



Using Artificial Intelligence to Transform the Treatment of Cancer

Executive Summary

For more information, please contact:
Neil Warma
President and CEO
neil@mongoosebio.com
Tel: +1 281.881.6527

Mongoose Bio Executive Summary

Overview

Mongoose Bio, Inc. is an innovative clinical-stage biopharmaceutical company at the forefront of precision oncology, pioneering first-in-class T cell receptor T cell (TCR-T) therapies. By leveraging our proprietary antigen discovery pipeline and advanced memory T cell reprogramming technology, we achieve unparalleled coverage of both common and rare solid tumors, delivering sustained immunoprotection. We integrate Generative Artificial Intelligence (Gen AI) to enhance our antigen discovery and T cell engineering processes, optimizing therapeutic efficacy and patient outcomes.

The science and extensive intellectual property behind Mongoose Bio were developed by Dr. Cassian Yee, a leading oncologist at the prestigious MD Anderson Cancer Center in Houston, Texas. Mongoose Bio was founded in 2023, with MD Anderson taking an equity stake to show its strong belief in the company's potential and leadership. Mongoose Bio holds an exclusive license from MD Anderson to develop and commercialize the TCR-T technology worldwide.

Clinical Development

We are preparing for our first clinical trial in 2025 to be conducted at MD Anderson, under the guidance of Dr. David Hong. The dose escalation Phase 1b will investigate the safety and efficacy of the Company's lead candidate, MGB-001, in a basket trial in patients with advanced, recurrent/relapsed cancers, including lung, gastric, and esophageal cancer.

Global Management

Mongoose Bio has assembled a team of world-class experts to manage the clinical development and commercialization of its products. In addition to Dr. Yee, the Founder, Neil Warma, the Company's Chief Executive Officer, will oversee the strategic and commercial development of all drug products, financing and business development. Mr. Warma has over 25 years of expertise in the life science arena, having built and run companies in the US, Europe and Asia from early to commercial stage. The team is rounded out by experts in drug development, clinical operations, regulatory affairs and CMC.

Differentiated Science and Patient Impact

Mongoose Bio's mission is to generate active and persistent TCR-T therapeutics by epigenetic reprogramming of autologous central memory T-cells harboring defined TCR's against empirically validated highly immunogenic tumor targets. The company's proprietary Immunopeptidome Discovery Platform (IDP) uniquely uses mass spectrometry to identify immunogenic autochthonous T cell target antigens and has already produced > 2 million spectra from common and rare tumors and the validation of 250 high value TCR target antigens. Of these, four targets covering > 80% of Class I MHC (HLA) have been selected as the first development candidates and are moving through development, with the lead now poised to enter the clinic.

In the landscape of adoptive cellular therapies, two prominent challenges have hindered progress. Primarily, the scarcity of suitable targets for T cell therapy poses a significant hurdle. Secondly, the transient nature of T cell persistence presents a substantial limitation. However, Mongoose Bio's pioneering methodology effectively addresses both of these obstacles. Firstly, meticulous antigen selection criteria are applied, prioritizing attributes such as tumor selectivity, tumorigenicity, immunogenicity, and broad tumor expression. Secondly, our approach integrates a proprietary epigenetic reprogramming protocol, endowing engineered T cells with the enduring proliferative capacity, longevity, and in vivo persistence characteristic of central memory T cells. This distinctive strategy positions Mongoose Bio at the forefront of cellular therapy innovation, with unparalleled targets and technological advancements within the field.

Mongoose Bio Executive Summary

Our objective is to develop is to create the ultimate individualized T cell-based therapy for cancer. Our strategy revolves around the re-education and re-programming of the patient’s own T cells into highly efficient and long-lasting tumor killers. This entails (i) the isolation of a patient’s own T lymphocytes, (ii) the introduction of a specific gene encoding a T cell receptor that will enable the patients T cells to more efficiently recognize a specific target expressed uniquely on the surface of their tumor cells, (iii) the re-programming of their now engineered T cells to a more effective “central memory” state. We are confident that we can replicate this process consistently and cost-effectively while adhering to regulatory authorities’ guidelines to deliver life-saving treatments and extend the lives of cancer patients.

