

Scientists test monoclonal antibodies as potential COVID-19 treatment

July 21 2020

Timothy Albertson, chair of internal medicine and specialist in pulmonary and critical care, is leading efforts at UC Davis Health to test a new antibody cocktail (REGN-COV2) as a prevention and treatment for COVID-19.

Albertson was awarded a grant to run the clinical trial at UC Davis Health. The grant comes from the Biomedical Advanced Research and Development Authority ([BARDA](#)), part of the office of the Assistant Secretary for Preparedness and Response at the U.S. Department of Health and Human Services.

The [clinical trial](#) is sponsored by Regeneron Pharmaceuticals. It is an adaptive phase I, II and III randomized, double-blinded, placebo-controlled study. It seeks to evaluate the efficacy and safety of REGN-COV2 (a combination of REGN10933+REGN10987 [antibodies](#)) in hospitalized adult patients with COVID-19. It builds on encouraging findings from a set of studies that [showed the neutralizing impact of REGN10933 and REGN10987](#).

"We are very excited to test this antibody combination as a possible treatment to COVID-19," Albertson said. "We are all up and running on this clinical trial and will start patient recruitment soon."

At this time, there is no approved treatment that specifically targets SARS-CoV-2.

Disabling the SARS-CoV-2 Spike protein

The spike proteins on the outer envelope of coronaviruses allow entry and bind to the host cells. They appear to be central to why SARS-CoV-2 is so infectious. Previous studies have found that the viral infectivity of coronaviruses such as SARS-CoV and MERS-CoV was reduced when neutralizing antibodies were used against spike protein, blocking the [host cell](#) entry.

Currently, there are multiple efforts to develop antibodies that target the spike protein. Regeneron is developing and testing fully human, neutralizing monoclonal antibodies (mAbs) directed against the spike protein of SARS-CoV-2 for the treatment and prevention of COVID-19.

Regeneron antibody cocktail as potential COVID-19 treatment

To this end, Regeneron developed the REGN-COV2 antibodies to bind to the SARS-CoV-2 spike [protein](#) and block its interaction with the host receptor, which is expected to neutralize the virus.

The clinical trial will test the safety, tolerability and efficacy of REGN-COV2 as a promising therapeutic strategy to reduce SARS-CoV-2 viral shedding and COVID-19 disease progression.

Provided by UC Davis

Citation: Scientists test monoclonal antibodies as potential COVID-19 treatment (2020, July 21) retrieved 25 April 2024 from <https://medicalxpress.com/news/2020-07-scientists-monoclonal-antibodies-potential-covid-.html>

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