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Cabaletta Bio Receives FDA Clearance of IND Application for Treatment of Systemic Sclerosis with CABA-201

– Third IND application clearance for CABA-201 within the past 6 months across a broad range of autoimmune diseases –

– Phase 1/2 clinical trial evaluating CABA-201 in systemic sclerosis features parallel cohort design and the same starting dose as the CABA-201 INDs for lupus and myositis –

– Three-month clinical data in initial patients treated with CABA-201 from Phase 1/2 trials in lupus and/or myositis remain on track to be reported by the first half of 2024 –

PHILADELPHIA, Oct. 02, 2023 (GLOBE NEWSWIRE) -- Cabaletta Bio, Inc. (Nasdaq: CABA), a clinical-stage biotechnology company focused on developing and launching the first curative targeted cell therapies for patients with autoimmune diseases, today announced that the Company's third Investigational New Drug (IND) application for CABA-201, a 4-1BB-containing fully human CD19-CAR T cell investigational therapy, has been allowed to proceed by the U.S. Food and Drug Administration (FDA) for a Phase 1/2 study in patients with systemic sclerosis (SSc). The Company plans to initiate a Phase 1/2 clinical trial of CABA-201 across two parallel SSc cohorts – one cohort of six patients with severe skin manifestations and a separate cohort of six patients with severe organ involvement associated with systemic sclerosis. Consistent with the previously announced CABA-201 IND clearances for lupus and myositis, the starting dose for the trial, 1×10^6 cells/kg, was informed by the high degree of similarity between CABA-201 and the CD19-CAR T construct administered to a patient with severe, diffuse SSc in the recent *Annals of Rheumatic Diseases* publication.

"As we remain on track to deliver three-month clinical data from the initial patients treated with CABA-201 by the first half of 2024, the clearance of our third IND application for CABA-201 within the past 6 months demonstrates our relentless focus on developing CABA-201 for a broad portfolio of potential indications in patients with autoimmune diseases," said Steven Nichtberger, M.D., Chief Executive Officer and Co-founder of Cabaletta. "Based on published, third-party academic clinical data and a recently released abstract by the same academic group at the upcoming American College of Rheumatology Convergence 2023 meeting reporting administration of CD19-CAR T cells to treat additional patients with systemic sclerosis, we believe CABA-201 has the potential to slow or halt the progression of this autoimmune disease, thereby providing an important treatment option for these patients who currently have very few available treatments."

SSc is a rare and potentially fatal chronic autoimmune disease characterized by progressive skin and internal organ fibrosis that can be life-threatening, including interstitial lung disease, pulmonary hypertension, and scleroderma renal crisis. Although the etiology of SSc is not well understood, the pathogenic role of autoantibodies and B cells in SSc provides a

rationale for studying CAR T therapy in this population. SSc affects approximately 88,000 patients in the U.S., and typically affects middle-aged individuals, particularly women. Standard treatment options, which have modest effects, include generalized immunosuppressive agents or drugs targeted to specific symptomatic manifestations. Autologous hematopoietic stem cell transplant may provide some benefits in organ involvement, but carries significant risks, including mortality, infertility, and secondary autoimmune disease, limiting its potential to be applied broadly. Due to the lack of adequate treatments, the risk of mortality in systemic sclerosis remains high, with an average survival of approximately 12 years following diagnosis.

