

Drug helps purge hidden HIV virus, study shows

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“Lifelong use of antiretroviral therapy is problematic for many reasons, not least among them are drug resistance, side effects, and cost,” said David Margolis, MD, professor of medicine, microbiology and immunology, and epidemiology at the University of North Carolina at Chapel Hill. Credit: UNC School of Medicine

A team of researchers at the University of North Carolina at Chapel Hill have successfully flushed latent HIV infection from hiding, with a drug used to treat certain types of lymphoma.

Tackling latent HIV in the immune system is critical to finding a cure for AIDS.

The results were presented today at the 19th Conference on Retroviruses and Opportunistic Infections in Seattle, Washington.

While current [antiretroviral therapies](#) can very effectively control virus levels, they can never fully eliminate the virus from the cells and tissues it has infected.

"Lifelong use of antiretroviral therapy is problematic for many reasons, not least among them are [drug resistance](#), side effects, and cost," said David Margolis, MD, professor of medicine, microbiology and immunology, and epidemiology at the University of North Carolina at Chapel Hill. "We need to employ better long-term strategies, including a cure."

Margolis' new study is the first to demonstrate that the biological mechanism that keeps the [HIV virus](#) hidden and unreachable by current [antiviral therapies](#) can be targeted and interrupted in humans, providing new hope for a strategy to eradicate HIV completely.

In a clinical trial, six HIV-infected men who were medically stable on anti-AIDS drugs, received vorinostat, an oncology drug. Recent studies by Margolis and others have shown that vorinostat also attacks the enzymes that keep HIV hiding in certain CD4+ T cells, specialized [immune system cells](#) that the virus uses to replicate. Within hours of receiving the vorinostat, all six patients had a significant increase in HIV RNA in these cells, evidence that the virus was being forced out of its hiding place.

"This proves for the first time that there are ways to specifically treat viral latency, the first step towards curing HIV infection," said Margolis, who led the study. "It shows that this class of drugs, HDAC inhibitors, can attack persistent virus. Vorinostat may not be the magic bullet, but this success shows us a new way to test drugs to target latency, and suggests that we can build a path that may lead to a cure."

Provided by University of North Carolina School of Medicine

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