ABSTRACT

Natural killer cells create an important part of innate immune system. Their importance lies in their ability to recognize and kill abnormal cells, especially tumour cells and virally infected ones, without previous activation. To recognize their targets, NK cells use a wide variety of surface receptors, both activating and inhibitory. If a ligand binds to an NK receptor, immune response is triggered. Examples of such ligand-receptor pairs are NKp80-AICL and NKRP1-LLT1 on human lymphocytes.

Another ligand-receptor system of this kind is NKp65 and KACL, two recently discovered lectin receptors on human immunocytes. KACL is the last and most recently characterized member of CLEC2 receptor family in humans. Its expression is almost exclusively restricted to skin. NKp65, a close relative of NKp80, is a glycoprotein which stimulates NK92MI cell cytotoxicity upon KACL engagement. NKp65 has been shown to bind to KACL with a fairly high affinity by surface plasmon resonance measurement.

This thesis aims at describing the cloning of expression vectors coding for NK cell receptors NKp65 and KACL, expression of these proteins in HEK293T cell line and their purification.

Keywords: NKp65, KACL, NK cell, lectin, receptor, plasmid

(in Czech)