

In the news

IMMUNITY GETS A BRAKE

A recent study, published in *Nature* (17 January 2007), reports on a new protein that functions to limit the body's immune response to viruses. Could this help to explain why the congestion, fever and other symptoms of the common cold only last for a limited time?

Interested in how feedback regulation of adaptive immunity works to control the output of different signal-transduction pathways, the authors identified a protein they called carabin. Carabin was found to be a negative-feedback inhibitor of a key signalling pathway in T cells, indicating that it might be important in attenuating T-cell-receptor signalling and T-cell activation.

"It acts like an internal brake to dial down the speed and intensity of an immune response," said Jun O. Liu of the Johns Hopkins University School of Medicine in Baltimore, USA, and the senior author of the study (*BBC News*, 28 January 2007).

So, carabin can dampen the immune response, but what controls its expression? Surprisingly, it turned out that viral infection not only stimulates the immune response, but also triggers the production of carabin in activated T cells, which then inhibits the immune response. "It's like having a built-in timer to keep the immune system in check," said Liu (*John Hopkins Gazette*, 22 January 2007).

If further studies support a role for carabin as a key inhibitor of immune responses, it could have implications in the treatment of autoimmune diseases. This would involve the delivery of carabin to T cells, but, says Liu, "it will be a challenge." (*The Daily Telegraph*, 19 January 2007)

Similarly Peter Peachell of The University of Sheffield, UK, warned that although "it brings the possibility of more effective treatments for a variety of autoimmune diseases, ... this is certainly some way off." (*BBC News*, 28 January 2007)

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