

T-bet tackles hepatitis

September 15 2014

A single protein may tip the balance between ridding the body of a dangerous virus and enduring life-long chronic infection, according to a report appearing in *The Journal of Experimental Medicine*.

Hepatitis B and C viruses cause [chronic infections](#) in roughly three-quarters of infected people, putting these individuals at risk for developing liver diseases including cirrhosis and cancer. A few patients successfully eliminate infection, thanks primarily to virus-fighting immune cells called CD8⁺ T cells. The protective effects of CD8⁺ T cells depend on a cellular protein called T-bet, which is needed for the production of antiviral molecules like interferon.

Scientists in Munich, Germany, have now found that high levels of T-bet in CD8⁺ T cells are prevalent in individuals who successfully fight off hepatitis infections but are virtually undetectable in those who don't. The presence of T-bet went hand in hand with the production of interferon and the ability of CD8⁺ T cells to multiply in response to the virus. Whether boosting levels of T-bet in newly infected patients will help eliminate the virus remains to be seen.

More information: Kurktschiev, P.D., et al. 2014. *J. Exp. Med.* [DOI: 10.1084/jem.20131333](https://doi.org/10.1084/jem.20131333)

Provided by Rockefeller University

Citation: T-bet tackles hepatitis (2014, September 15) retrieved 4 February 2024 from <https://medicalxpress.com/news/2014-09-t-bet-tackles-hepatitis.html>

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