belarus and Russia (as applicable) to perform their obligations under the respective agreements; (6) failure of the Company and Pharmsynthez to reach agreements with the contract sites on terms favorable to the Company, or at all, and (7)

other risk factors as detailed from time to time in the Company's reports filed with the SEC, including its annual report on Form 10-K, periodic quarterly reports on Form 10-Q, periodic current reports on Form 8-K and other documents filed with the SEC. The foregoing list of important factors is not exclusive. In addition, forward-looking statements may also be adversely affected by general market factors, general economic and business conditions, including potential adverse effects of public health issues, such as the COVID-19 outbreak on economic activity, competitive product development, product availability, federal and state regulations and legislation, the regulatory process for new product candidates and indications, manufacturing issues that may arise, patent positions and litigation, among other factors. The forward-looking statements contained in this press release speak only as of the date the statements were made, and the Company does not undertake any obligation to update forward-looking statements, except as required by law.

CONTACT:

JTC Team, LLC
Jenene Thomas
(833) 475-8247
xbio@jtcir.com

SOURCE: Xenetic Biosciences, Inc.

View source version on accesswire.com:
https://www.accesswire.com/595822/Xenetic-Biosciences-Inc-Provides-Development-Update-for-Its-Personalized-CAR-T-Platform-Technology-XCARTTM