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Subject: India's low-cost coronavirus test 'Feluda': Here is how it will work and why it is said to be more efficient - Times of India
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Ha 5.1.2e

Deze sneltest is dit weekend door de toelatingshoepel gekomen in India. Kosten Rs 500 wat iets minder dan 5.1.1c per stuk is.

Wil je dat ik hier verder achter aan ga voor evt gebruik in NL?

Groet

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<https://timesofindia.indiatimes.com/life-style/health-fitness/health-news/indias-low-cost-coronavirus-test-feluda-here-is-how-it-will-work-and-why-it-is-said-to-be-more-efficient/articleshow/78228479.cms>

India's low-cost coronavirus test 'Feluda': Here is how it will work and why it is said to be more efficient

India is seeing a rapid surge of cases in the past weeks. While we do not know when the COVID pandemic will draw to an end, expansive testing and prevention strategies are the only two keys to controlling the pandemic from the start.

As experts stress the need to increase testing in high rates, the Tata group has become the first in the country to launch an innovative COVID test, which uses novel CRISPR technology to work.

According to reports, the new test works to deliver results in as little as 30 minutes. Here's what we know so far:

Usual COVID-tests take a longer time to surface diagnostic results, which could lead to lags and delays. Aiming to cut short the diagnostic time, the new test works to detect viral load in the minimum time.

The high-quality test has been developed by the Tata group in collaboration with Indian Council of Medical Research (ICMR) and CSIR-Institute of Genomics and Integrative Biology in the recent months.

Named 'Feluda', the novel COVID test has been given the go-ahead by the Drugs Comptroller General of India (DGCI) for commercial launch. Early reports suggest that the test will be priced economically, costing around Rs. 500. Other COVID-19 tests are priced between Rs. 1000-3000 right now.

A COVID test that could deliver results in 30 mins?

An official report says that the test makes use of CRISPR technology, which will be India's first-ever launch on the diagnostic level.

CRISPR, which refers to 'Clustered Regularly Interspaced Short Palindromic Repeats' is a gene-editing technology used to diagnose diseases.

CRISPR technology works by editing the gene sequence, thereby correcting defaults by using an enzyme functioning to snip the errors. By using this technology, scientists can identify and observe DNA sequences and detect other fatal pathogens which may pose trouble to the human body.

CRISPR technology, in the past, has also been used in recent years by scientists in HIV detection and treatment in experimental studies.

As for Feluda, the test won fast approvals after top-level officials observed excessively high success rates in the diagnostic tool, with over 96% sensitivity and 98% specificity in detecting the viral load of the novel coronavirus, considered to be the gold standard for COVID diagnosis.

Feluda serves as an acronym for the FNCAS9 Editor Linked Uniform Detection Assay. It is also being seen as a tribute to Indian filmmaker Satyajit Ray's acclaimed fictional character by the same name.

How is FELUDA better than other COVID tests?

The test gets an edge over other tests in the market in two ways- one, it is a paper test strip priced at an affordable rate and delivers results in a short timespan. It has a quicker turnaround time, in comparison to other tests in the offing and requires less specific equipment and medical know-how to work.

Debojyoti Chakraborty and Souvik Maiti are two of the prime researchers involved in the development of the homegrown test kit.

The test is also one of the first of its kind to make use of a special Cas9 protein to detect the virus in the world. The Cas9 protein will be used to interfere with the COVID causing SARS-COV-2 virus's genetic sequence. Once done, the new gene sequence will be put to test on the kit which will determine whether or not a given sample is found to be negative or positive for the COVID virus.

Like a pregnancy detection test, the experimental COVID test will change colours on the test, if a positive diagnosis is identified. It will carry two lines on the kit- one control and a test line to intercept results.

The benefits of using CRISPR technology were first observed by the team when they were working on developing a genome diagnostic test for sickle cell disease.

However, this is not the only time CRISPR technology has been used by scientists to develop a COVID test kit. One of the first such tests was granted emergency authorisation by US government officials in the month of May. The CRISPR based COVID test was jointly developed by scientists from Massachusetts Institute of Technology (MIT) and Harvard University.

Apart from this exciting progress, Indian scientists in collaboration with Israeli counterparts are also working on developing an artificial intelligence backed chemical 'breathalyzer' test which could help detect COVID trace through the mouth. Carrying an 85% accuracy rate, the test could give results in just as little as 30 seconds.