Abstract

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Evaluation of activity potentional antimicrobial substances through the use of microdilution broth method

Rigorous thesis

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The aim of this thesis was to asses the antibacterial and antifungal activity of 49 substances prepared at the Department of organic and Inorganic chemistry, Faculty of Pharmacy of Charles University.

According to their structural characteristics the substances were divided into six groups and tested through the microdilution broth method at eight strains of bacteria and eight strains of pathogenic fungi.

The highest antibacterial activity was observed at the derivatives of 3-phenyl-2*H*-1,3-benzoxazine-2,4(3*H*)-dithione against *Staphylococcus aureus*. The highest antifungal activity was shown by the derivatives of N-benzylsalicylthioamide against *Absidia corymbifera*. None of the tested substances presented efficiency against gramnegative bacteria.

The replacement of the oxo group by thioxo group in molecule of 3-phenyl-4-thioxo-3,4-2*H*-1,3-benzoxazine-2-one led to a reduction of activity with exclusion at *S. aureus*. The replacement of hydrogen by halogene in molecule of 1,3-benzoxazine led to an improvement of activity.

Further testing needs to be carried out to acquire definite results.