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Research associate Phuong-Danh Tran of Arcturus Therapeutics conducting research on a vaccine for the coronavirus at a laboratory in San Diego, California. PHOTO: **REUTERS**

Vaccine co-developed by Singapore scientists may be available by early next year

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Singapore could have a Covid-19 vaccine by early next year.

The first shipments of a vaccine co-developed by Singapore researchers are expected in the first quarter, said Arcturus Therapeutics – the American pharmaceutical company working with Duke-NUS Medical School scientists on the vaccine – yesterday, as it announced positive preliminary results from the early-stage clinical trials being conducted in Singapore.

The Economic Development Board (EDB) is pumping in some US$45 million (S$61 million) into the manufacture of the vaccine, which will be used for the purchase of equipment, materials and services related to the vaccine's manufacture, said Arcturus.

EDB will also have the right to purchase up to US$175 million worth of the vaccine at pre-negotiated prices, with shipments expected to begin in the first quarter of next year, the firm added in a statement.

Duke-NUS Medical School's Professor Ooi Eng Eong, who co-developed the vaccine with Arcturus, said the results so far were promising and showed the vaccine could be effective as a single dose.

"This differentiates this investigaional vaccine from many other Covid-19 vaccines in development," said Prof Ooi, who is also a member of Arcturus' Vaccine Platform Scientific Advisory Board.

"The vaccine has the potential to provide important public health benefits by greatly facilitating broad administration across multiple populations worldwide."

Some 106 volunteers were enrolled in the early-stage trials in Singapore, of whom 28 received placebos. The rest received either one or two doses.

During these trials, mainly carried out among smaller groups of up to hundreds of volunteers, researchers look out for dangerous side effects and analyse patient samples to see how the immune system responds to the vaccine.

They also seek to determine how many doses are needed to incite the desired immune response.

Preliminary findings for the vaccine, dubbed Lunar-Cov19, indicate positive responses in both safety and the human immune response.

Arcturus said no subjects have withdrawn from the study and there have been no serious adverse events deemed to be treatment-related.

As for the immune response, both antibody and T-cell response have been observed in volunteers.

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