



PRESS RELEASE

CONTACT:

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Scientists at The Wistar Institute's HIV Cure and Viral Diseases Center Develop New Natural Killer Cell Strategy to Target HIV

PHILADELPHIA — (February 17th, 2025) — Researchers at The Wistar Institute's [HIV Cure and Viral Diseases Center](#) have successfully identified a new approach using natural killer (NK) cells to target and kill the HIV-positive cells that allow the virus to persist. Wistar scientists have labeled this new approach "NuKES": Natural Killer Enhancement Strategy.

Led by [Luis J. Montaner, D.V.M., D.Phil.](#), Wistar Executive Vice President and director of the HIV Cure and Viral Diseases Center, and in collaboration with the lab of [James L. Riley, Ph.D.](#), professor of microbiology at the University of Pennsylvania Perelman School of Medicine, the team published the results in their new paper, "Gene-modified NK Cells Expressing CD64 and Pre-loaded with HIV-specific attack specific targets. To



“An effective HIV cure strategy depends on successfully targeting viral reservoirs, the virus-infected cells in which the virus can persist and cause long-term complications,” said Dr. Montaner. “Our new approach shows that we can leverage the innate immune system against HIV reservoirs with greater accuracy, introducing a powerful new line of attack against HIV.”

Although HIV can be treated and managed with antiretroviral therapy (ART), the virus cannot yet be cured. Without a cure, more than a [million](#) individuals living with HIV in the U.S. alone live with persistent inflammation and comorbidities. Scientists searching for a cure, like Dr. Montaner and his team, aim to eliminate the virus altogether, which requires destroying “viral reservoirs”: cells that stay infected with HIV and enable the virus to persist at low levels in spite of current anti-HIV therapy.

In their new paper, researchers turned to NK cells as a possible method to target viral reservoirs. Unlike T cells, which are part of our adaptive immune system and respond to threats based on learning, NK cells are part of the innate immune system, which is our body's first line of defense for any perceived foreign threat.

Although NK cells have natural antibody-binding molecules such as CD16, their ability to hold onto



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In their second "Top Read" paper from @J_Immuno1 in less than a year, Wistar's Montaner lab has published the successful preclinical results of their new anti-HIV approach: NuKES, or Natural Killer Enhancement Strategy, which targets viral reservoirs. [link]

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