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Researchers here have found that the Pfizer-BioNTech vaccine can help the body produce specific antibodies and immune cells against the Sars-CoV-2 virus.

That may explain why it is able to offer protection from Covid-19 as early as 12 days after a single dose.

According to an Israeli study conducted among healthcare workers, the first dose of the Pfizer-BioNTech vaccine was found to be 85 per cent effective against Covid-19.

Canadian researchers had suggested delaying the second dose of the vaccine, following research suggesting an efficacy of 92.6 per cent after the first dose.

The clinical data from the international Pfizer-BioNTech trial, conducted among 44,000 participants, also revealed that the number of Covid-19 cases among the vaccinated group tapered off 10 to 12 days after the first dose, whereas the cases continued to increase among the placebo group that did not receive the vaccine.

The vaccine, with a known efficacy rate of 95 per cent, requires two doses three weeks apart.

Taking these findings a step further, a team of researchers from the Singapore General Hospital (SGH) and the Duke-NUS

Local study sheds light on Pfizer vaccine's protection

Vaccine produces specific antibodies and immune cells against Sars-CoV-2 virus in as early as 12 days



The Pfizer-BioNTech vaccine, with a known efficacy rate of 95 per cent, requires two doses three weeks apart.
TNP FILE PHOTO

Medical School found this protection was a result of the early development of antibodies and a type of immune cells known as T-cells, which specifically target the Sars-CoV-2 virus.

Duke-NUS' professor of emerging infectious diseases Ooi Eng Eong, who is also the cor-

responding author of the study, said this could help researchers assess vaccines and monitor the length of immunity against Covid-19.

To test the effectiveness of a Covid-19 vaccine, scientists typically look out for a specific type of antibodies known as neutralis-

ing antibodies, which bind to the Sars-CoV-2 virus and prevent it from infecting human cells.

However, Associate Professor Jenny Low, senior consultant with the department of infectious diseases at SGH, said studies done for both the Pfizer-BioNTech and Moderna vac-

cines had shown there were no detectable levels of neutralising antibodies 12 days after the first dose of the vaccine, although protection was already conferred.

The researchers tracked the immune response of 20 healthcare workers here who took the Pfizer-BioNTech vaccine in January.

It found that all 20 individuals had developed T-cells that recognised the spike protein of the Sars-CoV-2 virus just 10 days after receiving their first vaccine dose. In addition, 16 of them developed antibodies against the spike protein of the virus after 12 days.

But only four, or 20 per cent, produced neutralising antibodies after 12 days, even though these antibodies have been widely assumed to be essential for protection against Covid-19, noted Prof Ooi.

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