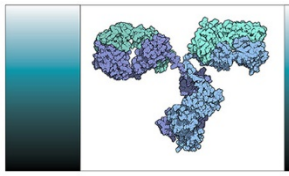

Research Highlight

IL-4 produced by NKT cells is critical for the induction of B cell responses after viral infection

During viral infections B cells provide protection through the generation of class-switched antibody-secreting cells in germinal centers in lymph nodes and the spleen. This process is known to be regulated by T cells however, T cells arrive relatively late during the immune response. How B cells initially seed germinal centers is still unclear.

NKT cells enhance the production of antibodies by B cells that are presenting glycolipid antigens. However, no reports of lipid antigens originating from viruses exist, therefore it is currently unclear whether NKT cells have a role in inducing antiviral B cell responses.

To investigate the role NKT cells might play in B cell mediated immunity Dr. Facundo D. Batista and his colleagues from the Ragon Institute of MGH, MIT, and Harvard used NKT cell deficient mice and CD1d deficient mice in various viral infection models including influenza and Zika. The authors found that NKT cells are required for the early seeding of germinal center B cells and the production of class-switched antibody-secreting cells during viral infection.

Investigating this further the authors discovered that during the initial stages of a viral infection, NKT cells located in the periphery of B cell follicles produce the vast majority of IL-4. Using IL-4 deficient mice and Bio X Cell's anti-mouse IL-4 neutralizing antibody (clone 11B11) the authors confirmed that the IL-4 produced by NKT cells is critical for the induction of B cell responses after viral infection.

Read the full article in Cell: http://www.cell.com/cell/abstract/S0092-8674(17)31387-9