June 4, 2026

Xenetic Biosciences, Inc. Announces That Its Collaboration Partner Received Approval From the Israeli Ministry of Health to Conduct Exploratory, Investigator Initiated Study of DNase I In Combination With Anti-CD19 CAR T Cells in Large B-Cell Lymphoma

Company evaluating systemic recombinant human DNase I in combination with anti-CD19 CAR T cells targeting lymphoma patients in stable or progressive disease at lymphodepletion

Company reported strong positive preclinical results demonstrating significantly enhanced anti-tumor activity of anti-CD-19 CAR T cells when combined with DNase I in multiple preclinical models of hematologic cancers

Investigator initiated study to be conducted at Tel-Aviv Sourasky Medical Center ("Sourasky Center")

FRAMINGHAM, MA / ACCESS Newswire / June 4, 2026 / Xenetic Biosciences, Inc. (NASDAQ:XBIO) ("Xenetic" or the "Company"), a biopharmaceutical company focused on advancing innovative immuno-oncology technologies addressing difficult to treat cancers, today announced that its collaboration partner, PeriNess Ltd. (PeriNess), has informed the Company that it received formal approval from the Israeli Ministry of Health and the respective Institutional Review Board to conduct an exploratory clinical study of a combination systemic DNase I with anti-CD19 CAR T Cells in large B cell lymphoma (LBCL) patients. This approval follows positive preclinical results that demonstrated significant improvement of CAR T cell expansion and persistence and functionality when combined with DNase I. This combination therapy resulted in improved tumor control, delayed relapse and prolonged survival across multiple preclinical models of leukemia and lymphoma.

Under the approved clinical study protocol, 12 LBCL patients with stable or progressive disease prior to lymphodepletion therapy are intended to be treated with CAR T cells targeting CD19 (tisagenlecleucel, axicabtagene ciloleucel, or lisocabtagene maraleucel) in combination with DNase I (50-ml IV infusion dose, 1.0 mg/kg IV on Days 0,3,6,10 and 15 after CAR T cells infusion). Clinical efficacy is intended to be evaluated by the Objective Response Rate (ORR) at 1 and 3 months post CAR T infusion, duration of response (DOR), disease control rate (DCR) and overall survival (OS) at 12 months post CAR T cells infusion.

We believe the study has the potential for a translational component with a complex assessment of biomarker response and analysis of anti-CD19 CAR T expansion and persistence.

Dr. Ron Ram, Professor of Medicine and Head of the Bone Marrow Transplantation Unit at the Sourasky Center, has initiated the study as the principal investigator and all work is intended to be conducted at Sourasky Center in Israel.

"Progression of LBCL is the major obstacle for the success of CAR T therapies, with approximately 50-60% of the patients relapsing in the first year, and approximately 30-45% within 3 months after CAR T infusion, depending on the CAR T product used. While patients with partial or complete response before CAR T infusion have a 1-year progression free survival of approximately 60-80%, those with stable or progressive disease at the time of CAR T infusion have a dismal 1-year progression free survival of approximately 20-30%," commented Dr. Ram "Preclinical data generated over the last few years confirms that accumulation of cell-free chromatin and neutrophil extracellular traps (NETs) within the tumor microenvironment represents a general mechanism of CAR T-cell dysfunction through induction of exhaustion, immunosuppression and impaired expansion and this mechanism is targetable by DNase I. The goal of this clinical study is to improve clinical response by administering DNase I to abrogate the negative effects of cell-free chromatin and NETs on the performance of immune system and CAR T cells."

