

## MS03-P10 | SEC-SAXS ANALYSIS OF OLIGOMERIC STATES OF HUMAN NKR-P1 WITH ITS LIGAND LLT1 IN SOLUTION

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Natural killer (NK) cells are a type of lymphocytes able to kill tumour and virally infected cells. Human NKR-P1 is one of the plenty of receptors anchored in the membrane of the cell and LLT1 is its ligand on a partner cell. Both NKR-P1 and LLT1 have extracellular part with C-type lectin like fold.

The extracellular domains of NKR-P1 and LLT1 have been expressed and characterised.<sup>1,2</sup> The crystal structures of LLT1 oligomers have been published<sup>3</sup> and structures of NKR-P1 and NKR-P1:LLT1 have been deposited. We discovered that NKR-P1 and LLT1 form a chain in the crystal structure of the NKR-P1:LLT1 complex. In order to study the form of the interaction of NKR-P1 with LLT1 in solution, we have performed small angle X-ray scattering coupled with size exclusion chromatography (SEC-SAXS). The SEC-SAXS intensity curve shows two distinct peaks, the smaller one corresponding to higher oligomers and the larger one corresponding basically to the NKR-P1:LLT1 complex. However, deeper analysis showed that in fact, each point of the SEC-SAXS curve corresponded to a combination of several oligomeric states.

[1] Bláha, J. et al (2015). *Protein Expr. Purif.* 109, 7-13.

[2] Bláha, J. et al (2017). *Protein Expr. Purif.* 140, 36-43.

[3] Skálová, T. et al (2015). *Acta Cryst.* D71, 578-591.

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