The aim of this thesis is to develop species-specific Real-Time PCR assay for detection of frog parasite Amphibiocystidium ranae as a model approach for studying rhinosporidiosis in human, caused by Rhinosporidium seeberi. Similarities of these parasites allow to study human rhinosporidiosis by analogy.

Sequences of the gene for 18S rRNA of Amphibiocystidium ranae were analysed by multiple sequence alignment with sequences of closely related organisms found in GenBank nucleotide database. Amphibiocystidium ranae-specific regions were found and three primer sets were designed, two of them together with probe to increase specificity. Specificity was checked against GenBank nucleotide database and ribosomal RNA database SILVA. Primer sets were tested on samples taken from frogs. Specificity was confirmed by melting curve analysis.

Amphibiocystidium ranae-specific Real-Time PCR assay was developed and can be used for detection of this parasite.