

Greater, broader SARS-CoV-2 neutralizing antibodies with third dose of vaccine

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A third dose of the Pfizer-BioNTech vaccine significantly increased neutralizing antibody levels against SARS-CoV-2, the virus that causes COVID-19, according to new research published in the *New England*

Journal of Medicine.

Pfizer, BioNTech and University of Texas Medical Branch scientists tracked the immune response of participants in [clinical trials](#) for the vaccine. They found that neutralizing [antibody levels](#), the key protective immunity, dropped significantly over seven to nine months after the two-dose vaccination. This drop of neutralizing antibody levels correlates to the observation of breakthrough infections in vaccinated individuals. After a third dose of the Pfizer-BioNTech vaccine, the neutralizing antibody levels increased many-fold higher than that after the second dose. More importantly, the third dose increased the antibody's ability to inhibit variants more efficiently, including Beta and Delta variants.

"The safety and antibody response of a booster dose administered seven to nine months after the regular two-dose series suggests that a [third dose](#) could prolong protection and further increase the breadth of protection against variants," said Pei-Yong Shi, professor in the Department of Biochemistry and Molecular Biology at UTMB, who is responsible for the neutralization study detailed in the publication.

More information: Ann R. Falsey et al, SARS-CoV-2 Neutralization with BNT162b2 Vaccine Dose 3, *New England Journal of Medicine* (2021). [DOI: 10.1056/NEJMc2113468](https://doi.org/10.1056/NEJMc2113468)

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