



IIT Delhi's New COVID-19 Test Kit Gives Results in 5 Minutes & Costs Just Rs 50

Two researchers at The Indian Institute of Technology-Delhi have launched a low-cost Rapid Antigen Test (RAT) kit for detecting Coronavirus. But the test cannot be used by patients at home.

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As India continues to record over 45,000 COVID-19 cases every day, it is imperative that we stay vigilant and continuously monitor our health. To speed up the testing process in rural areas and to make it easily accessible for them, the Indian Institute of Technology-Delhi (IIT-D) has launched a Rapid Antigen Test (RAT) kit that gives results in five minutes.

What's more? The indigenous test kit costs only Rs 50 and does not require any lab facility to acquire the results.

“The widely used method for detecting Coronavirus is the RT-PCR test, but it is a time-consuming process. This test kit provides quick results that can be identified with the naked eye. However, this test kit cannot be used by patients at home and requires the assistance of a lab,” says Dr Dinesh Kumar, the Assistant Director of Food Safety and Standards Authority of India (FSSAI) who is the co-researcher for the project.

In an interview with **The Better India**, he shares the workings of this new testing kit.

A Simple Test With Quick Results

Dr Dinesh who specialises in medical diagnostics, along with Professor Harpal Singh of IIT-Delhi's Biomedical Engineering department, worked on this research project for one year. After developing the kit, a series of tests were conducted at several diagnostic labs across Delhi to check its accuracy.



Dr Dinesh Kumar, Prof Harpal Singh, and Prof. Ramgopal Rao, the director of IIT-Delhi.

Finally, the research findings were sent to the Indian Council of Medical Research (ICMR) for approval and patenting.

These kits are designed in such a way that results are provided within five minutes after taking the test at the patient's home or in the laboratory premises.

"The test kit comes with nasal and throat swabs and a tube filled with a liquid. Once the swab is placed inside the tube, it reacts with the liquid. Within five minutes, if you notice a particular change in colour of the liquid, the results are positive, and if they do not change, it is negative. These results can be inferred visually, and they are 99.8% accurate," says Dr Dinesh.

However, he explains that if the patient is experiencing symptoms but the results are negative, a further RT-PCR test is required.

Not A Self-Test

Though the testing process is simple, Dr Dinesh says it will not be provided to patients to administer the tests by themselves. While there are kits that allow patients to take tests at home, the researchers do not recommend it.

"According to government guidelines once a person takes their COVID-19 test, the results are to be recorded in a database. This is to keep track of the number of tests being conducted. Secondly, a lab technician's expertise is required to take the swab tests in the right manner. Finally, proper disposal of the swab samples is key and this is done only at the lab level. Improper disposal bears the risk of contamination to others." says Dr Dinesh.

Currently, the RAT test kit developed by IIT-Delhi is ready for technology transfer to be manufactured and distributed widely. Dr Dinesh confirms that two pharma manufacturing companies are in the process of taking the technology.