

Rapid Antigen and Antibody Test

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Antigen and antibody tests have become significant in determining positivity rate for the COVID-19 infections as well as to find out if those affected have developed antibodies and immunity.

What is Rapid Antibody Test?

- Rapid antibody test detects the **presence of antibodies** in the blood of people believed to have been infected with COVID-19.
- Antibodies are produced over days to weeks after infection with the virus. The strength of antibody response depends on several factors, including age, nutritional status, severity of disease, and certain medications or infections like HIV that suppress the immune system.
- A diagnosis of COVID-19 infection based on antibody response will often **only be possible in the recovery phase**, when many of the opportunities for clinical intervention or interruption of disease transmission have already passed.
- Antibody detection tests targeting COVID-19 may also **cross-react with other pathogens**, including other human coronaviruses and give **false-positive results**.

[**National Institute of Virology**, Pune, has successfully developed India's first **indigenous antibody testing kit-ELISA (enzyme linked immunosorbent assay)** to combat COVID-19. ICMR has partnered with Zydus Cadila for mass scale production of the ELISA test kits].

What is Rapid Antigen Test?

- It is a rapid diagnostic test which detects the **presence of viral proteins (antigens) expressed by the COVID-19 virus** in a sample from the respiratory tract of a person. It is similar in principle to RT-PCR, but quicker.
- If the target antigen is present in sufficient concentrations in the sample, it will bind to specific antibodies fixed to a paper strip enclosed in a plastic casing and generate a visually detectable signal, typically within 30 minutes.
- It is a point-of-care test, performed outside the conventional laboratory setting, and is used to quickly obtain a diagnostic result.

[However, false-positive results- a test showing that a person is infected when they are not, could occur if the antibodies on the test strip also recognize antigens of viruses other than COVID-19, such as from human corona viruses that cause the common cold].

Source: WHO website, Indian Express