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Xenetic Biosciences, Inc. Announces Research and Development Collaboration with Scripps Research to Advance XCART(TM) Platform

- Represents significant milestone in strategic development plan to advance XCART through academic collaborations -***
- Provides access to leading research institution with world renowned immunology expertise -***
- Company engaged in ongoing discussions to potentially add additional academic and development collaborators -***

FRAMINGHAM, MA / ACCESSWIRE / May 19, 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, announced today it has entered into a research funding and option agreement ("the Agreement") with Scripps Research to advance the development of the XCART™ technology for B cell malignancies.

The XCART platform is a significantly differentiated, proprietary approach to personalized CAR T therapy for the treatment of multiple tumor types of B-cell Non-Hodgkin lymphomas, and was originally developed by Scripps Research in collaboration with the Shemyakin-Ovchinnikov Institute of Bioorganic Chemistry. XCART is believed to have the potential to significantly enhance the safety and efficacy of cell therapy for B-cell lymphomas by generating patient- and tumor-specific CAR T cells.

"We are thrilled to partner with Scripps Research to aid in the development of XCART. Not only are they a leading, world renowned research and development organization, but they are also one of the original developers of the XCART platform," commented [Jeffrey Eisenberg, Chief Executive Officer](#) of Xenetic. "We believe that the team at Scripps Research, given their deep knowledge and understanding of the XCART platform, is uniquely qualified to guide key aspects of our preclinical development program. They will also provide method development expertise as the program moves towards process development for clinical manufacturing. We expect this collaboration to be one of the integral elements in our strategy of leveraging academic and development partners to provide operational efficiencies as we drive XCART toward clinical manufacturing and ultimately first-in-human studies."

The XCART technology platform was designed to utilize an established screening technique to identify polypeptide domains that selectively bind to the unique B-cell receptor ("BCR") on the surface of an individual lymphoma patient's malignant B-cell clones. This BCR-selective

targeting domain is engineered into the antigen-binding domain of a chimeric antigen receptor ("CAR"), creating the possibility of a CAR T treatment that should only recognize a given patient's malignant B-cell clones. An expected result for XCART is limited off-tumor toxicities, such as B-cell aplasia. Xenetic's clinical development program will seek to confirm the early preclinical results, and to demonstrate a more attractive safety profile than existing therapies.

"We are pleased to enter this agreement with Xenetic to participate in the preclinical development of the XCART platform. Our past experience with the technology will suit us well as we work closely with the Xenetic team to advance this platform for B cell malignancies," added Dr. Richard Lerner, Lita Annenberg Hazen Professor of Immunochemistry at Scripps Research.

Under the terms of the Scripps Research agreement, Xenetic will be granted an exclusive license to certain intellectual property arising from the research program in the field of B-cell malignancies, as well as an option to acquire rights and licenses to new intellectual property outside of that field. Xenetic is actively engaged in ongoing discussions to advance the development of XCART through additional collaborations with academic or development partners.

About Scripps Research

Scripps Research is an independent, nonprofit biomedical institute ranked the most influential in the world for its impact on innovation. With campuses in La Jolla, California, and Jupiter, Florida, we are advancing human health through profound discoveries that address pressing medical concerns around the globe.

Our drug discovery and development division, Calibr, works hand-in-hand with scientists across disciplines to bring new medicines to patients as quickly and efficiently as possible, while teams at Scripps Research Translational Institute harness genomics, digital medicine and cutting-edge informatics to understand individual health and render more effective healthcare.

Scripps Research also trains the next generation of leading scientists at our Skaggs Graduate School, consistently named among the top 10 U.S. programs for chemistry and biological sciences. Learn more at <http://www.scripps.edu>.

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 at www.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's active engagement in discussions to advance the development of XCART through additional collaborations with academic or development partners, the belief that XCART has the potential to significantly enhance the safety and efficacy of cell therapy for B-cell lymphomas by generating patient- and tumor-specific CAR T cells, the Company's belief that securing academic collaborations to develop XCART provides many advantages, the Company's belief that the Scripps Research team is uniquely qualified to guide key aspects of the Company's preclinical development program, anticipations that Scripps Research will provide method development expertise as the program moves towards process development for clinical manufacturing, the Company's expectations that the collaboration with Scripps Research will be one of the integral elements in the Company's strategy of leveraging academic and development partners to provide operational efficiencies as the Company drives XCART toward clinical manufacturing and first-in-human studies, expected results for XCART to include limited off-tumor toxicities, such as B-cell aplasia, expectations that the Company's clinical development program will confirm the early preclinical results and demonstrate a more attractive safety profile than existing therapies, expectations that Scripps Research past experience with the XCART technology will suit Scripps Research well as part of the collaboration, the expected results of the agreement with Scripps Research, including anticipated grants of intellectual property licenses under the agreement, 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; and (5) 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.

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