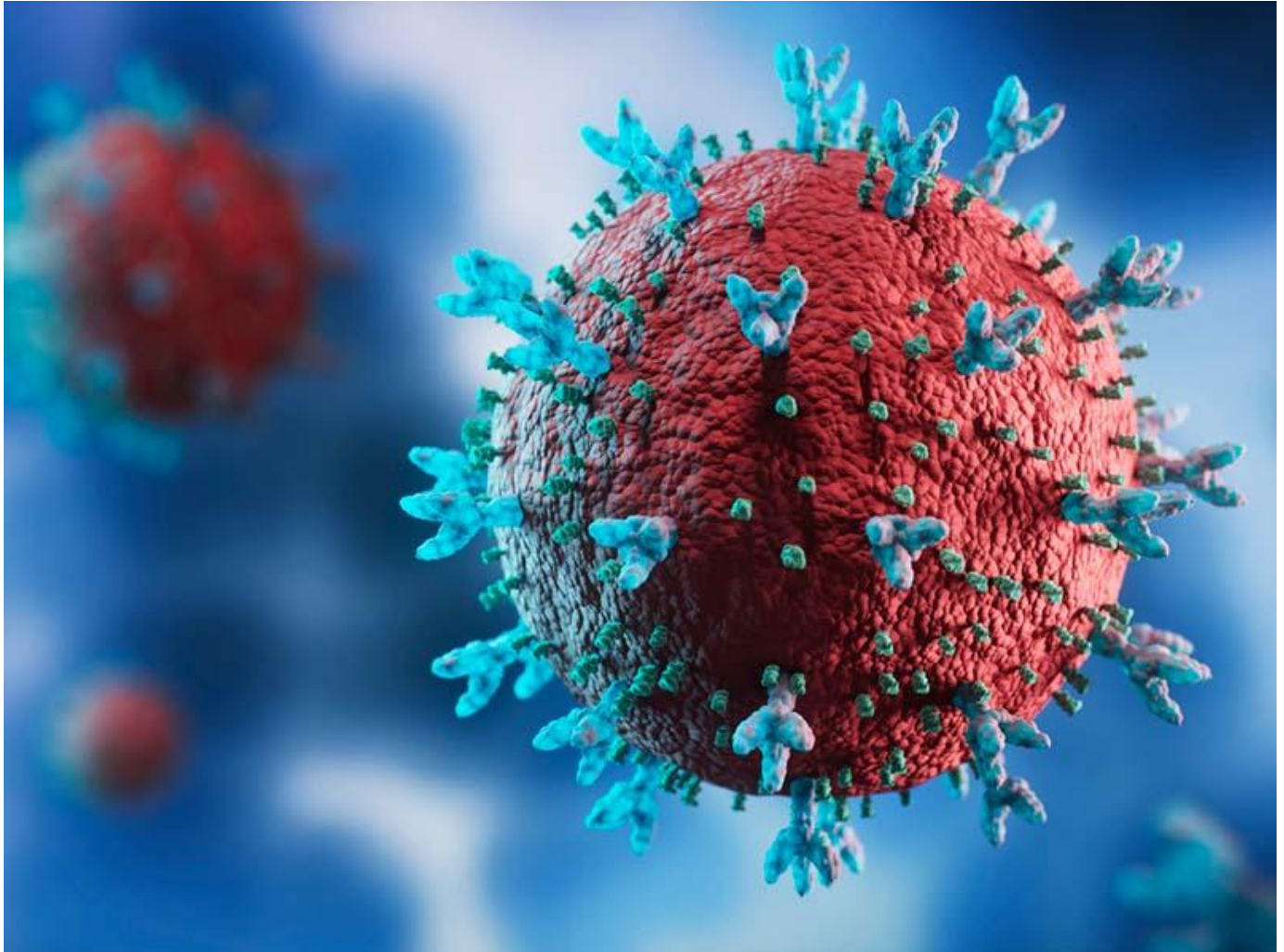


## New COVID-19 vaccine shows promise against Omicron variants

September 19, 2022 9:15 AM Leslie Tate  
ltate1@tulane.edu



The study showed significant respiratory protection against Omicron subvariants of the SARS-CoV-2 virus lasting at least six months. Illustration by iStock.

A recent study co-authored by Tulane University researchers shows a new COVID-19 vaccine offers longer-lasting protection against Omicron variants of SARS-CoV-2.

The study, led by principal investigator Bali Pulendran, PhD, of Stanford University and published in [\*Science Translational Medicine\*](#), evaluated the vaccine's performance over time in nonhuman primates. The trial, performed at the Tulane

National Primate Research Center, tested a vaccine that is currently in use in South Korea, but not yet available outside the country.

While U.S. regulators recently issued emergency use authorizations for new bivalent boosters for the Moderna and Pfizer Covid-19 vaccines to protect against the Omicron subvariants of the virus, scientists are still working to test different COVID-19 vaccines to see if they can deliver more durable and longer-lasting protection.

The nanoparticle vaccine tested at Tulane contains spike proteins from the virus to help the immune system recognize and defend against SARS-CoV-2. By using spike proteins from a specific site or receptor binding domain of the virus, scientists have homed in on the site that may prove especially protective against the Omicron variant.

The study showed significant respiratory protection against Omicron subvariants of the virus lasting at least six months, even though the vaccine targeted the original and Beta variants of the virus. Current vaccines provide a similar level of protection against Omicron subvariants six weeks after vaccination, but that protection drops significantly just 10 weeks later.

The booster also elicited an antibody response against the virus that remained high over a 10-month period, the highest reported for COVID-19 vaccines in people.

The vaccine was tested against the BA.1 and BA.2 subvariants. However, scientists are encouraged by results that indicate it may also prove effective against subsequent subvariants including BA.5, the strain currently circulating throughout the U.S.

Jay Rappaport, PhD, director and chief academic officer of the Tulane National Primate Research Center, said that the finding is significant.

“So far, the virus has been outpacing scientists in its ability to adapt in ways that can evade the immune system, even a short time after vaccination. Vaccines that protect against Omicron subvariants for a longer period will give us a real chance at achieving enough immunity to greatly reduce the spread of the virus,” Rappaport said.