

'There is no need for antibody test post-Covid vaccination'

While it is a new national past-time to get an antibody test after taking the Covid-19 vaccine, experts are divided about its merits. Dr Jayanthi Shastri, who heads BMC's molecular diagnostics laboratory in Kasturba Hospital believes antibody tests are best as a research tool. Dr Shastri, whose lab was the first to conduct the Covid-19 test in Mumbai and is the author of many Covid-19 research papers, said that many labs offer tests that give a false sense of security to patients. In an interview with **TOI**, Dr Shastri said a new study done in Nair hospital (where she heads the microbiology department) shows that vaccine recipients invariably develop the most important antibody—the neutralizing one.

Q: *Please tell us about the antibodies found in response to a Covid-19 infection or to the vaccination.*

A: In response to Covid-19, two types of antibodies are produced—nucleocapsid antibodies that wane within 3-4 months, and the spike antibodies that develop in 4-5 weeks after the infection. In response to vaccination, only spike antibodies are generated.

There are commercially available kits that measure total spike antibodies (S1 and S2) and some other tests that measure the spike receptor binding antibodies (RBD) antibodies. The neutralizing antibody is a part of the RBD of the spike protein.

Q: *What is the role of neutralizing antibodies?*

A: Neutralizing antibodies develop post vaccination and protect against severe infection. At present, we know that their presence is effective against most variants of SARSCoV-2, but what is not established is the quantity of neutralizing antibodies required to confer protection.

Q: *Your team in Nair hospital has done studies in this regard. Can you share your findings?*

A: In the third week of April, we started a study to check the antibodies generated in response to the Covid vaccine. We enrolled 60 healthcare workers and tested their samples three weeks after they had received the second dose of Covishield vaccine. We looked for S1 RBD antibodies by using

a test kit approved only for research use. All 60 had developed neutralizing antibodies in varying proportions. While five of them did not have the RBD antibodies, they still had neutralizing antibodies. This is very reassuring.

We'll continue this study and also enrol healthcare workers who have taken the Covaxin vaccine.

Q: *It has become the norm for vaccine recipients to get their antibodies tested. Is it scientifically recommended?*

A: There are two tests—one looks at the total binding antibodies (S1 and S2), the second looks for RBD. The total antibodies test is done by private labs, but it doesn't correspond to neutralizing antibodies. There is no recommendation that we should test. The total S1&S2 IgG antibodies are given out as neutralizing antibodies, which is erroneous.

Q: *What is your advice to people about vaccination and antibody tests?*

A: The total antibody test has no value. It doesn't translate into the definite presence of neutralizing antibodies. There is no need for antibody test post-vaccination as our studies have shown that the vaccines are mounting an adequate amount of neutralizing antibody response.

THE PROTECTIVE BLOOD PROTEIN



AN ANTIBODY is a blood protein that is protective in nature. It is produced by the body's immune system in response to the presence of a foreign substance (antigen) such as bacteria, virus or any foreign substance



AN ANTIBODY TEST shows the presence of antibodies to a particular infection in blood

TYPES OF ANTIBODIES

A blood test looks for one or both kinds of antibodies:

- **IgM** antibodies that appear early in an infection
- **IgG** antibodies that show up later—they start developing 14 days after symptoms start. They stay in the blood long after the infection goes away, but in case of Covid-19, scientists aren't sure how long they last
- The nucleocapsid and spike antibodies are part of the **IgG** response