



Pre-Exposure Prophylaxis (PrEP)

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Drug treatments for viral infections are usually taken in the course of an acute (influenza) or chronic (HIV, herpes) infection. The drugs prevent or inhibit viral replication such that the immune system can effectively eliminate or manage the virus.

Recent studies, however, show that potent antivirals can also be used in uninfected individuals to prevent HIV infection (chemoprophylaxis or **Pre-Exposure Prophylaxis** or PrEP). In this case, the antiviral prevents HIV replication such that a chronic infection is never established. Truvada, a two-drug single tablet regimen of the HIV reverse transcriptase inhibitors emtricitabine and tenofovir, is the most commonly used form of HIV PrEP. Truvada PrEP has proven to be over 99.9% effective in preventing new HIV infections with consistent use. Importantly, emtricitabine and tenofovir alone are not effective in treating an HIV infection but are incredibly effective at preventing a new infection.

For COVID-19, most of the initial interest in an intervention to prevent infection has been in vaccines. However, respiratory viruses can be difficult targets for vaccine development, and, to date, no vaccine has ever been developed against a rhinovirus or coronavirus.

PrEP for COVID-19 is currently being evaluated in a number of clinical trials, [including two large efficacy studies](#) of monoclonal antibodies. Additional research is needed, however, from preclinical drug screening to animal models and finally clinical trials to evaluate therapeutics for PrEP, including drugs that potentially fail at treating acute COVID-19. [PrEP4All](#), a science advocacy and activist organization, has released an extensive report on the state of development of PrEP for COVID-19. The full report is [available on the PrEP4All website](#).