

Pilot clinical trial in China to test possible targeted therapy for COVID-19

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A University of British Columbia researcher is part of an international team working with a biotechnology company on a pilot clinical trial of a potential new treatment for patients with severe coronavirus infections in China.

Dr. Josef Penninger, director of UBC's Life Sciences Institute and Canada 150 Chair in Functional Genetics, is working closely with Vienna-based APEIRON Biologics AG on a randomized, dual-arm trial will treat 24 patients for seven days to determine whether APN01 treatment improves outcomes in patients with severe SARS-CoV-2 infection, the [virus](#) that causes COVID-19 disease.

APN01 is based on previous work in the early 2000s, when Penninger, together with Drs. Arthur Slutsky (University of Toronto) and Chengyu Jiang (Peking Medical Union College), discovered that a protein called ACE2 was the critical receptor for the SARS virus and also protected the lung.

"As a result of SARS revealing its secrets of how it damages the lung, it has also shown us how to develop new medicines to treat other diseases,"

says Penninger. "Now, it turns out that the SARS-CoV-2 virus also uses ACE2 to infect cells. So ACE2 is the rational and targeted therapy for the new epidemic. First, APN01 keeps the virus from infecting cells, and second, it should prevent lung failure and multiple organ complications, the source of most of the mortality we are seeing with COVID-19."

During the trial, which will begin shortly in China, researchers will assess participants to determine if APN01 reduces the viral load of SARS-CoV-2 virus, as well as the number of days patients endure fever. Data from the trial will be evaluated to determine if there is a need for an additional clinical trial in a larger number of patients.

An international team of Canadian, Chinese, and European experts, including Penninger, co-founder of APEIRON. Dr. Liqun Zhang and team of Angalpharma Co., Ltd (Suzhou, China), are coordinating the Chinese clinical trial with the support of dMed Pharmaceutical Co., a CRO team based in China. Drs. Haibo Zhang and Arthur Slutsky at St. Michaels Hospital in Toronto will determine if APN01 improves severe disease of the new [coronavirus](#) outbreak.

The trial in China is being led by Dr. Yimin Li, the ICU director who fought the 2003 SARS outbreak Guangdong Province, and Dr. Nanshan Zhong, the Chair of the National COVID-19 Commission in China.

Provided by University of British Columbia

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