

# Ethris and Lonza Collaborate to Develop Spray-Dried mRNA Vaccines for Respiratory Disease Prevention

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- Formulations to be developed at Lonza's Center of Excellence for bioavailability enhancement and inhaled delivery in Bend (US), in accordance with current Good Manufacturing Practice (cGMP) standards
  - Collaboration is part of Ethris' strategy to develop spray-dried mucosal mRNA vaccines that are stable at room temperature and capable of generating a localized immune response, funded by the Coalition for Epidemic Preparedness Innovations (CEPI), including a first candidate against influenza
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**Munich, Germany and Basel, Switzerland, 7 April 2025** – Ethris, a clinical-stage biotechnology company pioneering next-generation RNA therapeutics and vaccines, and Lonza, one of the world's largest contract development and manufacturing organizations (CDMOs), today announced a collaboration to develop room-temperature stable, spray-dried formulations of mRNA-based vaccine candidates, designed for mucosal delivery that offer a promising approach to combat respiratory diseases.

Room-temperature stability aims to address significant supply chain challenges associated with some mRNA vaccines, including the dependence on ultra-low-temperature storage and complex delivery systems. Overcoming these challenges will simplify production, reduce costs, and support rapid, scalable vaccine development. In addition, spray-dried formulations of mRNA-based vaccine candidates aims to enable needle-free nasal administration, potentially achieving mucosal immunity<sup>1</sup>.

The initial focus of the collaboration is to develop a first-in-class mRNA vaccine candidate against influenza delivered nasally. This non-invasive approach is designed to provide localized immune responses with an immune effect comparable to intramuscular vaccines and could reduce virus transmission by generating mucosal immunity at the site of virus entry.

Under the terms of the agreement, Lonza will provide spray-drying and particle engineering for vaccine candidates based on Ethris' stabilized non-immunogenic mRNA (SNIM<sup>®</sup> RNA) and stabilized lipid nanoparticles (SNaP LNP) platform at its Bend (US) site, which specializes in addressing bioavailability challenges and modulating pharmacokinetics to meet target product profiles. Lonza's development expertise enables access to ideal properties for delivery to the respiratory tract alongside physical stability, while preserving the activity of the mRNA encapsulated within an LNP.

**Dr. Carsten Rudolph, Chief Executive Officer, Ethris, commented:** "Lonza's support and leading expertise is an asset and provides unique support as we progress development of our mRNA vaccine technology under the

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<sup>1</sup> Lavelle EC, Ward RW. *Nat Rev Immunol.* **2021**, *22*, 236



CEPI grant. Together, I believe we are well positioned to create promising non-invasive mucosal vaccine candidates that could potentially transform how respiratory diseases are prevented globally.”

**Jan Vertommen, Vice President, Head of Commercial Development, Advanced Synthesis, Lonza, added:** “Spray-drying represents a well-established technique that addresses solubility and other manufacturing and stability challenges. However, its application in the field of DNA and RNA-based products represents a highly innovative approach, with another level of complexity introduced by the presence of LNPs. Combining the expertise of Lonza Bend site’s particle engineering team with the innovative SNIM® RNA of Ethris, there is great potential to target unmet medical needs in the field of non-invasive vaccine delivery.”

#### **Additional Information**

To learn more about Lonza’s particle engineering services, visit [Lonza | Particle Engineering Services](#)

#### **About Ethris**

Ethris, a clinical-stage biotechnology company, has paved a new path from genes to therapeutic proteins, using its proprietary RNA and lipidoid nanoparticle technology platforms to discover, design and develop innovative therapies. With more than a decade as an mRNA pioneer, Ethris is a global leader in delivering stabilized mRNAs directly to the respiratory system via optimized formulation and nebulization technologies. The company is rapidly advancing its mRNA pipeline of immuno-modulation, protein replacement therapies, and differentiated vaccines, with the ultimate goal of improving patients’ lives.

For more information, visit [www.ethris.com](http://www.ethris.com)

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