



The Norwegian Society for Immunology hereby announces the February Guest Lecture:

"Natural killer cell receptors - still more to learn?"

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Time: Wednesday 17th of February

Venue: Seminar room A3. 3067, Rikshospitalet
(one floor up from IMMI)

When: 15.00-16.00

Program

15.00-15.15: Refreshments

15.15-16.00: Guest Lecture and discussion



Natural killer (NK) cells in many ways resemble T cells, combining cytotoxicity and secretion of cytokines by a single cell. NK and T cells also share a multitude of surface markers as well as receptor-proximal signalling pathways. A previously popular view of NK cells, based on the missing self hypothesis, is increasingly challenged by reports demonstrating a role for positive recognition of non-self or altered self by activating NK cell receptors. A recent demonstration that properly activated NK cells form long-lived clones has suggested that NK cells participate in immunological memory towards infectious agents. At the center of these questions, one important riddle still remains to be solved. NK cell receptor families typically contain inhibitory as well as activating receptors. Whereas the inhibitory receptors tend to recognize normal MHC class I molecules, high-affinity ligands for their activating cousins have been difficult to identify, more than 15 years after the molecular cloning of these receptor families. We have studied target cell recognition by NK cells for many years, starting with *in vivo* observations in the rat, through genetic and molecular identification of the receptors involved. Our current efforts focus on understanding the biology of the newly discovered KLRE/I receptor family, alongside identification of functional ligands for activating NK cell receptors (KIR, NKp30, NKp46) as well as CD89, a structural homologue of NKp46 with unexpected features.

References:

Sæther, Per Christian; Westgaard, Ingunn Hagen; Hoelsbrekken, Sigurd Erik; Benjamin, J; Lanier, LL; Fossum, Sigbjørn; Dissen, Erik (2008). KLRE/I1 and KLRE/I2: A novel pair of heterodimeric receptors that inversely regulate NK cell cytotoxicity. *J Immunol*, vol. 181