Abstract

Blood flukes of the genus *Schistosoma* cause schistosomiasis, a serious parasitic disease occurring in tropical and subtropical areas. Cathepsin C (EC 3.4.14.1) is a digestive enzyme of the blood flukes which participates in the degradation of hemoglobin through its dipeptidyl aminopeptidase activity. This enzyme is critical for metabolism of the parasite and represents a potential target for the development of antischistosomal drugs. Cathepsin C has not yet been studied in detail. This bachelor thesis is focused on the development of expression systems for production of recombinant cathepsin C of *Schistosoma mansoni* (SmCC). The yeast *Pichia pastoris* system was used for the expression of an inactive SmCC precursor (zymogen) whose proteolytic stability was analysed. Furthermore, the expression system for SmCC in the protozoan *Leishmania tarentolae* was employed, and four different SmCC constructs were prepared to optimize production.