OBLENIO BIO

Oblenio Announces First Patients Dosed in Innovative Phase 1a Trial of LBL-051 in Refractory Autoimmune Diseases

-- First-in-human trial of LBL-051 is enrolling patients with refractory autoimmune diseases to rapidly generate broad proof of concept --

Cambridge, Mass., August 4, 2026 - Oblenio Bio ("Oblenio" or "the Company") today announced that the first patients have been dosed in its Phase 1a first-in-human clinical trial evaluating LBL-051, the company's tri-specific T cell engager targeting BCMA, CD19 and CD3. Specifically engineered for autoimmune patients, LBL-051 is designed to safely induce complete depletion of both B cells and plasma cells to achieve a durable immune system reset and the potential for sustained drug-free remission.

"LBL-051 preclinical data have shown complete depletion of both B and plasma cells through dual targeting of CD19 and BCMA, with minimal cytokine release. These data support LBL-051's potential to achieve full B lineage immune reset consistently, which may outperform the results from approaches using a single B cell target," said Ricardo Grieshaber-Bouyer, M.D., Ph.D., Professor of Clinical Systems Immunology and Head of the Clinical Trial Unit at FAU Erlangen-Nürnberg and Principal Investigator of the study. "The Paul Ehrlich Institute (PEI) has allowed us to pioneer a highly innovative, first-in-human, dose escalation trial design which enables rapid and thoughtful evaluation of this off-the-shelf therapeutic approach, while prioritizing patient safety, in a range of autoimmune diseases."

The open-label, multicenter Phase 1a study is enrolling patients with refractory autoimmune disease across multiple indications. The trial utilizes subcutaneous dosing to evaluate safety, tolerability, clinical response, B cell and plasma cell depletion in blood and tissue and select biomarkers.

"Our Phase 1a trial design marks a significant step forward in the clinical development of T cell engagers for autoimmunity. This differentiated strategy will rapidly generate proof-of-concept data in high unmet need populations," stated Tapan Maniar, M.D., Chief Medical Officer of Oblenio**.** "We look forward to demonstrating LBL-051's potential to achieve a broad and durable immune reset and advancing CD19 and BCMA dual-targeting."

Oblenio recently presented preclinical data supporting LBL-051's advance into clinical evaluation at the European Alliance of Associations for Rheumatology (EULAR) 2026 Congress.

"Disease-modifying treatment options for autoimmune diseases remain limited, leaving many patients refractory to the current standard of care. In light of this unmet need, Oblenio's preclinical results and the company's singular focus on this potentially transformative approach make our participation in the trial a priority," said Gunter Assmann, M.D., Ph.D., Head of the Department of Rheumatology and Clinical Immunology at RUB University Hospital Minden JWK, the site at which the first patients have been treated.

About Oblenio Bio
Oblenio Bio is pursuing broad immune reset as a transformative therapy for refractory autoimmune diseases through our clinical-stage LBL-051 T-cell engager. Specifically engineered for autoimmune patients, our tri-specific unites validated targets BCMA, CD19 and CD3 to safely and completely deplete B cells and plasma cells to achieve long-term drug-free remission. Led by proven drug developers and industry leaders, we are singularly focused on LBL-051's groundbreaking clinical development program to rapidly establish it as a life-changing treatment for the vast number of patients who endure severe autoimmune disease without relief.

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