

## Abstract

Eva Procházková

*Candida albicans*: Regulation of gene expression - function of *CEK1*

Degree paper

Charles university in Prague, Faculty of Pharmacy Hradci Králové

Farmacie

### Background

This work is aimed on *CEK1* gene in *C. albicans* and its regulation related to the promotor of this gene and the influence of sterile vegetative growth pathway on gene expression of this mitogen – activated protein kinase.

### Methods

Common methods of genetic manipulation with biological material and immunoblot assays with different antibodies were used for construction of *C.albicans* mutants and their detection. Luciferase assay, the luminescence method, was used for gene expression measuring.

### Results

*CEK1* expression seems to be a key element during the filament growth of *C. albicans*, the most invasive form of this organism. This research is based on construction of *C.albicans* mutants containing area of *Cek1* expression. Mutants containing deletion of different genes involved in MAPK cascade were exposed to various stress factors like tunicamycine or temperature. The effect of those mutations on *CEK1* expression was observed.

### Conclusions

Used *CEK1* promoters allow the expression of the gene and the mutations used in the work cause differences in intensity of gene expression according to the time.