Stress related responses regulate immune function

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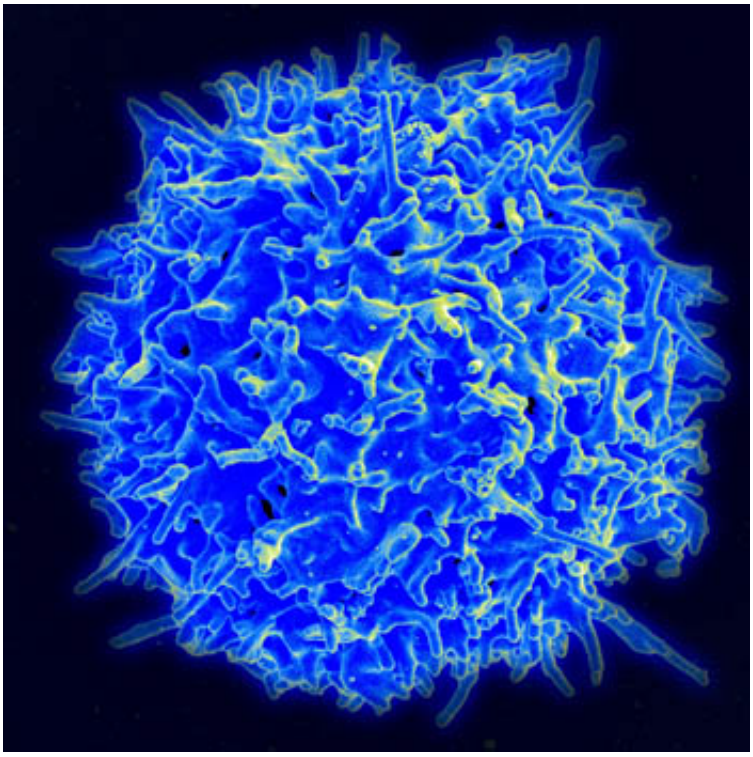

Scanning electron micrograph of human T lymphocyte or T cell. Credit: NIAID/NIH

The immune system is composed of a wide range of different immune cells each with dedicated functions. Natural killer T cells form a specialized immune cell that protects against a variety of diseases such as cancer, autoimmunity, metabolic disease or certain infections such as Lyme disease. This is because of their ability to make very rapidly large

amounts of cytokines, which act as major communicators between different cell types.

Why natural killer T cells are able to make these molecules so abundantly was unclear. Srinath Govindarajan, Michael Drennan and Dirk Elewaut from the VIB-UGent Inflammation Research Center report in *Nature Communications* that a stress related pathway inside the endoplasmic reticulum is instrumental in controlling the function of natural killer T cells. This seems to deviate from other immune cells which underscores the selectivity of this mechanism to this particular cell type.

Prof. Dirk Elewaut (VIB-UGent): "The identification of this stress related response opens new avenues. We believe that the modulation of this response could lead to novel strategies to control diseases mediated by natural killer T cells."

More information: Srinath Govindarajan et al. Stabilization of cytokine mRNAs in iNKT cells requires the serine-threonine kinase IRE1alpha, *Nature Communications* (2018). DOI: 10.1038/s41467-018-07758-x

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