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“Luina Bio continues to support several projects with the aim to combat the COVID-19 pandemic "

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Les Tillack, Chief Executive Officer, Luina Bio recently spoke to BioSpectrum Asia on how the startup is driving various initiatives against COVID-19.

Australia based biopharmaceutical contract manufacturing organisation Luina Bio has recently partnered with XING Technologies in Brisbane to co-develop and manufacture a Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) diagnostic kit. The COVID-19 detection technology is based on a temperature-stable molecule utilising Xing patented technology. With a total investment of A$ 12 million so far for the development of this product, Luina Bio is gearing up efforts to fight this pandemic. Les Tillack, Chief Executive Officer, Luina Bio recently spoke to BioSpectrum Asia on how the startup is driving various initiatives against COVID-19.

Edited Excerpts-

What are the key highlights of the SARS-CoV-2 diagnostic kit being developed with XING Technologies?

The new diagnostic kit is an antigen test. This new test directly measures presence of the SARS-CoV-2 virus proteins. A positive antigen test is considered very accurate and can be manufactured cheaper as a low-cost point-of-care diagnostic on lateral flow device.

How is this test different from the ones already present in the market?

This test does not measure the antibody response. Antibody or serology tests do not pick up infectious patients, as it takes 7 to 14 days for an antibody response against the virus. This test also does not impact the traditional antibody supply chain and is rapidly scalable to distribution.

By when would this test be available in the market? Would it be economical?

We are planning for this test to be available by the 4th quarter calendar 2020. Because the tests are faster and less expensive, they are very economical and more practical to distribute globally. We are using fermentation yeast processes and on a simple lateral flow device. We will be developing and implementing the manufacturing of key protein reagents in yeast. These proteins are central to the XING COVID-19 diagnostic test. Its estimated time to GMP production using the Luina FMP systems will only take 24 weeks from project commencement to completion. Flexibility is key to being able to respond to important rapid development programmes like this. XING is looking to fast-track the development and regulatory approval of the diagnostic kit to meet customer needs in USA, Europe and the pan-Asian region. These customers have been looking for a fast and accurate point-of-care antigen test as a superior alternate to existing serology tests which measure immune response.

What are the current challenges facing the COVID-19 diagnostic space in Australia?

The most significant challenge for Australia is the limited access to testing facilities i.e. on live virus for development purposes.

What other steps is Luina Bio taking in this fight against COVID-19?

Luina Bio is supporting several projects that aim to combat the COVID-19 pandemic. Although we cannot divulge specific details, we are involved in two vaccine projects, one passive vaccination project and one co-medication project. These projects originate in the USA, Europe and Australia, are at different stages of development but are all moving forward. We have collaborated with Griffith University to develop coronavirus vaccine. Griffith University has funded proof of principle studies for a COVID-19 vaccine candidate and additional funding is currently being sought through new government initiatives. That this project is Brisbane-based provides decided benefits for Australians and we are seeing a spike in interest from the scientific community and the biotech industry to fund and exploit this approach. With Griffith University, we aim to work on a variety of vaccine manufacturing projects over the next 5 years. The technology being used can provide unique advantages in achieving a viable vaccine that puts it ahead of others in development. The use of *E. coli* fermentation keeps costs down, can be readily scaled and is a proven technology. Those of us in the health and medical fields must band together to find solutions to this health crisis and do it expeditiously.

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