Cure: How HIV Hides

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Over time, HIV may increasingly hide its genetic material, known as a provirus, in inactive parts of the human chromosome where it can't produce new virus. HIV inserts its genetic blueprints into T cells and establishes a long-lasting reservoir that's unreachable by anti-retrovirals. Researchers previously reported that a small group of elite controllers, who maintain viral suppression without treatment, had their HIV DNA locked up in inactive parts of chromosomes dubbed "gene deserts." New research suggests that some people on long-term treatment may also sequester proviruses in gene deserts, which could lead to a functional cure. Analyzing proviruses in immune cells from six people on antiretroviral therapy for at least nine years, scientists found that latent HIV appeared to increasingly concentrate in inactive regions of the genome, similar to what happens in elite controllers. Strategies that put the virus into a deeper sleep could potentially allow a "peaceful coexistence" between HIV and the host and enable drug-free control.

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