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Innovation Infosheet

Inhibitors of Covid protease (3CLpro) for treatment of SARS-CoV-2

Track Code: 2021-GHOS-69510

Categories:
- Chemistry and Chemical Analysis
- Pharmaceuticals

Keywords:
- 3CLpro
- Coronavirus
- COVID
- COVID-19
- Protease Inhibitor
- SARS-CoV-2

Purdue University researchers have developed a series of compounds that potently inhibit an enzyme, 3-chymotrypsin like protease (3CLpro), of severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2). The COVID-19 respiratory illness is caused by the SARS-CoV-2 coronavirus strain. While there are currently COVID-19 therapeutics authorized for emergency use, issues remain with efficacy, ease of administration and Covid recurrence. Purdue researchers created a new class of compounds capable of potently inhibiting 3CLpro, the main protease found in SARS-CoV-2 required for efficient viral replication. The Purdue compounds are chemically distinct from the current FDA approved SARS-CoV-2 3CLpro inhibitors and they showed more potent inhibition of 3CLpro and overall antiviral activity compared to the approved compounds.

Technology Validation: These compounds are more potent than an in-house prepared FDA approved compound in an enzymatic kinetics assay.

Advantages:
-More potent in vitro than commercially available compounds
-Distinct chemical architecture from other 3CLpro inhibitors.

Applications:
-COVID-19 treatment
-Antiviral therapy

People:
- Ghosh, Arun K (Project leader)

- Yadav, Monika

Intellectual Property:

Application Date: May 26, 2022
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