



Carisma Presents Pre-Clinical Proof of Concept for *in vivo* CAR-M using mRNA platform in collaboration with Moderna at SITC

October 31, 2023

- Data demonstrate feasibility, tolerability, and early efficacy of mRNA/LNP *in vivo* CAR-M therapy in pre-clinical models of metastatic solid tumors

- Proof of concept achieved for platform under the Moderna collaboration

- "*In vivo* CAR-M: Redirecting endogenous myeloid cells with mRNA for cancer immunotherapy" to be presented Friday, November 3, 2023, at 11:30 am PT

PHILADELPHIA, Oct. 31, 2023 /PRNewswire/ -- [Carisma Therapeutics Inc.](#) (Nasdaq: CARM) ("Carisma" or the "Company"), a clinical stage biopharmaceutical company focused on discovering and developing innovative immunotherapies, today announced that it will present new findings at the Society for Immunotherapy of Cancer (SITC) 38th Annual Meeting regarding its first-of-its-kind collaboration with Moderna. The collaboration aims to bring together Carisma's chimeric antigen receptor macrophage (CAR-M) platform with Moderna's mRNA and lipid nanoparticle (LNP) technologies to generate and develop *in vivo* CAR-M therapeutics.

Accepted as a late-breaking presentation, "[In vivo CAR-M: Redirecting endogenous myeloid cells with mRNA for cancer immunotherapy](#)," showcases data that demonstrate Carisma's CAR-M therapy can be directly produced *in vivo*, or within the body, successfully redirecting endogenous myeloid cells against tumor-associated antigens using mRNA/LNP. The pre-clinical data demonstrate feasibility, tolerability, and efficacy against metastatic solid tumors. This novel approach to cancer immunotherapy offers an off-the-shelf solution that has the potential to increase access to CAR-based therapies and will be the basis of CAR-M programs to be developed under the Carisma and Moderna collaboration.

"The data presented at SITC is incredibly exciting as it demonstrates that we have the ability to make CAR-M directly *in vivo* with mRNA/LNP technology, leading to robust and targeted anti-tumor activity," said Michael Klichinsky, PharmD, PhD, Co-Founder and Chief Scientific Officer at Carisma. "This off-the-shelf approach to treat cancer with engineered myeloid cells, developed in collaboration with Moderna, has the potential to transform the CAR field and be applied to numerous cancer targets and indications."

"We are pleased to share data about the successful application of our mRNA platform to advance *in vivo* cell therapy," said Lin Guey, PhD, Chief Scientific Officer of External Research Ventures at Moderna. "We look forward to the continuation of our pre-clinical work with Carisma and are optimistic that the joint scientific knowledge of both companies will accelerate the development of novel *in vivo* CAR-M therapies for patients."

Details of Carisma data accepted for presentation at the SITC 38th Annual Meeting are as follows:

- "[In vivo CAR-M: Redirecting endogenous myeloid cells with mRNA for cancer immunotherapy](#)" presented on Friday, November 3, 2023, at 11:30 am PT
- "[CAR-Macrophages with custom intronic shRNA exhibit enhanced efficacy against solid tumors](#)" presented on Friday, November 3, 2023, 9:00 am – 7:00 pm PT
- "[Engineered Microenvironment Converters \(EM-C\): Macrophages expressing synthetic cytokine receptors reverse immunosuppressive signals in solid tumors](#)" presented on Friday, November 3, 2023, 9:00 am – 7:00 pm PT
- "[A Phase 1, First in Human \(FIH\) study of autologous macrophages engineered to express an anti-HER2 chimeric antigen receptor \(CAR\) in participants \(pts\) with HER2 overexpressing solid tumors](#)" presented on Friday, November 3, 2023, 9:00 am – 7:00 pm PT

Presentation and posters will be available on the SITC 38th Annual Meeting portal for registered attendees.

About Carisma

Carisma Therapeutics Inc. is a clinical stage biopharmaceutical company focused on utilizing our proprietary macrophage and monocyte cell engineering platform to develop transformative immunotherapies to treat cancer and other serious diseases. We have created a comprehensive, differentiated proprietary cell therapy platform focused on engineered macrophages and monocytes, cells that play a crucial role in both the innate and adaptive immune response. Carisma is headquartered in Philadelphia, PA. For more information, please visit www.carismatx.com.

About Moderna

In over 10 years since its inception, Moderna has transformed from a research-stage company advancing programs in the field of messenger RNA (mRNA), to an enterprise with a diverse clinical portfolio of vaccines and therapeutics across seven modalities, a broad intellectual property portfolio and integrated manufacturing facilities that allow for rapid clinical and commercial production at scale. Moderna maintains alliances with a broad range of domestic and overseas government and commercial collaborators, which has allowed for the pursuit of both groundbreaking science and rapid scaling of manufacturing. Most recently, Moderna's capabilities have come together to allow the authorized use and approval of one of the earliest and most effective vaccines against the COVID-19 pandemic.

Moderna's mRNA platform builds on continuous advances in basic and applied mRNA science, delivery technology and manufacturing, and has allowed the development of therapeutics and vaccines for infectious diseases, immuno-oncology, rare diseases, cardiovascular diseases and auto-immune diseases. Moderna has been named a top biopharmaceutical employer by Science for the past eight years. To learn more, visit

www.modernatx.com.

Cautionary Note on Forward-Looking Statements

Statements in this press release about future expectations, plans and prospects, as well as any other statements regarding matters that are not historical facts, may constitute "forward-looking statements" within the meaning of The Private Securities Litigation Reform Act of 1995. These statements include, but are not limited to, statements relating to Carisma's business, strategy, future operations, cash runway, the advancement of Carisma's product candidates and product pipeline, and pre-clinical and clinical development of Carisma's product candidates, including expectations regarding timing of initiation and results of pre-clinical and clinical trials. The words "anticipate," "believe," "contemplate," "continue," "could," "estimate," "expect," "goals," "intend," "may," "might," "outlook," "plan," "project," "potential," "predict," "target," "possible," "will," "would," "could," "should," and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words.

Any forward-looking statements are based on management's current expectations of future events and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in, or implied by, such forward-looking statements. For a discussion of these risks and uncertainties, and other important factors, any of which could cause Carisma's actual results to differ from those contained in the forward-looking statements, see the "Risk Factors" set forth in the Company's Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on August 10, 2023, as well as discussions of potential risks, uncertainties, and other important factors in Carisma's other recent filings with the Securities and Exchange Commission. Any forward-looking statements that are made in this press release speak as of the date of this press release. Carisma undertakes no obligation to revise the forward-looking statements or to update them to reflect events or circumstances occurring after the date of this press release, whether as a result of new information, future developments or otherwise, except as required by the federal securities laws.

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