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Title: Targeting "Don't Eat Me" Signals for Macrophage-Mediated Cancer Therapy

Abstract

A "Don't Eat Me" signal is an immune inhibitory signal that can block phagocytosis by macrophages. Macrophages serve as the front lines of the immune system, and they are abundant in the tumor microenvironment. "Don't eat me" signals are often up-regulated by tumor cells to protect themselves against macrophage-mediated immune-surveillance. CD24 is one such signaling molecule, and it is highly expressed in ovarian cancer, endometrial cancer, breast cancer, cholangiocarcinoma, and other high unmet need tumor types, contributing to cancer progression and poor patient outcomes.

Preclinical experiments have demonstrated that blocking CD24 enables macrophages to efficiently eliminate cancer cells, and have led Pheast Therapeutics to develop PHST001, a humanized monoclonal anti-CD24 antibody currently in clinical development.

Dr. Maute will explore the preclinical and clinical development of PHST001, highlighting areas of differentiation versus previous drugs aimed at "don't eat me" signals. He will also provide highlights of Pheast's next-gen approaches such as identification of additional novel macrophage checkpoint targets and the use of cytotoxic payloads, aimed at extending their therapeutic potential to additional oncology indications.

Bio

Dr. Maute is a scientist and biotechnology entrepreneur, and is a co-founder of Pheast Therapeutics. He leads the company as Chief Executive Officer. Prior to Pheast, he led the Translational Science and Biomarker team at Forty Seven Inc. and following acquisition by Gilead Sciences in 2020, supported the anti-CD47 magrolimab and anti-SIRPA programs as Biomarker lead.

Dr. Maute was also a co-founder of Ab Initio Biotherapeutics, and led the research team as Head of Biology from founding in 2015 until acquisition by Ligand Pharmaceuticals in 2019.

He trained as a postdoctoral fellow in the laboratory of Dr. Irving Weissman at Stanford University School of Medicine. Dr. Maute received his Ph.D. in genetics from Columbia University and a B.A. in molecular and cell biology from UC Berkeley.