November 12, 2024

Xenetic Biosciences, Inc. Presents Positive Data Demonstrating DNase I Significantly Improves Efficacy of Anti-CTLA-4 Immune Checkpoint Blockade in Preclinical Colorectal Carcinoma Models

Data presented at Society for Immunotherapy of Cancer (SITC) 2024

Systemic DNase I combined with □-CTLA-4 antibody demonstrated to promote antitumor immunity and generate immunological memory against microsatellite stable, mismatch repair proficient colorectal carcinoma (CRC) tumors

FRAMINGHAM, MA / ACCESSWIRE / November 12, 2024 /Xenetic Biosciences, Inc. (NASDAQ:XBIO) ("Xenetic" or the "Company"), a biopharmaceutical company focused on advancing innovative immuno-oncology technologies addressing hard to treat oncology indications, today announced the presentation of positive preclinical data.

The poster titled, "*DNase I Targeting of Neutrophil Extracellular Traps Improves CTLA-4 Immune Checkpoint blockade in Models of MSS/MMRp CRC ,"* was presented byReid Bissonnette, Ph.D., Executive Consultant for Translational Research and Development at Xenetic at the Society for Immunotherapy of Cancer (SITC) 39th Annual Meeting held on November 6-10, 2024, in Houston, Texas and virtually.

"We continue to be encouraged by the data demonstrated by our DNase platform technology. Several human cancers, including gastrointestinal cancers like colorectal cancers (CRC) in particular, have high levels of neutrophil infiltration and neutrophil extracellular traps (NETs), which contribute to an immunosuppressive, protumor microenvironment (TME), leading to poor response to therapies. Based on the growing body of data, we believe our DNase-based oncology platform has the potential to address the significant unmet need across a number of cancer indications where immune checkpoint inhibitors have not shown significant clinical utility to date, such as microsatellite stable, mismatch repair proficient (MSS/MMRp) CRC, which is the largest subset of CRC and where immune checkpoint inhibitors have shown little clinical efficacy. We look forward to continuing our efforts to advance this important program toward clinical-stage," commented

Dr. Bissonnette.

For the preclinical study, mice were implanted with either CT26 or Colon26 cells, both mouse models of MSS/MMRp CRC. The mice were treated with anti-CTLA-4 and either daily or biweekly DNase I (administered either ip or iv). Response was monitored by measuring tumor volume.

Key Highlights

- Data demonstrates beneficial effects of targeting NETs with systemic DNase I in models of primary tumor and metastatic CRC, improving the efficacy of CTLA-4 immune checkpoint blockade.
- Both published and newer data suggests that DNase I impedes neutrophil tumor infiltration, promotes CD4 and CD8 T cell infiltration, and enhances intratumoral T cell activation.
- DNase I plus □-CTLA-4 combination therapy results in tumor growth inhibition, several CRs and enhanced survival in mice bearing CT26 or Colon26 MSS/MMRp CRC tumors.
- Dose response evaluations of DNase I combined with □-CTLA-4, examining both route and frequency of administration was performed.
- DNase I plus □-CTLA-4 combination therapy resulted in complete responses (CRs) in mice bearing either CT26 or Colon26 tumors.
- Significantly, rechallenge of Colon26 and CT26 complete responder animals resulted in no (0 mm3) tumor take or growth, suggesting that DNase I combined with □-CTLA-4 promoted antitumor immunity and immunological memory.

Xenetic's DNase-based oncology platform is designed to target NETs, which are weblike structures composed of extracellular chromatin coated with histones and other proteins. In cancer, NETs are expelled by activated neutrophils into the TME and blood, thereby promoting cancer spread and local and systemic immunosuppression. Reduction of NETs burden via application of Xenetic's proprietary recombinant human DNase I has been shown to improve efficacy of immunotherapy, adoptive cell therapy and chemotherapy in preclinical animal models.

About Xenetic Biosciences
Xenetic Biosciences, Inc. is a biopharmaceutical company focused on advancing innovative immune-oncology technologies addressing hard to treat cancers. The Company's DNase platform 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", "making", and other words of similar meaning, including, but not limited to: all statements regarding our DNase-based oncology platform, including statements regarding: focusing on advancing innovative immuno-oncology technologies addressing hard to treat oncology indications; continued encouragement by the data demonstrated by our DNase platform technology; continued our efforts to advance this important program toward clinical-stage; ; 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. All 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; and (6) 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, such as the COVID-19 outbreak, 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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