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Gennova Biopharma receives $3.6 M funding to develop mRNA vaccine technology against Disease X

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Funding from CEPI will support optimisation of the technology platform to enhance immunogenicity

Norway-based Coalition for Epidemic Preparedness Innovations (CEPI) and Pune-based Gennova Biopharmaceuticals have announced a new funding agreement to advance the development of their self-amplifying mRNA (saRNA) platform to develop vaccine candidates against unknown pathogenic threats, also referred to as Disease X.

CEPI will provide up to $3.6 million to support the optimisation of the saRNA-platform technology, the production process, and yield. A vaccine candidate will then be produced against rabies virus, part of the Rhabdoviridae family of viruses, for preclinical studies. Testing the vaccine candidate against this known virus, with accepted correlates of protection, will help to assess the concepts behind this new technology.

This funding forms part of CEPI's programme to support novel RNA vaccine platform technologies for emerging and select endemic infectious diseases, which could offer substantial advantages over existing mRNA technologies, such as multivalency, improved immunogenicity, storage and stability, productivity, response time, and cost-of-goods. Gennova's saRNA vaccine platform could form part of a group of RNA technologies that CEPI is supporting that could enable rapid responses to future epidemics and pandemic threats, potentially within 100 days of identification.

Unique to the saRNA technology being developed by Gennova is the CLNE delivery system. Rather than encapsulating the fragile mRNA molecules in a fatty shell (ie, lipid nanoparticles), as is the case for many mRNA vaccines, the CLNE system attaches the RNA molecules to the surface of fatty 2 molecules (ie, a nanoemulsion). This approach makes the manufacturing of potential vaccine candidates readily scalable and easily transferable between manufacturers, if needed.