## Abstract

The derivates of pyrazine as potential medicaments II

This thesis has been developed at the Departament of Pharmaceutical Chemistry and Safety of Medicines, the Pharmaceutical Faculty of the Charles University. It deals with research and synthesis of new derivates of pyrazine with possible antituberculotic and antifungal activity. The model compound was 2-methoxy-3-methylpyrazine. Seven new chemicals were prepared by aminodehalogenational reaction, their structure differed in substitution of aniline. These compounds were standardly described by physiochemical constant, $^{1}H$ and $^{13}C$ NMR and IR spectrum. The result of in vitro testing showed that the compounds have lower middle activity against fungal pathogens. The highest activity have *N*-(3-bromphenyl)-6-methoxy-5-methylpyrazine-2-amine, *N*-(3-jod-4-methylphenyl)-6-methoxy-5-methylpyrazine-2-amine and 2,6-dibromo-4-(6-methoxy-5-methylpyrazin-2-ylamine)phenol against *Candida tropicalis*, *Trichosporon beigelii* and *Trichophyton mentagrophytes*. Further testing was focused on the compounds against bacterial pathogens. The compounds were ineffective, except 2,6-dibromo-4-(6-methoxy-5-methylpyrazine-2-ylamine)phenol, which showed promising activity against *Pseudomonas aeruginosa* CCM 1961. Two compounds were tested against many viral pathogens. A promising conclusion was discovered in *N*-(5-brom-4-fluor-2-methylphenyl)-6-methoxy-5-methylpyrazin-2-amine against *Vesicular stomatitis virus*. Their activity was weaker than ribavirine by half. In general terms the results of this thesis should respond the question to what extent is a carboxylic group (or functional derivate as amide, thioamide, ester and nitrile) important for an antimycobacterial effect of pyrazine derivates.