

Vaccine News: National Institute For Allergies And Infectious Diseases Research Indicates That Moderna's COVID-19 Vaccine Provides Three-Month Immunity.

Vaccine News: Scientists from the U.S. National Institute for Allergies and Infectious Diseases (NIAID) have reported that Moderna's COVID-19 vaccine, mRNA-1273, caused the human immune system to produce potent antibodies that endures for at least three months.



The research findings were published in the peer reviewed New England Journal of Medicine.

<https://www.nejm.org/doi/full/10.1056/NEJMc2032195>

Dr Alicia Widge, MD, of the National Institute of Allergy and Infectious Diseases (NIAID) in Bethesda, Maryland told Thailand Medical News, "Antibody responses to Moderna's COVID-19 vaccine candidate, mRNA-1273, remained strong for almost 4 months following vaccination, data from a phase I trial indicated. Serum neutralizing antibodies were detected in 34 healthy adult volunteers at day 119 following the first dose, and 90 days following the second dose. Moreover, both binding and neutralizing geometric mean titers exceeded those in 41 healthy controls who were recovering from COVID-19."

Most importantly, the study team also found no new adverse events considered to be related to the vaccine after day 57.

The Moderna COVID-19 vaccine recently made news with the interim results of phase III data that found 94.5% efficacy for its mRNA-1273 COVID-19 vaccine candidate, which NIAID co-developed, versus placebo.

This new study by the NIAID evaluated the immune response of 34 healthy adult participants from the first stage of a clinical trial.

Vaccine recipients, stratified as per ages 18 to 55, 56 to 70 and above 71 years, received a two-dose regimen of the vaccine 28 days apart.

For this study, the immunogenicity data 119 days after the first dose and 90 days after the second vaccination showed that mRNA-1273 produced high levels of binding and neutralizing antibodies at the 100µg dose.

Although the antibodies declined slightly over time, the antibodies remained elevated in all subjects three months after the booster vaccination.

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.

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

In addition, the mRNA-1273 vaccine elicited primary CD4 type 1 helper T responses 43 days after the first vaccination, even though memory cellular response to the vaccine remains unestablished.

The detailed studies of vaccine-induced B cells are progressing.

A detailed ongoing follow-up analysis plans to assess safety and immunogenicity in these participants for 13 months, and the phase III trial is also ongoing.

The American Food and Drug Administration (U.S.FDA) advisory committee will review the vaccine on 17 December.

In November, the mRNA-1273 vaccine had demonstrated to have 94% efficacy in an interim efficacy analysis.

Similar to 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 SARS-CoV-2 virus 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.

It is claimed that 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.

It has been reported that in a separate development, Moderna is reportedly supplying between 100 and 125 million doses of mRNA-1273 worldwide in the first quarter of next year. Of these about 85 to 100 million doses would be available in the US and 15 to 25 million elsewhere.