

# Poster Presentations

## [MS5-P01] NK receptors and ligands with C-type lectine-like fold: Structure and function.

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Natural killer cells (NK cells) are lymphocytes, the role of which is to discover and lyse malignant cells, e.g. cancer cells or cells infected by viruses. This work is aimed at a class of NK receptors, i.e. receptors on the surface of NK cells, which have C-type lectin-like fold (CTL fold, [1]). The role of NK receptors with CTL fold is to mediate the contact with other cells: NK receptors with CTL fold interact with protein ligands, which are of the same, CTL, fold, and are located on surface of partner cells. During recent years, we have solved structures of several receptors/ligands with CTL fold (high resolution structure of human CD69 [2], mouse NKR-P1A [3, 4], mouse Clr-g [5]), and other structures are in progress. These structures inspire us to study 1) The CTL fold itself, its characteristics and variability, 2) Types of oligomerization of CTL receptors and ligands, and 3) Rules of formation of CTL receptor-ligand complexes. It was found that the dimerization mode of CTL proteins is very variable, while complexation of structurally known CTL protein-protein complexes happens via the same surface area of monomers, i.e. always by the part distal from the N- and C-terminal region.

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CD69 using a novel polymer, *Acta Crystallogr.*, F65, (2009), 1258-1260.

[3] P. Kolenko et al., Molecular architecture of mouse activating NKR-P1 receptors, *J. Struct. Biol.*, 175(3), (2011), 434-441.

[4] P. Kolenko et al., Structure of the H107R variant of the extracellular domain of mouse NKR-P1A at 2.3 Å resolution, *Acta Crystallogr.*, F67, (2011), 1519-1523.

[5] T. Skalova et al., Mouse Clr-g, a Ligand for NK Cell Activation Receptor NKR-P1F: Crystal Structure and Biophysical Properties, *J. of Immunology*, 189(10), 2012, 4881-4889.

This work was supported by the Czech Science Foundation (P302/11/0855), and the Ministry of Education, Youth and Sports of the Czech Republic (Project BIOPOL, no. EE2.3.30.0029).

**Keywords:** immune system; NK receptors; C-type lectin-like fold