

# Can CBD help curb COVID? Maybe, but more study is needed

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Cannabidiol, a compound derived from marijuana, appears to show

promise in blocking replication of the COVID-19 virus and preventing its spread, lab and animal studies show.

CBD inhibited the ability of the [coronavirus](#) to spread in human lung cell samples, and also suppressed COVID-19 infection in the lungs and nasal passages of lab mice. Although research in animals doesn't always pan out in humans, the success of CBD may not be limited to the lab.

People taking Epidiolex—a U.S. Food and Drug Administration-approved form of CBD used to treat epilepsy—tested positive for COVID-19 at significantly lower rates than those not prescribed the drug, researchers report.

But don't rush out to your local dispensary just yet—researchers got these results using a highly purified CBD powder.

The sort of CBD oil you'd buy at your local cannabis shop won't contain a high enough concentration of the compound to make any difference, explained lead researcher Marsha Rich Rosner, a professor of cancer research at the University of Chicago.

"We had a vision of people going to take CBD and saying, 'OK, now I don't need to be vaccinated, now I don't need a mask.' That's not the case," Rosner said. "We're not saying ever that you should substitute CBD for vaccination or any of the other precautions."

Instead, Rosner and her colleagues are calling for [human clinical trials](#) to determine the dosage of purified CBD that might help treat a new COVID-19 infection.

"We are actually suggesting that a trial be done similar to what you might do with vaccines, either as a preventive trial or an early-stage treatment after you've been tested," Rosner said.

Dr. Amesh Adalja, a senior scholar with the Johns Hopkins Center for Health Security, in Baltimore, agreed that the treatment is promising but needs more research.

"This is an early study that needs further confirmation but does provide a pathway for new ways to help combat COVID-19," Adalja said. "The more tools that we have, the better we will be. However, further study on CBD delivery mechanisms, CBD concentrations, and ideally administration of CBD in a prospective, randomized trial are needed to further explore this finding and its clinical applicability."

Rosner called her group's discovery regarding CBD's potential as a COVID fighter "complete serendipity." She's a cancer biologist, and knew about CBD because of its anti-inflammatory effects.

Since most of the damage done by a COVID-19 infection stems from the human immune system's overreaction to the virus, Rosner and her colleagues thought CBD might help prevent inflammation from harming the lungs and other organs in the body.

Instead, lab tests showed that CBD directly inhibited the virus' ability to replicate, stopping its spread in human cells. Mice treated with CBD for one week were able to suppress COVID-19 infection in their lungs and nasal passages.

"We just wanted to know if CBD would affect the immune system," Rosner said in a University of Chicago news release. "No one in their right mind would have ever thought that it blocked viral replication, but that's what it did."

To see whether CBD has any real-world potential, the research team analyzed data from 1,212 epilepsy patients prescribed Epidiolex.

People taking Epidiolex were 35% to 52% less likely to suffer a COVID-19 infection than an equal number of folks from a control group not prescribed the drug, according to data drawn from the federally funded National COVID Cohort Collaborative.

The findings were published Jan. 20 in the journal *Science Advances*.

The researchers believe that CBD fights COVID-19 by prompting cells to release interferon, a biochemical that sabotages the ability of viruses to replicate in cells, Rosner said.

"We showed that CBD increases the amount of this [interferon] factor, and if you block that factor from acting, you actually counteract the effect of CBD and now the virus can replicate again," Rosner said.

CBD doesn't affect the ability of the coronavirus to enter cells. Rather, it blocks replication of the virus after it's already entered [cells](#), the researchers reported.

However, it's likely that people will need high blood levels of CBD for this to work, Rosner said. That's where the purity, dosage and type of CBD treatment comes into play.

"The way CBD is formulated really determines how much can get into the blood," Rosner said. "If it's introduced as an oil, it's not very water-soluble and often will go to the liver and get metabolized and broken down. You have to make sure there's enough in the blood for it to be active."

Don't think you can smoke weed and get enough CBD to protect yourself that way, either. You won't absorb enough CBD from the smoke, and you'll also get too much THC, the compound in pot that gets you high, Rosner said.

"We tested THC. It does not work. Furthermore, when we added THC to CBD, it prevented CBD from blocking the replication of the virus," Rosner said.

**More information:** The U.S. National Institutes of Health has more on [COVID-19 treatments](#).

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