Proto-oncogene Crk was identified as an oncogenic product of an avian retrovirus in 1988. It is an adaptor protein containing SH2 and SH3 binding domains. Thanks to these domains Crk facilitates protein-protein interactions and therefore plays a crucial role in signal transduction. Crk forms signal complexes with several proteins and hence impacts many cellular processes, among them cell migration, tumorigenesis and invasion of the surrounding tissues. The increased invasiveness allows the tumour cells to detach from the primary tumour and form metastasis which is very problematic feature of cancer. Overexpression of Crk was observed in several tumour tissues, it correlates with an aggressive and metastatic phenotype of the tumours.

The subject of this thesis is to describe the mechanisms of how Crk can regulate cellular motility and invasiveness.