PURDUE INNOVATES | Office of Technology Commercialization

Tris-Amide Based Novel Anti-COVID-19 Compounds

Novel compounds have been developed for potent antiviral activity against SARS-CoV-2 by inhibiting the virus via a mechanism of action distinct from previous drug targets.

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: A virtual reality classroom was configured. Eye-tracking results gauged how often the students were paying attention to the instructor, lesson slides, and ClassMeta. Note-taking evaluation analyzed the quality of notes taken by students. Pre-post test evaluation examined the overall learning of the students.

Advantages:

-Novel mechanism of action

-In cellulo activity

Applications:

-SARS-CoV-2

TRL: 5

Intellectual Property:

Technology ID

2021-GHOS-69492

Category

Biotechnology & Life Sciences/Biomarker Discovery & Diagnostics

Pharmaceuticals/Drug Discovery & Development

Biotechnology & Life Sciences/Analytical & Diagnostic Instrumentation

Pharmaceuticals/Small Molecule Therapeutics

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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 alternative, drug design