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 *Staphylococcus aureus*, methicillin-resistant *S. aureus*, methicillin-resistant *S. aureus* isolate, *Escherichia coli*, *Bacillus subtilis*, and *Candida albicans*. The minimum inhibitory concentration (MIC) of the test compounds and the reference standards sultamicillin, 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

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