

Gates-Funded Organization Behind BioTech Firm Creating Thin Film Needle-Free mRNA Vaccines



The Coalition for Epidemic Preparedness Innovations (CEPI) is partnering with Jurata Thin Film, Inc. (Jurata) to develop a thermostable mRNA vaccine film delivered under the tongue instead of into the arm.

According to CEPI, it will initially provide up to [\\$1.2 million](#) to help develop Jurata's "3D structure of mRNA-containing lipid nanoparticle (LNP) vaccine materials," provided by Quantom Biosciences, into a thin thermostable film that will alleviate frozen storage and transportation issues associated with traditional needle and syringe vaccines. LNPs are the delivery system used to deliver mRNA and have properties that may cause clotting or trigger the immune system.

"Vaccine distribution is just as important as vaccine

development in response to an emerging crisis—so, while mRNA quickly became one of the technological ‘shining stars’ during the COVID-19 pandemic, global access to doses was majorly hindered by its frozen storage needs,” Ingrid Kromann, acting director of CEPI’s vaccine manufacturing and supply chain, said in a Dec. 5 news release.

CEPI’s initial investment will help optimize the composition and manufacturing of Jurata’s thin film and fund preclinical studies to determine whether the films can effectively stabilize mRNA vaccines so they can be delivered under the tongue. CEPI stated that if the new formulation is successful in clinical trials, it could boost vaccine uptake in areas of vaccine hesitancy and allow people to self-administer vaccines.

Under the terms of Jurata’s agreement with CEPI, it will create films that remain stable at temperatures of 2 to 8 degrees, 25 degrees, and 40 degrees, will optimize the film composition using different buffers, pH, stabilizers, sugars, salts, and various drying parameters, and will assess the effects on vaccine stability and delivery.

“Jurata’s proprietary thin films have the potential to transform the way in which we store, deliver, and distribute mRNA vaccines, advancing CEPI’s pandemic preparedness plan to accelerate the speed and scale of our response to future epidemics and pandemics, and heighten access to vaccine doses,” Ms. Kromann said.

This is yet another case of a funded but improbable technology, said vaccine expert Dr. Robert Malone.

“Sublingual delivery is useful for some drugs but seems poorly matched to LNP mod mRNA technology. Needle-free mucosal vaccines have been on the vaccine developer wishlist for decades, but the barriers to achieving such a capability are substantial. However, if paired with self-replicating RNA

technology, it is possible that something could come of this,” Dr. Malone said. “As to risks, as with the current COVID mRNA vaccines, if the FDA is willing to continue to throw away the rules and procedures developed over decades, then the risks will be substantial. If this tech shows any promise, we can only hope that it gets responsibly developed and tested by a reformed FDA committed to protecting human life and responsible medical ethics,” he added.

CEPI is an “innovative partnership” [that was started in 2017 by the World Economic Forum](#) in Davos, Switzerland after a “consensus” decided that a “coordinated, international, and intergovernmental plan was needed to develop and deploy new vaccines to prevent future epidemics.”

This consensus consists of the Bill & Melinda Gates Foundation, Wellcome, the governments of Norway and India, and members of the World Economic Forum. The Gates Foundation announced in a January 2022 press release that it and Wellcome pledged \$300 million to CEPI for “COVID-19 pandemic response and to accelerate epidemic preparedness.”

During the pandemic, CEPI worked with the Bill & Melinda Gates Foundation, Wellcome, and Gavi—a [global vaccine organization](#) co-founded by Gates—to carry out a \$10 billion COVID-19 response. According to an [investigation by Politico](#), the organizations spent at least \$8.3 million lobbying the United States and European Union, and this past spring, CEPI spent \$50,000 in part to push for \$200 million in yearly funding from the U.S. government. This investigation also revealed a revolving door among the World Health Organization, the Gates Foundation, and CEPI.

According to Bill Gates, CEPI has [invested in 14 COVID-19 vaccine](#) candidates and continues to work on vaccines against future variants of COVID-19 and other coronaviruses with “epidemic and pandemic potential.” CEPI has also invested in developing rapid response platforms for vaccines against

“Disease X,” defined by Mr. Gates as “the threat of an unknown virus.”

In sum, CEPI has supported the development of more than 30 vaccine candidates for pathogens such as the chikungunya virus, Ebola, Lassa virus, Middle East respiratory syndrome coronavirus, Nipah virus, Rift Valley fever virus, and SARS-CoV-2.