

EsoBiotec Begins Clinical Trial of *In Vivo* BCMA CAR-T Candidate ESO-T01 for Multiple Myeloma

ESO-T01 is the first in vivo BCMA CAR-T candidate to reach the clinical stage

Early clinical data are expected in second half of 2025

Mont-Saint-Guibert, Belgium (December 11, 2024) – [EsoBiotec SA](#), a biotechnology company empowering cells *in vivo* to fight cancer, today announced the launch of an Investigator-Initiated Clinical Trial (IIT) in China of ESO-T01, an immune shielded lentiviral vector that reprograms T lymphocytes *in vivo* into highly effective BCMA CAR-T cells, for the treatment of multiple myeloma.

“ESO-T01 is the first *in vivo* BCMA CAR-T candidate to reach the clinical stage, which is a testament to our ENaBL platform technology that reprograms immune cells inside the body to fight cancer,” said EsoBiotec CEO Jean-Pierre Latere, Ph.D. “There are different types of treatments available for patients with multiple myeloma, including *ex vivo* CAR-T options, but many are associated with debilitating side effects and patient access remains limited by manufacturing capacity, logistical complexity, and high costs. We are keen to explore the safety and efficacy of ESO-T01 in this study, and we believe the results could allow expansion to other indications including autoimmune diseases.”

EsoBiotec Chief Scientific Officer Philippe Parone, Ph.D., commented, “ESO-T01 leverages our third-generation immune-shielded lentiviral vector platform, ENaBL, designed to reprogram T cells into potent BCMA CAR-T cells directly within patients. This innovative approach delivers high specificity and efficient transduction *in vivo* due to the unique design features of our ENaBL technology. When this technology is combined with a robust, scalable, and reproducible manufacturing process, ESO-T01 represents an opportunity to provide patients with a cost-effective, off-the-shelf therapy, redefining access to advanced therapies.”

The proof-of-concept, first-in-human IIT is underway and initial clinical data are expected to be presented in the second half of 2025. In preclinical studies, a single injection of ESO-T01 demonstrated potent anti-tumor activity against cancer cells in humanized mice. These studies showed highly effective *in vivo* transduction, with the BCMA CAR transgene specifically expressed in T cells. This led to the generation of a large population of circulating BCMA CAR-T cells, which persisted throughout the study, highlighting their long-term durability and efficacy.

Latere added, “EsoBiotec has been operating in stealth mode and has raised €22M in a challenging funding environment thanks to the support of very committed investors including Thuja Capital, UCB Ventures, Invivo Partners, Wallonie Entrepreneurs (WE), SambrInvest and Investsud. We have now entered the clinic and are well positioned to bring groundbreaking

cancer treatments to patients globally leveraging our differentiated science, experienced team and established collaborations.”

About ESO-T01

ESO-T01 is a third-generation replication-deficient self-inactivating lentiviral vector expressing a BCMA-targeted CAR construct under a T cell-specific synthetic promoter. It is immune shielded and resistant to phagocytosis. ESO-T01 is an “off-the-shelf” single dose treatment, directly administered systemically without the need for lymphodepletion.

About ENaBL Platform

EsoBiotec’s Engineered NanoBody Lentiviral (ENaBL) platform vectors are designed to specifically reprogram T cells and have demonstrated a high level of CAR T potency in animal studies. In large scale clinical manufacturing, the company has preserved vector specificity with high physical titer and high purity. EsoBiotec’s lead product candidate, ESO-T01, leverages the ENaBL platform to validate this novel technological approach using a clinically proven antigen.

About EsoBiotec SA

EsoBiotec is a privately held biotechnology company that specializes in the *in vivo* engineering of T-cells and other immune cells to develop cost-effective, off-the-shelf therapeutics. Investors include Thuja Capital, UCB Ventures, Invivo Partners, Wallonie Entrepreneure (WE), SambrInvest and Investsud. Therapeutics are developed using the company’s Engineered NanoBody Lentiviral (ENaBL) platform to deliver state-of-the-art cell therapies and maximize accessibility to life-changing cancer care. An Investigator-Initiated Clinical Trial is underway evaluating ESO-T01, EsoBiotec’s BCMA CAR-T candidate, for the treatment of multiple myeloma. EsoBiotec’s pipeline features two first-in-class, combination candidates—ESO-TX101 and ESO-TX102—designed to build on the simultaneous engineering of T cells and monocytes to remodel the tumor micro-environment as treatments for solid tumors.

For more information on EsoBiotec, please visit <http://www.esobiotec.com>. Follow [@EsoBiotec](#) on LinkedIn.

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