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Epigenetic Target for HIV and Latent Virus Eradication

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ABSTRACT

Researchers at the University of California, Davis, have identified a target for therapeutic intervention and agents that disrupt HIV latency in patients under suppressive HIV therapy. It amplifies the effects of other latency reversal agents and primes the cells harboring the virus for immune clearance and death.

FULL DESCRIPTION

Immune cells harboring latent HIV in patients who are under suppressive antiretroviral therapy (ART) cannot be detected by the host's immune system. Although transcriptional activation of latent HIV has been reported in some current medical research, the potency is low, creating a barrier to eliminating HIV.

Researchers at the University of California, Davis, have discovered a novel epigenetic modification that regulates HIV transcription. Induction of the target through chemical agents disrupts HIV latency and activates HIV replication within HIV latency cell line models *in vitro* and resting CD4+ T cells isolated from patients under ART *ex vivo*. In addition, this treatment amplifies other effects of latency reversal agents, such as Histone Deacetylase inhibitors or Protein Kinase C agonists, and may prime the immune cells harboring any latent HIV for immune clearance and death. These findings have identified a novel epigenetic target for flushing out latent HIV.

APPLICATIONS

- ▶ Reactivating latent HIV for treating patients with sole agent or as a combination therapy

FEATURES/BENEFITS

- ▶ Potent method for transcriptional activation of latent HIV
- ▶ Amplifies effects of latency reversal agents
- ▶ Primes immune cells with latent HIV for clearance

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Published Application	20230393072	12/07/2023	2017-766
United States Of America	Published Application	2020-026885	08/27/2020	2017-766

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OTHER INFORMATION

KEYWORDS

HIV, HIV latency, HIV cure, immune cells, suppressive antiretroviral therapy, suppressive therapy, antiretroviral, HIV reactivation, latency reversal, HIV replication, ART

CATEGORIZED AS

- ▶ **Medical**
 - ▶ Disease: Autoimmune and Inflammation
 - ▶ Imaging
 - ▶ New Chemical Entities, Drug Leads
 - ▶ Other
 - ▶ Research Tools

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2017-766-0

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

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- ▶ Methods for Disrupting HIV Latency Using Anti-HIV Latency Agents

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