

Interleukin-10 Blunts HIV Infection and Disease Progression

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People who are genetically predisposed to have high levels of a protein called interleukin-10 (IL-10), which helps regulate the immune system, may have a lower risk of becoming infected with HIV, or slower disease progression if they're already infected with the virus, according to a [study published](#) online June 17 in *The Journal of Infectious Diseases*.

Interleukins, also known as cytokines, enable immune system cells to communicate with each other and can provoke a wide array of effects in the body. One much-studied cytokine, IL-2, spurs the production of CD4 cells, while other cytokines blunt immune responses. A few small studies have provided conflicting evidence that higher natural levels of the cytokine IL-10 may contribute to slower HIV disease progression.

To explore the impact of IL-10 production on HIV, Dshanta Naicker, PhD, from the University of KwaZulu-Natal, in Durban, South Africa, and her colleagues examined blood samples and medical records from 259 HIV-positive and HIV-negative women enrolled in the Centre for the AIDS Programme of Research in South Africa (CAPRISA) acute infection cohort study. During the course of that study, 64 women were infected with HIV.

Women who were genetically more likely to have high levels of IL-10 turned out to have a much lower risk of becoming infected with HIV than women with a predisposition to have very low levels of IL-10.

Results involving women who were infected with HIV were less clear. During the acute early phase of infection, women more likely to have high IL-10 levels had higher viral loads than women more likely to have low IL-10 levels. This trend, however, completely reversed once a woman entered the chronic stage of infection. At this point, a predisposition for higher IL-10 production was associated with lower viral loads, whereas a predisposition for lower IL-10 production translated into higher viral loads.

Naicker and her colleagues conclude that a genetic predisposition for higher IL-10 production might protect against HIV infection, and that over time, it might also be associated with slower HIV disease progression. They are encouraging further research, however, to confirm this finding.

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<http://beta.docker.poz.com/article/hiv-il10-interleukin-16806-6574>