PURDUE INNOVATES | Office of Technology Commercialization

Tris-Amide Based Novel Anti-COVID-19 Compounds

A novel class of compounds, chemically distinct from current FDA-approved inhibitors, potently inhibits the SARS-CoV-2 main protease (3CLpro) for use in antiviral COVID-19 treatment.

Researchers at Purdue University have designed a novel inhibitors against SARS-CoV-2. Previous compounds inhibit SARS-CoV-2 3CLPro target enzyme by a covalent reversible inhibition mechanism. The majority of previous compounds show good 3CLpro enzyme inhibitory activity. A new series of compounds have been designed and synthesized to interact with SARS-CoV-2. The new derivatives showed potent antiviral activity, but do not show potent 3CLpro inhibitory activity. While compounds did demonstrate activity as potent as Remdesivir, it is believed to be inhibiting by a different mechanism.

Technology Validation:

Advantages:

-Novel mechanism of action

-In cellulo activity

Applications:

-SARS-CoV-2

TRL: 5

Intellectual Property:

Provisional-Gov. Funding, 2021-05-26, United States | Utility-Gov. Funding, 2022-05-23, United States

Keywords: SARS-CoV-2 inhibitors, novel inhibitors, 3CLPro target enzyme, covalent reversible inhibition mechanism, potent antiviral activity, novel mechanism of action, in cellulo activity, COVID-19 treatment, Remdesivir

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Pharmaceuticals/Other

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