Antimicrobial Evaluation of Indole-Containing Hydrazone Derivatives

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There has been an increasing importance of drug-resistant pathogens in clinical microbiological and antibacterial research. Indoles and hydrazone-type compounds constitute important classes of compounds in the search for effective agents against multidrug-resistant microbial infections. In this study a series of 1-methylindole-3-carboxaldehyde hydrazone derivatives were evaluated for their in vitro antimicrobial activities using the two-fold serial dilution technique against \textit{Staphylococcus aureus}, methicillin-resistant \textit{S. aureus}, methicillin-resistant \textit{S. aureus} isolate, \textit{Escherichia coli}, \textit{Bacillus subtilis}, and \textit{Candida albicans}. The minimum inhibitory concentration (MIC) of the test compounds and the reference standards sulfamicillin, ampicillin, fluconazole, and ciprofloxacin was determined. All compounds possessed a broad spectrum of activity having MIC values of 6.25–100 µg/ml against the tested microorganisms. Aromaticity and disubstitution of the phenyl ring with especially fluorine and chlorine atoms were found to be significant for the antimicrobial activity

\textit{Key words:} Indole, Hydrazone, Antimicrobial