

# 1. Abstract

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Evaluation of activity of potential antifungal substances through the use of microdilution broth method I

**Diplomová práce**

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The aim of the thesis was a screening of activity of new potential antifungal substances.

For testing of substances was used the microdilution broth method. This method allows a routine assessment of MIC of a larger amount of antimycotics and also complete strains. The compounds for the strains *Candida albicans*, *C. tropicalis*, *C. glabrata*, *C. krusei*, *Trichosporon beigelii*, *Aspergillus fumigatus*, *Absidia corymbifera* a *Trichophyton mentagrophytes* were tested.

The derivatives of pyrazinedicarbamide, pyrazinedicarbothioamide, pyrazole-1-carboxylate, hydrazinecarboxylate, diazene-1,2-dicarboxamide and cyclohexanone did not show any antimycotic effectiveness. On the contrary the derivatives of benzamide and benzenecarbothioamide showed a good antimycotic activity against all the testing strains. In the group of other substances, it means the derivatives of pyrazinecarboxamide, pyrazinecarbothioamide, pyrazine-anilides, pyrazine-2-amine, pyrazine-2-carbohydrazide and pyrazine-2,5-dicarbonitrile and thiazolidine-4-one, some substances were effective but some had no effect.

The derivatives of pyrazine-2-carbohydrazide, derivatives of benzamide and benzencarbothioamide showed the most intense antimycotics activity.

*Trichophyton mentagrophytes* and *Candida albicans* were the most sensitive strains and *Absidia corymbifera* strain was the least sensitive.

With the increasing length of alkylating chain is the inhibition of growth of microorganism higher. This fact relates to the derivatives of benzamide and benzencarbothioamide.

More extensive testing is necessary to carry out to deduce some conclusions based on the outcome of the substances showing some antifungal activity.