About the Phase 1/2 Clinical Trial of CABA-201 in SSc

The Phase 1/2 clinical trial will be an open-label study of CABA-201 in subjects with SSc across two parallel cohorts. The severe skin cohort will include six patients with severe skin involvement, and the organ cohort will include six patients who meet the pulmonary, cardiac, or renal involvement criteria regardless of skin involvement. Subjects will receive a one-time infusion of CABA-201, using the same dose being used in the lupus and myositis clinical trials of CABA-201, 1 x 10^6 cells/kg, preceded by a standard preconditioning regimen of fludarabine and cyclophosphamide. Key inclusion criteria include patients between ages 18 and 70 (inclusive), evidence of significant skin, pulmonary, renal, or cardiac involvement, and significant organ involvement despite use of immunosuppressants. Key exclusion criteria include a primary diagnosis of another rheumatic autoimmune disease, treatment with a B cell depleting agent within six months or treatment with a biologic agent within three months. As the third trial within Cabaletta's CARTA (Chimeric Antigen Receptor T cells for Autoimmunity) strategy, this study is intended to evaluate the potential ability of CABA-201 to transiently, but completely, eliminate B cells throughout the body, potentially enabling an immune system reset associated with a slowing or halting of active inflammatory disease progression in patients with SSc.

About Cabaletta Bio

Cabaletta Bio (Nasdaq: CABA) is a clinical-stage biotechnology company focused on the discovery and development of engineered T cell therapies that have the potential to provide a deep and durable, perhaps curative, treatment for patients with autoimmune diseases. The CABA™ platform encompasses two strategies: the CARTA (chimeric antigen receptor T cells for autoimmunity) strategy, with CABA-201, a 4-1BB-containing fully human CD19-CAR T, as the lead product candidate being evaluated in systemic lupus erythematosus, myositis, and systemic sclerosis, and the CAART (chimeric autoantibody receptor T cells) strategy, with multiple clinical-stage candidates, including DSG3-CAART for mucosal pemphigus vulgaris and MuSK-CAART for MuSK myasthenia gravis. The expanding CABA™ platform is designed to develop potentially curative therapies that offer deep and durable responses for patients with a broad range of autoimmune diseases. Cabaletta Bio's headquarters and labs are located in Philadelphia, PA.

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 expectations regarding: Cabaletta's ability to grow its autoimmune-focused pipeline; the ability to capitalize on and potential benefits resulting from published, third-party academic clinical data and a recently released abstract by the same academic group at the upcoming American College of

Rheumatology Convergence 2023 meeting; the anticipated market opportunities for CABA-201 in SSc patients; the Company's business plans and objectives; Cabaletta Bio's expectations around the potential success and therapeutic benefits of CABA-201; the Company's plans to initiate separate Phase 1/2 clinical trials of CABA-201 in subjects with SSc, SLE and myositis, including its anticipated progress, clinical trial design, ability to leverage its experience in autoimmune cell therapy and autoimmune disease product development for each clinical trial; the Company's planned initial clinical data read-out from the CABA-201 program in the first half of 2024; Cabaletta's ability to enroll the requisite number of patients and dose each dosing cohort in the intended manner in its Phase 1/2 clinical trials of CABA-201; and the ability to accelerate Cabaletta's pipeline and develop meaningful therapies for patients, including in collaboration with academic and industry partners and the ability to optimize such collaborations on 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 regulatory filings and potential clearance; the risk that signs of biologic activity or persistence may not inform long-term results; Cabaletta's ability to demonstrate sufficient evidence of safety, efficacy and tolerability in its preclinical studies and clinical trials of DSG3-CAART, MuSK-CAART and CABA-201; the risk that the results observed with the similarly-designed construct employed in the recent *Nature Medicine* and *Annals of Rheumatic Diseases* publications, including due to the dosing regimen, are not indicative of the results we seek to achieve with CABA-201; risks related to clinical trial site activation or enrollment rates that are lower than expected; risks related to unexpected safety or efficacy data observed during clinical studies; risks related to volatile market and economic conditions and public health crises; Cabaletta's ability to retain and recognize the intended incentives conferred by Orphan Drug Designation and Fast Track Designation for its product candidates, as applicable; risks related to Cabaletta's ability to protect and maintain its intellectual property position; risks related to fostering and maintaining successful relationships with Cabaletta's collaboration and manufacturing partners; uncertainties related to the initiation and conduct of studies and other development requirements for its product candidates; the risk that any one or more of Cabaletta's product candidates will not be successfully developed and/or commercialized; and the risk that the initial or interim 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 and subsequent 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.

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