Video Article

# Interview: Glycolipid Antigen Presentation by CD1d and the Therapeutic Potential of NKT cell Activation

Mitchell Kronenberg[1]

[1]Department of Developmental Immunology, La Jolla Institute for Allergy and Immunology

URL: https://www.jove.com/video/635
DOI: doi:10.3791/635

Keywords: Immunology, Issue 10, Natural Killer T cells, NKT cells, CD1 Tetramers, antigen presentation, glycolipid antigens, CD1d, Mucosal Immunity, Translational Research

Date Published: 12/31/2007

Citation: Kronenberg, M. Interview: Glycolipid Antigen Presentation by CD1d and the Therapeutic Potential of NKT cell Activation. *J. Vis. Exp.* (10), e635, doi:10.3791/635 (2007).

## Abstract

Natural Killer T cells (NKT) are critical determinants of the immune response to cancer, regulation of autoimmune disease, clearance of infectious agents, and the development of artheriosclerotic plaques. In this interview, Mitch Kronenberg discusses his laboratory's efforts to understand the mechanism through which NKT cells are activated by glycolipid antigens. Central to these studies is CD1d - the antigen presenting molecule that presents glycolipids to NKT cells. The advent of CD1d tetramer technology, a technique developed by the Kronenberg lab, is critical for the sorting and identification of subsets of specific glycolipid-reactive T cells. Mitch explains how glycolipid agonists are being used as therapeutic agents to activate NKT cells in cancer patients and how CD1d tetramers can be used to assess the state of the NKT cell population in vivo following glycolipid agonist therapy. Current status of ongoing clinical trials using these agonists are discussed as well as Mitch's prediction for areas in the field of immunology that will have emerging importance in the near future.

## Video Link

The video component of this article can be found at https://www.jove.com/video/635/

## Disclosures

The authors have nothing to disclose.

## References

1. Khurana A and Kronenberg M. "A Method for Production of Recombinant CD1d Protein in Insect Cells" (12/10/2007) Journal of Visualized Experiments

 