

# Human clinical trials of potential Covid-19 treatment to start next week

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Singapore will embark on human clinical trials next week with 23 healthy individuals of a potential Covid-19 treatment.

The phase one trial will be conducted by the SingHealth Investigational Medicine Unit and take about six weeks, said the drug's developer, Singapore-based biotechnology company Tychan, yesterday.

The initial trial is meant to determine the safety, distribution, and optimal dosage of TY027, a monoclonal antibody that specifically targets Sars-CoV-2, the virus that causes Covid-19.

Monoclonal antibodies are immune system proteins that are created in the laboratory, and can be specially designed and engineered to target viruses.

TY027 is being explored for for its ability to slow down the progression of Covid-19 and

speed up recovery, and its potential to provide temporary protection against infection, the company said.

If phase one is successful, Tychan will seek approval for the antibody to be administered to a larger population of volunteer patients in subsequent trials.

## FOUR PHASES

Clinical trials are commonly classified into four phases, beginning with a small group first to test for the drug's safety and side effects, and then moving on to larger groups to determine its efficacy.

The treatment is aimed at Covid-19 patients for now. Whether TY027 could be used in other applications, for instance for healthcare workers or even overseas travellers, would depend on the results of the trial.

Professor Ooi Eng Eong of Duke-NUS Medical School,



The Tychan team at the Temasek Life Sciences Institute at the Kent Ridge campus of the National University of Singapore. PHOTO: TYCHAN

who is one of the founders of Tychan, said that besides being a potential treatment for Covid-19, the drug could potentially be used to prevent infections.

"If the drug is indeed safe enough, we could, for instance, give (it) to healthcare workers who are treating Covid-19 patients so they don't get the infections themselves," he said.

"And, as well as other scenarios like, for instance, if one travels to places with a lot of

Covid-19 cases, this could be used to prevent infections when they are away from Singapore."

TY027 was developed with the Ministry of Defence, Ministry of Health, the Economic Development Board and other government agencies.

Tychan, which has received approval from the Health Sciences Authority to start dosing healthy volunteers, took less than four months to complete pre-clinical safety studies and other regulatory requirements.

Currently, there is no proven treatment or vaccine for Covid-19. One approach involves harvesting antibodies from Covid-19 patients to treat others with the disease, which has been shown to work in other serious virus infections.

However, the quantity of antibodies that can be recovered is limited, and it would be challenging to produce enough quantities to treat more than a few individuals. To overcome this limitation, a number of biotech companies have established platforms to scale up the production of antibodies against Covid-19.

In tandem, a number of Singapore groups, including Tychan, have also joined the international race to develop monoclonal antibodies against Covid-19.

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