Summary

Thesis deals with relationship between histomorphological and molecular-genetic findings of selected salivary gland tumors. Author, as a molecular-cytogeneticist mainly focused on detection of tumor-specific translocations of the salivary gland tumors which can serve as differential diagnostic markers. The thesis is composed as a commented files of authors own publications, and it is divided into four parts.

First part deepens the knowledge of salivary adenoid cystic carcinoma. It was proved, that t(6;9)(q22-23;p23-24) resulting in fusion of transcription factors *MYB-NFIB*, or more rarely t(8;9) resulting in *MYBL1-NFIB* fusion represent robust differential diagnostic marker of adenoid cystic carcinoma. Further it was proved, that the 1p36 deletion can serve as an unfavorable prognostic indicator of adenoid cystic carcinoma, as the patients with 1p36 deletion had significantly lower survival.

Second part summarizes new developments about mammary analogue secretory carcinoma (MASC), which was described by our group as a new salivary tumor entity characterized by translocation t(12;15)(p13;q25) resulting in *ETV6-NTRK3* fusion. Another novel observation is a discovery of *ETV6-RET* fusion in a subset of MASC cases. Further, the first two MASCs of nasal mucosa origin have been described.

Third part consists of review articles. One of them deals with the description of molecular-genetic methods used to study adenoid cystic carcinoma. The latter two articles summarize the knowledge of biological behavior, morphology, prognostics and molecular-genetic of salivary gland carcinomas carrying diagnostic translocations.

In the last section, we comment the paper dealing with relationship of *EWSR1* gene break and histomorphology of selected salivary gland carcinomas with predominant clear cell component. *EWSR1* break occurs in a spectrum of tumor entities, and it is not specific for hyalinizing clear cell carcinoma of small oral salivary gland origin as originally expected.