

Gene editing reduces deadly viral ‘reservoirs’ in HIV patients

By transplanting blood stem cells that had been gene-edited to resist HIV infection, scientists at Fred Hutchinson Cancer Research Center were able to shrink the size of dormant viral “reservoirs” in infected animals, according to research results published [recently] in [PLOS Pathogens](#). Reducing or eliminating these persistent reservoirs is a key step toward curing HIV or, to use a term [borrowed from cancer](#), driving the virus into remission so that daily antiretroviral drugs aren’t needed. “The number of latently infected cells, which we call the viral reservoir, was reduced,” said lead author Dr. Chris Peterson.

...

The edited cells made up about 4 percent of total white blood cells — not yet enough to induce remission, Peterson said. The next step will be to tweak editing techniques so that more of the gene-altered cells “take,” or engraft, and multiply after transplantation, driving up the percentage and further driving down the reservoir.

Shrinking the reservoir is key because HIV integrates itself into the DNA of some of the longest-lived cells in the body, where it goes into a dormant state but can wake up at any time and produce new virus.

...

Peterson used a [gene-editing technique](#) called zinc-finger nucleases, or ZFNs, to disrupt a receptor used as a doorway by most forms of HIV.

...

The modified stem cells were then returned to repopulate the immune system.

Read full, original post: [Gene editing holds promise for shrinking HIV ‘reservoir’](#)