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Cabaletta Bio®

Cabaletta Bio Announces Expansion of Sponsored Research Agreement with the University of Pennsylvania

Collaboration deepens pipeline with CAAR design and optimization effort in three additional B cell-mediated autoimmune diseases

PHILADELPHIA, May 28, 2020 (GLOBE NEWSWIRE) -- Cabaletta Bio, Inc. (Nasdaq: CABA), a clinical stage biotechnology company focused on the discovery and development of engineered T cell therapies for patients with B cell-mediated autoimmune diseases, today announced the expansion of its Sponsored Research Agreement (SRA) with the University of Pennsylvania (Penn). The agreement expands the scope of sponsored research to include three additional B cell-mediated autoimmune diseases under the direction of Aimee Payne, M.D., Ph.D., an Associate Professor of Dermatology in the Perelman School of Medicine at the University of Pennsylvania, Director of the Penn Clinical Autoimmunity Center of Excellence, and a co-founder of Cabaletta Bio and co-chair of the Scientific Advisory Board.

"We are excited to expand our partnership with Cabaletta to design additional product candidates within the field of B cell-mediated autoimmune diseases where we believe that a targeted cell therapy approach to treat patients is possible. By leveraging our experience in optimizing CAAR design and collaborating with the laboratory team at Cabaletta, we look forward to advancing preclinical studies in a broader range of autoimmune diseases," said Dr. Payne.

"Over the past two years, our collaboration with Dr. Payne's lab has produced two product candidates, including our lead clinical program in mucosal pemphigus vulgaris and our lead preclinical program in MuSK myasthenia gravis, which is now advancing to Investigational New Drug (IND)-enabling studies. Encouraged by the past successes from our collaboration, we have leveraged our CABA platform to identify and prioritize three additional disease targets. Through this expanded agreement with Penn, we hope to be able to accelerate the discovery and development of three additional engineered T cell therapeutic candidates," said Steven Nichtberger, M.D., President and Chief Executive Officer of Cabaletta Bio.

Cabaletta Bio also has a license agreement with Penn that provides the Company with access to multiple patent families covering CAAR T cell therapy as applied to the field of B cell-mediated autoimmune and alloimmune diseases. Concurrently with the expansion of the SRA, this license is also being amended to add certain intellectual property relating to one of the three undisclosed disease targets.

About CAAR T Cell Therapy

Chimeric AutoAntibody Receptor (CAAR) T cells are designed to selectively bind and eliminate only disease-causing B cells, while sparing the normal B cells that are essential for human health. CAAR T cells are based on the chimeric antigen receptor (CAR) T cell

technology. While CAR T cells typically contain a CD19-targeting molecule, CAAR T cells express an autoantibody-targeted antigen on their surface. The co-stimulatory domain and the signaling domain of both a CAR T cell and a CAAR T cell carry out the same activation and cytotoxic functions. Thus, Cabaletta Bio's CAARs are designed to direct the patient's T cells to kill only the pathogenic cells that express disease-causing autoantibodies on their surface, potentially leading to complete and durable remission of disease while sparing all other B cell populations that provide beneficial immunity from infection.

About Cabaletta Bio

Cabaletta Bio is a clinical-stage biotechnology company focused on the discovery and development of engineered T cell therapies for patients with B cell-mediated autoimmune diseases. The Cabaletta Approach to selective B cell Ablation (CABA) platform, in combination with Cabaletta's proprietary technology, utilizes Chimeric AutoAntibody Receptor (CAAR) T cells that are designed to selectively bind and eliminate only specific autoantibody-producing B cells while sparing normal antibody-producing B cells, which are essential for human health. The Company's lead product candidate, DSG3-CAART, is entering clinical development as a potential treatment for patients with mucosal pemphigus vulgaris, a prototypical B cell-mediated autoimmune disease. The Company's lead preclinical product candidate, MuSK-CAART, is designed as a potential treatment for patients with MuSK-associated myasthenia gravis. For more information, visit www.cabalettabio.com.

Forward-Looking Statements

This press release contains "forward-looking statements" of Cabaletta Bio within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including without limitation, express or implied statements regarding its: ability to maintain its collaboration with Penn; ability to capitalize on the expanded scope of the Sponsored Research Agreement with Penn; expectations regarding the intended incentives conferred by Fast Track Designation for DSG3-CAART for the treatment of mPV; expectations of the potential impact of COVID-19 on strategy, future operations, and the timing of its clinical trials, including the potential impacts on enrollment and initiation of its Phase 1 DesCAARTes™ trial; and statements regarding regulatory filings regarding its development programs.

Any forward-looking statements in this press release are based on management's current expectations and beliefs of future events, and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in or implied by such forward-looking statements. These risks and uncertainties include, but are not limited to: risks related to the impact of public health epidemics affecting countries or regions in which we have operations or do business, such as COVID-19; Cabaletta's ability to retain and recognize the intended incentives conferred by Orphan Drug Designation and Fast Track Designation for DSG3-CAART for the treatment of PV; risks related to Cabaletta's ability to protect and maintain its intellectual property position; uncertainties related to the initiation and conduct of studies and other development requirements for its product candidates; and the risk that the results of preclinical studies or clinical studies will not be predictive of future results in connection with future studies. For a discussion of these and other risks and uncertainties, and other important factors, any of which could cause Cabaletta's actual results to differ from those contained in the forward-looking statements, see the section entitled "Risk Factors" in Cabaletta's most recent annual

report on Form 10-K as well as discussions of potential risks, uncertainties, and other important factors in Cabaletta's other filings with the Securities and Exchange Commission. All information in this press release is as of the date of the release, and Cabaletta undertakes no duty to update this information unless required by law.

Editor's Note: Dr. Payne is a University of Pennsylvania faculty member and holds an equity stake in the Company. The University of Pennsylvania is an equity holder and investor in the Company. In addition, both Penn and the inventors of the licensed technology may receive additional financial benefits under the license in the future.

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