Leveraging Artificial Intelligence

Generative AI (Gen AI) will be a powerful tool in various aspects of Mongoose Bio's development of TCR-T therapies. It enables us to generate optimized TCR sequences with higher affinity and specificity for cancer antigens by analyzing extensive datasets of TCR-antigen interactions. This allows Mongoose Bio to design TCRs that more effectively recognize and bind to cancer cells. Additionally, Gen AI enables us to simulate and predict the effects of modifications to TCR sequences, enhancing their binding affinity and specificity, and thereby reducing the likelihood of targeting healthy cells and minimizing side effects. Moreover, applying Gen AI enables us to personalize each treatment by analyzing individual patients' genetic and tumor data, ensuring TCRs are tailored to the unique antigenic profiles of their cancers, significantly increasing the likelihood of successful responses.

Global Patient Focus

Mongoose Bio has the potential to revolutionize cancer treatment and significantly extend the lives of patients worldwide. Our portfolio includes novel targets prevalent in numerous cancers, underscoring our commitment to global health. By fostering collaborations in key regions, not only the United States, but also in Japan, South Korea, and the United Arab Emirates, the company is enabling the inclusion of diverse patient populations in its clinical trials and laying the groundwork for equitable access to its therapies. The incidence of serious cancers including breast, colorectal, and prostate cancers, is alarming and impacts individuals, their families, and the world’s economic development. These cancers are primary targets in our portfolio. These strategic partnerships support Mongoose Bio's mission to deliver transformative treatments to cancer patients globally, prioritizing both efficacy and affordability to make a meaningful impact on lives across the world.

Funding Support

To date Mongoose Bio has raised over USD \$16M in seed funding and is poised to initiate its first clinical trial in 2025. Mongoose Bio was recently awarded the prestigious Cancer Prevention and Research Institute of Texas (CPRIT) Product Development award and was one of the few emerging companies to secure over USD \$10.6M in non-dilutive funding. Additionally, Mongoose Bio has signed a term sheet with the Cancer Focus Fund for an additional \$5.1M in potential funding. The technology was assessed and evaluated by a group of leading oncologists all of whom recognized the uniqueness of Mongoose Bio’s technology and its potential to transform the treatment of cancer. Mongoose is currently raising an additional \$5M to bring the total funding to over \$20 M. The use of proceeds will support the conduct of the Phase 1 clinical trial, manufacturing of drug product, regulatory support and the hiring of key staff. Additional capital will be required to enable the completion of registrational trials and to advance additional pipeline candidates for multiple cancers.

Summary

Our groundbreaking technology, originating from years of research by one of the world's leading cancer experts in cellular therapies and spun out of the largest cancer treatment institution in the world is being guided by a team of experts and is ready for clinical application. With early funding secured, we are committed to benefiting patients globally, including in the Emirati region. We believe that collaboration among global stakeholders will not only significantly enhance patient outcomes but also drive substantial shareholder value.

Mongoose Bio Executive Summary

APPENDIX: Key Person Bios

Cassian Yee, M.D., Scientific Founder



Dr. Yee is Founder and CSO of Mongoose Bio Inc. He holds an academic faculty position as Endowed Professor and medical oncologist in the Division of Cancer Medicine, University of Texas MD Anderson Cancer Center where he is appointed Director of Solid Tumor Cell Therapy and Director of the Program in TCR-based Therapeutics. He received his medical training in Canada, residency at Stanford and fellowship at Fred Hutchinson Cancer Research Center.

He is an elected member of the American Society of Clinical Investigators, CPRIT Scholar, former Co-Leader of the Stand Up to Cancer- AACR/CRI Dream Team and recipient of translational scientist awards from Burroughs Wellcome Fund and Damon Runyon Cancer Research Foundation, and the Potu N Rao Basic Science Award. He has an unbroken record of peer-reviewed funding from the NIH as PI / PD/ Project Leader of individual, multi-PI and multi-institutional grants from NCI, DOD and FDA as well as several completed and current academic-industry partnerships for investigator-initiated trials.

