

BEAT-HIV Delaney collaboratory issues recommendations measuring persistent HIV reservoirs

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L-R: Wistar Drs. Mohamed Abdel-Mohsen and Luis Montaner Credit: The Wistar Institute

Spearheaded by scientists at The Wistar Institute, top worldwide HIV

researchers from the BEAT-HIV Martin Delaney Collaboratory to Cure HIV-1 Infection by Combination Immunotherapy (BEAT-HIV Collaboratory) compiled the first comprehensive set of recommendations on how to best measure the size of persistent HIV reservoirs during cure-directed clinical studies. This perspective article was published today in *Nature Medicine*.

Cure-directed studies seek to control or eradicate HIV beyond current antiretroviral therapy (ART) which can only suppress but not eliminate HIV. Long-term viral persistence on ART continues to cause immune activation, chronic inflammation and progressive damage to multiple organs. Multiple cure-directed studies are underway worldwide but no consensus statement was available to prioritize and interpret the many strategies available today to measure persistent HIV on ART.

"Bringing together many of the original investigators who developed current assays used to measure HIV, the BEAT-HIV Collaboratory has now issued recommendations for priority in HIV measures as a guide for cure-directed studies," said Luis J. Montaner, D.V.M., D.Phil., the Herbert Kean, M.D., Family Professor and director of the HIV-1 Immunopathogenesis Laboratory at Wistar's Vaccine & Immunotherapy Center, co-leader of the Delaney Collaboratory and corresponding author on the article. "A major obstacle to eradication is the virus hiding in some compartments of the immune system where it's difficult to target and measure. The BEAT-HIV guidelines now provide specific information on the strengths and limitations of each assay available today."

The ability to accurately measure the size of these HIV reservoirs is critical when evaluating potential therapeutic strategies to cure HIV. It is also necessary for monitoring viral levels and guide ART interruption.

"We systematically reviewed the state of the science in the field and

provided a collective and comprehensive view on which viral measurements to prioritize in [clinical trials](#)," said Mohamed Abdel-Mohsen, Ph.D., assistant professor in Wistar's Vaccine & Immunotherapy Center and one of the authors of the paper. "I think this is a crucial step to take the best advantage of the most valuable resource available to researchers in their quest to find a cure for HIV, the blood and [tissue samples](#) from people living with HIV who generously participate in the HIV cure-focused clinical trials all over the world."

In current HIV cure-directed studies in ART-suppressed people living with HIV, viral levels are monitored in [peripheral blood cells](#) obtained either by phlebotomy or leukapheresis (a laboratory procedure to separate [white blood cells](#) from whole blood) and biopsies from gut-associated lymphoid tissue or lymph nodes, though most trials only use peripheral blood because it is easier to collect.

More information: Recommendations for measuring HIV reservoir size in cure-directed clinical trials, *Nature Medicine* (2020). [DOI: 10.1038/s41591-020-1022-1](#)

Provided by The Wistar Institute

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