



The Institute of Basic Medical Sciences and Norwegian Society for Immunology hereby announces the May Guest Lecture:

"New Insights into human natural killer cells "

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Date: Wednesday 12th of May

When: 12.15-13.15

Venue: room 3100 at the Department of Nutrition
(see attached map)

Abstract

Chemokines are small molecular weight proteins. There are about 50 chemokines and 20 chemokine receptors that have been cloned and characterized. They are pleotropic and perform multiple functional activities, ranging from inducing the migration of all cell types to inflammation, and cellular proliferation and differentiation. Also, they are involved in lymphoid organogenesis and the nervous system patterning (e.g. gliogenesis). NK cells were discovered based on their ability to spontaneously kill tumor cells, but they also kill microbially-infected cells. However, it became clear that they have immunoregulatory functions by secreting cytokines such as IFN-g, and by direct cell-cell contact with other cells of the innate immune system such as dendritic cells. In human blood, the only known classification for these cells is based on the density expression of CD56 molecule, which have led to a functional discrimination among the two subsets (i.e. CD56-/low and CD56+/high). These subsets differentially migrate into various tissues under homeostatic and inflammatory condition, guided by various chemokines/chemokine receptors axes. Recently, NK cells that secrete IL-22 have been described in the gut of both mice and humans, which are different from CD56-/low or CD56+/high cells, and have been designated as NK22. We have identified a distinct subset of NK cells in human blood that secrete IFN-g, IL-17, MIP-1a/CCL3, and MIP-1b/CCL4. Synonymous with T cell terminology, we call these cells NK1/NK17. This seminar will describe these cells and their relationship to chemokines/chemokine receptors.

Maghazachi AA. Role of Chemokines in the Biology of Natural Killer Cells. Curr Top Microbiol Immunol. 2010 Apr 1. [Epub ahead of print].