Cure: HIV Reservoir

A refined mapping of HIV’s reservoir could aid in cure research.

January 4, 2021 By Liz Highleyman

Assessing the HIV viral reservoir is akin to searching for a needle in a haystack, but researchers have developed a new method that could aid cure research. Even in people on effective antiretroviral treatment, HIV’s genetic blueprint remains sequestered in a reservoir of long-lived resting memory T cells, where it is impervious to the drugs. Antiretrovirals work only when the cells reactivate and start churning out new copies of the virus. Resting immune cells lack proteins on their surface that help scientists locate them. Researchers at the Gladstone Institutes in San Francisco developed a method to map the viral reservoir, using nearly 40 cell surface proteins to compare resting cells before and after reactivation. Analyzing millions of cells from eight people on antiretroviral treatment, the researchers discovered that reservoir cells in the blood, lymph nodes and gut tissue share some common features that could help scientists identify cells capable of producing new virus and develop cure therapies to target hidden HIV.

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