



How Does Cannabis Affect Immune Response?

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August 12, 2024 By [Liz Highleyman](#)

Marijuana and cannabidiol (CBD) have anti-inflammatory properties and may improve gut health, but smoking can lessen the benefits, according to recent studies. Around a third of people with HIV have recently used marijuana, but its effects on immune function are not fully understood.

In one small study, cannabis users had fewer exhausted or senescent T cells and reduced expression of immune activation biomarkers compared with nonusers, but cannabis was not linked to HIV-specific CD8 T-cell responses or changes in the viral reservoir in CD4 T cells. Another study showed that HIV-positive people who took capsules containing CBD with or without THC showed reduced impairment of the gut lining, less T-cell exhaustion, fewer senescent CD4 and CD8 cells and a reduction in inflammatory biomarkers. Again, there was no change in the viral reservoir. A third study likewise showed that cannabis was associated with less immune activation and inflammation, perhaps because users had enhanced mucosal immunity in the gut and differences in their microbiome.

In two other studies, however, HIV-positive people who smoked marijuana showed evidence of both pro-inflammatory and anti-inflammatory effects on immune cells and biomarkers. Smoking can damage the lungs and may increase the risk of cancer, so using edible forms of cannabis or CBD may be a healthier choice.

While randomized controlled clinical trials are still lacking, these findings add to the evidence that cannabis and CBD are anti-inflammatory in the setting of HIV, in part due to stabilization of the gut lining. "Cannabis may provide a beneficial intervention to reduce morbidity related to inflammation in people with HIV," Ronald Ellis, MD, PhD, of the University of California San Diego, and colleagues wrote in a review of the research.

