

A versatile antiviral emerges to fight COVID-19

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Scientists everywhere are working overtime to develop treatments for COVID-19, the disease caused by the novel coronavirus SARS-CoV-2. Many existing drugs and new candidates are being tested, with the hope of easing the global pandemic ahead of a vaccine. An article in *Chemical & Engineering News*, the weekly newsmagazine of the American Chemical Society, reports an emerging antiviral that might turn the tide for this pandemic and the next.

An antiviral called EIDD-2801, developed by researchers at the Emory Institute for Drug Development, has shown promise against several RNA viruses, including Ebola, influenza and SARS-CoV-1, in cell and animal studies. EIDD-2801 targets the same [viral enzyme](#) as remdesivir, but unlike that better-known drug, which must be given intravenously, EIDD-2801 is an oral medication. If shown to be safe and effective, the antiviral could be taken at home rather than in the hospital, allowing treatment earlier in the course of the disease, Senior Correspondent Bethany Halford writes.

EIDD-2801 works by alternately mimicking two different RNA bases, cytidine and uridine. This base switching confuses the enzyme that replicates the [viral genome](#) so that it makes mistakes, resulting in non-functional viruses. In [lab tests](#), EIDD-2801 has a high barrier to resistance, meaning that viruses aren't able to quickly evolve mutants that are unaffected by the treatment. Phase I human trials of EIDD-2801 are now underway in the U.K., and a U.S. trial is slated to begin in the next few weeks. To have an impact, EIDD-2801 will most likely need to be given before the virus has time to ravage the body—ideally, soon after a person is exposed to SARS-CoV-2 or at the initial onset of symptoms. The potential drug's ability to target an array of viruses bodes well for future outbreaks, experts say.

More information: Bethany Halford. An emerging antiviral takes aim at COVID-19. *Chemical & Engineering News* cen.acs.org/pharmaceuticals/drugs/ID-19/98/web/2020/05

Provided by American Chemical Society

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