

Cancer drug shows promise in eradicating latent HIV infection

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Breakthrough drugs have made it possible for people to live with HIV longer than ever before, but more work must be done to actually cure the disease. One of the challenges researchers face involves fully eradicating the virus when it is latent in the body. A new report appearing in the December 2012 issue of the *Journal of Leukocyte Biology* suggests that a cancer drug, called JQ1, may be useful in purging latent HIV infection by activating the virus in the presence of potent therapy – essentially a dead end for the virus.

"This drug may be useful as adjunctive therapy in efforts to purge latent HIV reservoirs to eradicate infection," said Monty A. Montano, Ph.D., principal investigator from the Section of [Infectious Diseases](#) at Boston University Medical Campus, in Boston, Mass. "This drug functions synergistically with other HIV purging agents."

To make this discovery, scientists used cell lines that contained latent HIV, as well as cells from patients who were on potent antiretroviral therapy with no detectable virus in their blood. Researchers then added JQ1 to latently infected cells, at physiologic concentrations, and observed potent reactivation of latent HIV. The researchers also observed potent suppression of inflammatory genes in genome-wide expression studies using the same cells. JQ1 reactivation of latent HIV may make it vulnerable to current therapies.

"One thing that's been made clear by the decades of [HIV research](#) is that there is no magic bullet for curing this disease," said John Wherry,

Ph.D., Deputy Editor of the [Journal of Leukocyte Biology](#). "Rather, the progress that's been made has been a series of incremental steps that often build on other previously developed therapies. The hope is that the ability of JQ1 to make latent HIV 'visible' to other [HIV drugs](#) described in this report will be another cog in the gearwheel of an HIV cure."

More information: Camellia Banerjee, Nancie Archin, Daniel Michaels, Anna C. Belkina, Gerald V. Denis, James Bradner, Paola Sebastiani, David M. Margolis, and Monty Montano. BET bromodomain inhibition as a novel strategy for reactivation of HIV-1. *J Leukoc Biol* December 2012 92:1147-1154, [doi:10.1189/jlb.0312165](https://doi.org/10.1189/jlb.0312165)

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