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New COVID treatment being developed in New Zealand

A team of scientists and clinicians from around NZ is in the process of testing a new treatment for COVID-19 in the laboratory, with a view to clinical use.

The SARS-CoV-2 virus binds to the ACE2 receptor in lungs to enter cells. The team led by Associate Professor Rohan Ameratunga has made designer ACE2 proteins to bind the virus. In the first part of the project these drugs will be tested against the virus in the test tube shortly.

These new drugs will be inhaled early in the disease to reduce damage to the lungs by acting as a decoy. The next phase of the project is to further refine the proteins and produce these in South Pacific Sera, a certified vaccine facility in Timaru.

Given community transmission of COVID-19 has been eradicated in NZ, clinical trials will take place overseas. If successful our drugs could be used in nursing homes at the outbreak of an infection, hospitals, prisons and at the border to protect travellers and officials.

Although the ultimate goal is to have an effective conventional vaccine, there are many hurdles including uncertain effectiveness and safety. Our work has shown immunodeficient patients respond poorly to other vaccines such as diphtheria toxoid. There is also a risk some COVID-19 vaccines could even worsen the infection.

If successful, our drugs will rapidly bridge the gap until an effective and safe vaccine is found. In the event there is a major outbreak of COVID-19, these drugs will be urgently made available to New Zealanders on a compassionate basis.

This project has been endorsed by the Australasian Society of Clinical Immunology and the Immune Deficiency Foundation of NZ. The team is now seeking government funding to make these drugs to progress to clinical trials.

With best regards.

Yours sincerely

Rohan Ameratunga

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