NK cells are ranked among lymphocytes, which are involved in primary immune responses to virus infected and tumour cells. They produce cytokines at the same time and are involved in the formation of secondary immune responses together with T and B lymphocytes. This diploma thesis is engaged in the study of the structure and interaction of the transmembrane receptor Nkr-p1f with its ligand Clr-g. This receptor Nkr-p1f has an activation function and is able to initiate the cytotoxic function of the NK cells. The three-dimensional structure has been solved as a Clr-g homodimer, but its interaction with the Nkr-p1f receptor remains mysterious. The aim was to prepare an expression vector coding the entire extracellular region of the receptor NKR-P1F and carry out the production of the receptor Nkr-p1f and Clr-g in prokaryotic expression system, subsequently renaturation and purification of the proteins *in vitro.* This way prepared proteins were analyzed by electrophoresis and mass spectrometry. Their interaction was studied with biophysical method, surface plasmon resonance (SPR). However, the interaction between them was not revealed by SPR technology. (In Czech)