

New memory for HIV patients

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The hallmark loss of helper CD4+ T cells during human immunodeficiency virus (HIV) infection may be a red herring for therapeutics, according to a study published on March 26th in the *Journal of Experimental Medicine*.

HIV preferentially infects CD4+ T cells, [immune cells](#) required to generate protective antibodies. In many people, this leads to a progressive drop in CD4+ [T cell](#) numbers-and the more the numbers fall, the faster AIDS develops. HIV-induced cell loss includes both 'naive' CD4+ T cells (those that have never encountered a pathogen) and 'memory' CD4+ T cells (fast-acting cells that 'remember' a previous encounter with a pathogen). Normally, newly generated naive CD4+ T cells can help to replace their lost memory brethren. Thus replacing these naive CD4+ T cells in AIDS patients has become a focus for some anti-viral therapy.

However, by wiping out all naive T cells in monkeys, Louis Picker and colleagues at Oregon Health & Science University found that these cells do little to help combat the virus and delay AIDS, although the overall immune response to virus was dampened in their absence. The loss of naive CD4+ T cells also had no effect on the maintenance of memory CD4+ T cells, whose loss proceeded similarly with or without naive cell replacements.

The authors argue that augmenting memory T cells rather than naive ones may provide more benefit. Whether these findings will correspond to human HIV disease remains to be seen.

More information: Okoye, A., et al. 2012. *J. Exp. Med.* [doi:10.1084/jem.20112071](https://doi.org/10.1084/jem.20112071)

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