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(An Institute of National Importance under DST ; Government of India)
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LAUNCH OF “CHITRA MULTIPLEX RT-PCR KIT” FOR COVID19 DETECTION

AN EXAMPLE FOR EMERGING ATMANIRBHAR BHARAT FROM
SREE CHITRA

: ON 17TH AUG 2021, AT 3 PM

Sree Chitra Tirunal Institute for Medical Sciences and Technology , an autonomous institute under Department of Science and Technology, Government of India, has always been a front runner in developing indigenous biomedical devices and transferring it to industry partners for commercialisation. The Institute has a good track record of working with industry partners to see that the fruits of research and development carried out in its laboratories reach the market. During the COVID pandemic, Institute came up with several innovations and tied up with industry partners on a fast track mode for commercialisation.

Sree Chitra Tirunal Institute for Medical Sciences and Technology has developed a multiplex RT-PCR kit for Covid19 detection. ICMR validated this kit at the National Institute of Virology, Pune, and found it satisfactory. The validation shows the kit has 97.3% sensitivity and 100% specificity in covid19 detection.

A technology transfer agreement was signed with Huwel Lifesciences, Hyderabad. The company is now ready to commercially release the product.

Huwel Lifesciences (Huwel stands for "Human welfare") is one of the unique Indian companies with a 5% share in India's covid RT-PCR kit market. The company has facilities to produce the enzymes and primers in-house. Availing the technology from SCTIMST will help the company expand the targets of Covid genes for accurate detection.

The kit developed by SCTIMST targets two SARS CoV2 genes: RdRp and ORFb-nsp14, and the human RNase P gene as the internal control. The kit is based on multiplex Taqman chemistry, amplifying all three genes in a single reaction. The amplification time for the assay is 45 minutes, besides the time required for the RNA isolation from nasopharyngeal swab samples.

Various studies have shown that RdRp and ORF1b-nsp14 genes are more sensitive in detecting Covid19. Because the pandemic is going through a second wave, there is a significant concern about various mutant strains. Using two highly accurate confirmatory genes like RdRp and ORF-nsp14 will give precise results. Moreover, the ORF-nsp14 is one of the least mutated genes in Covid19. This is one of the first kits in the market to have the ORF-nsp14 gene as the target in an RT-PCR kit.

The RT-PCR kit will give the test results within a period of 2 hours. All the mutant strains like Delta, Delta Plus can all be identified with high predictive value.

The product development was initiated by Dr. Anoopkumar Thekkuveetil and his team. This is the second kit from Sree Chitra Tirunal Institute to facilitate Covid19 detection. The first being the Chitra Magna RNA isolation kit, which is already in the market.

Online link to view **“LAUNCH OF “CHITRA MULTIPLEX RT-PCR KIT” FOR COVID19 DETECTION**

<https://youtu.be/fENFtNhU44Q>

Nb: Program details attached



