Endogenous and exogenous lipid antigens for NKT cells

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NKT cells are an innate-like lineage of lymphocytes that use a semi-invariant family of αβ TCRs to recognize conserved endogenous and exogenous glycolipids presented by CD1d molecules. Of particular interest is the recent identification of iGb3 as a self lysosomal ligand of NKT cells and microbial alpha-glycuronosylceramides as foreign ligands. Our studies have suggested new aspects of the biochemical and cell biological regulation of the uptake, processing and presentation of these ligands by dendritic cells for recognition by NKT cells. These properties underlie the in vivo functions of NKT cells in host defense where NKT cells are part of a cellular network of interactions with DC and NK cells leading to potent innate and adaptive effector pathways.

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