

# Abstract

Charles University

Faculty of Pharmacy in Hradec Králové

Department of Biological and Medical Sciences

Study program: Specialist in Laboratory Methods

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Title of diploma thesis: *In vitro* screening of novel potentially active antimycotic compounds II

**Key words:** yeasts, fungi, antimycotics, resistance, microdilution broth method, minimal inhibition concentration.

The main focus of this thesis is on antifungal resistance and the mechanism of action of selected antifungal agents. The theoretical part of the thesis gives a general overview of the characteristics of microscopic fungi and the diseases they cause. Attention is also paid to antifungal agents that are commonly used in the treatment of fungal infections, as well as those that are currently at various stages of clinical trials. This ties in with the mechanism of action of these compounds, which is also described here. The theoretical part also summarizes the development and principles of antifungal resistance. The theoretical part concludes with the description of the methods used in the determination of *in vitro* susceptibility of fungal agents to antifungals. The practical part of the thesis describes the procedure of the quantitative broth microdilution method, which was used in this thesis. This part also includes an overview of the tested compounds and the results with an evaluation of whether the compounds show a sufficient effectiveness against fungal agents.