

Study suggests Pfizer vaccine works against virus variant

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In this Friday, Dec. 11, 2020, file photo, a Pfizer Global Supply Kalamazoo manufacturing plant sign is shown in Portage, Mich. New research suggests that Pfizer's COVID-19 vaccine can protect against a mutation found in two contagious variants of the coronavirus that erupted in Britain and South Africa. Those variants are causing global concern. They both share a common mutation called N501Y, a slight alteration on one spot of the spike protein that coats the virus and is believed to be the reason they can spread so easily. (AP Photo/Paul Sancya, File)

New research suggests Pfizer's COVID-19 vaccine can protect against a mutation found in the two more-contagious variants of the coronavirus that have erupted in Britain and South Africa.

The study was preliminary and did not look at the two other major vaccines being used in the West—Moderna's and AstraZeneca's. But it was reassuring, given questions of whether the virus could mutate to defeat the shots on which the world has pinned its hopes.

"There's no reason to think the vaccines won't work just as well on these strains," said Dr. Frederic Bushman of the University of Pennsylvania, who tracks how the virus mutates.

The mutated version circulating in Britain has also been detected in the U.S. and numerous other countries. That and the variant seen in South Africa are causing global concern because they appear to spread more easily—although how much more isn't yet known.

Bushman, who wasn't involved with the Pfizer study, cautioned that it tested just one vaccine against one worrisome mutation. But the Moderna and AstraZeneca vaccines are undergoing similar testing, and he said he expects similar findings.

That's because all the vaccines so far are prompting recipients' bodies to make antibodies against multiple spots on the spike protein that coats the virus.



In this Monday, Dec. 14, 2020, file photo, a vial of the Pfizer-BioNTech vaccine for COVID-19 sits on a table at Hartford Hospital in Hartford, Conn. New research suggests that Pfizer's COVID-19 vaccine can protect against a mutation found in two contagious variants of the coronavirus that erupted in Britain and South Africa. Those variants are causing global concern. They both share a common mutation called N501Y, a slight alteration on one spot of the spike protein that coats the virus. That change is believed to be the reason they can spread so easily. (AP Photo/Jessica Hill, File)

"A mutation will change one little place, but it's not going to disrupt binding to all of them," Bushman explained.

While scientists did not expect that a single mutation would completely upend efforts to stop the pandemic, it is still an important area of study because the coronavirus, like all viruses, constantly evolves. This study marks just the beginning of continual monitoring to make sure that all the vaccines being rolled out around the world continue to work.

The study looked at one modification to the spike protein that both variants share, called N501Y, that is believed responsible for the easier transmission. Pfizer and researchers from the University of Texas Medical Branch in Galveston conducted laboratory tests to see if that mutation could thwart the vaccine.

They used blood samples from 20 people who received the vaccine, made by Pfizer and its German partner BioNTech, during a large trial of the shots. Antibodies from those recipients fended off the virus in lab dishes, according to the told The Associated Press this week that the coronavirus variants don't appear to block vaccine-induced antibodies but that testing to be sure of that is underway in the U.S. and elsewhere.

British scientists have likewise said the variant found in the U.K. — which has become the dominant type in parts of England—still seems to be susceptible to vaccines.

But the variant discovered in South Africa has an additional mutation that has scientists on edge, one named E484K. The Pfizer study found that the vaccine appeared to work against 15 additional possible mutations, but E484K wasn't among those tested. Dormitzer said it is next on the list.



In this Tuesday, Jan. 5, 2021, file photo, a healthcare worker receives a second Pfizer-BioNTech COVID-19 vaccine shot at Beaumont Health in Southfield, Mich. New research suggests that Pfizer's COVID-19 vaccine can protect against a mutation found in two contagious variants of the coronavirus that erupted in Britain and South Africa. Those variants are causing global concern. They both share a common mutation called N501Y, a slight alteration on one spot of the spike protein that coats the virus. That change is believed to be the reason they can spread so easily. (AP Photo/Paul Sancya, File)

South Africa has not started mass vaccinations.

If the virus eventually mutates enough that the vaccine needs adjusting—much like flu shots are adjusted most years—tweaking the recipe wouldn't be difficult for vaccines made with newer technologies. Both the Pfizer-BioNTech and Moderna vaccines are made with a piece of the virus genetic code that is simple to switch.

The coronavirus isn't changing as rapidly as other viruses such as flu or HIV, and its structure is more stable than the flu's, Bushman said, although that will need to be tracked.

"My guess is vaccination will stick longer and be more effective than it is for influenza," he said.

Meanwhile, U.S. health regulators said Friday they think there is a low risk that the new variants could hurt the accuracy of hundreds of COVID-19 tests on the market.

Food and Drug Administration chief Stephen Hahn said the agency has been monitoring the virus since the summer for any mutations that could skew testing results. So far, most tests that look for the virus's genetic code remain accurate, but the agency is also studying whether viral mutations could affect rapid tests that look for COVID-19 proteins, called antigens.

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