

Human Invariant Natural Killer T cells possess immune-modulating functions during *Aspergillus* infection.

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Abstract

Aspergillus fumigatus is the most common cause for invasive fungal infections, a disease associated with high mortality in immune-compromised patients. CD1d-restricted invariant natural killer T (iNKT) cells compose a small subset of T cells known to impact the immune response toward various infectious pathogens. To investigate the role of human iNKT cells during *A. fumigatus* infection, we studied their activation as determined by CD69 expression and cytokine production in response to distinct fungal morphotypes in the presence of different CD1d(+) antigen presenting cells using flow cytometry and multiplex enzyme-linked immunosorbent assay (ELISA). Among CD1d(+) subpopulations, CD1d(+)CD1c(+) mDCs showed the highest potential to activate iNKT cells on a per cell basis. The presence of *A. fumigatus* decreased this effect of CD1d(+)CD1c(+) mDCs on iNKT cells and led to reduced secretion of TNF- α , G-CSF and RANTES. Production of other Th1 and Th2 cytokines was not affected by the fungus, suggesting an immune-modulating function for human iNKT cells during *A. fumigatus* infection.

Involved units

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