

COVID test in 30 minutes



TIFR scientists at Hyderabad have standardised a colour-based assay for visual detection of SARS-CoV-2 RNA that gives results within 30 minutes. At present, the gold-standard of Covid-19 testing happens to be an RT-PCR based test. However, this method consumes 6 hours to 8 hours for the reaction and requires an expensive experimental setup and trained personnel.

The Reverse Transcription Loop-Mediated Isothermal Amplification (RT-LAMP) assay has emerged as a viable alternative to meet the need for quick and reliable testing methods. Sreejith R, Deepa Balasubramanian, Sunayana Sarkar and Manish Jaiswal, from TIFR Hyderabad, were involved in this effort. Their method can rapidly detect the SARS-CoV-2 RNA. The results are determined by a change in colour of the sample once the reagents are added. It is easily visible to the eye, allowing for quicker and easier testing. The equipment needed for the test is much less sophisticated than for the RT-PCR test. The test was validated against both positive and negative patient samples. The validation of this assay was carried out by Dr. Madhumohan Rao K. (Nizam's Institute of Medical Sciences and ESIC Hospital- Medical College, Hyderabad).

In order to make this assay widely available, the TIFR Hyderabad research team is exploring production and distribution opportunities with both government organisations and the industry.