Transimmune Secures $5m Funding to Enhance mRNA Vaccination with Novel Dendritic Cell Therapy

- *Expansion of existing Bill & Melinda Gates Foundation relationship aims to design mRNA guided therapies that more directly mirror the natural immune system response to antigenic threats.*

- *Combination of "physiologic" dendritic cells with mRNA programming could potentiate mRNA vaccination potency in therapeutic settings.*

Düsseldorf, Germany, September 20th, 2023 – Transimmune AG, a pioneering dendritic cell therapy company, announced today a $5 million investment from the Bill & Melinda Gates Strategic Investment Fund. The funding will be used to leverage Transimmune's physiologically induced dendritic cells (phDCs) to enhance the potency of mRNA vaccines in infectious diseases, with an initial focus on a therapeutic vaccine for people living with HIV. Dendritic cells carry pathogenic information to the lymph nodes and present them to T cells, initiating and modulating the adaptive immune response by activating both T and B lymphocytes. Transimmune's phDCs represent a powerful new approach to engage the immune network in a manner closer to that seen with a natural immune response.

This investment follows on from a 2021 Gates Foundation program, conducted in support of Dr. Richard Edelson of Yale University and Dr. Philip Santangelo of Emory University, that sought to explore the feasibility of mRNA vaccines being enhanced by better communication with the immune network via dendritic cells. The success of that program led directly to the selection of Transimmune's technology to be a key part of the inaugural CUREIT grant recently announced by ARPA-H and President Joe Biden in August 2023. Further information on the ARPA-H grant can be found on the Transimmune website (https://transimmune.com/news-publications/).

"This program-related investment from the Gates Foundation will help us to deepen our understanding of how to directly exert control over an immune response to vaccination. By using mRNA to reprogram clinically potent dendritic cells ex vivo, we can drive the immune network to respond in the manner it evolved over millions of years," said Justin Duckworth, CEO of Transimmune AG. "The potential to close the gap between vaccine-mediated immunity and natural immunity may overcome longstanding failings of therapeutic vaccines as a class of drugs. This investment will specifically focus on applications in infectious disease, but the technology has the potential to be applied in other areas of immune dysregulation, such as cancer and autoimmunity".

Transimmune develops phDCs that are rapidly made from blood monocytes in a process that mirrors the immune response to the threat of infection. Research will be targeted at how the phDCs can be used as a probe to elucidate more efficient strategies for mRNA vaccination as well as exploring their direct therapeutic potential. As therapy, phDCs show

great promise to be made and administered simply, and in a low-cost manner in an ex vivo, point of care setting. Such a uniquely simple production method raises the potential for Transimmune, with the support of the Gates Foundation, to distribute sponsored phDC cell therapies in a global manner.

About Transimmune
Transimmune's physiologically induced dendritic cells (phDCs) represent a total rethink on how to make dendritic cell therapies more naturally and drive a patient's immune network against a specific antigenic target. The cells can be made and then harnessed rapidly, at low cost, at the point-of-care. As a consequence, phDCs differ markedly from the industry standard cytokine-derived dendritic cells that are viewed to have suffered from a lack of potency in clinical trials over decades.

The discovery of phDCs emerged from research by Professor Richard Edelson of Yale University who sought to uncover how an ex vivo chemotherapy treatment he invented, extracorporeal photopheresis (ECP), was therapeutically immunizing patients with advanced cutaneous T cell lymphomas against their malignant cells. The unexpected clinical responses seen in patients who had failed conventional therapy could not be explained by existing science. While ECP, due to its empirical efficacy and safety, was expeditiously approved by the FDA and adopted by leading medical centers throughout the world, his team's discovery of the unappreciated phDCs that were driving those responses, including many cures, required further decades of intensive research.

Transimmune, headquartered in Düsseldorf, is a spin-out of Yale University with initial funding from QureInvest, an entrepreneurial investment fund managed by HS LifeSciences. More information can be found at www.transimmune.com.

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