

# Vorinostat renders dormant HIV infection vulnerable to clearance

August 1 2017

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HIV infecting a human cell. Credit: NIH

The ability for HIV to hide in the body in a dormant state makes curing

the 40 million people living with the virus a challenge. Researchers at the University of North Carolina at Chapel Hill have shown the drug Vorinostat reverses this latency, causing resting CD4 T-cells to express HIV. The investigators have developed an assay that detects antigen production and includes immune effectors capable of clearing the virus. These results were published in *EBioMedicine*.

Vorinostat produces a window of vulnerability in the HIV reservoir by triggering viral antigen production. The team developed the [latency clearance assay \(LCA\)](#) to measure the amount of antigen activity Vorinostat produces. The assay also includes immune effectors capable of clearing the cells expressing the viral antigen.

"Measuring a latency reversing agent's ability to induce relevant HIV production is technically challenging," said Julia Sung, M.D., the study's lead author and an assistant professor of medicine in the UNC Division of Infectious Diseases. "Using a latency clearance assay, we have detected the ability of Vorinostat, a latency reversing agent under clinical investigation, to induce recognizable levels of HIV protein on the cell surface allowing for subsequent clearance of infected [cells](#)."

The optimal combination of latency-reversing agents and clearance strategies will be needed to cure HIV. The team says their assay can be used to evaluate these combinations in future studies.

**More information:** Julia A. Sung et al. Vorinostat Renders the Replication-Competent Latent Reservoir of Human Immunodeficiency Virus (HIV) Vulnerable to Clearance by CD8 T Cells, *EBioMedicine* (2017). [DOI: 10.1016/j.ebiom.2017.07.019](https://doi.org/10.1016/j.ebiom.2017.07.019)

Provided by University of North Carolina Health Care

Citation: Vorinostat renders dormant HIV infection vulnerable to clearance (2017, August 1)  
retrieved 25 April 2024 from  
<https://medicalxpress.com/news/2017-08-vorinostat-dormant-hiv-infection-vulnerable.html>

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