Conference abstract PO-17

Antimicrobial and Antimutagenic Properties of Newly Synthesized Derivatives of Indolizine

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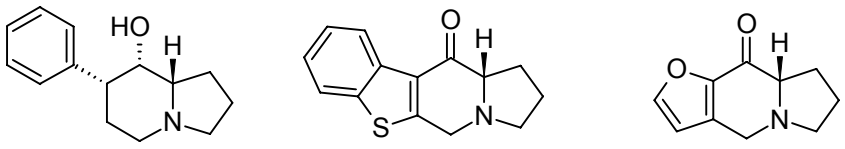
Microbial diseases still pose a threat for the population as a consequence of increasing number of microbial strains resistant to antibiotics and chemotherapeutics of common use. Their treatment remains an important and challenging worldwide problem. There is real perceived need for the discovery of new compounds endowed with antimicrobial activity, possibly acting though mechanisms of action, which are distinct from those of well-known classes of antibacterial agents to which many clinically relevant pathogens are now resistant. Indolizines, the nitrogen containing heterocyclic systems, have been widely distributed in nature. These compounds are interesting for their wide spectrum of biological properties. In our work we have studied antimicrobial and antimutagenic activity of some newly synthesized derivatives of indolizine. Majority of tested compounds showed good antistaphylococcal as well as antimycobacterial activity. Tested compounds did not effect significantly the growth of G-bacteria (E. coli, S. typhimurium). Concerning the antifungal activity, one compound has shown the highest effect against all model filamentous fungi and yeast C.parapsilosis, respectively. Derivatives of indolizine were investigated for potential mutagenicity and antimutagenic activity using Ames test. The newly synthesized indolizines did not increase the number of revertants and were found non-mutagenic at all tested concentration except one compound using its highest concentration (1mg/plate). Antimutagenic activity was registered notably in case of 4 derivatives; some of them have decreased number of induced revertants almost to the level of spontaneous revertants. With increasing concentration of these derivatives its antimutagenicity was disappearing.



best antibacterial activity best antifungal activity best antimutagenic activity

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