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Anti-viral phosphoramidates for treating SARS-CoV and influenza

A method for treating an influenza viral infection or a severe acute respiratory syndrome

IP Status: US Patent Pending; Application No. 18/605,377

Applications

- SARS-CoV-2 Treatment
- Coronavirus Treatment
- Influenza Treatment

Key Benefits & Differentiators

- **Counters drug resistance:** This approach relies on a cellular target essential to the life-cycle of the virus
- **Effective treatment:** Capable of fully suppressing SARS-CoV-2 proliferation by 48 h at nanomolar concentrations

Technology Overview

There is a need both now and in the future for drugs that can suppress coronavirus proliferation and drug resistance, especially SARS-CoV-2 and variants. While vaccines targeted at specific variants have helped stem the spread of the disease, there remains a need for treatments against future variants and other coronaviruses that may emerge. Currently, there are no drug therapies that can address the potential for SARS-CoV-2 drug resistance should it arise. Development of an antiviral against SARS-CoV-2 that can be effective against any variant and potentially against any coronavirus would address this issue.

Researchers at the University of Minnesota have developed a method for treating SARS-CoV-2 that relies on a cellular target that is essential to the life-cycle of the virus and therefore extremely difficult to develop resistance to. This method utilizes patent-protected antiviral compounds (UMN Case 20180103) targeting the translation initiation factor, eIF4E with phosphoramidates. Demonstrations have shown that the antagonists of eIF4E are non-toxic and capable of fully suppressing SARS-CoV-2 proliferation by 48 h at nanomolar concentrations. This method provides an alternative treatment to SARS-CoV-2 with the potential to be used to treat severe influenza cases and future strains of acute respiratory syndrome.

Phase of Development

TRL: 3-4
In vitro cellular studies

Desired Partnerships

This technology is now available for:

Technology ID
2022-040

Category
All Technologies
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Researchers

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