

Taiwan identifies potential COVID-19 inhibitors

13 April 2020 | News

The Proteases inhibitor eventually lead to the development of targeted drugs to stop the virus from replicating itself in patients' bodies



Taiwan's Academia Sinica in Taipei, Taiwan announced that it has screened out protease inhibitors of the COVID-19 coronavirus, which could eventually lead to the development of targeted drugs to stop the virus from replicating itself in patients' bodies.

Proteases, a group of enzymes that break down proteins, act as catalysts in a range of biological processes, and in the context of a virus, are often essential for the completion of the viral infectious cycle.

Protease inhibitors, which can be naturally-occurring or synthetic, block the replication of the virus, and are commonly used in the treatment of human immunodeficiency virus (HIV) and hepatitis C virus.

In a press release, the government research institute said that a team led by Liang Po-huang, a research fellow at the Institute of Biological Chemistry, has screened out potent inhibitors of the virus' main protease (3C-like protease) from more than 100 possible inhibitors.

The protease inhibitors they've discovered are designated for treatment, not a vaccine, according to Dr. Liang. Laboratories around the world have identified compounds that inhibit COVID-19 and are racing to pass clinical trials.

In in-vitro tests, the best of the inhibitors was around 10 times more effective than other known inhibitors in preventing the virus' replication, the academy said.

It said that animal and human tests are required before the inhibitors can be turned into anti-COVID-19 drugs, but said finding potential inhibitors in such a short time demonstrates Taiwan's ability to respond to the COVID-19 pandemic.

"We look forward to providing an option for targeted new drugs in the near future," the academy said.

In February, Academia Sinica President James Liao launched the COVID-19 Open Science Platform to promote collaborative research against the virus.

To date, the effort has resulted in the successful synthesis of remdesivir, a drug being used in clinical trials against COVID-19, and the production of antibodies with potential applications in rapid COVID-19 testing, the academy said.