Over the last 20+ years, Dr. Yee has pioneered a form of Adoptive Cellular Therapy (ACT), known as Endogenous T Cell (ETC) therapy, using peripheral blood to generate a uniform population of antigen-specific memory T cells. He has conceived and executed First-in-Human clinical studies establishing principles of T cell persistence, memory and antigen-spreading as fundamental to the success of adoptive cell therapy, including the first-in-class use of tetramer-guided cell sorting, the first clinical trial using cell therapy in combination with immune checkpoint therapy and first use of antigen-specific memory T cells without lymphodepletion to mediate durable complete responses. Dr. Yee is the senior or lead author in > 100 publications in *The New England Journal of Medicine*, *Nature*, *Science*, *Science Immunology*, *Science Translational Medicine*, *Nature Medicine*, *Journal of Clinical Oncology*, *Journal of Experimental Medicine*, *JCI*, and *Proceedings of the National Academy of Sciences* garnering more than 17,000 citations for his work in cellular therapy, T cell biology and antigen-discovery.

He has been the chief scientific advisor for several biotechnology companies (Berkeley Lights, Deep Space Bio and Immatics US) and is a current or past member of the SAB for Adaptive Biotechnologies, Obsidian Therapeutics, and Affyimmune, as well as for non-profit entities as the Rare Cancer Research Foundation, Cancer Research institute, InnoHK (Hong Kong), and Yonsei Cancer Center.

Dr. Yee's studies in understanding the intrinsic epigenetic mechanisms contributing to the generation of highly persistent T cells in ETC have been instrumental in the development of reprogrammed memory T cells for TCR-T, CAR-T and TIL therapies. To more broadly apply this principle for all cancer patients, the Yee Lab expanded the portfolio of TCR targets through an antigen discovery pipeline that uses tandem mass spectrometry, proprietary filtering algorithms and a platform that uses ETC technology to empirically validate candidate epitopes. To date, more than 200 novel, shared tumor-associated epitopes have been identified among both common and rare tumors, for alleles representing > 80% of global patient population. The primary assets from these discoveries and inventions have been licensed to Mongoose Bio. Dr. Yee holds more than 11 patents and 15 applications worldwide in the field of cellular therapy and antigen discovery.

Mongoose Bio Executive Summary

Neil Warma, MBA, President and CEO



Neil Warma has been a successful healthcare entrepreneur for over 25 years having managed and advised numerous biotechnology and pharmaceutical companies across the globe.

Mr. Warma is the President, CEO and Board Director of Mongoose Bio, a company recently spun out of the MD Anderson Cancer Center focused on transforming the treatment of both rare and common cancers with its unique cellular therapy technology, specifically T-cell receptor T cell (TCR T) therapy.

Prior to these roles, Mr. Warma was CEO, Representative Director and Board Member of Genexine, Inc. (095700.KQ) a public, global biopharmaceutical company based in Seoul, South Korea, where he led the company's restructuring and commercialization of its first products, as one of the first foreigners to be invited to lead a South Korean company.

Previously, Mr. Warma was the US CEO of I-Mab Biopharma U.S., (Nasdaq:IMAB) a publicly traded global biopharmaceutical company focused on oncology, with offices in Shanghai, Hong Kong, San Diego and Gaithersburg. Mr. Warma was responsible for the expansion of global operations outside of China and led the Company's successful U.S. IPO.

Prior to that, Mr. Warma was President and CEO of Opexa Therapeutics, Inc. (Nasdaq:OPXA), a publicly traded biopharmaceutical company developing novel cellular therapies for autoimmune diseases. Prior to Opexa, he was CEO of Viron Therapeutics, a private biotechnology company developing novel protein-based therapeutics for cardiovascular disease and transplantation.

Mr. Warma spent several years in key management roles at Novartis Pharmaceuticals at its corporate headquarters in Basel, Switzerland. As Head of Global Pharma Policy and Advocacy at Novartis he worked closely on pricing, reimbursement and R&D policies. Mr. Warma also held a senior role in Global Marketing at Novartis where he worked on the launch of a GI product.

Mr. Warma also founded and later sold MedExact, a company dedicated to providing clinical and treatment information to physicians and pharmaceutical companies over the Internet. As President, he oversaw the expansion of the operations in the US, Canada and France and its sale to a large European public company.

Mr. Warma currently serves on the Board of Directors of the Biotechnology Innovation Organization (BIO), GenrAb Inc., ProMIS Neurosciences (Nasdaq:PMN) and Ridgeline Therapeutics. Mr. Warma obtained an honors Bachelor of Science degree specializing in neuroscience from the University of Toronto and an International MBA from the Schulich School of Business at York University in Toronto.