

# Broad-spectrum Antiviral Inhibits SARS-CoV-2

## ORALLY BIOAVAILABLE BROAD-SPECTRUM ANTIVIRAL INHIBITS SARS-CoV-2

Orally bioavailable broad-spectrum antiviral inhibits SARS-CoV-2

**Abstract**  
NHC, an orally bioavailable nucleoside analog, with broad-spectrum antiviral activity against various unenveloped RNA viruses is effective against SARS-CoV-2.

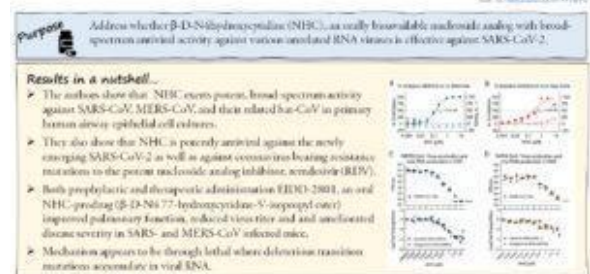
NHC is generally antiviral against the newly emerging SARS-CoV-2 as well as against coronavirus bearing resistance mutations to the potent nucleoside analog inhibitor, remdesivir (RDV).

Both prophylactic and therapeutic administration EIDD-2801, an oral NHC prodrug (β-D-N4-77-hydroxycytidine-5'-isopropyl ester) improved pulmonary function, reduced virus titer and ameliorated disease severity in SARS- and MERS-CoV infected mice.

Mechanism appears to be through lethal where deleterious transition mutations accumulate in viral RNA.

## AN ORALLY BIOAVAILABLE BROAD-SPECTRUM ANTIVIRAL INHIBITS SARS-CoV-2

Sheahan et al, bioRxiv  
doi: 10.1101/2020.03.26.009999



Source: [Efra Rivera-Serrano, PhD](#) [Twitter](#) [Handle @NakedCapsid](#)

**Disclaimer: This article is a summary of Research article by Sheahan et al, Pre-print published on BioRxiv. This research article at the time of writing this summary has not been peer-reviewed.**

SARS-CoV-2 is a zoonotic virus which causes the disease COVID-19 and there are currently no approved therapies. Sheahan et al recently pre-published a paper that states that ribonucleoside analog β-D-N4-hydroxycytidine (NHC, EIDD-1931) has broad spectrum antiviral activity against SARS-CoV 2, MERS-CoV, SARS-CoV, and related zoonotic group 2b or 2c Bat-CoV. The researchers also stated that there is an increased potency against a coronavirus bearing resistance mutations to another nucleoside analog inhibitor.

EIDD-2801, an orally bioavailable NHC-prodrug (β-D-N4-

hydroxycytidine-5'-isopropyl ester) was also shown to improve pulmonary function and reduce virus titre in mice infected with SARS-CoV or MERS-CoV. NHC/EIDD-2801 was shown to be potent against multiple coronaviruses and therapeutically effective which highlights its potential as an effective antiviral against SARS-CoV-2 and other future zoonotic coronaviruses.

Journal Article: [BioRxiv – Sheahan, T.P. et al. An orally bioavailable broad-spectrum antiviral inhibits SARS-CoV-2 and multiple endemic, epidemic and bat coronavirus](#)

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