

# Novavax COVID-19 vaccine works, but less so against variants

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In this Tuesday, May 26, 2020 photo released by Nucleus Network/ABC, clinical trial participants are monitored during Novavax COVID-19 vaccine testing in Melbourne, Australia. On Thursday, Jan. 28, 2021, Novavax said its vaccine appears 89% effective based on early findings from a British study and that it also seems to work—though not quite as well—against new mutated strains of the coronavirus circulating in that country and South Africa. (Patrick Rocca/Nucleus Network/ABC via AP)

Novavax Inc. said Thursday that its COVID-19 vaccine appears 89% effective based on early findings from a British study and that it also seems to work—though not as well—against new mutated versions of the virus circulating in that country and South Africa.

The announcement comes amid worry about whether a variety of vaccines being rolled out around the world will be strong enough to protect against worrisome new variants—and as the world desperately needs new types of shots to boost scarce supplies.

The study of 15,000 people in Britain is still underway. But an interim analysis found 62 participants so far have been diagnosed with COVID-19—only six of them in the group that got vaccine and the rest who received dummy shots.

The infections occurred at a time when Britain was experiencing a jump in COVID-19 caused by a more contagious variant. A preliminary analysis found over half of the trial participants who became infected had the mutated version. The numbers are very small, but Novavax said they suggest the vaccine is nearly 96% effective against the older coronavirus and nearly 86% effective against the new variant. The findings are based on cases that occurred at least a week after the second dose.

"Both those numbers are dramatic demonstrations of the ability of our vaccine to develop a very potent immune response," Novavax CEO Stanley Erck said in a call with investors late Thursday.

Scientists have been even more worried about a variant first discovered in South Africa that carries different mutations. Results from a smaller Novavax study in that country suggests the vaccine does work but not nearly as well as it does against the variant from Britain.

The South African study included some volunteers with HIV. Among the HIV-negative volunteers, the vaccine appears 60% effective. Including volunteers with HIV, overall the protection was 49%, the company said. While genetic testing still is underway, so far about 90% of the COVID-19 illnesses found in the South African study appear due to the new mutant.

"These are good results. There is reason to be optimistic" about the 60% effectiveness, said Glenda Gray, head of the South African Medical Research Council. Even against the new variant that now causes more than 90% of new cases in that country, "we're still seeing vaccine efficacy," she said.

More concerning is what the study showed about a totally different question—the chances of people getting COVID-19 a second time, said the leader of the South African study, Shabir Madhi of the University of the Witwatersrand in Johannesburg. Tests suggested that nearly a third of study participants had been previously infected, yet rates of new infections in the placebo group were similar.

"Past infection with early variants of the virus in South Africa does not protect" against infection with the new one, he said. "There doesn't seem to be any protection derived."

Novavax said it needs some additional data before it can seek British authorization for the vaccine's use, sometime in the next month or so. A larger study in the U.S. and Mexico has enrolled slightly over half of the needed 30,000 volunteers. Novavax said it's not clear if the Food and Drug Administration will need data from that study, too, before deciding whether to allow U.S. use.

Meanwhile, it is starting to develop a version of the vaccine that could more specifically target the mutations found in South Africa, in case

health authorities eventually decide that updated dosing is needed.

Vaccines against COVID-19 train the body to recognize the new coronavirus, mostly the spike protein that coats it. But the Novavax candidate is made differently than the first shots being used. Called a recombinant protein vaccine, the Maryland company uses genetic engineering to grow harmless copies of the coronavirus spike protein in insect cells. Scientists extract and purify the protein and then mix in an immune-boosting chemical.

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