

Lasting T cell memories

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The generation of new memories in the human immune system doesn't come at the cost of old ones, according to a study published on March 5th in the *Journal of Experimental Medicine*.

Memory "killer" [T cells](#) are specialized cells that develop in response to specific infections and launch an accelerated attack if the specific pathogen returns. Experiments in mice have suggested that the development of new memory T cells causes the activation and subsequent demise of old ones -- possibly because the immune system can only accommodate a certain number of these cells.

But the [human immune system](#) doesn't appear to be constrained by such space limitations. In a longitudinal study of college students, Kristin Hogquist and colleagues at the University of Minnesota Medical School found that acute infection with Epstein-Barr virus (the cause of infectious mononucleosis) triggers the activation of memory T cells specific for other viruses. But these cells did not multiply or die—their numbers remained the same over time.

Thus human memory T cell numbers simply build up over time. Whether this has a beneficial or detrimental effect on immune responses remains to be seen.

More information: Odumade, O.A., et al. 2012. *J. Exp. Med.*
[doi:10.1084/jem.20112401](https://doi.org/10.1084/jem.20112401)

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