

Moderna vaccine confers at least 3 months immunity: study

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The Moderna COVID-19 vaccine, which the company says was recently demonstrated to have 94 percent efficacy, causes the human immune

system to produce potent antibodies that endure for at least three months, a study showed Thursday.

Researchers at the National Institute for Allergies and Infectious Diseases (NIAID), which co-developed the drug, studied the immune response of 34 adult participants, young and old, from the first stage of a clinical trial.

Writing in the *New England Journal of Medicine*, they said that the antibodies, which stop the SARS-CoV-2 virus from invading human cells, "declined slightly over time, as expected, but they remained elevated in all participants 3 months after the booster vaccination."

The vaccine, called mRNA-1273, is administered in two injections given 28 days apart.

Even though the number of antibodies in the study subjects faded over time, it is not necessarily a cause for concern.

NIAID director Anthony Fauci and other experts have said it is very likely that the immune system will remember the virus if re-exposed later on, and then produce new antibodies.

Encouragingly, the study showed that the vaccine activated a certain type of immune cell that should help out in the so-called memory response, but only longer term study will confirm if this will really be the case.

"Positives from the study include evidence that a relatively strong antibody response remains 90 days after the second dose of the vaccine," said virologist Benjamin Neuman, a virologist at Texas A&M University-Texarkana.

"The amount of vaccine-produced antibodies was higher in younger

patients than in older patients, but reasonably strong immune responses were still seen even in patients up to 70 years of age."

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Like another vaccine produced by Pfizer and BioNTech, it is based on a new technology that uses genetic material in the form of mRNA (messenger ribonucleic acid).

The mRNA is encased in a lipid molecule and injected into the arm, where it causes cells inside our muscles to build a surface protein of the coronavirus.

This tricks the immune system into believing it's been infected with a microbe, and trains it to build the right kind of antibodies for when it encounters the real virus.

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