BioSpectrum the business of Bio & Health Sciences ASIA EDITION

Ã¢â?¬Å?Emerging evidence reports saliva sampling is more sensitive than nasopharyngeal swabsÃ¢â?¬Â•

August 7, 2020 | Opinion

BioSpectrum Asia reached out to Dr Tan Min-Han, Chief Executive Officer and Medical Director, Lucence, Singapore



The use of saliva to test for COVID-19 is being considered an important step by the health authorities as Singapore ramps up its testing capacity. Molecular diagnostic startup Lucence is supporting this initiative with its newly developed saliva testing kit. BioSpectrum Asia reached out to Dr Tan Min-Han, Chief Executive Officer and Medical Director, Lucence, Singapore to find out more about the company's contributions.

Edited Excerpts-

What are the major initiatives being taken by Lucence in this fight against COVID-19?

We have launched a painless, affordable, safer way to do COVID-19 testing by saliva testing, instead of invasive, risky swabbing. SAFER Sample (Stabilization of nucleic Acid Formulation for Evaluation of RNA) is a COVID-19 saliva sampling kit that is more accessible, safer, less painful, and less risky for healthcare personnel and the community. Its 3 main features are:

(a) Accessibility: saliva collection is much easier and less painful than a nasopharyngeal swab; (b) Safety : the reagent used in SAFER-Sample inactivates SARS-CoV-2 within 45 seconds of sample collection. This means enhanced safety and reduced risk of exposure for any individual involved in the collection, transport, and testing processes; and (c) Stability: the reagent used in SAFER-Sample keeps viral RNA such as SARS-CoV-2 stable at room temperature for up to one week without degradation. While conventional viral transport media requires cold-chain transport to prevent sample degradation, which can drive up associated costs and limit testing geography, SAFER-Sample's proprietary media means samples can be transported to a lab without the need for chilling. We're already supplying SAFER Sample in Hong Kong hospitals and clinics for home saliva collection, and are working to introduce the technology to the United States. Additional validation studies are also underway here in Singapore, where the sampling kit is already registered as a Class A medical device and Lucence has obtained ISO13485:2016 certification.

Is saliva testing better than swab testing? What are the main advantages of saliva testing?

Yes, saliva is safer, less painful, more accessible. With good collection methods, it is at least as accurate as swab testing. Current 'gold-standard' nasopharyngeal swabs have a real-world sensitivity of 70 per cent. This means 3 in 10 positive cases are missed on existing swab testing. We're excited that emerging evidence across the US and Hong Kong has reported that saliva sampling can be more sensitive than the nasopharyngeal swabs currently being used in front-line testing. This means reconsideration of the 'gold-standard approaches', towards a less painful and more accessible approach to community mass-testing. It is understandable that there may be reasons why people might be concerned about nasopharyngeal swabbing, including invasiveness, low clotting, or altered anatomy. Saliva sampling as a simpler alternative can help improve compliance and pick-up rates during mass-testing. Saliva sampling for testing is already adopted in Hong Kong SAR, Japan, the United States and Australia.

Are you planning to launch any new diagnostic kit or device for COVID-19 detection?

We're working to develop new chemistry on next generation sequencing to massively ramp up and make testing more affordable. Borders can then open up, restoring jobs, travel and ultimately human connections.

What are the challenges facing the COVID-19 diagnostics space in Singapore?

Most technology products require several years of research to establish proof-of-concept. Further efforts are required to deploy a product, and then even more effort to scale production. During COVID-19, we accelerated development of a product we had developed for RNA viruses, and was able to rapidly prove its utility in improving accuracy and safety of COVID-19 testing. We greatly appreciate Singapore's strong governmental support in this process.

What are the plans lined up for the post COVID era?

We specialize in ultra-sensitive testing for human disease. Our role is always to achieve ever-more-accurate non-invasive diagnosis, whether it be saliva mass-testing for COVID-19, or simple blood testing to accurately detect cancer.