

Waking up dormant HIV

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HAART (highly active anti-retroviral therapy) has emerged as an extremely effective HIV treatment that keeps virus levels almost undetectable; however, HAART can never truly eradicate the virus as some HIV always remains dormant in cells. But, a chemical called suberoylanilide hydroxamic acid (SAHA), recently approved as a leukemia drug, has now been shown to 'turn on' latent HIV, making it an attractive candidate to weed out the hidden virus that HAART misses.

Matija Peterlin at UCSF and colleagues had previously identified another chemical called HMBA that could activate latent [HIV](#), but the risk of several toxic side effects made HMBA clinically non-viable. However, the chemically similar SAHA had received FDA approval, making it a potentially safer alternate.

So, the researchers examined whether SAHA had any effect on HIV latency. They found that SAHA could indeed stimulate [latent HIV](#) to begin replicating, which exposes the infected cell to HAART drugs. SAHA could activate HIV in both laboratory [cells](#) as well as from blood samples taken from HIV patients on antiretroviral therapy. Importantly, this successful activation was achieved using clinical doses of SAHA, suggesting toxicity will not be a problem.

More information: This study appeared in the March 13 issue of [Journal of Biological Chemistry](#), "Suberoylanilide hydroxamic acid reactivates HIV from latently infected cells" by Xavier Contreras, Marc Schwenker, Chin-Shih Chen, Joseph M. McCune, Steven G. Deeks, Jeffrey Martin, and B. Matija Peterlin

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