Alexey Stepanov, PhD, Institute Investigator at The Scripps Research Institute and a member of Xenetic's Scientific Steering Committee, added, "CAR T cell treatment induces intensive tumor-cell death and inflammation within the tumor over a short period of time, resulting in massive release of cell-free chromatin and neutrophil extracellular traps (NETs) into the tumor microenvironment. This extracellular DNA burden acts as a major stress factor that accelerates CAR T cell dysfunction and exhaustion, creating a potent negative feedback loop that limits durable efficacy. DNase I disrupts this loop by degrading cell-free chromatin and NETs, thereby improving CAR T cell fitness, preserving cytotoxicity and functional persistence and reducing exhaustion markers, including PD-1, LAG-3, and TIM-3. In our preclinical models, these effects were associated with more durable tumor control following repeated tumor re-challenge, with no tumor regrowth observed in DNase I-treated animals under conditions where tumor progression occurred in the control group. Importantly, unlike conventional strategies that seek to improve CAR T cells primarily through additional cell engineering, our approach is designed to improve the battlefield itself by removing key extracellular barriers to CAR T cell function. We believe the planned study at Tel Aviv Sourasky Medical Center is particularly meaningful given the institution's longstanding leadership in CAR T-cell therapy and immuno-oncology innovation, both in Israel and internationally. As a pioneer in the development, clinical validation and early adoption of advanced cellular therapies, Sourasky Center combines elite clinical expertise, cutting-edge translational research infrastructure and a proven ability to rapidly translate scientific discoveries into innovative patient treatments, making it an ideal institution to lead this exploratory clinical study."

About Tel Aviv Sourasky Medical Center

The Tel Aviv Sourasky University Medical Center is the second-largest hospital in Israel. It provides healthcare services to approximately 4 million residents of the Tel Aviv metropolitan area (Gush Dan) and serves citizens from all over the country. The Tel Aviv Medical Center

is a municipal-government hospital that comprises four hospitals: Ichilov General Hospital, Lis Maternity and Women's Hospital, Dana-Dwek Children's Hospital, and the Ida Sourasky Rehabilitation Hospital. In 2022, the Sylvan Adams Emergency Medicine Hospital was inaugurated. At the end of 2023, rehabilitation services were significantly expanded with the opening of BeShilam - the Rehabilitation Hospital for War Casualties.

About Xenetic Biosciences

Xenetic Biosciences, Inc. is a biopharmaceutical company focused on advancing innovative immuno-oncology technologies addressing difficult to treat cancers. The Company's proprietary DNase technology is designed to improve outcomes of existing treatments, including immunotherapies, by targeting neutrophil extracellular traps (NETs), which are involved in cancer progression. Xenetic is currently focused on advancing its systemic DNase program into the clinic as an adjunctive therapy for pancreatic carcinoma and locally advanced or metastatic solid tumors.

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

Forward-Looking Statements

This press release contains forward-looking statements that we intend to be subject to 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," "remain," "focus", "confidence in", "potential", "continues", "warrants", and other words of similar meaning, including, but not limited to, all statements regarding planned treatments under clinical study protocol 12 LBCL and intended evaluations of the clinical efficacy thereof, the Company's belief that clinical study protocol 12LBCL has the potential for a translational component with a complex assessment of biomarker response and analysis anti-CD19 CAR T expansion and persistence, where work related to the study is intended to be conducted,, our focus on advancing innovative immuno-oncology technologies addressing difficult to treat cancers, the DNase platform improving outcomes of existing treatments, including immunotherapies, by targeting neutrophil extracellular traps (NETs), which are involved in cancer progression, and our focus on advancing our systemic DNase program into the clinic as an adjunctive therapy for pancreatic carcinoma and locally advanced or metastatic solid tumors. 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 our manufacturing and collaboration agreements; (2) unexpected costs, charges or expenses resulting from the licensing of the DNase platform; (3) uncertainty of the expected financial performance of the Company following the licensing of the DNase platform; (4) failure to realize the anticipated potential of the DNase or PolyXen technologies; (5) the ability of the Company to obtain funding and implement its business strategy; (6) risks and uncertainties as to the outcome and timing of the strategic review

process being conducted by the Board and a special independent committee thereof, including the possibility that the Board may decide not to undertake a strategic alternative following the evaluation process, the Company's inability to consummate any proposed strategic alternative resulting from the review due to, among other things, market, regulatory and other factors, the potential for disruption to our business resulting from the review process, and potential adverse effects on the Company's stock price from the announcement, suspension or consummation of the evaluation process and the results thereof, as well as risks and uncertainties related to the potential impacts of consummation of a strategic transaction on the Company's current business operations, anticipated business strategy and product development plans; 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, 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, and geopolitical events, such as the conflicts in Ukraine and in the Middle East, 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, litigation, and shareholder activism, 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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SOURCE: Xenetic Biosciences, Inc.