



Press Release
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Likarda Partners With VitalTE to Develop Extended-Release Injectable Hormone Therapies

Partners will leverage Likarda's Core-Shell Spherification® platform for slow and steady release of hormones such as testosterone and estradiol with a single, infrequent injection

Kansas City, MO and Reno, NV, December 11, 2024 – Likarda, a leading biotech company specializing in the development of enabling technologies for the delivery of both cell therapies and large molecule biologics, and **VitalTE LifeSciences**, today announced a new partnership to simplify hormone replenishment therapy (HRT) using Likarda's unique drug delivery technology, Core-Shell Spherification® (CSS®). The new approach will bring the industry-leading efficacy of long-term testosterone pellet therapy with the convenience of an injectable that doesn't require surgical implantation. Key to this technology is a specialized formulation of CSS, which uses hydrogel microencapsulation of a bolus of hormone to enable a slow and steady extended release.

Hormone therapy with testosterone, estrogen, and/or progesterone is used to treat multiple diseases of the pituitary gland and thyroid, along with treatment of hypogonadism in men and low estrogen levels in women. Only a fraction of the 200 million eligible patients currently seek treatment, in part because all of the current options within this \$10 billion market – including patches, creams, troches, injectables, and pellets – have their own significant shortcomings.

"Likarda has already generated formulations using its CSS technology that demonstrate the ability to encapsulate small molecules, and specifically for the slow release of testosterone," said Dr. Charles Virden, Founder and CEO of VitalTE. "Offering injectable extended-release hormones could reshape the market, improving the health and vitality of a broader range of patients."

The creation of VitalTE resulted from Dr. Virden's own disappointing experience as a patient in need of testosterone replenishment. The company has significantly improved the process of implanting testosterone pellets, the most reliable form of extended hormone release available today. However, it does require a minor surgical procedure, which limits its utility to specialized clinics and complicates patient compliance.

"This partnership with VitalTE is an ideal match of technology and capabilities, combining CSS and our chemistry expertise with VitalTE's deep understanding of extended-release HRT," said Stella Vnook, CEO of Likarda and advisor to VitalTE. "We have already demonstrated our ability to encapsulate a variety of biologics with CSS, including advanced therapies and antibodies. In addition to helping a vastly underserved community, we will also show the potential of our platform for small molecules."

The partners have U.S. and international patent protection. They are currently completing IND-enabling studies for a CSS-encapsulated, extended-release testosterone therapy followed by a Phase 1 study beginning in 2025.

About Likarda

Likarda is revolutionizing the delivery of cell therapies, biologics, and small molecules, making these life-changing treatments accessible to more patients with chronic and life-threatening diseases. At the core of Likarda's innovation is Core-Shell Spherification® (CSS®), a highly customizable polymer-based delivery platform. This cutting-edge technology ensures therapeutics are protected, precisely delivered, and retained at their target—whether it's the tumor microenvironment, sites of organ degeneration, or other critical areas.

By enabling targeted, sustained release, Likarda's solutions enhance therapeutic efficacy while reducing off-target effects and improving patient outcomes. The platform's versatility supports a range of applications, from immune protection in cell therapy to extended-release biologics, paving the way for next-generation treatments across oncology, regenerative medicine, and other disease areas.

With a commitment to innovation, scalability, and accessibility, Likarda is poised to transform drug delivery and expand the reach of advanced therapeutics. To learn more, visit [Likarda.com](https://www.likarda.com).

About VitalTE LifeSciences and Hormone Replenishment Therapy

VitalTE LifeSciences is dedicated to advancing hormone replacement therapies, with a focus on improving efficacy, patient experience, and therapeutic impact. Starting with long-acting testosterone formulations, we aim to address the critical need for effective and convenient solutions in hormone therapy. Our testosterone products are designed to address FDA-approved indications, including primary and secondary hypogonadism, conditions that result in low testosterone due to underlying testicular or pituitary dysfunctions.

In line with these standards, VitalTE LifeSciences' testosterone therapeutics support those affected by symptoms like decreased muscle mass, low energy levels, and mood disruptions, providing them with a steady and reliable hormone replacement solution. Our mission extends beyond testosterone, with a goal to adapt this novel delivery system to other hormone-based treatments, ensuring versatility and compatibility across various therapeutic needs. VitalTE is here to provide cutting-edge hormone replacement therapies that enhance patient compliance and support improved quality of life.

VitalTE LifeSciences was founded in 2022 and is headquartered in Reno, NV.