



Moderna Launches Caperna LLC, Its Fourth Venture, to Develop Personalized Cancer Vaccines

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Caperna developing personalized cancer vaccines in combination with other cancer immunotherapies. Moderna finalizing the development of rapid cycle-time, small-batch GMP capabilities to support the development of personalized therapies.

CAMBRIDGE, Mass., October 22, 2015 — Moderna Therapeutics, a pioneer in the development of messenger RNA (mRNA) Therapeutics™, today announced the launch of Caperna LLC, the fourth Moderna venture, which will focus exclusively on the advancement of personalized cancer vaccines.

Caperna will apply Moderna's mRNA vaccine technology to the field of cancer vaccines, building on advances in recent years in cancer immunotherapy, including the availability of checkpoint inhibitors and the ability to rapidly determine individual patient mutations. Caperna will develop personalized cancer vaccines that encode a patient's specific neoepitopes, utilizing Moderna's unique infrastructure to manufacture within weeks small batches of vaccines tailored to each patient.

Substantial efforts at Moderna's infectious disease venture Valera have demonstrated preclinical efficacy of Moderna's mRNA-based vaccines in multiple viral disease models, which has led to the nomination of several viral vaccine development candidates. These advancements have spurred the formation of Caperna and the pursuit of vaccine development for the treatment of cancer.

Tal Zaks, M.D., Ph.D., Chief Medical Officer of Moderna, who was formerly Senior Vice President and Head of Global Oncology at Sanofi, will serve as Interim President of Caperna. Nicholas Valiante, Ph.D., who recently joined Moderna from Novartis Vaccines where he was Global Head of Immunology & Immunotherapy Research, will serve as Vice President and Head of Personalized Vaccine Sciences.

"With such a potent vaccine platform and a manufacturing process that lends itself directly to rapid production of patient-specific therapies, we believe Moderna's mRNA approach will offer distinct advantages in the development of new cancer therapies," said Dr. Zaks. "We expect our ability to specifically activate and direct the immune system will synergize with checkpoint inhibitor therapies like PD-1 antibodies."

"What is perhaps most exciting about our approach and our core protein expression platform is its potential to leverage a broad spectrum of leading-edge drug modalities," said Stéphane Bancel, Chief Executive Officer of Moderna. "Caperna is an important example of Moderna's unique ability to rapidly translate our ever-evolving understanding of mRNA into new therapeutic opportunities that have the potential to impact and change numerous lives. Caperna will be backed by Moderna's \$840 million of cash on hand."

[Onkaido](#), Moderna's initial oncology venture, remains focused on the development of mRNA-based therapeutics for oncology in areas outside of the personalized cancer vaccine effort at Caperna.

About Caperna LLC, a Moderna Venture

[Caperna LLC](#), the fourth [venture company](#) formed by Moderna, is focused exclusively on the advancement of personalized cancer vaccines. Caperna is leveraging Moderna's [messenger RNA Therapeutics™](#) platform, an entirely new *in vivo* drug technology that produces proteins natively, to develop novel, personalized cancer vaccines for the treatment of cancer. For more information please visit www.modernatx.com/ventures.

About Moderna Therapeutics

Moderna is a clinical stage pioneer of [messenger RNA Therapeutics™](#), an entirely new *in vivo* drug technology that produces human proteins, antibodies and entirely novel protein constructs inside patient cells, which are in turn secreted or active intracellularly. This breakthrough platform addresses currently undruggable targets and offers a superior alternative to existing drug modalities for a wide range of diseases and conditions. The company currently plans to develop and commercialize its innovative mRNA drugs through a combination of strategic relationships as well as newly formed ventures, including [Onkaido Therapeutics LLC](#), focused on oncology drug development, [Valera LLC](#), focused on infectious diseases, [Elpidera LLC](#), focused on rare diseases, and [Caperna LLC](#), focused on personalized cancer vaccines. Founded by [Flagship Venture Labs™](#), Cambridge-based Moderna is privately held and currently has strategic agreements with [AstraZeneca](#), [Alexion Pharmaceuticals](#) and [Merck](#). To learn more, visit www.modernatx.com.