

New diagnostic kit for COVID-19 testing

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New Delhi, May 26 (India Science Wire): Asymptomatic COVID-19 cases are a big concern worldwide and that makes testing important for early diagnosis and further treatment well in advance. Stepping up to join in the fight against COVID-19, the Indian Institute of Integrative Medicine (IIIM), Jammu, has partnered with Reliance Industries Limited (RIL) to develop and scale up a new RT-LAMP-based diagnostic kit. RT-LAMP stands for Reverse Transcriptase-Loop Mediated Isothermal Amplification.

RT-LAMP test is a nucleic acid-based test carried out from nasal or throat swab sample from patients. It is rapid (45-60 min), cost-effective and accurate. "It has been tested with a small number of patients' samples; validating the kit on more number of patient samples is planned and will be done together with RIL. The test recipe has been developed and successfully demonstrated using synthetic templates", said Dr. Ram A Vishwakarma, Director, IIIM Jammu.

The RT-LAMP test can be done in a single tube with minimal expertise in a basic lab set-up like mobile units/kiosks, which can be used at airports, railway stations, bus stands and other public places. The end detection of the test is a simple colored reaction, which is easily visible in UV light, and is now being modified such that it can be detected in regular light.

The advantage of this test kit is that the kit components are easily available and can be completely manufactured in India. It is to be noted that most components of the RT-PCR (real-time polymerase chain reaction) currently being used in the country imported. "PCR tests are expensive and require highly trained manpower, costly instruments and a relatively high-end lab and cannot be deployed at remote locations and in quarantine centres, airports and railway stations" said Dr Vishwakarma.

After testing the accuracy of the kit on a much larger number of patients, CSIR-IIIM and RIL will jointly approach the Indian Council of Medical Research (ICMR) for approval. "RIL plans to rapidly scale up the production of RT-LAMP-based diagnostic kit and use it for easy, rapid and widespread diagnosis of COVID-19 infection in the larger interest of society" said Dr. Manish Shukla, General Manager R&D from RIL. For this, a formal Memorandum of Understanding (MoU) has also been signed between CSIR-IIIM, Jammu, and RIL. (India Science Wire)

Keywords: COVID-19, diagnostic kit, RT-LAMP, IIIM Jammu, CSIR



**Patient Sample
(Nasal Swab)**



**Viral transport
medium**



RNA

