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Scientists in Korea to create mRNA vaccine against emerging tick-borne virus in Asia

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Research will generate vital scientific knowledge that could accelerate vaccine development against similar viruses in as little as 100 days

Leading scientific organisations in Korea including the Korea Disease Control Agency (KDCA), International Vaccine Institute (IVI), ST Pharm and Seoul National University (SNU), are joining forces with Norway-based Coalition for Epidemic Preparedness Innovations (CEPI) to advance a new AI-designed mRNA vaccine that could become the first-ever vaccine to protect against a potentially deadly tick-borne disease affecting countries in Asia.

Cases of severe fever with thrombocytopaenia syndrome, or SFTS—caused by the SFTS virus, also known as Dabie Bandavirus—have been reported in China, Japan, Korea, Taiwan and Vietnam. Countries like Korea have identified SFTS as a significant public health concern and made the development of an SFTS vaccine a national priority.

CEPI is providing up to $16 million to the project, led by IVI, to test the vaccine's safety and ability to generate a suitable immune response in healthy adults in preclinical and Phase I/II clinical trials in Korea. This is the first time an SFTS vaccine candidate could be tested in people.

The vaccine candidate to be tested in the trial led by IVI is being designed by KDCA and SNU, using ST Pharm's proprietary SMARTCAP® platform technology already validated in a Phase I clinical trial. The Houston Methodist Research Institute (HMRI), a CEPI partner based in the US, will also support its development, using its cutting-edge AI techniques to speed up and help design safer and potentially more immune-boosting components of the vaccine within a matter of hours rather than weeks or months.